



Phase I Environmental Site Assessment
Elmridge Golf Course
229 Elm Ridge Road
Pawcatuck, Connecticut
December 2, 2019

Prepared for:
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ABBREVIATIONS AND ACRONYMS

AOC	Area of Concern
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CGS	Connecticut General Statute
CORRACTS	Corrective Action Report
CT	Connecticut
CTDEEP	Connecticut Department of Energy & Environmental Protection
CT ECO	Connecticut Environmental Conditions Online
EDR	Environmental Data Resources, Inc.
ERNS	Emergency Response Notification System
ESA	Environmental Site Assessment
FINDS	Facility Index System
ft asl	Feet above sea level
ft bg	Feet below grade
GDC	Greenskies Development Company, LLC
LLHD	Ledge Light Health District
LUST	Leaking Underground Storage Tank
MMI	Milone & MacBroom, Inc.
NFRAP	No Further Remedial Action Planned
NPL	National Priorities List
ODP	Online Data Portal
PCB	Polychlorinated Biphenyl
PV	Photovoltaic
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
SCGD	Site Characterization Guidance Document
TSD	Treatment, Storage, and Disposal
USGS	United States Geological Survey
UST	Underground Storage Tank
WPCA	Water Pollution Control Authority

EXECUTIVE SUMMARY

Milone & MacBroom, Inc. (MMI) completed a Phase I Environmental Site Assessment (ESA) on two portions of a golf course property known as Elmridge Golf Course, located at 229 Elm Ridge Road in Pawcatuck, Connecticut. The portions of the property that are the subject of this assessment are areas of proposed development for solar panel installation. The property is currently owned by Joseph Rustici Trustee and Nancy G Trustee.

A Phase I ESA is performed to identify whether recognized environmental conditions (RECs) or areas of concern (AOCs) exist at the site. The term REC is defined by American Society for Testing and Materials (ASTM) E1527-13 as "the presence or likely presence of any hazardous materials or petroleum products in, on, or at a property (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment." AOCs are defined in the Connecticut Department of Energy & Environmental Protection Site Characterization Guidance Document (CTDEEP SCGD) (September 2007; revised December 2010) as "locations or areas at a site where hazardous waste and/or hazardous substances (including petroleum products) have been or may have been used, stored, treated, handled, disposed, spilled, and/or released to the environment."

As part of this Phase I ESA, MMI reviewed the following sources to help identify any RECs or AOCs: federal, state, and municipal records; historical aerial photographs; historical topographic maps; and an environmental database in addition to performing a site inspection. Such assessment activities revealed the following:

- Federal and state records were accessed through Environmental Data Resources, Inc. (EDR) to identify uses of the site that may impact environmental conditions at the site. The subject property was listed in the Facility Index System (FINDS) database provided by EDR. The listing indicated that the subject property held a CTDEEP Water Diversion Permit for the withdrawal of 0.200 million gallons of nearby surface water per day for irrigation purposes.
- Groundwater in the vicinity of the site is classified with a "GA" status as determined by the CTDEEP. This GA designation indicates that the groundwater beneath the site is considered suitable for drinking without treatment.

We have performed the ESA in conformance with the scope and limitations of ASTM Practice E1527-13 and in general accordance with the CTDEEP SCGD. Any exceptions to or deletions from this practice are described in Section 1.0 of this report.

This Phase I ESA has not revealed evidence of any RECs in connection with the project areas.

MMI noted that there were existing heating oil and propane underground storage tanks (USTs) located approximately 265 feet east of one of the project areas near the clubhouse on the property. Based upon a review of the information obtained throughout this assessment, these tanks were not considered to present an environmental concern to the environmental media beneath the project areas.

Based on the findings of this assessment, the site does not appear to meet the definition of an "Establishment" pursuant to Connecticut General Statutes (CGS) Section 22a-134. MMI recommends that a final determination be made by legal counsel.

1.0 INTRODUCTION

1.1 Purpose of Phase I ESA Update

MMI performed a Phase I ESA for Greenskies Development Company, LLC (GDC) on two proposed project areas within the property located at 229 Elm Ridge Road in Pawcatuck, Connecticut, as depicted on Figure 1. The two project areas are herein referred to as "Project Area A" and "Project Area B."

The former and current business activities in the proposed project areas were evaluated for the purposes of this ESA.

The purpose of the ESA is to identify, to the extent reasonable, RECs and/or AOCs in connection with the subject property. The term REC is defined by the ASTM as "the presence or likely presence of any hazardous materials or petroleum products in, on, or at a property (1) due to a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment." AOCs are defined by the CTDEEP SCGD (September 2007; revised December 2010) as "locations or areas at a site where hazardous waste and/or hazardous substances (including petroleum products) have been or may have been used, stored, treated, handled, disposed, spilled, and/or released to the environment."

1.2 Detailed Scope of Services

This Phase I ESA is being conducted in support of environmental due diligence activities for the proposed Photovoltaic (PV) Solar Array project at the golf course.

The work included the following tasks:

- Review of historical aerial photographs, Sanborn® Fire Insurance Maps, topographic maps, and city directories
- Review of environmental databases and files obtained from federal, state, and municipal regulatory agencies
- A visual inspection of the subject property, including photographing the site and noting adjacent property uses and conditions
- Preparation of a report of findings

1.3 Significant Assumptions

The following assumptions have been made:

- Conditions observed during the site reconnaissance are reasonably representative of conditions in effect at other times.
- Interview information is truthful and reliable.
- Information provided by the public records database vendor is accurate.
- Historical property use evidenced by historical records remained substantially unchanged during periods for which no records are available.

1.4 Limitations and Exceptions

The statements, opinions, and conclusions contained in this report are based solely upon the services performed by MMI as described in this report and the scope of work as established by the user.

In performing these services and preparing this report, MMI relied upon the work and information provided by others, including public agencies whose information is not guaranteed by MMI. In addition, the user is advised that the absence of contamination in one location does not necessarily preclude the finding of contamination in other locations that were not investigated in preparing this report.

The following topics are considered nonscope considerations that were not part of this Phase I investigation:

- Asbestos-containing building materials
- Radon
- Lead-based paint
- Lead in drinking water
- Wetlands
- Regulatory compliance
- Cultural and historic resources
- Industrial hygiene
- Health and safety
- Ecological resources
- Endangered species
- Indoor air quality
- Biological agents
- Mold

The findings of the report are limited to those specifically expressed in the report; no other representations or warranties are given by MMI, and no additional conclusions should be reached or representations relied on other than those expressly stated in the report and as limited by MMI's Terms and Conditions.

1.5 Special Terms and Conditions

This Phase I ESA focused on the proposed project's areas as defined by GDC. This investigation was completed with no other special terms or conditions.

1.6 User Reliance

This report is solely for the use and information of GDC unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

2.0 SITE DESCRIPTION

2.1 Location and Legal Description

The entirety of the property consists of three parcels of land developed as the existing golf course, Elmridge Golf Course. The property is located in the village of Pawcatuck (within the town of Stonington, Connecticut). The project areas are associated with two of three total parcels on the property, shown in Figure 2.

The table below summarizes the legal information of the two parcels on the property with proposed project areas, according to the Town of Stonington Tax Assessor's department.

Parcel Identification (Associated Project Area)	Owner	Parcel ID	Map	Block	Lot	Acreage	Site Features
223 Elm Ridge Road (Project Area A)	Rustici Joseph Trustee & Nancy G Trustee	721200	22	2	1	87.57	Golf Course, Clubhouse
N Anguilla Road (Project Area B)		720900	39	1	9	26.2	Golf Course

It was noted that a separate, residential property at 227 Elm Ridge Road exists in the central portion of the 223 Elm Ridge Road parcel. This residential property abuts the eastern side of Project Area A.

Project Area A is accessed via the driveway entrance to the golf course at the north side, off Elm Ridge Road. This project area consists of landscaped lawn, paved golf cart paths, and sand traps.

Project Area B is accessed from the east side, off North Anguilla Road. This project area consists of landscaped lawn, paved cart paths, and sand traps as well.

Figure 2 depicts the general site features. The site photographs in Appendix A also show views of the current site features for each project area as observed during the November 21, 2019, site visit.

Both parcels are residentially zoned according to the Town of Stonington Zoning Department. The 223 Elm Ridge Road parcel is zoned "RR-80" for rural residential land use, and the North Anguilla Road parcel is zoned "GB-130" for the Green Belt District of residential land use. According to the town's zoning regulations, a Green Belt Residential zone is land located on fragile aquifer, watershed, streambelt, inland wetland, and significant joining areas so as to preserve them for the future and present needs.

2.2 Site and Vicinity General Characteristics

The property is situated in a rural and residential mixed area in the northeastern corner of the village of Pawcatuck (town of Stonington), Connecticut. The property borders Interstate highway 95 northbound on the west side and is located approximately 1 mile west of Rhode Island. The property is comprised of three parcels as described below.

The western parcel is separated from the rest of the property by north-south-running North Anguilla Road, and the eastern portion is two parcels separated by east-west-running Elm Ridge Road.

The project areas are located on the western parcel off North Anguilla Road (Project Area B) and on the parcel south of Elm Ridge Road (Project Area A).

Additional information on the physical setting including geology and hydrology is presented in Section 4.2 of this report.

2.3 **Current Use of the Parcels**

The current use of the parcels is a golf course with a clubhouse known as Elmridge Golf Course.

2.4 **Descriptions of Structures, Roads, and Other Improvements**

The project areas consist of landscaped grass (greens), sand traps, and paved cart paths.

There are no structures within Project Area A. Project Area B has a 24-foot by 10-foot wooded rain shelter/barn cover located at the west end. There is a partially exposed corrugated drain pipe that directs surface flow southward from the wetlands north of Project Area B into the pond south of Project Area B. This drains through the western portion of Project Area B.

2.5 **Current Uses of Adjoining Properties**

On November 21, 2019, MMI conducted a visual inspection of the surrounding areas to search for conditions that may present an adverse environmental impact to the subject property. The inspection was conducted from public rights-of-way and did not include access to buildings or entry onto private properties. The surrounding areas were generally used for residential purposes or are wooded/undeveloped.

Project Area A (223 Elm Ridge Road Parcel):

North – Landscaped lawn for approximately 180 feet, then Elm Ridge Road and residential use

South – Landscaped lawn for approximately 670 feet, then residential properties

Northeast – Landscaped lawn for approximately 50 feet, then a silo used as a cell tower, the course parking lot, and then the clubhouse

East and Southeast – Residential property at 227 Elm Ridge Road and the golf course maintenance storage building, then more landscaped lawn

West – Landscaped lawn for approximately 790 feet to the edge of the parcel boundary, then North Anguilla Road, followed by the western parcel of the golf course

Project Area B (North Anguilla Road Parcel):

North – Landscaped golf course lawn, woods, and then residential properties

South – Woods, and then the southern parcel boundary followed by woods

East – Landscaped lawn, then North Anguilla Road, followed by woods and the rest of the golf course property

West – Landscaped golf course green, woods, and then Anguilla Brook located approximately 180 feet west of the project area boundary. Interstate 95 northbound abuts the western parcel boundary. There is a pond located approximately 100 feet southwest of the project area.

3.0 USER-PROVIDED INFORMATION

In this case, the user (party interested in solar panel installations at the property) is the owner of the property. The owner representative, Mr. Alan Rustici of Rustici Management Company, Inc., had completed an owner questionnaire on November 18, 2019. A copy of the questionnaire is included in Appendix H.

3.1 Title Records

A chain-of-title report was not included in the scope of work.

3.2 Environmental Liens or Activity and Use Limitations

No environmental liens or activity and use limitations regarding the subject parcels have been communicated to MMI.

Mr. Rustici indicated that the golf course has an existing CTDEEP Water Diversion Permit DIV-200200024. The permit authorizes the golf course to withdraw a total of 0.200 million gallons of water per day from the on-site storage pond and from Anguilla Brook for irrigation use. The unnamed pond and Anguilla Brook are not located within the project areas.

3.3 Specialized Knowledge

No specialized knowledge regarding the parcels has been communicated to MMI other than its use as a golf course.

3.4 Valuation Reduction for Environmental Issues

No valuation reduction for environmental issues regarding the subject parcels has been communicated to MMI.

3.5 Commonly Known or Reasonably Ascertainable Information

The owner was unaware of specific past uses of the property other than the use as a golf course.

3.6 Degree of Obviousness of Presence or Likely Presence of Contamination

The owner has no knowledge of any obvious indicators of contamination. The owner did indicate that there was storage of typical lawn equipment maintenance and associated chemicals at the site; however, this storage building was not located within either of the project areas.

3.7 Reason for Performing Phase I

MMI was contracted by GDC to perform a Phase I ESA in support of environmental due diligence for the proposed construction of solar panels on the property.

3.8 Previous Environmental Documents

The owner provided a copy of the original diversion permit application dated January 2004. In addition, MMI contained within our files a copy of the renewal of the permit dated July 2018. Copies of these documents are included in Appendix H of this report.

4.0 RECORDS REVIEW

Current and historical records were reviewed via documents obtained through EDR. State records available through the CTDEEP Document Portal and the Hazardous Waste CT Data Portal were reviewed. Municipal documents were reviewed from the following Town of Stonington offices: Assessor, Clerk, Planning and Zoning, Wetlands, Building, and the Ledge Light Health District (LLHD) office. The Village of Pawcatuck Fire Marshal's office provided information on the site as well. Environmental setting data was obtained from both EDR and Connecticut Environmental Conditions Online (CT ECO).

4.1 Environmental Database Review

Federal and state agency records were accessed through an environmental database review report provided by EDR. The database review is conducted in order to identify potential listings on environmental databases for the subject site or nearby sites that have the potential to adversely impact environmental conditions at the subject site. A copy of the EDR report is provided in Appendix B.

The following is a summary of the sites within the radius for those records reviewed as required to meet ASTM standards. A complete listing of all databases reviewed is included in the appended EDR report.

Standard Environmental Record Source	Minimum Search Radius (miles)	No. of Subject Site Records	No. of Nearby Sites within Radius
Federal Databases			
Federal National Priorities List (NPL)	1.0	0	0
Federal Delisted NPL	1.0	0	0
Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)	0.5	0	0
Federal CERCLIS No Further Remedial Action Planned (NFRAP) Site List	0.5	0	0
Federal Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS) Facilities List	1.0	0	0
Federal RCRA non-CORRACTS Treatment, Storage, and Disposal (TSD) Facilities List	0.5	0	0
Federal RCRA Generators List	Property, abutting properties	0	0
Federal Institutional Control/Engineering Control Registries	Property only	0	NA
Federal Emergency Response Notification System (ERNS) List	Property only	0	NA
State Databases			
State NPL	1.0	0	0
State CERCLIS	0.5	0	0
State Landfill and/or Solid Waste Facility	0.5	0	0
State Leaking Underground Storage Tank (LUST)	0.5	0	0
State Registered Underground Storage Tank (UST)	Property, abutting properties	0	0
State Institutional Control/Engineering Control Registries	Property only	0	NA
State Voluntary Cleanup Sites	0.5	0	0
State Brownfield Sites	0.5	0	0

Subject Site Database Summary

The subject property was not listed in any databases within the ASTM-specified database search as provided by EDR.

The site was identified in an additional EDR-provided database, the FINDS database. This listing is associated with the site's CTDEEP Water Diversion Permit filing to withdraw surface water for irrigation purposes. Neither of the sources used for the water withdrawal (pond or Anguilla Brook) is located within the project areas. The listing for the surface water withdrawal permit does not present a concern to either of the project areas.

Off-Site Database Summary

There were no off-site listings as provided by EDR within the ASTM-specified search radius.

MMI also reviewed "unmappable" (also referred to as "orphan") listings within the database report, cross referencing available address information and facility names. Unmappable sites are listings that could not be plotted with confidence but are potentially in the general area of the site based on the partial street address, city, or zip code. None of the three identified orphan sites appeared to be related to the subject site or nearby properties.

4.2 Environmental Setting Review

MMI reviewed the following physical setting sources:

- EDR Geocheck Physical Setting Source Addendum
- United States Geological Survey (USGS) topographic maps including the current 7.5-minute quadrangle
- CT ECO

Physical setting information is described in the EDR report included in Appendix B.

4.2.1 Geology, Lithology, and Topography

The surficial geology of the entirety of the site is primarily till. The central and western portions are mapped as sand and gravel overlying sand and swamp near Anguilla Brook.

Bedrock underlying the majority of the site is mapped as gneiss of the Mamacoke Formation and Avalonian (Continental) Terrane/Avalonian Anticlinorium, which is described as interlayered light-to-dark gray, medium-grained gneiss. The area along the northern border of the property is mapped as Potter Hill Granite Gneiss of the same terrane. The Potter Hill Granite Gneiss is described as light pink-to-gray, tan-weathering, fine-to-medium-grained, well-foliated granitic gneiss.

The topography within Project Area A slopes downward east to west from approximately 156 feet above sea level (ft asl) to 68 ft asl.

The topography within Project Area B gently slopes westerly toward Anguilla Brook from approximately 60 ft asl to approximately 40 ft asl.

4.2.2 Hydrology

Data presented in the EDR report indicated the presence of three federal USGS water wells within a 1-mile radius of the subject property. The EDR report indicated that the depth to groundwater for the wells is an average of approximately 5 feet below grade (ft bg). Shallow groundwater is expected to flow toward the south-southwest toward Anguilla Brook.

Groundwater at the site and within the vicinity is classified as GA. This designation is defined as groundwater suitable for drinking without treatment. The Rhode Island Wellfield Wellhead Protection Area extends into the eastern portion of the site but does not enter either of the project areas.

The eastern portion of the 223 Elm Ridge Road parcel lies within the Pawcatuck Major and Pawcatuck River Subregional watershed basin. The remainder of the site including both project areas is mapped within the Southeast Coast Major and Anguilla Brook Subregional watershed basin.

The nearest surface waterbody is the on-site pond, located approximately 100 feet southwest of Project Area B. The other surface waterbody in the vicinity is Anguilla Brook, located along the west side of the North Anguilla Road parcel boundary, approximately 280 feet west of Project Area B. Anguilla Brook is designated as a Class "A" surface waterbody. This is generally defined by the CTDEEP as a waterbody that can support habitat for fish and other aquatic life and wildlife, recreation, and industrial and agricultural water supply.

4.2.3 Wetlands

Identification of wetland soils is beyond the scope of an ASTM Phase I assessment.

There are CTDEEP-identified wetlands on the golf course property. None is mapped within either of the project areas. Figure 2 shows the CTDEEP-mapped wetland soils at the property.

4.3 Historical Use Information on the Property

The project areas appear to have been used for residential purposes prior to their use as a golf course. This section provides a summary of the information obtained on historical use at the property.

4.3.1 Historical Aerial Photographs

Historical aerial photographs were obtained from EDR and are included as Appendix C. The years reviewed included the following: 1941, 1951, 1957, 1960, 1970, 1985, 1991, 2005, 2008, 2012, and 2016. Below is a summary of the observations made of the site and surrounding area from the EDR aerial photographs:

Year	Project Area Observations	Surrounding Area Observations
1941, 1951, 1957, 1960	The project areas appear as partially cleared fields.	The surrounding areas appear to have similar cleared fields and residential use throughout these photographed years.
1970, 1985	The project areas and associated parcels are covered in sand (golf course under construction) in the 1970 photo. They appear as grass-covered greens by the 1985 photo.	The clubhouse building east of Project Area A also appears in the 1970 photo. In addition, to the far northwest, highway Interstate 95 has been constructed.
1991, 2005, 2008, 2012, 2016	The project areas appear similar in these photos as the present. By the 1991 photo, the pond appears southwest of Project Area B, and the remainder of Project Area A appears as golf course greens.	There are a few additional structures east of Project Area A (clubhouse additions) in these photos, similar to the present.

4.3.2 Historical Topographic Maps

Historical topographic maps of the site and surrounding area as obtained from EDR are included in Appendix D. The following map years were reviewed: 1889, 1893, 1913, 1921, 1943, 1944, 1947, 1948, 1949, 1953, 1958, 1970, 1975, 1983, 1984, 2001, and 2012.

The topographic maps generally showed a similar elevation configuration to the present. It was noted that a stream was mapped crossing through Project Area B in the 1889, 1893, 1913, and 1921 maps and was not shown in the later maps.

4.3.3 Historical Fire Insurance Maps

Historical Sanborn® Fire Insurance Maps of the vicinity of the project areas were requested from EDR. The project areas and vicinity were not mapped. A copy of the Unmapped Area Sanborn Report is included as Appendix E.

4.3.4 Historical City Directories

A copy of the city directory data as obtained through EDR is provided in Appendix F. The city directory data was reviewed from 1939 and approximately every 5 years to 2014. Since the North Anguilla Road parcel does not have an address number, the north- and south-abutting address listings were reviewed. These listings were mostly individual names, likely indicating residential use. In addition, it appears that between 1992 and 1995 the address numbers along Elm Ridge Road had changed. Following is a summary of the property listings associated with the property's official address of 229 Elmridge Road:

Year	Subject Property Listings
1939, 1945, 1950	No listings
1960	15 listings for "0 Elmridge Road," individual names (likely residential use)
1966	No address numbers were assigned to the listings beyond "14 Elmridge Rd."
1972	"20 Elmridge Rd" listings: Grills Alf D; Rustici, Charles M. Jr.; Rustici, Joseph; Elm Ridge Golf Course & Restaurant
1976, 1980	"24 Elmridge Rd" listing: Elm Ridge Golf Course & Restaurant
1985, 1990, 1992	"24 Elmridge Rd" listing: Elm Ridge Golf Course & Restaurant Inc.
1995	"229 Elmridge Rd" listing: Elmridge Golf Course Inc.
2000	"229 Elmridge Rd" listing: Elmridge Golf Course Inc.; Ergas, P A; Jones Pro Shop
2005	"229 Elmridge Rd" listings: Elmridge Golf Course Inc.; Jones Pro Shop, Joseph and Nancy Rustici LLC; Restaurant at Elmridge
2010	"229 Elmridge Rd" listings: Elmridge Golf Course Inc.; Jones Pro Shop, Restaurant at Elmridge
2014	"229 Elmridge Rd" listings: Elmridge Golf Course Inc.; Jones Pro Shop

Based on the available historical records researched during the course of this investigation, the property associated with the project areas appears to have been occupied since at least 1941 as a cleared field (residence) and later developed as a golf course club between 1966 and 1970.

4.4 **Historical Use Information on Adjoining Properties**

As indicated by the historical topographic maps, city directory listings, and decades of aerial images, the surrounding area was developed with early residential use since at least the early 1940s.

4.5 **Connecticut Department of Energy & Environmental Protection (CTDEEP)**

Based upon the results of the EDR Radius Map Report having no listings within the ASTM-specified radius search, MMI determined it was not necessary to visit the CTDEEP for an extensive file search. MMI still searched the CTDEEP Online Data Portal (ODP) and the CT Hazardous Waste Manifest Database for any scanned files associated with the subject property.

The table below is a general list of the documentation currently available through the ODP:

Agency Programs	Agency ID	Document Types
Air Field Enforcement	Complaint Number	Application Submittal
Air Technical Services	Registration Number	Sufficiency Review
Emergency Response Unit	Spills ID or Case ID	Technical Review
Hazardous Waste	Manifest Number	NTD
Leaking Underground Storage Tanks	Spills ID or Case ID	Public Comment
Municipal Water Pollution Control	No ID Currently Available	Response to Comments
Potable Water	Remediation (REM) ID	Authorization/Approval/Decision
Property Transfer	Remediation (REM) ID	Examination Results
Significant Environmental Hazard	Remediation (REM) ID	Complaint
Voluntary Remediation	Remediation (REM) ID	Inspection
		Informal Enforcement
		Formal Enforcement
		Assistance
		Financial Assurance
		Plans and Reports

The ODP and manifest database did not provide any information associated with the subject property other than a CTDEEP Water Diversion Permit. This permit was originally issued to the golf course in January 2004 and was recently renewed in July 2018. The Permit (ID DIV-200200024) indicated that the golf course shall withdraw a maximum of 0.2000 million gallons per day of surface water from the on-site pond and nearby Anguilla Brook for irrigation purposes. Neither the pond nor the brook is located within either of the project areas. The permit contains other environmental information regarding the property such as an Environmental Impact Report, a Water Conservation Plan, a Flood Contingency Plan, and other associated assessments required by the CTDEEP's Water Diversion Permit program. A copy of this permit and associated documentation is included in Appendix G.

4.6 Municipal Offices

MMI visited the municipal departments and requested to review all available documentation associated with the project areas on the property.

This section provides a summary of the municipal files that exist at the following municipal offices:

- Planning & Zoning (includes Wetlands)
- Assessor
- Clerk
- Water Pollution Control Authority (WPCA)
- Ledge Light Health District
- Fire Marshal (Village of Pawcatuck)
- Building

Current tax field cards for the two parcels containing the project areas were provided by the Assessor's Office. The Building Department had multiple building and electrical permits associated with the structures at the property; however, there was no documentation that pertained to either of the project areas. A copy of the field cards is included with this report in Appendix G.

The Village of Pawcatuck Fire Marshal provided details from an inspection conducted at the property on July 2, 1999. The inspection indicated that a heating oil UST was removed from the west side of the clubhouse, and a new UST was installed at that time. The report further noted that no contamination was noted, and the tanks (old and new) were in good condition. This area is approximately 265 feet east of Project Area A.

The owner confirmed there is an existing (replacement) heating oil UST of unspecified capacity in that same location used to heat a portion of the clubhouse. In addition, the owner also indicated that a propane UST of unspecified capacity was located in that same area as well.

Based upon the Fire Marshal's input regarding the UST removal and replacement, the former UST does not appear to present an environmental concern to Project Area A. Furthermore, based upon their distances from Project Area A, it does not appear likely that the existing USTs would have the potential to present a significant environmental concern to Project Area A.

A copy of the Fire Marshal correspondence is also provided in Appendix G.

4.7 Site Ownership History

The Town Clerk records indicated that, in general, the property has been owned by the Rustici family at least for the past 50 years. The table below summarizes the ownership history:

Owner	Date	Book/Page
Rustici, Joseph Trustee, & Nancy G Trustee	August 3, 2004	559/881
Rustici, Joseph	March 7, 2003	512/594
Rustici, Charles M & Joseph	November 1, 1985	262/843
Rustici, Charles M & Joseph	December 22, 1960	128/138

This information is also provided on the Assessor's field cards.

No other information was identified during the course of this assessment.

5.0 **SITE RECONNAISSANCE**

5.1 **Methodology and Limiting Conditions**

On November 21, 2019, MMI completed a walk-through inspection of the two project areas.

A photo log from the site visit is included in Appendix A. Figure 2 depicts features of the subject parcels.

5.2 **General Site Setting**

The project areas are located on a property that lies in a historically rural and residential area of Pawcatuck (Stonington), Connecticut, approximately 1 mile west of the Rhode Island state border. The topography across the project areas is sloped in the west-southwest direction toward Anguilla Brook. CTDEEP-delineated wetlands are mapped near Project Area B. Surrounding land use includes the Interstate 95 northbound highway, woods, and primarily residential use.

5.3 **Exterior Observations**

The project areas consisted of approximately 5.1 acres and 12.6 acres (Project Areas A and B, respectively) of landscaped golf course greens and vegetation, with a few sand traps and paved cart paths. There was one rain shelter/barn located in the western portion of Project Area B and no structures within Project Area A. The owner indicated that interconnected below-grade irrigation pipes with multiple sprinkler heads were present throughout the entire course, including the project areas.

Project Area B had a partially exposed black corrugated drain pipe that directed flow southward into the pond from the area north of Project Area B.

The following table summarizes observations made of the site:

Feature	Observed	Not Observed	Comments
Use of hazardous materials		X	
Chemical odors, spills, or staining		X	The owner noted that typical golf course chemicals were used to maintain the lawn within the project areas. He also noted that they were used and stored according to the manufacturer's recommendations. There was no storage of chemicals within the project areas.
Potential chemically induced vegetation distress		X	
Unidentified pipes stubbing out from underground		X	
Current or former USTs, aboveground storage tanks (ASTs)		X	No USTs or ASTs were observed within either of the project areas. Existing heating oil and propane USTs, both of unspecified capacities, are located approximately 265 feet east of Project Area A.
Current or former hydraulic lifts		X	
Unlabeled drums or other potential hazmat containers		X	
Dry wells or French drains		X	
Sumps or clarifiers		X	
Suspicious paving patches		X	
Unusual settlement of the ground surface		X	
Hummocky or filled ground		X	
Equipment producing air emissions		X	
Potential polychlorinated biphenyls (PCB)-containing equipment		X	
Potential for radon gas		X	
Water supply wells		X	
Evidence of prior environmental investigations such as soil borings or monitoring wells		X	
Potential for impacts from neighboring facilities		X	
Other	X		The owner indicated that there were multiple irrigation lines located throughout the course.

5.4 Interior Observations

There were no structures present in either of the project areas other than the rain shelter/barn on the western portion of Project Area B, which was empty.

6.0 INTERVIEWS

6.1 Interview with Owner (or Representative)

The owner representative, Mr. Alan Rustici, indicated that he had no additional knowledge of the property other than what was presented in the Water Diversion Permit Application and Renewal documents. He also confirmed the existence of a heating oil UST and a propane UST on the west side of the clubhouse but did not recall the capacities of either.

A copy of a completed owner questionnaire is provided in Appendix H.

6.2 Interviews with Local Government Officials

A review of records obtained from the following Town of Stonington Departments was used to complete the investigation: Assessor, Clerk, WPCA, LLHD, and Planning and Zoning (including Wetlands).

MMI spoke with the Pawcatuck Fire Marshal on November 21, 2019, regarding the removal of the former heating oil UST located approximately 265 feet east of Project Area A. He indicated that the removal was conducted in 1999 and that there was no evidence of contamination. He did not provide the capacity of the former UST.

7.0 DATA GAPS

A data gap is defined by ASTM 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."

There were no data gaps identified during this investigation.

8.0 CONCLUSIONS

We have performed the ESA in conformance with the scope and limitations of ASTM Practice E1527-13 and in general accordance with the CTDEEP SCGD. Any exceptions to or deletions from this practice are described in Section 1.0 of this report.

This Phase I ESA has not revealed evidence of any RECs in connection with the project areas.

Of note, the existing heating oil and propane USTs located approximately 265 feet east of Project Area A do not appear to present a significant environmental concern to either project area.

Based on the findings of this assessment, the site does not appear to meet the definition of an "Establishment" pursuant to CGS Section 22a-134. MMI recommends that a final determination be made by legal counsel.

9.0 ADDITIONAL SERVICES

No additional services have been performed on the project areas at the subject property for this assessment.

10.0 REFERENCES

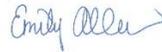
- o ASTM Practice E1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, issued 2013
- o CTDEEP SCGD
- o CTDEEP Open Data: Hazardous Waste Manifest Data (CT) 1984-2008
- o CTDEEP Electronic Database – List of Registered USTs (updated through May 11, 2018)
- o CTDEEP List of Contaminated or Potentially Contaminated Sites: "Hazardous Waste Facilities" as defined by Section 22a-134f of the CGSs
- o CTDEEP Document Online Search Portal
- o EDR Database Report
- o EDR Historical Aerial Photographs
- o EDR Historical Topographic Maps
- o EDR City Directory Report
- o EDR Sanborn® Unmapped Area Report

11.0 ENVIRONMENTAL PROFESSIONAL STATEMENT

We declare that to the best of our professional knowledge and belief we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312 subject to the limitations noted within this report.



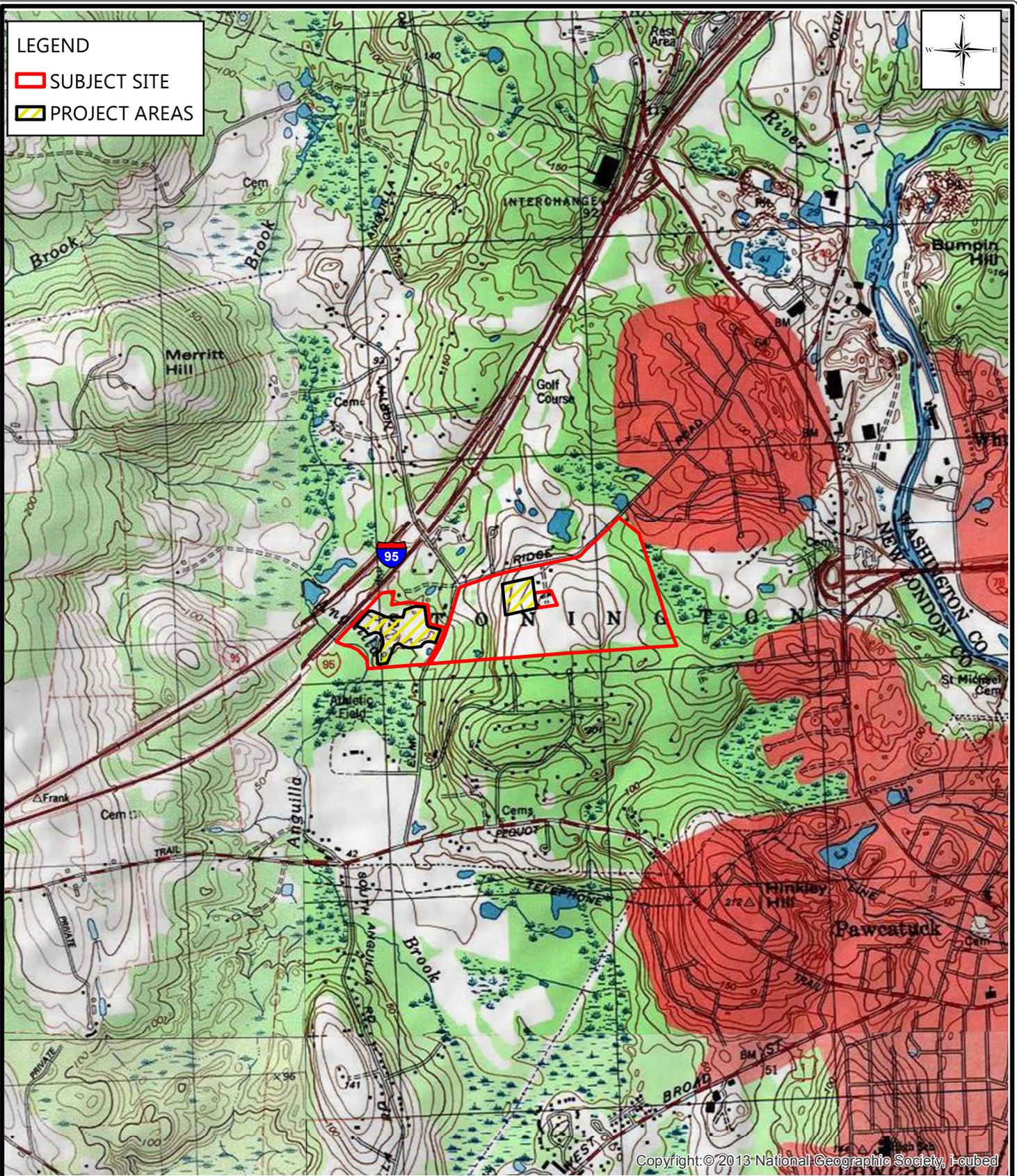
Scott G. Bristol, LEP, PG
Associate, Manager of Environmental Services



Emily Allison, MS
Environmental Scientist

6763-10-04-n2519-rpt.docx

FIGURES



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MILONE & MACBROOM
 99 Realty Drive
 Cheshire, Connecticut 06410
 (203) 271-1773
 www.mminc.com

SITE LOCATION MAP
 PHASE I ENVIRONMENTAL SITE ASSESSMENT
 ELMRIDGE GOLF COURSE PV SOLAR FACILITY
 229 ELMRIDGE ROAD
 STONINGTON, CONNECTICUT

SOURCE: 2013, NATIONAL GEOGRAPHIC SOCIETY

DATE: NOVEMBER 15, 2019
 SCALE: 1" = 2,000'
 PROJ. NO.: 6763-10-04
 DESIGNED: EA DRAWN: EA CHECKED: SGB

DRAWING NAME:
FIG. 1

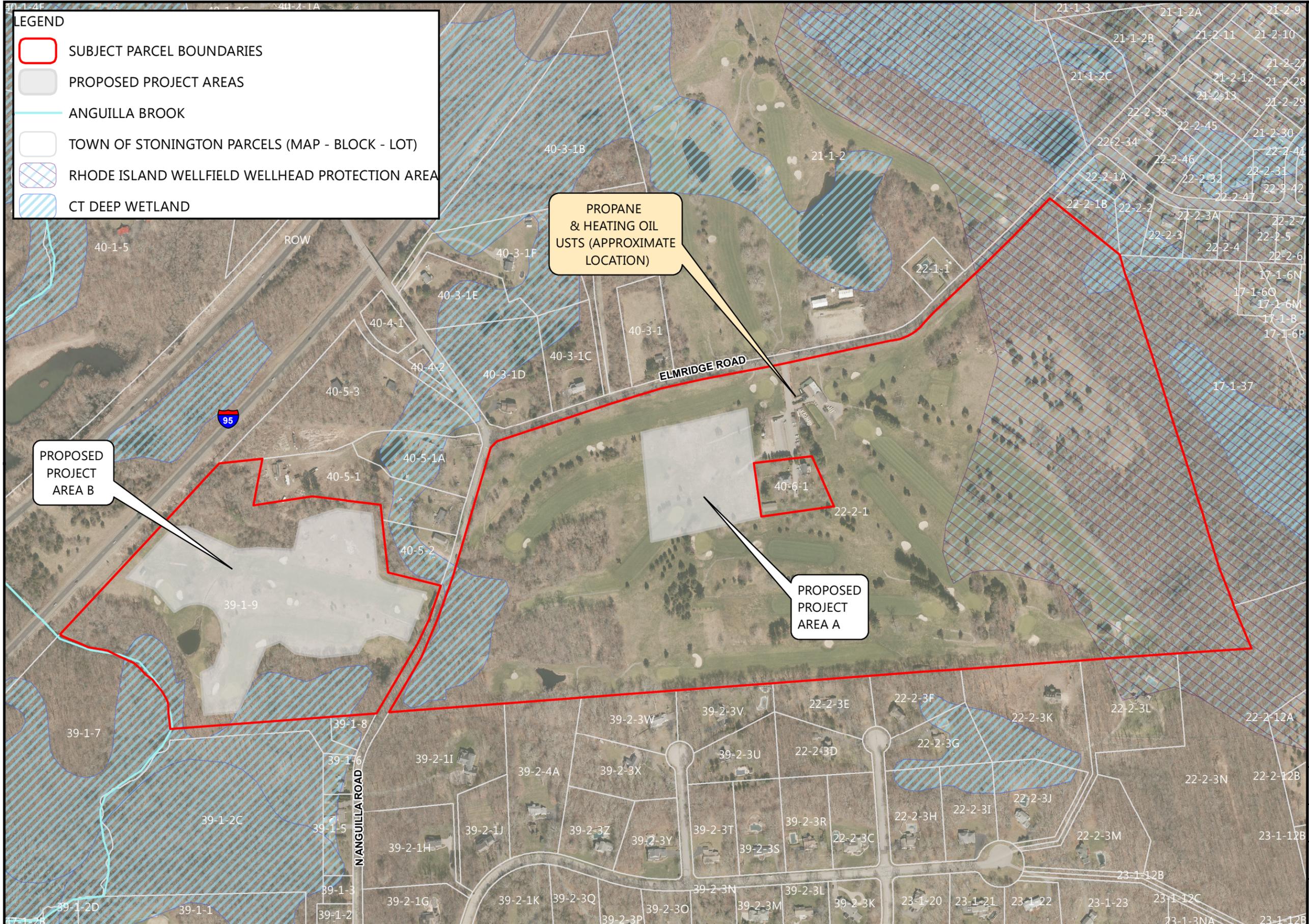
LEGEND

- SUBJECT PARCEL BOUNDARIES
- PROPOSED PROJECT AREAS
- ANGUILLA BROOK
- TOWN OF STONINGTON PARCELS (MAP - BLOCK - LOT)
- RHODE ISLAND WELLFIELD WELLHEAD PROTECTION AREA
- CT DEEP WETLAND

N



MILONE & MACBROOM
 99 REALTY DRIVE
 CHESHIRE, CT 06410
 203.271.1773
 WWW.MMINC.COM



SITE CONDITIONS

PHASE I ENVIRONMENTAL SITE ASSESSMENT
 ELMRIDGE GOLF COURSE PV SOLAR FACILITY
 229 ELM RIDGE ROAD & NORTH ANGUILLA ROAD
 PAWCATUCK, CONNECTICUT

SCALE	1" = 400'
DATE	11/21/2019
PROJECT NO.	6763-10-04

FIG. 2

APPENDIX A

SITE PHOTOGRAPHS



Client Name:
Greenskies Development Company, LLC

Site Location:
229 Elm Ridge Road, Pawcatuck, CT

Project No.
6763-10-04

Photo No.
1

Date:
11-21-19

Direction Photo Taken:
Facing west.

Description:
This is a typical view of Project Area A, facing west.



Photo No.
2

Date:
11-21-19

Direction Photo Taken:
Facing northeast.

Description:
This is the southern portion of Project Area B, facing northeast.





Client Name:
Greenskies Development Company, LLC

Site Location:
229 Elm Ridge Road, Pawcatuck, CT

Project No.
6763-10-04

Photo No.
3

Date:
11-21-19

Direction Photo Taken:
Facing west.

Description:
This is the western portion of Project Area B showing the wooded rain shelter/barn, facing west.



Photo No.
4

Date:
11-21-19

Direction Photo Taken:
Facing southeast.

Description:
This is the central portion of Project Area B showing the corrugated drain pipe directing flow southward through Project Area B.



APPENDIX B

EDR DATABASE REPORT

Phase I ESA - Elmridge Golf Course

229 Elmridge Road
Pawcatuck, CT 06379

Inquiry Number: 5870113.2s

November 14, 2019

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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

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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 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

229 ELMRIDGE ROAD
PAWCATUCK, CT 06379

COORDINATES

Latitude (North): 41.3922930 - 41° 23' 32.25"
Longitude (West): 71.8647260 - 71° 51' 53.01"
Universal Tranverse Mercator: Zone 19
UTM X (Meters): 260487.1
UTM Y (Meters): 4586055.0
Elevation: 117 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5644896 ASHAWAY, RI
Version Date: 2012

Southeast Map: 5644914 WATCH HILL, RI
Version Date: 2012

Southwest Map: 5642111 MYSTIC, CT
Version Date: 2012

Northwest Map: 5642113 OLD MYSTIC, CT
Version Date: 2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140712
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
229 ELMRIDGE ROAD
PAWCATUCK, CT 06379

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	229 ELMRIDGE RD	229 ELMRIDGE RD	FINDS		TP

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

<u>Site</u>	<u>Database(s)</u>	<u>EPA ID</u>
229 ELMRIDGE RD 229 ELMRIDGE RD PAWCATUCK, CT 06379	FINDS Registry ID:: 110055162844	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators

EXECUTIVE SUMMARY

RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-VSQG..... RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

CT SHWS..... Inventory of Hazardous Disposal Sites
RI SHWS..... List of CERCLIS and State Sites in RI
CT SDADB..... Site Discovery and Assessment Database

State and tribal landfill and/or solid waste disposal site lists

CT SWF/LF..... List of Landfills/Transfer Stations
RI SWF/LF..... Solid Waste Management Facilities

State and tribal leaking storage tank lists

CT LUST..... Leaking Underground Storage Tank List
RI LUST..... LUST Case List
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
CT UST..... Underground Storage Tank Data
RI UST..... UST Master List
CT AST..... Marine Terminals and Tank Information
RI AST..... Aboveground Storage Tanks
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

CT ENG CONTROLS..... Engineering Controls Listing
CT AUL..... ELUR Sites
RI AUL..... Waste Management Sites with Environmental Land Use Restrictions

State and tribal voluntary cleanup sites

CT VCP..... Voluntary Remediation Sites
INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

CT BROWNFIELDS..... Brownfields Inventory
RI BROWNFIELDS..... Brownfields Site List

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

CT SWRCY..... Recycling Facilities
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
ODI..... Open Dump Inventory
IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register
CT CDL..... Clandestine Drug Lab Listing
RI CDL..... Clandestine Drug Lab Information Listing
US CDL..... National Clandestine Laboratory Register

Local Land Records

CT PROPERTY..... Property Transfer Filings
CT LIENS..... Environmental Liens Listing
LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
CT SPILLS..... Oil & Chemical Spill Database
RI SPILLS..... Oil & Hazardous Material Response Log/Spill Report
CT SPILLS 90..... SPILLS 90 data from FirstSearch
RI SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated
FUDS..... Formerly Used Defense Sites
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System

EXECUTIVE SUMMARY

FTTS.....	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS.....	Material Licensing Tracking System
COAL ASH DOE.....	Steam-Electric Plant Operation Data
COAL ASH EPA.....	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER.....	PCB Transformer Registration Database
RADINFO.....	Radiation Information Database
HIST FTTS.....	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS.....	Incident and Accident Data
CONSENT.....	Superfund (CERCLA) Consent Decrees
INDIAN RESERV.....	Indian Reservations
FUSRAP.....	Formerly Utilized Sites Remedial Action Program
UMTRA.....	Uranium Mill Tailings Sites
LEAD SMELTERS.....	Lead Smelter Sites
US AIRS.....	Aerometric Information Retrieval System Facility Subsystem
US MINES.....	Mines Master Index File
ABANDONED MINES.....	Abandoned Mines
ECHO.....	Enforcement & Compliance History Information
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
UXO.....	Unexploded Ordnance Sites
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
CT AIRS.....	Permitted Air Sources Listing
RI AIRS.....	Air Emissions Listing
CT ASBESTOS.....	Asbestos Notification Listing
RI ASBESTOS.....	ASBESTOS
CT CPCS.....	Contaminated or Potentially Contaminated Sites
CT DRYCLEANERS.....	Drycleaner Facilities
RI DRYCLEANERS.....	Drycleaner Facility Listing
CT ENF.....	Enforcement Case Listing
RI Financial Assurance.....	Financial Assurance Information
CT Financial Assurance.....	Financial Assurance Information Listing
CT LEAD.....	Lead Inspection Database
RI LEAD.....	Lead Inspections Database
CT LWDS.....	Connecticut Leachate and Wastewater Discharge Sites
CT MANIFEST.....	Hazardous Waste Manifest Data
RI MANIFEST.....	Manifest information
CT NPDES.....	Wastewater Permit Listing
RI NPDES.....	Permit and Facility Data
CT SEH.....	List of Significant Environmental Hazards Report to DEEP
CT UIC.....	Underground Injection Control Listing
MINES MRDS.....	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner.....	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

CT RGA HWS.....	Recovered Government Archive State Hazardous Waste Facilities List
-----------------	--

EXECUTIVE SUMMARY

RI RGA HWS..... Recovered Government Archive State Hazardous Waste Facilities List
CT RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank
RI RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

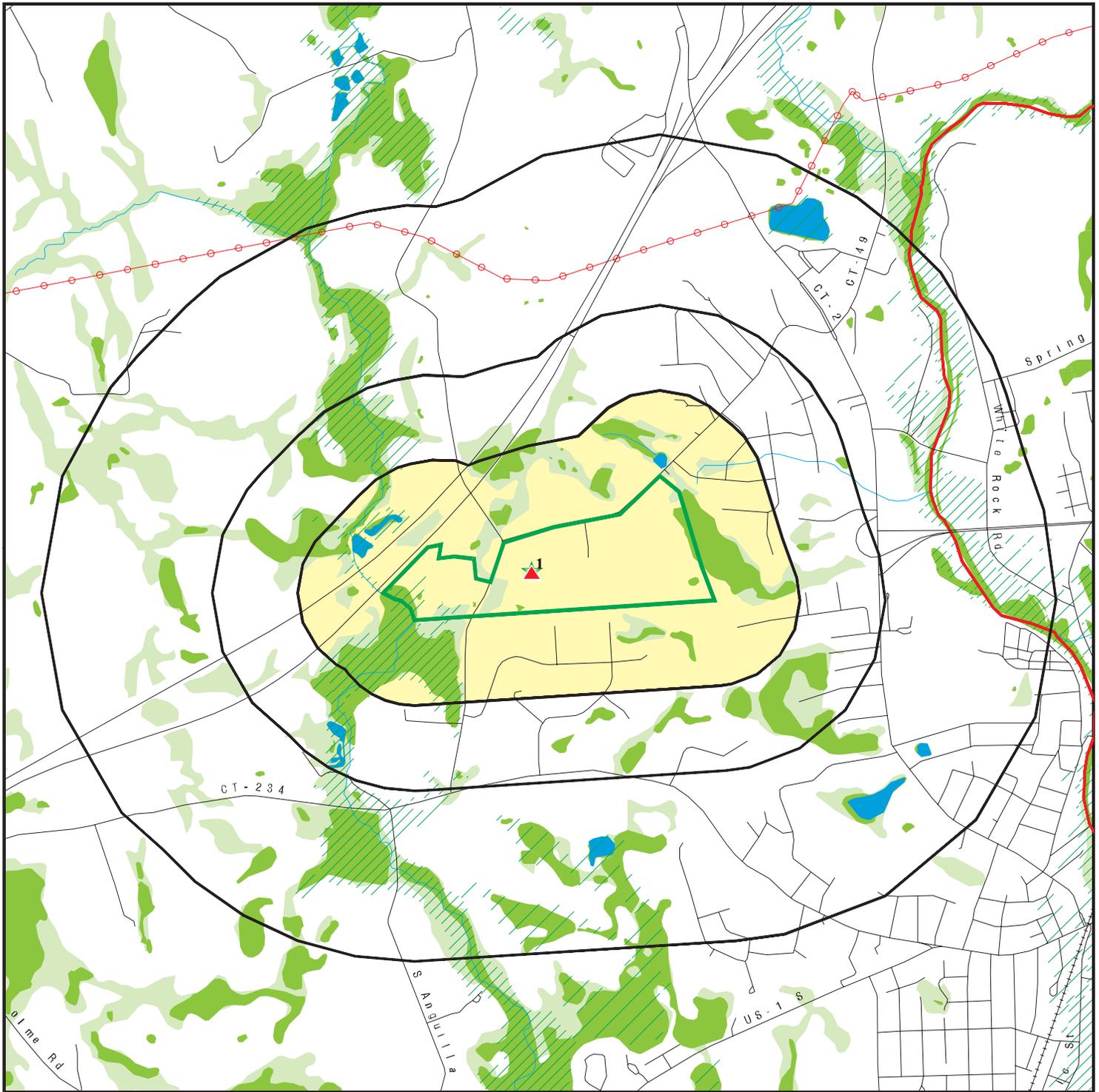
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

<u>Site Name</u>	<u>Database(s)</u>
D.V. CORPORATION	CT SDADB, CT LUST, CT PROPERTY, CT CPCS
ALLAN RICKER	CT LUST, CT SPILLS
SIRTEX PRINTING CO	CT SDADB

OVERVIEW MAP - 5870113.2S



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

Indian Reservations BIA

County Boundary

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

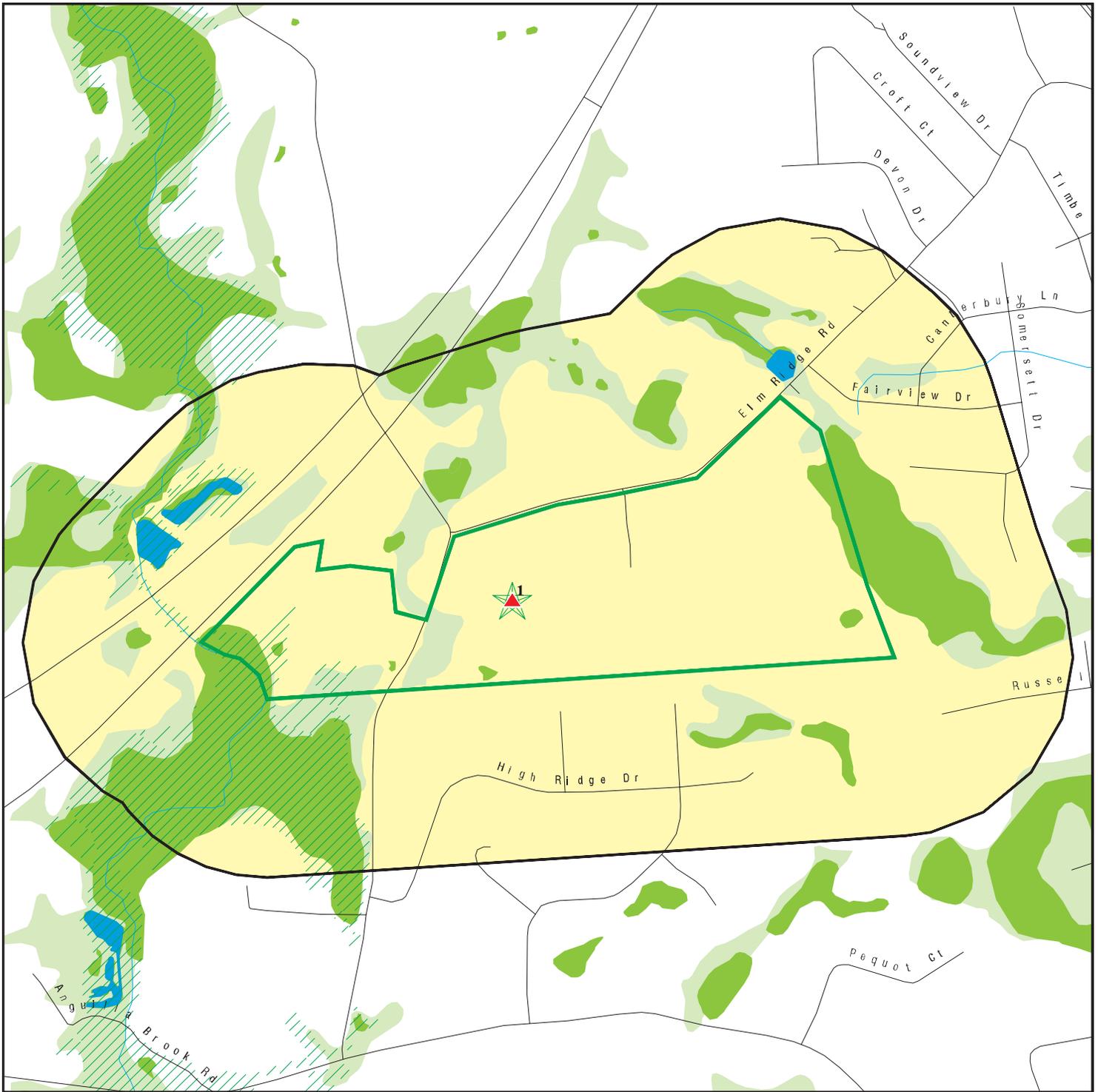
State Wetlands

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: Phase I ESA - Elmrige Golf Course
 ADDRESS: 229 Elmrige Road
 Pawcatuck CT 06379
 LAT/LONG: 41.392293 / 71.864726

CLIENT: Milone & Macbroom Engineering
 CONTACT: Emily Allison
 INQUIRY #: 5870113.2s
 DATE: November 14, 2019 3:11 pm

DETAIL MAP - 5870113.2S



-  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
-  Special Flood Hazard Area (1%)
-  0.2% Annual Chance Flood Hazard
-  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: Phase I ESA - Elmrige Golf Course
 ADDRESS: 229 Elmrige Road
 Pawcatuck CT 06379
 LAT/LONG: 41.392293 / 71.864726

CLIENT: Milone & Macbroom Engineering
 CONTACT: Emily Allison
 INQUIRY #: 5870113.2s
 DATE: November 14, 2019 3:12 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								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
CT SHWS	1.000		0	0	0	0	NR	0
RI SHWS	1.000		0	0	0	0	NR	0
CT SDADB	0.500		0	0	0	NR	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
CT SWF/LF	0.500		0	0	0	NR	NR	0
RI SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
CT LUST	0.500		0	0	0	NR	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
RI LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
CT UST	0.250		0	0	NR	NR	NR	0
RI UST	0.250		0	0	NR	NR	NR	0
CT AST	0.250		0	0	NR	NR	NR	0
RI AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
CT ENG CONTROLS	0.500		0	0	0	NR	NR	0
CT AUL	0.500		0	0	0	NR	NR	0
RI AUL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
CT VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
CT BROWNFIELDS	0.500		0	0	0	NR	NR	0
RI 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								
CT SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CT CDL	TP		NR	NR	NR	NR	NR	0
RI CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
CT PROPERTY	TP		NR	NR	NR	NR	NR	0
CT LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	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
CT SPILLS	TP		NR	NR	NR	NR	NR	0
RI SPILLS	TP		NR	NR	NR	NR	NR	0
CT SPILLS 90	TP		NR	NR	NR	NR	NR	0
RI SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	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
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	1	NR	NR	NR	NR	NR	1
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CT AIRS	TP		NR	NR	NR	NR	NR	0
RI AIRS	TP		NR	NR	NR	NR	NR	0
CT ASBESTOS	TP		NR	NR	NR	NR	NR	0
RI ASBESTOS	TP		NR	NR	NR	NR	NR	0
CT CPCS	0.500		0	0	0	NR	NR	0
CT DRYCLEANERS	0.250		0	0	NR	NR	NR	0
RI DRYCLEANERS	0.250		0	0	NR	NR	NR	0
CT ENF	TP		NR	NR	NR	NR	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
RI Financial Assurance	TP		NR	NR	NR	NR	NR	0
CT Financial Assurance	TP		NR	NR	NR	NR	NR	0
CT LEAD	TP		NR	NR	NR	NR	NR	0
RI LEAD	TP		NR	NR	NR	NR	NR	0
CT LWDS	0.250		0	0	NR	NR	NR	0
CT MANIFEST	0.250		0	0	NR	NR	NR	0
RI MANIFEST	0.250		0	0	NR	NR	NR	0
CT NPDES	TP		NR	NR	NR	NR	NR	0
RI NPDES	TP		NR	NR	NR	NR	NR	0
CT SEH	0.500		0	0	0	NR	NR	0
CT UIC	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

CT RGA HWS	TP		NR	NR	NR	NR	NR	0
RI RGA HWS	TP		NR	NR	NR	NR	NR	0
CT RGA LUST	TP		NR	NR	NR	NR	NR	0
RI RGA LUST	TP		NR	NR	NR	NR	NR	0

- Totals --		1	0	0	0	0	0	1
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NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

1 **229 ELMRIDGE RD**
Target **229 ELMRIDGE RD**
Property **PAWCATUCK, CT 06379**

FINDS **1016383583**
 N/A

FINDS:

Actual: Registry ID: 110055162844
117 ft.

Environmental Interest/Information System

Connecticut Site Information Management System (SIMS) is part of a suite of web-based applications designed to allow the Connecticut Department of Environmental Protection (DEP) staff to harmonize environmental interest information from disparate systems in a single agency-wide data repository (known as CFI). SIMS provides tools for identifying and resolving duplicate data, querying data (using both tabular and geospatial methods), and viewing/maintaining documents associated to the data.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Count: 3 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
STONINGTON	S121201261	ALLAN RICKER	1 ANGUILLA BROOK ROAD		CT LUST, CT SPILLS
STONINGTON	S104563489	D.V. CORPORATION	LIBERTY STREET	06378	CT SDADB, CT LUST, CT PROPERTY CT CPCS
STONINGTON	S104255119	SIRTEX PRINTING CO	NORTH MAIN STREET		CT SDADB

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/19/2019	Source: EPA
Date Data Arrived at EDR: 07/30/2019	Telephone: N/A
Date Made Active in Reports: 09/03/2019	Last EDR Contact: 11/07/2019
Number of Days to Update: 35	Next Scheduled EDR Contact: 01/13/2020
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/19/2019	Source: EPA
Date Data Arrived at EDR: 07/30/2019	Telephone: N/A
Date Made Active in Reports: 09/03/2019	Last EDR Contact: 11/07/2019
Number of Days to Update: 35	Next Scheduled EDR Contact: 01/13/2020
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/04/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/19/2019	Source: EPA
Date Data Arrived at EDR: 07/30/2019	Telephone: 800-424-9346
Date Made Active in Reports: 09/03/2019	Last EDR Contact: 11/07/2019
Number of Days to Update: 35	Next Scheduled EDR Contact: 01/27/2020
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/24/2019	Source: EPA
Date Data Arrived at EDR: 06/26/2019	Telephone: 800-424-9346
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/28/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/24/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/26/2019	Telephone: (888) 372-7341
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/28/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/24/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/26/2019	Telephone: (888) 372-7341
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/28/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/24/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/26/2019	Telephone: (888) 372-7341
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/28/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/24/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/26/2019	Telephone: (888) 372-7341
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/28/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/13/2019	Source: Department of the Navy
Date Data Arrived at EDR: 08/20/2019	Telephone: 843-820-7326
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 11/07/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/19/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/20/2019	Telephone: 703-603-0695
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 08/20/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 12/09/2019
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/19/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/20/2019	Telephone: 703-603-0695
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 08/20/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 12/09/2019
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 14

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

CT SHWS: Inventory of Hazardous Disposal Sites

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 04/23/2010
Date Data Arrived at EDR: 04/23/2010
Date Made Active in Reports: 05/25/2010
Number of Days to Update: 32

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3705
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: No Update Planned

RI SHWS: List of CERCLIS and State Sites in RI

This list includes sites that have been investigated under the Federal CERCLIS program (SFA sites) as well as sites that have notified under the state program or have been investigated for hazardous substances (HWM sites).

Date of Government Version: 07/15/2019
Date Data Arrived at EDR: 07/17/2019
Date Made Active in Reports: 09/11/2019
Number of Days to Update: 56

Source: Department of Environmental Management
Telephone: 401-222-3872
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Semi-Annually

CT SDADB: Site Discovery and Assessment Database

All sites reported to Permitting, Enforcement, and Remediation Division where it is suspected that hazardous waste may have been disposed or sites that are eligible for listing on the State Inventory of Hazardous Waste Disposal Sites.

Date of Government Version: 04/23/2010
Date Data Arrived at EDR: 04/23/2010
Date Made Active in Reports: 05/25/2010
Number of Days to Update: 32

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3705
Last EDR Contact: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: No Update Planned

State and tribal landfill and/or solid waste disposal site lists

CT SWF/LF: List of Landfills/Transfer Stations

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 01/24/2019
Date Data Arrived at EDR: 01/25/2019
Date Made Active in Reports: 03/04/2019
Number of Days to Update: 38

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3366
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RI SWF/LF: Solid Waste Management Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 07/15/2019
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 09/11/2019
Number of Days to Update: 57

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

CT LUST: Leaking Underground Storage Tank List

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 07/25/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 61

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3376
Last EDR Contact: 09/30/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

RI LUST: LUST Case List

The LUST Case List is a summary of UST Facilities in RI with leaking USTs, which includes information on the date of release discovery and the status of the LUST Case (active, soil removal only, or inactive).

Date of Government Version: 06/30/2019
Date Data Arrived at EDR: 07/10/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 42

Source: Department of Environmental Management
Telephone: 401-222-3872
Last EDR Contact: 10/08/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 79

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/02/2019
Date Data Arrived at EDR: 10/22/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 20

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/01/2019	Source: EPA Region 6
Date Data Arrived at EDR: 07/29/2019	Telephone: 214-665-6597
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/29/2019	Telephone: 415-972-3372
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 07/02/2019	Source: EPA Region 7
Date Data Arrived at EDR: 10/16/2019	Telephone: 913-551-7003
Date Made Active in Reports: 10/24/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 8	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/12/2019	Source: EPA Region 4
Date Data Arrived at EDR: 07/29/2019	Telephone: 404-562-8677
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 08/27/2019	Source: FEMA
Date Data Arrived at EDR: 08/28/2019	Telephone: 202-646-5797
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 10/11/2019
Number of Days to Update: 75	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Varies

CT UST: Underground Storage Tank Data
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/05/2019
Date Data Arrived at EDR: 08/05/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 58

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3376
Last EDR Contact: 08/05/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Semi-Annually

RI UST: UST Master List

The UST Master List is a summary of registered UST Facilities in RI, which includes information on abandoned, in use, permanently closed and temporarily closed USTs.

Date of Government Version: 06/30/2019
Date Data Arrived at EDR: 07/10/2019
Date Made Active in Reports: 09/11/2019
Number of Days to Update: 63

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 10/08/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Quarterly

CT AST: Marine Terminals and Tank Information

A listing of bulk petroleum facilities that receive petroleum by a vessel.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 08/09/2018
Date Made Active in Reports: 09/10/2018
Number of Days to Update: 32

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3233
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

RI AST: Aboveground Storage Tanks

Registered Aboveground Storage Tanks.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 05/08/2019
Date Made Active in Reports: 07/23/2019
Number of Days to Update: 76

Source: Department of Environmental Management
Telephone: 401-222-3872
Last EDR Contact: 11/08/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019
Date Data Arrived at EDR: 10/22/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 20

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/12/2019	Source: EPA Region 4
Date Data Arrived at EDR: 07/29/2019	Telephone: 404-562-9424
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/30/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/08/2019	Source: EPA Region 5
Date Data Arrived at EDR: 07/29/2019	Telephone: 312-886-6136
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2019	Source: EPA Region 9
Date Data Arrived at EDR: 07/29/2019	Telephone: 415-972-3368
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/11/2019	Source: EPA, Region 1
Date Data Arrived at EDR: 07/30/2019	Telephone: 617-918-1313
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/01/2019	Source: EPA Region 6
Date Data Arrived at EDR: 07/29/2019	Telephone: 214-665-7591
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CT ENG CONTROLS: Engineering Controls Listing

An Engineered Control is a permanent physical structure designed to safely isolate pollutants which would otherwise not comply with the self-implementing remedial options allowed in the Connecticut Remediation Standard Regulations (RSRs). The ECGD includes a description of what is eligible to be considered as an Engineered Control under section 22a-133k-2(f)(2) of the RSRs, a description of the information necessary for the preparation of complete and approvable applications, a step-by-step outline of the review and approval process, and supplemental resources provided in the appendices.

Date of Government Version: 03/03/2019
Date Data Arrived at EDR: 04/04/2019
Date Made Active in Reports: 04/26/2019
Number of Days to Update: 22

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3000
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

CT AUL: ELUR Sites

Environmental Land Use Restriction sites.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 07/12/2019
Number of Days to Update: 29

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3912
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

RI AUL: Waste Management Sites with Environmental Land Use Restrictions

This list was developed by RIDEM for use as a general reference and are not meant to be legally authoritative source for the location of hazardous materials, nor for the status, condition or permissible use of a site.

Date of Government Version: 07/15/2019
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 08/29/2019
Number of Days to Update: 44

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Semi-Annually

State and tribal voluntary cleanup sites

CT VCP: Voluntary Remediation Sites

Sites involved in the Voluntary Remediation Program.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 07/15/2019
Number of Days to Update: 32

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3705
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/20/2047
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal Brownfields sites

CT BROWNFIELDS: Brownfields Inventory

CBRA has identified over 200 brownfield sites eligible for redevelopment. In most cases these are prime properties for commercial or industrial use. CBRA's grants, assistance and financing lower the financial risks and eliminate the legal, regulatory and environmental risks of redevelopment.

Date of Government Version: 03/25/2016	Source: Connecticut Brownfields Redevelopment Authority
Date Data Arrived at EDR: 03/29/2016	Telephone: 860-258-7833
Date Made Active in Reports: 05/18/2016	Last EDR Contact: 10/29/2019
Number of Days to Update: 50	Next Scheduled EDR Contact: 12/30/2019
	Data Release Frequency: Varies

CT BROWNFIELDS 2: Brownfields Inventory

A brownfield site is generally defined as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant?]"

Date of Government Version: 08/03/2017	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 09/20/2017	Telephone: 860-424-3705
Date Made Active in Reports: 09/26/2017	Last EDR Contact: 09/19/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 12/30/2019
	Data Release Frequency: Varies

RI BROWNFIELDS: Brownfields Site List

Brownfields are real properties where the expansion, redevelopment or reuse may be complicated by the actual or potential presence of a hazardous substance, pollutant, or contaminant.

Date of Government Version: 07/15/2019	Source: Department of Environmental Management
Date Data Arrived at EDR: 07/16/2019	Telephone: 401-222-2797
Date Made Active in Reports: 09/11/2019	Last EDR Contact: 10/11/2019
Number of Days to Update: 57	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/03/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/04/2019	Telephone: 202-566-2777
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 09/19/2019
Number of Days to Update: 83	Next Scheduled EDR Contact: 12/30/2019
	Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

CT SWRCY: Recycling Facilities

A listing of recycling facilities.

Date of Government Version: 07/19/2019	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 07/29/2019	Telephone: 860-424-3223
Date Made Active in Reports: 09/12/2019	Last EDR Contact: 09/09/2019
Number of Days to Update: 45	Next Scheduled EDR Contact: 12/23/2019
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/01/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

CT CDL: Clandestine Drug Lab Listing

A listing of clandestine drug lab locations included in the Spills database.

Date of Government Version: 07/25/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 61

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3361
Last EDR Contact: 09/30/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RI CDL: Clandestine Drug Lab Information Listing

A listing of clandestine drug lab site locations.

Date of Government Version: 10/03/2006

Date Data Arrived at EDR: 12/04/2006

Date Made Active in Reports: 12/18/2006

Number of Days to Update: 14

Source: Dept of Environmental Management

Telephone: 401-274-4400

Last EDR Contact: 08/30/2019

Next Scheduled EDR Contact: 12/16/2019

Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/11/2019

Date Data Arrived at EDR: 06/13/2019

Date Made Active in Reports: 09/03/2019

Number of Days to Update: 82

Source: Drug Enforcement Administration

Telephone: 202-307-1000

Last EDR Contact: 08/21/2019

Next Scheduled EDR Contact: 12/09/2019

Data Release Frequency: Quarterly

RI PFAS: Sites With Known PFAS Contamination

Per- and Polyfluoroalkyl Substances (PFAS) have been widely used in numerous industrial and residential applications since the 1950s. Their stability and unique chemical properties produce waterproof, stain resistant, and nonstick qualities in products. They are found in some firefighting foams and a wide range of consumer products such as carpet treatments, non-stick cookware, water-resistant fabrics, food packaging materials, and personal care products.

Date of Government Version: 08/06/2019

Date Data Arrived at EDR: 08/07/2019

Date Made Active in Reports: 10/24/2019

Number of Days to Update: 78

Source: Department of Health

Telephone: 401-222-5960

Last EDR Contact: 10/28/2019

Next Scheduled EDR Contact: 02/10/2020

Data Release Frequency: Varies

Local Land Records

CT PROPERTY: Property Transfer Filings

A listing of sites that meet the definition of a hazardous waste establishment. They can be generators, dry cleaners, furniture strippers, etc. These sites have been sold to another owner.

Date of Government Version: 06/11/2019

Date Data Arrived at EDR: 06/13/2019

Date Made Active in Reports: 07/15/2019

Number of Days to Update: 32

Source: Department of Energy & Environmental Protection

Telephone: 860-424-3705

Last EDR Contact: 10/31/2019

Next Scheduled EDR Contact: 02/17/2020

Data Release Frequency: Semi-Annually

CT LIENS: Environmental Liens Listing

A listing of environmental liens placed by the Cost Recovery Program.

Date of Government Version: 02/11/2019

Date Data Arrived at EDR: 02/19/2019

Date Made Active in Reports: 03/04/2019

Number of Days to Update: 13

Source: Department of Energy & Environmental Protection

Telephone: 860-424-3120

Last EDR Contact: 11/07/2019

Next Scheduled EDR Contact: 02/24/2020

Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/30/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

CT SPILLS: Oil & Chemical Spill Database Oil and Chemical Spill Data.

Date of Government Version: 07/25/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 61

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3024
Last EDR Contact: 09/30/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

RI SPILLS: Oil & Hazardous Material Response Log/Spill Report

Spills reported to the Office of Emergency Response.

Date of Government Version: 11/15/2004
Date Data Arrived at EDR: 02/04/2005
Date Made Active in Reports: 03/24/2005
Number of Days to Update: 48

Source: Dept. of Environmental Management
Telephone: 401-222-3872
Last EDR Contact: 09/23/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

CT SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 10/15/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/11/2013
Number of Days to Update: 39

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

RI SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 01/04/2001
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/27/2013
Number of Days to Update: 55

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/24/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/26/2019	Telephone: (888) 372-7341
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/28/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 05/15/2019	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 05/21/2019	Telephone: 202-528-4285
Date Made Active in Reports: 08/08/2019	Last EDR Contact: 08/23/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 12/02/2019
	Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 10/11/2019
Number of Days to Update: 62	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018	Source: U.S. Geological Survey
Date Data Arrived at EDR: 04/11/2018	Telephone: 888-275-8747
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 10/07/2019
Number of Days to Update: 574	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/03/2017	Telephone: 615-532-8599
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 11/11/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/08/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/23/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/30/2018
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 106

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/23/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019
Date Data Arrived at EDR: 05/02/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/21/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 08/20/2019
Date Data Arrived at EDR: 09/05/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 18

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/20/2019
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 34

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 10/07/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/20/2019
Date Data Arrived at EDR: 06/20/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 49

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 11/06/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/03/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/06/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 11/12/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 85

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2019	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 07/16/2019	Telephone: Varies
Date Made Active in Reports: 10/02/2019	Last EDR Contact: 10/02/2019
Number of Days to Update: 78	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015	Source: EPA/NTIS
Date Data Arrived at EDR: 02/22/2017	Telephone: 800-424-9346
Date Made Active in Reports: 09/28/2017	Last EDR Contact: 09/16/2019
Number of Days to Update: 218	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014	Source: USGS
Date Data Arrived at EDR: 07/14/2015	Telephone: 202-208-3710
Date Made Active in Reports: 01/10/2017	Last EDR Contact: 10/06/2019
Number of Days to Update: 546	Next Scheduled EDR Contact: 01/19/2020
	Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017	Source: Department of Energy
Date Data Arrived at EDR: 09/11/2018	Telephone: 202-586-3559
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 11/04/2019
Number of Days to Update: 3	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/01/2019	Source: Department of Energy
Date Data Arrived at EDR: 08/21/2019	Telephone: 505-845-0011
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 08/21/2019
Number of Days to Update: 82	Next Scheduled EDR Contact: 12/02/2019
	Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 07/19/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/30/2019	Telephone: 703-603-8787
Date Made Active in Reports: 09/03/2019	Last EDR Contact: 11/07/2019
Number of Days to Update: 35	Next Scheduled EDR Contact: 01/13/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001	Source: American Journal of Public Health
Date Data Arrived at EDR: 10/27/2010	Telephone: 703-305-6451
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 12/02/2009
Number of Days to Update: 36	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016	Source: EPA
Date Data Arrived at EDR: 10/26/2016	Telephone: 202-564-2496
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 09/26/2017
Number of Days to Update: 100	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016	Source: EPA
Date Data Arrived at EDR: 10/26/2016	Telephone: 202-564-2496
Date Made Active in Reports: 02/03/2017	Last EDR Contact: 09/26/2017
Number of Days to Update: 100	Next Scheduled EDR Contact: 01/08/2018
	Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2019	Source: Department of Labor, Mine Safety and Health Administration
Date Data Arrived at EDR: 08/27/2019	Telephone: 303-231-5959
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 08/27/2019
Number of Days to Update: 76	Next Scheduled EDR Contact: 12/09/2019
	Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 06/06/2019	Source: DOL, Mine Safety & Health Admi
Date Data Arrived at EDR: 06/06/2019	Telephone: 202-693-9424
Date Made Active in Reports: 10/24/2019	Last EDR Contact: 09/12/2019
Number of Days to Update: 140	Next Scheduled EDR Contact: 12/16/2019
	Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005	Source: USGS
Date Data Arrived at EDR: 02/29/2008	Telephone: 703-648-7709
Date Made Active in Reports: 04/18/2008	Last EDR Contact: 08/30/2019
Number of Days to Update: 49	Next Scheduled EDR Contact: 12/09/2019
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011	Source: USGS
Date Data Arrived at EDR: 06/08/2011	Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 08/30/2019
Number of Days to Update: 97	Next Scheduled EDR Contact: 12/09/2019
	Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2019	Source: Department of Interior
Date Data Arrived at EDR: 09/10/2019	Telephone: 202-208-2609
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 09/10/2019
Number of Days to Update: 37	Next Scheduled EDR Contact: 12/23/2019
	Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/03/2019	Source: EPA
Date Data Arrived at EDR: 06/05/2019	Telephone: (617) 918-1111
Date Made Active in Reports: 09/03/2019	Last EDR Contact: 09/04/2019
Number of Days to Update: 90	Next Scheduled EDR Contact: 12/16/2019
	Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/26/2018	Telephone: 202-564-0527
Date Made Active in Reports: 10/05/2018	Last EDR Contact: 08/21/2019
Number of Days to Update: 71	Next Scheduled EDR Contact: 12/09/2019
	Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 07/06/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/09/2019	Telephone: 202-564-2280
Date Made Active in Reports: 10/02/2019	Last EDR Contact: 10/08/2019
Number of Days to Update: 85	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/10/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 83

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Quarterly

CT AIRS: Permitted Air Sources Listing

A listing of permitted air sources in Connecticut.

Date of Government Version: 08/09/2019
Date Data Arrived at EDR: 08/28/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 35

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3026
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

RI AIRS: Air Emissions Listing

A listing of facilities with air emissions.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/05/2019
Date Made Active in Reports: 04/10/2019
Number of Days to Update: 64

Source: Department of Environmental Management
Telephone: 401-222-2808
Last EDR Contact: 11/04/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Annually

CT ASBESTOS: Asbestos Notification Listing

A listing of asbestos notification site locations.

Date of Government Version: 07/22/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 09/13/2019
Number of Days to Update: 44

Source: Department of Public Health
Telephone: 860-509-7371
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

RI ASBESTOS: Asbestos Notification Listing

Asbestos notification sites

Date of Government Version: 07/25/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 08/29/2019
Number of Days to Update: 30

Source: Department of Health
Telephone: 401-222-7756
Last EDR Contact: 07/22/2019
Next Scheduled EDR Contact: 11/04/2019
Data Release Frequency: Varies

CT CPCS: Contaminated or Potentially Contaminated Sites

A list of Contaminated or Potentially Contaminated Sites within Connecticut. This list represents the "Hazardous Waste Facilities," as defined in Section 22a-134f of the Connecticut General Statutes (CGS). The list contains the following types of sites: Sites listed on the Inventory of Hazardous Waste Disposal Sites; Sites subject to the Property Transfer Act; Sites at which underground storage tanks are known to have leaked; Sites at which hazardous waste subject to the RCRA; Sites that are included in EPA's (CERCLIS); Sites that are the subject of an order issued by the Commissioner of DEP that requires investigation and remediation of a potential or known source of pollution; and Sites that have entered into one of the Department's Voluntary Remediation Programs.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 08/09/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 54

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3766
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Quarterly

CT DRYCLEANERS: Drycleaner Facilities

A listing of drycleaner facility locations.

Date of Government Version: 07/18/2008
Date Data Arrived at EDR: 08/08/2008
Date Made Active in Reports: 08/27/2008
Number of Days to Update: 19

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3026
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

RI DRYCLEANERS: Drycleaner Facility Listing

A listing of drycleaner locations.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 05/03/2019
Date Made Active in Reports: 07/10/2019
Number of Days to Update: 68

Source: Department of Environmental Management
Telephone: 401-222-2808
Last EDR Contact: 11/04/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Annually

CT ENFORCEMENT: Enforcement Case Listing

The types of enforcement actions included are administrative consent orders, final unilateral orders and final dispositions of civil cases through the Attorney General's Office.

Date of Government Version: 07/17/2019
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/12/2019
Number of Days to Update: 55

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3265
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

RI Financial Assurance: Financial Assurance Information

Financial assurance information for hazardous waste facilities.

Date of Government Version: 05/19/2014
Date Data Arrived at EDR: 05/20/2014
Date Made Active in Reports: 06/24/2014
Number of Days to Update: 35

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

CT Financial Assurance 1: Financial Assurance Information Listing

A listing containing RCRA financial assurance information submitted on behalf of the CT DEP's Program Analysis Group of the Waste Engineering and Enforcement Division.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/04/2018
Number of Days to Update: 35

Source: Department of Energy & Environmental Protection
Telephone: 860-418-5930
Last EDR Contact: 09/12/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Varies

CT Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 10/22/2018
Date Data Arrived at EDR: 10/30/2018
Date Made Active in Reports: 12/03/2018
Number of Days to Update: 34

Source: Department of Energy & Environmental Protection
Telephone: 860-418-5930
Last EDR Contact: 09/12/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CT LEAD: Lead Inspection Database

The Lead Poisoning Prevention and Control Program lead inspection database.

Date of Government Version: 03/26/2014	Source: Department of Public Health
Date Data Arrived at EDR: 03/27/2014	Telephone: 860-509-7299
Date Made Active in Reports: 05/08/2014	Last EDR Contact: 08/28/2019
Number of Days to Update: 42	Next Scheduled EDR Contact: 12/16/2019
	Data Release Frequency: Varies

RI LEAD: Lead Inspections Database

The listing includes Highest Risk Premises which are properties declared unsafe for habitation by children under age six (6), and Properties with Multiple Poisonings, which are properties that have been the source of multiple lead poisonings and are not currently lead safe.

Date of Government Version: 06/18/2019	Source: Department of Health, Environmental Lead Program
Date Data Arrived at EDR: 06/19/2019	Telephone: 401-222-5960
Date Made Active in Reports: 08/27/2019	Last EDR Contact: 09/18/2019
Number of Days to Update: 69	Next Scheduled EDR Contact: 12/30/2019
	Data Release Frequency: Quarterly

RI LEAD CERT: Lead Safe Housing Registry

Properties with Active "Lead Free", "Lead Safe", "Acceptable Dust" and "Annual Re-inspection" certificates.

Date of Government Version: 08/30/2019	Source: Department of Health
Date Data Arrived at EDR: 09/05/2019	Telephone: 401-222-7791
Date Made Active in Reports: 09/11/2019	Last EDR Contact: 08/30/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 12/16/2019
	Data Release Frequency: Semi-Annually

CT LWDS: Connecticut Leachate and Wastewater Discharge Sites

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.

Date of Government Version: 07/17/2009	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 10/21/2009	Telephone: N/A
Date Made Active in Reports: 10/30/2009	Last EDR Contact: 10/15/2014
Number of Days to Update: 9	Next Scheduled EDR Contact: 01/26/2015
	Data Release Frequency: Varies

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/14/2019	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 05/14/2019	Telephone: 860-424-3375
Date Made Active in Reports: 08/05/2019	Last EDR Contact: 11/11/2019
Number of Days to Update: 83	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: No Update Planned

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017	Source: Department of Environmental Management
Date Data Arrived at EDR: 02/23/2018	Telephone: 401-222-2797
Date Made Active in Reports: 04/09/2018	Last EDR Contact: 08/16/2019
Number of Days to Update: 45	Next Scheduled EDR Contact: 12/02/2019
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CT NPDES: Wastewater Permit Listing

A listing of permits issued by the DEP.

Date of Government Version: 07/18/2019
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/12/2019
Number of Days to Update: 55

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3832
Last EDR Contact: 09/12/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

RI NPDES: Permit and Facility Data

A listing of permitted wastewater facilities

Date of Government Version: 05/24/2019
Date Data Arrived at EDR: 05/29/2019
Date Made Active in Reports: 07/30/2019
Number of Days to Update: 62

Source: Department of Environmental Management
Telephone: 401-222-4700
Last EDR Contact: 08/30/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Semi-Annually

CT SEH: List of Significant Environmental Hazards Report to DEEP

The Significant Environmental Hazard Statute is intended to identify and abate short-term risks associated with specific environmental conditions identified in the statute. After abatement of short-term risks (meaning abatement of the significant environmental hazard condition), there may still be potential long-term risks associated with the release. However, a significant environmental hazard can be considered abated under the statute even though potential long-term risks may not have been addressed.

Date of Government Version: 08/31/2018
Date Data Arrived at EDR: 10/19/2018
Date Made Active in Reports: 10/25/2018
Number of Days to Update: 6

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3766
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

CT UIC: Underground Injection Control Listing

A list of of subsurface disposal permits and their locations.

Date of Government Version: 08/20/2019
Date Data Arrived at EDR: 08/21/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 42

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3058
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

CT COI: Completion of Investigation

The COI must be signed and submitted by the Certifying Party to document that the investigation of the parcel has been completed in accordance with CGS Section 22a-134a(g)(1).

Date of Government Version: 06/20/2019
Date Data Arrived at EDR: 06/27/2019
Date Made Active in Reports: 09/11/2019
Number of Days to Update: 76

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3000
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/30/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

CT RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Energy & Environmental Protection formerly know as the DEP which changes in July 2011 in Connecticut.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/02/2014
Number of Days to Update: 185

Source: Department of Energy & Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RI RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Management in Rhode Island.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/08/2014
Number of Days to Update: 191

Source: Department of Environmental Management
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

CT RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Energy & Environmental Protection formerly known as the DEP which changes in July 2011 in Connecticut.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/02/2014
Number of Days to Update: 185

Source: Department of Energy & Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RI RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Management in Rhode Island.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Management
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 51

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/16/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data

Hazardous waste manifest information.

Date of Government Version: 07/15/2019
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 10/04/2019
Number of Days to Update: 80

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 10/10/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/06/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Child Care Facilities

Source: Department of Public Health

Telephone: 860-509-8045

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Tidal Wetlands

Source: Department of Energy & Environmental Protection

Telephone: 860-424-4054

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK® - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

PHASE I ESA - ELMRIDGE GOLF COURSE
229 ELMRIDGE ROAD
PAWCATUCK, CT 06379

TARGET PROPERTY COORDINATES

Latitude (North): 41.392293 - 41° 23' 32.25"
Longitude (West): 71.864726 - 71° 51' 53.01"
Universal Transverse Mercator: Zone 19
UTM X (Meters): 260487.1
UTM Y (Meters): 4586055.0
Elevation: 117 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 5644896 ASHAWAY, RI
Version Date: 2012

Southeast Map: 5644914 WATCH HILL, RI
Version Date: 2012

Southwest Map: 5642111 MYSTIC, CT
Version Date: 2012

Northwest Map: 5642113 OLD MYSTIC, CT
Version Date: 2012

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 principle 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).

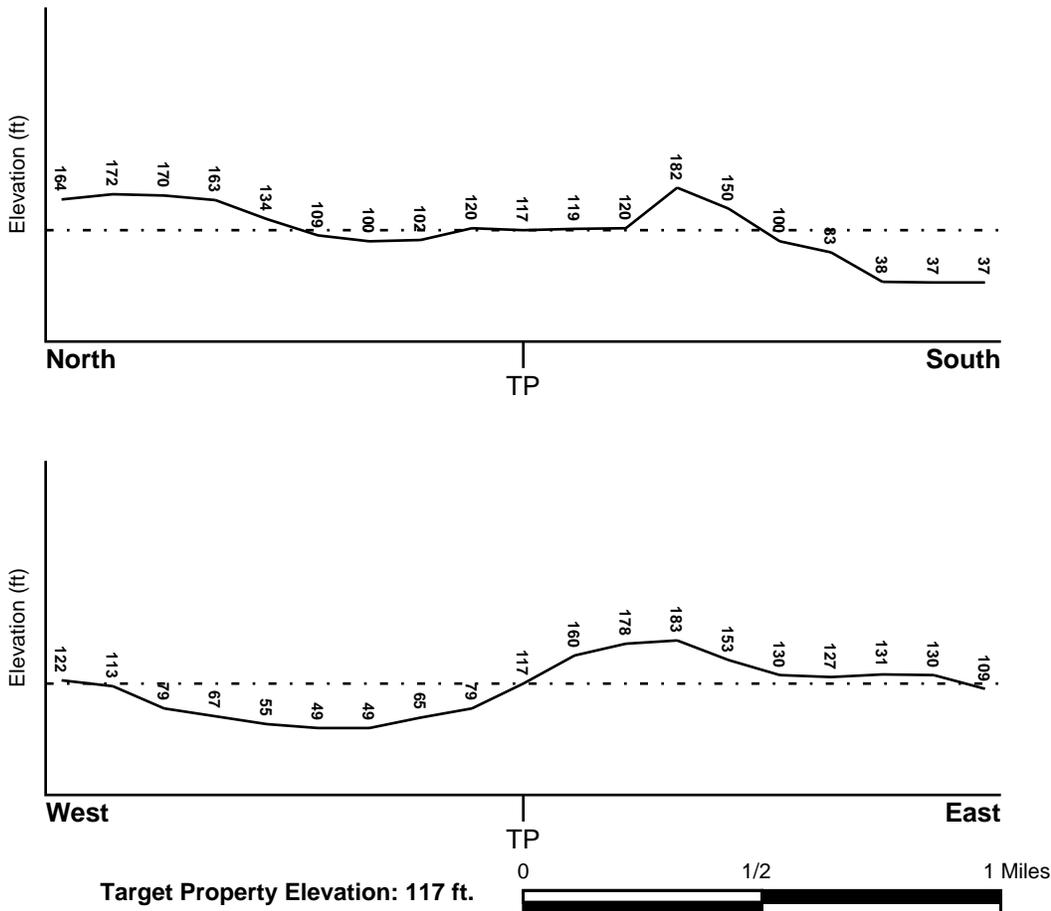
TOPOGRAPHIC INFORMATION

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



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

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
09011C0413G	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
09011C0411G	FEMA FIRM Flood data
09011C0394G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
ASHAWAY	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
Status:	Not found

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.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

EPA DESIGNATED SOLE SOURCE AQUIFER

PAWCATUCK BASIN SSA

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

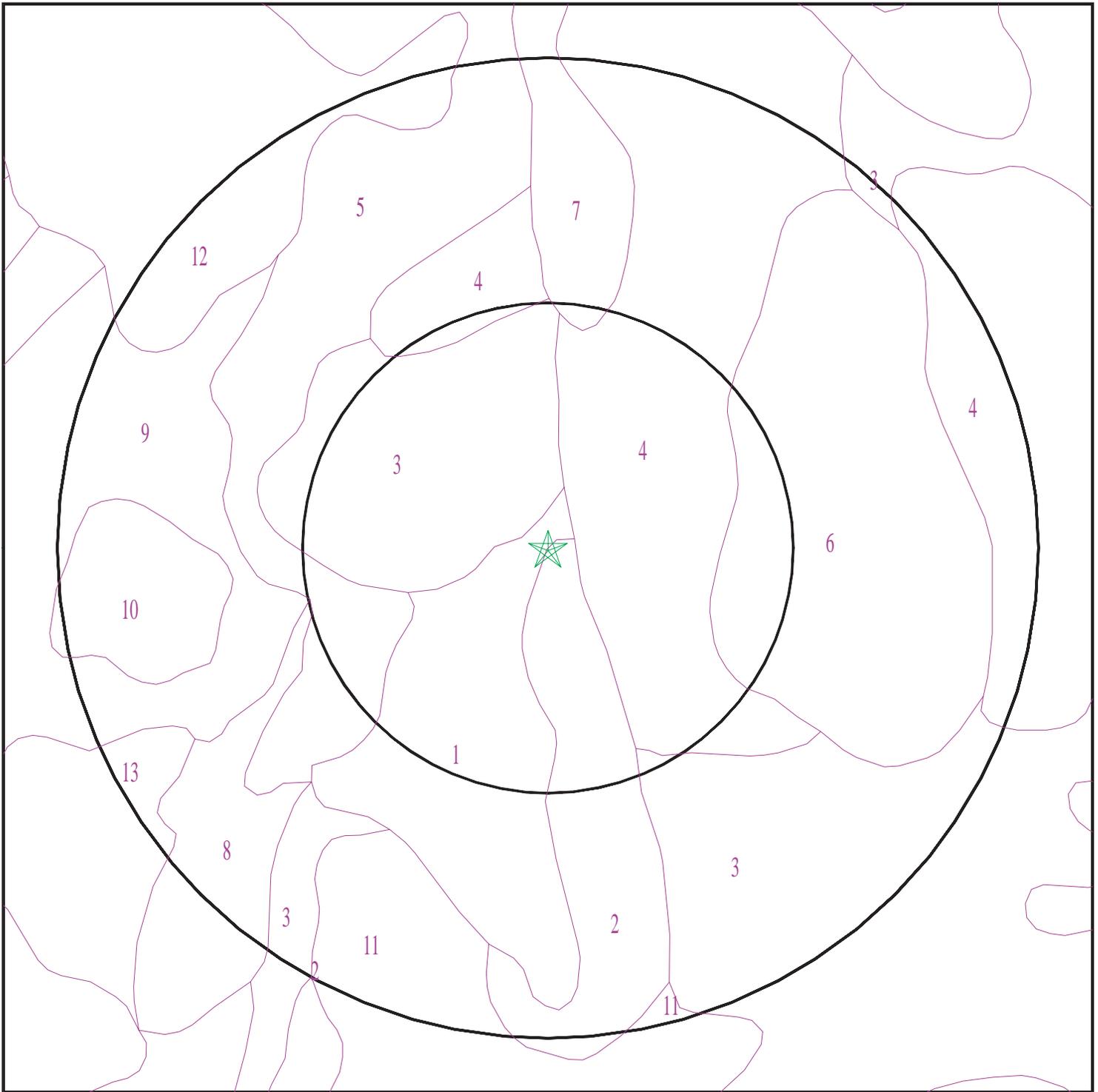
Era: Paleozoic
System: Ordovician
Series: Lower Paleozoic granitic rocks
Code: Pzg1 (*decoded above as Era, System & Series*)

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

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 - 5870113.2s



- ★ Target Property
- ∩ SSURGO Soil
- ∩ Water



SITE NAME: Phase I ESA - Elmridge Golf Course
ADDRESS: 229 Elmridge Road
Pawcatuck CT 06379
LAT/LONG: 41.392293 / 71.864726

CLIENT: Milone & Macbroom Engineering
CONTACT: Emily Allison
INQUIRY #: 5870113.2s
DATE: November 14, 2019 3:12 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: Sutton

Soil Surface Texture: moderately decomposed plant material

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: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 61 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	1 inches	moderately decomposed plant material	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6 Min: 4.5
2	1 inches	5 inches	fine sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6 Min: 4.5
3	5 inches	11 inches	fine sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6 Min: 4.5
4	11 inches	23 inches	fine sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6 Min: 4.5
5	23 inches	27 inches	fine sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
6	27 inches	35 inches	gravelly fine sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6 Min: 4.5
7	35 inches	64 inches	gravelly sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 6 Min: 4.5

Soil Map ID: 2

Soil Component Name: Canton

Soil Surface Texture: moderately decomposed plant material

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	1 inches	moderately decomposed plant material	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
2	1 inches	3 inches	gravelly fine sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
3	3 inches	14 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
4	14 inches	24 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
5	24 inches	29 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
6	29 inches	60 inches	very gravelly loamy sand	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5

Soil Map ID: 3

Soil Component Name: Canton

Soil Surface Texture: moderately decomposed plant material

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	1 inches	moderately decomposed plant material	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
2	1 inches	3 inches	gravelly fine sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
3	3 inches	14 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
4	14 inches	24 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
5	24 inches	29 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
6	29 inches	60 inches	very gravelly loamy sand	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5

Soil Map ID: 4

Soil Component Name: Canton

Soil Surface Texture: moderately decomposed plant material

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	1 inches	moderately decomposed plant material	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
2	1 inches	3 inches	gravelly fine sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
3	3 inches	14 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
4	14 inches	24 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
5	24 inches	29 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
6	29 inches	60 inches	very gravelly loamy sand	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5

Soil Map ID: 5

Soil Component Name: Raypol

Soil Surface Texture: silt 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: > 15 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt 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
2	7 inches	11 inches	very 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	11 inches	20 inches	silt 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	25 inches	silt 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	25 inches	29 inches	very 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
6	29 inches	51 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

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
7	51 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

Soil Map ID: 6

Soil Component Name: Paxton

Soil Surface Texture: fine sandy 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: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 61 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.41 Min: 0.01	Max: 6 Min: 4.5
2	7 inches	14 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.41 Min: 0.01	Max: 6 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
3	14 inches	25 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.41 Min: 0.01	Max: 6 Min: 4.5
4	25 inches	64 inches	gravelly fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 1.41 Min: 0.01	Max: 6 Min: 4.5

Soil Map ID: 7

Soil Component Name: Canton

Soil Surface Texture: moderately decomposed plant material

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	1 inches	moderately decomposed plant material	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
2	1 inches	3 inches	gravelly fine sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
3	3 inches	14 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
4	14 inches	24 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
5	24 inches	29 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
6	29 inches	60 inches	very gravelly loamy sand	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5

Soil Map ID: 8

Soil Component Name: Agawam

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: Well drained

Hydric Status: Partially hydric

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							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 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: 141	Max: 6.5 Min: 4.5
2	7 inches	14 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: 141	Max: 6.5 Min: 4.5
3	14 inches	24 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: 141	Max: 6.5 Min: 4.5
4	24 inches	59 inches	stratified very gravelly coarse sand to 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: 141	Max: 6.5 Min: 4.5

Soil Map ID: 9

Soil Component Name: Haven

Soil Surface Texture: silt 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: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 141	Max: 6 Min: 4.5
2	7 inches	14 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 141	Max: 6 Min: 4.5
3	14 inches	20 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 141	Max: 6 Min: 4.5
4	20 inches	24 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 141	Max: 6 Min: 4.5
5	24 inches	59 inches	stratified very gravelly sand to gravelly fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 141	Max: 6 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 10

Soil Component Name: Haven

Soil Surface Texture: silt 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: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 141	Max: 6 Min: 4.5
2	7 inches	14 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 141	Max: 6 Min: 4.5
3	14 inches	20 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 141	Max: 6 Min: 4.5
4	20 inches	24 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 141	Max: 6 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
5	24 inches	59 inches	stratified very gravelly sand to gravelly fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 703 Min: 141	Max: 6 Min: 4.5

Soil Map ID: 11

Soil Component Name: Canton

Soil Surface Texture: moderately decomposed plant material

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	1 inches	moderately decomposed plant material	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
2	1 inches	3 inches	gravelly fine sandy loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
3	3 inches	14 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
4	14 inches	24 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
5	24 inches	29 inches	gravelly loam	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5
6	29 inches	60 inches	very gravelly loamy sand	A-8	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 6 Min: 3.5

Soil Map ID: 12

Soil Component Name: Charlton

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: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 74 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		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, Sands with fines, Silty Sand.	Max: 42 Min: 4	Max: 6 Min: 4.5
2	3 inches	7 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 4	Max: 6 Min: 4.5
3	7 inches	18 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 4	Max: 6 Min: 4.5
4	18 inches	27 inches	gravelly fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 4	Max: 6 Min: 4.5
5	27 inches	64 inches	gravelly fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 4	Max: 6 Min: 4.5

Soil Map ID: 13

Soil Component Name: Scarborough

Soil Surface Texture: muck

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: Very poorly drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 10 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	muck	A-8	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: 4.5
2	11 inches	16 inches	loamy sand	A-8	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: 4.5
3	16 inches	31 inches	stratified sand to loamy fine sand	A-8	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: 4.5
4	31 inches	72 inches	stratified very gravelly coarse sand to loamy fine sand	A-8	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: 4.5

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.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	USGS40000225491	1/2 - 1 Mile SW
2	USGS40000225437	1/2 - 1 Mile SSW
3	USGS40000225412	1/2 - 1 Mile South

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

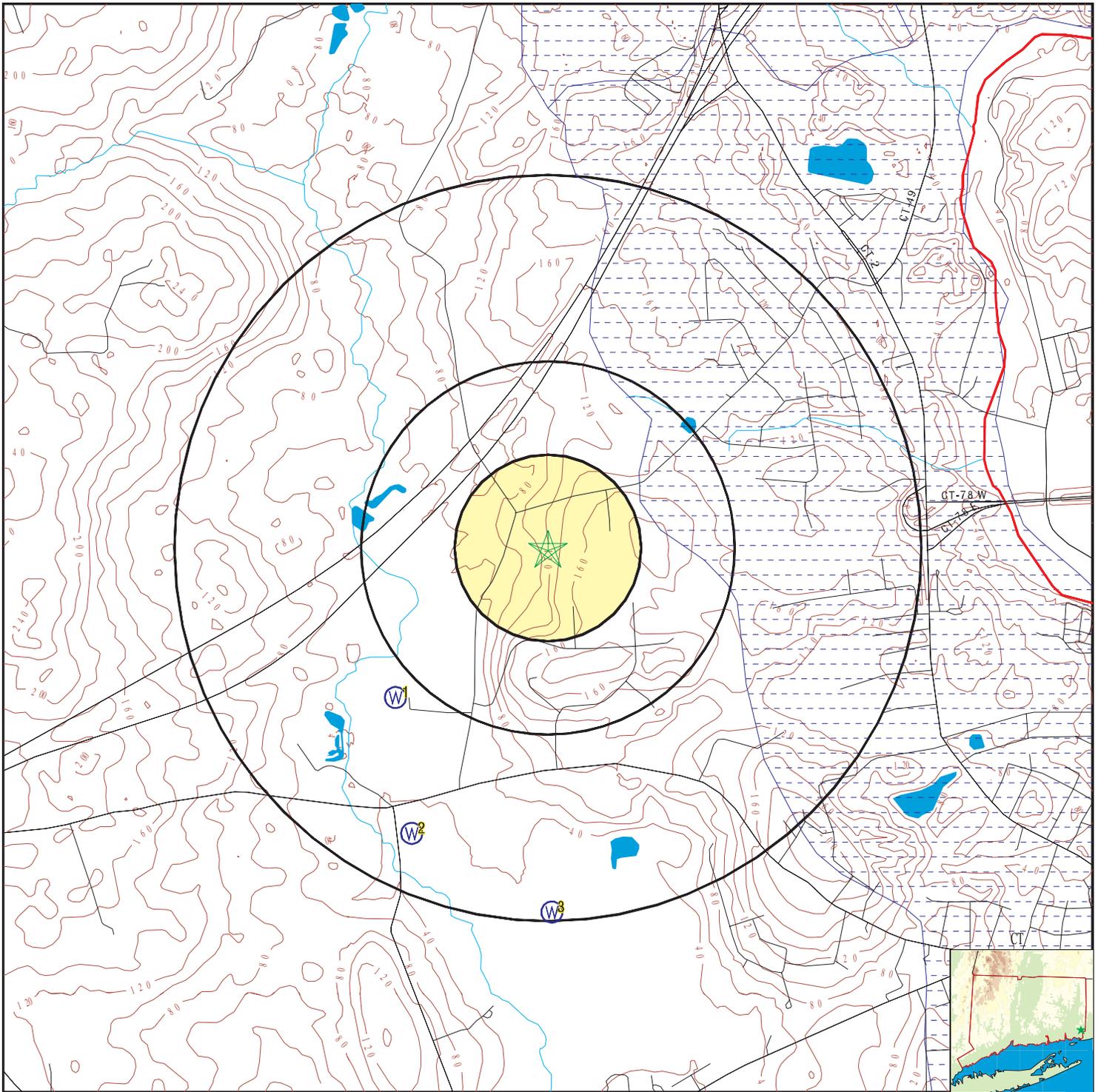
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 5870113.2s



-  County Boundary
-  Major Roads
-  Contour Lines
-  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: Phase I ESA - Elmrige Golf Course
 ADDRESS: 229 Elmrige Road
 Pawcatuck CT 06379
 LAT/LONG: 41.392293 / 71.864726

CLIENT: Milone & Macbroom Engineering
 CONTACT: Emily Allison
 INQUIRY #: 5870113.2s
 DATE: November 14, 2019 3:12 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

1
SW
1/2 - 1 Mile
Lower

FED USGS USGS40000225491

Organization ID:	USGS-CT		
Organization Name:	USGS Connecticut Water Science Center		
Monitor Location:	CT-SN 164	Type:	Well
Description:	Not Reported	HUC:	01100003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Units:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Drift, Stratified	Aquifer Type:	Not Reported
Construction Date:	19760928	Well Depth:	19.6
Well Depth Units:	ft	Well Hole Depth:	44
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	214	Level reading date:	1984-07-19
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		

Level reading date:	1984-06-16	Feet below surface:	5.90
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-06-09	Feet below surface:	5.10
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-06-03	Feet below surface:	5.10
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-05-27	Feet below surface:	6.30
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-05-19	Feet below surface:	6.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-05-04	Feet below surface:	6.00
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-04-28	Feet below surface:	5.90
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-04-21	Feet below surface:	5.40
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-04-15	Feet below surface:	5.80
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-04-07	Feet below surface:	4.90
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-04-01	Feet below surface:	5.40
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-03-24	Feet below surface:	5.30
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1984-03-16	Feet below surface:	4.60
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1984-03-11	Feet below surface:	5.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-03-04	Feet below surface:	5.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-02-25	Feet below surface:	5.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-02-18	Feet below surface:	5.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-02-11	Feet below surface:	5.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-28	Feet below surface:	6.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-23	Feet below surface:	6.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-16	Feet below surface:	6.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-07	Feet below surface:	6.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-01-01	Feet below surface:	5.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-12-26	Feet below surface:	5.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-12-18	Feet below surface:	5.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-12-11	Feet below surface:	5.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-12-03	Feet below surface:	4.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-27	Feet below surface:	4.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-19	Feet below surface:	5.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-12	Feet below surface:	7.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-11-05	Feet below surface:	7.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-29	Feet below surface:	7.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-22	Feet below surface:	8.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-15	Feet below surface:	8.20
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1983-10-08	Feet below surface:	8.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-10-01	Feet below surface:	8.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-09-24	Feet below surface:	8.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-09-18	Feet below surface:	8.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-09-11	Feet below surface:	8.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-09-05	Feet below surface:	7.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-08-27	Feet below surface:	7.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-08-13	Feet below surface:	7.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-08-06	Feet below surface:	7.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-07-30	Feet below surface:	7.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-07-28	Feet below surface:	7.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-07-10	Feet below surface:	7.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-07-02	Feet below surface:	7.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-06-26	Feet below surface:	7.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-06-18	Feet below surface:	6.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-06-12	Feet below surface:	6.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-06-05	Feet below surface:	6.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-05-26	Feet below surface:	5.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-05-02	Feet below surface:	5.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-03-28	Feet below surface:	5.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-03-18	Feet below surface:	5.50
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1983-03-11	Feet below surface:	5.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-03-04	Feet below surface:	5.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-02-27	Feet below surface:	5.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-02-11	Feet below surface:	5.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-02-05	Feet below surface:	5.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1983-01-21	Feet below surface:	6.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-12-20	Feet below surface:	6.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-12-07	Feet below surface:	6.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-12-03	Feet below surface:	6.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-11-19	Feet below surface:	6.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-10-16	Feet below surface:	7.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-10-10	Feet below surface:	7.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-10-02	Feet below surface:	7.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-09-26	Feet below surface:	7.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-09-21	Feet below surface:	7.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-08-29	Feet below surface:	7.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-08-15	Feet below surface:	7.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-08-09	Feet below surface:	7.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-08-01	Feet below surface:	7.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-07-24	Feet below surface:	7.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-07-17	Feet below surface:	7.00
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1982-07-10	Feet below surface:	6.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-07-03	Feet below surface:	6.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-06-26	Feet below surface:	5.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-06-19	Feet below surface:	5.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-06-12	Feet below surface:	4.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-06-06	Feet below surface:	1.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-05-29	Feet below surface:	7.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-05-23	Feet below surface:	7.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-05-16	Feet below surface:	6.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-05-09	Feet below surface:	6.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-05-01	Feet below surface:	6.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-04-25	Feet below surface:	7.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-04-16	Feet below surface:	6.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-04-10	Feet below surface:	6.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-04-03	Feet below surface:	6.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-03-28	Feet below surface:	6.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-03-20	Feet below surface:	6.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-03-13	Feet below surface:	6.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-03-06	Feet below surface:	6.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-02-20	Feet below surface:	6.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-02-13	Feet below surface:	6.20
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1982-02-06	Feet below surface:	5.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-01-30	Feet below surface:	6.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-01-23	Feet below surface:	6.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-01-16	Feet below surface:	6.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-01-09	Feet below surface:	5.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-01-02	Feet below surface:	6.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-12-27	Feet below surface:	6.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-12-19	Feet below surface:	5.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-12-12	Feet below surface:	7.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-12-05	Feet below surface:	7.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-11-28	Feet below surface:	7.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-11-21	Feet below surface:	7.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-11-14	Feet below surface:	8.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-11-07	Feet below surface:	8.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-10-31	Feet below surface:	8.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-10-24	Feet below surface:	8.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-10-17	Feet below surface:	8.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-10-10	Feet below surface:	8.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-10-04	Feet below surface:	8.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-05	Feet below surface:	9.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-09-02	Feet below surface:	8.90
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1981-08-24	Feet below surface:	8.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-15	Feet below surface:	8.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-08	Feet below surface:	8.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-08-02	Feet below surface:	7.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-25	Feet below surface:	7.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-18	Feet below surface:	7.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-13	Feet below surface:	7.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-07-04	Feet below surface:	7.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-27	Feet below surface:	7.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-21	Feet below surface:	7.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-13	Feet below surface:	7.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-06-07	Feet below surface:	7.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-31	Feet below surface:	7.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-23	Feet below surface:	7.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-17	Feet below surface:	7.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-09	Feet below surface:	7.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-05-03	Feet below surface:	6.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-26	Feet below surface:	7.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-18	Feet below surface:	6.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-12	Feet below surface:	6.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-04-04	Feet below surface:	7.10
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1981-03-28	Feet below surface:	7.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-22	Feet below surface:	7.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-15	Feet below surface:	6.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-03-08	Feet below surface:	6.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-28	Feet below surface:	5.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-22	Feet below surface:	6.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-15	Feet below surface:	7.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-02-07	Feet below surface:	8.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-31	Feet below surface:	8.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-24	Feet below surface:	8.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-17	Feet below surface:	8.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-10	Feet below surface:	8.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01-03	Feet below surface:	8.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-27	Feet below surface:	8.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-21	Feet below surface:	8.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-12-14	Feet below surface:	7.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-29	Feet below surface:	8.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-23	Feet below surface:	8.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-15	Feet below surface:	8.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-09	Feet below surface:	8.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-11-02	Feet below surface:	8.40
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1980-10-26	Feet below surface:	8.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-19	Feet below surface:	8.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-12	Feet below surface:	9.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-10-04	Feet below surface:	9.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-09-27	Feet below surface:	9.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-09-20	Feet below surface:	8.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-09-14	Feet below surface:	8.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-09-07	Feet below surface:	8.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-24	Feet below surface:	8.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-16	Feet below surface:	8.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-10	Feet below surface:	8.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-08-02	Feet below surface:	8.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-27	Feet below surface:	8.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-20	Feet below surface:	8.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-15	Feet below surface:	7.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-07-06	Feet below surface:	7.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-26	Feet below surface:	7.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-22	Feet below surface:	7.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-15	Feet below surface:	7.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-08	Feet below surface:	7.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-06-01	Feet below surface:	7.10
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1980-05-24	Feet below surface:	6.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-17	Feet below surface:	7.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-11	Feet below surface:	6.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-05	Feet below surface:	6.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-27	Feet below surface:	6.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-20	Feet below surface:	5.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-13	Feet below surface:	5.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-04-05	Feet below surface:	4.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-29	Feet below surface:	4.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-23	Feet below surface:	3.42
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-15	Feet below surface:	7.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-08	Feet below surface:	7.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-03-01	Feet below surface:	7.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-24	Feet below surface:	7.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-17	Feet below surface:	7.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-09	Feet below surface:	7.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-02-02	Feet below surface:	7.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-26	Feet below surface:	7.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-01-17	Feet below surface:	7.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-28	Feet below surface:	6.97
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-11-28	Feet below surface:	6.79
Feet to sea level:	Not Reported	Note:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Level reading date:	1979-10-24	Feet below surface:	7.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-09-24	Feet below surface:	7.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-08-24	Feet below surface:	7.81
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-07-24	Feet below surface:	7.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-06-25	Feet below surface:	7.07
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-29	Feet below surface:	4.09
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-24	Feet below surface:	6.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-03-26	Feet below surface:	6.27
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-02-23	Feet below surface:	6.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-01-24	Feet below surface:	4.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1976-10-15	Feet below surface:	7.68
Feet to sea level:	Not Reported	Note:	Not Reported

2
SSW
1/2 - 1 Mile
Lower

FED USGS USGS40000225437

Organization ID:	USGS-CT		
Organization Name:	USGS Connecticut Water Science Center		
Monitor Location:	CT-SN 175	Type:	Well
Description:	Not Reported	HUC:	01100003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Drift, Stratified	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	21
Well Depth Units:	ft	Well Hole Depth:	41
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1982-05-17
Feet below surface:	6.25	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

3
South
1/2 - 1 Mile
Lower

FED USGS USGS40000225412

Organization ID:	USGS-CT		
Organization Name:	USGS Connecticut Water Science Center		
Monitor Location:	CT-SN 174	Type:	Well
Description:	Not Reported	HUC:	01100003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Sand and gravel aquifers (glaciated regions)		
Formation Type:	Drift, Stratified	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	30
Well Depth Units:	ft	Well Hole Depth:	32
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1982-05-18
Feet below surface:	3.82	Feet to sea level:	Not Reported
Note:	Not Reported		

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
Sprague	1	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Stonington	103	87 (84.5)	10 (9.7)	4 (3.9)	2 (1.9)	0 (0)	0 (0)
Taftville	1	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Uncasville	13	6 (46.1)	5 (38.5)	6 (15.4)	0 (0)	0 (0)	0 (0)
Voluntown	84	59 (70.2)	17 (20.2)	5 (5.9)	2 (2.4)	1 (1.2)	0 (0)
Waterford	107	100 (93.5)	7 (6.5)	0 (0)	0 (0)	0 (0)	0 (0)
Baltic	74	50 (67.7)	19 (25.7)	4 (5.4)	1 (1.4)	0 (0)	0 (0)
Bozrah	2	1 (50)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)
Canterbury	8	4 (50)	1 (12.5)	2 (25)	1 (12.5)	0 (0)	0 (0)
Colchester	6	4 (66.7)	2 (33.3)	0 (0)	0 (0)	0 (0)	0 (0)
East Lyme	1	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Franklin	33	29 (87.9)	2 (6.1)	1 (3)	1 (3)	0 (0)	0 (0)
Gales Ferry	10	6 (60)	2 (20)	2 (20)	0 (0)	0 (0)	0 (0)
Griswold	3	1 (33.3)	2 (66.7)	0 (0)	0 (0)	0 (0)	0 (0)
Groton	113	96 (84.9)	10 (8.9)	7 (6.2)	0 (0)	0 (0)	0 (0)
Hanover	25	11 (44)	8 (32)	4 (16)	2 (8)	0 (0)	0 (0)
Lebanon	8	4 (50)	3 (37.5)	0 (0)	1 (12.5)	0 (0)	0 (0)
Ledyard	6	6 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Lyme	3	3 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Montville	101	84 (83.1)	11 (10.9)	5 (5)	1 (1)	0 (0)	0 (0)
Mystic	9	7 (77.8)	2 (22.2)	0 (0)	0 (0)	0 (0)	0 (0)
New London	68	66 (97)	2 (3)	0 (0)	0 (0)	0 (0)	0 (0)
Niantic	12	6 (50)	6 (50)	0 (0)	0 (0)	0 (0)	0 (0)
Noank	1	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
North Franklin	46	43 (93.5)	3 (6.5)	0 (0)	0 (0)	0 (0)	0 (0)
North Stonington	101	73 (72.3)	20 (19.8)	6 (5.9)	2 (2)	0 (0)	0 (0)
Norwich	13	11 (84.6)	2 (85.4)	0 (0)	0 (0)	0 (0)	0 (0)
Oakdale	29	13 (44.8)	8 (27.6)	6 (20.7)	2 (6.9)	0 (0)	0 (0)
Old Lyme	4	2 (50)	2 (50)	0 (0)	0 (0)	0 (0)	0 (0)
Old Mystic	5	2 (40)	1 (20)	2 (40)	0 (0)	0 (0)	0 (0)
Pawcatuck	4	1 (25)	3 (75)	0 (0)	0 (0)	0 (0)	0 (0)
Preston	100	87 (87)	12 (12)	1 (1)	0 (0)	0 (0)	0 (0)
Salem	11	7 (63.6)	36.3 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Federal EPA Radon Zone for NEW LONDON 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: 06379

Number of sites tested: 5

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	1.200 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.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Tidal Wetlands

Source: Department of Energy & Environmental Protection

Telephone: 860-424-4054

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 Service (NRCS)

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 Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, 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

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

Connecticut Leachate and Wastewater Discharge Sites

Source: Department of Environmental Protection

Telephone:

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

Telephone:

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.

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

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

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APPENDIX C

EDR HISTORICAL AERIAL PHOTOGRAPHS



Phase I ESA - Elmridge Golf Course

229 Elmridge Road

Pawcatuck, CT 06379

Inquiry Number: 5870113.8

November 15, 2019

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

11/15/19

Site Name:

Phase I ESA - Elmridge Golf C
229 Elmridge Road
Pawcatuck, CT 06379
EDR Inquiry # 5870113.8

Client Name:

Milone & Macbroom Engineering
99 Realty Drive
Cheshire, CT 06410
Contact: Emily Allison



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.

Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2016	1"=750'	Flight Year: 2016	USDA/NAIP
2012	1"=750'	Flight Year: 2012	USDA/NAIP
2008	1"=750'	Flight Year: 2008	USDA/NAIP
2005	1"=750'	Flight Year: 2005	USDA/NAIP
1991	1"=750'	Acquisition Date: April 12, 1991	USGS/DOQQ
1985	1"=750'	Flight Date: April 17, 1985	USDA
1970	1"=750'	Flight Date: March 11, 1970	USGS
1960	1"=750'	Flight Date: May 01, 1960	USGS
1957	1"=750'	Flight Date: April 10, 1957	USGS
1951	1"=750'	Flight Date: November 22, 1951	CTMAGIC
1941	1"=750'	Flight Date: October 09, 1941	USGS

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INQUIRY #: 5870113.8

YEAR: 2016

— = 750'





INQUIRY # 5870113.8

YEAR: 2012

— = 750'





INQUIRY #: 5870113.8

YEAR: 2008

— = 750'





INQUIRY #: 5870113.8

YEAR: 2005

— = 750'





INQUIRY #: 5870113.8

YEAR: 1991

— = 750'





INQUIRY #: 5870113.8

YEAR: 1985

— = 750'





INQUIRY #: 5870113.8

YEAR: 1970

— = 750'





INQUIRY #: 5870113.8

YEAR: 1960

— = 750'



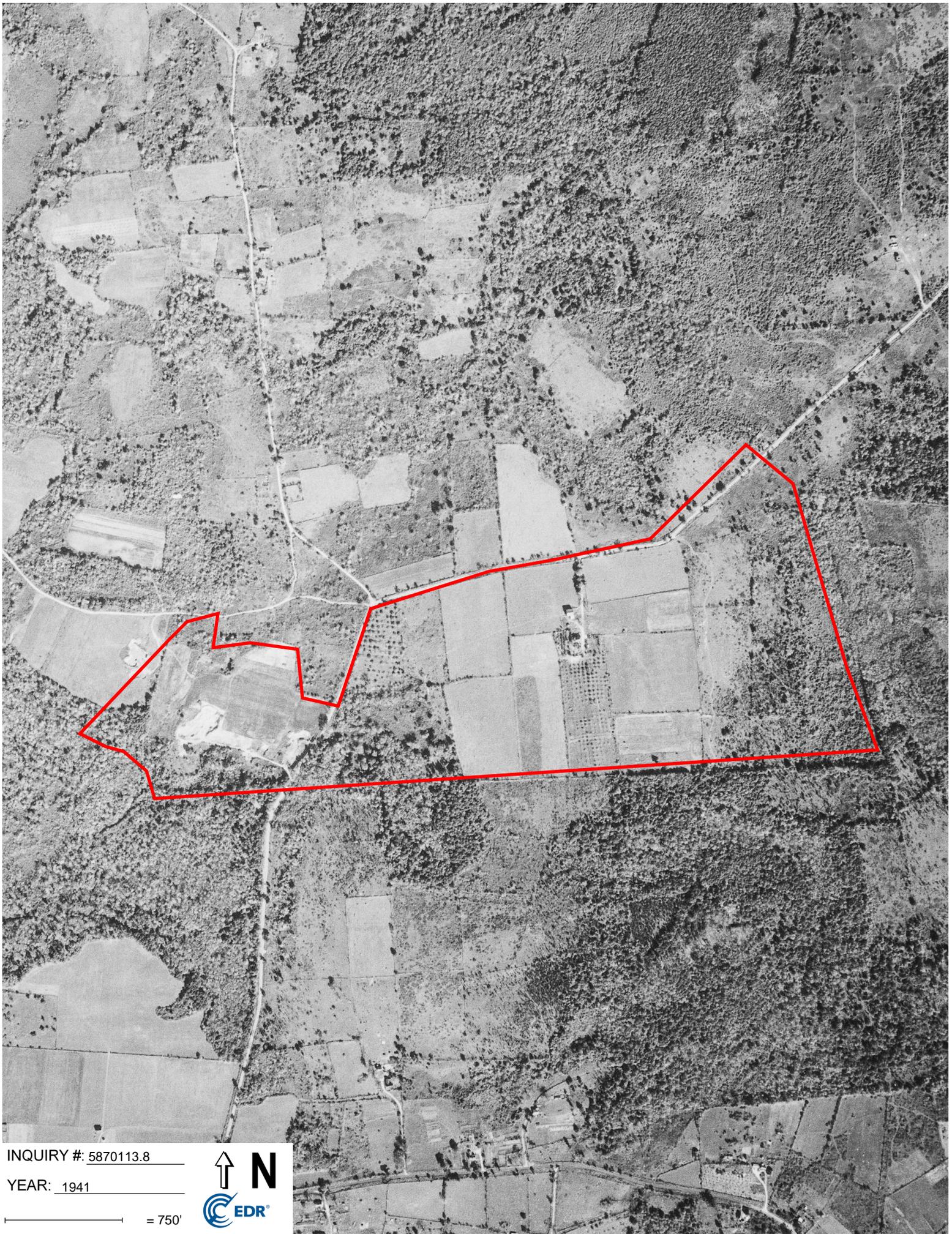


INQUIRY #: 5870113.8

YEAR: 1957

— = 750'





INQUIRY #: 5870113.8

YEAR: 1941

— = 750'



APPENDIX D

EDR HISTORICAL TOPOGRAPHIC MAPS

Phase I ESA - Elmridge Golf Course

229 Elmridge Road

Pawcatuck, CT 06379

Inquiry Number: 5870113.4

November 14, 2019

EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

11/14/19

Site Name:

Phase I ESA - Elmridge Golf C
229 Elmridge Road
Pawcatuck, CT 06379
EDR Inquiry # 5870113.4

Client Name:

Milone & Macbroom Engineering
99 Realty Drive
Cheshire, CT 06410
Contact: Emily Allison



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Milone & Macbroom Engineering were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:**Coordinates:**

P.O.#	6763-10-04	Latitude:	41.392293 41° 23' 32" North
Project:	Ph I ESA Elmridge Golf Cours	Longitude:	-71.864726 -71° 51' 53" West
		UTM Zone:	Zone 19 North
		UTM X Meters:	260493.59
		UTM Y Meters:	4586267.58
		Elevation:	117.11' above sea level

Maps Provided:

2012	1943, 1944
2001	1921
1983, 1984	1913
1975	1893
1970	1889
1953, 1958	
1949, 1953	
1947, 1948	

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Mystic
2012
7.5-minute, 24000



Old Mystic
2012
7.5-minute, 24000



Ashaway
2012
7.5-minute, 24000



Watch Hill
2012
7.5-minute, 24000

2001 Source Sheets

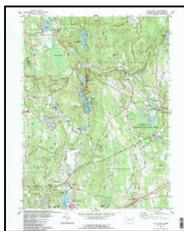


Watch Hill
2001
7.5-minute, 24000
Aerial Photo Revised 2001

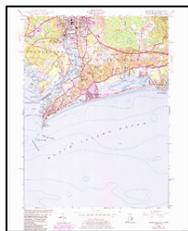


Ashaway
2001
7.5-minute, 24000
Aerial Photo Revised 2001

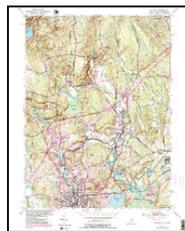
1983, 1984 Source Sheets



Old Mystic
1983
7.5-minute, 24000
Aerial Photo Revised 1980



Watch Hill
1984
7.5-minute, 24000
Aerial Photo Revised 1982



Ashaway
1984
7.5-minute, 24000
Aerial Photo Revised 1980

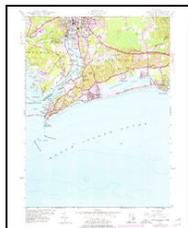


Mystic
1984
7.5-minute, 24000
Aerial Photo Revised 1980

1975 Source Sheets



Ashaway
1975
7.5-minute, 24000
Aerial Photo Revised 1975



Watch Hill
1975
7.5-minute, 24000
Aerial Photo Revised 1975

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1970 Source Sheets



Ashaway
1970
7.5-minute, 24000
Aerial Photo Revised 1970



Watch Hill
1970
7.5-minute, 24000
Aerial Photo Revised 1970



Old Mystic
1970
7.5-minute, 24000
Aerial Photo Revised 1970

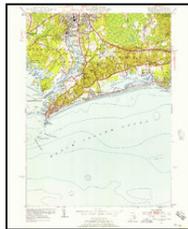


Mystic
1970
7.5-minute, 24000
Aerial Photo Revised 1970

1953, 1958 Source Sheets



Ashaway
1953
7.5-minute, 24000



Watch Hill
1953
7.5-minute, 24000



Old Mystic
1958
7.5-minute, 24000



Mystic
1958
7.5-minute, 24000

1949, 1953 Source Sheets

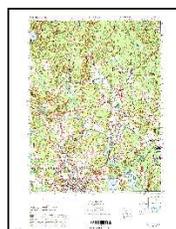


Mystic
1949
7.5-minute, 31680

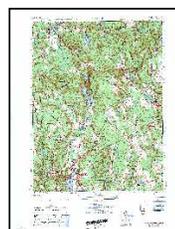
1947, 1948 Source Sheets



MYSTIC
1947
7.5-minute, 25000



ASHAWAY
1947
7.5-minute, 25000



OLD MYSTIC
1948
7.5-minute, 25000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

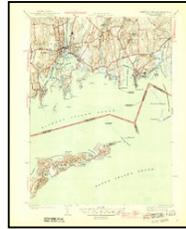
1943, 1944 Source Sheets



Ashaway
1943
7.5-minute, 31680



Old Mystic
1943
7.5-minute, 31680

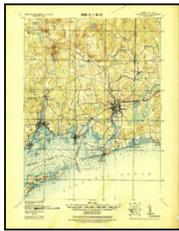


Mystic
1944
7.5-minute, 31680



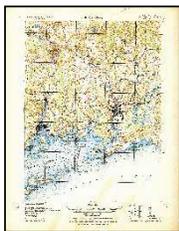
Watch Hill
1944
7.5-minute, 31680

1921 Source Sheets



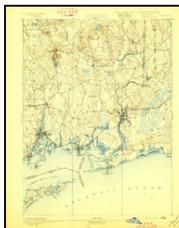
Stonington
1921
15-minute, 62500

1913 Source Sheets



STONINGTON
1913
15-minute, 62500

1893 Source Sheets

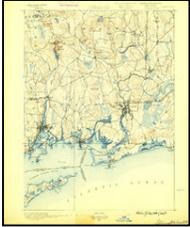


Stonington
1893
15-minute, 62500

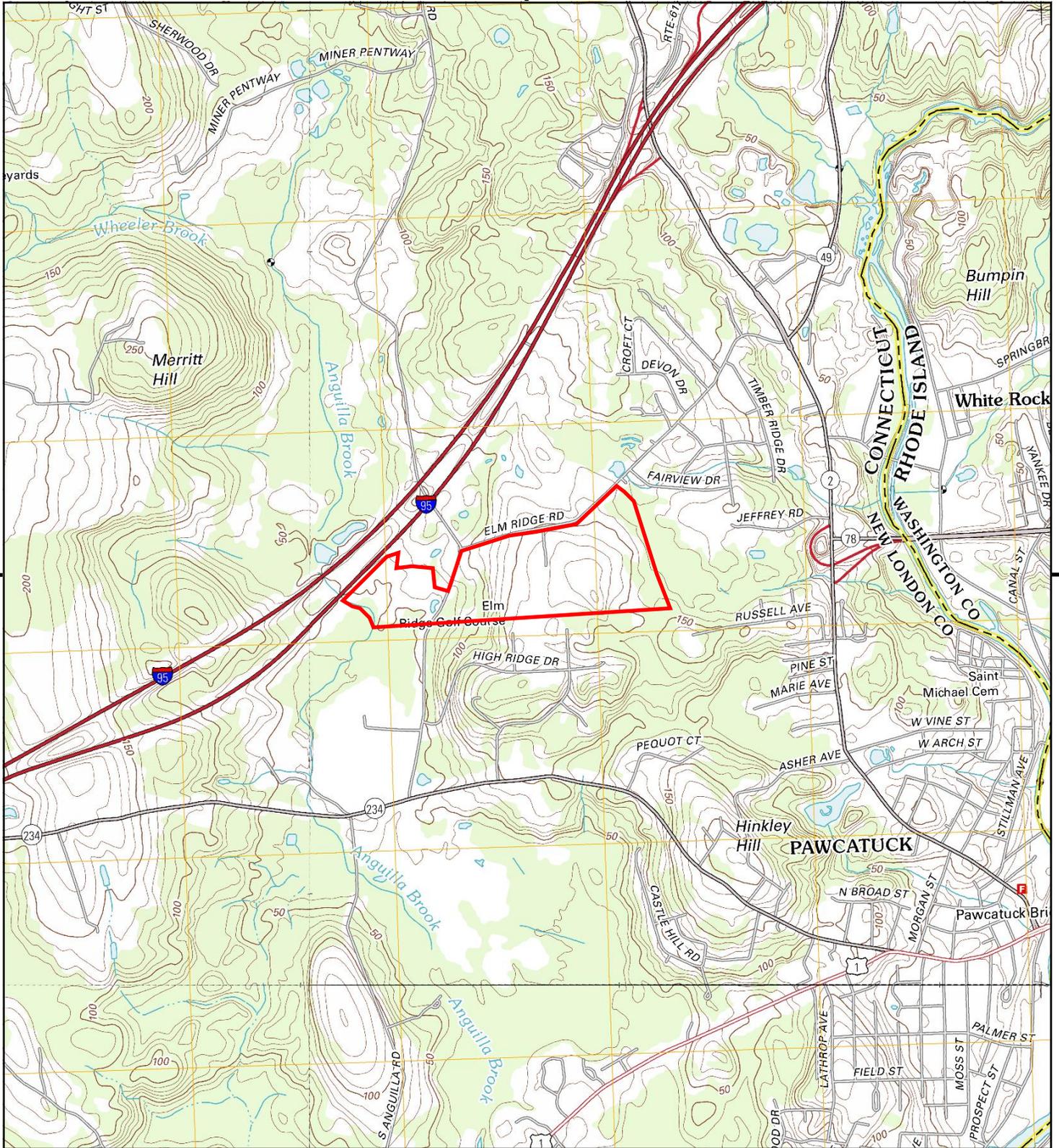
Topo Sheet Key

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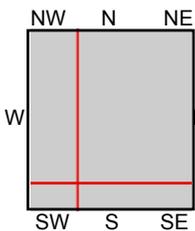
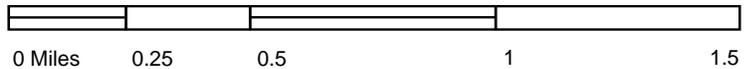
1889 Source Sheets



Stonington
1889
15-minute, 62500



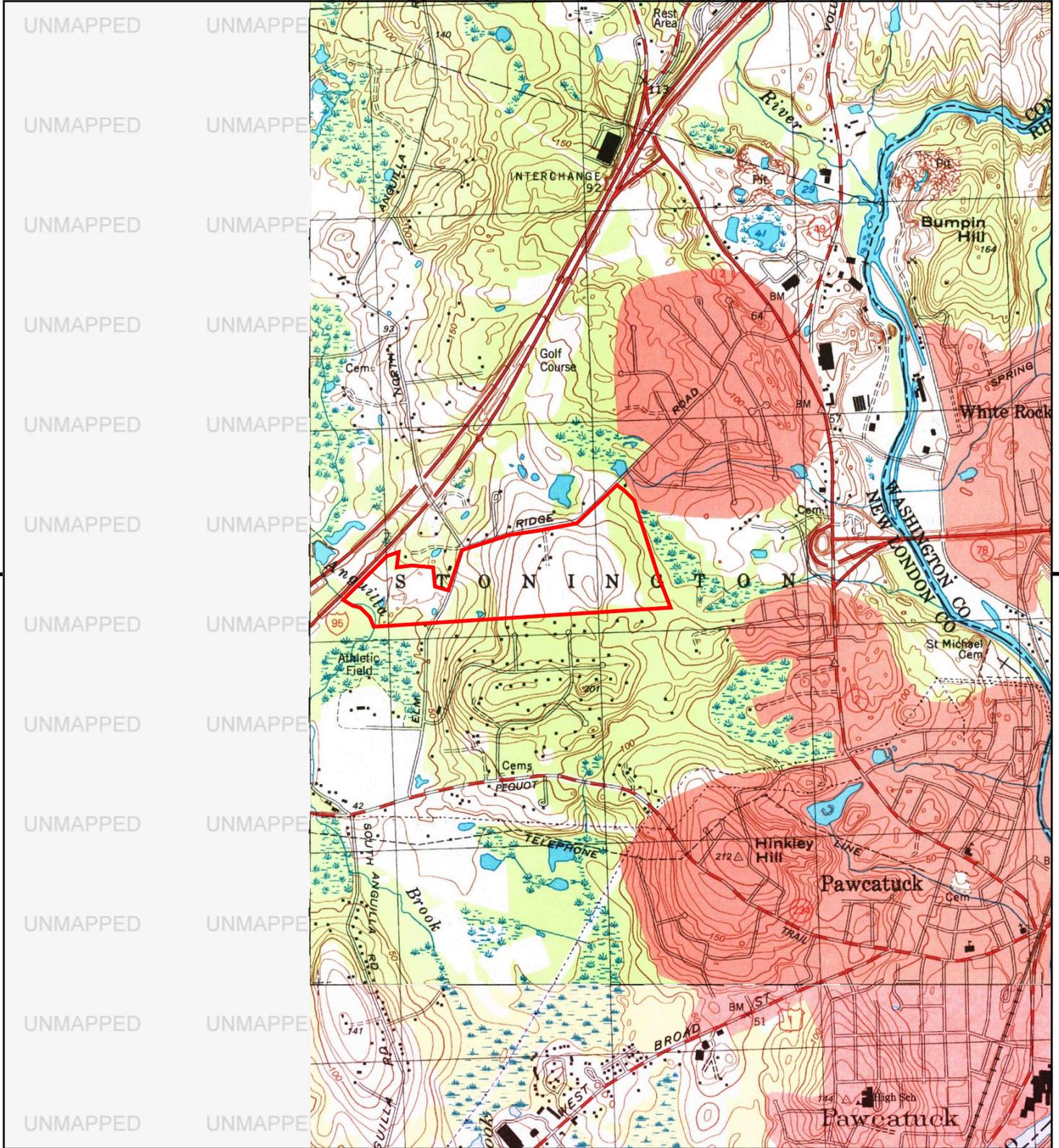
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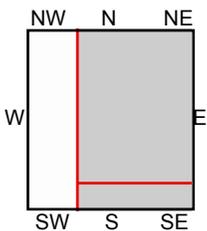
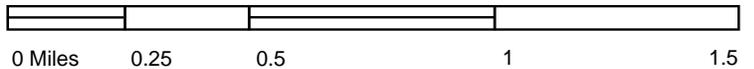
TP, Ashaway, 2012, 7.5-minute
 SE, Watch Hill, 2012, 7.5-minute
 SW, Mystic, 2012, 7.5-minute
 NW, Old Mystic, 2012, 7.5-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
ADDRESS: 229 Elmridge Road
 Pawcatuck, CT 06379
CLIENT: Milone & Macbroom Engineering





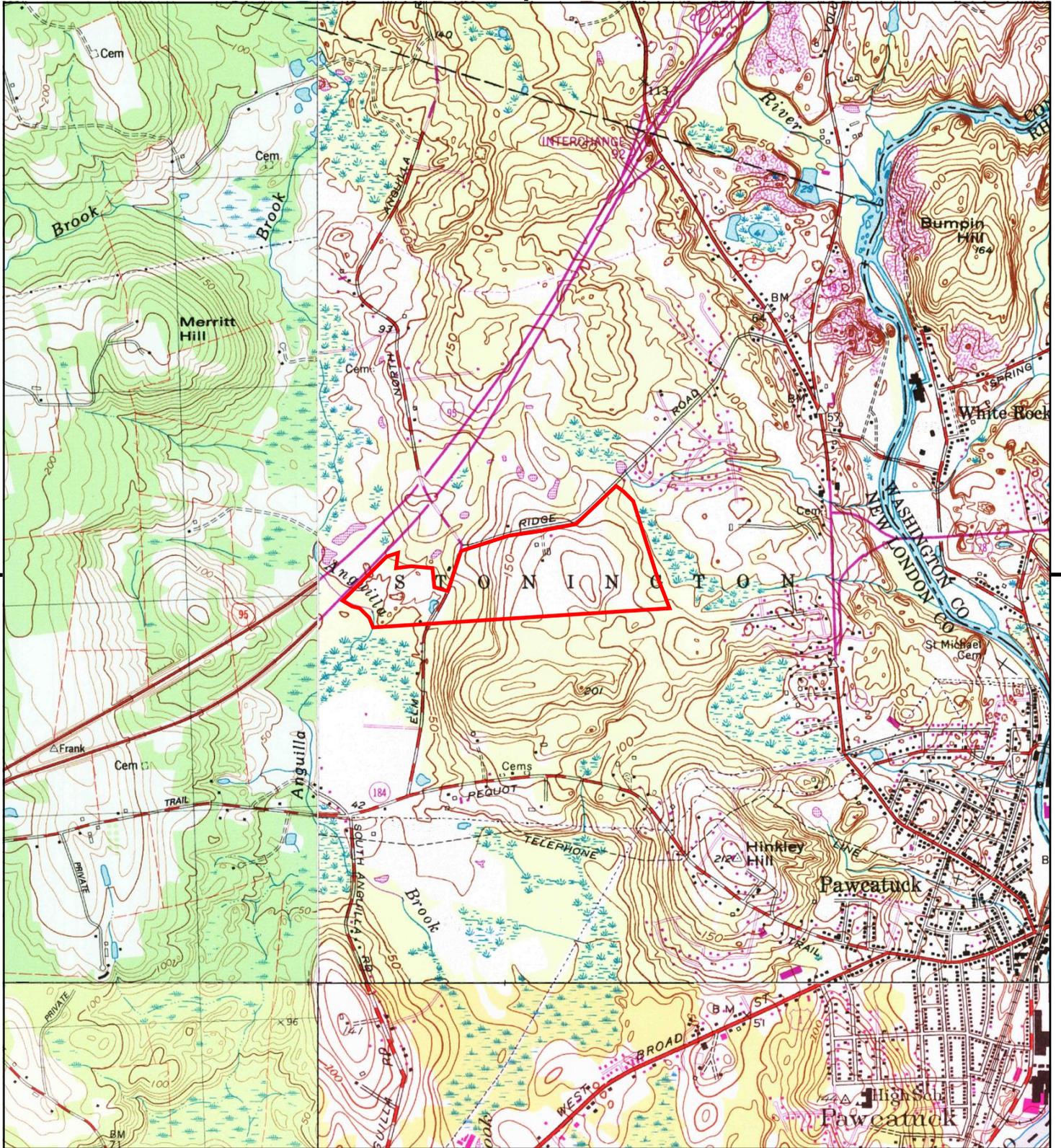
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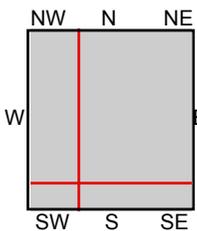
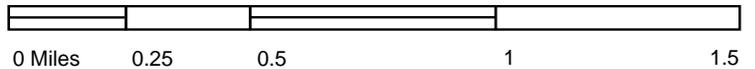
TP, Ashaway, 2001, 7.5-minute
SE, Watch Hill, 2001, 7.5-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
ADDRESS: 229 Elmridge Road
 Pawcatuck, CT 06379
CLIENT: Milone & Macbroom Engineering





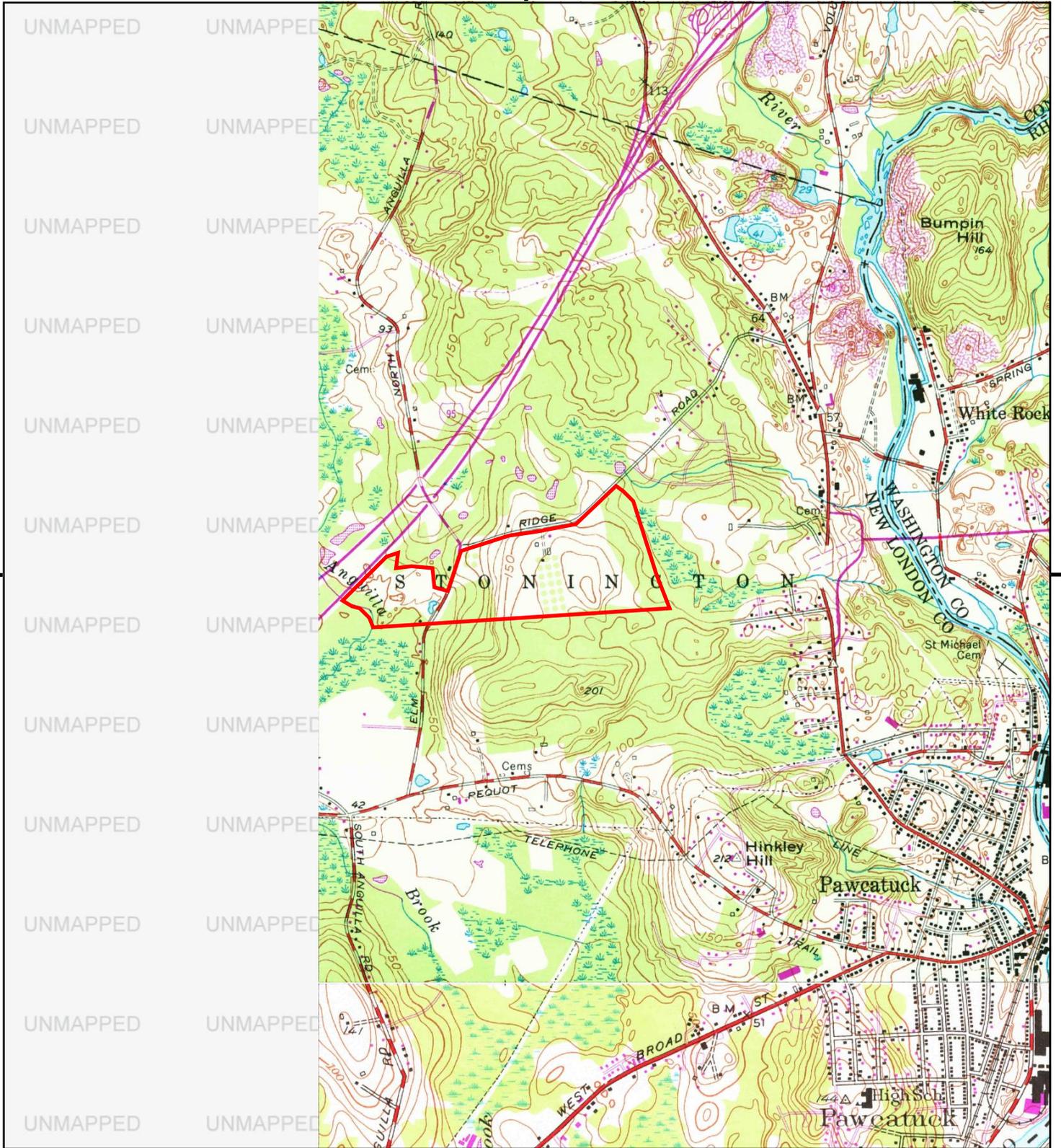
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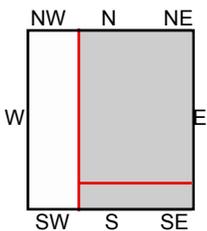
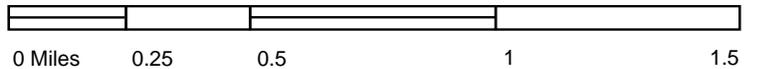
TP, Ashaway, 1984, 7.5-minute
 SE, Watch Hill, 1984, 7.5-minute
 SW, Mystic, 1984, 7.5-minute
 NW, Old Mystic, 1983, 7.5-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
ADDRESS: 229 Elmridge Road
 Pawcatuck, CT 06379
CLIENT: Milone & Macbroom Engineering





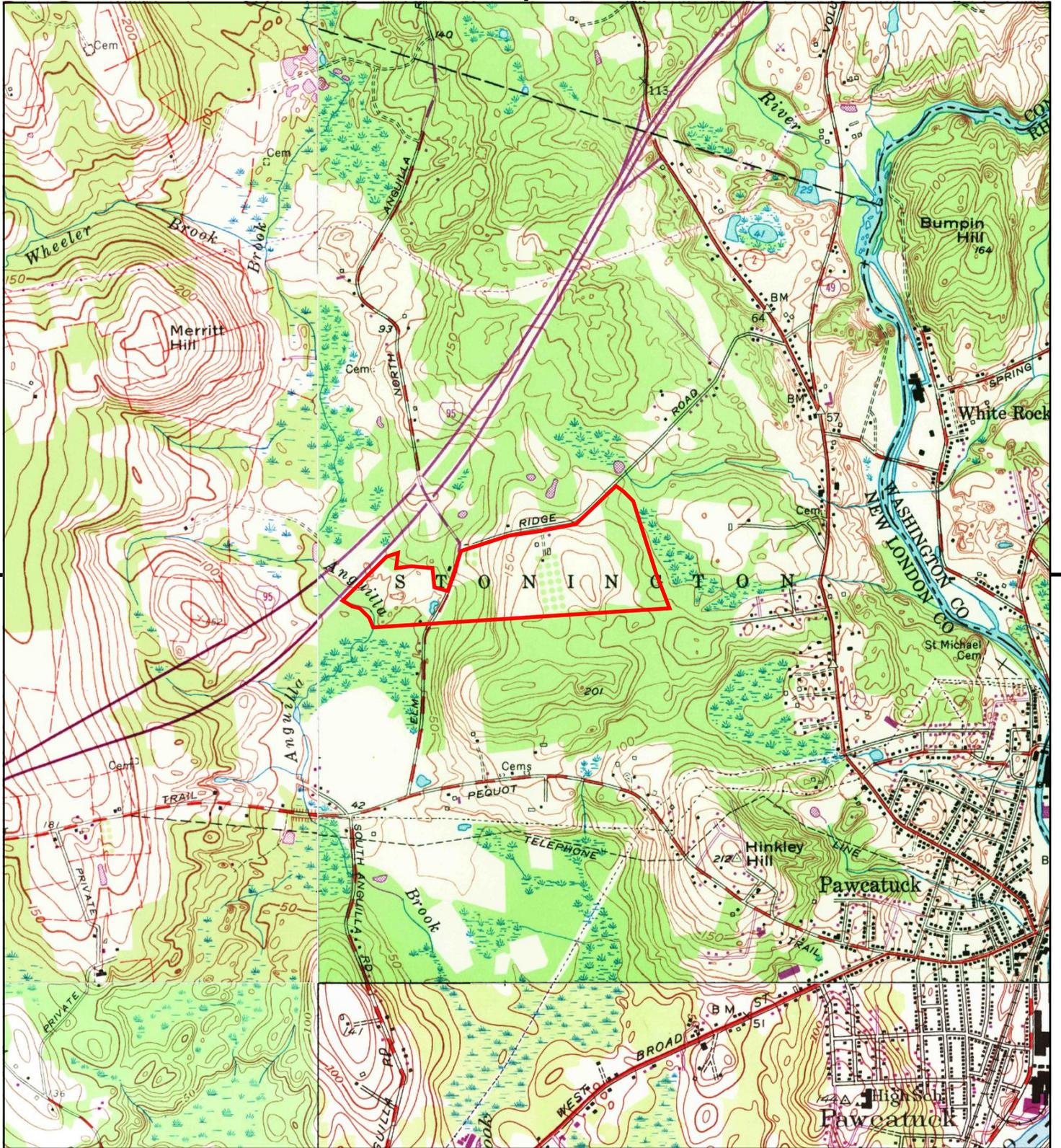
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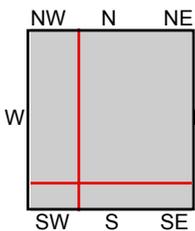
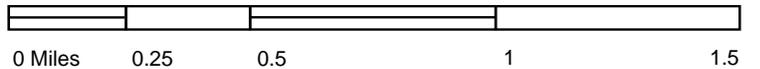
TP, Ashaway, 1975, 7.5-minute
SE, Watch Hill, 1975, 7.5-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
ADDRESS: 229 Elmridge Road
Pawcatuck, CT 06379
CLIENT: Milone & Macbroom Engineering





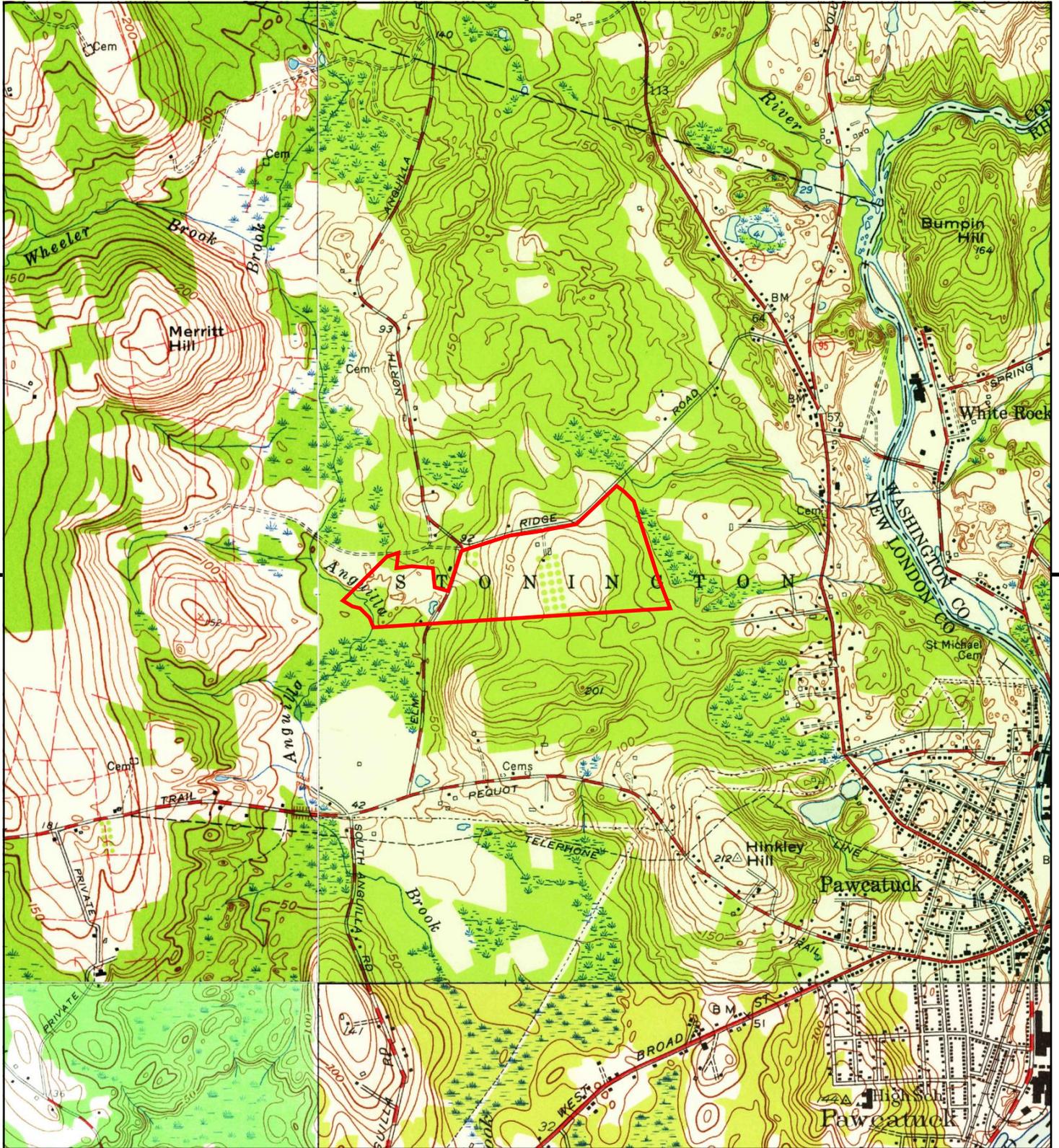
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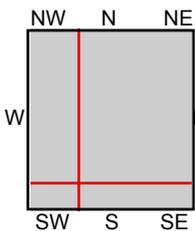
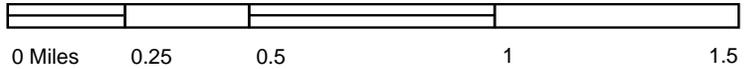
TP, Ashaway, 1970, 7.5-minute
 SE, Watch Hill, 1970, 7.5-minute
 SW, Mystic, 1970, 7.5-minute
 NW, Old Mystic, 1970, 7.5-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
ADDRESS: 229 Elmridge Road
 Pawcatuck, CT 06379
CLIENT: Milone & Macbroom Engineering





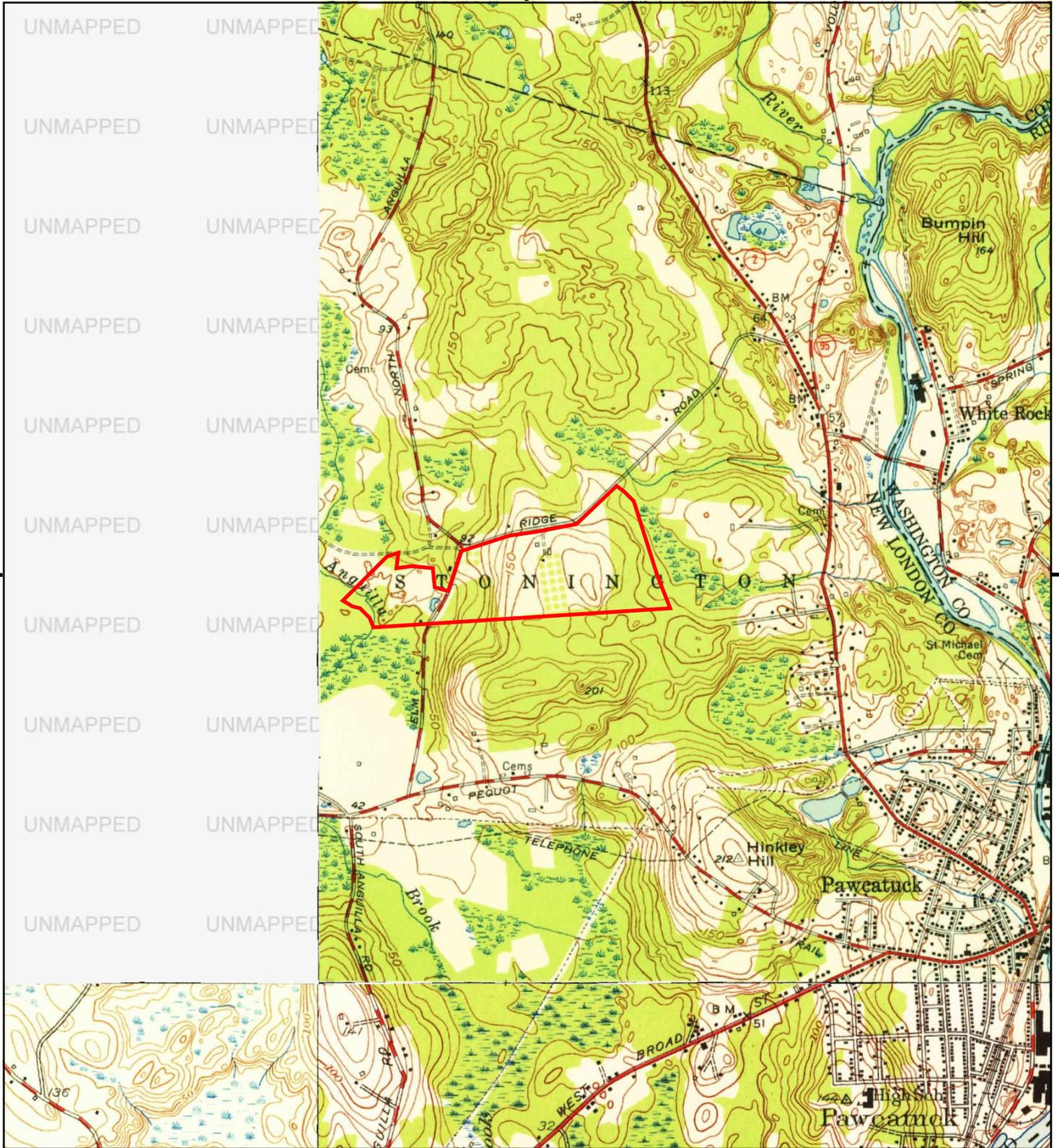
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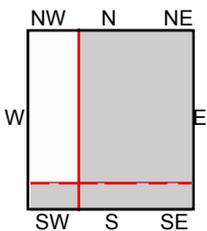
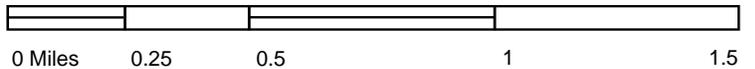
TP, Ashaway, 1953, 7.5-minute
 SE, Watch Hill, 1953, 7.5-minute
 SW, Mystic, 1958, 7.5-minute
 NW, Old Mystic, 1958, 7.5-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
ADDRESS: 229 Elmridge Road
 Pawcatuck, CT 06379
CLIENT: Milone & Macbroom Engineering





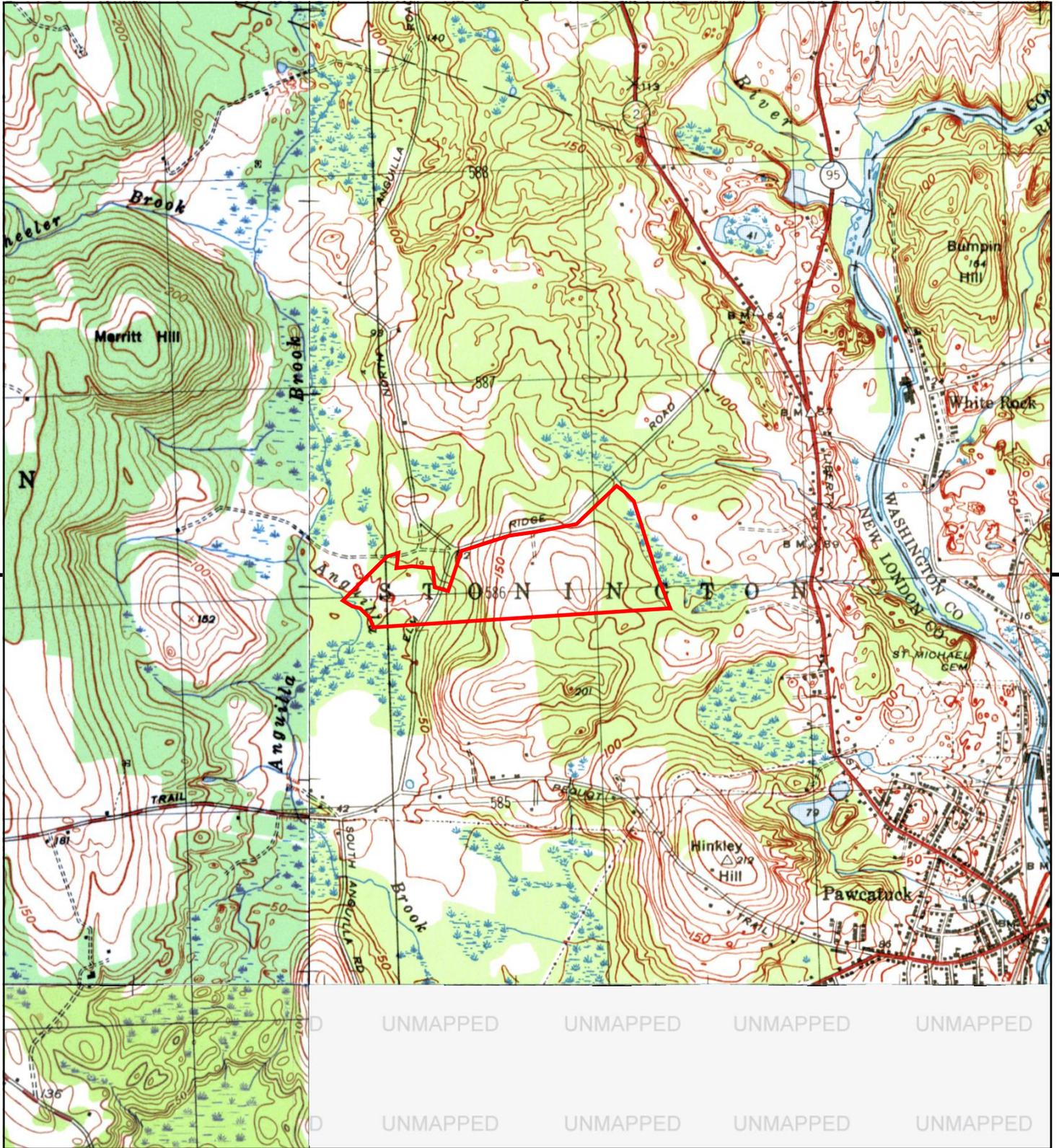
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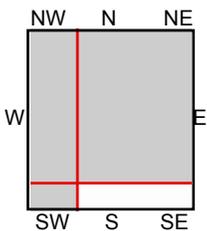
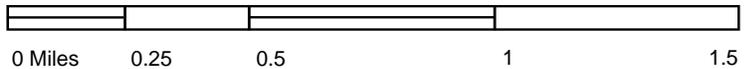
TP, Ashaway, 1953, 7.5-minute
 SE, Watch Hill, 1953, 7.5-minute
 SW, Mystic, 1949, 7.5-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
ADDRESS: 229 Elmridge Road
 Pawcatuck, CT 06379
CLIENT: Milone & Macbroom Engineering





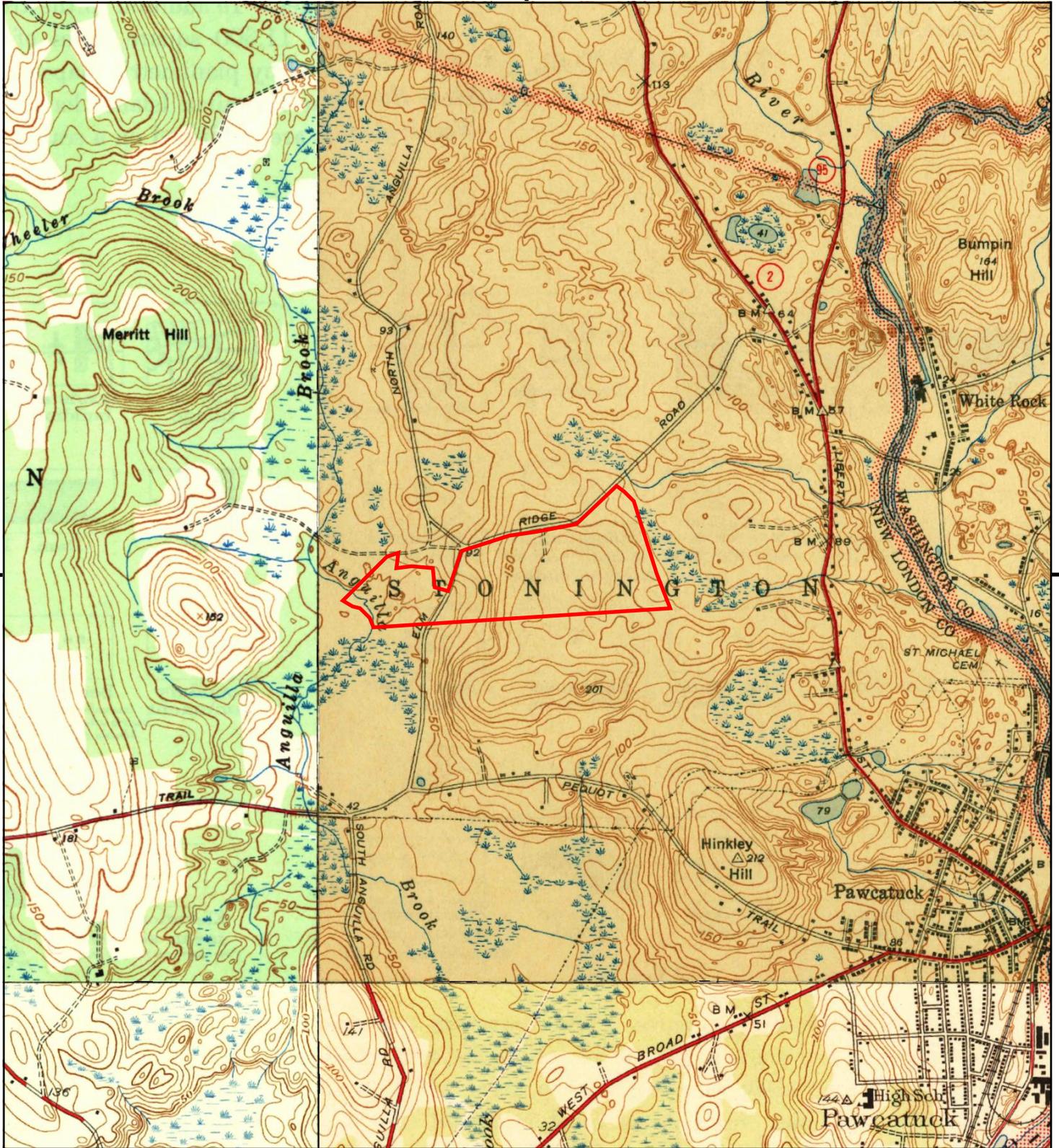
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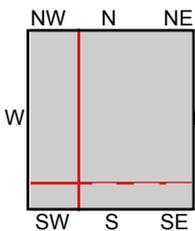
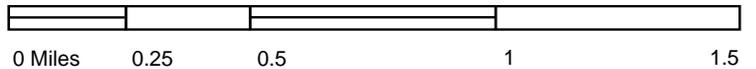
TP, ASHAWAY, 1947, 7.5-minute
 SW, MYSTIC, 1947, 7.5-minute
 NW, OLD MYSTIC, 1948, 7.5-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
 ADDRESS: 229 Elmridge Road
 Pawcatuck, CT 06379
 CLIENT: Milone & Macbroom Engineering





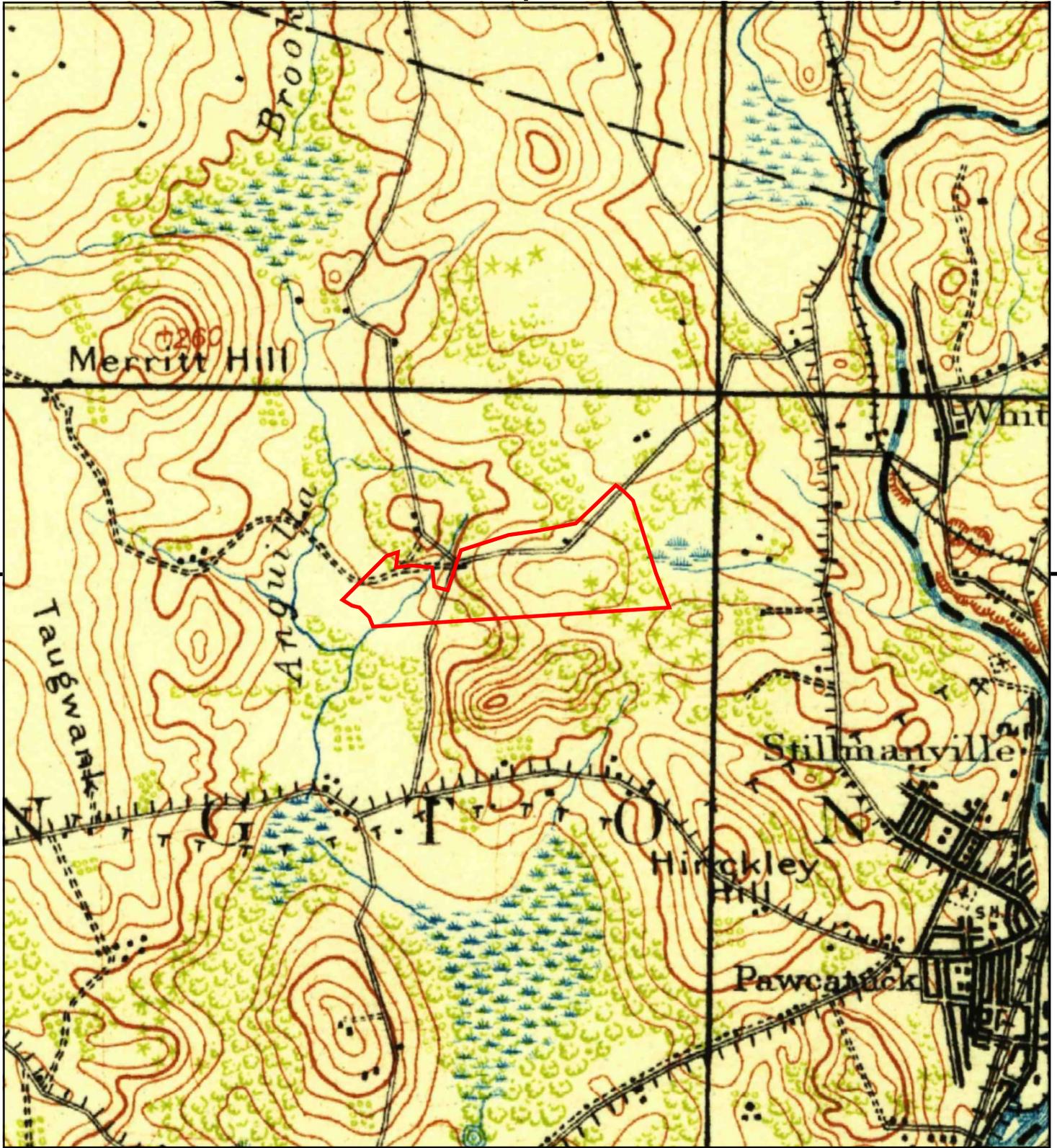
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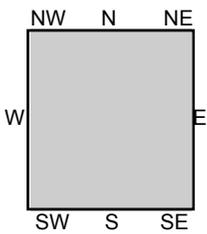
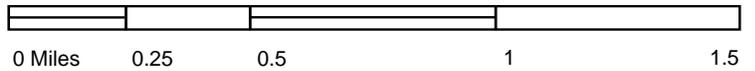
TP, Ashaway, 1943, 7.5-minute
 SE, Watch Hill, 1944, 7.5-minute
 SW, Mystic, 1944, 7.5-minute
 NW, Old Mystic, 1943, 7.5-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
 ADDRESS: 229 Elmridge Road
 Pawcatuck, CT 06379
 CLIENT: Milone & Macbroom Engineering





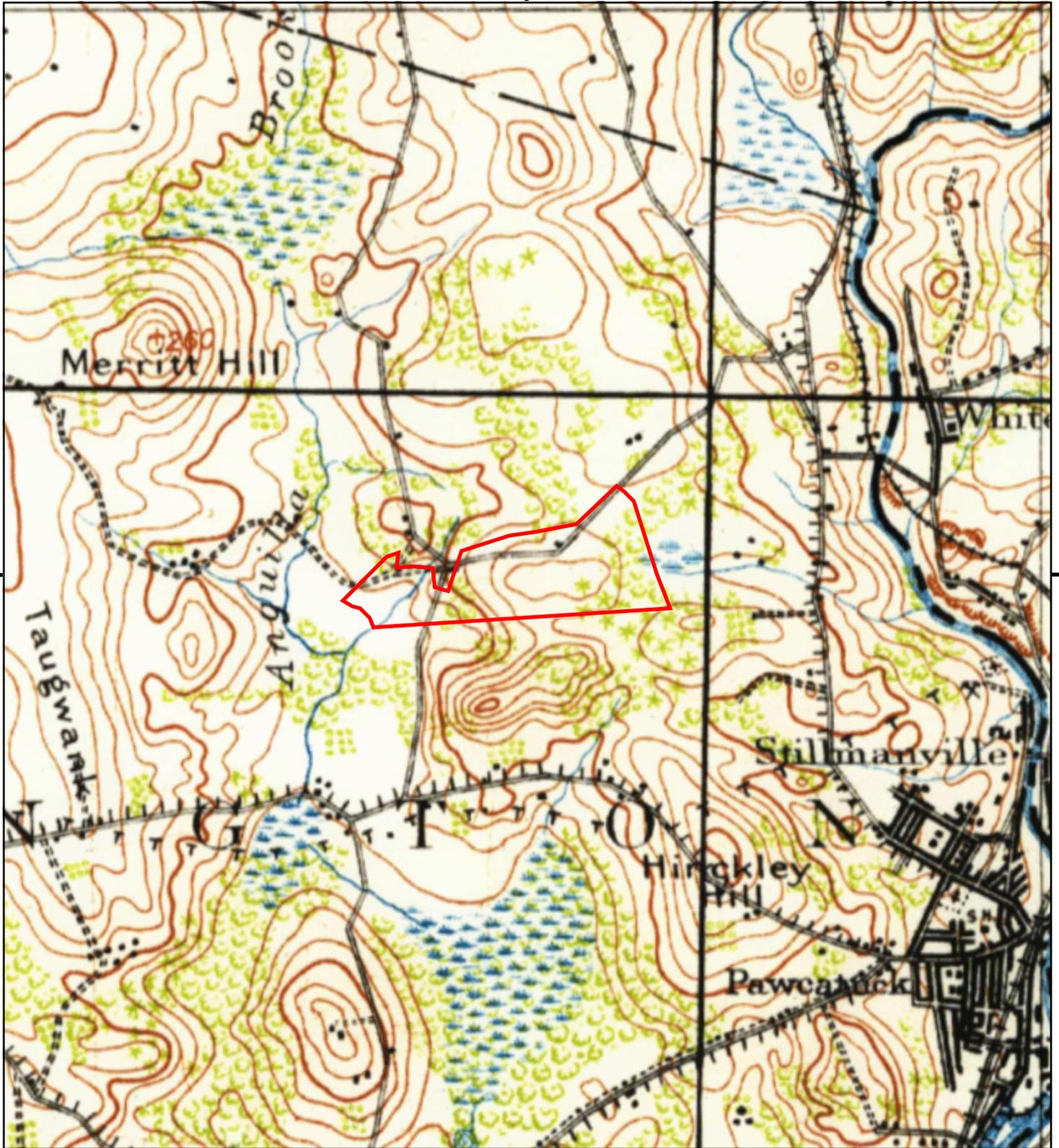
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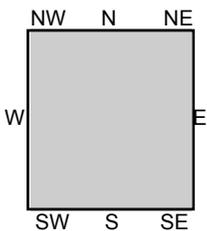
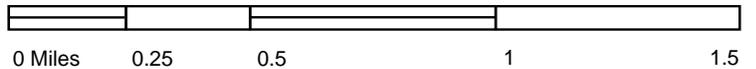
TP, Stonington, 1921, 15-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
ADDRESS: 229 Elmridge Road
Pawcatuck, CT 06379
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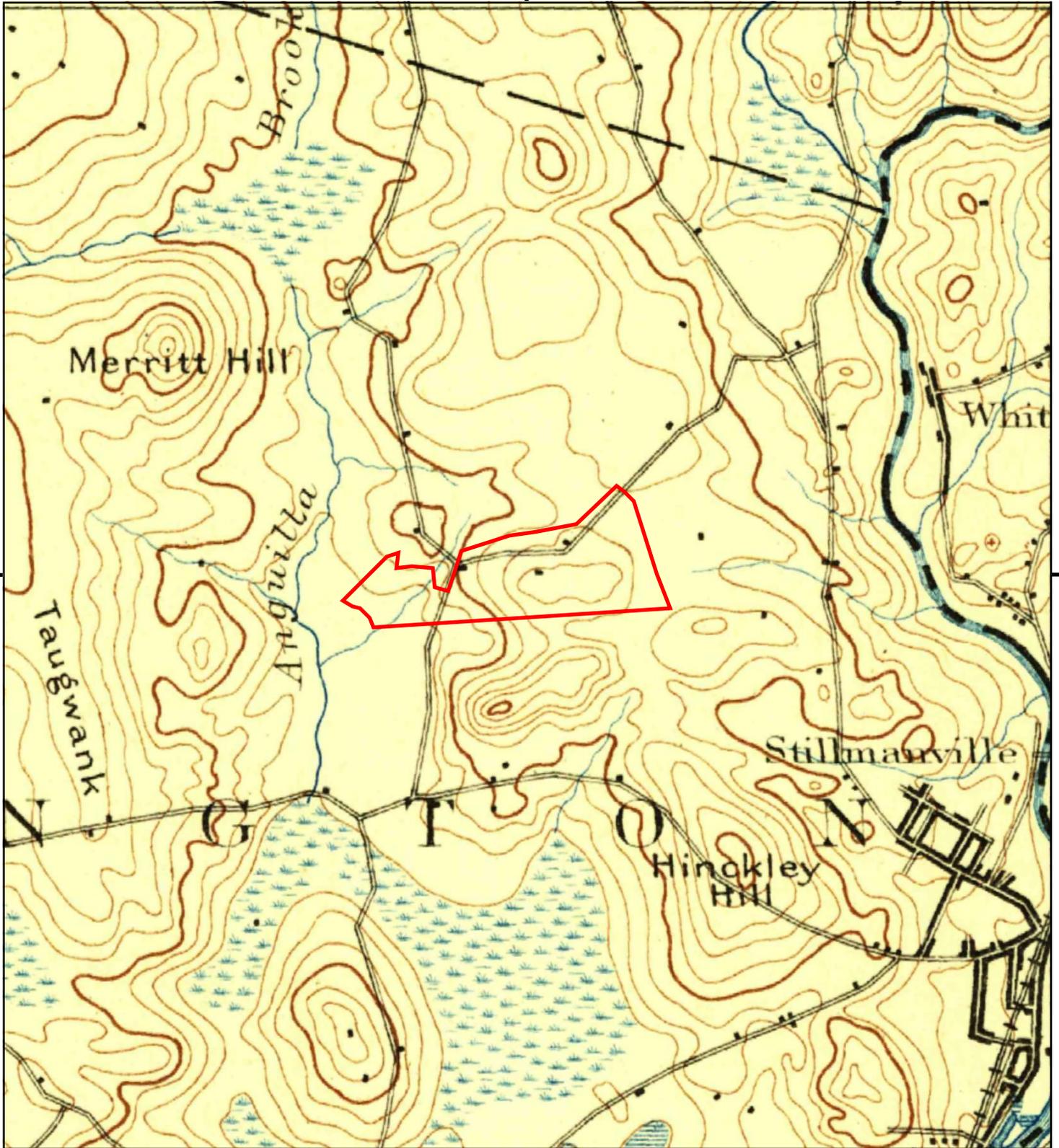
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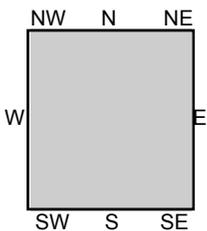
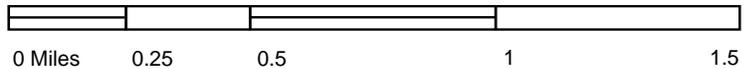
TP, STONINGTON, 1913, 15-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
ADDRESS: 229 Elmridge Road
Pawcatuck, CT 06379
CLIENT: Milone & Macbroom Engineering





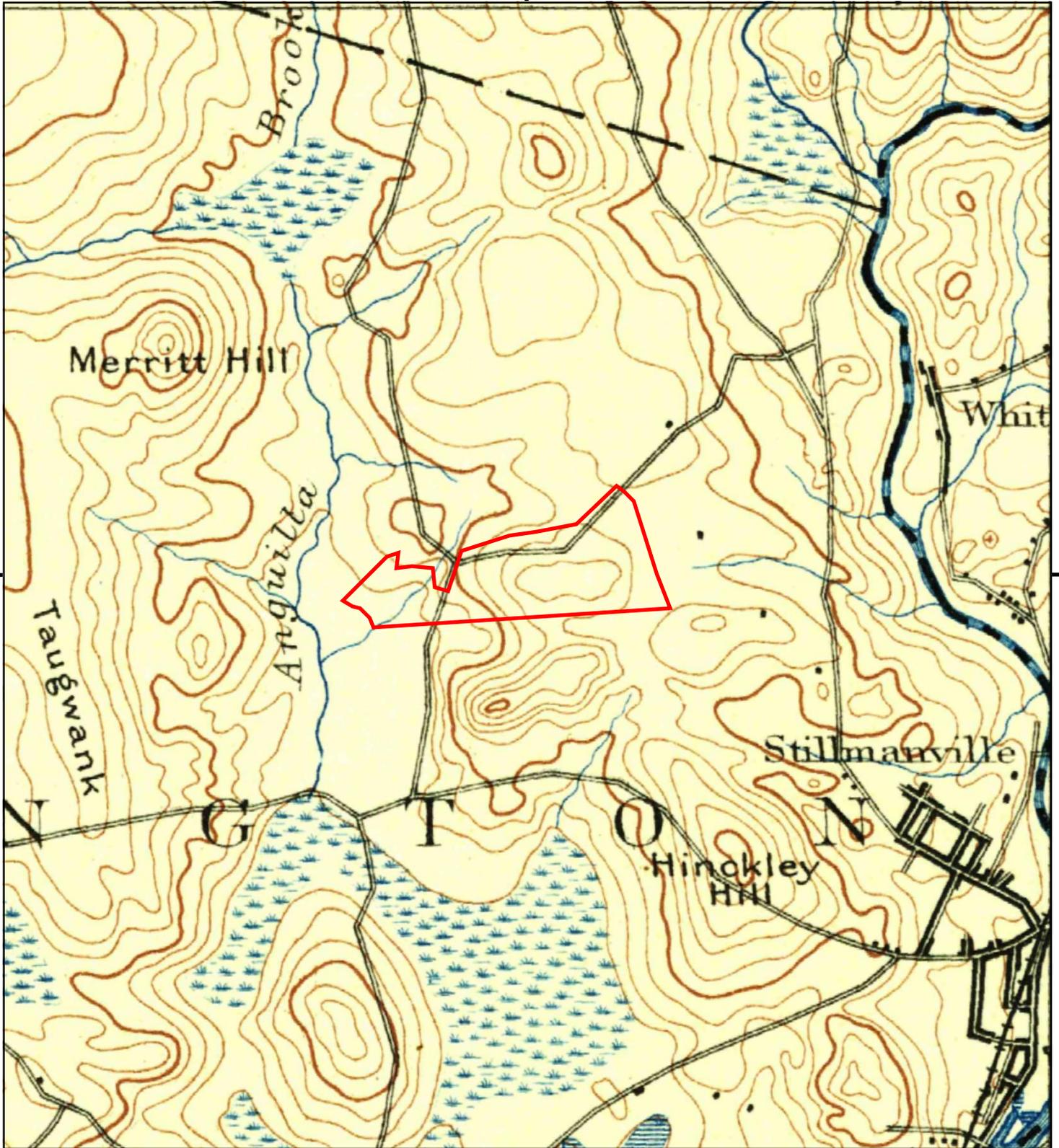
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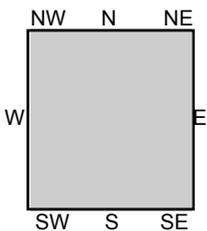
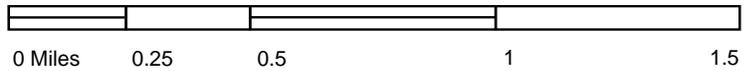
TP, Stonington, 1893, 15-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
 ADDRESS: 229 Elmridge Road
 Pawcatuck, CT 06379
 CLIENT: Milone & Macbroom Engineering





This report includes information from the following map sheet(s).



TP, Stonington, 1889, 15-minute

SITE NAME: Phase I ESA - Elmridge Golf Course
 ADDRESS: 229 Elmridge Road
 Pawcatuck, CT 06379
 CLIENT: Milone & Macbroom Engineering



APPENDIX E

EDR SANBORN® UNMAPPED AREA REPORT

Phase I ESA - Elmridge Golf Course

229 Elmridge Road

Pawcatuck, CT 06379

Inquiry Number: 5870113.3

November 14, 2019

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/14/19

Site Name:

Phase I ESA - Elmridge Golf C
229 Elmridge Road
Pawcatuck, CT 06379
EDR Inquiry # 5870113.3

Client Name:

Milone & Macbroom Engineering
99 Realty Drive
Cheshire, CT 06410
Contact: Emily Allison



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Milone & Macbroom Engineering were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 1956-48EF-BB5D
PO # 6763-10-04
Project Ph I ESA Elmridge Golf Course

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: 1956-48EF-BB5D

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

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APPENDIX F

EDR CITY DIRECTORY REPORT

Phase I ESA - Elmridge Golf Course

229 Elmridge Road
Pawcatuck, CT 06379

Inquiry Number: 5870113.5
November 18, 2019

The EDR-City Directory Image Report

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City Directory Images

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Please contact EDR at 1-800-352-0050
with any questions or comments.

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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.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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Data by

infoUSA[®]

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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.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2014	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2010	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2005	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1995	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1992	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1990	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Polk's City Directory
1985	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Polk's City Directory
1980	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Polk's City Directory
1976	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Polk's City Directory
1972	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Polk's City Directory
1966	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Polk's City Directory
1960	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Polk's City Directory
1950	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Polk's City Directory
1945	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Polk's City Directory
1939	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Polk's City Directory

EXECUTIVE SUMMARY

Year Target Street Cross Street Source

FINDINGS

TARGET PROPERTY STREET

229 Elmridge Road
Pawcatuck, CT 06379

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
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ELMRIDGE RD

2014	pg A2	EDR Digital Archive	
2010	pg A6	EDR Digital Archive	
2005	pg A10	EDR Digital Archive	
2000	pg A14	EDR Digital Archive	
1995	pg A17	EDR Digital Archive	
1992	pg A20	EDR Digital Archive	
1990	pg A22	Polk's City Directory	
1990	pg A23	Polk's City Directory	
1985	pg A26	Polk's City Directory	
1985	pg A27	Polk's City Directory	
1980	pg A29	Polk's City Directory	
1980	pg A30	Polk's City Directory	
1976	pg A32	Polk's City Directory	
1976	pg A33	Polk's City Directory	
1972	pg A36	Polk's City Directory	
1972	pg A37	Polk's City Directory	
1966	pg A39	Polk's City Directory	
1960	pg A41	Polk's City Directory	
1950	-	Polk's City Directory	Street not listed in Source
1945	-	Polk's City Directory	Street not listed in Source
1939	-	Polk's City Directory	Street not listed in Source

FINDINGS

CROSS STREETS

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
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N ANGUILLA RD

2014	pg. A4	EDR Digital Archive
2010	pg. A8	EDR Digital Archive
2005	pg. A12	EDR Digital Archive
2000	pg. A15	EDR Digital Archive
1995	pg. A19	EDR Digital Archive
1992	pg. A21	EDR Digital Archive
1990	pg. A24	Polk's City Directory
1990	pg. A25	Polk's City Directory
1985	pg. A28	Polk's City Directory
1980	pg. A31	Polk's City Directory
1976	pg. A34	Polk's City Directory
1976	pg. A35	Polk's City Directory
1972	pg. A38	Polk's City Directory
1966	pg. A40	Polk's City Directory
1960	pg. A42	Polk's City Directory
1950	pg. A43	Polk's City Directory
1950	pg. A44	Polk's City Directory
1945	pg. A45	Polk's City Directory
1945	pg. A46	Polk's City Directory
1939	pg. A47	Polk's City Directory

City Directory Images

ELMRIDGE RD 2014

25 HOLLY, MARCIA W
 26 AHLGREN, SAMANTHA
 31 BANKER, GARY F
 34 OCCUPANT UNKNOWN,
 35 DRAGO CUSTOM INTERIORS
 DRAGO, JOSEPH F
 36 SAMATARO, JACK
 37 HESPELER, STEPHEN J
 39 ONEILL, KEITH P
 41 BONARDI, FORDAN T
 FORDAN PHOTOGRAPHY
 42 CHANDONNAIT, RICHARD A
 47 OCCUPANT UNKNOWN,
 50 NAHAS, MERRI L
 54 GEORGE, DAVID M
 56 CLARK, JOHN L
 57 OCCUPANT UNKNOWN,
 62 RICHARDSON, IRENE S
 73 HOWARD, RALPHINA J
 81 SUGAR, MARK J
 82 OCCUPANT UNKNOWN,
 83 RILEY, NELLIE N
 87 LIU, NORAH T
 SICARD ELECTRIC
 93 SORRENTO, JOSEPH M
 97 TETLOW, MARK D
 103 GRILLS, DAVID P
 115 CIMALORE, CHARLES J
 116 URSO, GARY A
 119 RATHBUN, GEORGE E
 STONINGTON REALTY LLC
 SUTHERLAND RICHARD CPA
 127 SIMAO, MARK N
 129 GRILLS, ALFRED D
 132 LYNCH, CHARLES J
 137 MOLKENTHIN, CHARLES L
 140 RUSTICI, ERIC S
 141 GARCIA, GODOFREDO S
 147 DANIELS, ROY P
 151 OCCUPANT UNKNOWN,
 154 RUSTICI, CHARLES R
 163 ENO ENTERPRISES LLC
 ENO, FRED L
 194 SOARES PAMELA M
 SOARES, MANUEL M
 224 DACOSTA, JOSE P
 227 PENDLETON, MICHAEL
 RUSTICI, SHAUNA
 229 ELMRIDGE GOLF COURSE INC
 JONES PRO SHOP

ELMRIDGE RD 2014 (Cont'd)

252	CICCONE, PAUL E ELM RIDGE DEVELOPMENT LLC
258	TIRRELL, KEN E

N ANGUILLA RD 2014

20	IIAMS, VERA G
73	STORM, TIMOTHY L
91	WHEWELL, JUDITH A
94	BROWN ELLIE
95	DOHERTY, JOHN D LITCHFIELD LOUIS D
105	WHITE, MABEL W
139	OCCUPANT UNKNOWN,
143	HANDY, TIMOTHY A
153	MINERS SAW MILL
154	SCHALLA GROUP LLC WILBERT, DONALD
175	EVANS, JOANN M
176	MCDONOUGH, DAVID W
177	DESOUZA, FRANK R
179	TAYLOR, WINONA A
180	ASL TECHNOLOGIES LLC FERREIRA, JOSE E
201	HOLLAND, ROBERT J
203	AMARAL PAUL J AMARAL, PAUL J ROAD RUNNER PIZZA INC
205	SUTCLIFFE MARK SUTCLIFFE, JILL A
212	OCCUPANT UNKNOWN,
215	BESSETTE, MARK S
216	TERRELL, DANIEL R
219	COASTAL ROLL-OFF CNTRS LLC SCHLAIS, DEAN E
223	ALLIED TECHNOLOGIES LLC KUHN, WILLIAM R
226	GUIDERA PAMELA S OCCUPANT UNKNOWN,
233	OLISKY, RICHARD J
235	MCCARTHY, ANDREW L
237	HANDY, ROBERT M
240	WALLACE, MARK S
246	WALSH, KATIE A
247	LADWIG, THEODORE M
248	PRATT, JOSEPH J
250	HIGGINBOTHAM, LEE
251	DISCUILLO, PETER L
256	ANDREWS, DENZEL L
259	KETTLE, DIANA L
264	BOUCHER, KEN J
269	OCCUPANT UNKNOWN,
272	DIPAOLA ENTERPRISES LLC DIPAOLA, RAYMOND A
275	KNOWLES, GEORGE C
276	GRILLS, KEVIN S

N ANGUILLA RD**2014****(Cont'd)**

280	HIGGINBOTHAM DIESEL MAINTENANC HIGGINBOTHAM, JA STONINGTON STONE DESIGN LLC
282	SANTANIELLO, ANGELO G
283	BLACKER, TIM T ROBINSON, DONALD J
284	BANKS, PAUL W
286	NORMAN, JAMES E
300	NICOLAS, THOMAS L
302	DITTMAN, WILLIAM D
304	NORMAN, SUSAN
305	SAUCHUK, MIKE J
306	APEX PROPERTY MANAGEMENT LLC PARIDE, JOHN J
308	KNOWLES, DAVID P
311	CHRISTIE, DANIELLE E
321	OCONNOR, ROBERT A
327	BURNSIDE, STACEY WHEELER, NATHAN W
345	HANSEN, ALISON M
360	ADAMS GARDEN OF EDEN LLC
363	BURNSIDE, GEORGE E MACLEAN, MARY W
376	KNOWLES, GEORGE H
384	SCHWARTZ, STANLEY A
388	MAGRO, WAYNE J
389	MAIN, DONNA M
396	MACKAY, JEAN
399	DISCUILLO, WAYNE E
404	WILCOX, JEAN E
405	LENIHAN, THOMAS F
408	CORREIA, RICHARD J
410	STONELY, JACK
416	DONALD, JAMES B
417	OCCUPANT UNKNOWN,
423	HALL, BRIAN D
472	BANKS, CHRISTOPHER

ELMRIDGE RD 2010

4	DYKES, EDWARD
12	GUTIERREZ, JESUS
25	HOLLY, MARCIA W
26	URSO, CATHY C
31	BANKER, GARY F
33	DRAGO, SHARON
34	HALLAS, STANLEY R
35	DRAGO CUSTOM INTERIORS
	DRAGO, JOSEPH F
	MANAGED PROJECT RESOURCES LLC
36	HALL, DEVIN
	JAKE ELECTRIC INC
37	OCCUPANT UNKNOWN,
39	ONEILL, KEITH P
41	FORDAN PHOTOGRAPHY
	OCCUPANT UNKNOWN,
	SERVING YOUR PARTY
47	ROY, ELISE E
50	NAHAS, MERRI L
54	GEORGE, DAVID M
56	CLARK, JOHN L
57	OCCUPANT UNKNOWN,
62	RICHARDSON, DAVID I
73	HOWARD, JOHN A
81	SUGAR, MARK J
83	RILEY, NELLIE N
87	LIU, NORAH
	SICARD ELECTRIC
93	SORRENTO, JOSEPH M
94	CLARK, JAMES G
97	TETLOW, MARK D
103	GRILLS, DAVID P
115	CIMALORE, CHARLES J
116	URSO, GARY A
119	RATHBUN, GEORGE E
	STONINGTON REALTY LLC
127	CHAPMAN, EDNA W
129	GRILLS, ALFRED D
132	LYNCH, CHARLES J
137	MOLKENTHIN, CHARLES L
140	RUSTICI, ERIC S
141	GARCIA, GODOFREDO S
147	DANIELS, ROY P
151	LEITE, JOSEPH F
154	RUSTICI, CHARLES R
163	ENO ENTERPRISES LLC
	ENO, FRED L
194	ELMRIDGE FISHERIES
	GREEN SEA LLC
	SOARES PAMELA M

ELMRIDGE RD 2010 (Cont'd)

194	SOARES, MANUEL M
224	DACOSTA, JOSE P
227	PENDLETON, MICHAEL
229	ELMRIDGE GOLF COURSE INC
	JONES PRO SHOP
	RESTAURANT AT ELMRIDGE
252	CICCONE, PAUL E
	ELM RIDGE DEVELOPMENT LLC
258	TIRRELL, KENNETH E

N ANGUILLA RD 2010

20	IIAMS, VERA G
41	ISOM, DAVID
73	STORM, EDDIE L
91	OCCUPANT UNKNOWN, WHEWELL JOSEPH
94	BROWN ELLIE
95	DOHERTY, JOHN D
105	WHITE, MABEL K
139	OCCUPANT UNKNOWN,
143	MINER, RANDY H
153	MINERS SAW MILL RASCALS
154	MCCARTHY, PETER A SCHALLA GROUP LLC
176	MCDONOUGH, DAVID W
177	DESOUZA, FRANK R
179	TAYLOR, SIAN E
180	ASL TECHNOLOGIES LLC FERREIRA, JOSE E
201	HOLLAND, ROBERT J
203	AMARAL PAUL J AMARAL, PAUL J ENVY TANNING SALON LLC ROAD RUNNER PIZZA INC
205	SUTCLIFFE MARK SUTCLIFFE, MARK S
212	ROBINSON, DONALD J
215	BESSETTE, MARK S PAWCATUCK LITTLE LEAGUE
216	GREENE, GORDON D
219	COASTAL ROLL-OFF CNTRS LLC SCHLAIS, DEAN E
223	ALLIED TECHNOLOGIES LLC KUHN, WILLIAM R
226	GUIDERA PAMELA S GUIDERA, TIMOTHY P
232	HAWTHORN, MARK W
233	OLISKY, RICHARD J
235	MCCARTHY, ANDREW
237	ARTHUR M HNDY SCHOLARSHIP FUND HANDY, ROBERT M
239	OCCUPANT UNKNOWN, OCEAN INTEREST INC
240	OCCUPANT UNKNOWN,
246	WALLACE, MARK S
247	LADWIG, THEODORE M
248	PRATT, JOSEPH J SWEAT, JOHN E
250	OCCUPANT UNKNOWN,
251	OCCUPANT UNKNOWN,

N ANGUILLA RD

2010

(Cont'd)

256	ANDREWS, DENZEL L
259	KETTLE, IRA J
264	BOUCHER, KEN J
269	OCCUPANT UNKNOWN,
272	DIPAOLA ENTERPRISES LLC DIPAOLA, RAYMOND D
275	KNOWLES, GEORGE C
276	GRILLS, KEVIN S
280	HIGGINBOTHAM DIESEL MAINTENANC HIGGINBOTHAM, AMY STONINGTON STONE DESIGN LLC
283	BLACKER, TIM T MARGARET ROBINSON ROBINSON, DONALD J
284	BANKS, PAUL W
286	NORMAN, JAMES E
300	NICOLAS, THOMAS L
302	DITTMAN, WILLIAM D
304	NORMAN, SUSAN
305	SAUCHUK, MIKE J
306	APEX PROPERTY MANAGEMENT LLC PARIDE, JOHN J
308	KNOWLES, DAVID P
311	OCCUPANT UNKNOWN,
321	OCONNOR, ROBERT A
327	WHEELER, NATHAN P
345	OCCUPANT UNKNOWN,
360	ADAMS GARDEN OF EDEN LLC
363	BURNSIDE, GEORGE E
376	GEORGE KNOWLES JR GEN CONTR OCCUPANT UNKNOWN,
384	SCHWARTZ, STANLEY A
388	MAGRO, WAYNE J
389	MAIN, DONNA M
396	MACKAY, INA J
399	DISCUILLO, WAYNE E
404	WILCOX, JEAN E
405	LENIHAN, THOMAS F
408	LANDON, MICHAEL L
410	STONELY, DONALD P
416	OCCUPANT UNKNOWN,
417	CORBETT, THOMAS M
423	HALL, BRIAN D

ELMRIDGE RD 2005

4 DYKES, EDWARD
 12 GUTIERREZ, JESUS
 25 HOLLY, ALBERT T
 26 BODYWISE CHIROPRACTIC & WELLNE
 GARDINER, LAURA E
 WISE MICHAEL
 31 BANKER, GARY F
 33 DRAGO, SHARON
 34 HALLAS, STANLEY A
 35 DRAGO CUSTOM INTERIORS
 DRAGO, JOHN F
 36 DUBREUIL, JEFFREY R
 JAKE ELECTRIC INC
 37 DAVIDSON, HEATHER A
 39 ONEILL, KEITH P
 41 BONARDI, FORDAN T
 42 HARLAND, LAWRENCE E
 47 ROY, ELISE M
 50 NAHAS, MERRI L
 54 GEORGE, DAVID M
 56 DION, SANDISON C
 57 DIFILIPPO, KEVIN M
 62 OCCUPANT UNKNOWN,
 73 HOWARD, JOHN A
 81 SUGAR, MARK J
 82 LERCHE, DIANE
 87 LIU, NORAH
 SICARD ELECTRIC
 93 SORRENTO, JOSEPH M
 94 CLARK, JAMES G
 97 TETLOW, MARK D
 103 GRILLS, DAVID P
 115 CIMALORE, CHARLES J
 116 WRIGHT, WILLIAM C
 119 RATHBUN, GEORGE E
 127 VICKERS, COLBY
 129 GRILLS, ALFRED D
 132 LYNCH, CHARLES J
 137 MOLKENTHIN, CHARLES L
 147 DANIELS, ROY P
 151 LEITE, JOSE F
 154 RUSTICI, CHARLES M
 163 ENO ENTERPRISES LLC
 ENO, FRED L
 194 SOARES, MANUEL M
 224 LEIPER, JOHN H
 227 RUSTICI, ALAN
 229 ELMRIDGE GOLF COURSE INC
 JONES PRO SHOP
 JOSEPH AND NANCY RUSTICI LLC

ELMRIDGE RD 2005 (Cont'd)

- 229 RESTAURANT AT ELMRIDGE
- 252 CICCONE, PAUL E
ELM RIDGE DEVELOPMENT LLC
- 258 TIRRELL, KENNETH E

N ANGUILLA RD 2005

20	IIAMS, MERYL A
41	ISOM, DAVID
43	PAWCATUCK LITTLE LEAGUE
73	STORM, EDDIE L
91	WHEWELL JOSEPH WHEWELL, JARED A
94	BROWN ELLIE
95	DOHERTY, RICHARD D
105	WHITE, MARY A
139	OCCUPANT UNKNOWN,
143	HANDY, TIMOTHY A
153	MINERS SAW MILL RASCALS
154	SCHALLA, JAMES T
175	BASLEY, CHRIS
176	MCDONOUGH, DAVID W
177	DESOUZA, FRANK R
179	TAYLOR, WINONA A
180	FERREIRA, JOSE E
193	SHANNON, STACEY E
205	SUTCLIFFE, MARK S
212	OCCUPANT UNKNOWN,
215	BESSETTE, MARK S
216	GREENE, GORDON
219	SCHLAIS, DEAN E
223	EMILY, K
226	GUIDERA PAMELA S GUIDERA, TIMOTHY P
232	HAWTHORN, MARK W
233	OCCUPANT UNKNOWN,
235	OCCUPANT UNKNOWN,
237	HANDY, ROBERT M
239	OCCUPANT UNKNOWN, OCEAN INTEREST INC STRAND EXPLORATION GROUP LLC
240	WALLACE, MARK S
246	OCCUPANT UNKNOWN,
247	LADWIG, THEODORE M
248	PRATT, JOSEPH J SWEAT, JOHN E
250	HIGGINBOTHAM, JAMES D
251	DISCUILLO, PETER L
256	ANDREWS, DENZEL L
259	KETTLE, IRA J
264	OCCUPANT UNKNOWN,
269	OCCUPANT UNKNOWN,
272	DIPAOLA, RAYMOND A
275	OCCUPANT UNKNOWN,
276	GRILLS, HANNA
280	FLAHERTY, JULIE J

N ANGUILLA RD**2005****(Cont'd)**

283	ROBINSON, DONALD J SILVER, MILLICENT S
284	BANKS, PAUL W
286	NORMAN, JAMES E
300	NICOLAS, THOMAS L
302	DITTMAN, WILLIAM D
304	NORMAN, SUSAN
305	SAUCHUK, MIKE J
306	APEX PROPERTY MANAGEMENT LLC PARIDE, JOHN J
308	KNOWLES, DAVID P
321	OCCUPANT UNKNOWN,
327	ROBINSON, STEPHEN P
345	WHEELER, NATHAN P
360	ADAMS GARDEN OF EDEN LLC
363	BURNSIDE, GEORGE E
376	KNOWLES, GEORGE C
384	SCHWARTZ, STANLEY A
388	OCCUPANT UNKNOWN,
389	MAIN, DONNA M
396	MACKAY, INA J
399	DISCUILO, WAYNE E
404	WILCOX, JEAN E
405	LENIHAN, THOMAS F
408	GILLES, PATRICK E
410	STONELY, DONALD P
416	DONALD, JAMES B
417	ALPHA LASER-COPY LLC CORBETT, THOMAS M
423	HALL, BRIAN D

ELMRIDGE RD 2000

14 OCCUPANT UNKNOWN,
 18 OCCUPANT UNKNOWN,
 25 HOLLY, ALBERT T
 26 MCNEIL, CHARLES D
 29 OCCUPANT UNKNOWN,
 31 BANKER, GARY
 34 OCCUPANT UNKNOWN,
 35 DRAGO CUSTOM INTERIORS
 36 DUBREUIL, JEFFREY R
 38 OCCUPANT UNKNOWN,
 39 ONEILL, KEITH
 42 OCCUPANT UNKNOWN,
 50 OCCUPANT UNKNOWN,
 51 NAHAS, M
 54 BULKELEY, KIMBALL
 55 OCCUPANT UNKNOWN,
 56 DION, JOHN
 62 OCCUPANT UNKNOWN,
 73 HOWARD, JOHN A
 81 SUGAR, MARK
 82 RILEY, MICHAEL J
 83 RILEY, NELLIE N
 87 SICARD ELECTRIC
 SICARD, DAVID M
 93 SORRENTO, JOSEPH
 94 CLARK, JAMES G
 97 TETLOW, MARK
 103 GRILLS, DAVID
 109 OCCUPANT UNKNOWN,
 115 CIMALORE, CHARLES A
 116 WRIGHT, WILLIAM C
 119 RATHBUN, GEORGE
 129 GRILLS, ALFRED D
 132 LYNCH, CHARLES
 137 MOLKENTHIN, CHARLES L
 141 GARCIA, G S
 147 GRYGIEL, S
 151 LEITE, JOSEPH
 152 OCCUPANT UNKNOWN,
 154 REMEMBER WHEN ANTIQUES
 RUSTICI, CHARLES M
 163 ENO, FRED
 JANICE ENO
 194 SOARES, MANUEL M
 227 RUSTICI, ALAN
 229 ELMRIDGE GOLF COURSE INC
 ERGAS, P A
 JONES PRO SHOP
 252 CICCONE, PAUL E
 258 TIRRELL, KENNETH

N ANGUILLA RD

2000

(Cont'd)

408 GILLES, CAROL R
410 STONELY, DONALD P
416 DONALD, JAMES B
417 ALPHA LASER-COPY
CORBETT, THOMAS M

ELMRIDGE RD 1995

7	OCCUPANT UNKNOWNN
8	WILKENSON, TODD
11	OCCUPANT UNKNOWNN
12	SCHELLER, MARY
14	ONEILL, KEITH
17	OCCUPANT UNKNOWNN
20	OCCUPANT UNKNOWNN
25	HOLLY, ALBERT T
26	SMITH, ROBERT L JR
28	NEW ENGLAND COMPUTER CONS
29	SCIBELLI RICHARD JR
30	OCCUPANT UNKNOWNN
31	BANKER, GARY
35	DRAGO, JOSEPH JR
	SICARD, DAVID M
36	DUBREUIL, JEFFREY
37	OCCUPANT UNKNOWNN
39	OCCUPANT UNKNOWNN
40	OCCUPANT UNKNOWNN
42	HARLAND, L E
50	ZEMBRUSKI, BILL
54	BULKELEY, KIMBALL
56	DION, JOHN
57	RENALDI, NORMAN
59	OCCUPANT UNKNOWNN
62	RICHARDSON, DAVID S
63	OCCUPANT UNKNOWNN
73	MITCHELL, BILL
80	OCCUPANT UNKNOWNN
81	SUGAR, MARK
82	RILEY, MICHAEL J SR
83	RILEY, C
93	SORRENTO, JOSEPH
94	CLARK, JAMES G
97	TETLOW, DEBORAH
103	GRILLS, DAVID
109	OCCUPANT UNKNOWNN
115	CIMALORE, CHARLES A
116	WRIGHT, WILLIAM C
119	RATHBUN, GEORGE
127	LYCHACK, JOHN
129	GRILLS, ALFRED D
132	LYNCH, CHARLES
137	MOLKENTHIN, CHARLES L
147	GRYGIEL, S
151	LEITE, JOSEPH
154	OCCUPANT UNKNOWNN
163	ENO, FRED
194	SOARES, MANUEL M
224	OCCUPANT UNKNOWNN

ELMRIDGE RD 1995 (Cont'd)

229 ELMRIDGE GOLF COURSE INC

N ANGUILLA RD 1995

12	BARBER, CAROL
73	STORM, EDDIE L
91	BURNS, WALTER
138	MINER, JOHN R
152	HOWARD, BYRON
153	MINER, RANDY
177	DESOUZA, FRANK R
179	TAYLOR, WINONA A
216	TERRELL, ANNE
219	ANDERSON, E
239	REED, A
244	OCCUPANT UNKNOWNN
247	LADWIG, T M
248	LADD, ANDREW E
251	CASTLEMAN, MIKE
264	BOUCHER, MARY B
265	POCOCK, KATHRYN J
283	PLATTE, M
	ROBINSON, DONALD J
286	BELANGER, LURA
376	KNOWLES, GEORGE H JR
410	STONELY, DONALD P
417	TRATE, M E

ELMRIDGE RD 1992

12	DRAGO, JOSEPH JR
14	ONEILL, KEITH
17	HARLAND, L E
24	ELMRIDGE GOLF COURSE INC
28	DION, JOHN
31	SUGAR, MARK
36	RILEY, MICHAEL J SR
40	CLARK, JAMES G
57	GRYGIEL, S
59	LEITE, JOSEPH
63	ENO, FRED
109	FLANCHON, S R

N ANGUILLA RD 1992

12	BARBER, CAROL
73	STORM, EDDIE L
138	MINER, JOHN R
153	MINER, RANDY
376	KNOWLES, GEORGE H JR

ELMRIDGE RD 1990

599-2500

8-B

**ELMRIDGE RD
(PAWCATUCK)-FROM
NORTH STONINGTON RD
SOUTHWESTERLY TO N
ANGUILLA RD**

ZIP CODE 02891
IRREGULAR NUMBERS

- 1 No Return
 2 Knowles Mary D Mrs
 5 Hammick Harold © 599-4551
 12 No Return
 ★Renaldi Norman ©
 109 Sandi Card Co 599-5521
 Planchon Ernest J ©
 599-5521
 No Return
 3 No Return
 4 Wright Wm © 599-4624
 12 Drago Joseph © 599-1546
 No Return
 11 Holly Albert T © 599-1377
 17 Harland Lawrence E ©
 599-2297
 8-8b No Return (3 Hses)
 Rural Coatings Development Co
 Renaldi Norman C Jr ©
 599-3086
 30 Richardson David S ©
 599-2594
 SOUNDVIEW DR BEGINS
 13 Riley Cornelius Jr plmb ©
 599-4918
 40 Clark James G © 599-1359
 29 Howard John A © 599-4800

ABLE GLASS CO

ELMRIDGE RD 1990

Target Street	Cross Street	Source
ELMRIDGE RD (P)-Contd		
22 Lynch Charles J © 599-4971		17 C
41 Grills David © 599-5923		18 L
NUTMEG DR INTERSECTS		
49 Lychach Brother 599-5523		20 C
Lychack John © 599-5523		
51 Grills Alf D © 599-1457		
23 Soares Manuel © 599-3234		
23a No Return		ENT
45 Cimalore Charles A ©		(P
599-2060		J
47 Rathbun Geo E © 599-1083		D
36 Riley Michl J © 599-5277		C
24a No Return		A
24b Rustici Jos © 599-4649		
24 Elmridge Golf Course &		ZI
Restaurant Inc 599-2248		2 L
41 Sorrento Mary P © 599-5919		4 T
53 Molkenthin Charles ©		
599-1761		5★C
No Return		7 S
53 Eno Frederick © 599-3211		8 P
59 Leite Joseph © 599-5678		12★
55 No Return		13
		14
17		
ELMWOOD AV		

N ANGUILLA RD 1990

16	8 Lashbrook Rhonda R Mrs © 599-3294	and Silver Dealer (203) 443-5887
<p style="text-align: right;">8-B</p> <p>ANGUILLA RD N (PAWCATUCK)-FROM HINCKLEY HILL RD NORTHERLY TO N STONINGTON LINE</p> <p>ZIP CODE 02891 Pawcatuck Little League Complex 599-1252</p>		
12	1 liams Meryl A © 599-3047 2 Storm Eddie L © 599-5161 3 Burns Walter M © 599-5340 4 Doherty John D © 599-5162 5 White Mae © 599-2438 6 No Return	MC 87113 20 Mechanic St.
7	Miner Mary Mrs © 599-4775 Miner Randall © 599-5012 7 Taylor Winona A Mrs © 599-1497 Sutcliffe Mark S © 599-3765 8 Robinson Donald © 599-5374 Ladwig Theo © 599-2479 No Return Mccarthy Peter © 599-1916 9 Terrell David J © 599-1645 No Return 10 Higginbotham James D © 599-2450 11 Clark Wm J © 599-5750 11½ Boucher John F © 599-8056 12 Knowles Geo H Jr © 599-4346 No Return Andrews Denzel L Jr © 599-3254 13 Knowles Gilbert © 599-4920 14 Davis Edw E © 599-5558	
<p style="text-align: right;">Pawcatuck, Conn. 06379</p> <p style="text-align: right;">PACKING — SHIPPING — CRATING I.C.C. — GENERAL TRUCKING</p>		Tel. (203) 599
<p>Community Union</p> 		

N ANGUILLA RD 1990

© HOMEOWNER

4

N ANGUILLA RD (P)-Contd	18 Tr
15 Belanger Anna J Mrs © 535-0003	19-21 21½ S
16-17 No Return (2 Hses)	22 No
18 Stonington Stables breeding stable 535-2732	23 Ba 24 Do
O'Connor Robt A © 535-2732	25 Vi
19 Chase Fred A 599-2967	5
20 No Return	25½ I
Wheeler Nathan P © 599-1009	26 De
21 No Return	26½ C
22 Mac Kay Angus © 535-0717	27 Ge
Magro Wayne © 535-3774	28 Ar
Main Curtis © 599-1367	28½ I
Di Sciullo Salvatore ©	29 So
Lenihan Thos F III © 599-2617	30★C
25 Wilcox Jeane Mrs © 599-2175	31 Bu
26 No Return	No
27 Donald James B © 599-1725	

8-A

ANGUILLA RD S
(PAWCATUCK)-FROM
STONINGTON RD

ANG
FR
SO
DE



-

ELMRIDGE RD 1985

599-2500

8-B

**ELMRIDGE RD
(PAWCATUCK)—FROM
NORTH STONINGTON RD
SOUTHWESTERLY TO N
ANGUILLA RD**

ZIP CODE 02891

IRREGULAR NUMBERS

- 1 No Return
- 2 Sorrento Mary C Mrs ©
599-5919
- 5 Hammick Harold © 599-4551

ELMRIDGE RD 1985

65

ELMRIDGE RD (P)—Contd

- 12 Rogers Diane J Mrs ©
599-4605
Del Santo Judith Mrs ©
599-4742
- 109 Sandi Card Co 599-5521
Planchon Ernest J ©
599-5521
- 3 Panciera Geo © 599-3787
- 4 Wright Wm 599-4624
- 12 Drago Joseph © 599-1546
Samataro Jack Jr © 599-1043
- 11 Holly Albert T © 599-1377
- 14 Kading James A 599-1533
- 17 Harland Lawrence E ©
599-2297
- 8★Zembruski B Wm © 599-4465
- 8a★Wentz Randall E © 599-2176
- 8b Mandes Peter
- 9 Richardson David S © 599-2594
SOUNDVIEW DR BEGINS
- 13 Riley Cornelius Jr plmb ©
599-4918
- 16 Clark James G © 599-1359
- 29 Howard John A © 599-4800
- 22 Lynch Charles J © 599-4971
- 15 Johnson Dorothy Mrs ©
599-4484
- 25 Taylor Walter R © 599-4975
- 17★Fallon Richd Jr © 599-4511
- 18 Grills David © 599-3787
NUTMEG DR INTERSECTS
- 20 American Window Cleaners
599-5523
Lychack John © 599-5523
- 21 Grills Alf D © 599-1457
- 23 Soares Manuel © 599-3234
- 23a Rustici Charles M Jr ©
599-1392
- 34 Cimalore Charles A ©
599-2060
Rathbun Geo E © 599-1083
- 36★Riley Michl J © 599-5277
- 24a Kenyon Mark 599-5977
- 24b Rustici Jos © 599-4649
- 24 Elmridge Golf Course &
Restaurant Inc 599-2248
- 41★Garcia Godofredo S ©

- Molkenthin Charles ©
599-1761
- Grygiel Stanley F © 599-2052
- Kenney H Jean © 599-3201
- ★Leite Joseph © 599-5678

17

**ELMWOOD AV
(MISQUAMICUT)—FROM
MAPLE WOOD AV EAST TO
CLARKE**

- ZIP CODE 02891
- 1 Berthold Martin sum res
Berthold Patk A sum res
- 3 Silverman B sum res
MAPLEWOOD AV
INTERSECTS
- 9 Hill Don sum res
- 11 Ryan Crystal D Mrs sum res
596-0852
- 12 Myszka Frances H sum res
596-0586
- 13 Marcotte Louis E sum res
Quattromani Geo A sum res
- 14 Barker Don K sum res
- 15 Mc Gillicuddy Thos W sum res
- 16 Lyons Leo F sum res 348-8091
- 17 Cuddy James T sum res
COLLINS AV BEGINS
- 18 Lawson Cath sum res
- 20 Carabillo Edw sum res
348-8661

2

**ENTERPRISE AV
(PAWCATUCK)—FROM
JOHNSON WESTERLY TO A
DEAD END & FROM
CRONIN AV TO LATHROP
AV**

- ZIP CODE 02891
- 2 Long Thos E © 599-3176
- 4 Theadore Lawrence W ©
599-2717
- 5 Sidebottom Ethel S © 599-4692
- 7 Stillman Douglas C © 599-4671
- 8 Pescatello Wayne J © 599-5291

HITE ST.

596

EST. 1947

WESCON ROAD

N ANGUILLA RD 1985

3

ALOHA RD (WH)—Contd

1 Danseyar Morton sum res
596-2920

12

**ALTHEA PL —FROM 68 JOHN
TO A DEAD END**

ZIP CODE 02891

2 Tate Lawrence L 596-1734
4 Donahue Joseph R 596-7576

9

ANDREW ST S

(PAWCATUCK)—FROM 27
PAWCATUCK AV NORTH
TO A DEAD END

ZIP CODE 02891

1 Wong Zi T © 599-2050
8★Lashbrook Rhonda R Mrs ©
599-3294

8-B

ANGUILLA RD N

(PAWCATUCK)—FROM
HINCKLEY HILL RD
NORTHERLY TO N
STONINGTON LINE

ZIP CODE 02891

Pawcatuck Little League Complex
1 Iiams Meryl A © 599-3047
2 Storm Eddie L © 599-5161
3 Burns Walter M © 599-5340
4 Doherty John D © 599-5162
5 White Mabel © 599-2438
6★Barnhart Doug 599-5586
Miner Mary Mrs © 599-4775
Miner Randel © 599-5012
7 Taylor Leroy W © 599-1497
★Sutcliffe Mark S
8 Robinson Donald © 599-5374
★Reed Anne © 589-3825
★Ladwig Theo
★Caro Donald E 599-3373
★Mccarthy Peter ©
9 Terrell David J © 599-1645
★Hescock Karen © 599-5268

10 Higginbotham James D ©
599-2450

11 Clark Wm J © 599-5750

11½ Boucher John F © 535-3116

12 Knowles Geo H Jr © 599-4346
Knowles Geo H © 599-5159

12½ Andrews Denzel L ©
599-3254

13 Knowles Gilbert © 599-4920

14 Davis Edw E © 599-5558

15 Belanger Lloyd K © 535-0003

16 Knowles Gertrude Mrs
599-1080

17 Norman Margret E Mrs ©
599-5819

18 Stonington Stables breeding
stable 535-2732

O'Connor Robt A © 535-2732

19 Chase Fred A 599-2967

20 Adam Edw © 535-0214

Wheeler Nathan © 599-1009

21★Reed Anne E © 599-3825

22 Mac Kay Angus © 535-0717

Magro Wynne J © 535-3774

Main Curtus © 599-4234

23 Di Sciullo Salvatore ©

24 Lenihan Thos F III © 599-2617

25 Wilcox Jeane Mrs © 599-2175

26 Mitchell Richard © 535-1925

27 Donald James B © 599-1725

8-A

ANGUILLA RD S

(PAWCATUCK)—FROM
STONINGTON RD
NORTHERLY TO HINCKLEY
HILL RD

ZIP CODE 02891

1 Bogue Kenneth N © 599-2045

2 Souza Albert © 599-5805

3 Gavitt Charles H © 599-1324

4 Banker John G © 599-5851

5 Stinson Lydia R Mrs ©
599-5466

6 Ogden Alf © 599-4880

7 Soares Wm © 599-2615

8 Collins Donald K © 599-1198

9★Cozzolino Jos A © 599-5748

ROBERTSON PRINTING CORP

ELMRIDGE RD 1980

11

Wesson Corp of Conn ready
mix concrete 599-2500

8

**ELMRIDGE RD
(PAWCATUCK)—FROM
NORTH STONINGTON RD
SOUTHEASTERLY TO N
ANGUILLA RD**

ZIP CODE 02891

IRREGULAR NUMBERS

1 Holly Albert T © 599-1377

2★Sorrento Mary C Mrs ©
599-5919

5 Hammick Harold © 599-4551

★Norton Ruth N © 599-2524

12★Rogers Alfred © 599-4605

Del Santo Judith Mrs ©
599-4742

3 Sandicard Co

★Planchon Ernest J © 599-5521

Dionne John B © 599-2522

4★Wright Wm 599-4624

Mayflower Avenue, Pawcatuck, Conn. 02891

ELMRIDGE RD 1980

Main Street Shopping Center, 125 Main Tel. 596-4652 West	56	
	ELMRIDGE RD (P)—Contd	MAP
	12 Drago Joseph © 599-1546	INTE
	Samataro Jack Jr © 599-1043	9 Hill
	11 Riley Michl J © 599-3883	11 Rya
	14 Whipple Viola M Mrs 599-1238	12 Mys
	17 Harland Lawrence E © 599-2297	596
	8 Selvidio Louis P Jr © 599-3792	13 Sun
	8a Vacant	14 Sun
	8b★Mandes Peter	16 Lyo
9 Richardson David S © 599-2594	17 Cud	
SOUNDVIEW DR BEGINS	COLI	
13 Riley Cornelius Jr plmb © 599-4918	18 Law	
16 Clark James G © 599-1359	20 Car	
10 Howard John A consulting eng © 599-4800	34	
22 Lynch Charles J plmb © 599-4971	ENTEI	
Aluzzo Jamie plmbr	(PAV	
15 Johnson Dorothy Mrs © 599-4484	JOH	
25 Taylor Walter R bldg contr © 599-4975	DEA	
17 Johnson Robt © 599-5407	CRO	
18 Grills David © 599-5923	AV	
NUTMEG DR INTERSECTS	ZIP	
20 American Window Cleaners	2 Long	
Lychack Anthony © 599-5523	4★The	
21 Grills Alf D © 599-1457	599	
23 Soares Emanuel M © 599-3234	5 Sidel	
23a Rustici Charles M Jr © 599-1392	7 Still	
34 Cimalore Charles A © 599-2060	8★Pesc	
★Rathbun Geo E © 599-1083	12 Swe	
24a★Kenyon Mark	59	
24b Rustici Joseph © 599-4649	Mil	
24 Elmridge Golf Course & Restaurant 599-2248	13 Tay	
Wentz Randall E 599-2176	14 Du	
41★Garcia Godofredo S © ★Molkenthin Charles ©	©	
★Grygiel Stanley F © 599-2052	DEA	
★Kenney H ©	15★Ke	
★Algerie Frank	16 Fri	
	18 Ke	
	EQUIT	
	FRA	
	TO	
	ZIP	
	17	
ELMWOOD AV	1 Ging	
(MISQUAMICUT)—FROM	2 Abr	

Telephone 421-6900

St., Providence 02903

N ANGUILLA RD 1980

3

9
**ANDREW ST (PAWCATUCK)
 FROM 27 PAWCATUCK AV
 NORTH TO A DEAD END**

ZIP CODE 02891

- 1 Wong Zi T © 599-2050
 8 Bud's Electric 599-5485
 Wilcox Malfred K © 599-5485

- 22 Mac Kay Angus © 535-0717
 ★Magro Wynne J © 535-3774
 ★Main Curtus © 599-4234
 23 Di Sciuillo Salvatore ©
 599-1713
 24 Lenihan Thos F III © 599-2617
 25 Wilcox Peter B © 599-2175
 26 Mitchell Richard © 535-1925
 27 Donald James B © 599-1725

8

**ANGUILLA RD N
 (PAWCATUCK)—FROM
 HINCKLEY HILL RD
 NORTHERLY TO N
 STONINGTON LINE**

ZIP CODE 02891

Pawcatuck Little League Complex

- 1 Iiams Meryl A © 599-3047
 2 Storm Eddie L © 599-5161
 3 Burns Walter M © 599-5340
 4 Doherty John D © 599-5162
 5 White May © 599-2438
 6★Peccini Wyne D 599-4963
 Miner Latham © 599-4775
 Miner Randel © 599-5012
 7 Taylor Leroy W © 599-1497
 ★Cawley Jack
 8 Robinson Donald © 599-5374
 Under Constn
 9 Mac Arthur Keith R ©
 599-1519
 Mac Arthur Evelyn L
 10 Higginbotham James D ©
 599-2450
 11 Clark Wm J © 599-5750
 11½ Boucher John F © 535-3116
 12 Knowles Geo H Jr © 599-4346
 Knowles Geo H © 599-5159
 12½ Andrews Denzel L ©
 599-3254
 13 Knowles Gilbert © 599-4920
 14 Davis Edw E © 599-5558
 15 Belanger Lloyd K © 535-0003
 16★Pierson James W 599-1080
 17 Norman Margret E Mrs ©
 599-5819
 18 Stonington Stables riding stable
 535-2732
 O'Connor Robt A © 535-2732
 19 Chase Howard F 599-5814
 Chase Fred
 20 Adam Edw © 535-0214
 ★Wheeler Nathan ©
 21★Knowles Charles Jr

8

**ANGUILLA RD S
 (PAWCATUCK)—FROM
 STONINGTON RD
 NORTHERLY TO HINCKLEY
 HILL RD**

ZIP CODE 02891

- 1 Bogue Kenneth N © 599-2045
 2 Souza Albert © 599-5805
 3 Gavitt Charles H © 599-1324
 4 Banker John G © 599-5851
 5 Stinson Malcolm J © 599-5466
 6 Ogden Alf © 599-4880
 7 Soares Wm © 599-2615
 8 Collins Donald K © 599-1198
 9 Murphy Thos
 10 Howard Byron J © 599-5211
 11 Taylor Donald L © 599-4687
 12 Banker Donald C © 599-4954
 13 Wolff Richd R © 599-4475
 14 Gibson Archibald © 599-4249
 15 Schlais Lawrence E ©
 599-2136
 16 Norman Robt E © 599-4264
 17 Underhill Wm E © 599-2279
 18★Shaw Bruce © 599-1741
 19 Fauquet Wallace J ©
 20 Steele Donald B © 599-4661
 21 Hayes Maxine © 535-3489
 22 Burgess Carmen M Mrs avon
 dlr
 Burgess Marvin L © 599-4930
 23 Kenny Marion F Mrs ©
 599-4823
 24 Donahue Leo M © 599-1057
 25 Vincent Clarence E ©
 599-5985
 25½ Vacant
 26 Deming Julius C © 599-4283
 26½ Quirk Thos H © 535-3416
 27 Lawrence Robt J Jr ©
 599-2970
 28 Andrews Frank B © 599-4330
 29 Songdahl Paul H © 599-2992
 30 Cripps Robt J © 535-2132

Pawcatuck, RI 02891

Tel. 598-5711

S

2

ELMRIDGE RD 1976

2 Westerly Ready Mixed Concrete
Co Inc 599-2500

8

**ELMRIDGE RD
(PAWCATUCK)—FROM
NORTH STONINGTON RD
SOUTHEASTERLY TO N
ANGUILLA RD**

ZIP CODE 02891

IRREGULAR NUMBERS

- 1 Holly Albert T © 599-1377
- 2 Hammick Harold © 599-4551
- 12 Deschamps Eliz Mrs 599-5076
- 3 Dionne John B © 599-2522
- 12 Drago Joseph © 599-1546
- 5 Samataro Jack Jr © 599-1043
- 11 Riley Michl J © 599-3883
- 14 Whipple Robt L © 599-1238
- 6 Tarbox Maude Mrs 599-4553
- 7 Samataro Mina Mrs © 599-5922
- 8 Selvidio Louis P © 599-3792
- 9 Richardson David © 599-1437
- SOUNDVIEW DR BEGINS**
- 13 Riley Cornelius Jr © 599-4918
- 14 Kelliher John D © 599-4865
- 16 Clark James G © 599-1359
- 10 Howard John A © 599-4800
- 22 Lynch Charles J © 599-4971
- 15 Johnson Dorothy Mrs ©
599-4484
- 25 Taylor Walter © 599-4975
- 17 Johnson Robt © 599-5407
- 18 Grills David © 599-5923

SAVINGS BANK

ELMRIDGE RD 1976

ELMRIDGE RD (P)—Contd

20 Lychack Anthony © 599-5523

21 Grills Alf D © 599-1457

23 Rustici Charles M Jr ©
599-1392

34 Cimalore Charles A ©
599-2060

24a Rustici J Lawrence 599-1207

24b Rustici Joseph © 599-4649

24 Elm Ridge Golf Course &
Restaurant 599-2248

N ANGUILLA RD 1976

o Bud S. Electric 599-5485

Wilcox Malfred K © 599-5485

8

**ANGUILLA RD N
(PAWCATUCK)—FROM
HINCKLEY HILL RD
NORTHERLY TO N
STONINGTON LINE**

ZIP CODE 02891

- 1★Iiams Meryl A © 599-3047
- 2 Storm Eddie L © 599-5161
- 3 Burns Walter M © 599-5340
- 4 Doherty John D © 599-5162
- 5 White Mary K Mrs ©
- 6 Miner Saw Mill 599-5012
- Miner Hardy © 535-0532
- Miner Latham 599-5012

dimari Agency

N ANGUILLA RD 1976

Target Street	Cross Street	Source
3		
N ANGUILLA RD (P)—Contd		
7 Taylor Leroy W © 599-1497		7
8 Robinson Donald © 599-5374		8
9 Mac Arthur Keith R © 599-1519		9
Mac Arthur Evelyn L 599-2048		10
10 Johnson Ray W © 599-5298		11
11 Clark Wm J © 599-5750		12
Patten Donna M © 599-5750		13
12 Knowles Geo H Jr 599-4364		14
Knowles Geo H 599-5159		15
13 Knowles Gilbert © 599-4920		16
14 Davis Edw E © 599-5558		17
15 Belanger Lloyd K © 535-0003		18
16 Conceicao Philip N © 599-4635		19
17 Norman Margt E Mrs © 599-4577		20
18 Stanington Stables riding stable 535-2732		21
O'Conner Robt A © 535-2732		22
19 Chase Howard F 599-5814		23
Chase Fred		24
20 Adam Edw © 535-0214		25
21 Chapman Howard E © 535-2229		26
22 Mac Kay Angus © 535-0717		27
23 Di Sciullo Salvatore © 599-1713		28
24★Lenehan Thos F III © 599-2617		29
25 Wilcox Peter B © 599-2175		30
26 Deveau Bernard L © 535-1925		31
27 Donald James B © 599-1725		—
30 Campbell Joseph auto repr		—
A		
8		
ANGUILLA RD S		

ELMRIDGE RD 1972

84 Scott Robt G 596-4578

**ELMRIDGE RD
(PAWCATUCK)—FROM
NORTH STONINGTON RD
SOUTHEASTERLY TO N
ANGUILLA RD**

ZIP CODE 02891

IRREGULAR NUMBERS

Holly Albert T © 599-1377

5 Hammick Harold © 599-4551

Deschamps Eliz Mrs © 599-5076

Dionne John B © 599-2522

12 Drago Joseph © 599-1546

Samataro Jack © 599-1043

Riley Michl J © 599-4942

14 Whipple Robt L © 599-1238

Samataro Mina Mrs ©

599-5922

Riley Cornelius Jr © 599-4918

Wells Robt © 599-4742

Kelliher John D © 599-4865

Clark James G © 599-1359

Howard John A © 599-4800

★ Johnson Dorothy Mrs ©

599-4484

SOUNDVIEW DR BEGINS

Johnson Robt © 599-5407

Grills David © 599-5923

Martino Josephine Mrs ©

599-4624

Sorrento Mary C Mrs ©

599-5919

Planchon Ernest J © 599-5521

Norton Ruth © 599-2524

23 ★ Buck Alan 599-5785

24 ★ Lickack Anthony ©

20 ★ Grills Alf D © 599-1457

Rustici Charles M Jr ©

599-1392

Rustici Joseph © 599-4649

CONTRACTORS INC

ELMRIDGE RD 1972



N ANGUILLA RD 1972

	3		02891)
15	1 Storm Eddie L ☉		
	2 Burns Walter M ☉ 599-5340		
	3 Doherty John D ☉ 599-5162		
	4 White Mary K Mrs ☉		
	7 Robinson Donald ☉ 599-5374		
07	5 Miner Saw Mill 599-5012		
	6 Miner Hardy ☉ 535-0532		
13	5 Miner Latham ☉ 599-5012		
	8 Mac Arthur Keith R ☉		
	599-1519		
Y	Mac Arthur Evelyn L 599-2048		
	16 Norman Margt Mrs ☉		
	599-4577		
	9 Vacant		
	10 Vacant		
16	10½ ★ Clark Wm J ☉ 599-5189		
	11 Knowles Geo Jr ☉ 599-5159		
	12 Knowles Gilbert ☉ 599-4920		
	13 Davis Edw E ☉		
	14 No Return		
	15 Vacant		
	Vacant		
	17 Chase Howard F 599-5814		
	20 Mac Kay Angus ☉ 599-2563		
	21 Di Sciuillo Salvatore ☉		
12	599-1713		
HN	16 Vacant		
	22 Lenihan Thos F III ☉ 599-2617		
	23 Donald James B ☉ 599-1725		
	24 Mandes Peter ☉		
	19 Chapman Howard E ☉		
	599-1245		
	9	8	
V	ANGUILLA RD S (PAWCATUCK)—FROM STONINGTON RD NORTHERLY TO HINCKLEY HILL RD		
	ZIP CODE 02891		
8	Bogue Kenneth N ☉ 599-5805		
	Souza Albert ☉ 599-5805		
	Gavitt Charles H ☉ 549-1324		
	Banker John G ☉ 599-5851		
	Stinson Malcolm J ☉ 599-5466		
	Odgen Alf ☉ 599-4880		
	Vacant		
	Collins Donald K ☉ 599-1198		
Chevrolet Co., Inc.			
			348-3514
			35 Beach St., Westerly, R.I. 02891
			Tels. 596-4895 and

ELMRIDGE RD 1966

49	8	ELMRIDGE RD (PAWCATUCK) - FROM NORTH STONINGTON RD SOUTHEASTERLY TO N ANGUILLA RD	11 RAILROAD AVENUE	
		HOLLY ALBERT T • 5 HARRIS HATTIE M MRS • 599-4551 FORESTER JOHN W • 599-2698 12 KELLIHER MARGT MRS • 599-5290 14 VACANT ALLVORD OMAR G • 599-5963		
3		DOWER RAYMOND B 599-5961 HOWARD JOHN A • 599-4800 RILEY MICHL J • 599-4942 RILEY FLORENCE M MRS • 599-5076		
		RILEY CORNELIUS JR • 599-4918		
24		CLARK JAMES G • 599-1359		
5		VACANT KELLIHER JOHN D • 599-4865		
		UNDER CONSTN GRILLS DAVID • 599-5923 MARTINO BENEDETTO • 599-4624		
		VACANT PLANCHON ERNEST C • 599-5521		
		SORRENTO JOSEPH • 599-5919		
		TAYLOR WALTER R • RUSTICI CHARLES M JR • 599-1392		
		RUSTICI CHARLES M 599-4685		
3		RUSTICI JOSEPH • 599-4649		
	6	----- ELMWOOD AV		TELEPHONES: 59

N ANGUILLA RD 1966

Target Street	Cross Street	Source
		8
ANGUILLA RD N		
(PAWCATUCK)-FROM		
HINCKLEY HILL RD		
NORTHERLY		
STORM EDDIE E	599-5161	
BURNS WALTER M •	599-5340	
DOHERTY JOHN D •	599-5162	
WHITE EDWIN C •		
MINER LATHAM SAW MILL	599-5012	
ROBINSON DONALD •	599-5374	
MAIN WALTER D •	599-4842	
WARREN HAROLD J	599-2267	
NORMAN JAMES		
CLARK WM J •	595-5189	
CLARK WM A •	599-5692	
KNOWLES GERTRUDE MRS •	599-4835	
SYLVIA DONALD B •	599-4206	
WHEELER DUDLEY R •	599-4832	
CHASE HOWARD F •	599-5814	
DISCILLIO SALVATORE •		
MINER ALF N •	599-4769	
VERHOSSETT HENRY •	599-5179	
SHARIER DAVID L •	599-4175	
WHEWELL JOSEPH		
MINER JOHN R •	599-4976	
CHAPMAN HAROLD E •	599-1245	
LARSON CARL O		
		2
ANGUILLA RD S		9

ELMRIDGE RD 1960

ST. DOUGLASS NURSING HOME
Heisendt Henry J

1

**ELMRIDGE ROAD—From North
Stonington rd southeasterly to
N Anguilla rd Pawcatuck**

0△Harris Geo C ⊙
 0△Allvord Omar G ⊙
 0 Vacant
 0△Dower Raymond
 0 Gould John V ⊙
 0△Grills David ⊙
 0△Martino Benedetto ⊙
 0△Sorrento Jos ⊙
 y 0△Rustici Chas ⊙
 0△Rustici Chas jr ⊙
 0△Riley Cornelius A ⊙
 0△Riley Cornelius A jr ⊙
 0△Riley Michl J ⊙
 0△Kelliher John D ⊙
 0 Taylor Walter R ⊙

6

**ELMWOOD AVENUE — From
Clarke av westerly Misquamicut**

N ANGUILLA RD 1960

TELEPHONE LYRIC 6-59

4 LoPriore Saml S
△Donahue Jos R

ARRAQ

quam

Hill

00 Sp

00△M

00△E

00△C

00 Su

1
ANGUILLA ROAD—From Ston-
ington rd northerly to Hinckley
Hill rd Pawcatuck

00△Souza Albert ⊙

00△Gavitt Chas H ⊙

00△Banker John ⊙

00△Stinson Malcolm J ⊙

00 Vacant

00△Ogden Alf ⊙

00 Cross John

00△Taylor Donald L ⊙

00△Doney Harold L contr h ⊙

00△Norman Robt E ⊙

00△Wolff Richd R ⊙

00 Siart Robt W ⊙

00 Siart Chas

00△Silver Louis ⊙

00 Vacant

ASHAV

228 E

18△P

2△N

00△J

00△F

00△U

00△A

00△V

00△C

00△L

△G

3
ANN — From 17 Perkins av to
Pauline

4 Marchese Lucy Mrs

00 St

00 Ri

N ANGUILLA RD 1950

beginning of Alphabetical Section.

AMES from 70 John southerly
2 Annes Raymond
5 Chapell Maynard

ANGUILLA ROAD from Stoning-
ton rd northerly to Hinckley Hill
rd Pawcatuck

- 00 Souza Albert
- 00 Gavitt E Caroline Mrs ©
- 00 Gavitt Chas H ©
- 00 Banker John ©
- 00 Stinson Malcolm J ©

3713 N. Humboldt Ave.

A. WILCO

N ANGUILLA RD 1950

60 W. BROAD ST.

TEL

PHONE 4794

Anguilla Rd—Con		78	V
00	Vacant	91	V
00	△Hurlbut Steph ⊙		
00	Vacant	95	K
00	Doney Jos	88	V
00	Taylor Donald	99	V
00	△Doney Harold contr h	90	V
00	Vacant	109	V
00	Vacant		
00	Crandall Jesse P ⊙	113	V
		102	V
	ANNE from Joseph westerly	000	S
	4 Capalbo Angeline	000	V
		000	V

N ANGUILLA RD 1945

ast- 4 Mousey Walter
Farrell Thos D

ANGUILLA ROAD from Stoning-
ton rd northerly to Hinckley Hill
rd Pawcatuck

- av 00 Souza Albert
- 00 Gavitt E Caroline Mrs ©
- ohn 00 Gavitt Chas H ©
- 00 Banker John ©
- 00 Stinson Malcolm J ©

3713 N. Humboldt Ave.

M A. WILCO
RM SPECIALIST

N ANGUILLA RD 1945

60 W. BROAD ST.

T

Anguilla Rd—Con

00 Vacant	95
00 Matthewson Geo W	88
00 Doney Jos	99
00 Taylor Donald	90
00 ^Δ Doney Harold contr h	109
00 Hathaway Geo	
00 Crandall Jesse P ©	113
	102
ANNE from 11 Joseph westerly	000
4 Capalbo Jas	000
Donahue John	000

✓

N ANGUILLA RD 1939

ALBERT from 17 Perkins
av easterly

95 Marchese Luigi
Naccarato Alf

ALOHA ROAD from Nini-
gret av southeasterly, Watch
Hill

ALTHEA PLACE from 68
John southerly

1 Lepper Henry ☉
2 Feraco Filomena Mrs ☉
Tetlow Margt Mrs

ANGUILLA ROAD fr Ston-
ington rd northerly to Hinck-
ley Hill rd Pawcatuck

00 Gavitt E Caroline Mrs ☉
00 Banker John ☉
00 Baldwin Frances Mrs ☉
00 Stinson Edwd F ☉
00 House Chas
00 Norman Earl W milk
dealer h ☉
00 Trainor Nona
00 Doney Harold contr h
00 Crandall Jesse ☉

ANNE fr Joseph westerly
0 Chenarski Peter

AQUIDNECK AVENUE fr
junc of Pawcatuck and Sun-
set av to Noank st, Watch Hill

00 Doane Ida F ☉
00 Vacant
00 English Lewis H ☉
00 Vacant
00 Griscom C A

ARCH from 72 Stillman av
to Race Pawcatuck
1 Ward Patk ☉

ARLINGTON changed to
Rhodes av

ARRAQUAT ROAD from
Misquamicut rd westerly,
Watch Hill

00 Thompson Rayham Dr
00 Davis Pierpont V ☉
00 Curtis Fredk Kingsbury
Mrs ☉
00 Vacant

ATLANTIC AVENUE along
Waterfront Misquamicut and
through to Charlestown line
Misquamicut

00 Pleasant View House ☉
69 Crooker House hotel
Crooker Frank ☉
00 Hotel Andrea
70 Sisson Edwd W ☉
126 Sutcliffe Henry ☉

00 Wi
Bliv
Bliv
207 But
213 Lar
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000 Mis
313 Dar
339 Sau
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APPENDIX G

MUNICIPAL AND AGENCY DOCUMENTATION

CURRENT OWNER				TOPO	UTILITIES	STRT / ROAD	LOCATION	CURRENT ASSESSMENT				6137 Stonington, CT Reval - 10/01/2017	
RUSTICI JOSEPH TRUSTEE & NANC				1 Level	5 Well	1 Paved	3 Rural	Description	Code	Appraised	Assessed		VISION
				229 ELM RIDGE RD				6 Septic			COM LAND	2-1	
PAWCATUCK CT 06379				SUPPLEMENTAL DATA					COM BLDG	2-2	655,300	458,700	VISION
				Alt Prcl ID 22 2 1 CENSUS T 7051 FLOOD A SIDE/C# L30 SUB IMPR ZONE RR-80 GIS ID 22-2-1			DISTRICT: 1 SURV M: SUB LOT AC OCC: INC EXP Assoc Pid#		COM OUTBL	2-5	242,800	170,000	
								Total		1,275,500	848,250		

RECORD OF OWNERSHIP				BK-VOL/PAGE	SALE DATE	Q/U	VI	SALE PRICE	VC	PREVIOUS ASSESSMENTS (HISTORY)									
RUSTICI JOSEPH TRUSTEE & NANCY G TR				0559 0881	08-03-2004	U	V	0		Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed	
RUSTICI JOSEPH				0512 0594	03-07-2003	U	I	0		2018	2-1	217,300	2017	2-1	217,300	2017	2-1	217,300	
RUSTICI CHARLES M & JOSEPH				0144 0558	04-28-1964	U		0			2-2	458,700		2-2	458,700		2-2	458,700	
RUSTICI CHARLES M & JOSEPH				0128 0138	12-22-1960			0			2-5	170,000		2-5	170,000		2-5	170,000	
								0			6-2	2,250		6-2	2,250		6-2	2,250	
								Total		848250	Total		848250	Total		848250	Total		848250

EXEMPTIONS				OTHER ASSESSMENTS				APPRAISED VALUE SUMMARY				
Year	Code	Description	Amount	Code	Description	YEAR	Amount	Comm Int	This signature acknowledges a visit by a Data Collector or Assessor			
									APPRAISED VALUE SUMMARY			
Total			0.00					Appraised Bldg. Value (Card) 655,300				
Total			0.00					Appraised Xf (B) Value (Bldg) 0				

Nbhd	Nbhd Name	B	Tracing	Batch
0050				

NOTES			
ELMRIDGE GOLF COURSE & 18 HOLE DRVG RNG		SEE 21-1-2 + 39-1-9	
PRO SHOP AOF IN BSMT; RESTAURANT		(17 HOLES BLT 1977/10 HOLES BLT 2000 =	
CELL EQUIPMENT ON SILO - SEE ASSOC DOC		WGHTD DEP -30%)BY RT	
RESIDENTIAL LOCATION		UBM-OLD MINIMAL FINISH-NV; 27 HOLES-12	
CERT#3749B CANCELED		HOLES ON THIS LOT	
CERT #3749C CHNG OF OWNER			

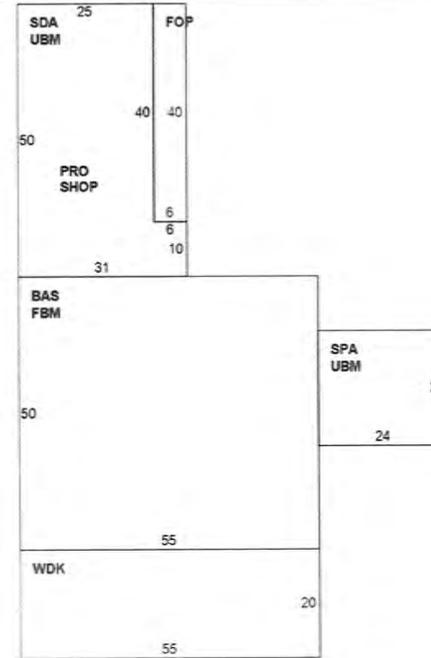
BUILDING PERMIT RECORD										VISIT / CHANGE HISTORY					
Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments		Date	Id	Type	Is	Cd	Purpost/Result
14-069	03-11-2014	PP	Personal Prope	15,000	07-17-2014	100	09-02-2014	SWAP & NEW ATTENNAS		07-17-2014	GH			26	Bldg Permit
11-341	08-15-2011	PP	Personal Prope	26,000	10-07-2011	100	10-07-2011	RPLC 3 ANTENNA, ADD 6 TM		02-13-2013	RT			68	2012 informal hearing chan
05-458	08-23-2005	DM	Demolish	1,000	11-14-2005	100		REMOVAL OF STORAGE BUI		08-29-2012	GM			00	Measur+Listed
02-455	11-19-2002	A	Addition	125,000	11-15-2004	100	10-01-2004	ADD CLUBHOUSE		10-07-2011	GH			26	Bldg Permit
98-256	07-15-1998			0		100		CERT. OF OCCUPA		12-03-2007	RT			41	Hearing Change
98-256A	06-23-1998			37,000		100		ANTENNAS ON SIT		11-14-2005	MC	02		26	Bldg Permit
97-107	03-01-1997			3,000		100		WD		11-15-2004	MC			00	Measur+Listed

LAND LINE VALUATION SECTION																	
B	Use Code	Description	Zone	Land Type	Land Units	Unit Price	Size Adj	Site Index	Cond.	Nbhd.	Nbhd. Adj	Notes	Special Pricing	Location	Adj Unit P	Land Value	
1	3800	GOLF CRSE M-			1.840	AC	115,200.00	0.61141	5	1.00	0050	1.000		1.0000		129,600	
1	3800	GOLF CRSE M-			72.330	AC	5,000.00	0.50000	0	1.00	0050	1.000		1.0000		180,800	
1	6100	ST FOREST			13.400	AC	5,000.00	1.00000	0	1.00	0050	1.000	490	240	1.0000	67,000	
Total Card Land Units															87.5700	Total Land Value	377,400

CONSTRUCTION DETAIL			CONSTRUCTION DETAIL (CONTINUED)		
Element	Cd	Description	Element	Cd	Description
Style:	38	Country Club			
Model	94	Commercial			
Grade	03	Average			
Stories:	1				
Occupancy	1.00				
Exterior Wall 1	25	Vinyl Siding			
Exterior Wall 2					
Roof Structure	03	Gable/Hip			
Roof Cover	03	Asph/F Gls/Cmp			
Interior Wall 1	06	Cust Wd Panel			
Interior Wall 2	05	Drywall/Sheet			
Interior Floor 1	14	Carpet			
Interior Floor 2					
Heating Fuel	02	Oil			
Heating Type	04	Forced Air-Duc			
AC Type	03	Central			
Bldg Use	3800	GOLF CRSE M-94			
Total Rooms					
Total Bedrms	00				
Total Baths	0				
Heat/AC	02	HEAT/AC SPLIT			
Frame Type	02	WOOD FRAME			
Baths/Plumbing	02	AVERAGE			
Ceiling/Wall	06	CEIL & WALLS			
Rooms/Prtns	02	AVERAGE			
Wall Height	10.00				
% Comn Wall					
1st Floor Use:	3800				

MIXED USE		
Code	Description	Percentage
3800	GOLF CRSE M-94	100
3800	GOLF CRSE M-94	100
6100	ST FOREST	100

COST / MARKET VALUATION	
Adj Base Rate	
Building Value New	910,196
Net Other Adjustment	
Year Built	1968
Effective Year Built	
Depreciation Code	G
Remodel Rating	
Year Remodeled	
Depreciation %	28
Functional Obsol	
Economic Obsol	
Trend Factor	1
Condition	
Condition %	
Percent Good	72
Appraised Value	655,300
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)										
Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Gd	Grade	Grade Adj.	Appr. Value
SHD1	SHED FRAME	L	96	15.00	2002		50		0.00	700
MSC3	HOLES	L	12	70000.00	2002		25		0.00	210,000
SLO1	SILO-WD OR	L	540	25.00	2002		50		0.00	6,800
MSC8	CELL TOWER	L	1	32500.00	1998		50		0.00	16,300
PAV1	PAVING-ASP	L	6,000	3.00	1111		50		0.00	9,000

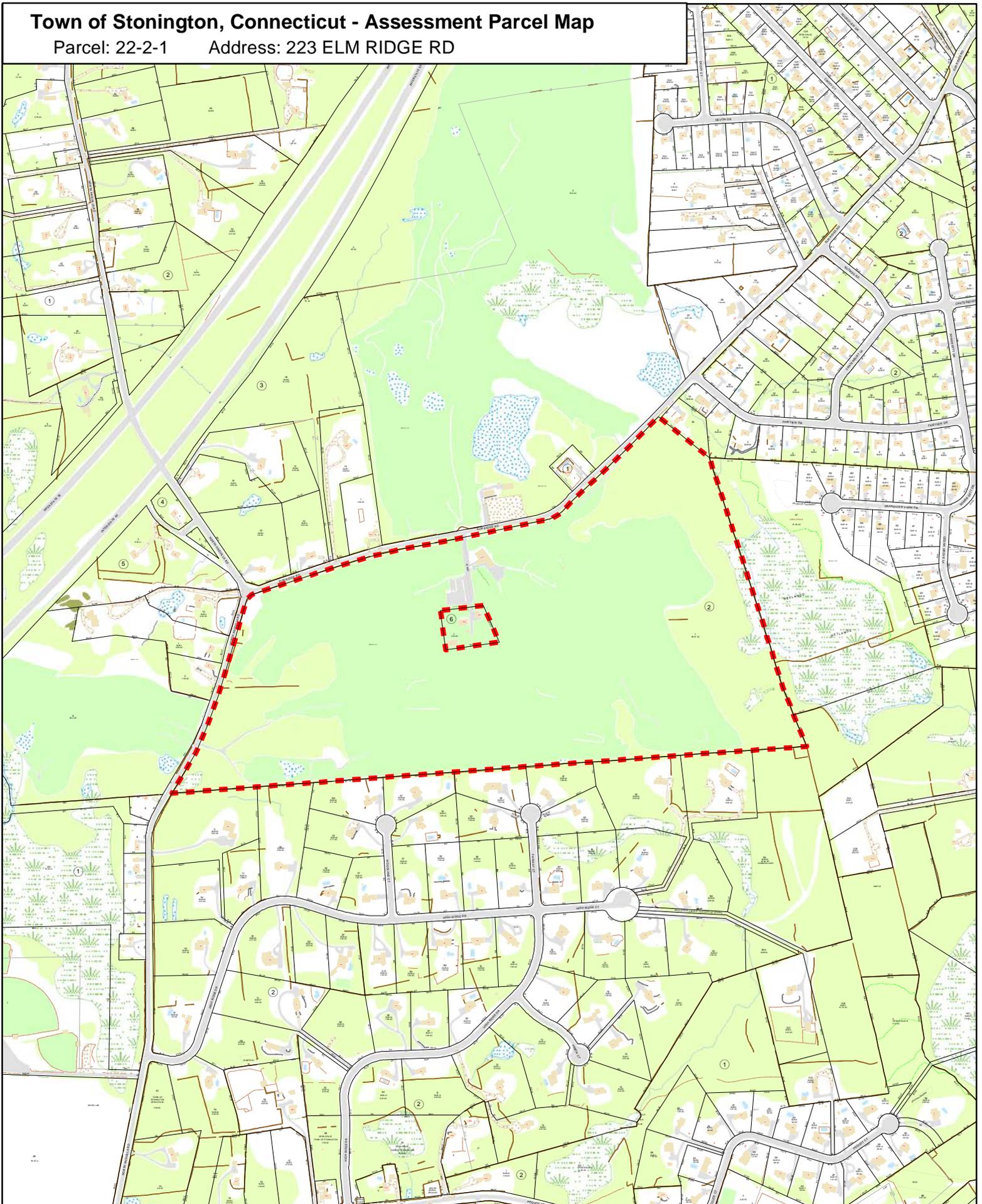
BUILDING SUB-AREA SUMMARY SECTION						
Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	2,750	2,750	2,750	130.27	358,242
FBM	Basement, Finished	1,925	2,750	1,925	91.19	250,770
FOP	Porch, Open	0	240	60	32.57	7,816
SDA	Store Display Area	1,310	1,310	1,310	130.27	170,654
SPA	Service Production Area	504	504	378	97.70	49,242
UBM	Basement, Unfinished	0	1,814	454	32.60	59,143
WDK	Deck, Wood	0	1,100	110	13.03	14,330
Ttl Gross Liv / Lease Area		6,489	10,468	6,987	130.27	910,197



Town of Stonington, Connecticut - Assessment Parcel Map

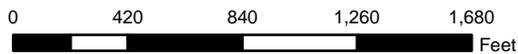
Parcel: 22-2-1

Address: 223 ELM RIDGE RD



Approximate Scale:

1 inch = 700 feet



Revised To: October 2018

Map Produced: April 2019

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The Town of Stonington and its mapping contractors assume no legal responsibility for the information contained herein.



CURRENT OWNER		TOPO	UTILITIES	STRT / ROAD	LOCATION	CURRENT ASSESSMENT				6137 Stonington, CT Reval - 10/01/2017
RUSTICI JOSEPH TRUSTEE & NANC						Description	Code	Appraised	Assessed	
229 ELM RIDGE RD						COM LAND	2-1	65,500	45,900	
PAWCATUCK CT 06379						COM OUTBL	2-5	52,500	36,800	
SUPPLEMENTAL DATA										
Alt Prcl ID 39 1 9		CENSUS 7051			DISTRICT: 1					
FLOOD A		SIDE/C# L11			SURV M:					
SUB IMP		ZONE: GB-130			SUB LOT					
GIS ID 39-1-9		Assoc Pid#			AC OCC:					
					INC EXP					
							Total	118,000	82,700	

VISION

RECORD OF OWNERSHIP		BK-VOL/PAGE	SALE DATE	Q/U	V/I	SALE PRICE	VC	PREVIOUS ASSESSMENTS (HISTORY)						
Year	Code	Assessed	Year	Code	Assessed	V	Year	Code	Assessed	V	Year	Code	Assessed	
RUSTICI JOSEPH TRUSTEE & NANCY G TR	0559	0881	08-03-2004	U	V	0		2018	2-1	45,900	2017	2-1	45,900	
RUSTICI JOSEPH	0512	0594	03-07-2003	U	I	0			2-5	36,800		2-5	36,800	
RUSTICI CHARLES M & JOSEPH	0262	0843	11-01-1985	U		0								
WHEELER NELSON T	0256	0412	03-27-1985			0								
WHEELER NELSON T	0068	0047	01-04-1928			0								
							Total	82700	Total	82700	Total	82700	Total	82700

EXEMPTIONS				OTHER ASSESSMENTS			
Year	Code	Description	Amount	Code	Description	Number	Amount
			0.00				
Total			0.00				

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD			
Nbhd	Nbhd Name	B	Tracing
0050			

APPRAISED VALUE SUMMARY	
Appraised Bldg. Value (Card)	0
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	52,500
Appraised Land Value (Bldg)	65,500
Special Land Value	0
Total Appraised Parcel Value	118,000
Valuation Method	C
Total Appraised Parcel Value	118,000

NOTES							
PART OF ELMRIDGE GOLF COURSE SEE 22-2-1 RESIDENTIAL LOCATION							

BUILDING PERMIT RECORD								VISIT / CHANGE HISTORY						
Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments	Date	Id	Type	Is	Cd	Purpost/Result
01-293	07-31-2001			4,000		100		24' X 10' RAIN	08-29-2017	DM			58	Review-Company
									02-13-2013	RT			68	2012 informal hearing chan
									09-13-2012	GM			00	Measur+Listed
									12-03-2007	RT			41	Hearing Change
									01-28-2002	NS			50	Seasonal - No Entry

LAND LINE VALUATION SECTION																		
B	Use Code	Description	Zone	Land Type	Land Units	Unit Price	Size Adj	Site Index	Cond.	Nbhd.	Nbhd. Adj	Notes	Notes	Location Adjustment	Adj Unit P	Land Value		
1	380V	GOLF CRSE M-			26.200	AC	5,000.00	0.50000	0	1.00	0050	1.000	P/O COURSE	0	1.0000	65,500		
Total Card Land Units					26.2000	AC											Total Land Value	65,500

CONSTRUCTION DETAIL

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd	Description	Element	Cd	Description
Style:	94	Outbuildings			
Model:	00	Vacant			
Grade:					
Stories:					
Occupancy					
Exterior Wall 1					
Exterior Wall 2					
Roof Structure:					
Roof Cover					
Interior Wall 1					
Interior Wall 2					
Interior Flr 1					
Interior Flr 2					
Heat Fuel					
Heat Type:					
AC Type:					
Total Bedrooms					
Total Bthrms:					
Total Half Baths					
Total Xtra Fixtur					
Total Rooms:					
Bath Style:					
Kitchen Style:					
MIXED USE					
	Code	Description	Percentage		
	380V	GOLF CRSE M-00	100		
COST / MARKET VALUATION					
	Adj Base Rate				
	Building Value New		0		
	Net Other Adjustments				
	Year Built		0		
	Effective Year Built				
	Depreciation Code				
	Remodel Rating				
	Year Remodeled				
	Depreciation %				
	Functional Obsol		0		
	Economic Obsol		0		
	Trend Factor		1		
	Condition				
	Condition %				
	Percent Good				
	Appraised Value		0		
	Dep % Ovr				
	Dep Ovr Comment				
	Misc Imp Ovr				
	Misc Imp Ovr Comment				
	Cost to Cure Ovr				
	Cost to Cure Ovr Comment				

No Sketch

OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Gd	Grade	Grade Adj.	Appr. Value
MSC3	HOLES	L	3	70000.00	2002		25		0.00	52,500

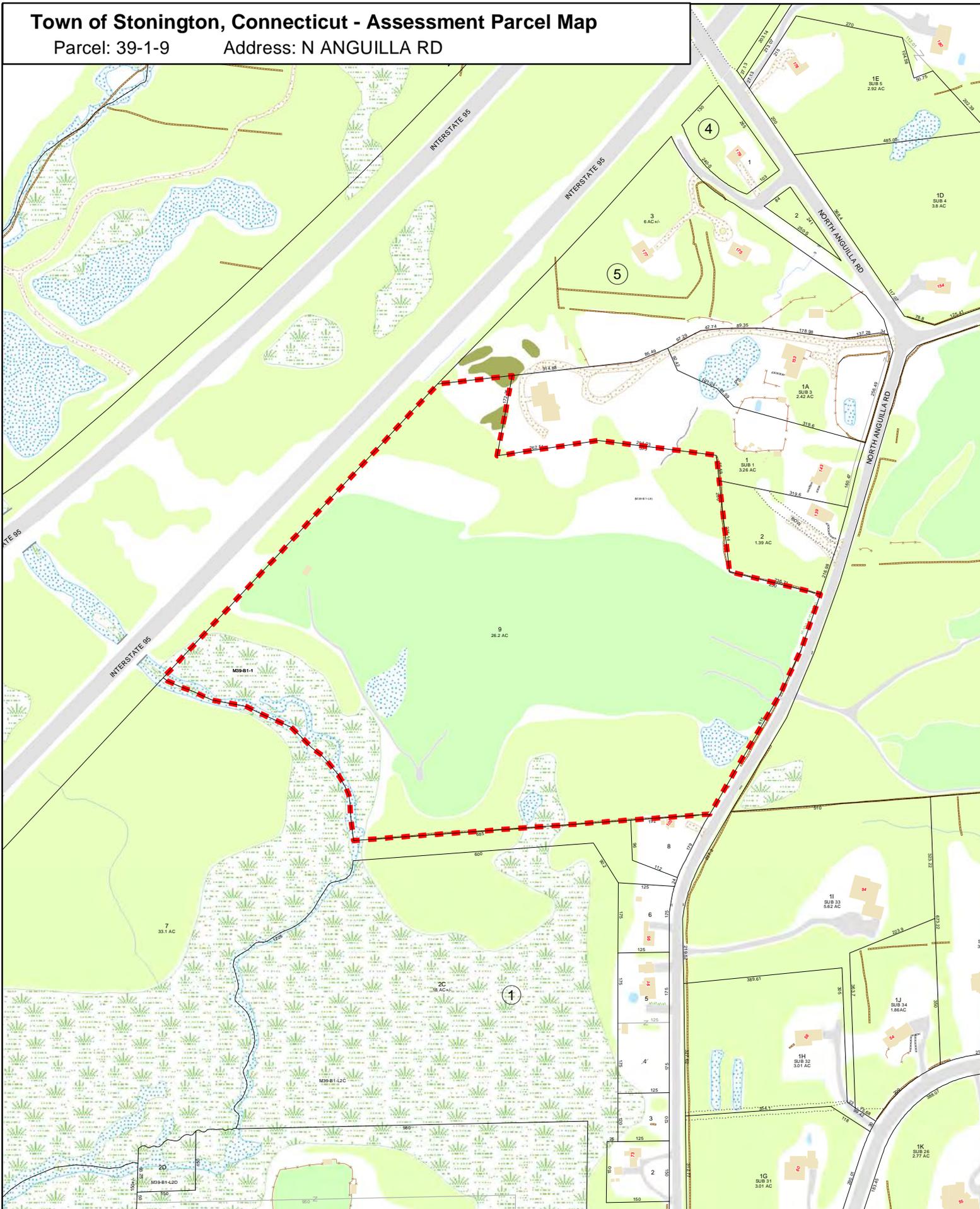
BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
Ttl Gross Liv / Lease Area		0	0	0		0

Town of Stonington, Connecticut - Assessment Parcel Map

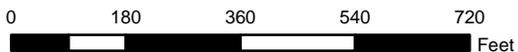
Parcel: 39-1-9

Address: N ANGUILLA RD



Approximate Scale:

1 inch = 300 feet



Revised To: October 2018

Map Produced: April 2019

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The Town of Stonington and its mapping contractors assume no legal responsibility for the information contained herein.

From: kburns@pawfd.com
To: [Emily Allison](#)
Subject: RE: Elmridge Golf Course - UST info
Date: Friday, November 22, 2019 10:35:17 AM
Attachments: [image001.png](#)

EXTERNAL

Emily, I am having trouble printing from our database. However I was able to cut and paste the narrative and some info for you to use. See below

229 Elmridge Road
Inspection Date: 7-2-1999
Elmridge Golf Club

Report:

INSPECTION OF AN UNDERGROUND STORAGE TANK REMOVED. NO CONTAMINATION WAS NOTED AND THE TANK WAS IN GOOD CONDITION. THE NEW TANK WAS BEING INSTALLED TO CODE. OLD AND NEW TANK LOCATED IN FRONT OF THE BUILDING TO THE RIGHT LOOKING FROM THE STREET NEAR THE DRIVEWAY THAT GOES TO THE BUILDING BUT IN THE LAWN.

Fire Chief / Fire Marshal Kevin Burns
Pawcatuck Fire District
33 Liberty Street
Pawcatuck,CT 06379

From: Emily Allison <EAllison@mminc.com>
Sent: Thursday, November 21, 2019 7:12 PM
To: kburns@pawfd.com
Subject: Elmridge Golf Course - UST info
Importance: High

Good evening Kevin,

Thanks for calling me back regarding the removal of the former UST at the Elmridge Golf Course in Pawcatuck. You can scan in and send the information to me at this e-mail.

Thanks again,

Emily

Emily C.J. Allison
Environmental Scientist, MS

 **MILONE & MACBROOM**
99 Realty Drive, Cheshire, CT 06410

203.271.1773 x 332 | mminc.com

[Facebook](#) | [Instagram](#) | [LinkedIn](#) | [Twitter](#)



August 1, 2018

Ms. Denise Ruzicka, Director
Water Planning & Management Division
Bureau of Water Protection and Land Reuse
Connecticut Department of Energy & Environmental Protection
79 Elm Street
Hartford, CT 06106

**RE: Application for Diversion Permit Renewal
Elmridge Golf Course
Pawcatuck, Connecticut
MMI #6441-01**

Dear Ms. Ruzicka:

On behalf of Elmridge Golf Course, Milone & MacBroom, Inc. hereby submits an application to the Connecticut Department of Energy & Environmental Protection (DEEP) to renew existing diversion permit DIV-200200024. The diversion will continue to consist of withdrawals from an on-site irrigation pond and from Anguilla Brook for irrigation purposes. Please contact Mr. Alan Rustici at (860) 599-8152 or the undersigned if you have any questions.

Very truly yours,

MILONE & MACBROOM, INC.

A handwritten signature in blue ink, appearing to read "Scott J. Bighinatti".

Scott J. Bighinatti, MS, CFM
Lead Environmental Scientist

Enclosures

cc: Mr. Alan Rustici, Rustici Management Company, Inc.
Mr. Joseph Rustici, Elmridge Golf Course

6441-01-au118-ltr.doc

**ELMRIDGE GOLF COURSE
WATER DIVERSION PERMIT RENEWAL**

JULY 2018

MMI #6441-01



Prepared for:
Rustici Management Company, Inc.
P.O. Box 940
East Lyme, CT 06333

On Behalf Of:
ElmrIDGE Golf Course, Inc.
229 ElmrIDGE Road
Pawcatuck, CT 06379

Prepared by:

MILONE & MACBROOM, INC.
99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773
www.mminc.com





TABLE OF CONTENTS

PERMIT APPLICATION TRANSMITTAL FORM

PERMIT APPLICATION FOR PROGRAMS ADMINISTERED BY IWRD [APP-100]

Attachment AA	Public Notice
Attachment A	Executive Summary
Attachment B	Site Location Map
Attachment D	Documentation Form for Water Diversion Permits
Attachment D4	Environmental Impact Report
Attachment D10	Water Conservation Plan
Attachment G	Plan Sheets & Drawings
Attachment H	Engineering Report
Attachment I	Flood Contingency Plan
Attachment J	Soil Scientist Report
Attachment K	Environmental Report
Attachment L	Mitigation Report
Attachment M	Alternatives Assessment
Attachment N	Applicant Compliance Information
Attachment O	Applicant Background Information



**Connecticut Department of
Energy & Environmental Protection**

CPPU USE ONLY

App #: _____

Doc #: _____

Check #: _____

Permit Application Transmittal Form

Please complete this transmittal form in accordance with the instructions in order to ensure the proper handling of your application(s) and the associated fee(s). Print legibly or type.

Part I: Applicant Information:

- **If an applicant 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, applicant's name shall be stated **exactly** as it is registered with the Secretary of State.*
- *If an applicant 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.).*

Applicant: **Elmridge Golf Course, Inc.**

Mailing Address: **229 Elmridge Road**

City/Town: **Pawcatuck**

State: **CT**

Zip Code: **06379**

Business Phone: **860-599-4649**

ext.:

Contact Person: **Alan Rustici**

Phone: **860-599-8152** ext.

E-Mail: **alrustici@comcast.net**

Applicant (check one): individual *business entity federal agency state agency municipality tribal

*If a business entity, list type (e.g., corporation, limited partnership, etc.): **Corporation**

Check if any co-applicants. If so, attach additional sheet(s) with the required information as supplied above.

Please provide the following information to be used for *billing purposes only*, if different:

Company/Individual Name: **Joseph Rustici**

Mailing Address: **229 Elmridge Road**

City/Town: **Pawcatuck**

State: **CT**

Zip Code: **06379**

Contact Person: **Joseph Rustici**

Phone: **860-599-4649** ext.

Part II: Project Information

Brief Description of Project: *(Example: Development of a 50 slip marina on Long Island Sound)*

Water Diversion Permit Renewal for Elmridge Golf Course

Location (City/Town): **Pawcatuck (Stonington)**

Other Project Related Permits *(not included with this form)*:

Permit Description	Issuing Authority	Submittal Date	Issuance Date	Denial Date	Permit #
Water Diversion	CT DEEP	12/7/2001	1/5/2004		DIV-200200024

Part III: Individual Permit Application and Fee Information

New, Mod. or Renew	Individual Permit Applications	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
	AIR EMISSIONS				
	New Source Review <input type="checkbox"/> Revision <input type="checkbox"/> minor mod	\$940.00			1 + 0
	Title V Operating Permits <input type="checkbox"/> Revision <input type="checkbox"/> minor mod <input type="checkbox"/> non-minor mod	none			1 + 0
	Title IV	none			1 + 0
	Clean Air Interstate Rule (CAIR)	none			1 + 0
	WATER DISCHARGES				
	To Groundwater	\$1300.00			1 + 1
	To Sanitary Sewer (POTW)	\$1300.00			1 + 1
	To Surface Water (NPDES)	\$1300.00			1 + 1
	INLAND WATER RESOURCES-				
	Dam Safety	none			1 + 2
	Flood Management Certification	none			1 + 1
	Inland Wetlands and Watercourses	none			1 + 5
	Inland 401 Water Quality Certification	none			
	FERC- Hydropower Projects- 401 Water Quality Certification	none			1 + 1
Renew	Water Diversion	★	1	\$2,050	1 + 5
	OFFICE OF LONG ISLAND SOUND PROGRAMS				
	Certificate of Permission	\$375.00			1 + 2
	Coastal 401 Water Quality Certification	none			1 + 2
	Structures and Dredging/and Fill/Tidal Wetlands	\$660.00			1 + 2
	WASTE MANAGEMENT				
	Aerial Pesticide Application	★			1 + 2
	Aquatic Pesticide Application	\$200.00			1 + 0
	CGS Section 22a-454 Waste Facilities	★			1 + 1
	Disruption of a Solid Waste Disposal Area	\$0			1 + 1
	Hazardous Waste Treatment, Storage and Disposal Facilities	★			1 + 1
	Marine Terminal License	\$100.00			1 + 0
	Stewardship	\$4000.00			1 + 1
	Solid Waste Facilities	★			1 + 1
	Waste Transportation	★			1 + 0
		Subtotal ➡	1	\$2,050	
GENERAL PERMITS and AUTHORIZATIONS		Subtotals Page 3 & 4 ➡			
Enter subtotals from Part IV, pages 3 - 6 of this form		Subtotals Page 5 ➡			
		Subtotals Page 6 ➡			
		TOTAL ➡	1	\$2,050	
<input type="checkbox"/> Indicate whether municipal discount or state waiver applies.		➡			
Less Applicable Discount					
		AMOUNT REMITTED ➡		\$2,050	
Check # ➡	1056	Check or money order should be made payable to: "Department of Energy and Environmental Protection"			

★ See fee schedule on individual application.

**Part IV: General Permit Registrations and Requests for Other Authorizations
Application and Fee Information**

<input checked="" type="checkbox"/> General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
AIR EMISSIONS				
<input type="checkbox"/> Limit Potential to Emit from Major Stationary Sources of Air Pollution	\$2760.00			1 + 0
<input type="checkbox"/> Diagnostic and Therapeutic X-Ray Devices (Medical X-Ray) Registration	\$190.00/Xray device			1 + 0
<input type="checkbox"/> Radioactive Materials and Industrial Device Registration (Ionizing Radiation)	\$200.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization	★★			★★
<input type="checkbox"/> License Revocation Request	\$0			★★
<input type="checkbox"/> Other, (please specify):				
WATER DISCHARGES				
<input type="checkbox"/> Boiler Blowdown Wastewater	Expired- wastewater discharge authorized under MISC GP			
<input type="checkbox"/> Categorical Industry User to a POTW Discharges > 10,000 gpd Discharges < 10,000 gpd	\$6250.00 \$3125.00			1 + 0
<input type="checkbox"/> Domestic Sewage	\$625.00			1 + 0
<input type="checkbox"/> Food Preparation Establishment Wastewater	No Registration			
<input type="checkbox"/> Food Processing Wastewater	\$500.00			1 + 0
<input type="checkbox"/> Groundwater Remediation Wastewater to a Sanitary Sewer	\$500.00			1 + 0
<input type="checkbox"/> Groundwater Remediation Wastewater to a Surface Water Registration Only	\$625.00			1 + 0
<input type="checkbox"/> Approval of Registration by DEEP	\$1250.00			
<input type="checkbox"/> Hydrostatic Pressure Testing Wastewater Registration Only	\$625.00			1 + 0
<input type="checkbox"/> Approval of Registration by DEEP (natural gas pipelines)	\$1250.00			
<input type="checkbox"/> Miscellaneous Discharges of Sewer Compatible Wastewater Registration Only	\$500.00			1 + 0
<input type="checkbox"/> Approval of Registration by DEEP	\$1000.00			
<input type="checkbox"/> Nitrogen Discharges	No Registration			
<input type="checkbox"/> Non-Contact Cooling and Heat Pump Water (Minor)	\$625.00			1 + 0
<input type="checkbox"/> Photographic Processing Wastewater (Minor)	Expired- wastewater discharge authorized under MISC GP			
<input type="checkbox"/> Point Source Discharges from Application of Pesticides	\$200.00			1 + 0
<input type="checkbox"/> Printing & Publishing Wastewater (Minor) Flow < 40 gpd	\$500.00 \$100.00			1 + 0
<input type="checkbox"/> Stormwater Associated with Commercial Activities	\$300.00			1 + 0
<input type="checkbox"/> Stormwater Associated with Industrial Activities <50 employees–see general permit for additional requirements >50 employees–see general permit for additional requirements	\$500.00 \$1000.00			1 + 0
<input type="checkbox"/> Stormwater & Dewatering Wastewaters-Construction Activities	★			1 + 0
<input type="checkbox"/> Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)	\$250.00			1 + 0

★ See fee schedule on registration/application.

★★ Contact the specific permit program for this information.
(Contact numbers are provided in the instructions)

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

WATER DISCHARGES (continued)				
<input type="checkbox"/> Subsurface Sewage Disposal Systems Serving Existing Facilities	★ ★			1 + 0
<input type="checkbox"/> Swimming Pool Wastewater - Public Pools and Contractors	\$500.00			1 + 0
<input type="checkbox"/> Tumbling or Cleaning of Parts Wastewater (Minor)	Expired- wastewater discharge authorized under MISC GP			
Vehicle Maintenance Wastewater				
<input type="checkbox"/> Registration Only	\$625.00			1 + 0
<input type="checkbox"/> Approval of Registration by DEEP	\$1250.00			
<input type="checkbox"/> Water Treatment Wastewater	\$625.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization - Discharge to POTW	\$1500.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization - Discharge to Surface Water	\$1500.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization - Discharge to Groundwater	\$1500.00			1 + 0
<input type="checkbox"/> Other, (please specify):				
Note: Carry subtotals over to Part III, page 2 of this form.		Subtotal →		

★ See fee schedule on registration/application.

★★ Contact the specific permit program for this information.
(Contact numbers are provided in the instructions)

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

<input checked="" type="checkbox"/> General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fee	Original + Required Copies
AQUIFER PROTECTION PROGRAM				
<input type="checkbox"/> Registration for Regulated Activities	\$625.00			1 + 0
<input type="checkbox"/> Permit Application to Add a Regulated Activity	\$1250.00			1 + 0
<input type="checkbox"/> Exemption Application from Registration	\$1250.00			1 + 0
INLAND WATER RESOURCES				
<input type="checkbox"/> Diversion of Remediation Groundwater	No Registration			
<input type="checkbox"/> Diversion of Water for Consumptive Use: Reauthorization Categories	\$2500.00			1 + 0
<input type="checkbox"/> Diversion of Water for Consumptive Use: Authorization Required	\$2500.00			1 + 4
<input type="checkbox"/> Diversion of Water for Consumptive Use: Filing Only	\$1500.00			1 + 1
<input type="checkbox"/> Programmatic General Permit	★			1 + 3
<input type="checkbox"/> Water Resource Construction Activities	★			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization	★★			★★
<input type="checkbox"/> Notice of High Hazard Dam or a Significant Hazard Dam	\$0			1 + 0
<input type="checkbox"/> Other, (please specify):				
OFFICE OF LONG ISLAND SOUND PROGRAMS				
<input type="checkbox"/> 4/40 Docks	\$700.00			1 + 1
<input type="checkbox"/> Beach Grading	\$100.00			1 + 1
<input type="checkbox"/> Buoys or Markers	No Registration			
<input type="checkbox"/> Coastal Remedial Activities Required by Order	\$700.00			1 + 1
<input type="checkbox"/> Dock Reconstruction	\$300.00			1 + 1
<input type="checkbox"/> Harbor Moorings	No Registration			
<input type="checkbox"/> Maintenance of Catch Basins and Tide Gates	No Registration			
<input type="checkbox"/> Marina and Mooring Field Reconfiguration	\$700.00			1 + 1
<input type="checkbox"/> Minor Seawall Repair	No Registration			
<input type="checkbox"/> Non-harbor Moorings	\$100.00			1 + 1
<input type="checkbox"/> Osprey Platforms and Perch Poles	none			1 + 1
<input type="checkbox"/> Pump-out Facilities (no fee for Clean Vessel Act grant recipients)	\$100.00			1 + 1
<input type="checkbox"/> Programmatic General Permit	★			1 + 1
<input type="checkbox"/> Removal of Derelict Structures	\$100.00			1 + 1
<input type="checkbox"/> Residential Flood Hazard Mitigation	\$100.00			1 + 1
<input type="checkbox"/> Swim Floats	\$100.00			1 + 1
<input type="checkbox"/> Emergency/Temporary Authorization	★★			★★
<input type="checkbox"/> Other, (please specify):				
Note: Carry subtotals over to Part III, page 2 of this form.		Subtotal →		

★ See fee schedule on registration/application.

★★ Contact the specific permit program for this information.
(Contact numbers are provided in the instructions)

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

<input checked="" type="checkbox"/> General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fee	Original + Required Copies
WASTE MANAGEMENT				
<input type="checkbox"/> Addition of Grass Clippings at Registered Leaf Composting Facilities	\$500.00			1 + 0
<input type="checkbox"/> Beneficial Use Determination	★			1 + 0
Certain Recycling Facilities:				
<input type="checkbox"/> Drop-site Recycling Facility	\$200.00			1 + 0
<input type="checkbox"/> Limited Processing Recycling Facility	\$500.00			1 + 0
<input type="checkbox"/> Recyclables Transfer Facility	\$500.00			1 + 0
<input type="checkbox"/> Single Item Recycling Facility	\$500.00			1 + 0
<input type="checkbox"/> Collection and Storage of Post Consumer Paint	\$0			1 + 0
Contaminated Soil and/or Staging Management (Staging/Transfer)				
<input type="checkbox"/> New Registrations	\$250.00			1 + 0
<input type="checkbox"/> New Approval of Registrations	\$1500.00			1 + 0
<input type="checkbox"/> Renewal of Registrations	\$250.00			1 + 0
<input type="checkbox"/> Renewal of Approval of Registrations	\$750.00			1 + 0
<input type="checkbox"/> Connecticut Solid Waste Demonstration Project	\$1000.00			1 + 0
<input type="checkbox"/> Disassembling Used Electronics	\$2000.00			1 + 0
<input type="checkbox"/> Leaf Composting Facility	none			1 + 1
<input type="checkbox"/> Municipal Transfer Station	\$800.00			1 + 1
<input type="checkbox"/> One Day Collection of Certain Wastes and Household Hazardous Waste	\$1000.00			1 + 0
<input type="checkbox"/> Sheet leaf Composting Notification	\$0			★★
Special Waste Authorization				
<input type="checkbox"/> Landfill or RRF Disposal	\$660.00			1 + 0
<input type="checkbox"/> Asbestos Disposal	\$300.00			
<input type="checkbox"/> homeowner	\$0			
<input type="checkbox"/> Storage and Processing of Asphalt Roofing Shingle Waste	\$2500.00			1 + 0
<input type="checkbox"/> Storage and Processing of Scrap Tires for Beneficial Use	\$1250.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization	★★			★★
<input type="checkbox"/> Other, (please specify):				
REMEDATION				
<input type="checkbox"/> In Situ Groundwater Remediation: Enhance Aerobic Biodegradation	★			1 + 2
<input type="checkbox"/> In Situ Groundwater Remediation: Chemical Oxidation	\$500.00			1 + 0
<input type="checkbox"/> Emergency/Temporary Authorization	★			★★
Note: Carry subtotals over to Part III, page 2 of this form. Subtotal →				

★See fee schedule on registration/application.

★★Contact the specific permit program for this information.

(Contact numbers are provided in the instructions)

Affirmative Action, Equal Employment Opportunity and Americans with Disabilities

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to complying with the requirements of the Americans with Disabilities Act (ADA). Please contact us at (860) 418-5910 or deep.accommodations@ct.gov if you: have a disability and need a communication aid or service; have limited proficiency in English and may need information in another language; or if you wish to file an ADA or Title VI discrimination complaint.



Permit Application for Programs Administered by the Inland Water Resources Division

Please complete this application form in accordance with the instructions (DEP-IWRD-INST-100) in order to ensure the proper handling of your application. Print or type unless otherwise noted. You must submit the *Permit Application Transmittal Form* (DEP-APP-001) and the initial fee along with this form.

DEP USE ONLY

Part I: Application Type

Check the appropriate box identifying the application type.

<p>This application is for (check one):</p> <p><input type="checkbox"/> A <i>new</i> application</p> <p><input checked="" type="checkbox"/> A <i>renewal</i> of an existing permit</p> <p><input type="checkbox"/> A <i>modification</i> of an existing permit</p>	<p>Please identify any previous or existing permit/authorization/registration number in the space provided.</p> <p>Existing permit/authorization/registration number: DIV-200200024</p> <p>Expiration Date: 12/24/2018</p>
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Part II: Permit Type and Fee Information

Please note: effective August 21, 2003, the application fees for the programs administered by the Inland Water Resources Division have increased as listed in the following table. The fee for municipalities is 50% of the listed rates.

Type of Permit (check <i>all</i> that apply):	Fee to submit with application:
<input type="checkbox"/> Inland Wetlands & Watercourses CGS Sec. 22a-36 et seq.	none
<input type="checkbox"/> Dam Construction CGS Sec. 22a-403	none
<input type="checkbox"/> 401 Water Quality Certificate 33 U.S.C. 1341	none
<input type="checkbox"/> Flood Management Certification CGS Sec. 25-68(b) - (h)	none
Stream Channel Encroachment CGS Sec. 22a-342	
<input type="checkbox"/> No change in grade and no construction of above-ground structures	\$470.00
<input type="checkbox"/> A change in grade and no construction of above-ground structures	\$940.00
<input type="checkbox"/> A change in grade and above-ground structures or buildings	\$4,000.00
Water Diversion: Consumptive Use CGS Sec. 22a-372(e)	
<input checked="" type="checkbox"/> Withdrawal > 0.05 and < 0.5 mgd	\$2,050.00
<input type="checkbox"/> Withdrawal ≥ 0.5 and < 2.0 mgd	\$4,000.00
<input type="checkbox"/> Withdrawal ≥ 2.0 mgd	\$6,250.00
Water Diversion: Nonconsumptive Use CGS Sec. 22a-372(e)	
<input type="checkbox"/> Watershed < 0.5 sq mi	\$2,050.00
<input type="checkbox"/> Watershed ≥ 0.5 sq mi and < 2.0 sq mi	\$4,000.00
<input type="checkbox"/> Watershed ≥ 2.0 sq mi	\$6,250.00

Part III: Applicant Information

1. Fill in the name of the applicant(s) as indicated on the *Permit Application Transmittal Form* (DEP-APP-001):
Applicant: **Elmridge Golf Course, Inc.**
Phone: **860-599-4649** ext. Fax:
 Check here if there are co-applicants. If so, label and attach additional sheet(s) with the required information to this sheet.

2. Applicant's interest in property at which the proposed activity is to be located:
 site owner option holder lessee
 easement holder operator other (specify):

3. List primary contact for departmental correspondence and inquiries, if different than the applicant.
Name: **Rustici Management Company, Inc.**
Mailing Address: **P.O. Box 940**
City/Town: **East Lyme** State: **CT** Zip Code: **06333**
Business Phone: **860-599-8152** ext. Fax:
Contact Person: **Alan Rustici** Title: **President**

4. List attorney or other representative, if applicable:
Firm Name:
Mailing Address:
City/Town: State: Zip Code:
Business Phone: ext. Fax:
Attorney:

5. Facility or Property Owner, if different than the applicant:
Name: **The Joseph Rustici Revocable Trust & the Nancy G. Rustici Revocable Trust**
Mailing Address: **229 Elmridge Road**
City/Town: **Pawcatuck** State: **CT** Zip Code: **06379**
Business Phone: **860-599-4649** ext. Fax:
Contact Person: **Joseph Rustici** Title: **Owner**

Home address of owner (for Inland Wetlands applications only):
Mailing Address:
City/Town: State: Zip Code:
Home Phone:

Part III: Applicant Information (continued)

6. List any engineer(s) or other consultant(s) employed or retained to assist in preparing the application or in designing or constructing the activity. Check here if additional sheets are necessary, and label and attach them to this sheet.

Name: **Milone & MacBroom, Inc.**

Mailing Address: **99 Realty Drive**

City/Town: **Cheshire** State: **CT** Zip Code: **06410**

Business Phone: **203-271-1773** ext. **204** Fax: **203-272-9733**

Contact Person: **Scott Bighinatti, CFM** Title: **Lead Environmental Scientist**

Service Provided: **Preparation of Permit Application**

Part IV: Site Information

1. **Site Location:**

a. Name of facility, if applicable: **Elmridge Golf Course**
Street Address or Description of Location: **229 Elmridge Road**

City/Town: **Pawcatuck** State: **CT** Zip Code: **06379**

Project No., if applicable:

b. Tax Assessor's Reference: Map **3 Parcels: 39-1-9** Block **22-2-1** Lot **21-1-2**
(Assessor's reference is not required if requester is an agency of the State of Connecticut.)

c. Latitude and Longitude of the approximate "center of the site" in *degrees, minutes, and seconds*:
Latitude: **41° 23' 43.287"** Longitude: **71° 51' 44.109" W**

Method of determination (check one):
 GPS USGS Map Other (please specify): **ArcGIS**

If a USGS Map was used, provide the quadrangle name: **Ashaway**

d. Drainage Basin number(s) wherein the proposed activity will take place: **1000, 2101**

e. Flood Insurance Rate Map Panel Number: **09011C0413G**
Date of the map referenced: **7/18/2011**

f. If applying for a SCEL permit, identify the property wherein the proposed activity will take place by indicating the following:
SCEL Map number(s):
Property Identifier:
Date of the map referenced:

2. **COASTAL BOUNDARY:** Is the activity which is the subject of this application located within the coastal boundary as delineated on DEP approved coastal boundary maps? Yes No

If yes, and this application is for a new permit or for a modification of an existing permit, you must submit a *Coastal Consistency Review Form* (DEP-APP-004) with your application as Attachment P.

Information on the coastal boundary is available at the local town hall or on the "Coastal Boundary Map" available at DEP Maps and Publications (860-424-3555).

Part IV: Site Information (continued)

- 3. ENDANGERED OR THREATENED SPECIES:** Is the project site located within an area identified as a habitat for endangered, threatened or special concern species as identified on the "State and Federal Listed Species and Natural Communities Map"? Yes No Date of Map: **December 2017**

If yes, complete and submit a *Connecticut Natural Diversity Data Base (CT NDDB) Review Request Form* (DEP-APP-007) to the address specified on the form. **Please note NDDB review generally takes 4 to 6 weeks and may require additional documentation from the applicant. DEP strongly recommends that applicants complete this process before submitting the subject application.**

When submitting this application form, include copies of any correspondence to and from the NDDB, including copies of the completed *CT NDDB Review Request Form*, as Attachment K (Environmental Report) or in Attachment Q if no environmental report is required.

For more information visit the DEP website at www.ct.gov/dep/endorangeredspecies (Review/Data Requests) or call the NDDB at 860-424-3011.

- 4. AQUIFER PROTECTION AREAS:** Is the site located within a town required to establish Aquifer Protection Areas, as defined in section 22a-354a through 354bb of the General Statutes (CGS)?

Yes No

If yes, is the site within an area identified on a Level A or Level B map? Yes No

To view the applicable list of towns and maps visit the DEP website at www.ct.gov/dep/aquiferprotection

To speak with someone about the Aquifer Protection Areas, call 860-424-3020.

- 5. CONSERVATION OR PRESERVATION RESTRICTION:** Is the property subject to a conservation or preservation restriction? Yes No

If Yes, proof of written notice of this application to the holder of such restriction or a letter from the holder of such restriction verifying that this application is in compliance with the terms of the restriction, must be submitted as Attachment Q.

- 6. Other Permits:** List any previous federal, state or local permits or certificates that have already been issued for the site or for the proposed activity:

<u>Type or Nature of Permit</u>	<u>Permit No.</u>	<u>Issuing Authority</u>	<u>Date Issued</u>	<u>Expiration Date</u>	<u>Permittee Name</u>
Original Construction			1967		
9-Hole Expansion	94-07		6/2/94		Joseph Rustici
9-Hole Expansion	PZ9411		8/17/94		Joseph Rustici

Part V: Supporting Documents

Please check the attachments submitted as verification that *all* applicable attachments have been submitted with this application form. When submitting any supporting documents, please label the documents as indicated in this part (e.g., Attachment A, etc.) and be sure to include the applicant's name as indicated on the *Permit Application Transmittal Form*. The specific information required in each attachment is described in the *Instructions for Completing A Permit Application for Inland Water Resources Division Activities* (DEP-IWRD-INST-100).

- Attachment A: Executive Summary
- Attachment B: An 8 1/2" x 11" copy of a United States Geological Survey (USGS) Topographic Quadrangle Map (scale: 1:24,000) with the regulated activity or project site outlined or pinpointed, as appropriate.
- Attachment C: *Documentation Form for: Inland Wetlands and Watercourses Permit, Stream Channel Encroachment Line Permit, and 401 Water Quality Certification* (DEP-IWRD-APP-101)

Part V: Supporting Documents (continued)

- Attachment D: *Documentation Form for Water Diversion Permit* (DEP-IWRD-APP-102)
- Attachment E: *Documentation Form for a Dam Construction Permit* (DEP-IWRD-APP-103)
- Attachment F: *Documentation Form for Flood Management Certification* (DEP-IWRD-APP-104) (State Agencies Only)
- Attachment G: Plan Sheets and Drawings
- Attachment H: Engineering Documentation
 - Part 1: *Engineering Report Checklist* (DEP-IWRD-APP-105A) and an Engineering Report
 - Part 2: *Hydrologic and Hydraulic Consistency Worksheet* (DEP-IWRD-APP-105B)
 - Section I: Floodplain Management
 - Section II: Stormwater Management
 - For state agencies only:*
 - Section III: State Grants and Loans
 - Section IV: Disposal of State Land
- Attachment I: Flood Contingency Plan
- Attachment J: Soil Scientist Report (not required for Flood Management Certification)
- Attachment K: Environmental Report (not required for Flood Management Certification)
- Attachment L: Mitigation Report - wetlands and watercourses, fish and wildlife (not required for Flood Management Certification)
- Attachment M: Alternatives Assessment (not required for Flood Management Certification)
- Attachment N: *Applicant Compliance Information Form* (DEP-APP-002) (not required for Flood Management Certification or 401 Water Quality Certification Approvals)
- Attachment O: *Applicant Background Information Form* (DEP-APP-008) (not required for Flood Management Certification)
- Attachment P: *Coastal Consistency Review Form* (DEP-APP-004) (if applicable)
- Attachment Q: Other Information: any other information the applicant deems relevant or is required by DEP.

Number of Copies of Application:

Submit one original of all application forms, certifications, reports and supporting documents and the number of photocopies of all such materials as noted on the *Permit Application Transmittal Form*. When applying for more than one permit, you should submit the original and no more than six copies.

Part VI: Application Certification

The applicant *and all* individuals responsible for actually preparing the application or supporting documentation must sign this part. An application will be considered insufficient unless **all** required signatures are provided. You must include signatures of any person preparing any report or parts thereof filed in support of this application (i.e., professional engineers, surveyors, soil scientists, biologists, environmental and other consultants, etc.).

"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.

I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with Section 22a-6 of the General Statutes, pursuant to Section 53a-157b of the General Statutes, and in accordance with any other applicable statute.

I certify that this application is on complete and accurate forms as prescribed by the commissioner without alteration of the text.

I certify that I will comply with all notice requirements as listed in Section 22a-6g of the General Statutes."

	7/19/18
Signature of Applicant	Date
Joseph Rustici	President & Treasurer
Name of Applicant (print or type)	Title (if applicable)
	7/19/2018
Signature of Preparer (if different than above)	Date
Scott Bighinatti, CFM	Lead Environmental Scientist
Name of Preparer (print or type)	Title (if applicable)
<input type="checkbox"/> Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet.	

Reminder: After submitting this application to DEP, except in the case of a Flood Management Certification, you must publish a notice of the application immediately and submit a certified copy of this published notice to DEP. See "Notice of Permit Application" section in the instructions (DEP-IWRD-INST-100).

List the name of the newspaper the Notice of Permit Application will be published in: **The Day**

Note: Please submit the *Permit Application Transmittal Form*, Application Form, Fee, and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 79 ELM STREET
 HARTFORD, CT 06106-5127

ATTACHMENT AA
PUBLIC NOTICE



Connecticut Department of Energy & Environmental Protection

Certification of Notice Form - Notice of Application

DEEP USE ONLY

Division
Application No.

I, Joseph Rustici, Owner of Elmridge Golf Course, certify that

the attached notice represents a true copy of the notice that appeared in The Day

on July 19, 2018

I also certify that I have provided a copy of said notice to the chief elected municipal official listed below as required by section 22a-6g CGS.

Robert Simmons First Selectman

Name of Official Title of Official

152 Elm Street

Address

Stonington CT 06378

City/Town State Zip Code

X Joseph Rustici

July 19, 2018

Signature of Applicant Date

Joseph Rustici Owner

Name of Applicant (print or type) Title (if applicable)

July 19, 2018

The Honorable Robert Simmons
First Selectman
Town of Stonington
152 Elm Street
Stonington, CT 06378

**RE: Water Diversion Permit Renewal Application
Elmridge Golf Course
Pawcatuck, Connecticut
MMI #6441-01-04**

Dear First Selectman Simmons:

On behalf of Elmridge Golf Course, Milone & MacBroom, Inc. will soon submit an application to the Connecticut Department of Energy & Environmental Protection for a renewal of its water diversion permit. The requested withdrawals will continue to be limited to a maximum combined withdrawal of 0.2 million gallons per day (mgd) from an impoundment at the site and/or Anguilla Brook for irrigation purposes.

A legal notice was sent to the *The Day* for publication today (attached). This notice comprises a general notification of the pending application submittal. Please contact the undersigned if you have any questions.

Very truly yours,

MILONE & MACBROOM, INC.



Scott J. Bighinatti, MS, CFM
Lead Environmental Scientist

Enclosure

cc: Mr. Alan Rustici, Rustici Management Company, Inc.
Mr. Joseph Rustici, Elmridge Golf Course

6441-01-04-jl1818-ltr.doc

26457 Notice of Permit Application Town: Stonington, CT Notice is hereby given that Elmridge Golf Course, Inc. (the "applicant") of 229 Elmridge Road, Pawcatuck, Connecticut will submit to the Department of Energy and Environmental Protection an application under Connecticut General Statutes Section 22a-369 (WATER DIVERSION) for a permit to divert waters of the state. Specifically, the applicant proposes to renew its existing permit to withdraw up to 0.2 mgd from an impoundment and Anguilla Brook as necessary for irrigation. The proposed activity will take place at 229 Elmridge Road in Pawcatuck, Connecticut. The proposed activity will potentially affect the impoundment, Anguilla Brook, and associated wetlands. Interested persons may obtain copies of the application from Mr. Scott Bighinatti of Milone & MacBroom, Inc., 99 Realty Drive, Cheshire, CT 06410, telephone (203) 271-1773. The application will be available for inspection at the Department of Energy and Environmental Protection, Inland Water Resources Division, 79 Elm Street, Hartford, CT 06106-5127, telephone (860) 424-3019, from 8:30am to 4:30pm Monday through Friday.

26458 The Purchasing Agent for the City of New London, CT will receive the following sealed invitations for Bid: Bid No. 2018-07: Restoration Services for the Water Street Garage The due date and time is August 7, 2018 @ 2PM. Copies of the IFB documents may be downloaded from the following websites: City of New London - <http://ci.new-london.ct.us> (http://ci.new-london.ct.us) State of Connecticut - DAS <http://www.das.state.ct.us> (http://www.das.state.ct.us) The City reserves the right to reject any and all bids, to waive minor irregularities in the bidding and to award the contract to other than the low bidder if deemed in the best interest of the City of New London. Dedra Aker, Purchasing Agent

26468 LEGAL NOTICE TOWN OF LEDYARD, CONNECTICUT INVITATION TO BID â€" BID #2019-01 SURPLUS EQUIPMENT--AMBULANCE July 18, 2018 The Town of Ledyard seeks sealed bids for various lots of surplus EMS Equipment. Information to Bidders and available equipment may be obtained on the Town's Website at /88/Request-for-Proposals-Bids

26471 THE UNIVERSITY OF CONNECTICUT INVITATION TO SITEWORK & GENERAL CONTRACTORS TO PRE-QUALIFY TO OFFER PROPOSALS FOR GAMPÉL AREA BOLLARDS STORRS CAMPUS PROJECT NUMBER #300067 RELEASED July 19, 2018 PROPOSALS DUE: August 16, 2018 2:00 PM THE UNIVERSITY OF CONNECTICUT IS ACCEPTING PRE-QUALIFICATION APPLICATIONS LIMITED TO THE AFOREMENTIONED PROJECT. THIS PROJECT IS OPEN TO DAS PREQUALIFIED SITEWORK & GENERAL CONTRACTORS ONLY. TO FIND OUT MORE ABOUT THIS RFP AND THE REQUIREMENTS FOR SUBMISSION, PLEASE VISIT OUR WEBSITE; www.cpga.uconn.edu (<http://www.cpga.uconn.edu>); OR www.das.ct.gov/cr1.aspx (<http://www.das.ct.gov/cr1.aspx>)?page=12

P26462 COURT OF PROBATE, New London Probate Court. NOTICE TO CREDITORS. ESTATE OF Chau Bik Sim Ark, AKA Chau B. Sim Ark (18-00339) The Hon. Mathew H. Greene, Judge of the Court of Probate, District of New London Probate Court, by decree dated July 12, 2018, ordered that all claims must be presented to the fiduciary at the address below. Failure to promptly present any such claim may result in the loss of rights to recover on such claim. Pamela M. Rowe, Clerk. The fiduciary is: Wong William Ark, 18 Balsam Ave, Middletown, RI 02841 c/o Kathleen A. McNamara, Esq., Provatas & McNamara, LLC, 516 Vauxhall St., Ste. # 203, New London, CT 06320

26457 NOTICE OF PERMIT APPLICATION TOWN: STONINGTON, CT N

26457 Notice of Permit Application Town: Stonington, CT Notice is hereby given that Elmridge Golf Course, Inc. (the ["Applicant"]) of 229 Elmridge Road, Pawcatuck, Connecticut will submit to the Department of Energy and Environmental Protection an application under Connecticut General Statutes Section 22a-369 (WATER DIVERSION) for a permit to divert waters of the state. Specifically, the applicant proposes to renew its existing permit to withdraw up to 0.2 mgd from an impoundment and Anguilla Brook as necessary for irrigation. The proposed activity will take place at 229 Elmridge Road in Pawcatuck, Connecticut. The proposed activity will potentially affect the impoundment, Anguilla Brook, and associated wetlands. Interested persons may obtain copies of the application from Mr. Scott Bighinatti of Milone & MacBroom, Inc., 99 Realty Drive, Cheshire, CT 06410, telephone (203) 271-1773. The application will be available for inspection at the Department of Energy and Environmental Protection, Inland Water Resources Division, 79 Elm Street, Hartford, CT 06106-5127, telephone (860) 424-3019, from 8:30am to 4:30pm Monday through Friday.

Appeared in: **The Day** on Thursday, 07/19/2018

[Back](#)

NOTICE OF PERMIT APPLICATION
Town: Stonington, CT

Notice is hereby given that Elmridge Golf Course (the "applicant") of 229 Elmridge Road, Pawcatuck, Connecticut will submit to the Department of Energy and Environmental Protection an application under Connecticut General Statutes Section 22a-369 (WATER DIVERSION) for a permit to divert waters of the state.

Specifically, the applicant proposes to renew its existing permit to withdraw up to 0.2 mgd from an impoundment and Anguilla Brook as necessary for irrigation. The proposed activity will take place at 229 Elmridge Road in Pawcatuck, Connecticut. The proposed activity will potentially affect the impoundment, Anguilla Brook, and associated wetlands.

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The application will be available for inspection at the Department of Energy and Environmental Protection, Inland Water Resources Division, 79 Elm Street, Hartford, CT 06106-5127, telephone (860) 424-3019, from 8:30am to 4:30pm Monday through Friday.

PUBLISHER'S CERTIFICATE

State of Connecticut
County of New London, ss. New London

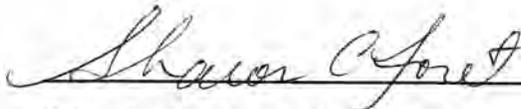
Personally appeared before the undersigned, a Notary Public within and for said County and State, Richard Zesk, Legal Advertising Clerk, of The Day Publishing Company Classifieds dept, a newspaper published at New London, County of New London, state of Connecticut who being duly sworn, states on oath, that the Order of Notice in the case of

26457 Notice of Permit Application Town:
Stonington, CT N

A true copy of which is hereunto annexed, was published in said newspaper in its issue(s) of

07/19/2018

Cust: MILONE & MACBROOM INC
Ad #: d00786604



Subscribed and sworn to before me

This Thursday, July 19, 2018

Notary Public

My commission expires



5/31/19

26457

**Notice of Permit
Application
Town: Stonington, CT**

Notice is hereby given that Elmridge Golf Course, Inc. (the "applicant") of 229 Elmridge Road, Pawcatuck, Connecticut will submit to the Department of Energy and Environmental Protection an application under Connecticut General Statutes Section 22a-369 (WATER DIVERSION) for a permit to divert waters of the state.

Specifically, the applicant proposes to renew its existing permit to withdraw up to 0.2 mgd from an impoundment and Anguilla Brook as necessary for irrigation. The proposed activity will take place at 229 Elmridge Road in Pawcatuck, Connecticut. The proposed activity will potentially affect the impoundment, Anguilla Brook, and associated wetlands.

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THE UNIVERSITY OF CONNECTICUT
INVITATION TO SITEWORK & GENERAL CONTRACTORS TO PRE-QUALIFY TO OFFER PROPOSALS FOR
GAMPEL AREA BOLLARDS
STORRS CAMPUS
PROJECT NUMBER #300067

RELEASED July 19, 2018
PROPOSALS DUE August 16, 2018 2:00 PM

THE UNIVERSITY OF CONNECTICUT IS ACCEPTING PRE-QUALIFICATION APPLICATIONS LIMITED TO THE AFOREMENTIONED PROJECT. THIS PROJECT IS OPEN TO DAS PREQUALIFIED SITEWORK & GENERAL CONTRACTORS ONLY.

TO FIND OUT MORE ABOUT THIS RFP AND THE REQUIREMENTS FOR SUBMISSION, PLEASE VISIT OUR WEBSITE: www.cpa.uconn.edu OR www.das.ct.gov/cra.aspx?page=12

The Purchasing Agent for the City of New London, CT will receive the following sealed Invitations for Bid:

Bid No. 2018-07: Restoration Services for the Water Street Garage

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City of New London - <http://ci.new-london.ct.us>
State of Connecticut - DAS <http://www.das.state.ct.us>

The City reserves the right to reject any and all bids, to waive minor irregularities in the bidding and to award the contract to other than the low bidder if deemed in the best interest of the City of New London.

Dedra Aker, Purchasing Agent

P26478

DOCKET NUMBER: KNL-CV-17-60323365
SUPERIOR COURT
JUDICIAL DISTRICT
OF NEW LONDON
AT NEW LONDON
THE Hon. Jeffrey A. McNamara, Judge of the Court of Probate, District of Niantic Regional Probate Court, by decree dated June 29, 2018, ordered that all claims must be presented to the fiduciary at the address below. Failure to promptly present any such claim may result in the loss of rights to recover on such claim.

NOTICE OF SALE

Pursuant to an order of the Court dated June 29, 2018, a public sale of a 1982 Holly Park Mobile Manufactured Home, Model #FKB2-MCHJ/2BSM, Serial No. 608-1491, owned by Shawn P. Green, Jr., shall be held at 27 D Street, Groton, Connecticut on July 24, 2018 at 4:30 pm. Any person, including a lien holder or the owner of the mobile manufactured home park, may bid at the sale. THE SALE WILL EXTINGUISH ALL PREVIOUS OWNERSHIP AND LIEN RIGHTS.

PLAINTIFF
BY: THOMAS T. LONARDO
ITS ATTORNEY
290 PRATT STREET
MERIDEN, CT 06450
203-639-9660 JURIS #401603

P26468

LEGAL NOTICE
TOWN OF LEDYARD, CONNECTICUT
INVITATION TO BID - BID #2019-01
SURPLUS EQUIPMENT-AMBULANCE

July 18, 2018

The Town of Ledyard seeks sealed bids for various lots of surplus EMS Equipment. Information to Bidders and available equipment may be obtained on the Town's Website at <http://ledyard.ct.gov/88/Request-for-Proposals-Bids>

P26457

NOTICE OF PERMIT
Application
Town: Stonington, CT

Notice is hereby given that Elmeridge Golf Course, Inc. (the "applicant") of 229 Elmeridge Road, Pawcatuck, Connecticut will submit to the Department of Energy and Environmental Protection an application under Connecticut General Statutes Section 22a-369 (WATER DIVERSION) for a permit to divert waters of the state.

Specifically, the applicant proposes to renew its existing permit to withdraw up to 0.2 mgd from an impoundment and Anguilla Brook as necessary for irrigation. The proposed activity will take place at 229 Elmeridge Road in Pawcatuck, Connecticut. The proposed activity will potentially affect the impoundment, Anguilla Brook, and associated wetlands.

Interested persons may obtain copies of the application from Mr. Scott Bighinatti of Milone & MacBroome, Inc., 99 Realty Drive, Cheshire, CT 06410, telephone (203) 271-1773.

The application will be available for inspection at the Department of Energy and Environmental Protection, Inland Water Resources Division, 79 Elm Street, Hartford, CT 06106-5127, telephone (860) 424-3019, from 9:30am to 4:30pm Monday through Friday.

P26462

COURT OF PROBATE, Niantic Regional Probate Court, NOTICE TO CREDITORS, ESTATE OF Chau Bik Sim Ark, AKA Chau B. Sim Ark (18-06339) The Hon. Matthew H. Greene, Judge of the Court of Probate, District of New London Probate Court, by decree dated July 12, 2018, ordered that all claims must be presented to the fiduciary at the address below. Failure to promptly present any such claim may result in the loss of rights to recover on such claim.

P26465
COURT OF PROBATE, Niantic Regional Probate Court, NOTICE TO CREDITORS, ESTATE OF Jacquelyn T. O'Rourke (18-0279) The Hon. Jeffrey A. McNamara, Judge of the Court of Probate, District of Niantic Regional Probate Court, by decree dated June 10, 2018, ordered that all claims must be presented to the fiduciary at the address below. Failure to promptly present any such claim may result in the loss of rights to recover on such claim.

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ATTACHMENT A

EXECUTIVE SUMMARY



ATTACHMENT A

Executive Summary

Elmridge Golf Course is an existing 27-hole golf course in a residential area in the Pawcatuck section of Stonington, Connecticut. The course was built in 1966 as an 18-hole course with an additional 9-hole expansion in 1994. Daily play is available for members and the general public.

The total acreage of the golf course is approximately 258 acres. Of the 258 acres, approximately 46 acres of turf are irrigated in fairways, tees, greens, bunkers, and ornamental landscaped areas. Most of the remaining 212 acres is comprised of rough that is not irrigated, wooded areas, wetlands, parking lots, and club house and maintenance building structures.

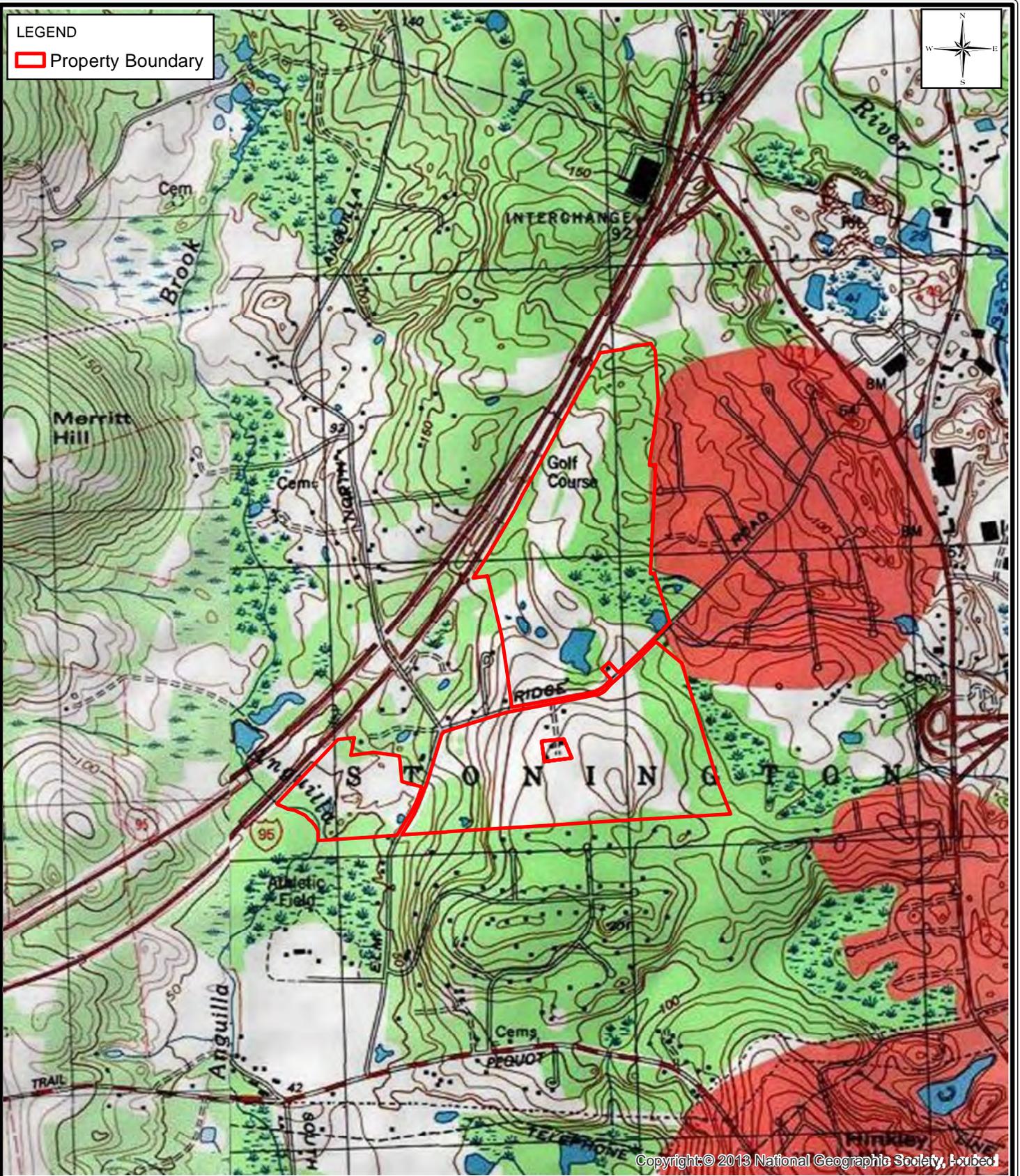
Elmridge Golf Course withdraws water from Anguilla Brook and from an onsite pond for irrigation purposes. Irrigated water is lost to evapotranspiration without any off-site discharge. DEEP water diversion permit DIV-200200024 authorizes withdrawals of up to 0.200 mgd from any combination of these sources, as well as authorizing transfers of water between Anguilla Brook and the pond. Elmridge Golf Course intends to renew its existing diversion permit without modifications. This application is supported by the long history of water use by Elmridge Golf Course, a soil scientist report, and a wildlife inventory and analysis.

ATTACHMENT B

TOPOGRAPHIC MAP

LEGEND

Property Boundary



99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773
www.mminc.com

TOPOGRAPHIC MAP

ELMRIDGE GOLF COURSE
WATER DIVERSION PERMIT RENEWAL

229 ELMRIDGE ROAD
PAWCATUCK, CT 06379

SOURCE: USGS 1997 TOPOGRAPHIC MAP, CT DEEP PARCEL & NDDB DATA 2017

DATE: MAY 9, 2018

SCALE: 1"=2000'

PROJ. NO.: 6441-01-4

DESIGNED SJB	DRAWN SJB	CHECKED DM
-----------------	--------------	---------------

DRAWING NAME:

ATT. B

ATTACHMENT D

DOCUMENTATION FORM FOR WATER DIVERSION PERMIT

Attachment D: Documentation Form for Water Diversion Permits (CGS Section 22a-369)

Applicants should review the application instructions (DEP-IWRD-INST-100) and CGS Section 22a-369 and 22a-373 and RCSA Sections 22a-372-1, 22a-377(b)-1, 22a-377(c)-1, and 22a-377(c)-2.

If more space is needed for your response, duplicate the form and attach additional pages to the form. If additional pages are attached, they should be numbered and titled to correspond to the specific number and title of the request for information on the application form.

1. Applicant Name: **Elmridge Golf Course, Inc.**
(as indicated on the *Permit Application Transmittal Form*)

2. Name of waters affected by diversion:
Anguilla Brook and associated wetlands, unnamed pond

3. Diverted water will be discharged after use to (name of watercourse or sewage treatment plant, or location of groundwater):
Runoff from irrigation does not occur but would discharge to Anguilla Brook or unnamed tributaries to the Pawcatuck River.

4. *Drainage Basins*

a. The diversion will be located in basin number(s): **2101**

(Basin numbers are delineated on a map compiled by the Connecticut Geological and Natural History Survey and entitled "Natural Drainage Basins in Connecticut, 1981", as amended. See "Available Resources" section in the application instructions.)

b. *Interbasin Transfer of Water* - Does the proposed diversion transfer water from one subregional drainage basin to another? Yes No

If Yes, the donor basin is number: **2100**

and the water will be used/discharged in basin number(s): **1000, 2101**

If Yes, an environmental impact report in accordance with CGS section 22a-369(10) may be required. Please call IWRD at 860-424-3019 to verify whether this requirement applies. If so, submit such an environmental impact report with this application as Attachment D4. See instructions (DEP-IWRD-INST-100) for this report.

Attachment D: Documentation Form (continued)

5. *Description of Site* – Describe all natural and man-made features at the property at which the regulated activity is proposed to be conducted.

Elmridge Golf Course is a 27-hole course generally set on a hilltop location and is bisected by Elmridge Road and North Anguilla Road. The 258-acre site includes approximately 46 acres of irrigated fairways, tees, greens, and ornamental landscaped areas. The remaining acreage is composed of rough that is not irrigated, wooded areas, wetlands, the parking lot, clubhouse, maintenance building structures, and cart paths.

The land surrounding the unnamed pond is primarily mowed fairways except the easterly/southeasterly edge which abuts some dense underbrush with maple and white pine trees. Wetlands are limited to the edge of water at the pond. The withdrawal point at Anguilla Brook consists primarily of light underbrush and maple trees. There are limited wetlands associated with the brook channel in this area, although a broader wetland area exists on the opposite side of the brook from the pump. Access to the brook is via a gravel drive 100 feet from a tee box.

Check here if additional sheets are necessary, and label and attach them to this sheet.

6. *Description of Diversion* - Describe the location, purpose, and general method of operation, and means for diverting, withdrawing, storing, distributing and discharging water associated with the proposed diversion.

Elmridge Golf Course withdraws water for irrigation purposes from an unnamed pond located on the north side of Elmridge Road, and from Anguilla Brook west of North Anguilla Road. The primary irrigation source is the 5,200,000-gallon pond. The current permit that authorizes a combined withdrawal of up to 0.2 mgd from one or both sources is sufficient to meet the needs of Elmridge Golf Course.

A portable pump is brought in and utilized as needed in order to withdraw water from Anguilla Brook. This pump is brought down to a landing areas not far from the brook, and a flexible hose inlet is then placed into an existing small pool area. The other end is connected to a pipe that supplies water to the irrigation system. During times of sufficient rainfall, the portable pump is stored in the maintenance building.

Both sources are connected to a series of underground pipes that provide water to the golf course greens, tees, and fairways. Controls are also in place that allow for transfer of water from Anguilla Brook to the pond for storage. There is no connection between the irrigation system and the potable water system.

Irrigated water is lost to evapotranspiration without any off-site discharge. The current permit that authorizes a combined withdrawal of up to 0.2 mgd from one or both sources is sufficient to meet the needs of Elmridge Golf Course.

Check here if additional sheets are necessary, and label and attach them to this sheet.

Attachment D: Documentation Form (continued)

7. *Withdrawal and Use of Water.*

- a. If the proposed diversion would cause or result in the withdrawal of water, provide the following information:

length of time for which a diversion permit is sought: **25 years**

average day - maximum month withdrawal: **0.15 mgd**

maximum daily withdrawal*: **0.2 mgd** **0.31 cfs**

maximum rate of withdrawal: gpm cfs

frequency of withdrawals: **12 hours/day** **365 days/year**

*This term means the largest volume of water withdrawn in any twenty-four hour period.

- b. If the proposed diversion is seasonal or is otherwise restricted to certain times of the year, describe the frequency of such diversion and the conditions therefore.

The withdrawal of water for irrigation is seasonal and typically occurs from April to September each year. Irrigation continued into October in 2004. Water usage primarily occurs from May through August each year and, on average, 115 days per year (up to 144 days during dry years). DIV-20020024 allows for year round withdrawals as needed.

- c. If this application is for the renewal of an existing diversion permit, describe any proposed change in (A) the rate, quantity or frequency of diversion, (B) mode of operation of the diversion, (C) withdrawal structures, including any change in the location of such structures, or (D) sources of water.

No changes to A, C, or D. For B., closer scrutiny of irrigation withdrawals by staff and management will occur to prevent overages and to ensure compliance with the 0.2 mgd permit limitation.

- d. Describe how the withdrawal and use of water will be metered or measured and controlled.

Both pumps are metered in accordance with DIV-20020024. Withdrawals through Pump 2 (Anguilla Brook) are separately tracked as to if flow is to the irrigation system or to the irrigation pond.

Attachment D: Documentation Form (continued)

8. *Need for Diversion* - Describe the need for the proposed diversion, including a detailed discussion of its objective(s) and anticipated benefits.

The diversion is essential to ensure adequate irrigation for the existing golf course. The golf course is open to the public thereby providing recreational opportunities to the public. Without a diversion permit to allow for irrigation, the investment the owners have made in developing the property into its present use could not be sustained as the quality of play would decline. The golf course would cease to be economically competitive with other courses and would likely have to close.

Check here if additional sheets are necessary, and label and attach them to this sheet.

Attachment D: Documentation Form (continued)

9. *Instream Flow Maintenance* - Is the proposed diversion designed, or will it be operated to provide, instantaneous flow or release of surface waters in the natural downstream direction below the diversion? Yes No

If Yes, describe the quantity, rate and frequency of such flow or release and how it will be measured or metered and controlled or maintained. If No, explain why providing instantaneous flow or release of surface waters is not proposed.

Check here if additional sheets are necessary, and label and attach them to this sheet.

Attachment D: Documentation Form (continued)

10. Will water be withdrawn for any use? Yes No

If Yes, include a Long-range Water Conservation Plan as Attachment D10. See instructions (DEP-IWRD-INST-100) for this Plan.

11. List the names and addresses of the known current holders of flowage easements or other flowage rights potentially affected by the proposed regulated activity.

Name:

Address:

City/Town:

State:

Zip Code:

Mailing address, if different than above:

Mailing Address:

City/Town:

State:

Zip Code:

Name:

Address:

City/Town:

State:

Zip Code:

Mailing address, if different than above:

Mailing Address:

City/Town:

State:

Zip Code:

Check here if additional sheets are necessary, and label and attach them to this sheet.

12. Will there be any pumping of water from wells? Yes No

If Yes, a hydrogeological report must be included as Attachment D12. See instructions (DEP-IWRD-INST-100) for this report.

13. Summary of Documents submitted with Attachment D: Check each document being submitted under Attachment D as verification that all applicable documents have been submitted.

Attachment D4: Environmental Impact Report - If the proposed diversion includes the transfer of water from one subregional drainage basin to another, then include an environmental impact report after consulting with IWRD. See instructions (DEP-IWRD-INST-100) for this report.

Attachment D10: Long-range Water Conservation Plan - If water will be withdrawn for any use, include a Long-range Water Conservation Plan. See instructions (DEP-IWRD-INST-100) for this Plan.

Attachment D12: Hydrogeological Report - If there will be any pumping of water from wells include a hydrogeological report. See instructions (DEP-IWRD-INST-100) for this report.

Other, please specify:

ATTACHMENT D4
ENVIRONMENTAL IMPACT REPORT

**ELMRIDGE GOLF COURSE, INC.
WATER DIVERSION PERMIT RENEWAL APPLICATION
FOR IRRIGATION WITHDRAWALS
229 ELMRIDGE ROAD, PAWCATUCK, CONNECTICUT**

ATTACHMENT D4

ENVIRONMENTAL IMPACT REPORT

JULY 2018

MMI #6441-01

Prepared for:

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1.0 INTRODUCTION

1.1 Organization of Document

This document has been prepared on behalf of Elmridge Golf Course in conjunction with a State of Connecticut Department of Energy and Environmental Protection (DEEP) water diversion permit renewal application. This application requests a diversion permit for the continued withdrawal of surface water from a combination of an irrigation pond and from Anguilla Brook for the purpose of irrigating a 27-hole golf course. A site location map is included in Attachment B of this permit application.

This Environmental Impact Report is organized as follows:

- Section 1.0 presents the background of the project.
- Section 2.0 contains a description of the water supply and distribution system and the proposed diversion.
- Section 3.0 presents an analysis of diversion alternatives.
- Section 4.0 presents existing conditions within the Anguilla Brook drainage basin and evaluates potential impacts of the proposed diversion on environmental and cultural resources of the basin.

1.2 Project Background

Elmridge Golf Course operates a 27-hole golf course at 229 Elmridge Road in Pawcatuck, Connecticut. The golf course is located on the sub-regional drainage basin divide between Anguilla Brook and the Pawcatuck River. The Rustici family originally developed the course with 18 holes in 1966. A nine-hole expansion in the northern and southwestern areas of the course was approved by the Town of Stonington in 1994 and subsequently constructed.

Elmridge Golf Course currently irrigates the golf course with surface water withdrawn from the irrigation pond located in the north central part of the course (Pump 1) and from Anguilla Brook in the southwestern portion of the site (Pump 2). Although withdrawals were occurring to support the golf course prior to the Water Diversion Policy Act of 1982, Elmridge Golf Course did not register its withdrawals.

Elmridge Golf Course originally applied for a diversion permit in 2001 which was granted on January 5, 2004 (DIV-200200024) for a period of 15 years. The current permit expires on December 24, 2018. The irrigation withdrawals permitted under the permit include 0.2 million gallons per day (mgd) of water from any combination of the irrigation pond and the brook. The 0.2 mgd limitation also applies to any withdrawals from Anguilla Brook transferred directly into the irrigation pond for future use. The subject permit application seeks to renew the existing sources of supply, withdrawal limitation, and other permit conditions for a 25-year period.



2.0 DETAILED DESCRIPTION OF THE PROJECT

2.1 Current Operations

Elmridge Golf Course has been using the irrigation pond on the golf course since 1966 and has been using Anguilla Brook for irrigation since 1994. The irrigation withdrawal is necessary to maintain turf grass to support quality of play. Water withdrawn for irrigation is metered and directed into the irrigation system which consists of 2.5-inch, 3-inch, and 4-inch diameter pipes and numerous sprinkler heads. The sprinkler heads are strategically located at tee boxes, along fairways, and on the outer edges of greens as shown by the location plan in Attachment G.

Withdrawals from the irrigation pond (Pump 1) occur via permanent pump located inside a small pumphouse. The pump is powered by a propane engine. Piping extends into the pond from the pumphouse and is suspended in the water column by small buoys. Water withdrawn from the pond is directed into the irrigation system.

Withdrawals of water from Anguilla Brook (Pump 2) occur via the use of a portable pump mounted on a trailer. The pump is seasonally brought down to a landing area not far from the brook, and a flexible hose inlet is then placed into an existing pool area. The pump directs flow to a pipe that supplies water to the irrigation system. The valves on the irrigation system can be operated to direct water from Anguilla Brook directly to the storage pond. Transfers conducted in this manner are separately tracked from withdrawals directed into the irrigation system for direct turf grass irrigation. During times of sufficient rainfall, the portable pump is stored in the maintenance building.

The currently permitted irrigation withdrawals include a limit of 0.2 mgd combined from the irrigation pond and/or Anguilla Brook. This quantity of irrigation withdrawal is needed to meet the current demands for irrigation at Elmridge Golf Course. The irrigated area of the golf course is estimated at 46 acres based on areas appearing more deeply green as delineated from 2016 aerial photography. Water used for irrigation is assumed to be 100% lost to evapotranspiration. The irrigation system was designed to be operated on the following schedule:

**Table 2-1
Irrigation System Parameters for Dry Conditions**

Location	Operation Time Per Day	Days of Irrigation Per Year	Irrigation Demand Per Day (gpd)
Tees	10-20 minutes	60	30,000
Greens	7-15 minutes	120	31,000
Fairways	10 minutes	120	105,000

The clubhouse at the site uses one bedrock well for nominal potable and sanitary purposes. There is no connection between the irrigation system and any potable water system. Potable and sanitary uses are not considered further in this permit application.

2.2 Historical Water Usage

As stated above, although pond withdrawals were begun in 1966 and brook withdrawals were begun in 1994, they were not permitted under the Water Diversion Policy Act until 2004. Withdrawals from the both sources have been metered since at least 1998. Historical operation and demand is summarized in Table 2-2 as based on production information available from ElmrIDGE Golf Course over the past 20 years.

**Table 2-2
Annual Water Demand (Gallons)**

Year	Irrigation Start Date	Irrigation End Date	Days of Irrigation	Pump 1 (Pond) to Irrigation	Pump 2 (Brook) to Irrigation	Water Applied to Turf Grass	Pump 2 Transfers to Pond	Total Withdrawal
1998	5/12	9/19	110	7,611,500	1,207,000	8,818,500	4,661,000	13,479,500
1999	5/4	9/24	128	8,968,500	1,510,000	10,478,500	5,621,000	16,099,500
2000	5/15	9/24	124	9,853,500	912,000	10,765,500	5,291,000	16,056,500
2001	5/15	9/21	113	8,563,000	1,288,000	9,851,000	4,195,000	14,046,000
2002	5/23	9/21	107	8,969,000	1,350,000	10,319,000	5,724,000	16,043,000
2003	5/12	9/28	107	6,116,000	1,344,000	7,460,000	1,633,000	9,093,000
2004	4/20	10/26	113	7,304,664	2,342,000	9,646,664	1,905,000	11,551,664
2005	4/19	9/30	124	9,950,000	4,838,700	14,788,700	4,996,300	19,785,000
2006	5/12	8/31	79	3,235,000	0	3,235,000	2,493,000	5,728,000
2007	4/2	9/9	135	9,038,000	872,000	9,910,000	2,975,000	12,885,000
2008	4/14	9/14	136	7,388,000	1,625,000	9,013,000	4,429,000	13,442,000
2009	4/21	9/23	90	5,176,000	852,000	6,028,000	0	6,028,000
2010	4/9	9/24	144	8,780,000	3,674,000	12,454,000	3,268,000	15,722,000
2011	4/1	9/14	111	7,526,000	762,000	8,288,000	2,832,000	11,120,000
2012	4/5	9/6	135	7,883,000	1,383,000	9,266,000	4,175,000	13,441,000
2013	4/4	9/25	128	6,998,000	1,684,000	8,682,000	2,077,000	10,759,000
2014	4/1	9/14	135	8,092,000	935,000	9,027,000	4,701,000	13,728,000
2015	4/21	9/30	110	8,906,600	3,364,000	12,270,600	2,983,700	15,254,300
2016	4/11	9/21	97	5,895,400	3,003,300	8,898,700	3,071,500	11,970,200
2017	4/10	9/18	77	4,605,700	2,144,300	6,750,000	393,000	7,143,000
Average			115	7,542,993	1,754,515	9,297,508	3,371,225	12,668,733

Based on the information in Table 2-2, approximately 60% of the water used by ElmrIDGE Golf Course originates from the irrigation pond, with the remainder withdrawn from Anguilla Brook. The number of days of irrigation has been generally consistent with the system design parameters presented in Table 2-1. Irrigation typically begins in April or May and lasts into September on most years (irrigation only continued into October in 2004). During wet years, fewer days of irrigation are necessary, while during drier years additional days of irrigation are necessary. The driest year for the course was 2010 when 144 days of irrigation were necessary.

The column in Table 2-2 depicting the volume of water applied to turf grass represents the volume of water necessary for irrigation. On average, ElmrIDGE Golf Course uses 9,297,508 gallons per year (or 342.4 acre-inches) to irrigate the 46 acres of tees, greens, fairways, and associated areas. This is equivalent to an irrigation requirement of 7.4 inches per year, less than the 8.9 reported by the DEEP¹ as the lower end of

¹ Connecticut Department of Environmental Protection, 2006, *Best Management Practices for Golf Course Water Use*, http://www.ct.gov/deep/lib/deep/water_inland/diversions/golfcoursewaterusebmp.pdf, Page 15.

the range for Connecticut golf courses. It is also equivalent to an average day demand (ADD) for the calendar year of 0.025 mgd. During the year of maximum irrigation use (2005), ElmrIDGE Golf Course used 14,788,700 gallons (or 544.6 acre-inches) of water directly for irrigation. This is equivalent to 11.8 inches, which is far less than the average of 18.2 inches reported by the DEEP¹ during a drought year. It is also equivalent to an ADD for the calendar year of 0.041 mgd. This usage is consistent with the long-held belief of ElmrIDGE Golf Course that they require less water for irrigation than other golf courses.

Table 2-3 presents the ADD for irrigation during each year of operation based on the number of days of operation for that year (Table 2-2), as well as the irrigation demand for each calendar month divided by the number of days in each month. The ADD on days when irrigation is occurring (average of 0.080 mgd) is significantly lower than expected for the system design in Table 2-1 (approximately 0.151 mgd). The maximum month average daily demand (MMADD) for irrigation typically occurs in July or August each year, with July having the highest irrigation demands on average.

**Table 2-3
Irrigation Average Day Demands (Gallons per Day)**

Year	ADD on Days of Irrigation	April ADD	May ADD	June ADD	July ADD	August ADD	September ADD	October ADD
1998	80,168	0	13,597	51,100	111,032	88,710	22,400	0
1999	81,863	0	24,145	63,133	131,032	89,097	33,733	0
2000	86,819	0	11,919	62,233	124,032	89,419	63,733	0
2001	87,177	0	17,419	58,067	129,871	81,871	33,500	0
2002	96,439	0	16,645	67,733	136,774	89,097	25,633	0
2003	69,720	0	9,737	48,983	69,649	94,276	20,233	0
2004	85,369	7,800	27,323	82,617	103,677	36,099	53,267	5,035
2005	119,264	10,233	28,968	100,623	127,161	144,355	71,600	0
2006	40,949	0	26,968	22,433	26,065	29,613	0	0
2007	73,407	23,133	60,742	65,067	74,161	93,710	5,900	0
2008	66,272	17,967	63,355	67,767	50,839	70,065	24,300	0
2009	66,978	10,233	28,968	50,300	44,871	59,226	2,900	0
2010	86,486	34,967	67,194	97,933	122,645	59,355	24,733	0
2011	74,667	23,367	27,000	66,733	62,839	70,161	20,833	0
2012	68,637	22,733	57,226	43,833	74,548	96,935	5,967	0
2013	67,828	22,733	61,710	27,333	92,613	64,129	13,600	0
2014	66,867	25,300	58,065	59,167	89,581	54,000	8,067	0
2015	111,551	10,233	28,968	67,633	155,194	101,290	36,187	0
2016	91,739	3,700	36,903	47,433	97,055	101,484	2,200	0
2017	87,662	2,933	25,355	53,733	76,365	55,355	6,023	0
Average	80,493	10,767	34,610	60,193	95,000	78,412	23,741	252

Table 2-4 presents average day irrigation demands for the irrigation period and for the calendar year over the last 20 years, the MMADD for irrigation each year over the last 20 years, and peak day demands (PDD) for irrigation for each year. MMADD for irrigation has averaged 0.102 mgd over the past 20 years. PDD for irrigation has averaged 0.200 mgd.

**Table 2-4
Average and Maximum Irrigation Demands (Gallons per Day)**

Year	ADD for Irrigation Period	ADD for Calendar Year	MMADD	Month of MMADD	PDD	Date of PDD
1998	67,835	24,160	111,032	July	200,000	7/15
1999	73,276	28,708	131,032	July	212,000	7/12
2000	81,557	29,495	124,032	July	203,000	7/13
2001	76,364	26,989	129,871	July	203,000	7/13
2002	85,281	28,271	136,774	July	218,000	7/11
2003	53,669	20,438	94,276	August	N/A*	N/A*
2004	51,041	26,429	103,677	July	244,000	7/21
2005	90,175	40,517	144,355	August	250,000	6/20, 6/21, 7/25, 7/26
2006	29,144	8,863	29,613	August	125,000	6/10, 7/10
2007	61,938	27,151	93,710	August	197,000	8/17
2008	58,908	24,693	70,065	August	178,000	8/20
2009	38,890	16,515	59,226	August	170,000	8/23
2010	74,131	34,121	122,645	July	190,000	7/12, 7/14
2011	49,928	22,707	70,161	August	182,000	7/20
2012	60,169	25,386	96,935	August	197,000	8/17
2013	49,897	23,786	92,613	July	185,000	8/2
2014	54,380	24,732	89,581	July	182,000	7/23
2015	75,744	33,618	155,194	July	250,000	7/27, 7/28
2016	54,593	24,380	101,484	August	208,000	7/6
2017	41,925	18,493	76,365	July	208,000	7/5
Average	61,442	25,473	101,632	July	200,105	

*Only weekly data available in 2004.

While the data in Table 2-3 and 2-4 is focused on irrigation demand, the Total Withdrawal presented in Table 2-2 includes transfers of water from Anguilla Brook to the irrigation pond for future use. As noted previously, these transfers are tracked separately in order to not confuse such transfers as direct irrigation demand for the day of transfer. Based on the data in Table 2-2, transfers of water from the brook to the pond represent approximately 27% of the total water usage at ElmrIDGE Golf Course.

Although transfers of water are not immediately used for irrigation, according to permit DIV-200200024 such transfers count against the 0.2 mgd combined maximum withdrawal from the pond and Anguilla Brook. Exceedances were reported to the DEEP by letter in June 2018. The exceedances are believed to be the result of operator error and/or mistakenly believing that the permit limit was actually 0.25 mgd. Many of the exceedances occurred on days when Pump 2 (withdrawals from Anguilla Brook) was used for both irrigation and for transfers to the irrigation pond.

Refer to Attachment D10 for more information regarding water usage at ElmrIDGE Golf Course. When the irrigation system is in operation, withdrawals typically occur for approximately 20 minutes. The irrigation system is manually controlled which may have led to some exceedances. Golf course staff were most recently trained regarding the permit limitations in June 2018. Future withdrawals from the pond and the brook (including transfers to the pond) are expected to stay within the 0.2 mgd permit limit.

2.3 Projected Water Usage

The projected water usage is expected to remain the same as historical values as no changes to the irrigation system or the amount of irrigation is proposed. Irrigation is expected to be necessary on an average of 120 days per year. The ADD for irrigation on the days irrigation is occurring is expected to average 0.080 mgd (0.11 mgd including transfers of water from the brook to the pond), and the MMADD for irrigation is expected to be around 0.102 mgd (0.15 mgd on average including transfers from the brook to the pond). These quantities are much lower than typical needs of 27-hole golf courses in Connecticut. These quantities will fluctuate from year to year depending on the amount of rainfall occurring. Future PDD will be 0.2 mgd in accordance with the permit limit.

Water withdrawn for irrigation will continue to be considered 100% lost to evapotranspiration. This includes transfers from Anguilla Brook to the irrigation pond, which are either later used for irrigation, directly lost to evaporation, or used as storage.

2.5 Length of Time for Which Diversion Permit is Sought

Elmridge Golf Course does not contemplate future expansion and believes the existing permit is adequate to meet its irrigation needs. Therefore, a permit duration of 25 years is requested for Elmridge Golf Course.

2.6 Quantity, Frequency, & Rate of Diversion

The requested diversion is for a withdrawal of up to 0.2 mgd from any combination of the irrigation pond (Pump 1) or Anguilla Brook (Pump 2) for irrigation. Withdrawals are requested to be able to occur 24-hours per day, 7 days per week in accordance with the above limits. Withdrawals from the irrigation pond and Anguilla Brook will continue to be metered. Withdrawals from Anguilla Brook directed to the irrigation pond will continue to be separately tracked but will also count against the combined 0.2 mgd maximum withdrawal limitation.



3.0 ALTERNATIVES ANALYSIS

As required by the DEEP's water diversion regulations, it is necessary to demonstrate that the proposed activity is the least environmentally damaging and most economically viable alternative to fulfill the objective of supplying irrigation water to the course. The following alternatives must be evaluated, at a minimum: (1) taking no action; (2) postponing action pending further study; (3) taking actions of a different nature; and (4) conducting the proposed activity at a different location.

A total of 9 alternatives for supplying irrigation water were evaluated as part of this assessment:

- Alternative 1 – Utilize irrigation pond and Anguilla Brook for irrigation (existing and proposed condition)
- Alternative 2 – Diversion of storm water to irrigation pond
- Alternative 3 – Utilize water from the nearest public water supply system
- Alternative 4 – Utilize treated effluent water from the nearest municipal wastewater treatment facility
- Alternative 5 – Install overburden irrigation wells
- Alternative 6 – Install bedrock irrigation wells
- Alternative 7 – Shutdown or move operations
- Alternative 8 – Water conservation
- Alternative 9 – No action

Alternatives 1-7 describe different methods of obtaining irrigation water at Elmridge Golf Course, including taking actions of a different nature and conducting the proposed activity at a different location. Alternative 1 is the existing condition and the proposed alternative. Alternative 7 also describes the consequences if eliminating the diversion altogether is considered. Alternative 8 describes water conservation methods which are included (in part) with some components of the preferred alternative. Alternative 9 is required by diversion permit guidelines.

Each of the alternatives for irrigation water was assessed in terms of its feasibility and environmental impact in the context of being able to provide 0.2 mgd of irrigation supply. Alternatives that appeared feasible were further evaluated for economic viability. Hydrologic and hydrogeologic data provide the framework within which the environmental impacts were evaluated.

While several alternatives are feasible from an engineering viewpoint, the evaluation has shown that Alternative 1, the requested action, is believed to be most prudent with respect to environmental effects, economic viability, and other conditions and factors. Table 3-1 summarizes the results of the assessment of the feasibility and prudence of each alternative.

**Table 3-1
Summary of Feasibility and Prudence of Each Alternative**

Alternative	Is the Alternative Feasible?	Is the Alternative Prudent?
1 – Utilize irrigation pond and Anguilla Brook for irrigation (existing and proposed condition)	Yes	Yes
2 – Diversion of storm water to irrigation pond	Yes	No
3 – Utilize water from nearest public water supply system	Yes	No
4 – Utilize treated effluent from the nearest municipal wastewater treatment facility	Yes	No
5 – Install overburden irrigation wells	Yes	No
6 – Install bedrock irrigation wells	Yes	No
7 – Shutdown or move operations	No	No
8 – Water conservation	No	Yes
9 – No action	No	No

3.1 Alternative 1 – Utilize Irrigation Pond and Anguilla Brook for Irrigation (Existing and Proposed Condition)

The requested action is believed to be feasible and prudent because it continues to rely on existing infrastructure at the pond and the brook for irrigation water. The existing irrigation pond has been in use since 1966, and the withdrawal from Anguilla Brook has been in use since 1994. Alternative 1 is the preferred alternative because it has demonstrated long-term feasibility without adverse environmental impacts. Section 4.2 evaluates the potential impact to instream flow in Anguilla Brook from the diversion. Based on the assessment in Attachment J, the long-term withdrawals for irrigation have not negatively impacted the functions and values in the vicinity of the irrigation pond or from Anguilla Brook.

3.2 Alternative 2 – Diversion of Stormwater to Irrigation Pond

This alternative considers using water from storm water runoff to supplement the water in the irrigation pond in place of using Anguilla Brook. There is no significant environmental impact to streams when storm water is collected, because only the peak flows associated with heavy rains are reduced. Natural infiltration to the ground water table is not impaired in the watersheds, and stream base flows are not substantially reduced.

The traditional means of collecting storm water, such as constructing ponds in upland areas near the bases of sloped areas, would be difficult for ElmrIDGE Golf Course based on the current configuration of the course, the topography, and the locations of wetlands on the site. ElmrIDGE Golf Course is primarily located on a ridgeline on the drainage basin divide between Anguilla Brook and the Pawcatuck River. There are few areas of the property where surface drainage consolidates into visible depressions, and these areas are typically located at the outer edges of the property. The creation of new ponds would be necessary to store stormwater and redirect it to the irrigation pond via pumping. Such storage may negatively affect nearby wetlands partially reliant on surface water runoff, and is not considered to be a prudent alternative.

A more feasible option for retaining storm water on-site would be to (1) expand the existing storage pond to hold a greater volume of water, and (2) line the pond to prevent leakage into the aquifer. If these were

completed, then ElmrIDGE Golf Course could skim storm flows from Anguilla Brook using a surface water intake pipe, and store the water in the pond. If storm flows were skimmed without lining the pond, it is likely that the pond level would simply equilibrate with the ground water table. Furthermore, if the pond was not expanded, there would not be sufficient volume to store the storm water, nor would sufficient storage be available to meet the irrigation needs of the 27-hole course (recall that Anguilla Brook was used for irrigation beginning with the 9-hole expansion in 1994).

While it may be feasible to line and expand the pond, it is less certain that these activities would be permitted by the Town of Stonington, the DEEP, and the U.S. Army Corps of Engineers. Expansion of the pond would involve excavation in delineated wetlands, as well as eliminating forested habitat east of the existing pond. Thus, surface skimming and storage in the pond is not a prudent alternative.

3.3 Alternative 3 – Utilize Water from Nearest Public Water Supply System

The nearest public water system to ElmrIDGE Golf Course is the Westerly Water Department which serves Fairview Drive. Based on information on the DPH website, the terminus of the existing service is at the intersection of Fairview Drive and ElmrIDGE Road approximately 1,700 feet to the east of ElmrIDGE Golf Course. Extension of public water to the golf course to direct into the irrigation pond would therefore be feasible.

ElmrIDGE Golf Course would likely need to bear the cost of construction (conceptually estimated \$300,000 at \$150 per foot plus design fees, permits, incidentals, etc.) an amount which would not be prudent for ElmrIDGE Golf Course to finance at this time. Furthermore, based on the customer rates posted for 2018², the Westerly Water Department could provide metered irrigation water at a rate of \$4.66 per 100 cubic feet plus a meter service charge. Assuming that purchased water was only used to replace withdrawals from Pump 2 (Anguilla Brook), during a dry year like 2016 the course would need approximately 6 million gallons for a total water charge of \$37,843. This cost is prohibitive to ElmrIDGE Golf Course.

Finally, the use of treated potable water supplies for irrigation of up to 0.2 mgd is not prudent because high-quality drinking water should normally be reserved for potable supply. The *State Water Plan* (January 2018) recommends use of Class B water or other sources other than high quality potable water for non-potable purposes. This alternative would also not be feasible under drought conditions if water bans were enacted by the utility.

3.4 Alternative 4 – Utilize Treated Effluent from Nearest Municipal Wastewater Treatment Facility

The use of treated wastewater (effluent) for non-potable purposes such as golf course irrigation is commonplace in arid climates such as the western United States. Assuming that the DEEP and DPH would approve a course irrigated with effluent, it would be feasible from an engineering viewpoint to design such a system for a golf course.

However, the closest sewage treatment plant is approximately 25,000 feet away in southeastern Stonington. The potential costs associated with the construction of a pipeline from the treatment plant include, at a minimum, capital costs for the pipeline (\$150 per foot or more) and at least one pumping

² <https://westerlyri.gov/190/Billing>

station, and permitting fees for Connecticut DOT and Town of Stonington approvals. Total project costs would be on the order of \$4 million or greater, and therefore this alternative is not prudent.

3.5 Alternative 5 – Install Overburden Irrigation Wells

The ElmrIDGE Golf Course is primarily located on a ridgeline between Anguilla Brook to the west and the Pawcatuck River to the east. According to the 2005 *Quaternary Geologic Map of Connecticut*, The majority of the site is underlain by glacial till, which has a low hydraulic conductivity and is not suitable for use as an irrigation water supply. The area of the property along Anguilla Brook is mapped as Anguilla Brook deposits, with the sediment consisting of sand and gravel overlying sand. This area may be suitable for irrigation well development, which could be stored in the irrigation pond. In addition, the analysis³ by Bingham (1991) suggests that well development of up to 0.2 mgd would be possible in the Anguilla Brook aquifer. Therefore, this alternative is feasible.

Development of irrigation wells would not be prudent as installation would be expensive (\$25,000 or more per well) and would result in environmental impacts along Anguilla Brook that are either similar to, or potentially more adverse than current existing conditions. Furthermore, if any nearby property owners are using dug wells, the water level in their wells could be impacted by pumping from irrigation wells.

3.6 Alternative 6 – Install Bedrock Irrigation Wells

Based on data from private well logs in the USGS Report *Hydrogeologic Data for the Lower Thames and Southeastern Coastal River Basins, Connecticut*, the bedrock well yield in the vicinity of ElmrIDGE Golf Course averages approximately 5 gpm. Assuming that this yield would be available from new bedrock wells, at least 28 bedrock wells would be needed to replace the existing irrigation sources and produce 0.2 mgd. While technically feasible, installation of 28 wells would be very costly. Even if some of the wells had higher yields and the number of needed wells could be reduced, the drilling and pump costs would be upwards from \$250,000.

Even if bedrock wells were only used to replace the surface water withdrawal from Anguilla Brook, a high number of wells would be necessary. Recall that approximately 6 million gallons of water was withdrawn from Anguilla Brook during the 2016 dry irrigation season. This irrigation occurred over 97 days in 2016, for an average withdrawal of 62,000 gallons per day. A 5 gallon per minute well can produce 7,200 gallons per day. Thus, at least 9 wells would be needed to replace the Anguilla Brook source, which would still cost approximately \$90,000.

Furthermore, the use of on-site bedrock wells for irrigation would have the potential to cause drawdown of private bedrock wells adjacent to the site; cause drawdown in wetlands that currently do not have impacts associated with the current irrigation sources; and potentially cause instream flow impacts in the Pawcatuck River drainage basin. Therefore, this alternative is not considered to be prudent.

³ Bingham, J. W., 1991, *Water Availability and Quality from the Stratified Drift in Anguilla Brook Basin, Stonington and North Stonington, Connecticut*, Hartford, CT: U.S. Geological Survey Water-Resources Investigations Report 85-4276, <https://pubs.usgs.gov/wri/1985/4276/report.pdf>, 56 pp.

3.7 Alternative 7 – Shutdown or Move Operations

This alternative consists of ceasing all irrigation withdrawals from the ElmrIDGE Golf Course either temporarily or permanently. Shutting down irrigation would have significant adverse effects on the business and its employees. Given that the ElmrIDGE Golf Course is the primary source of income for its employees, eliminating irrigation would reduce the quality of play at the facility and result in members and the general public playing elsewhere. The loss of income makes this alternative not economically feasible. This action is not prudent for several reasons, including:

- Golf Course operations have coexisted more than 50 years with the surrounding environment;
- Previous evaluations and permits have shown that the requested withdrawal rates are feasible, sustainable, and have minimal impacts that require mitigation;
- Irrigation withdrawals from the pond and brook were previously permitted at the same rate requested in this permit renewal; and
- Both sources are viable sources of supply for the diversion under active conditions.

Moving operations to another location is neither feasible nor prudent. Very few new golf courses have been built in Connecticut over the past 20 years, and new course development is generally considered to be infeasible given the regulatory environment at the local and state level.

3.8 Alternative 8 – Water Conservation

Water conservation alone is not a feasible alternative for the requested diversion. Without irrigation water, the quality of the course cannot be maintained. Furthermore, reducing water demands to less than 50,000 gallons per day so that a diversion permit is no longer required is not feasible or prudent for the same reasons discussed in Alternative 7. Recall from Section 2.1 that the irrigation system is designed based on 0.151 mgd of water need, and that ElmrIDGE Golf Course uses significantly less than other 27-hole golf courses in Connecticut.

Water conservation will continue to be an important component of the golf course management plan. Certain elements of water conservation have been built into the existing irrigation plan, and the requested diversion assumes that these elements will be implemented. Refer to the *Water Conservation Plan* (Attachment D10) for details about conservation.

3.9 Alternative 9 – No Action

Under this scenario, ElmrIDGE Golf Course would depend only on precipitation for survival of turf, would withdraw less than 50,000 gallons per day, or would continue drawing at its current rates without a permit. Taking no action with respect to withdrawals under the first two scenarios would prevent the course from retaining its quality, and therefore its attraction to members and the public. Withdrawing water at the current rates without a permit would be a violation of state law and subject ElmrIDGE Golf Course to fines and other legal ramifications. Therefore, this alternative is not considered to be feasible or prudent.



4.0 ASSESSMENT OF EXISTING ENVIRONMENTAL RESOURCES AND EVALUATION OF POTENTIAL IMPACTS IN THE ANGUILLA BROOK AND PAWCATUCK RIVER DRAINAGE BASINS

4.1 Interbasin Transfer

The Elmridge Golf Course is located partially within the Anguilla Brook sub-regional drainage basin (#2101) and partially within the Pawcatuck River sub-regional drainage basin (#1000) as shown in Figure 4-1. Currently, water is withdrawn from a large irrigation pond and from Anguilla Brook to provide irrigation water. Withdrawals typically occur during the spring, summer, and fall on any day of the week.

Both sources lie entirely within the Anguilla Brook sub-regional drainage basin, while the some of the irrigated golf course area (approximately 18 acres) lies within the Pawcatuck River sub-regional drainage basin. Therefore, approximately 28 of the 46 irrigated acres (60%) lie within the Anguilla Brook drainage basin. Water used for irrigation is assumed to be lost to evapotranspiration and 100% consumed.

4.2 Description of Anguilla Brook and Pawcatuck River Drainage Basins

The majority of the Elmridge Golf Course property (approximately 55%, including the irrigation pond and the withdrawal point from Anguilla Brook) are located in the Anguilla Brook drainage basin. The remaining 45% of land drains to the Pawcatuck River. The Anguilla Brook drainage basin is located in southeastern Connecticut within the towns of North Stonington and Stonington. The basin encompasses an area of 5.08 square miles upstream of the Pump 2 withdrawal point and eventually drains to Long Island Sound. Refer to the *StreamStats output* in Appendix A for a depiction of the Anguilla Brook basin upstream of the withdrawal point.

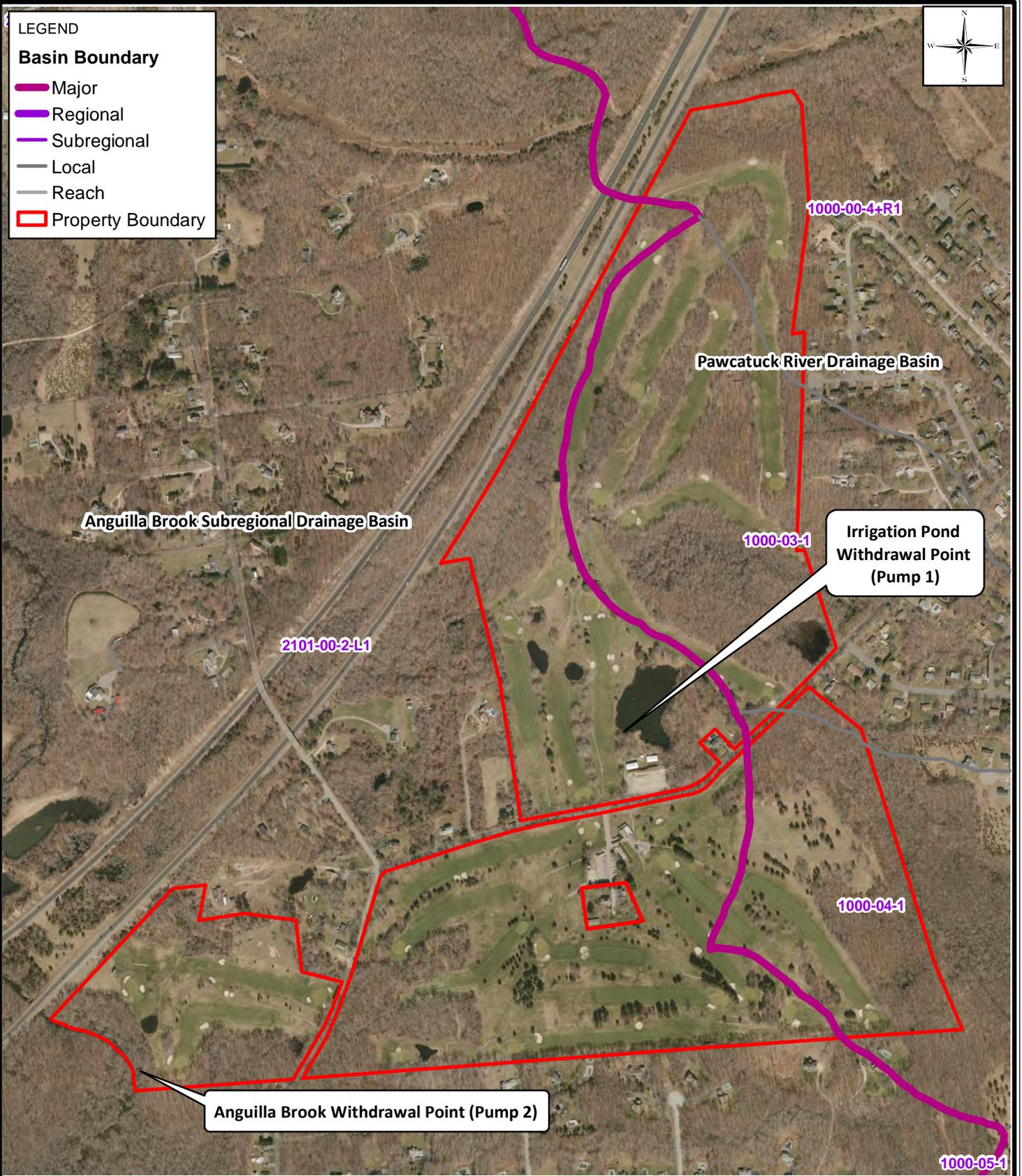
The Pawcatuck River drainage area is approximately 317 square miles in Connecticut and Rhode Island and also drains to Long Island Sound. As sources do not exist in the Pawcatuck River basin, and irrigation water applied to the golf course is lost to evapotranspiration without runoff, a detailed discussion of this basin is not necessary.

Anguilla Brook is approximately three miles in length upstream of the Pump 2 withdrawal point, originating from a forested wetland south of Rocky Hollow Road in North Stonington. The Anguilla Brook watershed is mostly forested along the stream corridor, passing through one residential development in North Stonington and adjacent to agricultural properties in Stonington. Wheeler Brook is a named upstream tributary. Downstream of the Elmridge Golf Course property, Anguilla Brook passes through mostly forested areas interspersed with light residential areas before reaching its confluence with Long Island Sound.

LEGEND

Basin Boundary

-  Major
-  Regional
-  Subregional
-  Local
-  Reach
-  Property Boundary




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DRAINAGE BASIN MAP

ELMRIDGE GOLF COURSE
 WATER DIVERSION PERMIT RENEWAL

229 ELMRIDGE ROAD
 PAWCATUCK, CONNECTICUT

SOURCE: CTDEEP, BING AERIAL PHOTO

DATE: JUNE 18, 2018
 SCALE: 1"=750'
 PROJ. NO.: 6441-01-4

DESIGNED SJB	DRAWN SJB	CHECKED DM
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DRAWING NAME:
FIG. 4-1

4.3 Evaluation of Potential Impacts on Instream Flows

The irrigation pond at ElmrIDGE Golf Course lies within the Anguilla Brook sub-regional drainage basin in the headwaters of an unnamed tributary. The 5.2 million gallon pond is not an impoundment of a watercourse; in other words, watercourses do not flow into it, although it has a pipe which drains into the small golf course pond to the northwest. Outflow from the irrigation pond only occurs when the pond is full. These ponds eventually outflow to Anguilla Brook via an unnamed tributary which reaches its confluence just upstream of the Pump 2 withdrawal point.

The base flow into the irrigation pond was estimated based upon flow duration curves (Appendix A) published by the United States Geological Survey (USGS) in the *Water Resources Inventory of Connecticut, Part 3, Lower Thames and Southeastern Coastal River Basins* (Thomas, Jr., et al., 1968). The methods used above to estimate statistical low flows for a stream were used to estimate groundwater discharge to the impoundment, with the assumption that groundwater base flow to the impoundment is roughly equal to the 80% duration flow of an equivalent stream. The justification for this assumption is that the 80% duration flow of a watercourse is typically representative of base flow.

The drainage area to the pond is 20.3 acres. The watershed is comprised of 0.7% stratified drift. Based on the flow duration curve, the resulting estimated groundwater inflow to the pond is 0.004 cfs (only 2,585 gallons per day, or 943,525 gallons per year).

Based on these computations, the irrigation pond appears to be fed largely from surface water runoff during rain events, and the contribution to Anguilla Brook from this watershed would have a minimal impact on instream flows. Much of the water withdrawn from the irrigation pond for use is from the 5.2 million gallons of storage. Thus, use of the irrigation pond mitigates potential withdrawal impacts to Anguilla Brook.

Statistical flows of Anguilla Brook were estimated based upon flow duration curves (Appendix A) published by the United States Geological Survey (USGS) in the *Water Resources Inventory of Connecticut, Part 3, Lower Thames and Southeastern Coastal River Basins* (Thomas, Jr., et al., 1968). Statistical flows were also estimated using low flow equations developed by the USGS by Weiss, Cervione, and others based on 1941-1970 data (Appendix A). Statistical flows were additionally estimated using the regression equations published in *StreamStats* (Appendix A). Table 4-1 summarizes these flows.

According to the USGS, the 99% duration flow determined statistically for an ungauged stream is approximately equal to the seven day, 10-year (7Q10) flow for that stream. Table 4-2 presents the 7Q10 flow data from each methodology in comparison to the projected average day, maximum month average day, and peak day irrigation demands projected in Section 2.3.

**Table 4-1
Estimated Statistical Flows for Anguilla Brook at Pump 2 Withdrawal Point**

Statistical Flow	Discharge estimated from Stratified Drift Curves in USGS Basin Report	Discharge estimated from USGS Statistical Low Flow Equations	Discharge (cfs) estimated from StreamStats (2010)
99% duration/7Q10	0.56 cfs or 0.36 mgd	0.76 cfs or 0.49 mgd	0.29 cfs or 0.19 mgd
95% duration/7Q2	0.97 cfs or 0.63 mgd	1.09 cfs or 0.70 mgd	-
90% duration/30Q2	1.4 cfs or 0.90 mgd	1.3 cfs or 0.84 mgd	-
85% duration	1.6 cfs or 1.0 mgd	-	-
80% duration	2.1 cfs or 1.4 mgd	-	-
50% duration	6.4 cfs or 4.1 mgd	8.0 cfs or 5.2 mgd	-
25% duration	11.2 cfs or 7.2 mgd	-	13.8 cfs or 8.9 mgd

**Table 4-2
Irrigation Usage Percentage of 7Q10 Flow for Anguilla Brook at Pump 2 Withdrawal Point**

Irrigation Demand Period	Percentage of Withdrawal Estimated from Stratified Drift Curves in USGS Basin Report	Percentage of Withdrawal Estimated from USGS Statistical Low Flow Equations	Percentage of Withdrawal Estimated from StreamStats (2010)
ADD (0.080 mgd)	22%	16%	42%
MMADD (0.102 mgd)	28%	21%	54%
PDD (0.200 mgd)	56%	41%	105%

As noted in Section 2.2, only 19% (on average) of the irrigation demand at ElmrIDGE Golf Course is directly withdrawn from the brook with the remainder withdrawn from the pond, and irrigation demands are not needed every day as noted in Section 2.1. Thus, the percentages presented in Table 4-2 for direct impacts to Anguilla Brook are actually lower during periods of low-flow. Based on the existing flow management and the assessment in Attachment J, the total withdrawal for the existing and proposed diversion can therefore represent a high percentage of instream flow under very dry conditions without adverse environmental impacts becoming apparent along the brook.

4.4 Evaluation of Potential Impacts to Fish Habitat

Anguilla Brook is generally considered a productive fisheries habitat, while the irrigation pond is not managed for fisheries. These are described below.

Irrigation Pond

The 5.2 million gallon irrigation pond appears to support warm water species as noted in Attachment J. The pond has not been surveyed for species although some are occasionally visible in the pond. According to ElmrIDGE Golf Course staff, largemouth bass and a variety of pumpkinseed fish are present in the pond. The irrigation intake hose is screened to prevent entrainment of aquatic species. It is expected that any species present in the pond have adapted to the regularly fluctuating water levels in the impoundment each year.

It is believed that the pond has a moderate dissolved oxygen level due to the lack of a wind barrier on the western side of the pond. The lack of a wind barrier allows for oxygen to naturally be mixed through wave action. Furthermore, the movement of water by wind (and to a lesser extent, the irrigation pond) appears to have prevented large algal blooms from overtaking the pond.

Anguilla Brook

The section of Anguilla Brook near the Pump 2 withdrawal point varies in water depth from shallow (three to five inches) to moderate depth (10 inches) under normal bankfull, non-flood conditions. The approximate width of the brook is 22 feet wide. Fallen trees occur in and across the brook, and well-developed vegetation such as trees and shrubs line the edge of the brook. The sediments in the brook channel consist of firm sand with cobblestones and a few large rocks.

The site of the irrigation pump hose is a circular cutout or inlet of the brook bank that is approximately 13 feet by 25 feet in size. Two handmade rock diversion dams have been placed to direct water flow into the irrigation pump area where the hose is located. The end of the irrigation hose is screened to prevent entrainment of aquatic species.

The DEEP Fisheries division was contacted in order to obtain information regarding any DEEP fisheries surveys of Anguilla Brook in order to determine which species may be present. The information received from DEEP indicates that DEEP conducted fisheries surveys of the brook on June 21, 1993 and on September 15, 2010:

- The survey on June 21, 1993 occurred at 8:15 AM and evaluated a 150-meter length of brook upstream of Route 234 (Pequot Trail). The section included long pools and overgrown riffles with abundant submerged aquatic vegetation including watercress. The substrate was noted as good and consisted of gravel. The mean width of the surveyed area was 4.75 meters and the mean depth was 24.75 centimeters. Wild brook trout were noted during the survey.
- The survey on September 15, 2010 occurred at mid-day and evaluated a 56-meter length of brook immediately upstream of Route 1 (South Broad Street). This location is farther downstream than the site evaluated in 1993. The substrate was noted as fine sand.

Table 4-3 and Table 4-4 summarize the DEEP Fisheries data for Anguilla Brook. Both fisheries surveys were taken downstream of Elmrige Golf Course such that the species would be downstream, and therefore potentially affected by, the irrigation withdrawals. The samples indicate that a fairly diverse fisheries population inhabits the downstream reaches of the brook.

A survey of Anguilla Brook in the vicinity of the Pump 2 withdrawal point was conducted by Dr. Frank J. Dirrigl, Jr. of Teikyo Post University on August 24 and August 28, 2003 (Appendix B). During this survey, tessellated darter (*Etheostoma olmstedii*) was observed including immature (1 inch in length) to mature (4 inches) sizes. Dr. Dirrigl's report also indicates that rainbow trout (*Oncorhynchus mykiss*) are known to occur in Anguilla Brook, although this species was not seen in either of the two recent DEEP surveys presented in Table 4-3 and Table 4-4.

Table 4-3
Fish Species in Anguilla Brook Upstream of Route 234 Bridge
Sampled by DEP on June 21, 1993

Scientific Name	Common Name	Number Present
<i>Anguilla rostrata</i>	American eel	101
<i>Salvelinus fontinalis</i>	Brook trout*	34
<i>Salmo trutta</i>	Brown trout	17
<i>Lepomis macrochirus</i>	Bluegill	18
<i>Luxilus cornutus</i>	Common shiner	8
<i>Erimyzon oblongus</i>	Creek chubsucker	2
<i>Esox americanus</i>	Grass / redfin pickerel	38
<i>Semotilus corporalis</i>	Fallfish	28
<i>Micropterus salmoides</i>	Largemouth bass	3
<i>Etheostama olmstedii</i>	Tessellated darter	24
<i>Catostomus commersoni</i>	White sucker	5
<i>Lepomis gibbosus</i>	Pumpkinseed	4
<i>Oncorhynchus mykiss</i>	Rainbow trout	2

* 33 of the 34 instances of brook trout were wild (non-stocked)

Table 4-4
Fish Species in Anguilla Brook Upstream of Route 1 Bridge
Sampled by DEP on September 15, 2010

Scientific Name	Common Name	Number Present
<i>Anguilla rostrata</i>	American eel	11
<i>Ameiurus nebulosus</i>	Brown bullhead	1
<i>Lepomis macrochirus</i>	Bluegill	3
<i>Erimyzon oblongus</i>	Creek chubsucker	7
<i>Notemigonus crysoleucas</i>	Golden Shiner	42
<i>Micropterus salmoides</i>	Largemouth bass	1
<i>Lepomis gibbosus</i>	Pumpkinseed	1
<i>Esox americanus</i>	Grass / redfin pickerel	3

According to the DEEP, stocking of brook and brown trout has previously occurred in the section of Anguilla Brook downstream of Elmridge Golf Course. According to a DEEP stocking map⁴ dated April 18, 2017, stocking locations include Route 234, off South Anguilla Road, and at Route 1 (Broad Street). However, the 2017 Fish Stocking Report⁵ does not indicate that Anguilla Brook was recently stocked with fish.

As these species are present over a relatively long area of Anguilla Brook from Elmridge Golf Course down to Route 1, an area bounded by residential uses, agricultural uses, commercial uses, several roadway crossings, and protected lands, it appears that adequate habitat exists along the brook to support fisheries. Therefore, sufficient flow appears to be present to support these species despite the irrigation withdrawals of the Elmridge Golf Course as well as Stonington Country Club further upstream.

⁴ http://www.ct.gov/deep/lib/deep/fishing/stockingmaps/anguilla_brk_stonington.pdf

⁵ http://www.ct.gov/deep/lib/deep/fishing/general_information/fishdistributionreport.pdf

Given the fact that the overall impact of the irrigation withdrawal (from the impoundment) on appears to be minimal, and the fact that the quality of water in the impoundment is not expected to be degraded due to the requested action, it is the opinion of the applicant that fish habitats in the impoundment have not and will not be adversely impacted.

Furthermore, given the fact that the overall impact of the water diversion on instream flows appears to have been minimal despite the diversion being a relatively high percentage of the 7Q10 discharge in the brook, and the fact that the quality of water in Anguilla Brook has not been negatively impacted by the diversion, and that the diversion will continue to operate in the same manner as historically operated, adverse impacts to fish habitat due to instream flow are not anticipated.

4.5 Identification of Existing Water Uses and Potential Conflicts

According to the Connecticut DEEP lists of registered and permitted diversions⁶, registered water diversions are not located in the Anguilla Brook drainage basin. Other permitted water diversions in the Anguilla Brook drainage basin include only the Stonington Country Club irrigation withdrawals of up to 0.3 mgd (DIV-200301942) upstream of ElmrIDGE Golf Course. Additional surface water withdrawals may be possible in the drainage basin for agricultural purposes, but there do not appear to be any that use more than 50,000 gallons per day. Therefore, water use conflicts are not anticipated in the drainage basin.

4.6 Evaluation of Potential Impacts to Public and Private Wells

The withdrawals from the irrigation pond and Anguilla Brook involve surface water. Because pumping from groundwater does not occur for irrigation, impacts to nearby wells are not likely. ElmrIDGE Golf Course utilizes a 240-foot bedrock well for potable purposes. The well is located in the vicinity of the clubhouse and owner's house in the south-central area of the property. Impacts to the water level in the well have not been reported by staff over the past 50 years of usage from the irrigation pond.

Any private dug wells would be located even further away than the ElmrIDGE Golf Course bedrock well, and impacts to other private wells installed in bedrock are similarly unlikely. Although such private wells are likely in use along ElmrIDGE Road and North Anguilla Road, these wells would not be impacted by withdrawals from surface water sources.

Public water supply wells are not located near the facility. The nearest stratified drift groundwater wells are owned by Aquarion Water Company and are located in the Copsps Brook sub-regional drainage basin to the west of the site.

4.7 Evaluation of Potential Impacts to Ground Water Recharge/Discharge

Irrigation water is drawn from surface water from the pond and from Anguilla Brook. Withdrawals from the pond reduce the groundwater level in the vicinity of the pond and support groundwater discharge into the pond.

Anguilla Brook is likely a gaining stream in the vicinity of the withdrawal point with instream flow supported by groundwater discharge. Withdrawals from the brook have a temporary effect on brook

⁶ http://www.ct.gov/deep/cwp/view.asp?a=2720&q=404934&depNav_GID=1654

stage. The effect is a periodic reduction of streamflow along Anguilla Brook and an associated reduction in stream stage along the brook.

4.8 Evaluation of Potential Impacts on Wastewater Treatment and Waste Assimilation

There are no known facilities that discharge effluent to Anguilla Brook. Therefore, the irrigation water withdrawals at ElmrIDGE Golf Course are not in conflict with waste assimilation needs in the brook.

4.9 Evaluation of Potential Impacts on Water Quality

The Connecticut DEEP has adopted water quality classifications and goals for all surface waters and ground water within the State of Connecticut.

Surface Water

Anguilla Brook is categorized as a Class A watercourse. As a Class A watercourse, its designated uses include potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply, and other legitimate uses including navigation. Discharge is limited to public or private drinking water treatment systems, dredging and dewatering, emergency and clean water discharges. Anguilla Brook is not listed in the document "2016 State of Connecticut Integrated Water Quality Report". An unnamed tributary to the Pawcatuck River draining eastward from ElmrIDGE Golf Course is also categorized as Class A.

With regard to ElmrIDGE Golf Course, continued use of best management practices in accordance with the 2006 *Best Management Practices for Golf Course Water Use* document published by the CT DEEP will prevent degradation of Anguilla Brook and the unnamed tributary to the Pawcatuck River. This is accomplished through the use of riparian vegetated buffers along the banks of golf course wetlands (such as the buffer area between the course and Anguilla Brook), using erosion and sediment control measures during course modifications, and the use of Integrated Pest Management techniques to prevent overuse of pesticides.

An evaluation of the water quality of Anguilla Brook in the vicinity of the Pump 2 withdrawal point was conducted by Dr. Frank J. Dirrigl, Jr. of Teikyo Post University on August 24 and August 28, 2003. The water quality tests suggested that the overall quality of Anguilla Brook is high and without pollutants or toxins, and that no effect to water quality is occurring due to irrigation.

Groundwater

The ground water in the vicinity of ElmrIDGE Golf Course is classified as GA, designated for use as existing private and potential public or private supplies of water suitable for drinking without treatment and baseflow for hydraulically connected surface water bodies. The withdrawal and use of surface water for irrigation withdrawals will not affect groundwater quality and is consistent with this classification.

4.10 Evaluation of Potential Impacts to Wetlands and Wetland Habitats

Refer to the Soil Scientist Report in Attachment J for a discussion of the wetlands located along Anguilla Brook near existing Pump 2 withdrawal point, and for the wetlands surrounding the irrigation pond.

Obligate wetland species in these areas are most likely to be affected by drawdown as these species are water-dependent.

As presented in Attachment J, obligate species such as broadleaf cattail (*typha latifolia*) and rushes (*scirpus spp.*) continue to be present in the vicinity of the irrigation pond despite a history of use of the impoundment over the last five decades, suggesting that the wetland has attracted those obligate species that can adapt to the fluctuating water conditions. Direct impact to wetlands in this area are not proposed as new construction is not proposed. Temporary indirect impacts to wetlands are possible along the margins of the pond as the water level rises and falls. As the existing permit allows for transfers of water from Anguilla Brook to maintain water levels in the pond, significant impacts to water levels in the pond are not expected in accordance with current practices. Buoys are used to support the intake structure at the pond, so crossing of the pond bottom is not necessary to adjust the intake pipe.

Obligate wetland species are also present along Anguilla Brook. These include skunk cabbage (*Symplocarpus foetidus*) and upright sedge (*Carex stricta*) among other species. Impacts to riparian and alluvial floodplain wetlands and obligate species as caused by withdrawals of irrigation water from Anguilla Brook are not anticipated as the volume of water withdrawn is not anticipated to significantly impact stream stage

4.11 Evaluation of Potential Impacts to Flora and Fauna Including State-Listed, Threatened, and Endangered Species

With regard to withdrawals of irrigation water from the pond, potential adverse impacts to water-dependent species in the pond are not anticipated because it is believed that the species present have adapted to the fluctuating water levels over the past 50 years of irrigation use, and the intake is screen to prevent flora and fauna impingement and entrainment.

The DEEP Natural Diversity Data Base (NDDDB) was accessed in order to determine whether any known extant populations of Federal or State Endangered, Threatened, or Special Concern Species occur at the project site. According to DEEP files, the southeastern part of ElmrIDGE Golf Course partially lies within the December 2017 NDDDB area. As a result, a request for an NDDDB review was sent to the DEEP on May 9, 2018. This request was returned with a letter of determination from the Wildlife Division dated May 22, 2018. A copy is provided in Attachment K (Environmental Report). The DEEP reviewer did not anticipate negative impacts to State-listed species resulting from the irrigation withdrawals at ElmrIDGE Golf Course.

A macroinvertebrate and mollusk survey of Anguilla Brook in the vicinity of the Pump 2 withdrawal point was conducted by Dr. Frank J. Dirrigl, Jr. of Teikyo Post University on August 24 and August 28, 2003. A copy of this survey is included in Appendix B. The results of the survey indicate that the pollution tolerance levels of the macroinvertebrate species collected had a wide range, including both most wanted species such as common stonefly (*Perlidae spp.*) and saddle case-maker (*Glossosoma spp.*) with a very low pollution tolerance, as well as least wanted species with a moderately low pollution tolerance such as blackfly (*Simuliidae spp.*) and water penny beetle (*Psephenus spp.*). The presence of most wanted species suggests that the area is of high water quality and has not been impacted by potential disturbances resulting from use of the irrigation pump.

In addition, freshwater mussels (*Elliptio complantata*) were found in each of the survey areas. These were considered by Dr. Dirrigl, Jr. as an important indicator of high water quality, as these filter feeders continually cycle water through their bodies and are intolerant of poor water quality, contaminants, and

heavy metals. Furthermore, any localized disturbance of sediments would have resulted in the extirpation (local population extinction) of this species.

The Stonington Land Trust owns 51.64 acres of land immediately downstream of ElmrIDGE Golf Course on Anguilla Brook. This property was purchased on December 31, 2008 and June 6, 2012. According to the Stonington Land Trust⁷, the Anguilla-Grande Preserve is larger than the recommended 50 acre minimum needed to support woodland bird species. The preserve provides diverse habitat from upland forest to wetlands associated with the brook. There is 2,900 linear feet of brook frontage on the west bank and 1,425 linear feet on the east bank, protecting a significant portion of the Anguilla Brook streambelt. It is the opinion of the applicant that had the irrigation withdrawals for ElmrIDGE Golf Course been adversely affecting the brook, this area would have been less attractive for preservation by Stonington Land Trust.

In summary, although it is recognized that the withdrawal of water for irrigation may have an impact on flora and fauna, the overall impact appears to be minimal based on previous studies, existing conditions (Attachment J), and other information available at this time.

4.12 Evaluation of Flood Management Issues

The irrigation pond is not located in a Special Flood Hazard Area defined by the Federal Emergency Management Agency (FEMA). Anguilla Brook has a mapped Special Flood Hazard Area (commonly known as the 100-year floodplain, or the area that is expected to be flooded with a probability of 1% annually) with elevations defined in the vicinity of the Pump 2 withdrawal point. Thus, the intake structure (when present is located below the 100-year flood elevation. The estimated 1% annual chance flood elevation near the Pump 2 intake is 46 feet according to the 2013 FEMA Flood Insurance Study for New London County.

Attachment I is a flood contingency plan for the ElmrIDGE Golf Course. As stated in the flood contingency plan, when overbank flooding conditions are possible along Anguilla Brook the pump is removed from the area and stored in the maintenance building. Given the small size and temporary nature of the pump station on Anguilla Brook, and the projected minimal floodplain impact, a hydraulic model was believed to be unnecessary to evaluate impacts to the floodplain.

The withdrawal rate will not cause or enable increased flow of water to Anguilla Brook. Therefore, impacts to flood storage and flood water conveyance are expected to be minimal, and impacts to flood water discharge are not anticipated.

4.13 Evaluation of Potential Impacts on Recreation

The irrigation withdrawals are necessary to support public recreational activities (i.e., golf) at ElmrIDGE Golf Course. The site is, and will remain, private property which is open to public use in accordance with appropriate fees and rules.

Anguilla Brook is not suitable for swimming, but public hiking and nature-watching opportunities have been recently created at the Anguilla-Grande preserve immediately downstream despite the presence of the diversion. Other recreational opportunities downstream along Anguilla Brook include fishing (a water-dependent activity) at bridge crossings and municipal recreational ballfields which are not water-

⁷ <https://www.stoningtonlandtrust.org/anguillagrande-preserve/>

dependent. Water-dependent recreation in the drainage basin may be affected by the diversion (as it has since 1994), but does not appear to have been adversely impacted by the diversion based on the discussions herein.

4.14 Evaluation of Potential Impacts to Power Generation

Hydropower generation does occur along Anguilla Brook downstream of the site. Therefore, impacts to power generation are not anticipated.

4.15 Evaluation of Potential Impacts on Agriculture

Agriculture is active in many areas along Anguilla Brook, but mostly upstream of ElmrIDGE Golf Course. Any agricultural sites located upstream of the golf course will not be affected by the diversion.

One large agricultural area is located downstream of the golf course adjacent to Route 234. Based on 2016 aerial photography of the area, it appears that these areas may be irrigated either from on-site ponds or from Anguilla Brook, if at all. Even if this agricultural area does withdraw water from Anguilla Brook for irrigation purposes, ElmrIDGE Golf Course has been concurrently withdrawing water from Anguilla Brook directly since 1994 and from the irrigation pond since 1966. ElmrIDGE Golf Course is not aware of complaints or concerns from these agricultural operations regarding its irrigation withdrawal, suggesting that its withdrawal is not causing an adverse impact to agriculture, and that a conflict is not occurring.

4.16 Evaluation of Potential Social and Economic Impacts

ElmrIDGE Golf Course has been providing golf to players in this area of Connecticut and from Rhode Island since 1966. The course employs approximately 10 people as office staff, chefs, wait staff, groundskeepers, and other retail-oriented positions, with some of these positions being seasonal and some being full-time.

The requested permit will allow for the golf course to continue irrigation to support maintenance of tees, fairways, and greens. The result will not only be beneficial to players and ElmrIDGE Golf Course employees, but also those local businesses and customers that depend on purchases from ElmrIDGE Golf Course such as food vendors and cart manufacturers. Furthermore, the Town of Stonington benefits from the tax revenue generated by the golf course without an increase in services, and the presence of the golf course raises local land values of nearby properties. As a result, the continuation of irrigation at the site has a positive economic impact both locally and regionally.



APPENDIX A

STATISTICAL FLOW CALCULATIONS

	SD acres	SD sqmi	Till acres	Till sqmi	Total Area acres	Total Area sqmi
Pump 2 Anguilla Brook Irrigation Pond	0.16	1.05 0.00	20.14	4.03 0.03	20.30	5.08 0.03

Pump 2 Anguilla Brook

Method - Empirical Formulas

Method - Curves in Bulletin

ID	Areas Acres	Areas Sq.Miles	Comment %
Area of S.D.		1.05	20.70
Area of Till		4.03	79.30
Total Area		5.08	

	Flow Cfs		Duration Cfs/sqmi	Flow Cfs
99.2% duration 7Q10	0.77	+/- 42%	0.11	0.559
Cervione 7Q10	0.74			
95% duration 7Q2	1.09	+/- 35%	0.19	0.965
90% duration 30Q2	1.30	+/- 24%	0.27	1.372
85% duration			0.32	1.626
80% duration			0.41	2.083
50% duration	8.0	+/- 12.8%	1.25	6.350
25% duration			2.2	11.176

Irrigation Pond

Method - Empirical Formulas

Method - Curves in Bulletin

ID	Areas Acres	Areas Sq.Miles	Comment %
Area of S.D.		0.00	0.77
Area of Till		0.03	99.23
Total Area		0.03	

	Flow Cfs		Duration Cfs/sqmi	Flow Cfs
99.2% duration 7Q10	0.00	+/- 42%		0.000
Cervione 7Q10	0.00			
95% duration 7Q2	0.00	+/- 35%		0.000
90% duration 30Q2	0.00	+/- 24%		0.000
85% duration				0.000
80% duration			0.12	0.004
50% duration	0.05	+/- 12.8%		0.000

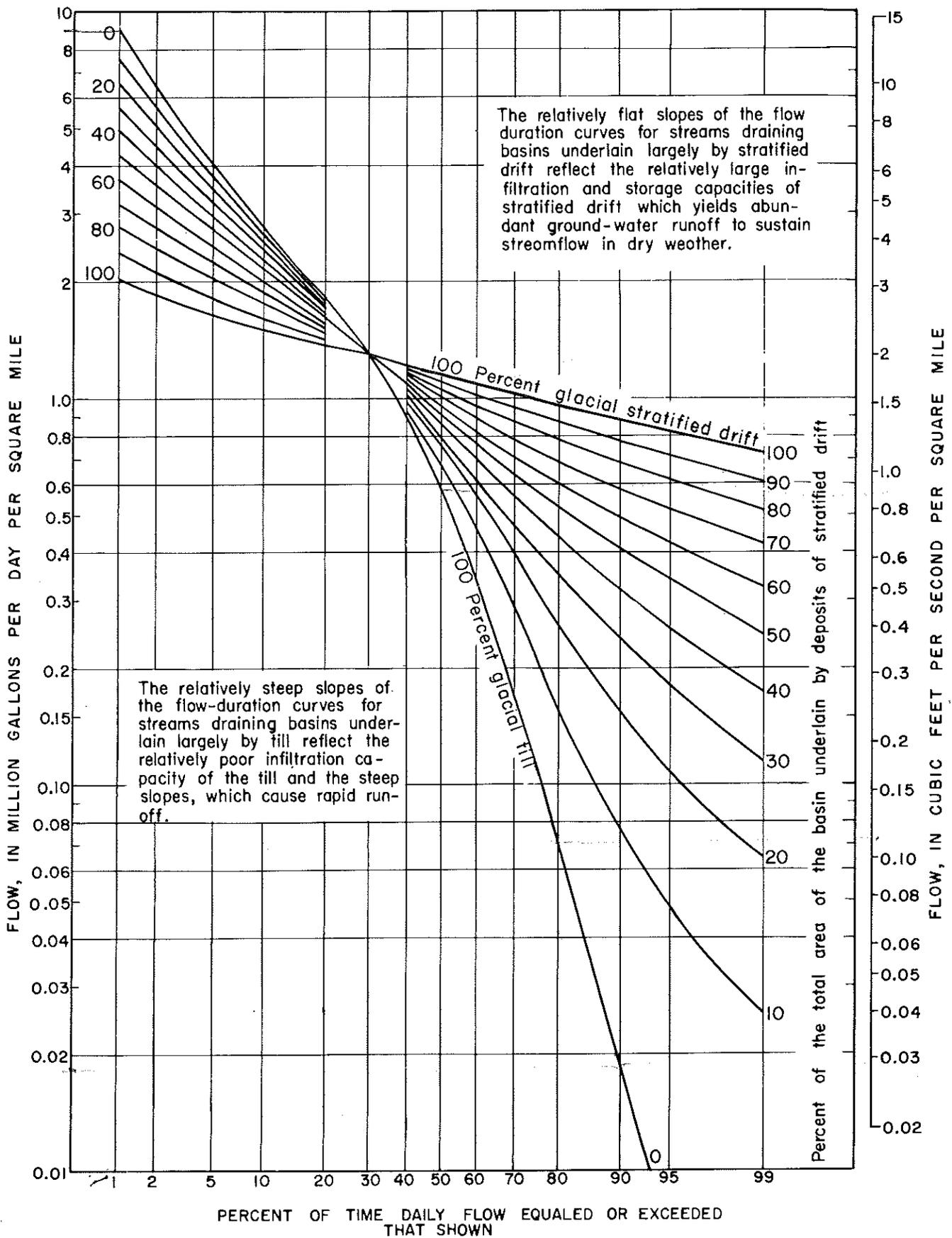


Figure 18.--Regional duration curves of daily mean streamflow

These curves apply to unregulated streams having an average flow of 1.16 mgd per sq mi (1.80 cfs per sq mi)

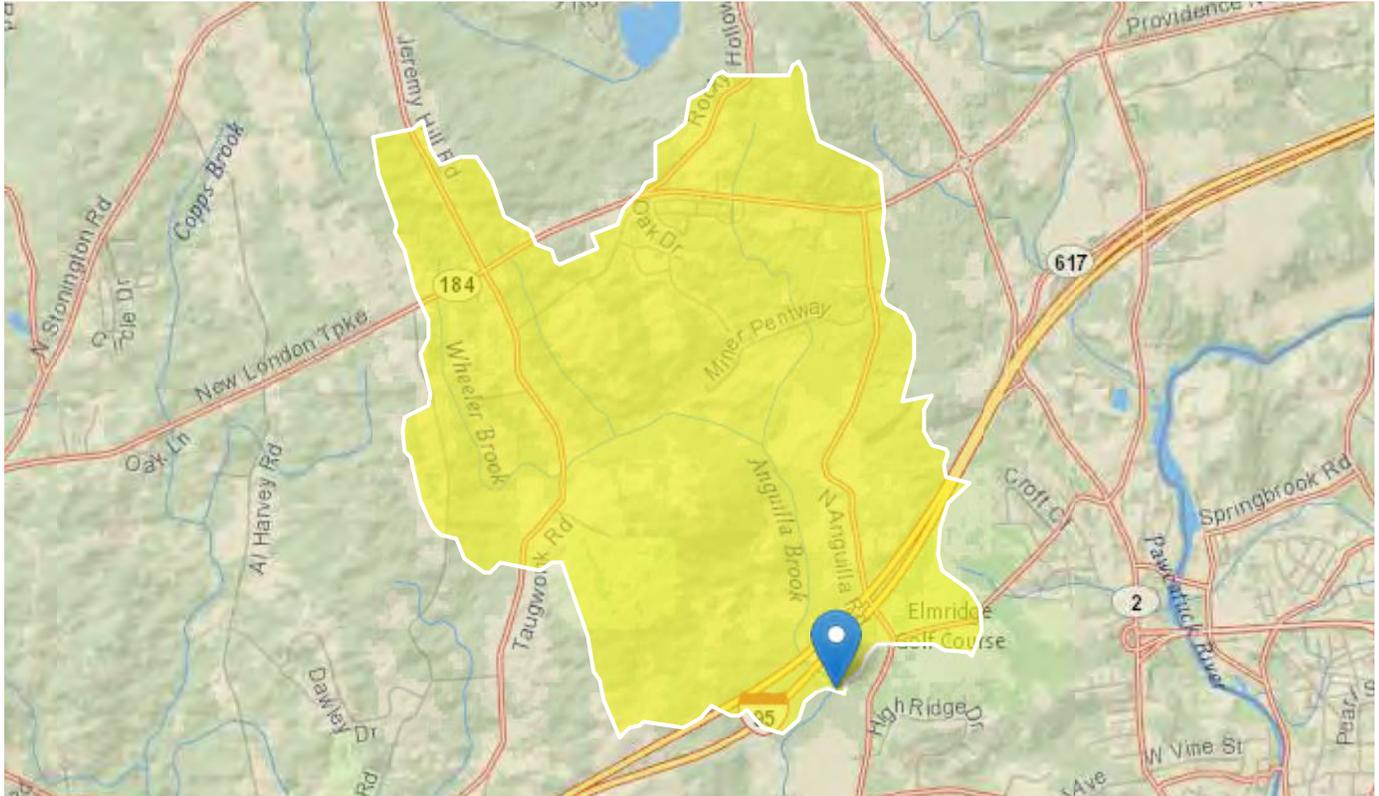
Pump 2 Anguilla Brook

Region ID: CT

Workspace ID: CT20180619151833584000

Clicked Point (Latitude, Longitude): 41.39034, -71.87138

Time: 2018-06-19 11:18:49 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	5.08	square miles
ELEV	Mean Basin Elevation	166	feet
CRSDFT	Percentage of area of coarse-grained stratified drift	20.7	percent
NOVAVPRE	Mean November Precipitation	4.6	inches
PRCWINTER	Mean annual precipitation for December through February	4.1	inches
WETLAND	Percentage of Wetlands	6.52	percent

Flow-Duration Statistics Parameters [Duration Flow 2010 5052]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.08	square miles	0.92	150
ELEV	Mean Basin Elevation	166	feet	168	1287
CRSDFT	Percent Coarse Stratified Drift	20.7	percent	0.1	55.1

Flow-Duration Statistics Disclaimers [Duration Flow 2010 5052]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Flow-Duration Statistics Flow Report [Duration Flow 2010 5052]

Statistic	Value	Unit
25 Percent Duration	13.8	ft ³ /s
99 Percent Duration	0.29	ft ³ /s

Flow-Duration Statistics Citations

Ahearn, E.A.,2010, Regional regression equations to estimate flow-duration statistics in Connecticut: U. S. Geological Survey Scientific Investigations Report 2010-5052, 45 p. (<http://pubs.usgs.gov/sir/2010/5052/>)

November Flow-Duration Statistics Parameters [Duration Flow 2010 5052]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.08	square miles	0.92	150
NOVAVPRE	Mean November Precipitation	4.6	inches	3.48	4.93
CRSDFT	Percent Coarse Stratified Drift	20.7	percent	0.1	55.1

November Flow-Duration Statistics Flow Report [Duration Flow 2010 5052]

Statistic	Value	Unit
November 25 Percent Duration	10.8	ft ³ /s
November 50 Percent Duration	5.88	ft ³ /s

Statistic	Value	Unit
November 75 Percent Duration	2.86	ft ³ /s
November 90 Percent Duration	1.61	ft ³ /s
November 99 Percent Duration	0.701	ft ³ /s

November Flow-Duration Statistics Citations

Ahearn, E.A.,2010, Regional regression equations to estimate flow-duration statistics in Connecticut: U. S. Geological Survey Scientific Investigations Report 2010-5052, 45 p. (<http://pubs.usgs.gov/sir/2010/5052/>)

Seasonal Flow Statistics Parameters [Duration Flow 2010 5052]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.08	square miles	0.92	150
PRCWINTER	Mean Annual Winter Precipitation	4.1	inches	3.19	4.4
CRSDFT	Percent Coarse Stratified Drift	20.7	percent	0.1	55.1

Seasonal Flow Statistics Flow Report [Duration Flow 2010 5052]

Statistic	Value	Unit
25 Percent Duration December to February	14.3	ft ³ /s
50 Percent Duration December to February	8.62	ft ³ /s
75 Percent Duration December to February	5.23	ft ³ /s
95 Percent Duration DEC FEB	2.44	ft ³ /s
99 Percent Duration December to February	1.38	ft ³ /s
25 Percent Duration March to April	21.4	ft ³ /s
50 Percent Duration March to April	13.6	ft ³ /s
75 Percent Duration March to April	9.89	ft ³ /s
95 Percent Duration March to April	6.02	ft ³ /s
99 Percent Duration March to April	4.35	ft ³ /s
25 Percent Duration July to October	3.59	ft ³ /s
50 Percent Duration July to October	1.71	ft ³ /s

Statistic	Value	Unit
75 Percent Duration July to October	0.876	ft ³ /s
80 Percent Duration July to October	0.741	ft ³ /s
99 Percent Duration July to October	0.141	ft ³ /s

Seasonal Flow Statistics Citations

Ahearn, E.A.,2010, Regional regression equations to estimate flow-duration statistics in Connecticut: U. S. Geological Survey Scientific Investigations Report 2010-5052, 45 p. (<http://pubs.usgs.gov/sir/2010/5052/>)

May Flow-Duration Statistics Parameters [Duration Flow 2010 5052]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.08	square miles	0.92	150
CRSDFT	Percent Coarse Stratified Drift	20.7	percent	0.1	55.1

May Flow-Duration Statistics Flow Report [Duration Flow 2010 5052]

Statistic	Value	Unit
May 25 Percent Duration	14.4	ft ³ /s
May 50 Percent Duration	9.85	ft ³ /s
May 75 Percent Duration	6.92	ft ³ /s
May 95 Percent Duration	4.03	ft ³ /s
May 99 Percent Duration	2.8	ft ³ /s

May Flow-Duration Statistics Citations

Ahearn, E.A.,2010, Regional regression equations to estimate flow-duration statistics in Connecticut: U. S. Geological Survey Scientific Investigations Report 2010-5052, 45 p. (<http://pubs.usgs.gov/sir/2010/5052/>)

June Flow-Duration Statistics Parameters [Duration Flow 2010 5052]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.08	square miles	0.92	150
CRSDFT	Percent Coarse Stratified Drift	20.7	percent	0.1	55.1

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
WETLAND	Percent Wetlands	6.52	percent	0.3	18.1

June Flow-Duration Statistics Flow Report [Duration Flow 2010 5052]

Statistic	Value	Unit
June 25 Percent Duration	10.1	ft ³ /s
June 50 Percent Duration	5.61	ft ³ /s
June 75 Percent Duration	3.49	ft ³ /s
June 90 Percent Duration	1.87	ft ³ /s
June 99 Percent Duration	0.905	ft ³ /s

June Flow-Duration Statistics Citations

Ahearn, E.A.,2010, Regional regression equations to estimate flow-duration statistics in Connecticut: U. S. Geological Survey Scientific Investigations Report 2010-5052, 45 p. (<http://pubs.usgs.gov/sir/2010/5052/>)

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Application Version: 4.2.1



APPENDIX B

2003 DIRRIGL REPORT

Permit Application, Elmridge Golf Course, Pawcatuck CT

REPORT OF FINDINGS

August 31, 2003

**Dr. Frank J. Dirrigl Jr., Assistant Professor of Environmental Science
Matt Dmyterko, Environmental Research Assistant**

**Environmental Theories & Applications Program
Teikyo Post University, 800 Country Club RD, PO Box 2540, Waterbury CT 06723-2540
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Introduction

The following report of findings results from an assessment of potential impacts of removing water from Anguilla Brook for irrigation by Elmridge Golf Course (229 Elridge Road, Pawcatuck CT 06379. 860-599-2248). The information is presented to assist Joseph Rustici (the "Applicant") with his application for a wetlands / stream diversion permit from the Town of Stonington and the CT DEP, Bureau of Water Management. The goal is to provide reviewers of the Permit Application and this report with scientifically based data that can be used to answer questions regarding environmental/ecological issues relating to the wetland resources occurring on-site.

Although not part of this application, comments are provided regarding a manmade pond that occurs on-site that is also used as a main water source for irrigation.

The goal of this survey was to examine the occurrence of physical and biological indicators of stream water quality. The data collected would then provide an overall picture of the potential impact of removing water from the brook. The following indicators were examined:

- 1) Freshwater Macroinvertebrate Animals
- 2) Water Quality Measures
- 3) Water Flow

Additionally, notes regarding plants and vertebrate animals also are included.

Site Description

The survey area is a section of Anguilla Brook located on-site of Elmridge Golf Course, New London County, Pawcatuck, Connecticut and east of I-95. This section of Anguilla Brook varies in water depth from shallow (3-5 inches) to moderate depth (10 inches). The approximate width of the brook is 22 feet wide. Fallen trees occur in the brook, and well-developed vegetation (trees and shrubs) lines the brook's edge. Although the fallen trees cross the brook (bank to bank), they do not obstruct water flow. The brook's sediments are firm sand with cobblestones and few large rocks.

The site of the irrigation pump hose is a circular cutout / inlet of the brook bank that is approximately 13 feet by 25 feet. Two handmade rock lined diversion dams also have been placed to direct water flow into the irrigation pump area where the hose is located.

An additional main water source for irrigation is a pond located nearby a parking lot and maintenance garage for the golf course.

Methods

The survey took place on the 24 and 28 August 2003, after a preliminary site walk. Conditions for fieldwork were ideal for the sampling of macroinvertebrates, water quality, and water flow. No episodes of rain took place for at least 3 days before the surveys took place.

The macroinvertebrate animal and water quality survey consisted of three main areas of focus (Figure 1): Area 1 (upstream from the irrigation site), Area 2 (at the site of irrigation), and Area 3 (downstream from the irrigation site). These areas were subdivided for the collection of water flow data.

The method of macroinvertebrate collection involved kick netting following the standard protocols for the Rapid Bioassessment in Wadeable Streams and Rivers by Volunteer Monitors (RBV) established by the Ambient Monitoring Program (Bureau of Water Management, Department of Environmental Protection, State of Connecticut) (CT DEP 1999) and the statewide Project SEARCH. Kick netting consists of stirring up bottom sediments, which flow with current into a 25 x 10 inch collecting net. A survey for mollusks (freshwater mussels) involved active cover searching. The identification of specimens took place in the field and laboratory.

Water quality (pH, sulfide, alkalinity, nitrate, phosphate, and turbidity) was measured using LaMotte Test Kits (Chestertown, MD) and adopting recommendations from CT DEP (1997). For each water sample, the value reported is the average of at least two tests.

Water flow was measured using a Global Flow Probe (Global Water Instrumentation Company, Gold River CA). Measures of the average water velocity were taken while the irrigation pump was on and off.

Results

Freshwater Macroinvertebrates

Table 1 lists the freshwater macroinvertebrates collected from the brook survey. The tolerance levels of the macroinvertebrate species collected ranged from 0 – 6 (Table 1). Species with a tolerance of 0 would need an unpolluted waterway to sustain life. A species with a high tolerance number indicates its ability to live in a polluted waterway.

Additionally, the freshwater mussel (*Elliptio complanata*) was found in each of the survey areas. The specimens observed were living and represented several size (age) classes.

Table 1. Results of Macroinvertebrate Survey and Relationship to Water Quality

Common Name	Scientific Name	Pollution Tolerance	Wanted Status
common stonefly	Perlidae	0-2	Most Wanted
saddle case-maker	<i>Glossosoma sp.</i>	0	Most Wanted
dragonfly	Odonata	5	Moderately Wanted
blackfly	Simuliidae	6	Least Wanted
water penny beetle	<i>Psephenus sp.</i>	4	Least Wanted

Freshwater Fish

Table 2 lists fish known to occur in Anguilla Brook from the State of Connecticut Department of Environmental Protection, *A Survey of Connecticut Streams and Rivers and Eastern Coastal Drainages*. Among the large cobblestones and rocks occurred the Connecticut native tessellated

darter (*Etheostoma olmstedii* (Storer). Observation of this fish included immature (1 inch in length) to mature (4 inches in length).

Table 2. Fish known to occur in Anguilla Brook.

Species	Common Name	Notes
<i>Anguilla rostrata</i>	American eel	
<i>Catostomus commersoni</i>	white sucker	
<i>Erimyzon oblongus</i>	creek chubsucker	
<i>Esox americanus</i>	pickerel	
<i>Etheostoma olmstedii</i>	tessellated darter	
<i>Lepomis gibbosus</i>	pumkinseed	
<i>Lepomis macrochirus</i>	bluegill	
<i>Luxilus cornutus</i>	common shiner	
<i>Microphterus salmoides</i>	largemouth bass	
<i>Oncorhynchus mykiss</i>	rainbow trout	
<i>Salmo trutta</i>	brown trout	Wild & Stocked Populations
<i>Salvelinus fontinalis</i>	brook trout	Wild & Stocked Populations
<i>Semotilus corporalis</i>	fallfish	

Water Quality

Table 3 lists the results of water quality tests from the three survey areas. Water samples were taken to measure pH, sulfide, alkalinity, nitrate, phosphate, and turbidity:

- 1) pH measures ion concentration (acid to neutral to basic) of a solution, where a pH of 3 to 6 is the tolerance range for most fish populations. Anguilla Brook's pH averaged 4 to 5, indicating that the brook provides a pH level suitable to support fish populations.
- 2) Sulfide results from the decomposition of organic matter. The sulfide levels averaged 7 ppm, suggesting that decomposition is occurring. The decomposition of organic matter is important to sustaining aquatic life in brooks, however extremely high levels of sulfides are toxic.
- 3) Alkalinity is the "buffering capacity" of water, having the ability to resist pH changes. The alkalinity values were 0 in each of the survey areas.
- 4) Nitrate and phosphate tests indicate sewage discharge or impacts from agricultural practices (fertilizing; manuring). Phosphate levels averaged 1 to 2 ppm, and the nitrate values were all 0 ppm.
- 5) Turbidity tests the clarity of the water, where low values indicate clear water. Turbidity values of the brook on the date of survey were all 0.

Table 3. Average Values for Water Quality Tests of Anguilla Brook.

Water Quality Test	Sampling Areas		
	Area 1 Upstream	Area 2 Irrigation Site	Area 3 Downstream
pH	4-5	4-5	4-5
Sulfide (ppm)	6-8	6-8	6-8
Alkalinity	0	0	0
Phosphate (ppm)	0-1	1-2	0.9
Nitrate	0	0	0
Turbidity	0	0	0

Water Flow

Table 4 provides data for water flow in the three sampling areas. It is important to consider that this section of Anguilla Brook is shallow, and therefore localized stream topography greatly influences water flow. The presence of cobblestones, rocks, vegetation, and fallen trees could potentially affect all measures (e.g., at some locations the water probe would read 0). For these reasons, the data presented offers a rough estimate of water flow that can be used to compare different areas.

Table 4. Water Flow (average velocity) for Survey Site at Anguilla Brook

Survey Area	Pump not Running	Pump Running
Area 1 (Upstream)	0.4	0.4
Area 2 (Irrigation Site)		
a	0.6	0.6
b	2.2	1.9
c	0.4	0.4
d	0.7	0.5
Area 3 (Downstream)	0.4	0.5

Additionally, at least three well-established patches of aquatic plant species also occurred in the areas where water flow was measured.

Discussion

Anguilla Brook- Site of Irrigation Pump

Benthic macroinvertebrates may be used as primary indicators of water quality based on their tolerances to pollution (e.g., waste-water discharge and non-point pollution). Because different species have different levels of sensitivity to pollution and environmental disturbance and stress, their presence and absence indicate the health of a stream or river. Although the collection of macroinvertebrates in this survey was not during the fall season, when populations are greatest, they still can provide a rough estimate of stream site conditions for Anguilla Brook.

The occurrence of macroinvertebrates can be qualified as those that are indicative of high quality environmental conditions (Most Wanted) to organisms tolerant of a wide range of environmental conditions and poor water quality (Least Wanted). The presence of two "most wanted" species, common stonefly (Perlidae) and saddle case-maker (*Glossosoma sp.*) indicates that the survey

area is of high water quality and has not been impacted by potential disturbances resulting from the irrigation pump.

The presence of the freshwater mussel (*Elliptio complanata*) is an important indicator for this portion of the Anguilla Brook. Freshwater mussels are filter feeders continually circulating water through their bodies, and therefore are intolerant of poor water quality, contaminants, and heavy metals. Any localized disturbance to the sediments would have caused this mussel to become extirpated (local population extinction) from the survey site. The presence of this mussel suggests that Anguilla Brook is of high water quality and has not been disturbed through current irrigation activities.

The water quality test results suggest that the overall quality of Anguilla Brook is high without pollutants or toxins. Moreover, comparisons between the three different surveys areas support that no effect to water quality is occurring because of irrigation.

The water flow through the survey areas remained similar during times when the irrigation pump was on and off. This suggests that the construction and water depth of the inlet pool, where the pump is located, is adequate. Moreover, the occurrence of the small stone diversion dams seems to not impede water flow through the site. This also is supported by the occurrence of at least three patches of different species of plants, which are indicative of continual flow and stable water depth.

Main Pond Used for Irrigation

This pond is the main source for irrigation. It is a manmade pond that has been well designed. The pond supports fish (no survey done) and most likely has a moderate dissolved oxygen level. Because there is no wind barrier (e.g. vegetation) on one-side of the pond, oxygen is naturally mixed through the wave action observed. The movement of water by wind and even the irrigation pump has prevented large algal blooms from overtaking the pond. More open water occurs than patches of algal blooms.

Best Management Plans (BMPs) Proposed

The Best Management Practices (BMPs) proposed utilize principles and ideals based on conservation and wildlife biology, forestry, and golf course management (American Society of Golf Course Architects; Dodson 2000).

Because the results of this survey suggest that little impact has occurred from water being diverted for irrigation of the golf course, I recommend leaving the area as-is and no mitigation is necessary.

I would recommend the following overall Best Management Practices:

(1) Unmowed vegetation should be maintained surrounding the Main Pond not only for natural erosion control, but also to prevent easy access to the pond by Canada geese (*Branta canadensis*), which are becoming a nuisance bird species. For example, mowing should not occur around the border of the pond or lines of monofilament string or wire could be used (Dodson 2000).

2) The screens used on the irrigation pump hoses should be checked, whenever the pumps are on, to ensure that no aquatic animals are harmed.

3) Ancillary ponds to the Main Pond would benefit by increasing aeration with the installation of fountain pumps. These ponds do not benefit from wind actions because of their location down

slope from the Main Pond. The placement of fountains also would increase water flow in the pond, when the culverts / piping connecting them are closed to retain water in the Main Pond.

4) If solid wastes from fish and other debris begin accumulating and causing large algal blooms, the recommendations of Parr (2002) from should be followed:

- a) The ponds should be slowly drained from the top of the water column and avoid draining the last 20% of the pond volume, or if that is not possible,
- b) Treat the last 20% of the pond volume by sending the discharge through deep vegetated ditches, settling basins, or constructed wetlands with a residence time of 4 to 14 days.

5) Nighttime irrigation can result in substantially higher irrigation efficiencies due to reduced evaporation, and irrigation should be scheduled to allow re-supply of natural water sources (Virginia Cooperative Extension 2000).

6) The establishment of an unmowed vegetation / or high grass density buffer around the pond(s) would provide extra filtration of runoff going into the pond(s). No chemical /fertilizer applications should take place in this buffer area. This would help in preventing algal blooms and increase biofiltering of water runoff entering the pond from the golf course.

7) Care should be taken if any applications of chemicals are ever used to control algal blooms in the pond(s). Use of copper sulfate should be avoided.

8) Avoid disturbances to the already established buffer between Anguilla Brook and the golf course. This includes avoiding any depositing of grass clippings or material from the golf course itself.

Conclusion

The results of this survey support that:

1) Anguilla Brook is of high water quality and is capable of supporting a diversity of invertebrate animals and freshwater fish. Species sensitive to pollution and disturbance are able to persist in the survey area.

2) The construction of the inlet pool has had no impact to animal life, water quality, or water flow.

3) The construction of small stone diversion dams does not seem to impede water flow and is not affecting water quality or animal life.

4. The current diversion of water for irrigation has had no impact to Anguilla Brook's ability to support animal life or its water quality and water flow.

Certification

I hereby certify that the review presented is original. The findings and opinions presented in this report are solely my own and do not represent any other persons or that of Teikyo Post University.



Dr. Frank J. Dirrigl Jr.
Assistant Professor of Environmental Science
Environmental Theories & Applications Program
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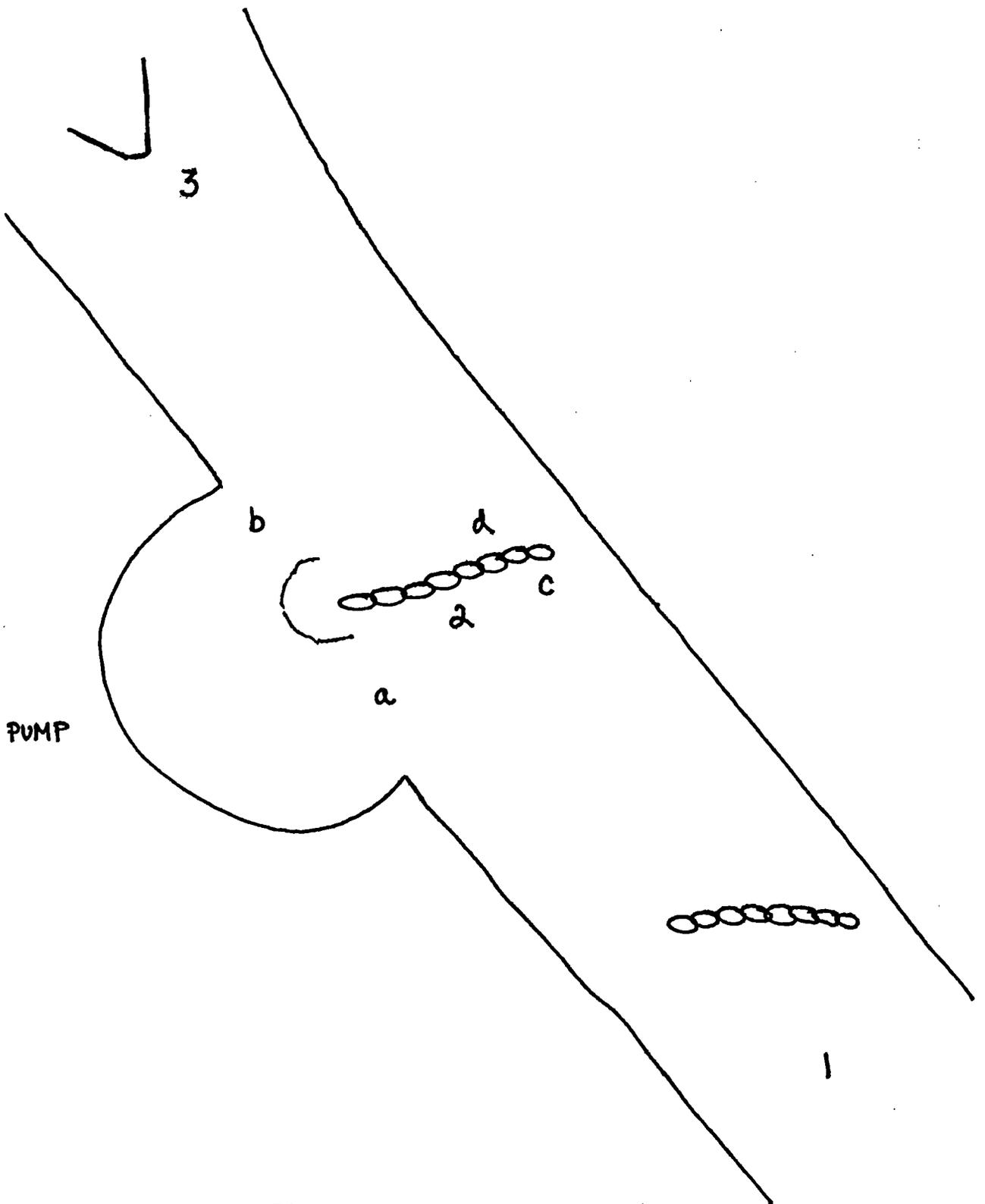


Figure 1. Locations of Survey Areas.

References Cited

American Society of Golf Course Architects. Environmental Principles For Golf Courses In The United States; An Environmental Approach to Golf Course Development.

CT DEP 1997. Water Quality Standards. Bureau of Water Management, Planning and Standards Division, Hartford CT.

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Parr, D.L. 2002. Water Discharge Models, Seasonal Effluent Mass Loading, and Best Management Practices for Crawfish Ponds. Master of Science Thesis, School of Renewable Natural Resources, Louisiana State University.

Virginia Cooperative Extension. 2000. Best Management Practices for Irrigation. Publication Number 442-901, Virginia State University.

ATTACHMENT D10

WATER CONSERVATION PLAN

**ELMRIDGE GOLF COURSE, INC.
WATER DIVERSION PERMIT RENEWAL APPLICATION
FOR IRRIGATION WITHDRAWALS
229 ELMRIDGE ROAD, PAWCATUCK, CONNECTICUT**

ATTACHMENT D10

WATER CONSERVATION PLAN

JULY 2018

MMI #6441-01

Prepared for:

Rustici Management Company, Inc.
P.O. Box 940
East Lyme, Connecticut 06333
(860) 599-8152

Prepared by:

Milone & MacBroom, Inc.
99 Realty Drive
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Appendix A Irrigation System Information



1.0 INTRODUCTION

This report provides a description of irrigation water use and water management at the Elmridge Golf Course. Consistent with the guidance documents for water conservation plans, this report also addresses measures the aim to conserve water through supply and demand management.

This management plan for Elmridge Golf Course has been developed with guidance from the document *Best Management Practices for Golf Course Water Use* (Connecticut Department of Environmental Protection, July 2006).

Prior to 1994, Elmridge Golf Course irrigated 18 holes from the irrigation pond. Withdrawals from Anguilla Brook reportedly commenced in 1994 with the expansion of the golf course to 27 holes. Elmridge Golf Course currently irrigates approximately 46 acres and on average uses 7.4 inches of water per year for irrigation of this area according to the analysis in Section 2.2 of Attachment D4.

Elmridge Golf Course plans to continue utilizing the techniques in this document in the future, as well as new techniques identified by the turfgrass industry as technology improves.

2.0 SUPPLY MANAGEMENT

Supply management refers to methods of water conservation that are aimed at reducing the loss of water from sources. The use of multiple metered supply sources is the primary means of supply management utilized by Elmridge Golf Course.

2.1 Description of System

The Elmridge Golf Course irrigation system is supplied from two sources, an irrigation pond located in the north-central portion of the property, and Anguilla Brook in the southwestern portion of the property. Water can be pumped directly from the brook into a portion of the irrigation system, from the brook to refill the irrigation pond, or from the pond to the entire irrigation system. The system is operated in any combination of these sources up to a combined maximum withdrawal from the brook or the pond of 0.2 million gallons per day (mgd).

Transfers of water from the brook to the irrigation pond often occur during rain events when streamflow is higher. This method of water management takes advantage of the excess flow in the brook, during rainfall, potentially minimizing water demands from the stream during low flow.

2.2 Source Metering

Withdrawals from the irrigation pond and from Anguilla Brook are separately metered. The meters are calibrated each year in accordance with the water diversion permit requirement (DIV-200200024). Meter readings are recorded each day. Transfers of water from the brook to the irrigation pond via Pump 2 are separately tracked from irrigation withdrawals from the brook that are directed into the irrigation system for immediate use.

2.3 Storage

The irrigation pond holds a volume of 5,200,000 gallons of water and has a drainage area of 20.3 acres. The pond is not an impoundment of a watercourse although it receives surface water drainage. The estimated baseflow into the pond is 0.004 cubic feet per second (cfs) as estimated in Section 4.3 of Attachment D4. Thus, the irrigation pond is largely fed by rainfall events and to a lesser extent supported by transfers from Anguilla Brook during the irrigation season.

The peak withdrawal from the irrigation pond (assuming Pump 2 was not used on a particular day) is proposed to continue to be consistent with the permit limit of 0.2 mgd. Based on historic usage data presented in Section 2.2 of Attachment D4 and the maximum month average day irrigation demand is approximately 0.102 mgd, or 0.150 mgd including transfers of water to the pond.

The storage in the pond can support 26 consecutive days of maximum withdrawals for irrigation or 50 consecutive days of maximum month irrigation withdrawal levels, discounting losses from evapotranspiration, discharge to groundwater, and contributions from baseflow and runoff. As irrigation withdrawals are typically needed approximately 120 days per year, the limitations of the pond's volume demonstrate the need for a secondary source of supply (Anguilla Brook).

3.0 DISTRIBUTION SYSTEM MANAGEMENT

Distribution system management refers to methods of water conservation that are aimed at reducing the loss of water throughout the distribution system.

3.1 System Layout

The general layout of the irrigation system is presented in Attachment G. Transmission lines ranging in size from 2.5-inch diameter to 4-inch diameter run throughout the course to irrigate tees, fairways, and greens. The individual irrigation heads are arranged in groups in a row adjacent to the main transmission line for each hole, and set in a circular pattern around the greens. The irrigation heads typically spray in a semi-circular pattern at the tees. Hand watering is also conducted when necessary.

Elmridge Golf Course does not attempt to irrigate rough although some areas of rough do receive irrigation water due to sprinkler position and sheet flow. The estimated area receiving irrigation based on 2016 aerial photography is approximately 46 acres. This is a greater area than the irrigation system design (Appendix A) which anticipated irrigating 36 acres. Nevertheless, Elmridge Golf Course uses consistently less water for irrigation than the design water demand and consistently less water than typical golf courses as discussed in Attachment D4.

3.2 Leak Detection and Control

Leakage is monitored by watching for gradual increases or spikes in irrigation usage and repaired as identified. Employees working under the director of the senior golf course management or superintendent also visually inspect for small leaks while completing other tasks such as hand-watering.

Several gate valves are present in the system which allow for employees to transfer water directly from the brook to the pond without irrigating. Other valves allow for isolation of certain portions of the irrigation

system in case of leakage or the need for shutdown. Check valves are used to prevent loss of water (drainage) from the lower portion of the system following irrigation.

3.3 Irrigation Control

Irrigation is manually controlled. Employees are vigilant regarding the timing of irrigation in order to ensure that under- or overwatering does not occur. In particular, overwatering (or the failure to shut the system down at the correct time) may lead to exceedance of the water diversion permit.

Irrigation need is determined by the groundskeepers based on recent weather conditions. Daily precipitation, evapotranspiration, temperature, and humidity as well as soil moisture are all considered to determine the need for irrigation. Irrigation is applied in the evening or early morning to minimize losses to evaporation. The groundskeepers have been judicious with the amount of water applied each irrigation season, with irrigation depths over the 46 acres ranging from 7.4 to 11.2 inches per year as calculated in Attachment D4. These quantities are much lower than the averages reported by DEEP in the 2006 *Best Management Practices for Water Use* guide.

3.4 Irrigation System Inspections

The irrigation system is inspected and serviced twice per year. Inspections of the transmission lines are completed every spring to determine if damage may have occurred over the previous winter. Inspections are also done in the fall to determine any major repairs which may be needed before the following season. In addition, inspections of sprinkler heads and valves are conducted daily to repair clogged nozzles, slow rotating heads, fix jammed heads, and repair leaks.

4.0 DEMAND MANAGEMENT

Demand management refers to methods of water conservation aimed at reducing the actual demand (need) for makeup water.

4.1 Techniques

As noted above, ElmrIDGE Golf Course uses proportionally less water on average per year, and proportionally less water during drought years, than most golf courses in Connecticut based on data published by the DEEP. This is accomplished through the judicious use of irrigation water, adherence to the design parameters of the irrigation system, and decades of experience in managing the course. Hand watering is also used to touch-up areas needing additional water rather than running the irrigation system a longer period of time.

With regard to demand management, three areas of ElmrIDGE Golf Course have received considerable attention in recent years.

- The first is the thinning of trees that both shade and prevent air circulation near greens. Although counter-intuitive, the dryer environment during humid weather results in healthier turf overall, with a corresponding decrease in the need for irrigation. The removal of tree roots also ensures that more water is available for use by grass.

- The second has been a focus on improving areas of poor drainage, both surface and subsurface. This results in healthier turf overall, which is better able to tolerate drought and heat without excessive watering.
- The third and most important area is the improvements to the root zone of the putting greens. Through twice yearly hollow-tine aerification with sand topdressing, Elmrige Golf Course staff have changed the soil composition of the root zone to promote healthier, denser rooting. Also, selected putting greens have received "deep tine" aerification to a depth of 10-12 inches, which is again very beneficial to the root zone and increases drought tolerance. Use of surfactant wetting agents in selected areas is another tool that is used to reduce the amount of irrigation water required.

4.2 Soil Moisture

Soil is visually inspected either with a probe or with a knife. The soil and turf are cut and lifted and moisture content is noted. The soil is also squeezed to evaluate moisture content. Tissue samples are collected from various locations and sent to a certified laboratory for analysis of the health of the turf. This information is used to guide irrigation on all areas of the course.



APPENDIX A **Irrigation System Information**

Sprinkler Heads

#	A	B	C	D
1	Nine	Tees	Greens	Fairways
2	Blue 1	3	4	7
3	2	2	5	9
4	3	4	5	8
5	4	3	5	7
6	5	5	4	10
7	6	2	4	1
8	7	2	4	12
9	8	2	5	0
10	9	3	4	7
11	White 1	2	5	8
12	2	4	4	10
13	3	4	4	8
14	4	3	4	1
15	5	4	4	10
16	6	4	5	9
17	7	2	4	8
18	8	3	4	0
19	9	2	4	7
20	Red 1	3	4	8
21	2	2	4	7
22	3	4	5	7
23	4	4	4	8
24	5	5	5	0
25	6	3	5	7
26	7	4	4	0
27	8	4	5	10
28	9	2	4	7
29				
30		TEES 10-20MINS EVERY OTHER DAY	GREENS 7-15 MINS. EVERY DAY	FAIRWAYS 10 MINS. A DAY
31		DRY CONDITIONS	DRY CONDITIONS	DRY CONDITIONS
32		30,000 A DAY	31,000 A DAY	105,000 GALLONS A DAY
33				
34				
35		NORMAL CONDITIONS YEARLY	NORMAL CONDITIONS YEARLY	NORMAL CONDITIONS YEARLY
36		AVERAGE 60 WATER DAYS	AVERAGE 120 WATER DAYS	AVERAGE 120 DAYS
37				
38		PER 365 DAYS = 48,712 GALS. A DAY ON AVERAGE		
39		TOTAL YEARLY USE PER YEAR ON AVERAGE = 17,780,000 GALLONS		
40				
41		HIGHEST AMOUNT OF WATER USAGE PER DAY 166,000 GALS. PER DAY		

Total Property Acres 240 Acres
 Fairways 30 1/2 Acres
 Tees 2 Acres
 Greens 3 Acres
 Other watered Areas 1/2 acre
 TOTAL watered Area 31 Acres

ATTACHMENT G

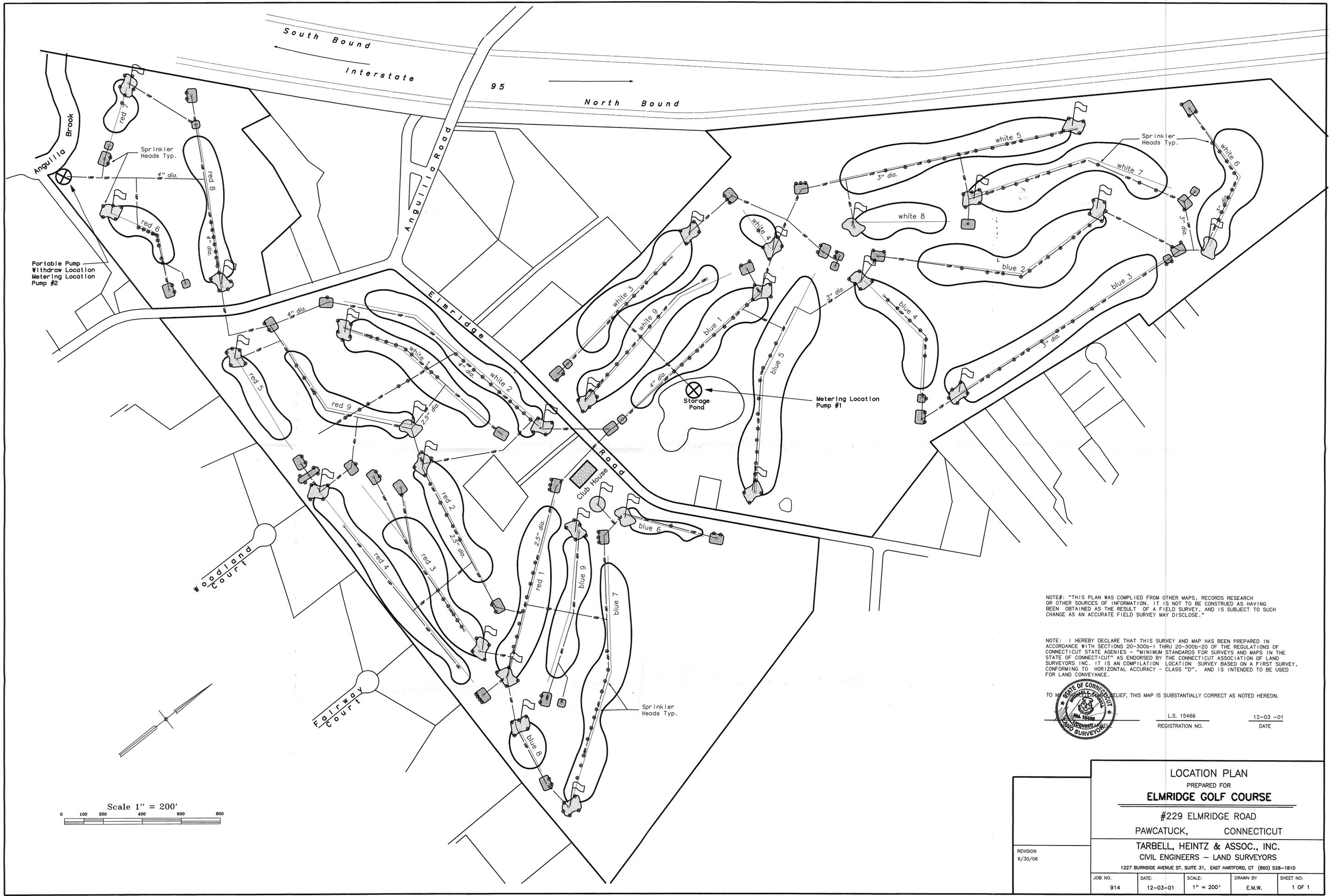
PLAN SHEETS AND DRAWINGS



ATTACHMENT G PLAN SHEETS AND DRAWINGS

Attachment G of this permit application includes the following:

1. "Location Plan Prepared for Elmridge Golf Course" prepared by Tarbell, Heintz & Associ., Inc. December 3, 2001, with revision. This sheet shows the general layout of the irrigation system and general locations of irrigation sprinkler heads.
2. Location Plan Prepared for Elmridge Golf Course" prepared by Tarbell, Heintz & Associ., Inc. December 3, 2001. This sheet shows the general layout of the 27-hole golf course.



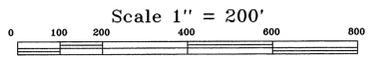
NOTE: THIS PLAN WAS COMPILED FROM OTHER MAPS, RECORDS RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.

NOTE: I HEREBY DECLARE THAT THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THRU 20-300b-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENIES - "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. IT IS AN COMPILATION LOCATION SURVEY BASED ON A FIRST SURVEY, CONFORMING TO HORIZONTAL ACCURACY - CLASS "D", AND IS INTENDED TO BE USED FOR LAND CONVEYANCE.

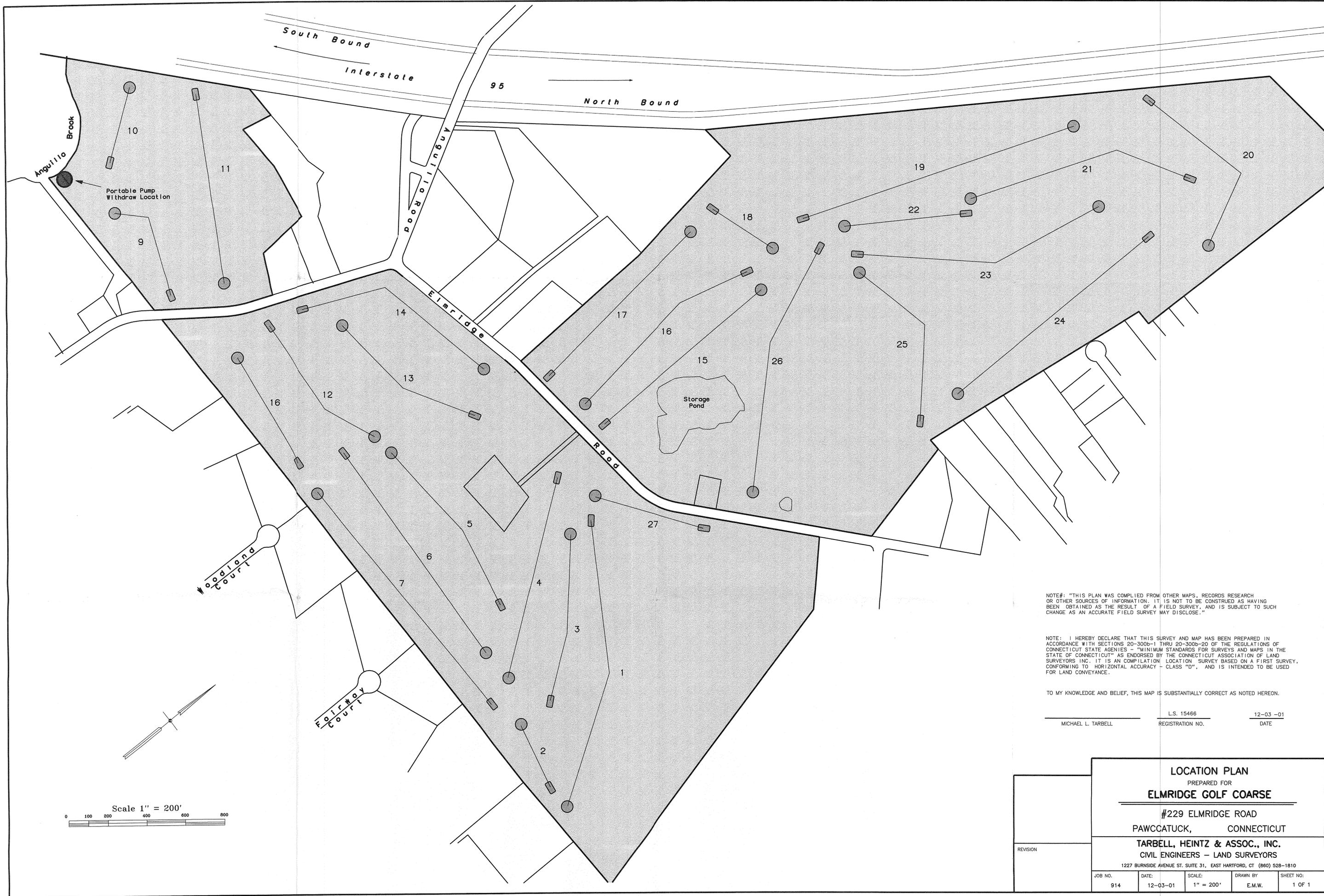
TO MY BEST BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.



L.S. 15466
REGISTRATION NO. 12-03-01
DATE



LOCATION PLAN PREPARED FOR ELMRIDGE GOLF COURSE #229 ELMRIDGE ROAD PAWCATUCK, CONNECTICUT TARBELL, HEINTZ & ASSOC., INC. CIVIL ENGINEERS - LAND SURVEYORS 1227 BURNSIDE AVENUE ST. SUITE 31, EAST HARTFORD, CT (860) 528-1810					
REVISION 6/30/06	JOB NO. 914	DATE 12-03-01	SCALE 1" = 200'	DRAWN BY E.M.W.	SHEET NO. 1 OF 1



NOTE: THIS PLAN WAS COMPILED FROM OTHER MAPS, RECORDS RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.

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TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

MICHAEL L. TARBELL L.S. 15466 12-03-01
 REGISTRATION NO. DATE

LOCATION PLAN
 PREPARED FOR
ELMRIDGE GOLF COARSE

#229 ELMRIDGE ROAD
 PAWCCATUCK, CONNECTICUT

TARBELL, HEINTZ & ASSOC., INC.
 CIVIL ENGINEERS - LAND SURVEYORS

1227 BURNSIDE AVENUE ST. SUITE 31, EAST HARTFORD, CT (860) 528-1810

REVISION	JOB NO.	DATE	SCALE	DRAWN BY	SHEET NO.
	914	12-03-01	1" = 200'	E.M.W.	1 OF 1

ATTACHMENT H
ENGINEERING DOCUMENTATION



ATTACHMENT H ENGINEERING DOCUMENTATION

Attachment H would normally include an Engineering Report Checklist, a Hydrologic and Hydraulic Consistency Worksheet, and other information to fully describe the design of proposed facilities or other actions and the hydrologic and hydraulic effects thereof. Because this is an application for a water diversion permit renewal, and no new structures or changes to the method of irrigation are proposed, Attachment H documentation is not necessary.

ATTACHMENT I

FLOOD CONTINGENCY PLAN

**ELMRIDGE GOLF COURSE, INC.
WATER DIVERSION PERMIT RENEWAL APPLICATION
FOR IRRIGATION WITHDRAWALS
229 ELMRIDGE ROAD, PAWCATUCK, CONNECTICUT**

ATTACHMENT I

FLOOD CONTINGENCY PLAN

JULY 2018

MMI #6441-01

Prepared for:

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P.O. Box 940
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Prepared by:

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1.0 INTRODUCTION

This Flood Contingency Plan has been prepared by Milone & MacBroom, Inc. (MMI) in accordance with requirements of the Connecticut Department of Energy and Environmental Protection water diversion permit application process. The plan is intended to prevent damage to water diversion pumps and protect personnel during a flood.

Parts of the Elmridge Golf Course property (including the water intake structure located at the southwestern boundary of the property) are located in the Anguilla Brook sub-regional drainage basin (#2101). The brook drains approximately 5.08 square miles to the Pump 2 withdrawal point on Anguilla Brook. Figure 1 is a site location plan which depicts the limits of the Special Flood Hazard Area (SFHA) and locations of the existing water diversion pumps at the project site.

Anguilla Brook has flooded many times throughout history, although the lack of a USGS gauging station on the brook makes it difficult to quantify historical flood discharges. Nonetheless, stormwater runoff from Interstate 95 and other roadways may cause peak flows in the brook resulting in overbank flooding. Thus, predicted rainfall conditions as well as flood watches and warnings issued by the National Weather Service can provide a guideline to Elmridge Golf Course employees and management that flood conditions are possible or developing.

This flood contingency plan is intended to address response procedures for flood events. This flood contingency plan will be in effect for the duration of operation at Elmridge Golf Course. Those persons responsible for operating the water diversion pumps at the site are responsible for reviewing this report and the project site plans and ensuring compliance with all requirements specified therein.

2.0 DESCRIPTION OF STRUCTURES

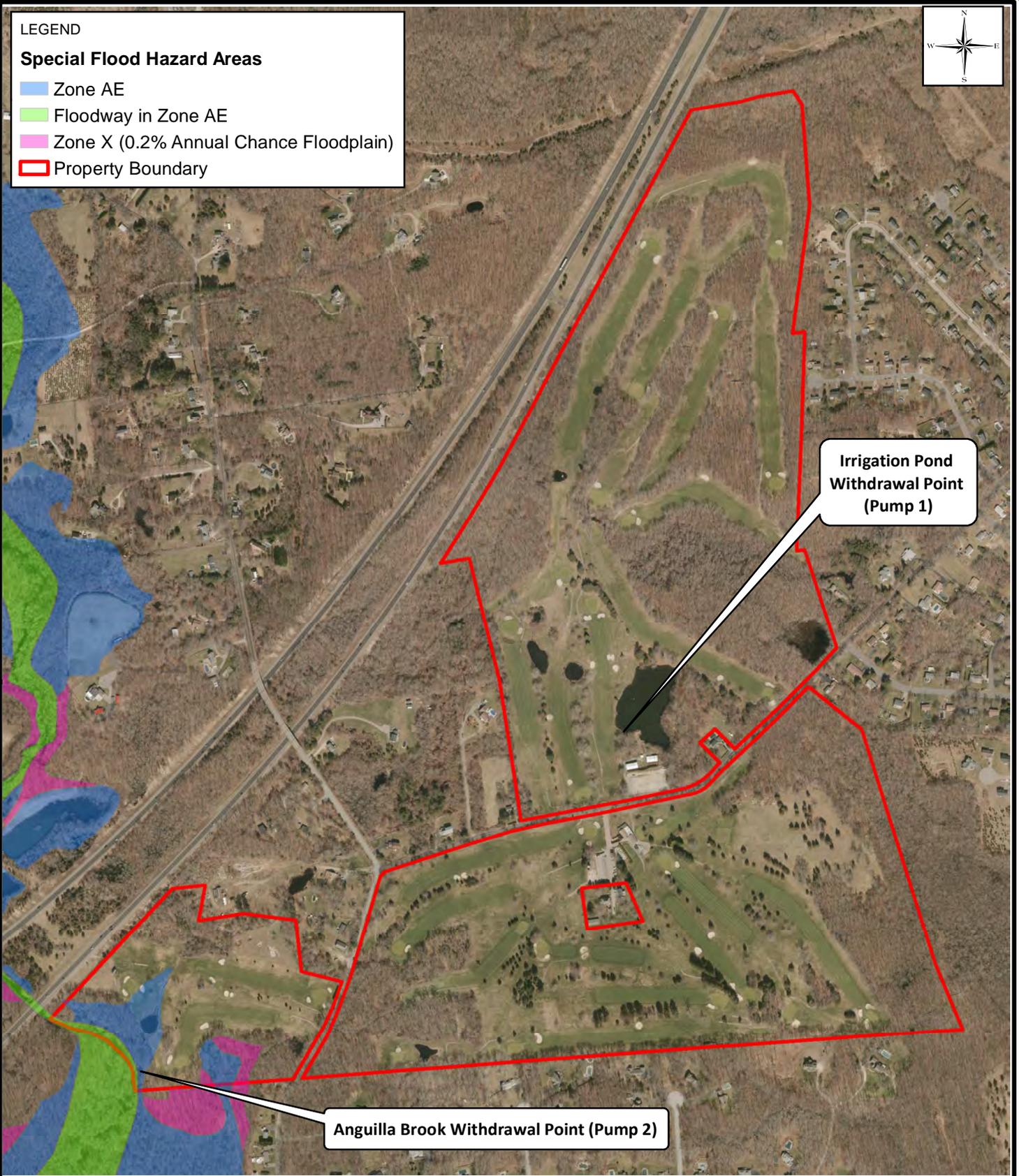
The water diversion pumps for irrigation are located in an irrigation pond (Pump 1) and at Anguilla Brook (Pump 2). The irrigation pond is not located in a SFHA according to the most current FEMA mapping for the Town of Stonington developed in 2013. The Pump 2 withdrawal point is located within the SFHA along the Anguilla Brook. The SFHA is commonly known as the 1% annual chance floodplain, and is the area with a 1% probability for flooding in any given year. A floodway is also mapped for the section of Anguilla Brook adjacent to Elmridge Golf Course. Each of the facilities listed below are associated with the SFHA:

1. *Water Diversion Pump:* A mobile pump attached to a small flatbed trailer is placed within the SFHA of Anguilla Brook when irrigation withdrawals from Anguilla Brook are necessary.
2. *Pump Intake Structure:* The pump intake structure is portable and attached to the mobile pump. It is manually placed into the brook when in operation.
3. *Overland Piping:* Temporary overland piping is used to direct water from the pump into an irrigation system access point rising above grade. The access point is a permanent structure with a minimal profile. A meter is connected to the access point.

LEGEND

Special Flood Hazard Areas

- Zone AE
- Floodway in Zone AE
- Zone X (0.2% Annual Chance Floodplain)
- Property Boundary



Irrigation Pond
Withdrawal Point
(Pump 1)

Anguilla Brook Withdrawal Point (Pump 2)



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SPECIAL FLOOD HAZARD AREA MAP

ELMRIDGE GOLF COURSE
WATER DIVERSION PERMIT RENEWAL

229 ELMRIDGE ROAD
PAWCATUCK, CONNECTICUT

SOURCE: CTDEEP, BING AERIAL PHOTO

DATE: JUNE 18, 2018

SCALE: 1"=750'

PROJ. NO.: 6441-01-4

DESIGNED	DRAWN	CHECKED
SJB	SJB	DM

DRAWING NAME:

FIG. 4-1

4. *Fuel Tank Enclosure:* A fuel tank enclosure storing fuel for the pump is located within the SFHA. The enclosure consists of a canvas wrap over a wooden frame. The frame is elevated on wooden piers. The fuel tank has secondary containment. Although the fuel tank enclosure is located within the SFHA, it has not experienced flood damage.

The pump is anchored to the trailer for transport which prevents buoyancy. The type of pump and piping utilized is not designed to be submerged during floods. ElmrIDGE Golf Course staff understand that extreme floods can damage equipment and that moving the pump trailer out of the floodplain in advance of a significant flood is prudent.

3.0 OPERATIONS PLAN

The water diversion pump is the property and responsibility of ElmrIDGE Golf Course. As has been done since 1994, the pump trailer is removed from the SFHA prior to flooding events and restored following flooding events. Safety of personnel is an important consideration as well.

In the event that a flood watch or flood warning by the National Weather Service, ElmrIDGE Golf Course will take action to temporarily remove the pump trailer from the SFHA and cap the irrigation pipe. This is accomplished by relocating the trailer to the maintenance building for storage.

The following procedures shall be followed:

1. When the National Weather Service issues a flood watch, ElmrIDGE Golf Course employees will check the area and ensure that conditions are safe for access and that the pump can be relocated if conditions deteriorate. ElmrIDGE Golf Course employees may also be proactive at this stage and perform the mitigation procedures under #2 below.
2. When the National Weather Service issues a flood warning, ElmrIDGE Golf Course employees will relocate the pump trailer and any other equipment that can become loose and be swept away to the maintenance building. The overland pipe will be capped and fuel lines leading from the fuel tank will be secured.
3. If pumps and other equipment can not be relocated by the time flood discharges are occurring, then employees shall avoid the area to ensure their safety.
4. Temporary signs will be posted near the flooded area of the golf course indicating the closure of the area and notifying employees of the flooding potential and safety risk.

4.0 EMERGENCY PHONE NUMBERS

The following is a list of emergency telephone numbers.

EMERGENCY:	9-1-1
Alan Rustici, President	(860) 599-8152
Joseph Rustici, Owner	(860) 599-4649
Stanley Husereau, Groundskeeper	(401) 692-3160
Scot Deledda, Town Engineer and Floodplain Manager	(860) 535-5076
George Brennan, Town Emergency Management Director	(860) 535-5050

ATTACHMENT J

SOIL SCIENTIST REPORT

**ELMRIDGE GOLF COURSE, INC.
WATER DIVERSION PERMIT RENEWAL APPLICATION
FOR IRRIGATION WITHDRAWALS
229 ELMRIDGE ROAD, PAWCATUCK, CONNECTICUT**

ATTACHMENT J

SOIL SCIENTIST REPORT

JULY 2018

MMI #6441-01

Prepared for:

Rustici Management Company, Inc.
P.O. Box 940
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Prepared by:

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Appendices

Appendix A	Photo Log
Appendix B	Previous Wetland Report
Appendix C	USDA-NRCS Web Soil Survey Report



1.0 INTRODUCTION

The Elmridge Golf Course (EGC) is located at 229 Elmridge Road in Pawcatuck, Connecticut. The golf course is spread over three parcels located to the north and south of Elmridge Road and to the west and east of North Anguilla Road. Wetlands on the property were evaluated by Highland Soils, LLC in November 2001. The following report builds upon the previous effort.

Milone & MacBroom, Inc. visited the property in May 2018 to evaluate the existing wetlands adjacent to the two pump locations on the EGC site. On-site soil types are described and existing habitat types adjacent to the two pump locations are provided, with an emphasis on the dominant vegetative communities and cover types. Functions and values of the wetlands are tabulated. Finally, a survey of observed and potential wildlife species is included.

2.0 WETLANDS AND WATERCOURSES REVIEW

2.1 Methodology

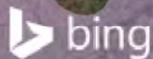
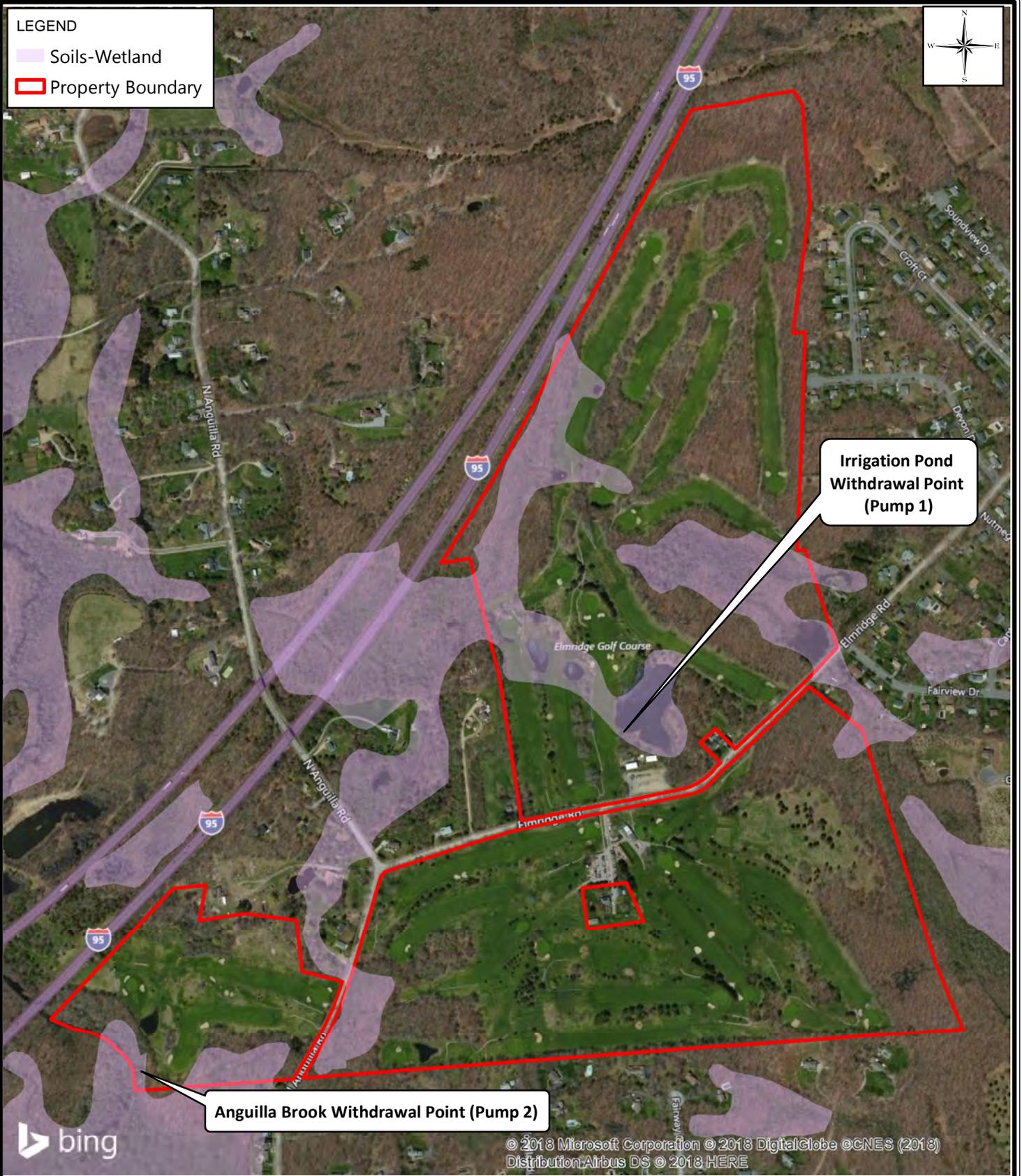
The previous wetland report related to the water diversion for the site was written in November 2001 by Mr. John Ianni of Highland Soils, LLC based on a November 7, 2001 site visit. On May 15, 2018 an inspection of the subject property (including areas nearby each irrigation withdrawal point) was completed by Ms. Megan Raymond, a Certified Soil Scientist and Professional Wetland Scientist. The inspection was conducted to review existing conditions and determine wetland functions and values. Appendix A presents a photo log of the May 2018 site visit. Appendix B presents the previous wetland report from November 2001. Figure 2-1 depicts the mapped wetland soils for the project site.

Regulated wetland areas consist of any of the soil types designated by the National Cooperative Soils Survey as poorly drained, very poorly drained, alluvial, and floodplain. Regulated watercourses consist of rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, not regulated pursuant to sections 22a-28 to 22a-35, inclusive (tidal wetlands).

In general, areas near each withdrawal point were walked looking for evidence of redoximorphic features in the soil (hydric soils), a predominance of wetland-adapted plants (hydrophytic vegetation), and evidence of high ground water persisting into the growing season (wetland hydrology). All areas of flowing or standing water and channels were inspected for evidence of ordinary high water marks diagnostic of watercourses (perennial or intermittent). Prior to the fieldwork, geospatial data was accessed via the Web Soil Survey to determine current United States Department of Agriculture – Natural Resources Conservation Service (USDA – NRCS) soil survey mapping for the project site (<http://websoilsurvey.nrcs.usda.gov>). A copy of the NRCS soil mapping for the project site is provided below. A copy of the Soil Resource Report is included as Appendix C.

LEGEND

-  Soils-Wetland
-  Property Boundary



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WETLAND SOIL MAP

ELMRIDGE GOLF COURSE
 WATER DIVERSION PERMIT RENEWAL

229 ELMRIDGE ROAD
 PAWCATUCK, CONNECTICUT

SOURCE: CTDEEP, BING AERIAL PHOTO

DATE: JUNE 18, 2018

SCALE: 1"=750'

PROJ. NO.: 6441-01-4

DESIGNED	DRAWN	CHECKED
SJB	SJB	MBR

DRAWING NAME:

FIG. 2-1

Custom Soil Resource Report Soil Map



Map Scale: 1:12,100 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	26.6	10.3%
12	Raypol silt loam	5.4	2.1%
15	Scarboro muck, 0 to 3 percent slopes	3.4	1.3%
21A	Ninigret and Tisbury soils, 0 to 5 percent slopes	2.4	0.9%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	0.8	0.3%
32A	Haven and Enfield soils, 0 to 3 percent slopes	4.0	1.5%
32B	Haven and Enfield soils, 3 to 8 percent slopes	16.3	6.3%
38A	Hinckley loamy sand, 0 to 3 percent slopes	0.1	0.0%
51B	Sutton fine sandy loam, 2 to 8 percent slopes, very stony	14.2	5.5%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	7.0	2.7%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	50.6	19.6%
60C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes	4.1	1.6%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	42.4	16.4%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	2.7	1.1%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	60.0	23.2%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	18.8	7.3%
306	Udorthents-Urban land complex	0.1	0.1%
Totals for Area of Interest		258.8	100.0%

The USDA – NRCS Web Soil Survey Report identifies the following dominant soil map units in the project area:

- ❑ Charlton-Chatfield complex, 0 to 15% slopes, very rocky (#73C), well-drained;
- ❑ Canton and Charlton fine sandy loams, 3 to 8% slopes (#60B), well-drained;
- ❑ Canton and Charlton fine sandy loams, 0 to 8% slopes, very stony (#61B), well-drained;
- ❑ Ridgebury, Leicester, and Whitman soils, 0 to 8% slopes, extremely stony (#3), poorly-drained;
- ❑ Paxton and Montauk fine sandy loams, 3 to 8% slopes (#84B), well-drained;
- ❑ Haven and Enfield soils, 3 to 8% slopes (#32B), well-drained; and
- ❑ Sutton fine sandy loam, 2 to 8% slopes, very stony (#51B), well-drained.

Several wetland types were identified as shown on Figure 2-1. These include the open water impoundment (used for irrigation supply) with some emergent marshes, and floodplain wetlands associated with Anguilla Brook near the irrigation withdrawal point.

2.2 Upland Soils

In general, the upland soils are glaciofluvial soils of stratified sand and gravel. The parent material of these soils is acidic crystalline rock. The dominant upland soils at the site are the well-drained *Charlton*, *Chatfield*, *Canton*, *Paxton*, and *Montauk* series. The *Haven*, *Enfield*, and *Sutton* series are a lesser component found near Anguilla Brook and along shallow forested drainage ways near the golf course edges.

Charlton – The Charlton series consists of very deep well-drained soils formed in loamy melt-out till. They are nearly level to very steep soils moraines, hills, and ridges. Saturated hydraulic conductivity is moderately high or high. Slope ranges from 0 to 60 percent.

- ❑ Taxonomic Class: Coarse-loamy, mixed, superactive, mesic Typic Dystrudepts.
- ❑ Drainage and Permeability: Well drained. Runoff is negligible to medium. Saturated hydraulic conductivity is moderately high or high.
- ❑ Typical Use and Vegetation: Areas cleared of stones are used for cultivated crops, specialty crops, hay, and pasture. Many scattered areas are used for community development. Stony areas are mostly wooded. Common trees are northern red, white, and black oak, hickory, sugar maple, red maple, black and gray birch, white ash, beech, white pine, and hemlock.

Chatfield – The Chatfield series consists of moderately deep well-drained soils formed in loamy melt-out till. They are nearly level to very steep soils on bedrock-controlled hills and ridges. Slope ranges from 0 through 70 percent. Saturated hydraulic conductivity is moderately high or high.

- ❑ Taxonomic Class: Coarse-loamy, mixed, superactive, mesic Typic Dystrudepts.
- ❑ Drainage and Permeability: Well drained. Potential for surface runoff ranges from low to high. Saturated hydraulic conductivity is moderately high or high.
- ❑ Typical Use and Vegetation: Most areas of Chatfield soils are in woodland. Major tree species include white and northern red oaks, sugar maple, beech, eastern hemlock, eastern white pine,

eastern red cedar, and shagbark hickory. Some small cleared areas are used for pasture, are idle, or are sites for residential and recreational development.

Canton – The Canton series consists of very deep, well-drained soils formed in loamy mantle underlain by sandy till. They are on nearly level to very steep moraines, hills, and ridges. Slope ranges from 0 through 45 percent. Saturated hydraulic conductivity is moderately high or high in the solum and high or very high in the substratum.

- ❑ Taxonomic Class: Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Dystrudepts.
- ❑ Drainage and Permeability: Well drained. Runoff is negligible to medium. Internal drainage is medium. Saturated hydraulic conductivity is moderately high or high in the solum and high or very high in the substratum.
- ❑ Typical Use and Vegetation: Mostly forested. Some areas have been cleared of surface stones and are used for crops and pasture. Native vegetation is forest composed of eastern white pine, northern red, white, and black oaks, hickory, red maple, sugar maple, gray birch, yellow birch, beech, eastern hemlock, and white ash.

Paxton – The Paxton series consists of very deep, well drained loamy soils formed in lodgment till. They are on nearly level to steep soils on hills, drumlins, till plains, and ground moraines. Slope ranges from 0 through 45 percent. Saturated hydraulic conductivity is moderately high or high in the surface layer and subsoil and low or moderately low in the substratum.

- ❑ Taxonomic Class: Coarse-loamy, mixed, active, mesic Oxyaquic Dystrudepts.
- ❑ Drainage and Permeability: Well drained. Water may perch on the densic contact for brief periods in late fall through early spring. Surface runoff is negligible to high. Saturated hydraulic conductivity is moderately high or high in the solum and low or moderately low in the substratum.
- ❑ Typical Use and Vegetation: Many areas are cleared and used for cultivated crops, hay, or pasture. Scattered areas are used for community development. Some areas are wooded. Common trees are red, white, and black oak, hickory, sugar maple, red maple, gray and black birch, eastern white pine, and eastern hemlock.

Montauk – The Montauk series consists of very deep, well drained soils formed in lodgment or flow till derived primarily from granitic materials with lesser amounts of gneiss and schist. They are on upland hills and moraines. Slope ranges from 0 through 35 percent. Saturated hydraulic conductivity is moderately high or high in the solum and low to moderately high in the substratum.

- ❑ Taxonomic Class: Coarse-loamy, mixed, active, mesic Oxyaquic Dystrudepts.
- ❑ Drainage and Permeability: Well drained. Runoff is low to high. Saturated hydraulic conductivity is moderately high or high in the solum and low to moderately high in the substratum.

- ❑ Typical Use and Vegetation: Many of the nearly level and gently sloping areas are cleared and used for production of potatoes and vegetable crops, hay, silage corn, and pasture. Steeper and uneven areas are largely forested and contain northern red oak, white oak, and occasionally yellow poplar, eastern white pine, red pine, sugar maple, beech, and birch.

Haven – The Haven series consists of very deep, well drained soils formed in loamy over sandy and gravelly outwash. They are nearly level through moderately sloping soils on outwash plains, valley trains, terraces, and water-sorted moraine deposits. Slope ranges from 0 through 15 percent. Saturated hydraulic conductivity is moderately high or high in the mineral solum and very high in the substratum.

- ❑ Taxonomic Class: Coarse-loamy over sandy or sandy-skeletal, mixed, active, mesic Typic Dystrudepts.
- ❑ Drainage and Permeability: Well drained. The potential for surface runoff is very low to medium. Saturated hydraulic conductivity is moderately high or high in the solum and very high in the substratum.
- ❑ Typical Use and Vegetation: Most of the soil has been cleared and is used for crops or is in community development. Principal crops are potatoes and other vegetables, corn, tobacco, or nursery stock. Common forest trees in woodlots include black, white, and northern red oak, beech, and maple.

Enfield – The Enfield series consists of very deep, well drained loamy soils formed in a silty mantle overlying glacial outwash. They are nearly level to sloping soils on outwash plains and terraces. Slope ranges from 0 through 15 percent. Permeability is moderate or moderately rapid in the surface layer and subsoil and rapid or very rapid in the substratum.

- ❑ Taxonomic Class: Coarse-silty over sandy or sandy-skeletal, mixed, active, mesic Typic Dystrudepts.
- ❑ Drainage and Permeability: Well drained. Surface runoff is negligible or low. Permeability is moderate or moderately rapid in the solum and rapid or very rapid in the substratum. Saturated hydraulic conductivity is moderately high or high in the solum and high or very high in the substratum.
- ❑ Typical Use and Vegetation: Most areas are used for cultivated crops, hay or pasture. Common crops are silage corn, vegetables, tobacco, and nursery stock. Some areas are wooded or used for community development. Common trees are red, white and black oak, hickory, white ash, red maple, sugar maple, black birch, beech, hemlock and white pine.

Sutton – The Sutton series consists of very deep, moderately well drained loamy soils formed in melt-out till. They are nearly level to strongly sloping soils on hills, low ridges, and ground moraines, typically on footslopes, lower backslopes, and in slight depressions. Slope ranges from 0 through 15 percent. Saturated hydraulic conductivity is moderately high or high throughout.

- ❑ Taxonomic Class: Coarse-loamy, mixed, superactive, mesic Aquic Dystrudepts.

- ❑ **Drainage and Permeability:** Moderately well drained. Surface runoff is slow to medium. Saturated hydraulic conductivity ranges from moderately high or high throughout.
- ❑ **Typical Use and Vegetation:** Cleared areas are used for cultivated crops, hay, or pasture. Scattered areas are used for community development. Some areas are wooded. Common trees are red oak, white oak, black oak, hickory, ash, red maple, gray birch, hemlock, and white pine.

2.3 **Wetland Soils**

The site occupies a sandy, upland ridgeline (drainage basin divide) between the Pawcatuck River and Anguilla Brook. Multiple small pockets of forested wetlands appear to be located on the property based on aerial photographs. Numerous impoundments dot the golf course, collecting surface drainage to provide water hazards for play. Wetland soils are also located in the vicinity of the Irrigation Pond (Pump 1) and Anguilla Brook (Pump 2). Photographs of these areas are attached as Appendix A.

The mapped wetland soil series near the Irrigation Pond is: the Ridgebury, Leicester, and Whitman soils:

Ridgebury – The Ridgebury series consists of very deep, somewhat poorly and poorly drained soils formed in lodgment till derived mainly from granite, gneiss and/or schist. They are nearly level to gently sloping soils in depressions in uplands. They also occur in drainageways in uplands, in toeslope positions of hills, drumlins, and ground moraines, and in till plains. Saturated hydraulic conductivity is moderately high or high in the solum and very low to moderately low in the substratum. Slope ranges from 0 to 15 percent.

- ❑ **Taxonomic Class:** Loamy, mixed, superactive, acid, mesic, shallow Aeric Endoaquepts.
- ❑ **Drainage and Permeability:** Commonly poorly drained but the range includes the wetter part of somewhat poorly drained. Runoff is negligible to medium. Saturated hydraulic conductivity is moderately high or high in the solum and very low to moderately low in the substratum. A perched, fluctuating water table above the dense till saturates the solum to or near the surface for 7 to 9 months of the year.
- ❑ **Typical Use and Vegetation:** Largely forested to gray birch, yellow birch, red maple, hemlock, elm, spruce and balsam fir. Cleared areas are used mainly for hay and pasture.

Leicester – The Leicester series of very deep, poorly drained soils formed in coarse-loamy till. They are nearly level or gently sloping soils in drainageways and low-lying positions on hills. Permeability is moderate or moderately rapid in the surface layer and subsoil and moderate to rapid in the substratum. Slope ranges from 0 to 8 percent.

- ❑ **Taxonomic Class:** Coarse-loamy, mixed, superactive, acid, mesic Aeric Endoaquepts.
- ❑ **Drainage and Permeability:** Poorly drained. Surface runoff is slow. Saturated hydraulic conductivity is moderately high or high. Leicester soils have a water table at or near the surface much of the year.
- ❑ **Typical Use and Vegetation:** Most areas are wooded. Some areas are in brushy unimproved pasture. Cleared areas are used for hay or pasture. Tree species include alder, gray birch, red maple, eastern hemlock, American elm, and spruce. Shrub species include northern spicebush,

winterberry, and silky dogwood. Herb species include skunk cabbage, green false hellebore, sensitive fern, cinnamon fern, jewelweed, and water-tolerant sedges and rushes.

Whitman – consists of very deep, very poorly drained soils formed in lodgment till derived mainly from granite, gneiss, and schist. They are shallow to a densic contact. These soils are nearly level or gently sloping soils in depressions and drainageways on uplands. Saturated hydraulic conductivity is moderately high or high in the solum and very low to moderately low in the substratum.

- ❑ Taxonomic Class: Loamy, mixed, superactive, acid, mesic, shallow Typic Humaquepts.
- ❑ Drainage and Permeability: Very poorly drained. Runoff potential is high or very high. Saturated hydraulic conductivity is moderately high or high in the solum and very low to moderately low in the densic material. A perched water table, or excess seepage water, is at or near the surface for about 9 months of the year.
- ❑ Typical Use and Vegetation: Nearly all areas are forested. Only a few areas are cleared and drained and used for pasture. Tree species include alder, gray birch, red maple, eastern hemlock, American elm, and spruce. Shrub species include northern spicebush, winterberry, red maple, and silky dogwood. Herb species include skunk cabbage, green false hellebore, sensitive fern, cinnamon fern, jewelweed, and water-tolerant sedges and rushes.

The mapped wetland soils near Anguilla Brook consist of Scarboro muck:

Scarboro – The Scarboro series consists of very deep, very poorly drained soils formed in sandy glaciofluvial deposits on outwash plains, deltas, and terraces. They are nearly level soils in depressions. Slope ranges from 0 through 3 percent. Saturated hydraulic conductivity is high or very high.

- ❑ Taxonomic Class: Sandy, mixed, mesic Histic Humaquepts.
- ❑ Drainage and Permeability: Very poorly drained. Saturated hydraulic conductivity is high or very high. Surface runoff is high or very high. The water table is at or near the surface for 6 to 12 months of the year, and many areas are ponded for short periods.
- ❑ Typical Use and Vegetation: Shrub and brush land or woodland. Common shrubs are speckled alder, smooth alder, rhoda azalea, steeplebush spirea, leatherleaf, labrador-tea, winterberry, highbush blueberry, large cranberry, black huckleberry, poison sumac, and sheep laurel. Common trees are red maple, slippery elm, Atlantic white cedar, tamarack, eastern white pine, willow, and gray birch.

3.0 VEGETATION INVENTORY

3.1 Upland Cover Types

The predominant upland habitat type adjacent to the irrigation pond and next to Anguilla Brook is a mixed upland forest comprised of Eastern hemlock and hardwood forest, dominated by oak and hickory. Upland tree species in this area include mixed oaks, hickories, American beech, white pine and Eastern hemlock. Other nearby areas are maintained lawns for the golf course. A cursory review of upland vegetation (trees) is presented in Table 3-1.

TABLE 3-1
Upland Vegetation Inventory

Common Name	Scientific Name
red cedar	<i>Juniperus virginiana</i>
red oak	<i>Quercus rubra</i>
white oak	<i>Quercus alba</i>
black oak	<i>Quercus nigra</i>
scarlet oak	<i>Quercus coccinea</i>
shagbark hickory	<i>Carya ovata</i>
red maple	<i>Acer rubrum</i>
Eastern hemlock	<i>Tsuga canadensis</i>
White pine	<i>Pinus strobus</i>

3.2 Wetland Cover Types

Wetland cover types present on the property have been described and categorized using the U.S. Fish and Wildlife Service's wetland classification system described in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, et al., 1979). All of the wetlands and watercourses within the project site belong to the *palustrine* ecological system, which includes nontidal wetlands dominated by trees, shrubs, herbaceous growth and emergent mosses or lichens. Ponds are also included within this system. The wetland cover types identified at the site are forested and pond wetlands.

Each of the wetland systems functions and values are evaluated in Section 4.0. Descriptions are provided below.

Open Water Impoundment

The 2.7-acre open water impoundment that provides irrigation water to the golf course has an average water depth of six feet with an estimated maximum depth of nine feet. The impoundment has a shallow margin that supports hydrophytes including common reed. The forested margin of the impoundment consists primarily of red maple and mixed oaks.

The impoundment appears to have the potential to support a warm water fishery. According to ElmrIDGE Golf Course staff, the pond supports largemouth bass and a variety of pumpkinseed fish. The impoundment is supported by groundwater breakout at toe of upland slopes and overland stormwater runoff. Several dead woody snags are found within the impoundment and along the northeastern and eastern fringes of the impoundment. The structure provided by these woody debris provides wildlife habitat. There are also clusters broadleaf cattail growing along the southern and southeastern edges of the pond.

Common species identified in this wetland are detailed in Table 3-2.

TABLE 3-2
Open Water Impoundment Inventory

Common Name	Scientific Name
Trees	
Red maple	<i>Acer rubrum</i>
American elm	<i>Ulmus americana</i>
Oaks (variety)	<i>Quercus spp.</i>
Shrubs	
Silky dogwood	<i>Cornus amomum</i>
Herbaceous & Vines	
Broadleaf cattail	<i>Typha latifolia</i>
Bur-reed	<i>Sparganium spp</i>
Common reed	<i>Phragmites australis</i>
Sedges, rushes, etc.	<i>Cyperus, Scirpus, Carex spp.</i>

Anguilla Brook Floodplain Wetland

Anguilla Brook enters the golf course property in a forested floodplain dominated by red maple trees. The canopy layer also includes grey birch, white birch, and river birch. On the higher parts of the floodplain, upland species such as shagbark hickory, red cedar, and a variety of oaks were also noted. The understory is well developed and includes ironwood (American hornbeam), spicebush, winterberry, elder berry, highbush blueberry, and sweet pepperbush. The herbaceous layer includes cinnamon fern, sensitive fern, royal fern, goldenrod, skunk cabbage, and tussock sedge. Greenbriar was also well represented in the forested wetlands. This wetland is supported by groundwater and stormwater surface runoff from surrounding uplands, and is of high quality.

Plants common in the Anguilla Brook Floodplain Wetland include those listed in Table 3-3.

TABLE 3-3
Anguilla Brook Floodplain Wetland Vegetation Inventory

Common Name	Scientific Name
Trees	
Red cedar	<i>Juniperus virginiana</i>
Red maple	<i>Acer rubrum</i>
Shagbark hickory	<i>Carya ovata</i>
Gray birch	<i>Betula populifolia</i>
River birch	<i>Betula nigra</i>
European white birch	<i>Betula pendula</i>
Oaks (variety)	<i>Quercus spp.</i>
Shrubs	
American hornbeam	<i>Carpinus caroliniana</i>
Highbush blueberry	<i>Vaccinium corymbosum</i>
Northern spicebush	<i>Lindera benzoin</i>
American black elderberry	<i>Sambucus canadensis</i>
Autumn olive	<i>Elaeagnus angustifolia</i>
Common winterberry	<i>Ilex verticillata</i>

TABLE 3-3
Anguilla Brook Floodplain Wetland Vegetation Inventory

Common Name	Scientific Name
Sweet pepperbush	<i>Clethra alnifolia</i>
Multiflora rose	<i>Rosa mutliflora</i>
Herbaceous & Vines	
Cinnamon fern	<i>Osmunda cinnamomea</i>
Skunk cabbage	<i>Symplocarpus foetidus</i>
Goldenrod	<i>Solidago spp.</i>
Ostrich fern	<i>Matteuccia struthiopteris</i>
Sensitive fern	<i>Onoclea sensibilis</i>
Royal fern	<i>Osmunda regalis</i>
Tussock sedge	<i>Carex stricta</i>
Greenbriar	<i>Smilax spp.</i>

4.0 FUNCTIONAL EVALUATION

Wetlands and watercourses are generally accepted as performing certain hydrologic and ecological functions that provide social and economic values important enough to merit protection through regulation under local, state and federal law. A professional wetland scientist from MMI conducted an evaluation of the on-site wetlands and watercourses capability to perform these functions and provide these values. The methodology follows the U. S. Army Corps of Engineers Wetland Functions and Values approach as outlined in their *Highway Methodology Workbook, Supplement*. Tables 4-1 through 4-2 provide lists of the wetland/watercourse functions and values for the different wetland types at the project site.

**Table 4-1
Functions & Values: Open Water Impoundment (Irrigation Pond)**

	Open Water Impoundment	Comments
	Groundwater Recharge / Discharge	Yes – wetland is fed by groundwater discharge.
	Floodflow Alteration (Storage & Desynchronization)	Yes – the impoundment retains runoff though the area is not mapped as a FEMA floodplain.
	Fish & Shellfish Habitat	Yes – warm water finfish species are present in shallow pond
	Sediment / Toxicant Retention	Yes – residence time in surface water allows sediment deposition and toxicant retention.
	Nutrient Removal / Retention / Transformation	Yes – vegetation around the perimeter and within the pond allow for nutrient assimilation.
	Production Export (Nutrient)	No – the pond does not have a permanent outlet.
	Sediment / Shoreline Stabilization	Yes – vegetated banks along the pond perimeter provides this function.
	Wildlife Habitat	Yes – Pond provides aquatic habitat for fish, birds, macroinvertebrates, and reptiles.
	Recreation (Consumptive & Non-Consumptive)	Yes – Golf course water hazard.
	Educational Scientific Value	No – the pond does not provide educational opportunities.
	Uniqueness / Heritage	No – the pond does not present unique attributes.
	Visual Quality / Aesthetics	No – visual quality is limited.
ES	Endangered Species	No – According to CTDEEP NDDDB the species of concern near the pond would not be adversely impacted by withdrawals (see Attachment K).

The principal functions/values of the impoundment are groundwater discharge, floodflow alteration, warm water fish habitat, sediment/toxicant Retention, nutrient removal/retention/transformation, wildlife habitat, and recreation.

Table 4-2
Functions & Values: Anguilla Brook Forested Wetland

	Anguilla Brook Forest Wetland	Comments
	Groundwater Recharge / Discharge	Yes – stream is fed by base flow (groundwater discharge) in addition to surface flow.
	Floodflow Alteration (Storage & Desynchronization)	Yes –wetland comprises the floodplain of brook, is flooded on a frequent basis, and is located within mapped FEMA floodplain.
	Fish & Shellfish Habitat	Yes – perennial stream with cold water fisheries habitat.
	Sediment / Toxicant Retention	Yes – overbank flow allows for sediment/toxicant retention.
	Nutrient Removal / Retention / Transformation	Yes – brook is buffered by wooded wetlands which provide moderate benefit
	Production Export (Nutrient)	Yes – perennial stream allows for production export.
	Sediment / Shoreline Stabilization	Yes – dense vegetation allows for shoreline stabilization.
	Wildlife Habitat	Yes – the diverse vegetative assemblage across vegetative strata provide opportunities for wildlife habitat.
	Recreation (Consumptive & Non-Consumptive)	No – recreation is not a primary value of this wetland, although recreational opportunities (hiking, viewing) are afforded downstream.
	Educational Scientific Value	No – the wetland does not provide educational attributes.
	Uniqueness / Heritage	No – the wetland does not demonstrate unique habitat.
	Visual Quality / Aesthetics	Yes – diverse assemblage of plants in a small area are an interesting contrast from well-maintained turf areas of the golf course
ES	Endangered Species	No – According to CTDEEP NDDDB there are no species of concern near Anguilla Brook at the site (see Attachment K)

The principal functions/values of the Anguilla Brook floodplain wetlands are groundwater discharge, floodflow alteration, fisheries habitat, production export, shoreline/sediment stabilization, and wildlife habitat.

5.0 WILDLIFE INVENTORY

5.1 Natural Diversity Data Base

The DEEP Natural Diversity Database (NDDDB) was accessed in order to determine whether any known extant populations of Federal or State Endangered, Threatened, or Special Concern Species occur at the project site. According to the DEEP, negative impacts to state-listed species resulting from the withdrawals at the site are not anticipated based upon the information contained within the NDDDB. Please refer to correspondence from CT DEEP biologists found in Appendix A of Attachment K (Environmental Report).

5.2 Wildlife Inventory

The methods used to inventory wildlife include first hand observation of species, combined with prediction of which species probably or potentially occur on the site. The predictions are based on the fact that the wildlife species that occur are a direct function of the habitat cover types present, and the presence of specific habitat features such as snags, open water, dense underbrush, etc. Habitat cover types were identified and assessed during the field visits. The wildlife inventory presented in Table 5-1 was developed by directly observing species, or by determining that suitable habitat exists on the site for that species.

**TABLE 5-1
Observed and Potential Wildlife**

Common Name	Scientific Name	Observation*
Mammals		
Virginia opossum	<i>Didelphis virginiana</i>	probable
northern short-tailed shrew	<i>Blarina brevicauda</i>	probable
eastern mole	<i>Scalopus aquaticus</i>	probable
big brown bat	<i>Eptesicus fuscus</i>	probable
eastern chipmunk	<i>Tamias striatus</i>	confirmed
gray squirrel	<i>Sciurus carolinensis</i>	confirmed
deer mouse	<i>Peromyscus maniculatus</i>	probable
white-footed mouse	<i>Peromyscus leucopus</i>	probable
woodland vole	<i>Microtus pinetorum</i>	probable
muskrat	<i>Ondatra zibethicus</i>	confirmed
house mouse	<i>Mus musculus</i>	probable
coyote	<i>Canis latrans</i>	probable
red fox	<i>Vulpes vulpes</i>	probable
gray fox	<i>Urocyon cinereoargenteus</i>	possible
raccoon	<i>Procyon lotor</i>	confirmed
mink	<i>Mustela vison</i>	possible
striped skunk	<i>Mephitis mephitis</i>	probable
white-tailed deer	<i>Odocoileus virginianus</i>	confirmed
Birds		
great blue heron	<i>Ardea herodias</i>	probable
Canada goose	<i>Branta canadensis</i>	confirmed
wood duck	<i>Aix sponsa</i>	confirmed
mallard	<i>Anas platyrhynchos</i>	confirmed

TABLE 5-1
Observed and Potential Wildlife

Common Name	Scientific Name	Observation*
turkey vulture	<i>Cathartes aura</i>	confirmed
sharp-shinned hawk	<i>Accipiter striatus</i>	possible
Cooper's hawk	<i>Accipiter cooperii</i>	possible
red-shouldered hawk	<i>Buteo lineatus</i>	confirmed
red-tailed hawk	<i>Buteo jamaicensis</i>	confirmed
ring-necked pheasant	<i>Phasianus colchinus</i>	possible
ruffed grouse	<i>Bonasa umbellus</i>	possible
wild turkey	<i>Meleagris gallopavo</i>	probable
American woodcock	<i>Scolopax minor</i>	probable
mourning dove	<i>Zenaida macroura</i>	confirmed
eastern screech-owl	<i>Otus asio</i>	probable
great-horned owl	<i>Bubo virginianus</i>	probable
barred owl	<i>Strix varia</i>	probable
red-bellied woodpecker	<i>Melanerpes carolinus</i>	confirmed
yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	probable
downy woodpecker	<i>Picoides pubescens</i>	confirmed
northern flicker	<i>Colaptes auratus</i>	confirmed
pileated woodpecker	<i>Dryocopus pileatus</i>	probable
eastern wood peewee	<i>Contopus virens</i>	probable
least flycatcher	<i>Empidonax minimus</i>	probable
eastern phoebe	<i>Sayornis phoebe</i>	confirmed
great-crested flycatcher	<i>Myiarchus crinitus</i>	confirmed
eastern kingbird	<i>Tyrannus tyrannus</i>	confirmed
tree swallow	<i>Tachycineta bicolor</i>	confirmed
barn swallow	<i>Hirundo rustica</i>	probable
blue jay	<i>Cyanocitta cristata</i>	confirmed
American crow	<i>Corvus brachyrhynchos</i>	confirmed
black-capped chickadee	<i>Parus atricapillus</i>	confirmed
tufted titmouse	<i>Parus bicolor</i>	confirmed
white-breasted nuthatch	<i>Sitta carolinensis</i>	confirmed
brown creeper	<i>Certhia americana</i>	probable
house wren	<i>Troglodytes aedon</i>	probable
eastern bluebird	<i>Sialia sialis</i>	confirmed
veery	<i>Catharus fuscescens</i>	confirmed
wood thrush	<i>Hylocichla mustelina</i>	probable
American robin	<i>Turdus migratorius</i>	confirmed
gray catbird	<i>Dumetella carolinensis</i>	confirmed
northern mockingbird	<i>Mimus polyglottos</i>	probable
cedar waxwing	<i>Bombycilla cedrorum</i>	confirmed
ruby-crowned kinglet	<i>Regulus calendula</i>	probable
European starling	<i>Sturnus vulgaris</i>	probable
red-eyed vireo	<i>Vireo olivaceus</i>	probable
Yellow rumped warbler	<i>Dendroica coronata</i>	probable
yellow warbler	<i>Dendroica petechia</i>	confirmed
chestnut-sided warbler	<i>Dendroica pensylvanica</i>	probable
black-and-white warbler	<i>Mniotilta varia</i>	confirmed
scarlet tanager	<i>Piranga olivacea</i>	confirmed

TABLE 5-1
Observed and Potential Wildlife

Common Name	Scientific Name	Observation*
northern cardinal	<i>Cardinalis cardinalis</i>	probable
rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>	probable
indigo bunting	<i>Passerina cyanea</i>	possible
eastern towhee	<i>Pipilo erthrophthalmus</i>	confirmed
chipping sparrow	<i>Spizella passerina</i>	probable
song sparrow	<i>Melospiza melodia</i>	confirmed
swamp sparrow	<i>Melospiza georgiana</i>	confirmed
red-winged blackbird	<i>Agelaius phoeniceus</i>	confirmed
common grackle	<i>Quiscalus quiscula</i>	confirmed
Baltimore Oriole	<i>Icterus galbula</i>	confirmed
house finch	<i>Carpodacus mexicanus</i>	probable
American goldfinch	<i>Carduelis tristis</i>	confirmed
house sparrow	<i>Passer domesticus</i>	possible
killdeer	<i>Charadrius vociferous</i>	probable
Amphibians		
redback salamander	<i>Plethodon cinereus</i>	probable
Eastern American toad	<i>Bufo americanus</i>	possible
gray treefrog	<i>Hyla versicolor</i>	probable
bullfrog	<i>Rana catesbeiana</i>	confirmed
green frog	<i>Rana clamitans</i>	confirmed
Reptiles		
common snapping turtle	<i>Chelydra serpentina</i>	probable
eastern painted turtle	<i>Chrysemys picta</i>	confirmed
Northern black racer	<i>Coluber constrictor</i>	possible
northern ringneck snake	<i>Diadophis punctatus</i>	possible
northern water snake	<i>Nerodia sipedon</i>	possible
northern brown snake	<i>Storeria dekayi</i>	possible
eastern garter snake	<i>Thamnophis sirtalis</i>	probable

* Observation Codes:

confirmed – species was observed on the site

probable – species found in geographic area, suitable habitat exists on site for seasonal use.

possible – marginal habitat exists on site, or site is at limits of species range.

6.0 IMPACT ASSESSMENT

Current conditions of the site and its wetlands are the result of golf course development, low to moderate-density residential and development nearby the site, and development of Interstate 95 and smaller roadways. There are no significant modifications to the wetland boundary since the initial wetland flagging was completed in 2001. The functions and values for the irrigation pond (created in 1966 and in use since that time) in Table 4-1 demonstrate a moderate capacity to perform basic wetland functions and are consistent with a constructed open water wetland. These wetland functions exist in concert with the use of the pond as a golf course irrigation source.

The functions and values identified within Anguilla Brook (Table 4-2) wetland system are moderate or high and also exist concurrent with annual withdrawals for the past several decades for irrigation purposes.

These activities have occurred since course expansion in 1994. The wetland continues to demonstrate diversity of vegetative species and associated habitat. Functions and values for Anguilla Brook in 2018 are consistent with those determined in 2001. No change to the timing or volume of irrigation is proposed, thus the functions and values of the two wetland systems adjacent to irrigation infrastructure is anticipated to continue without adverse impacts to these wetland communities.



APPENDIX A **Photo Log**

Pictures were taken May 15, 2018
MMI #6441-01

Irrigation Pumphouse (Pump 1) at Irrigation Pond. Propane Gas Tank for Pump on Right.



Irrigation Pond Withdrawal Point (Pump 1). Dry Hydrant in Foreground.



Irrigation Pond. Forested Bank North and to Northeast.



West Side of Irrigation Pond Functions as Water Hazard near Fairway



Wetland Grasses on South Side of Irrigation Pond near Pumphouse (Pump 1).



Irrigation Pump Trailer at Anguilla Brook (Pump 2) and Metered Connection to Irrigation System



Fuel Tank Shelter for Pump 2 with Secondary Containment.



Anguilla Brook near Pump 2 Withdrawal Point



Anguilla Brook near Pump 2 Withdrawal Point.



Northeast Bank of Anguilla Brook near Pump 2 Withdrawal Point.



Floodplain Wetland West of Diesel Storage Tank.



Anguilla Brook.



Anguilla Brook.



Anguilla Brook



Water Hazard Impoundment along Hole "Red 7" near Pump 2 Withdrawal Point





APPENDIX B **Previous Wetland Report**



HIGHLAND SOILS LLC

WETLAND REPORT
ELMRIDGE COUNTRY CLUB
STONINGTON, CONNECTICUT

PREPARED FOR
TARBELL, HEINTZ AND ASSOCIATES, INC

BY
JOHN P. IANNI
PROFESSIONAL SOIL SCIENTIST

NOVEMBER 2001

Elmridge Country Club of Stonington, Connecticut is seeking a permit for a surface water withdrawal for irrigation of an existing 27-hole golf course. Highland Soils LLC was contracted by Tarbell & Heintz Associates to provide an overview of the wetlands adjacent to the surface water withdrawal point. On November 7, 2001 a site visit was conducted to gather information on the soils and vegetation in the area and to provide a brief report on the functions and values associated with the wetlands.

VEGETATION

The existing surface water withdrawal is from Anguilla Brook. Anguilla Brook enters the property in a forested floodplain dominated by Red Maple (*Acer rubra*) trees. The canopy layer also includes Grey Birch (*Betula populifolia*), White Birch (*Betula papyrifera*) and River Birch (*Betula nigra*). On higher parts of the floodplain upland species such as Shagbark Hickory (*Carya ovata*), Red Cedar (*Juniperus virginiana*) and a variety of Oaks (*Quercus* spp.) were also noted.

The understory is well developed and includes Ironwood (*Carpinus caroliniana*), Spicebush (*Lindera benzoin*), Winterberry (*Ilex verticillata*), Elderberry (*Sambucus canadensis*), Highbush Blueberry (*Vaccinium corymbosum*) and Sweet Pepperbush (*Clethra alnifolia*).

The herbaceous layer includes Cinnamon Fern (*Osmunda cinnamomea*), Sensitive Fern (*Onoclea sensibilis*), Royal Fern (*Osmunda regalis*), Goldenrod (*Solidago* spp.), Skunkcabbage (*Symplocarpus foetidus*) and Tussock Sedge (*Carex stricta*).

Greenbriar (*Smilax* spp.) was also well represented within the forested wetlands.

SOILS

The Soil Survey of New London County indicates the soils in the subject area were mapped as the very poorly drained Scarborough Series. These soils formed in water-sorted deposits of sand and gravel and are found on outwash plains and stream terraces. However, based on the observation of soil profiles in the immediate area, alluvial soils of the poorly drained Rippowam Series and very poorly drained Saco Series may also be present. All of the soils overlay deposits of sand and gravel and are subject to flooding.

WETLAND FUNCTIONS AND VALUES

The functions and values of the wetlands will be described in a qualitative manner modeled after the method used by the US Army Corps of Engineers. The information is from *The Highway Methodology Workbook Supplement*. This publication uses a descriptive approach to assessing functional values, versus the CT D.E.P. approach which uses a quantitative, or numerical approach to ranking wetland functions and values.

Ground Water Recharge/Discharge - This function considers the potential for a wetland to serve as a ground water recharge and/or discharge area.

The subject wetlands are underlain by stratified drift deposits and should be considered ground water recharge wetlands.

Floodflow Alteration - This function considers the effectiveness of the wetland in reducing flood damage by attenuation of floodwaters.

The wetlands are part of the floodplain for Anguilla Brook and appear to be flooded on a frequent basis. Floodflow alteration appears to be a significant function for the area of wetlands adjacent to the withdrawal point.

Fish and Shellfish Habitat - This function considers the effectiveness of seasonal or permanent waterbodies associated with wetlands for fish and shellfish habitat.

Anguilla Brook is a perennial stream with cold water fisheries habitat.

Sediment/Toxicant/Pathogen Retention - This function reduces or prevents degradation of water quality by assessing the effectiveness of a wetland as a trap for sediments, toxicants or pathogens.

During times of overbank flood events the wetlands can perform these functions. Based on the deposition deposits of sediment in the floodplain this appears to be an important function during flood events.

Nutrient Removal/Retention/Transformation - This function relates to the effectiveness of the wetland to prevent adverse effects of excess nutrients entering aquifers or surface waters.

Anguilla Brook is buffered by wooded wetlands that contain poorly and very poorly drained soils with varying thickness of organic soil layers. These factors provide moderate effectiveness for this wetland function.

Production Export - This function relates to the effectiveness of the wetland to produce food or usable products for human, or other living organisms.

The vegetation within the wetlands can supply quantities of food sources for wildlife. This function is moderately represented by the wetlands.

Sediment/Shoreline Stabilization - This function evaluates the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.

The forested wetlands adjacent to Anguilla Brook provide excellent stabilization to the existing shoreline. This is an important function of the wetlands adjacent to Anguilla Brook.

Wildlife Habitat - This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands.

The wetlands in the immediate area of the withdrawal point offer mainly edge habitat and serve as a buffer to the open turf area of the golf course. However, the on-site wetlands are part of a very large complex of wetlands that provide excellent wildlife habitat.

Recreation - This value considers the suitability of the wetlands to provide recreation opportunities.

The wetlands are on private property and have limited access for public recreation. Anguilla Brook and its associated wetlands have good potential for this wetland value.

Educational/Scientific Value - This function considers the suitability of the wetland as an "outdoor classroom" or for scientific research.

The wetlands are on private property and have limited access for public recreation. Anguilla Brook and its associated wetlands have good potential for this wetland value.

Uniqueness/Heritage - This value considers the effectiveness of the wetland for special values such as archeological sites, rare and endangered species habitat or uniqueness for its location.

The wetlands offer limited opportunities for this value in part due to the proximity to the golf course and Interstate 95.

Visual Qualities/Aesthetics - This value relates to the visual qualities of the wetlands.

The wetlands contain a diverse assemblage of plants in a small area. Floodplains are dynamic systems that offer interesting visual qualities. The wooded areas adjacent Anguilla Brook form an interesting contrast to the well maintained turf areas of the golf course.

Threatened or Endangered Species Habitat

No Known occurrences of rare or endangered species are recorded for this property.



APPENDIX C **USDA-NRCS Web Soil Survey**



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for State of Connecticut

Elmridge Golf Course



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut

Survey Area Data: Version 16, Sep 15, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 30, 2011—May 1, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	26.6	10.3%
12	Raypol silt loam	5.4	2.1%
15	Scarboro muck, 0 to 3 percent slopes	3.4	1.3%
21A	Ninigret and Tisbury soils, 0 to 5 percent slopes	2.4	0.9%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	0.8	0.3%
32A	Haven and Enfield soils, 0 to 3 percent slopes	4.0	1.5%
32B	Haven and Enfield soils, 3 to 8 percent slopes	16.3	6.3%
38A	Hinckley loamy sand, 0 to 3 percent slopes	0.1	0.0%
51B	Sutton fine sandy loam, 2 to 8 percent slopes, very stony	14.2	5.5%
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	7.0	2.7%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	50.6	19.6%
60C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes	4.1	1.6%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	42.4	16.4%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	2.7	1.1%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	60.0	23.2%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	18.8	7.3%
306	Udorthents-Urban land complex	0.1	0.1%
Totals for Area of Interest		258.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas

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shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut

3—Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2t2qt
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury, extremely stony, and similar soils: 40 percent
Leicester, extremely stony, and similar soils: 35 percent
Whitman, extremely stony, and similar soils: 17 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Extremely Stony

Setting

Landform: Drumlins, ground moraines, drainageways, hills, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: fine sandy loam
Bw - 6 to 10 inches: sandy loam
Bg - 10 to 19 inches: gravelly sandy loam
Cd - 19 to 66 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s

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Hydrologic Soil Group: D
Hydric soil rating: Yes

Description of Leicester, Extremely Stony

Setting

Landform: Drainageways, hills, depressions, ground moraines
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 7 inches: fine sandy loam
Bg - 7 to 18 inches: fine sandy loam
BC - 18 to 24 inches: fine sandy loam
C1 - 24 to 39 inches: gravelly fine sandy loam
C2 - 39 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Description of Whitman, Extremely Stony

Setting

Landform: Depressions, drumlins, ground moraines, drainageways, hills
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 1 inches: peat
A - 1 to 10 inches: fine sandy loam
Bg - 10 to 17 inches: gravelly fine sandy loam

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Cdg - 17 to 61 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent

Percent of area covered with surface fragments: 9.0 percent

Depth to restrictive feature: 7 to 38 inches to densic material

Natural drainage class: Very poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 0 to 6 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Hydric soil rating: Yes

Minor Components

Woodbridge, extremely stony

Percent of map unit: 6 percent

Landform: Hills, drumlins, ground moraines

Landform position (two-dimensional): Backslope, footslope, summit

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Swansea

Percent of map unit: 2 percent

Landform: Bogs, swamps

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

12—Raypol silt loam

Map Unit Setting

National map unit symbol: 9ljx

Elevation: 0 to 1,200 feet

Mean annual precipitation: 43 to 54 inches

Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 185 days

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Farmland classification: Farmland of statewide importance

Map Unit Composition

Raypol and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Raypol

Setting

Landform: Depressions, drainageways

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 8 inches: silt loam

Bg1 - 8 to 12 inches: very fine sandy loam

Bg2 - 12 to 20 inches: silt loam

Bw1 - 20 to 26 inches: silt loam

Bw2 - 26 to 29 inches: very fine sandy loam

2C1 - 29 to 52 inches: stratified very gravelly coarse sand to loamy fine sand

2C2 - 52 to 65 inches: stratified very gravelly coarse sand to loamy fine sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: C/D

Hydric soil rating: Yes

Minor Components

Haven

Percent of map unit: 5 percent

Landform: Outwash plains, terraces

Down-slope shape: Convex

Across-slope shape: Linear

Hydric soil rating: No

Enfield

Percent of map unit: 5 percent

Landform: Terraces, outwash plains

Down-slope shape: Convex

Across-slope shape: Linear

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Hydric soil rating: No

Ninigret

Percent of map unit: 3 percent

Landform: Outwash plains, terraces

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: No

Tisbury

Percent of map unit: 2 percent

Landform: Outwash plains, terraces

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Walpole

Percent of map unit: 2 percent

Landform: Drainageways on terraces, depressions on terraces

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Scarboro

Percent of map unit: 2 percent

Landform: Depressions, terraces, drainageways

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Unnamed, loamy substratum

Percent of map unit: 1 percent

15—Scarboro muck, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svkt

Elevation: 0 to 1,350 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Scarboro and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scarboro

Setting

Landform: Depressions, outwash terraces, drainageways, outwash deltas

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Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope, tread, dip

Down-slope shape: Concave

Across-slope shape: Concave, linear

Parent material: Sandy glaciofluvial deposits derived from schist and/or gneiss and/or granite

Typical profile

Oa - 0 to 8 inches: muck

A - 8 to 14 inches: mucky fine sandy loam

Cg1 - 14 to 22 inches: sand

Cg2 - 22 to 65 inches: gravelly sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Very poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)

Depth to water table: About 0 to 2 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: A/D

Hydric soil rating: Yes

Minor Components

Timakwa

Percent of map unit: 10 percent

Landform: Swamps

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope, tread, dip

Down-slope shape: Linear, concave

Across-slope shape: Linear, concave

Hydric soil rating: Yes

Walpole

Percent of map unit: 8 percent

Landform: Deltas, depressions, depressions, outwash plains, outwash terraces

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread, tal, dip

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Deerfield

Percent of map unit: 2 percent

Landform: Terraces, outwash plains

Landform position (three-dimensional): Tread, dip

Down-slope shape: Linear

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Across-slope shape: Concave
Hydric soil rating: No

21A—Ninigret and Tisbury soils, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2tx07
Elevation: 0 to 1,260 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ninigret and similar soils: 60 percent
Tisbury and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ninigret

Setting

Landform: Outwash plains, outwash terraces, drainageways, moraines, depressions, kames, kame terraces
Landform position (two-dimensional): Backslope, shoulder, footslope, summit
Landform position (three-dimensional): Side slope, crest, tread, rise, dip
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex, concave
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss, granite, schist, and/or phyllite

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 16 inches: fine sandy loam
Bw2 - 16 to 26 inches: fine sandy loam
2C - 26 to 65 inches: stratified loamy sand to loamy fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: 18 to 38 inches to strongly contrasting textural stratification
Natural drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 17 to 39 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.4 inches)

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Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Tisbury

Setting

Landform: Outwash terraces, valley trains, deltas, depressions, depressions, outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-silty eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite, schist, and/or gneiss

Typical profile

Ap - 0 to 8 inches: silt loam
Bw1 - 8 to 18 inches: silt loam
Bw2 - 18 to 26 inches: silt loam
2C - 26 to 65 inches: stratified extremely gravelly sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: 24 to 36 inches to strongly contrasting textural stratification
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Merrimac

Percent of map unit: 5 percent
Landform: Outwash plains, outwash terraces, moraines, eskers, kames
Landform position (two-dimensional): Backslope, footslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Agawam

Percent of map unit: 5 percent

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Landform: Moraines, kames, kame terraces, outwash plains, outwash terraces
Landform position (two-dimensional): Backslope, shoulder, footslope, summit
Landform position (three-dimensional): Side slope, crest, tread, riser, rise
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Haven

Percent of map unit: 3 percent
Landform: Outwash terraces, moraines, kames, kame terraces, outwash plains
Landform position (two-dimensional): Shoulder, footslope, backslope, summit
Landform position (three-dimensional): Side slope, crest, riser, tread, rise, dip
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Raypol

Percent of map unit: 2 percent
Landform: Outwash plains, outwash terraces, valley trains, deltas, depressions, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

29A—Agawam fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tyqw
Elevation: 0 to 1,040 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Agawam and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Agawam

Setting

Landform: Outwash plains, outwash terraces, moraines, kames, kame terraces
Landform position (two-dimensional): Backslope, shoulder, footslope, summit
Landform position (three-dimensional): Side slope, crest, tread, riser, rise, dip
Down-slope shape: Convex
Across-slope shape: Convex

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Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss, granite, schist, and/or phyllite

Typical profile

Ap - 0 to 11 inches: fine sandy loam
Bw1 - 11 to 16 inches: fine sandy loam
Bw2 - 16 to 26 inches: fine sandy loam
2C1 - 26 to 39 inches: loamy fine sand
2C2 - 39 to 55 inches: loamy fine sand
2C3 - 55 to 65 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 15 to 35 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Ninigret

Percent of map unit: 5 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Windsor

Percent of map unit: 4 percent
Landform: Outwash terraces, deltas, dunes, outwash plains
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Walpole

Percent of map unit: 3 percent
Landform: Deltas, depressions, depressions, outwash plains, outwash terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, tal, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Hinckley

Percent of map unit: 3 percent

Landform: Deltas, eskers, kames, outwash plains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise

Down-slope shape: Convex

Across-slope shape: Convex, linear

Hydric soil rating: No

32A—Haven and Enfield soils, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9lmr

Elevation: 0 to 1,200 feet

Mean annual precipitation: 43 to 54 inches

Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 185 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Haven and similar soils: 60 percent

Enfield and similar soils: 25 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Haven

Setting

Landform: Terraces, outwash plains

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 7 inches: silt loam

Bw1 - 7 to 14 inches: silt loam

Bw2 - 14 to 20 inches: silt loam

BC - 20 to 24 inches: fine sandy loam

2C - 24 to 60 inches: stratified very gravelly sand to gravelly fine sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

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Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Enfield

Setting

Landform: Outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-silty eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile

O - 0 to 3 inches: slightly decomposed plant material
O - 3 to 4 inches: moderately decomposed plant material
Ap - 4 to 12 inches: silt loam
Bw1 - 12 to 20 inches: silt loam
Bw2 - 20 to 26 inches: silt loam
Bw3 - 26 to 30 inches: silt loam
2C - 30 to 37 inches: stratified coarse sand to very gravelly loamy sand
3C - 37 to 65 inches: stratified very gravelly coarse sand to loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Agawam

Percent of map unit: 4 percent
Landform: Terraces, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Branford

Percent of map unit: 3 percent

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Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ninigret

Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Tisbury

Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Raypol

Percent of map unit: 2 percent
Landform: Drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Unnamed, gravelly surface

Percent of map unit: 2 percent
Hydric soil rating: No

32B—Haven and Enfield soils, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9lms
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Haven and similar soils: 60 percent
Enfield and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Haven

Setting

Landform: Outwash plains, terraces

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Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 7 inches: silt loam
Bw1 - 7 to 14 inches: silt loam
Bw2 - 14 to 20 inches: silt loam
BC - 20 to 24 inches: fine sandy loam
2C - 24 to 60 inches: stratified very gravelly sand to gravelly fine sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Enfield

Setting

Landform: Outwash plains, terraces
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-silty eolian deposits over sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Typical profile

O - 0 to 3 inches: slightly decomposed plant material
O - 3 to 4 inches: moderately decomposed plant material
Ap - 4 to 12 inches: silt loam
Bw1 - 12 to 20 inches: silt loam
Bw2 - 20 to 26 inches: silt loam
Bw3 - 26 to 30 inches: silt loam
2C - 30 to 37 inches: stratified coarse sand to very gravelly loamy sand
3C - 37 to 65 inches: stratified very gravelly coarse sand to loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches

Custom Soil Resource Report

Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Agawam

Percent of map unit: 4 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Branford

Percent of map unit: 3 percent
Landform: Terraces, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ninigret

Percent of map unit: 2 percent
Landform: Outwash plains, terraces
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Tisbury

Percent of map unit: 2 percent
Landform: Terraces, outwash plains
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Raypol

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Unnamed, gravelly surface

Percent of map unit: 2 percent
Hydric soil rating: No

38A—Hinckley loamy sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svm7

Elevation: 0 to 1,420 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Kame terraces, outwash plains, outwash terraces, outwash deltas

Landform position (three-dimensional): Tread

Down-slope shape: Concave, linear, convex

Across-slope shape: Linear, concave, convex

Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 8 inches: loamy sand

Bw1 - 8 to 11 inches: gravelly loamy sand

Bw2 - 11 to 16 inches: gravelly loamy sand

BC - 16 to 19 inches: very gravelly loamy sand

C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Custom Soil Resource Report

Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Windsor

Percent of map unit: 5 percent
Landform: Outwash deltas, kame terraces, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Kame terraces, outwash terraces, outwash deltas
Landform position (three-dimensional): Tread
Down-slope shape: Convex, concave, linear
Across-slope shape: Linear, convex, concave
Hydric soil rating: No

Merrimac

Percent of map unit: 5 percent
Landform: Outwash deltas, kame terraces, outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex, linear, concave
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

51B—Sutton fine sandy loam, 2 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 9lp4
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Sutton and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sutton

Setting

Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Linear

Custom Soil Resource Report

Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 6 inches: fine sandy loam
Bw1 - 6 to 12 inches: fine sandy loam
Bw2 - 12 to 24 inches: fine sandy loam
Bw3 - 24 to 28 inches: fine sandy loam
C1 - 28 to 36 inches: gravelly fine sandy loam
C2 - 36 to 65 inches: gravelly sandy loam

Properties and qualities

Slope: 2 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Canton

Percent of map unit: 4 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Paxton

Percent of map unit: 3 percent
Landform: Drumlins, hills, till plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Leicester

Percent of map unit: 3 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Hydric soil rating: Yes

Woodbridge

Percent of map unit: 2 percent

Landform: Drumlins, hills

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Rainbow

Percent of map unit: 2 percent

Landform: Drumlins, hills

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: No

Narragansett

Percent of map unit: 1 percent

Landform: Hills, till plains

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

52C—Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 9lp5

Elevation: 0 to 1,200 feet

Mean annual precipitation: 43 to 56 inches

Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 185 days

Farmland classification: Not prime farmland

Map Unit Composition

Sutton and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sutton

Setting

Landform: Depressions, drainageways

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Coarse-loamy melt-out till derived from granite and/or schist and/or gneiss

Typical profile

Ap - 0 to 6 inches: fine sandy loam

Bw1 - 6 to 12 inches: fine sandy loam

Bw2 - 12 to 24 inches: fine sandy loam

Custom Soil Resource Report

Bw3 - 24 to 28 inches: fine sandy loam
C1 - 28 to 36 inches: gravelly fine sandy loam
C2 - 36 to 65 inches: gravelly sandy loam

Properties and qualities

Slope: 2 to 15 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Canton

Percent of map unit: 4 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Paxton

Percent of map unit: 3 percent
Landform: Till plains, drumlins, hills
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Leicester

Percent of map unit: 3 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Woodbridge

Percent of map unit: 2 percent
Landform: Drumlins, hills
Down-slope shape: Concave
Across-slope shape: Linear

Hydric soil rating: No

Rainbow

Percent of map unit: 2 percent

Landform: Drumlins, hills

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: No

Narragansett

Percent of map unit: 1 percent

Landform: Till plains, hills

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

60B—Canton and Charlton fine sandy loams, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w81s

Elevation: 0 to 1,460 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Canton and similar soils: 50 percent

Charlton and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Landform: Hills, moraines, ridges

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Side slope, nose slope, crest

Down-slope shape: Linear, convex

Across-slope shape: Convex

Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bw1 - 7 to 15 inches: fine sandy loam

Bw2 - 15 to 26 inches: gravelly fine sandy loam

2C - 26 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent

Custom Soil Resource Report

Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: B

Hydric soil rating: No

Description of Charlton

Setting

Landform: Ground moraines, ridges, hills

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Linear, convex

Across-slope shape: Convex

Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam

Bw - 7 to 22 inches: gravelly fine sandy loam

C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Chatfield

Percent of map unit: 5 percent

Landform: Hills, ridges

Custom Soil Resource Report

Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Sutton

Percent of map unit: 5 percent
Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Leicester

Percent of map unit: 5 percent
Landform: Drainageways, hills, depressions, ground moraines
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: Yes

60C—Canton and Charlton fine sandy loams, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w81z
Elevation: 0 to 1,620 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Canton and similar soils: 50 percent
Charlton and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Landform: Ridges, hills, moraines
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, nose slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex

Custom Soil Resource Report

Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: gravelly fine sandy loam
2C - 26 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Charlton

Setting

Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw - 7 to 22 inches: gravelly fine sandy loam
C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Sutton

Percent of map unit: 5 percent
Landform: Ground moraines, ridges, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Leicester

Percent of map unit: 5 percent
Landform: Ground moraines, drainageways, hills, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

Chatfield

Percent of map unit: 5 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

61B—Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w81v
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton, very stony, and similar soils: 50 percent

Custom Soil Resource Report

Charlton, very stony, and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Very Stony

Setting

Landform: Hills, moraines, ridges

Landform position (two-dimensional): Summit, backslope, shoulder

Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Linear, convex

Across-slope shape: Convex

Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material

A - 2 to 5 inches: fine sandy loam

Bw1 - 5 to 16 inches: fine sandy loam

Bw2 - 16 to 22 inches: gravelly fine sandy loam

2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent

Percent of area covered with surface fragments: 1.6 percent

Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: B

Hydric soil rating: No

Description of Charlton, Very Stony

Setting

Landform: Ground moraines, ridges, hills

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Linear, convex

Across-slope shape: Convex

Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material

A - 2 to 4 inches: fine sandy loam

Custom Soil Resource Report

Bw - 4 to 27 inches: gravelly fine sandy loam

C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent

Percent of area covered with surface fragments: 1.6 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Chatfield, very stony

Percent of map unit: 5 percent

Landform: Hills, ridges

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Crest, side slope, nose slope

Down-slope shape: Convex

Across-slope shape: Linear, convex

Hydric soil rating: No

Sutton, very stony

Percent of map unit: 5 percent

Landform: Ground moraines, hills

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Leicester, very stony

Percent of map unit: 5 percent

Landform: Hills, depressions, ground moraines, drainageways

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave, linear

Across-slope shape: Concave

Hydric soil rating: Yes

62D—Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w81r
Elevation: 0 to 1,640 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton, extremely stony, and similar soils: 55 percent
Charlton, extremely stony, and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Extremely Stony

Setting

Landform: Ridges, hills, moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

O_i - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw₁ - 5 to 16 inches: fine sandy loam
Bw₂ - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 15 to 35 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Custom Soil Resource Report

Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: B

Hydric soil rating: No

Description of Charlton, Extremely Stony

Setting

Landform: Ground moraines, ridges, hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear, convex

Across-slope shape: Convex

Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material

A - 2 to 4 inches: fine sandy loam

Bw - 4 to 27 inches: gravelly fine sandy loam

C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 35 percent

Percent of area covered with surface fragments: 9.0 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Sutton, extremely stony

Percent of map unit: 5 percent

Landform: Hills, ground moraines

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Chatfield, extremely stony

Percent of map unit: 5 percent

Custom Soil Resource Report

Landform: Ridges, hills

Landform position (two-dimensional): Summit, backslope, shoulder

Landform position (three-dimensional): Crest, side slope, nose slope

Down-slope shape: Convex

Across-slope shape: Linear, convex

Hydric soil rating: No

Hollis, extremely stony

Percent of map unit: 5 percent

Landform: Ridges, hills

Landform position (two-dimensional): Shoulder, backslope, summit

Landform position (three-dimensional): Crest, side slope, nose slope

Down-slope shape: Convex

Across-slope shape: Linear, convex

Hydric soil rating: No

73C—Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky

Map Unit Setting

National map unit symbol: 2w698

Elevation: 0 to 1,550 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Charlton, very stony, and similar soils: 50 percent

Chatfield, very stony, and similar soils: 30 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton, Very Stony

Setting

Landform: Ridges, hills

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Linear, convex

Across-slope shape: Convex

Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material

A - 2 to 4 inches: fine sandy loam

Bw - 4 to 27 inches: gravelly fine sandy loam

C - 27 to 65 inches: gravelly fine sandy loam

Custom Soil Resource Report

Properties and qualities

Slope: 3 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Chatfield, Very Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
A - 1 to 2 inches: fine sandy loam
B_w - 2 to 30 inches: gravelly fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 3 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 41 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Leicester, very stony

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: No

Hollis, very stony

Percent of map unit: 5 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Sutton, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

84B—Paxton and Montauk fine sandy loams, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qn
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 55 percent
Montauk and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins, ground moraines, hills

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Nose slope, side slope, crest

Down-slope shape: Linear, convex

Across-slope shape: Convex

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam

Bw1 - 8 to 15 inches: fine sandy loam

Bw2 - 15 to 26 inches: fine sandy loam

Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 18 to 39 inches to densic material

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 18 to 37 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C

Hydric soil rating: No

Description of Montauk

Setting

Landform: Drumlins, hills

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

A - 0 to 4 inches: fine sandy loam

Bw1 - 4 to 14 inches: fine sandy loam

Bw2 - 14 to 25 inches: sandy loam

2Cd1 - 25 to 39 inches: gravelly loamy coarse sand

2Cd2 - 39 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 38 inches to densic material

Natural drainage class: Well drained

Runoff class: Low

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)

Depth to water table: About 24 to 30 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Woodbridge

Percent of map unit: 5 percent

Landform: Drumlins, ground moraines, hills

Landform position (two-dimensional): Footslope, backslope, summit

Landform position (three-dimensional): Side slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Charlton

Percent of map unit: 5 percent

Landform: Hills

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Ridgebury

Percent of map unit: 5 percent

Landform: Drainageways, hills, depressions, ground moraines

Landform position (two-dimensional): Backslope, footslope, toeslope

Landform position (three-dimensional): Head slope, base slope, dip

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

306—Udorthents-Urban land complex

Map Unit Setting

National map unit symbol: 9lmg

Elevation: 0 to 2,000 feet

Mean annual precipitation: 43 to 56 inches

Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 120 to 185 days

Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 50 percent

Urban land: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Drift

Typical profile

A - 0 to 5 inches: loam

C1 - 5 to 21 inches: gravelly loam

C2 - 21 to 80 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 25 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)

Depth to water table: About 54 to 72 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Hydric soil rating: No

Description of Urban Land

Typical profile

H - 0 to 6 inches: material

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydrologic Soil Group: D

Hydric soil rating: Unranked

Minor Components

Unnamed, undisturbed soils

Percent of map unit: 8 percent

Hydric soil rating: No

Udorthents, wet substratum

Percent of map unit: 5 percent

Down-slope shape: Convex

Across-slope shape: Linear

Custom Soil Resource Report

Hydric soil rating: No

Rock outcrop

Percent of map unit: 2 percent

Hydric soil rating: No

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Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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ATTACHMENT K
ENVIRONMENTAL REPORT



ATTACHMENT K ENVIRONMENTAL RPEORT

While Attachment K would typically contain an analysis of the proposed activity's impact on the environment, this information is instead contained within the Environmental Impact Report (Attachment D4) as the activity will be conducted within two sub-regional drainage basins.

A copy of the Natural Diversity Database (NDDDB) correspondence and response is attached.



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www.ct.gov/deep

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May 22, 2018

Scott J. Bighinatti
Milone & Macbroom, Inc.
99 Realty Dr
Cheshire, CT 06410
sbighinatti@mminc.com

Project: Renewal of Water Diversion Permit with No Modifications for the Elmridge Golf Course Located at 229 Elmridge Road in Pawcatuck
NDDDB Determination No.: 201807023

Dear Scott J. Bighinatti,

I have reviewed Natural Diversity Data Base (NDDDB) maps and files regarding the area delineated on the map provided for the proposed Renewal of Water Diversion Permit with No Modifications for the Elmridge Golf Course Located at 229 Elmridge Road in Pawcatuck, 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 NDDDB. 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 two years. Please re-submit a new NDDDB Request for Review if the scope of work changes or if work has not begun on this project by May 22, 2020.

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,

A handwritten signature in cursive script that reads "Dawn M. McKay".

Dawn M. McKay
Environmental Analyst 3



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 (NDDDB) 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

<p>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.</p> <p>Does your site, including all affected areas, fall in an NDDB Area according to the map instructions: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Enter the date of the map reviewed for pre-screening: <u>December 2017</u></p>	
<p>This form is being submitted for a :</p>	
<input checked="" type="checkbox"/> <i>New NDDB request</i> <input type="checkbox"/> <i>Renewal/Extension of a NDDB Request, without modifications and within two years of issued NDDB determination (no attachments required)</i>	<input type="checkbox"/> <i>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</i> <input type="checkbox"/> <i>Renewal/Extension of an existing Safe Harbor Determination</i> <input type="checkbox"/> <i>With modifications</i> <input type="checkbox"/> <i>Without modifications (no attachments required)</i>
<p><small>[CPPU Use Only - NDDB-Listed Species Determination # 1736]</small></p> <p>Enter NDDB Determination Number for Renewal/Extension:</p>	<p><small>[CPPU Use Only - NDDB-Safe Harbor Determination # 1736]</small></p> <p>Enter Safe Harbor Determination Number for Renewal/Extension:</p>

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: **Milone & MacBroom, Inc.**

Contact Name: **Scott Bighinatti**

Address: **99 Realty Drive**

City/Town: **Cheshire**

State: **CT**

Zip Code: **06410**

Business Phone: **203-271-1773**

ext. **204**

E-mail: **sbighinatti@mminc.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 #: 0160851 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.

<p>1. SITE NAME AND LOCATION</p> <p>Site Name or Project Name: Elmridge Golf Course</p> <p>Town(s): Stonington</p> <p>Street Address or Location Description: 229 Elmridge Road, Pawcatuck, CT 06379</p> <p>Size in acres, or site dimensions: 250 acres</p> <p>Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):</p> <p>Latitude: 41.396 Longitude: -71.862</p> <p>Method of coordinate determination (check one):</p> <p><input type="checkbox"/> GPS <input type="checkbox"/> Photo interpolation using CTECO map viewer <input checked="" type="checkbox"/> Other (specify): ArcGIS</p> <p>2a. Describe the current land use and land cover of the site. 27-hole golf course and driving range</p> <p>b. Check all that apply and enter the size in acres or % of area in the space after each checked category.</p> <table><tr><td><input checked="" type="checkbox"/> Industrial/Commercial <u>1%</u></td><td><input type="checkbox"/> Residential _____</td><td><input checked="" type="checkbox"/> Forest <u>30%</u></td></tr><tr><td><input checked="" type="checkbox"/> Wetland <u>12%</u></td><td><input checked="" type="checkbox"/> Field/grassland <u>54%</u></td><td><input type="checkbox"/> Agricultural _____</td></tr><tr><td><input checked="" type="checkbox"/> Water <u>3%</u></td><td><input type="checkbox"/> Utility Right-of-way _____</td><td></td></tr><tr><td><input type="checkbox"/> Transportation Right-of-way _____</td><td><input type="checkbox"/> Other (specify): _____</td><td></td></tr></table>	<input checked="" type="checkbox"/> Industrial/Commercial <u>1%</u>	<input type="checkbox"/> Residential _____	<input checked="" type="checkbox"/> Forest <u>30%</u>	<input checked="" type="checkbox"/> Wetland <u>12%</u>	<input checked="" type="checkbox"/> Field/grassland <u>54%</u>	<input type="checkbox"/> Agricultural _____	<input checked="" type="checkbox"/> Water <u>3%</u>	<input type="checkbox"/> Utility Right-of-way _____		<input type="checkbox"/> Transportation Right-of-way _____	<input type="checkbox"/> Other (specify): _____	
<input checked="" type="checkbox"/> Industrial/Commercial <u>1%</u>	<input type="checkbox"/> Residential _____	<input checked="" type="checkbox"/> Forest <u>30%</u>										
<input checked="" type="checkbox"/> Wetland <u>12%</u>	<input checked="" type="checkbox"/> Field/grassland <u>54%</u>	<input type="checkbox"/> Agricultural _____										
<input checked="" type="checkbox"/> Water <u>3%</u>	<input type="checkbox"/> Utility Right-of-way _____											
<input type="checkbox"/> Transportation Right-of-way _____	<input type="checkbox"/> Other (specify): _____											

Part IV: Project Information

<p>1. PROJECT TYPE:</p> <p>Choose Project Type: Water Diversion , If other describe: _____</p>
<p>2. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, explain.</p> <p>Renewal of water diversion permit</p>

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.

Elmridge Golf Course withdraws water from Anguilla Brook and from an onsite pond for irrigation purposes. Irrigated water is lost to evapotranspiration without any off-site discharge. DEEP water diversion permit DIV-200200024 authorizes withdrawals of up to 0.200 mgd from these sources. Elmridge Golf Course intends to renew its existing diversion permit without modifications.

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 or authorization, 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 or authorization application or registration
- Request is associated with modification of an existing permit or other authorization
- 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):

DEEP Water Diversion Permit Application Renewal _____

Related State DEEP Permit Number(s), if applicable: **DIV-200200024** _____

State DEEP Enforcement Action Number, if applicable: _____

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.

<input checked="" type="checkbox"/> 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.
<input checked="" type="checkbox"/> 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)
<input type="checkbox"/> Attachment C:	Supplemental Information, Group 2 requirement (attached, DEEP-APP-007C) <input type="checkbox"/> Section i: Supplemental Site Information and supporting documents <input type="checkbox"/> Section ii: Supplemental Project Information and supporting documents
<input type="checkbox"/> 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.

<p>"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."</p>	
<p>Scott Bighinatti</p>	<p>5/9/2018</p>
<p>Signature of Requester (a typed name will substitute for a handwritten signature)</p>	<p>Date</p>
<p>Scott Bighinatti</p>	<p>Lead Environmental Scientist</p>
<p>Name of Requester (print or type)</p>	<p>Title (if applicable)</p>
<p>Signature of Preparer (if different than above)</p>	<p>Date</p>
<p>Name of Preparer (print or type)</p>	<p>Title (if applicable)</p>

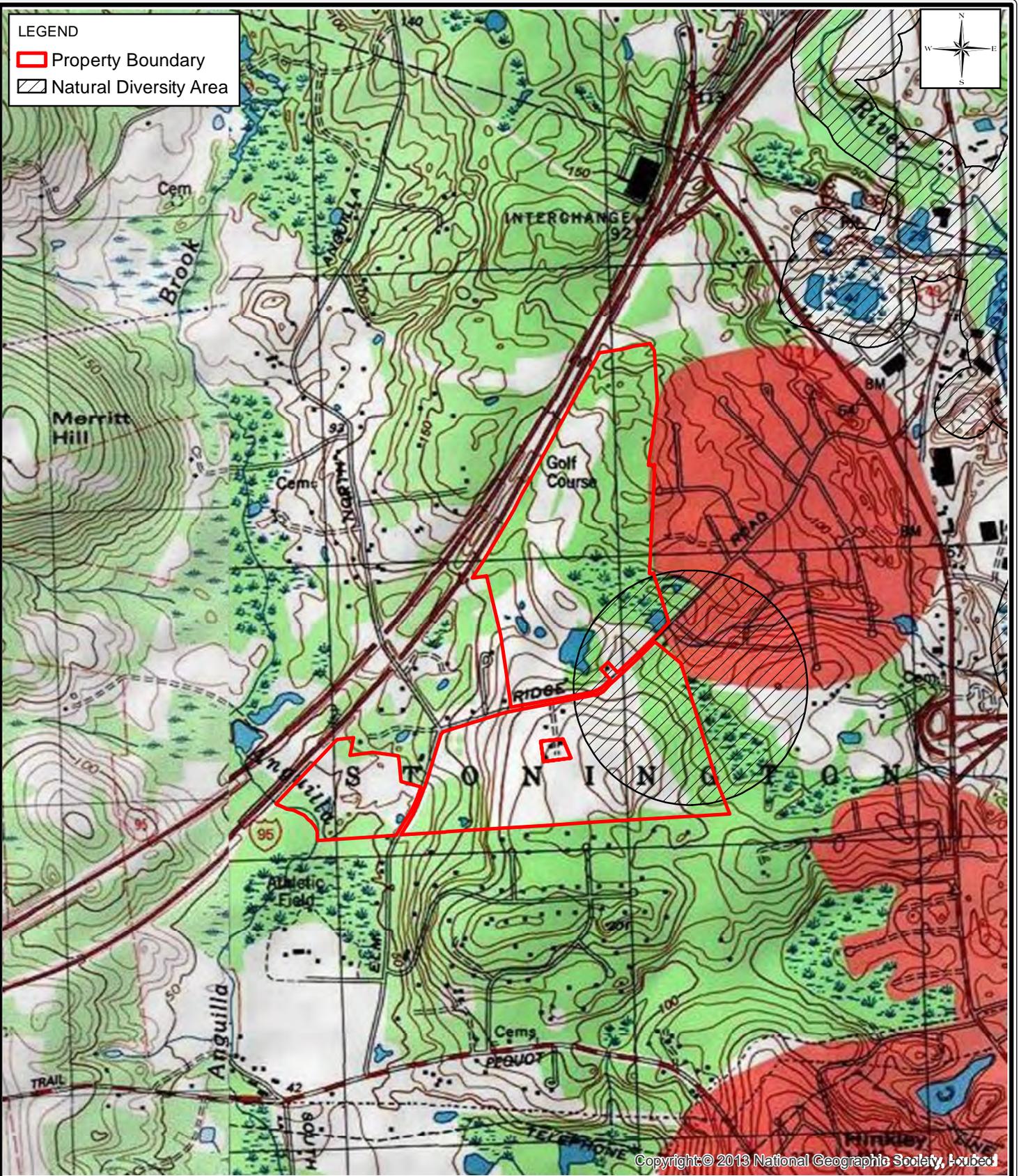
Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
 DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
 79 ELM STREET
 HARTFORD, CT 06106-5127

Or email request to: deep.nddbrequest@ct.gov

LEGEND

-  Property Boundary
-  Natural Diversity Area



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OVERVIEW MAP

ELMRIDGE GOLF COURSE
 WATER DIVERSION PERMIT RENEWAL

229 ELMRIDGE ROAD
 PAWCATUCK, CT 06379

SOURCE: USGS 1997 TOPOGRAPHIC MAP, CT DEEP PARCEL & NDOB DATA 2017

DATE: MAY 9, 2018

SCALE: 1"=2000'

PROJ. NO.: 6441-01-4

DESIGNED SJB	DRAWN SJB	CHECKED SJB
-----------------	--------------	----------------

DRAWING NAME:

ATT. A

LEGEND

-  Property Boundary
-  Natural Diversity Area




MILONE & MACBROOM
 99 Realty Drive
 Cheshire, Connecticut 06410
 (203) 271-1773
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DETAILED SITE MAP

ELMRIDGE GOLF COURSE
 WATER DIVERSION PERMIT RENEWAL

229 ELMRIDGE ROAD
 PAWCATUCK, CT 06379

SOURCE: CT ECO 2016 AERIAL, CT DEEP PARCEL & NDOB DATA 2017

DATE: MAY 9, 2018
 SCALE: 1"=1000'
 PROJ. NO.: 6441-01-4

DESIGNED SJB	DRAWN SJB	CHECKED SJB
-----------------	--------------	----------------

DRAWING NAME:
ATT. B

ATTACHMENT L
MITIGATION REPORT



ATTACHMENT L MITIGATION REPORT

The existing and proposed activities at Elmridge Golf Course facility are operated in accordance with best management practices for golf course water use which are appropriate for the site. The diversion has been in place in its current form for several decades and uses less water than typical golf courses in Connecticut. Furthermore, no new construction or changes to the existing irrigation system is proposed. Therefore, additional mitigation as directly related to the requested withdrawals is not proposed.

ATTACHMENT M

ALTERNATIVES ASSESSMENT



ATTACHMENT M ALTERNATIVES ASSESSMENT

While Attachment M would typically contain an analysis of potential alternatives to the proposed action, this information is instead contained within the Environmental Impact Report (Attachment D4) as the activity will be conducted within two sub-regional drainage basins.

ATTACHMENT N

APPLICANT COMPLIANCE INFORMATION FORM



**Connecticut Department of
Energy & Environmental Protection**

Applicant Compliance Information

DEEP ONLY

App. No. _____

Co./Ind. No. _____

Applicant Name: Elmridge Golf Course, Inc.

Mailing Address: **229 Elmridge Road**

City/Town: **Pawcatuck**

State: **CT**

Zip Code: **06379**

Business Phone: **860-599-4649**

ext.:

Contact Person: **Alan Rustici**

Phone: **860-599-8152** ext.

*E-mail: **alrustici@comcast.net**

If you answer yes to any of the questions below, you must complete the Table of Enforcement Actions on the reverse side of this sheet as directed in the instructions for your permit application.

- A. During the five years immediately preceding submission of this application, has the applicant been convicted in any jurisdiction of a criminal violation of any environmental law?
- Yes No
- B. During the five years immediately preceding submission of this application, has a civil penalty been imposed upon the applicant in any state, including Connecticut, or federal judicial proceeding for any violation of an environmental law?
- Yes No
- C. During the five years immediately preceding submission of this application, has a civil penalty exceeding five thousand dollars been imposed on the applicant in any state, including Connecticut, or federal administrative proceeding for any violation of an environmental law?
- Yes No
- D. During the five years immediately preceding submission of this application, has any state, including Connecticut, or federal court issued any order or entered any judgement to the applicant concerning a violation of any environmental law?
- Yes No
- E. During the five years immediately preceding submission of this application, has any state, including Connecticut, or federal administrative agency issued any order to the applicant concerning a violation of any environmental law?
- Yes No

Table of Enforcement Actions

(1) Type of Action	(2a) Date Commenced	(2b) Date Terminated	(3) Jurisdiction	(4) Case/Docket/ Order No.	(5) Description of Violation

Check the box if additional sheets are attached. Copies of this form may be duplicated for additional space.

ATTACHMENT O

APPLICANT BACKGROUND INFORMATION



Applicant Background Information

Check the box by the entity which best describes the applicant and complete the requested information. **You must choose one of the following:** corporation, limited liability company, limited partnership, general partnership, voluntary association and individual or business type. Be sure to include the signatory authority or authorized representative certifying the application.

Corporation

Check the box if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information.

1. Parent Corporation

Name: **Elmridge Golf Course, Inc.**

Mailing Address: 229 Elmridge Road

City/Town: Pawcatuck

State: CT

Zip Code: 06379

Business Phone: 860-599-4649

ext.:

Contact Person: Alan Rustici

Phone: 860-599-8152

ext.

E-mail: alrustici@comcast.net

2. Subsidiary Corporation:

Name:

Mailing Address:

City/Town:

State: CT

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

3. Directors:

Name: **N/A**

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

4. Officers:

Name: **Joseph and Nancy Rustici**

Mailing Address: 229 Elmridge Road

City/Town: Pawcatuck

State: CT

Zip Code: 06379

Business Phone: 860-599-4649

ext.:

E-mail:

Applicant Background Information (continued)

Limited Liability Company

Check the box if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information.

1. List each member.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

2. List any manager(s) who, through the articles of organization, are vested the management of the business, property and affairs of the limited liability company.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

E-mail:

Applicant Background Information (continued)

Limited Partnership

Check the box if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information.

1. General Partners:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

2. Limited Partners:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Applicant Background Information (continued)

General Partnership

Check the box if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information.

1. General Partners:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

APPENDIX H

OWNER QUESTIONNAIRE

PHASE I ENVIRONMENTAL SITE ASSESSMENT OWNER QUESTIONNAIRE

As part of the American Society for Testing and Materials (ASTM) Standard E1527-13 Phase I Environmental Site Assessment (ESA) report, it is required that the "owner" (the owner of the property for which the assessment is being prepared) provide the information below to the best extent of the owner's knowledge in order to help the environmental professional to identify any recognized environmental conditions (RECs) at the property.

Please complete the questionnaire to the best extent of your knowledge. If you do not have an answer, please feel free to write, "don't know," or "not to my knowledge." It is also encouraged that the questionnaire be completed and returned as quickly as possible, in time for the completion and issuance of the report, as is required. If you have any questions, please call our office at (203) 271-1773.

Site Name: Elmridge Golf Course

Site Address: 229 Elmridge Rd.

City/Town: Pawcatuck

State: CT

Zip Code: 06379

Site Owner: Joseph Rustici Trust & Nancy Rustici Trust

Key Manager (if other than owner, with specified knowledge or site): Alan Rustici, Trustee

Please answer to the best of your ability; you have no obligation to answer them.

1. Based on your knowledge of *recorded* land title records for the property, are there any environmental liens filed or recorded against the *property* under federal, tribal, state, or local law? NO
2. Based on your knowledge have any activity use limitations (AULs), such as *engineering controls*, land use restrictions, or *institutional controls*, been put in place at the *property* and/or have been filed or recorded against the *property* under federal, tribal, state, or local law? NO
3. 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 at the property? NO
4. Commonly known or *reasonably ascertainable* information about the *property*:
 - (a.) Have any Environmental Site Assessment Reports been completed for the property? NO
 - (b.) Do you know of specific chemicals that are present or once were present at the *property*? YES,
 - (c.) Do you know of spills or other chemical releases that have taken place at the *property*? NO
 - (d.) Do you know of any environmental cleanups that have taken place at the *property*? NO
 - (e.) Does the facility have any current or historical environmental permits (for example, solid waste disposal permits, hazardous waste permits, wastewater permits, NPDES permits, underground injection permits)? Water Diversion Permit
DIV-200200024

- (f.) Are there any safety plans, preparedness and prevention plans, spill prevention plans, countermeasure or other best management practices plans related to operations of the facility? **NO**
- (g.) Have any reports been completed in relation to hydrogeologic conditions on the property or surrounding area?
SEE DIV-200200024
- (h.) Are there any notices or other correspondences from any government agency relating to past or current violations of environmental laws with respect to the property or relating to environmental liens encumbering the property? **NO**
- (i.) Do you have any reports on hazardous waste generation, waste manifests or associated reports? **NO**
- (j.) Have any underground storage tanks (USTs) been removed, abandoned, or taken out of service from the facility or property? **NO**
- (k.) Are there any current USTs at the site? **YES.**
1 underground heating oil, 1 underground propane.
- (l.) Has any contaminated soil been discovered and/or remediated at the facility without oversight by an appropriate regulatory agency? **NO**
- (m.) Do you have any other information you would like to include based on your history with the site in relation to potential environmental risks? **NO**
5. Based on your knowledge and experience related to the *property* have there been any releases or spills of chemicals to environmental media (soil, and/or groundwater, and/or surface water) at the *property*? **NO**

Please provide copies of any environmental documentation with respect to the *property*. Examples of this type of documentation:

- environmental permits (including but not limited to wastewater, National Pollutant Discharge Elimination System (NPDES), solid waste disposal, hazardous waste disposal, underground injection);
- notices from any government agency relating to the violation of environmental laws;
- safety plans (spill prevention, countermeasure and control plans, safety data sheets);
- underground and/or above ground storage tank documentation;
- previous environmental assessment reports;
- environmental compliance audit reports;
- environmental liens and/or activity use limitations;
- geotechnical studies.

Form Completed By (name): **Alan Rustici**

Title: **Trustee**

Relationship to Site:

Date: **11/18/19**