

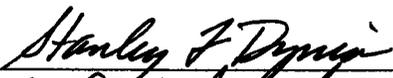
**INLAND WETLANDS AND
WATERCOURSES DELINEATION
REPORT AND IMPACT ASSESSMENT
INDEPENDENT SPENT FUEL STORAGE
INSTALLATION
MILLSTONE POWER STATION
DOMINION NUCLEAR CONNECTICUT
WATERFORD, CONNECTICUT**

PREPARED FOR:

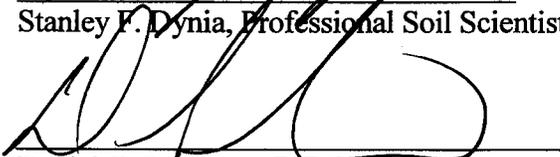
Dominion Nuclear Connecticut, Inc
Rope Ferry Road
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May 2003
File No. 42898

TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY.....	i
1.0 INTRODUCTION	1
2.0 PROJECT DESCRIPTION	1
3.0 LOCAL, STATE AND FEDERAL REGULATIONS	2
3.1 LOCAL WETLAND CRITERIA.....	3
3.2 STATE OF CONNECTICUT WETLAND CRITERIA.....	3
3.3 FEDERAL WETLAND CRITERIA.....	3
4.0 PUBLISHED INFORMATION REVIEW	4
4.1 NEW LONDON COUNTY SOIL SURVEY.....	4
4.2 FLOOD ZONE.....	5
4.3 INLAND WETLANDS AND WATERCOURSES.....	5
4.3.1 Town of Waterford Wetlands and Watercourses Map.....	5
4.3.2 National Wetlands Inventory Map (NWI).....	6
5.0 WETLAND AND WATERCOURSE FIELD SURVEY	6
6.0 DESCRIPTIVE SUMMARY AND QUALITY ASSESSMENT	7
7.0 PROPOSED ACTIVITIES IN UPLAND REVIEW AREA OR DELINEATED WETLANDS AND WATERCOURSES	8

FIGURES

FIGURE 1	LOCUS PLAN
FIGURE 2	INLAND WETLANDS AND WATERCOURSES MAP
FIGURE 3	NEW LONDON COUNTY SOIL SURVEY
FIGURE 4	FEMA FLOOD MAP

APPENDICES

APPENDIX A	GZA LIMITATIONS
APPENDIX B	TOWN OF WATERFORD WETLANDS AND WATERCOURSES MAP

EXECUTIVE SUMMARY

This Inland Wetland and Watercourses Delineation Study and Impact Assessment (the "Study") was performed for Dominion Nuclear Connecticut, Inc. ("DNC") to evaluate wetland and watercourse resources on the 520-acre Millstone Power Station ("Millstone") property ("Millstone property") located in the Town of Waterford ("Town"), New London County, Connecticut and assess the impacts of the construction and operation of an Independent Spent Fuel Storage Installation ("ISFSI").

The ISFSI is planned to be located in the southerly portion of the Millstone property, in an area that is currently developed as an employee parking lot.

The ISFSI is planned for construction in phases; however, most of the site work required for full build-out will be performed during the initial phase. The principal elements of the ISFSI Project (the "ISFSI Project") include:

- Develop the approximately 2-acre area to support the ISFSI (the "ISFSI Site"). ISFSI Site preparation work will involve site grading, and localized over-excavation and replacement of site soils to improve the soil dynamic properties, followed by site development work (e.g., installation of concrete pads).
- Improve an approximately 4-acre Equipment Laydown Area, which may be used to support the ISFSI Project construction activities. The Equipment Laydown Area abuts the ISFSI Site and also is located in the existing parking area.
- Construct a haul path (paved road).
- Remove and transport excess soil (generated from the ISFSI Site grading and construction) to a Soil Placement Area, located on a portion of the Millstone property north of the Amtrak railroad line.
- Construct new stormwater drainage utilities. New drain lines will be installed within and adjacent to the ISFSI Site. A new drain line will also be installed along the Access Road, adjacent to Building 532, extending east and then south ending at the existing stormwater outlet DSN 011 located east of the ISFSI Site. The existing outlet structures DSN 011 will be improved.
- Realign the existing Security Protected Area (PA) fence to encompass the ISFSI Site, haul road, and Equipment Laydown Area.

Mr. Stanley Dynia, a Professional Certified Soil Scientist with GZA GeoEnvironmental, Inc. ("GZA") performed an inland wetlands and watercourse survey (the "Survey") of the ISFSI Site and proximate areas in order to identify the presence of inland wetlands and watercourses as defined by the Connecticut Department of Environmental Protection ("DEP") and the Town. This Survey encompassed the proposed ISFSI Site and the adjacent proposed Equipment Laydown Area and the haul path area. No wetlands or

watercourses were identified within these areas. While not included in the Survey, Mr. Dynia confirmed that wetlands are not present within the Soil Placement Area.

The Survey also included areas extending approximately 300 feet east and 300 feet north of the ISFSI Site. Wetlands and watercourses were identified within these areas. The limits of the observed wetlands and watercourses were identified in the field with flagging. The locations of the wetland and watercourse flagging were mapped by a Connecticut-licensed surveyor. Figure 2 indicates the locations of wetlands and watercourses located within the area surveyed. Wetland flagging is also presented in detail on the Site Plans¹.

Prior to performing a field survey, published geologic and natural resource information and the Town of Waterford Inland Wetlands and Watercourse Regulations were reviewed. The publication review and field survey indicated the following:

- The ISFSI Site, the Equipment Laydown Area and the haul path are located: 1) outside of identified flood hazard zones; 2) outside of areas containing tidal or inland wetlands and watercourses; and 3) outside of the Town's 100-foot Upland Review Area (which includes areas within 100 feet measured horizontally from the boundary of any wetland or watercourse as defined in Section VI of the Town of Waterford Inland Wetlands and Watercourses Regulations).
- The Town of Waterford Wetlands and Watercourses Map and Federal Wetland Inventory Mapping do not indicate wetlands or watercourses within the areas noted above. The nearest mapped inland wetland or watercourse is a freshwater pond located approximately 200 feet east of the ISFSI Site.
- The Town of Waterford Wetlands and Watercourses Map indicate inland wetlands located east of the Soil Placement Area.
- An existing railroad spur line and railroad embankment is located approximately 100 feet east of the proposed ISFSI Site. This rail line and embankment separate the upland, developed areas (including the ISFSI Site, the Equipment Laydown Area and the Haul Path) from the wooded freshwater wetlands associated with the freshwater pond.
- Wetlands and watercourses identified proximate to the ISFSI Site include:
 1. Man-made drainage ditches which form an intermittent artificial watercourse as defined by Town and DEP criteria. They are formed along an abandoned railroad spur located about 250 feet north of the ISFSI Site;

¹ Site Plans, Millstone Power Station, Independent Spent Fuel Storage Installation, Dominion Nuclear Connecticut, 2003

2. Stream channel watercourses located east of the railroad line beginning at the base of the rail line embankment. These watercourses are located downgradient of existing stormwater outlets DSN 020 and DSN 011 (Reference Figure 2);
3. A localized area of surface water inundation, located near the toe of the railroad track embankment approximately 200 feet east of the ISFSI Site; and
4. A drainage watercourse located north of Building 532. This watercourse was previously delineated by others. GZA reviewed the area in the field and confirmed that the previous delineation matches the actual wetland edge.

Based on the results of the publication review and field survey, and an analysis of the proposed development and construction activities, it has been determined that:

- No permanent impacts and no net loss of wetlands or watercourses will occur as a result of the ISFSI Project.
- No permanent changes will occur to the area of the freshwater pond or associated wetlands.
- The wetlands and watercourses which were identified proximate to the ISFSI Site principally function to convey stormwater from areas within the Millstone property, in accordance with current DEP permits.
- Temporary impacts proposed at wetlands and watercourses include construction of new outlet structures at the existing outlet DSN 011. These improvements include replacement of the existing 30-inch diameter reinforced concrete pipe with a new 30-inch diameter concrete pipe and headwall. The new outlet will be constructed with a lower invert and improved erosion controls. This work will involve some minor re-grading within the existing drainage channel located at the outlet. Velocity dissipation and erosion protection will be provided.
- The ISFSI Site will be located outside of the Upland Review Area. Proposed construction within the Upland Review Area includes installation of new stormwater drain pipe in the vicinity of Building 532 and in the vicinity of the outlet DSN 011.
- Erosion and sedimentation controls will be installed, monitored and maintained throughout the construction and post construction periods in accordance with Town and DEP regulations, guidelines and permit requirements. An Erosion and Sediment Control Plan was prepared and is included in the Site Plans. A Drainage Report prepared by GZA, dated May, 2003, provides additional detail about proposed Best Management Practices and erosion and sediment controls.

1.0 INTRODUCTION

GZA GeoEnvironmental Inc. ("GZA") has prepared this Inland Wetland and Watercourse Delineation and Impact Assessment to support DNC's submission to the Connecticut Siting Council ("CSC" or the "Council") to permit the construction of an Independent Spent Fuel Storage Installation ("ISFSI"). Mr. Stanley Dynia, a Professional Soil Scientist with GZA, conducted a field survey for the purpose of identifying and delineating wetland soil and watercourses as defined by criteria of the Connecticut Department of Environmental Protection ("DEP") and the Town of Waterford ("Town") Inland Wetlands and Watercourses Regulations². The field survey was performed during December, 2003 and included the ISFSI Site and proximate areas. This study also included a review of published soil, wetlands, natural resource and flood (Federal Emergency Management Agency ("FEMA")) information. This report briefly describes the ISFSI Project and the local, state and federal regulations and presents the results of the published information review and survey and an assessment of potential impacts to wetlands and watercourses related to this project.

The surveyed locations of wetlands located proximate to the ISFSI Site and related construction areas are also included on the Site Plans.

This report is subject to the limitations presented in Appendix A.

2.0 PROJECT DESCRIPTION

The ISFSI Project is planned for construction in phases. However, most of the ISFSI Site work required for full build-out will be performed during the initial phase. When fully developed, the ISFSI will encompass approximately 2 acres within the 520-acre Millstone property. The project, which is discussed in detail in the following sections, will involve the following principal elements:

- Develop the approximately 2-acre ISFSI Site. Site preparation work will involve site grading, and localized over-excavation and replacement of site soils to improve the soil dynamic properties, followed by site development work (e.g., installation of concrete pads).
- Improve an approximately 4-acre Equipment Laydown Area, which may be used to support the ISFSI Project construction activities. The Equipment Laydown Area abuts the ISFSI Site and also is located in the existing parking area.
- Construct a haul path (paved road).
- Remove and transport excess soil (generated from the ISFSI Site grading construction) to a Soil Placement Area, located on a portion of the Millstone property north of the Amtrak railroad line.

² Town of Waterford Inland Wetlands and Watercourses Regulations; originally approved June 3, 1974; revised through effective date of April 15, 2002

- Construct new stormwater drainage utilities. New drain lines will be installed within and adjacent to the ISFSI Site. A new drain line will also be installed along the Access Road, starting adjacent to Building 532, extending east and south along the road and ending at the existing outlet DSN 011 located east of the ISFSI Site. The existing outlet structures DSN 011 will be improved.
- Realign the existing Security Protected Area (PA) fence to encompass the ISFSI Site, haul road, and Equipment Laydown Area.

The Soil Placement Area is located in the central portion of the Millstone property, north of the Amtrak railroad line. Figure 2 indicates the location of the ISFSI Site, the Equipment Laydown Area and the haul path.

All construction activity associated with the ISFSI Project, including the improvements to the ISFSI Site, the haul path, the Equipment Laydown Area and the Soil Placement Area are located on upland portions of the Millstone property that have been previously disturbed and developed. The proposed ISFSI Site, haul path and Equipment Laydown Area are all contiguous, whereas the Soil Placement Area is in the central portion of the Millstone property, north of the Amtrak railroad line.

The proposed ISFSI Site is approximately 92,000 square feet (approximately 2 acres) in size. The area is abutted to the east by an existing asphalt-paved access road. The ISFSI Site is currently developed as a parking lot, consisting principally of asphalt and gravel surfaces. Existing grades within the storage area range from about Elevation 28³ to Elevation 19, and slope to east-southeast.

The Equipment Laydown Area is approximately 157,350 square feet (approximately 4 acres) in size and is located immediately west of the proposed ISFSI Site. This area, which is currently developed as an asphalt and gravel paved parking lot, will not be substantially changed by the ISFSI Project with the exception of minor grading and drainage improvements. Existing grades within the Equipment Laydown Area range from about Elevation 32 to about Elevation 22 and slope to the east-southeast.

The Soil Placement Area is an approximately 5-acre area which will be used for the disposal of excess soil removed from the ISFSI Site. This area has been used in the past for equipment laydown and soil placement purposes. The Soil Placement Area is immediately north of the Amtrak rail line, east of the Millstone Access Road and south of an existing ball field. The area proposed for excess soil placement is relatively flat.

3.0 LOCAL, STATE AND FEDERAL REGULATIONS

Wetlands are generally defined by soil characteristics that indicate very poorly drained, floodplain and alluvial type soils and soils that are disturbed but maintain an aquic moisture regime. Watercourses may include other distinguishing characteristics such as a

³ Elevations in the Study refer to National Geodetic Vertical Datum of 1929.

defined channel and they may include artificial/man-made features for drainage. Typical watercourses include ponds, lakes, streams, swamps, marshes and bogs.

3.1 LOCAL WETLAND CRITERIA

The Town of Waterford Inland Wetland and Watercourses Regulations (revised effective April 15, 2002) define wetlands, watercourses and upland review areas as follows:

- *Wetlands* - Wetlands consist of soil types designated as poorly drained, very poorly drained, or alluvial or flood plain by the National Cooperative Soils Survey. Such areas may consist of filled, graded or excavated soils that possess an aquic moisture regime.
- *Watercourses* - Watercourses include rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, public or private, mapped or unmapped, vernal, intermittent or perennial, which are contained within, or flow through, or border the Town.
- *Upland Review Area* - The Town recognizes an upland review area, measured within 100 feet horizontally from the boundary of any wetland or watercourse, for any activity associated with clearing, grubbing, filling, grading, paving, excavating, constructing, depositing or removing of material and discharging of storm water.

3.2 STATE OF CONNECTICUT WETLAND CRITERIA

The Connecticut Department of Environmental Protection (“DEP”) also recognizes wetlands that are defined by certain soil types. Watercourses are defined by other characteristics including vegetation, hydrology, physiographic features and hydraulics. The DEP’s definitions are referenced in the DEP’s Wetland Commissioner’s Handbook and generally parallel the Town’s definitions, except that the DEP does not provide for an upland review area. The DEP, however, has published Guidelines for Upland Review (June 1997) that set parameters for Towns and applicants to design, review and approve activities in upland areas.

3.3 FEDERAL WETLAND CRITERIA

The Army Corps of Engineers (“ACOE”) regulates wetlands under their federal program in conjunction with the EPA. The ACOE recognizes areas as wetlands that are inundated or saturated for a period of time, generally during the growing season. The ACOE uses a three-parameter method for delineating wetlands, which includes:

- The presence of hydric soils;
- The presence of wetland hydrology;
- The presence of hydrophytic vegetation.

In general, the DEP criteria for wetlands provide a more inclusive assessment because they recognize artificial watercourses and floodplains, in addition to poorly and very poorly drained, hydric soils.

The DEP, in conjunction with the ACOE, has established a Connecticut Programmatic Permit program for those activities affecting freshwater inland wetlands and watercourses that are also regulated by the ACOE. For minor (Category I) activities affecting less than 5,000 square feet of wetlands the permit is self-implementing and does not require notice to DEP or the ACOE, provided the general conditions of the permit are met. This permit also allows minor activities and routine work affecting watercourses.

The proposed activities at outlet DSN 011 to restore the culvert and stabilize the stream channel involve minor work. There will be no net loss of wetlands or wetland functions resulting from this activity. These activities are eligible for a Category I, ACOE Permit.

4.0 PUBLISHED INFORMATION REVIEW

The following describes the relevant environmental site features (e.g. soil, hydrology, etc.) based on published information.

4.1 NEW LONDON COUNTY SOIL SURVEY

The New London County Soil Survey booklet was reviewed to identify the mapped soil types for the proposed ISFSI Site and proximate areas. A copy of Map No. 87 from the Soil Survey is included as Figure 3 and the mapped soil unit locations are approximately shown on Figure 2.

The ISFSI Site, the Equipment Laydown Area, the haul path and the Soil Placement Area are all mapped *Ud* for the *Udorthent* soil type. The *Ud* soil represents landforms that have been permanently reshaped for development. The *Ud* soil profile is generally without distinguishing characteristics because the soil strata are relatively newly formed as a result of development activities. The *Ud* soil unit generally is associated with well-drained to moderately well-drained, non-wetland soil types.

Portions of the area adjacent to Building 532 where new storm drains will be installed are mapped as *WxB Woodbridge fine sandy loams* and the *Rn/Ridgebury, Leicester and Whitman complex of extremely stony, fine sandy loam*. The *WxB* soils are generally well-drained soils formed on glacial till at slopes of 3 to 8 percent. The *Rn* soils are situated generally in lower lying terrain. They are considered poorly drained, often occupying drainage ways and depressions near upland glacial ridges and hills. These stony soils are mapped as wetland soil types because of their poorly drained classification.

Areas proximate (approximately 200 feet to 300 feet east) of the ISFSI Site are mapped as *Rn* (described above) and *Crc/Charlton – Hollis fine sandy loam, very rocky*. The *Crc* soils are well-drained soils are formed on glacial till with slopes of 3 to 15 percent.

4.2 FLOOD ZONE

FEMA classifies flood zones for flood insurance and floodplain management purposes. This information is used at all levels of government in an effort to protect human health and property. FEMA has prepared maps (Flood Insurance Rate Maps [FIRM]) that delineate areas subject to flooding frequency during key storm events.

The FEMA Flood Insurance Map (panel 090107 0015 D; revised September 5, 1990), which includes the proposed ISFSI Project areas, was reviewed. This flood map is provided as Figure 4. The ISFSI Site, the Equipment Laydown Area, the haul path and the Soil Placement Area lie outside of the 100 and 500 year flood hazard areas. The nearest mapped 100 year flood hazard areas are located approximately 300 feet east of the ISFSI Site.

4.3 INLAND WETLANDS AND WATERCOURSES

4.3.1 Town of Waterford Wetlands and Watercourses Map

The Town of Waterford Wetlands and Watercourses Map is included in Appendix B for reference. This map is labeled “for informational purposes”. This map represents approximate areas of potential wetlands and watercourses based on interpretations of soil maps and other similar sources. The actual location of these resources and regulated areas are subject to field survey by a Soil Scientist. The Town map does not depict wetlands or watercourses within the ISFSI Site, the Equipment Laydown Area, the haul path, areas proposed for drainage improvements and the Soil Placement Area. The wetlands and watercourses that are shown nearest these areas on the map include the following:

- A freshwater pond located approximately 200 feet east of the ISFSI Site.
- A narrow, linear wetland feature connecting to the northwest portion of the freshwater pond. This feature was observed during our field survey to be an existing stream drainage channel.
- A wetland area, mapped along the northwest side of the Millstone access road, north of Building No. 532.

The Town of Waterford, Millstone Point Site Coastal Resources map⁴ was also reviewed. This map shows approximate areas which may contain freshwater and coastal resources such as wetlands. These resources are depicted as shaded areas. This map shows shaded freshwater wetland areas located approximately 150 feet north of the freshwater pond and approximately 100 feet east of the proposed Soil Placement Area.

⁴ Plan from Waterford, Town of, May 1985, Order Pursuant to Section 16-50X(d) of the Connecticut General Statutes and Coastal Area Management Findings and Order for Unit #3 Closeout, Millstone Point, Waterford, CT.

4.3.2 National Wetlands Inventory Map (NWI)

This map shows approximate boundaries of wetlands and federal wetland classifications. The map does not depict wetlands within the ISFSI Site, the Equipment Laydown Area, the haul path, areas proposed for drainage improvements and the Soil Placement Area. The wetlands that are indicated nearest to these features include:

- The freshwater pond located 200 feet east of the ISFSI Site is listed as a palustrine, open freshwater water body (pond). Palustrine classes include non-tidal wetlands dominated by trees, shrubs and persistent emergents. This classification indicates that the pond has a permanent water regime.
- The small wetland feature, at the north end of the above freshwater pond, is labeled as a palustrine, broad leafed, deciduous, scrub-shrub, wetland, exhibiting a seasonal, saturated water regime. The scrub-shrub wetlands are generally dominated by woody vegetation less than 20 feet tall. The species generally includes shrubs and young trees.
- A second narrow wetland is shown north of the pond extending north approximately 2000 feet. The upper part of this wetland is located approximately 100 feet east of the Soil Placement Area. It is classified as a palustrine, forested, broad-leafed deciduous wetland, with a seasonal water regime. These wetlands generally have an overstory of trees and an understory of young trees and shrubs, and an herbaceous layer.

5.0 WETLAND AND WATERCOURSE FIELD SURVEY

GZA performed fieldwork on December 12 and 13, 2002, to identify and delineate wetlands and watercourses in the vicinity of the ISFSI Site. Messrs. Stanley Dynia, a Professional Certified Soil Scientist with GZA and Glen Watts, a GZA environmental engineer, performed the fieldwork.

The survey encompassed the ISFSI Site, Equipment Laydown Area and the haul path. No wetlands or watercourses were identified within these areas. Messrs. Dynia and Watts also evaluated areas approximately 300 feet east and 300 feet north of the ISFSI Site. Wetlands and watercourses were identified within these areas. The limits of the observed wetlands and watercourses were identified in the field with flagging. The locations of the wetland and watercourse flagging were mapped by a Connecticut-licensed surveyor.

The field survey included assessing hydrologic features, topography and vegetation to identify watercourses. The field survey also included the excavation of shallow test pits to examine soil characteristics of upland and wetland soil conditions. Wetlands were defined by soil characteristics that indicate very poorly drained, poorly drained, floodplain and alluvial type soils; and soils that are disturbed but maintain an aquic moisture regime. Watercourses were identified based on characteristics such as a defined channel and artificial/man made features for drainage. Figure 2 indicates the locations of wetlands and

watercourses proximate to the ISFSI Site. The locations of the test pits are also indicated on this figure.

As noted above, no wetlands or watercourses were observed within the ISFSI Site, the Equipment Laydown Area and the haul path. Wetlands and watercourses were identified and flagged within proximate areas. These areas are generally wooded and include mixed deciduous woodland with an understory of shrubs and herbaceous plants.

The wetland and watercourse resources identified proximate to the ISFSI Site include:

1. Man-made drainage ditches which form an intermittent artificial watercourse as defined by Town and DEP criteria identified by Flags DA-1S to DA-9S and DA-3N to DA-8N. They are formed along an abandoned railroad spur located about 250 feet north of the ISFSI Site;
2. Stream channel watercourses located east of the railroad spur line begin at the base of the rail spur embankment. These watercourses are located downgradient of both existing stormwater outlets DSN 020, marked by Flags C-1 to C-8, and DSN 011, marked by Flags E-1 to E-8;
3. A localized area of surface water inundation, located near the toe of the railroad track embankment approximately 200 feet east of the ISFSI Site marked by Flags G-1 to G-4; and
4. A drainage watercourse located north of Building 532. This watercourse was previously delineated by others with Flags 42 to 55. GZA reviewed the area in the field and confirmed that the previous delineation conforms to the actual wetland edge.

6.0 DESCRIPTIVE SUMMARY AND QUALITY ASSESSMENT

The ISFSI Site, the Equipment Laydown Area, haul path and the Soil Placement Area do not contain wetlands or watercourses defined by local, state or federal criteria. The ISFSI Site, the Equipment Laydown Area and the haul path areas also lie outside of the Town of Waterford Upland Review Area. Wetlands are indicated on the Town maps to be located approximately 100 feet east of the Soil Placement Area.

As described above, wetland soil and watercourse resources were identified proximate to these areas and are shown on Figure 2. These include the watercourse channels at the stormwater outlets DSN 020 and DSN 011.

The wetland and watercourse areas delineated by GZA are associated principally with existing stormwater drainage system features such as culverts, outlet and drainage channels. The hydrology to support wetland type conditions at these locations is maintained from surface water runoff and from groundwater, which may also contribute water to upstream areas which are drained by these culverts. These existing wetlands and

watercourses will be maintained and continue to function as hydraulic controls and conveyance systems for surface waters.

7.0 PROPOSED ACTIVITIES IN UPLAND REVIEW AREA OR DELINEATED WETLANDS AND WATERCOURSES

The ISFSI Project will not result in any permanent impacts to, or net loss of, wetlands or watercourses on the Millstone property.

Construction within the Upland Review Area and delineated wetlands will be limited to installation of stormwater drainage pipe within the Town of Waterford 100-foot Upland Review Areas and drainage work at the outlet and within the associated drainage channel (DSN 011). These activities are described below:

1. The existing pipe at the outlet DSN 011 will be replaced with a new reinforced concrete pipe and concrete headwall. The pipe and outlet will be at the same location as the existing pipe and outlet, but with a lower invert elevation. This work will involve minor re-grading in the vicinity of the culvert and channel.
2. Erosion controls will be installed to stabilize the section of the drainage channel at outlet DSN 011. The erosion controls proposed include velocity dissipation and rip-rap channel protection designed to mitigate scour and undercutting of the stream channel.
3. Stormwater pipes and manhole structures will be installed within the 100-foot Upland Review Area adjacent to Building 532.

A Drainage Report prepared by GZA, dated May, 2003, presents details of proposed drainage improvements and erosion and sediment controls.



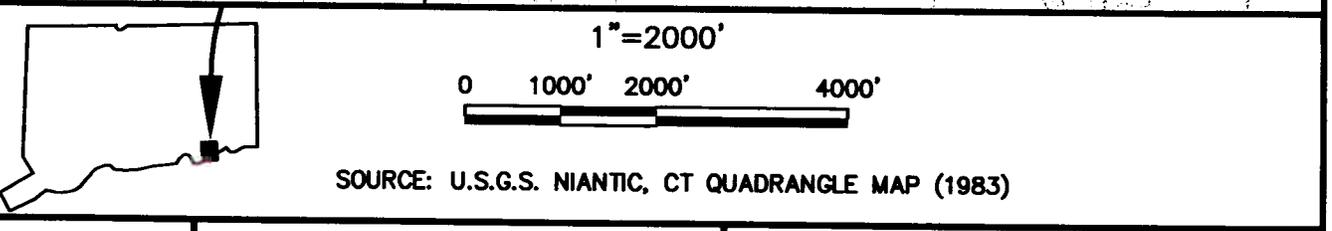
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GeoEnvironmental, Inc.

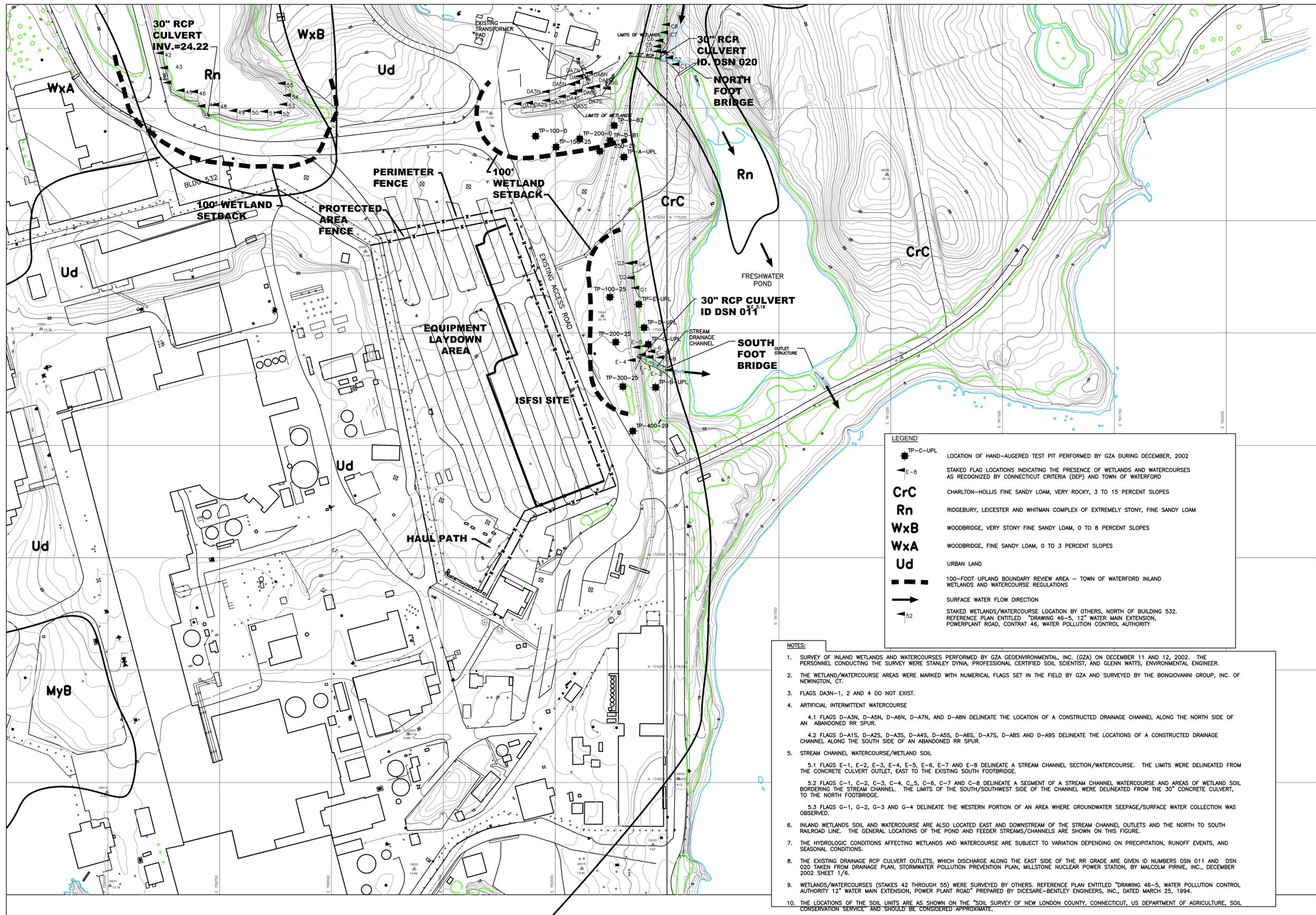
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DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION
WATERFORD, CONNECTICUT

LOCUS PLAN
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 FIGURE 1

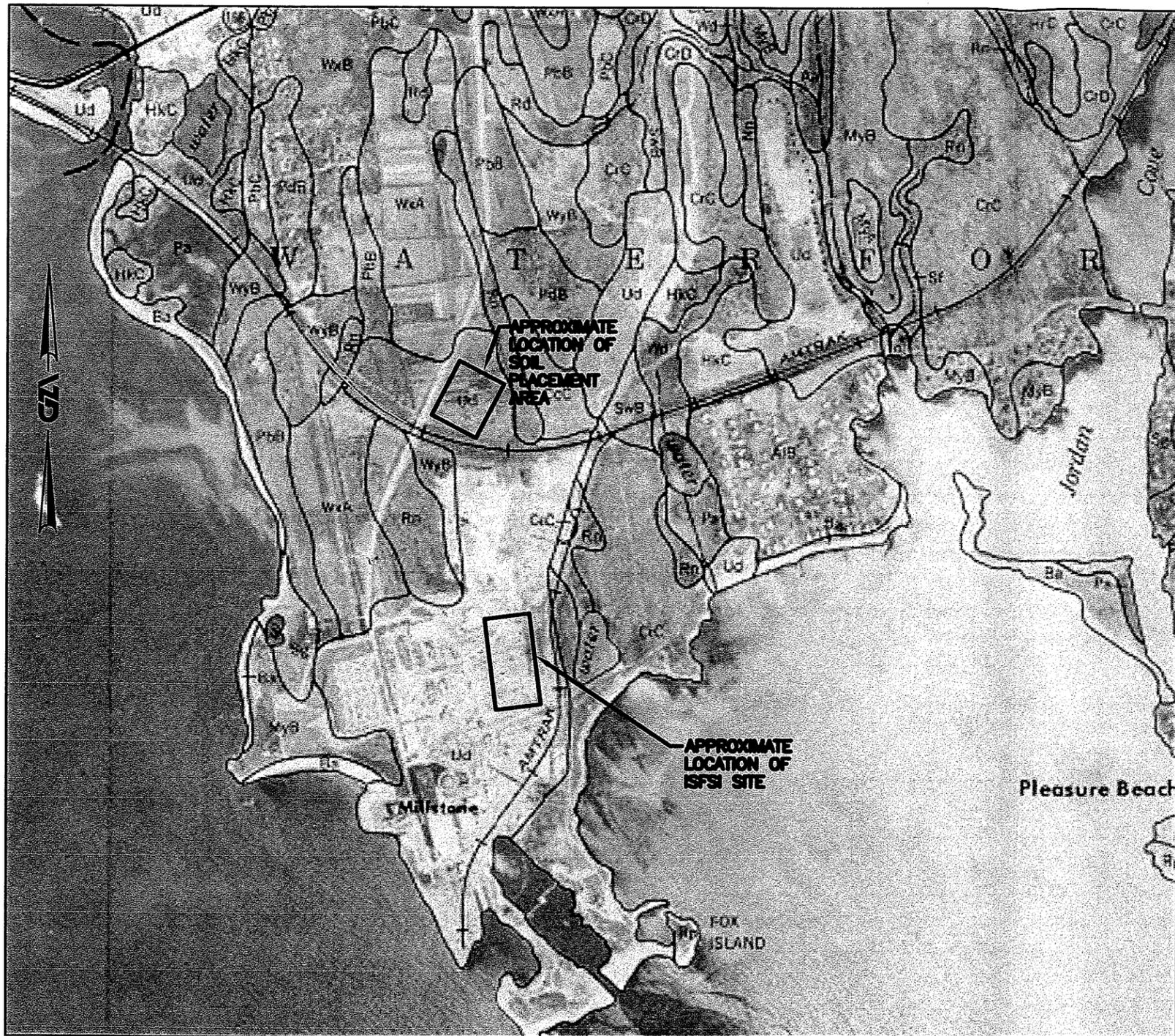


LEGEND

- TP-C-UPL LOCATION OF HAND-AUGERED TEST PIT PERFORMED BY GZA DURING DECEMBER, 2002
- E-B STAKED FLAG LOCATIONS INDICATING THE PRESENCE OF WETLANDS AND WATERCOURSES AS RECOGNIZED BY CONNECTICUT CRITERIA (DEP) AND TOWN OF WATERFORD
- CrC CHARLTON-HOLLIS FINE SANDY LOAM, VERY ROCKY, 3 TO 15 PERCENT SLOPES
- Rn RIDGEBURY, LEICESTER AND WHITMAN COMPLEX OF EXTREMELY STONY, FINE SANDY LOAM
- WxB WOODBRIDGE, VERY STONY FINE SANDY LOAM, 0 TO 8 PERCENT SLOPES
- WxA WOODBRIDGE, FINE SANDY LOAM, 0 TO 3 PERCENT SLOPES
- Ud URBAN LAND
- 100-FOOT UPLAND BOUNDARY REVIEW AREA - TOWN OF WATERFORD INLAND WETLANDS AND WATERCOURSE REGULATIONS
- SURFACE WATER FLOW DIRECTION
- 52 STAKED WETLANDS/WATERCOURSE LOCATION BY OTHERS, NORTH OF BUILDING 532. REFERENCE PLAN ENTITLED "DRAWING 46-5, 12" WATER MAIN EXTENSION, POWERPLANT ROAD, CONTRAT 46, WATER POLLUTION CONTROL AUTHORITY"

- NOTES:**
- SURVEY OF INLAND WETLANDS AND WATERCOURSES PERFORMED BY GZA GEOENVIRONMENTAL, INC. (GZA) ON DECEMBER 11 AND 12, 2002. THE PERSONNEL CONDUCTING THE SURVEY WERE STANLEY DYNIA, PROFESSIONAL CERTIFIED SOIL SCIENTIST, AND GLENN WATTS, ENVIRONMENTAL ENGINEER.
 - THE WETLAND/WATERCOURSE AREAS WERE MARKED WITH NUMERICAL FLAGS SET IN THE FIELD BY GZA AND SURVEYED BY THE BONGIOVANNI GROUP, INC. OF NEWINGTON, CT.
 - FLAGS DA3N-1, 2 AND 4 DO NOT EXIST.
 - ARTIFICIAL INTERMITTENT WATERCOURSE
 - 4.1 FLAGS D-A3N, D-A5N, D-A6N, D-A7N, AND D-A8N DELINEATE THE LOCATION OF A CONSTRUCTED DRAINAGE CHANNEL ALONG THE NORTH SIDE OF AN ABANDONED RR SPUR.
 - 4.2 FLAGS D-A1S, D-A2S, D-A3S, D-A4S, D-A5S, D-A6S, D-A7S, D-A8S AND D-A9S DELINEATE THE LOCATIONS OF A CONSTRUCTED DRAINAGE CHANNEL ALONG THE SOUTH SIDE OF AN ABANDONED RR SPUR.
 - STREAM CHANNEL WATERCOURSE/WETLAND SOIL
 - 5.1 FLAGS E-1, E-2, E-3, E-4, E-5, E-6, E-7 AND E-8 DELINEATE A STREAM CHANNEL SECTION/WATERCOURSE. THE LIMITS WERE DELINEATED FROM THE CONCRETE CULVERT OUTLET, EAST TO THE EXISTING SOUTH FOOTBRIDGE.
 - 5.2 FLAGS C-1, C-2, C-3, C-4, C-5, C-6, C-7 AND C-8 DELINEATE A SEGMENT OF A STREAM CHANNEL WATERCOURSE AND AREAS OF WETLAND SOIL BORDERING THE STREAM CHANNEL. THE LIMITS OF THE SOUTH/SOUTHWEST SIDE OF THE CHANNEL WERE DELINEATED FROM THE 30" CONCRETE CULVERT, TO THE NORTH FOOTBRIDGE.
 - 5.3 FLAGS G-1, G-2, G-3 AND G-4 DELINEATE THE WESTERN PORTION OF AN AREA WHERE GROUNDWATER SEEPAGE/SURFACE WATER COLLECTION WAS OBSERVED.
 - INLAND WETLANDS SOIL AND WATERCOURSE ARE ALSO LOCATED EAST AND DOWNSTREAM OF THE STREAM CHANNEL OUTLETS AND THE NORTH TO SOUTH RAILROAD LINE. THE GENERAL LOCATIONS OF THE POND AND FEEDER STREAMS/CHANNELS ARE SHOWN ON THIS FIGURE.
 - THE HYDROLOGIC CONDITIONS AFFECTING WETLANDS AND WATERCOURSE ARE SUBJECT TO VARIATION DEPENDING ON PRECIPITATION, RUNOFF EVENTS, AND SEASONAL CONDITIONS.
 - THE EXISTING DRAINAGE RCP CULVERT OUTLETS, WHICH DISCHARGE ALONG THE EAST SIDE OF THE RR GRADE ARE GIVEN ID NUMBERS DSN 011 AND DSN 020 TAKEN FROM DRAINAGE PLAN, STORMWATER POLLUTION PREVENTION PLAN, MILLSTONE NUCLEAR POWER STATION, BY MALCOLM PIRNIE, INC., DECEMBER 2002 SHEET 1/6.
 - WETLANDS/WATERCOURSES (STAKES 42 THROUGH 55) WERE SURVEYED BY OTHERS. REFERENCE PLAN ENTITLED "DRAWING 46-5, WATER POLLUTION CONTROL AUTHORITY 12" WATER MAIN EXTENSION, POWER PLANT ROAD" PREPARED BY DICESARE-BENTLEY ENGINEERS, INC., DATED MARCH 25, 1994.
 - THE LOCATIONS OF THE SOIL UNITS ARE AS SHOWN ON THE "SOIL SURVEY OF NEW LONDON COUNTY, CONNECTICUT, US DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE" AND SHOULD BE CONSIDERED APPROXIMATE.

PROJ MGR: DCS		1"=100' 0 50' 100' 200'	27 NAEK ROAD VERNON, CT 06066 P: 860 875-7655 F: 860 872-2416
DESIGNED BY: SFD			
REVIEWED BY: DCS		GZA GeoEnvironmental, Inc.	REV. NO.
DRAWN BY: MUS			
DATE: 5-13-2003		DESCRIPTION	
PROPOSED ISFSI MILLSTONE POWER PLANT WATERFORD, CONNECTICUT		BY	
INLAND WETLANDS AND WATERCOURSES MAP		DATE	
JOB NO. 42898		FIGURE NO. 2	



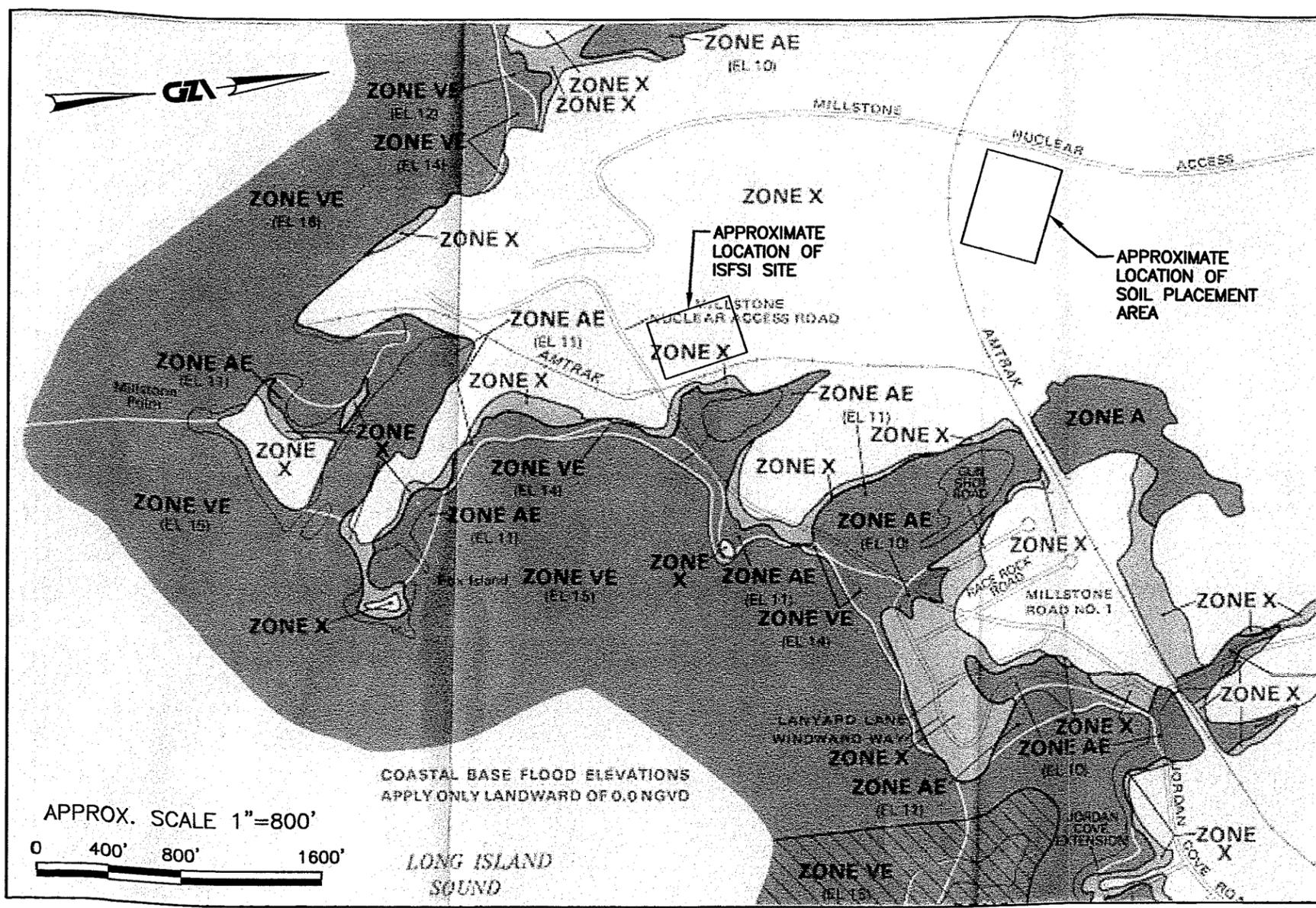
Note: Plan from "Soil Survey of New London County Connecticut"

SOIL LEGEND

The first letter, always a capital, is the initial letter of the soil name. The lower case letter that follows separates map units having names that begin with the same letter, except that it does not separate sloping phases. The third letter, always a capital, A, B, C, or D indicates the slope. Most symbols with-out a slope letter are those of nearly level soils; however, some are for soils that have a considerable range of slope but have similar use interpretations.

SYMBOL	NAME
Aa	Adrian and Palux muck
A/A	Aquinn fine sandy loam, 0 to 3 percent slopes
A/B	Aquinn fine sandy loam, 3 to 8 percent slopes
Ba	Beaches
B/B	Brookbrook silt loam, 3 to 8 percent slopes
CaB	Carton and Charlton fine sandy loams, 3 to 8 percent slopes
CaC	Carton and Charlton fine sandy loams, 8 to 15 percent slopes
CaD	Carton and Charlton fine sandy loams, 15 to 25 percent slopes
CaB	Carton and Charlton very stony fine sandy loams, 3 to 8 percent slopes
CaC	Carton and Charlton very stony fine sandy loams, 8 to 15 percent slopes
CaC	Carton and Charlton extremely stony fine sandy loams, 3 to 15 percent slopes
CaD	Carton and Charlton extremely stony fine sandy loams, 15 to 25 percent slopes
Ca	Charlton muck
C/C	Charlton-Halls fine sandy loams, very rocky, 3 to 15 percent slopes
C/D	Charlton-Halls fine sandy loams, very rocky, 15 to 45 percent slopes
Cu	Dumpe
HcA	Haven silt loam, 0 to 3 percent slopes
HcB	Haven silt loam, 3 to 8 percent slopes
HcA	Hindley gravelly sandy loam, 0 to 3 percent slopes
HcB	Hindley gravelly sandy loam, 3 to 15 percent slopes
HcD	Hindley gravelly sandy loam, 15 to 35 percent slopes
HcC	Halls-Charlton-Rock outcrop complex, 3 to 15 percent slopes
HcD	Halls-Charlton-Rock outcrop complex, 15 to 45 percent slopes
Ip	Isleach mucky peat
Lt	Limerick Variant silt loam
MyA	Merrimac sandy loam, 0 to 3 percent slopes
MyB	Merrimac sandy loam, 3 to 8 percent slopes
MyC	Merrimac sandy loam, 8 to 15 percent slopes
NcB	Norwagansett silt loam, 3 to 8 percent slopes
NcB	Norwagansett very stony silt loam, 3 to 8 percent slopes
NcC	Norwagansett extremely stony silt loam, 3 to 15 percent slopes
NcD	Norwagansett extremely stony silt loam, 15 to 25 percent slopes
N/C	Norwagansett-Halls complex, very rocky, 3 to 15 percent slopes
Ns	Ninigret fine sandy loam
Pa	Pawcatuck mucky peat
PbB	Paxon and Montauk fine sandy loams, 3 to 8 percent slopes
PbC	Paxon and Montauk fine sandy loams, 8 to 15 percent slopes
PbD	Paxon and Montauk fine sandy loams, 15 to 25 percent slopes
PbR	Paxon and Montauk very stony fine sandy loams, 3 to 8 percent slopes
PbC	Paxon and Montauk very stony fine sandy loams, 8 to 15 percent slopes
PbD	Paxon and Montauk extremely stony fine sandy loams, 3 to 15 percent slopes
PbD	Paxon and Montauk extremely stony fine sandy loams, 15 to 35 percent slopes
Pc	Pretatuck Variant fine sandy loam
RaA	Rainbow silt loam, 0 to 3 percent slopes
RaB	Rainbow silt loam, 3 to 8 percent slopes
RaB	Rainbow very stony silt loam, 0 to 3 percent slopes
Rc	Ryppol silt loam
Rd	Ridgebury fine sandy loam
Rn	Ridgebury, Leicester, and Whitman extremely stony fine sandy loams
Rr	Rippon fine sandy loam
Rp	Rock outcrop-Halls complex
Sf	Seabrook mucky fine sandy loam
Sc	Sudbury sandy loam
SaA	Sutton fine sandy loam, 0 to 3 percent slopes
SaB	Sutton fine sandy loam, 3 to 8 percent slopes
SaB	Sutton very stony fine sandy loam, 0 to 3 percent slopes
SaD	Sutton extremely stony fine sandy loam, 0 to 8 percent slopes
Ta	Tisbury silt loam
Lb	Udertsents-Pitts complex, gravelly
UJ	Udertsents-Urban land complex
Ur	Urban land
Wd	Wepole fine sandy loam
Wf	Westbrook mucky peat
Wh	Westbrook mucky peat, low salt
W/A	Windsor loamy sand, 0 to 3 percent slopes
W/B	Windsor loamy sand, 3 to 8 percent slopes
W/A	Woodbridge fine sandy loam, 0 to 3 percent slopes
W/B	Woodbridge fine sandy loam, 3 to 8 percent slopes
W/C	Woodbridge fine sandy loam, 8 to 15 percent slopes
W/B	Woodbridge very stony fine sandy loam, 0 to 8 percent slopes
W/C	Woodbridge very stony fine sandy loam, 8 to 15 percent slopes
W/A	Woodbridge and Rainbow extremely stony silt, 0 to 3 percent slopes
W/C	Woodbridge and Rainbow extremely stony silt, 3 to 15 percent slopes

REV. NO.	DESCRIPTION	BY	DATE
	PROJ MGR: DCS DESIGNED BY: SFD REVIEWED BY: DCS	MJS	2/14/03
1"=1000'		2000'	
0 500' 1000'			
DOMINION NUCLEAR CONNECTICUT INC. MILLSTONE POWER STATION WATERFORD, CONNECTICUT		JOB NO. 42898	
NEW LONDON COUNTY SOIL SURVEY		FIGURE NO. 3	
27 Noek Road Vernon, CT 06066 P:860-875-7655 F:860-872-2416		GeoEnvironmental, Inc.	



APPROX. SCALE 1"=800'

0 400' 800' 1600'

COASTAL BASE FLOOD ELEVATIONS APPLY ONLY LANDWARD OF 0.0 NGVD

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas. The community map repository should be consulted for possible updated flood hazard information prior to use of this map for property purchase or construction purposes.

Coastal base flood elevations apply only landward of 0.0 NGVD, and include the effects of wave action; these elevations may also differ significantly from those developed by the National Weather Service for hurricane evacuation planning.

Areas of special flood hazard (100-year flood) include Zones A, AE, AH, AO, A99, V, and VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

Elevation reference marks are described in the Flood Insurance Study Report.

For adjoining map panels see separately printed Map Index.

MAP REPOSITORY
Town Hall, Hope Ferry Road, Waterford, Connecticut 06385 (Maps available for reference only, not for distribution)

INITIAL IDENTIFICATION:
JULY 26, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
NOVEMBER 19, 1976

FLOOD INSURANCE RATE MAP EFFECTIVE:
FEBRUARY 4, 1981

FLOOD INSURANCE RATE MAP REVISIONS:
October 1, 1983 - to add undeveloped coastal barriers.
September 5, 1990 - to update corporate limits, to change special flood hazard areas.

LEGEND

- SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
 - ZONE A No base flood elevations determined.
 - ZONE AE Base flood elevations determined.
 - ZONE AH Flood depths of 1 to 1 feet (usually areas of ponding); base flood elevations determined.
 - ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain; average depths determined; for areas of sloughs for flooding, velocities also determined).
 - ZONE A99 To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.
 - ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.
 - ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.
 - FLOODWAY AREAS IN ZONE AE
 - OTHER FLOOD AREAS
 - ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.
 - OTHER AREAS
 - ZONE X Areas determined to be outside 500-year floodplain.
 - ZONE D Areas in which flood hazards are undetermined.
 - UNDEVELOPED COASTAL BARRIERS
 - Floodplain Boundary
 - Floodway Boundary
 - Zone D Boundary
 - Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones
 - Base Flood Elevation Line, Elevation in Feet*
 - Cross Section Line
 - Base Flood Elevation in Feet Where Uniform Within Zone*
 - Elevation Reference Mark
 - River Mile
- *Referenced to the National Geodetic Vertical Datum of 1929

REV. NO.	DESCRIPTION	BY	DATE
	PROJ MGR: DCS DESIGNED BY: DCS REVIEWED BY: SFD	DRAWN BY: MJS DATE: 5/13/03	
 1"=800'			
DOMINION NUCLEAR CONNECTICUT INC. MILLSTONE POWER STATION WATERFORD, CONNECTICUT			
FEMA FLOOD MAP (NO. 09010700150; PANEL 15 OF 20)			
JOB NO.		42898	
FIGURE NO.		4	



27 Naek Road
Vernon, CT 06066
P: 860-875-7655 F: 860-872-2416

**APPENDIX A
GZA LIMITATIONS**

LIMITATIONS

1. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein.
2. The purpose of this report was to assess the presence of, and delineate, inland wetlands and watercourses in the proximity of the ISFSI Site and as defined by the Connecticut Department of Environmental Protection and the Town of Waterford regulations and guidelines. A reconnaissance survey was also performed within the limits of the proposed Soil Placement Area. However, no wetland delineation was performed in the area proximate to the Soil Placement Area.
3. In preparing this report, GZA has relied on certain information provided by state and local officials and other parties referenced therein, and on information contained the files of state and/or local agencies available to GZA at the time of the site assessment. Although there may have been some degree of overlap in the information provided by these various sources, GZA did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site assessment.
4. The locations of GZA's wetlands flags were located by survey, by others.
5. The conclusions and recommendations contained in this report are based in part upon the conditions observed. GZA's field survey was performed during December, 2002. If variations or other latent conditions appear evident during the spring and summer, it may be necessary to reevaluate the conclusions and recommendations of this report.
6. It is recommended that GZA be retained to observe conditions during construction and/or implementation of any mitigating measures presented in this report. This is to allow GZA to observe compliance with the concepts and recommendations contained herein, and to allow the development of design changes in the event that subsurface conditions differ from those anticipated.

APPENDIX B
TOWN OF WATERFORD WETLANDS AND WATERCOURSES MAP

