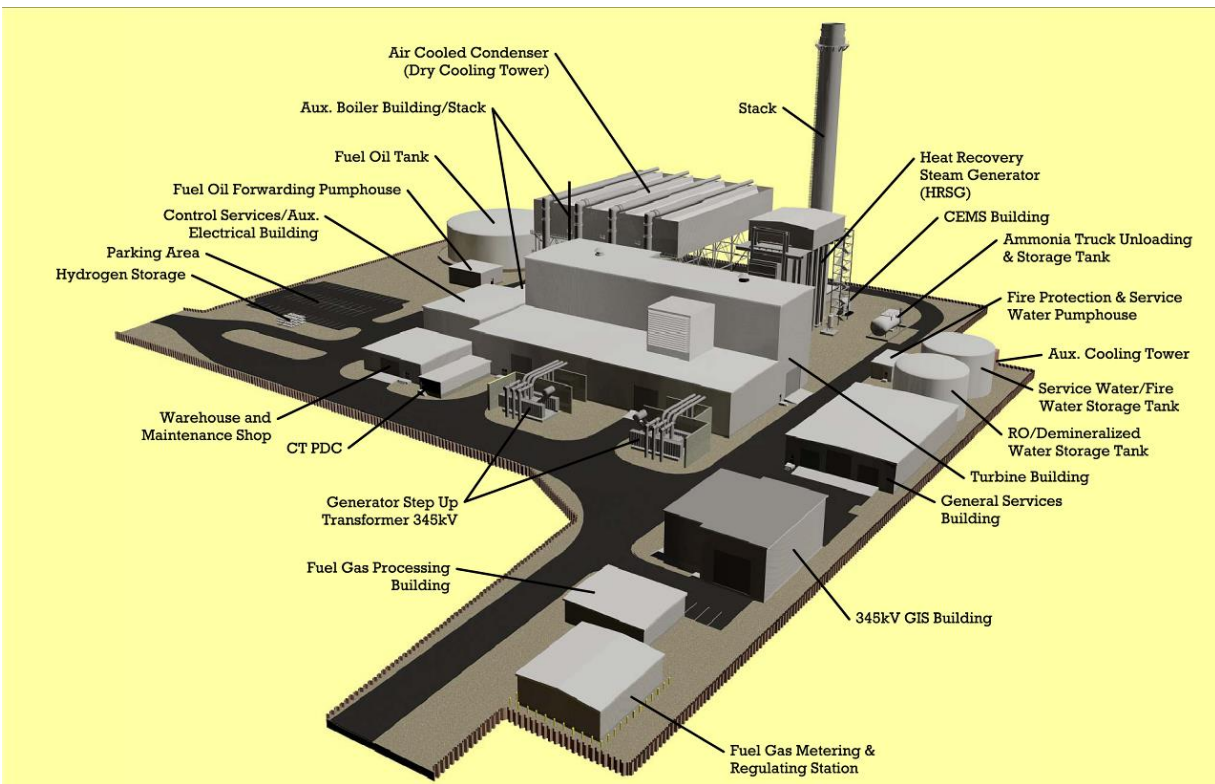


Land Use and Environmental Information Report

Bridgeport Harbor Station Proposed Combined-Cycle Facility Bridgeport, Connecticut



PREPARED FOR:

PSEG FOSSIL, LLC

November 11, 2015

Revision 1, February 25, 2016

EXHIBIT A

Land Use and
Environmental Information
Report Prepared by AKRF,
Inc. (Revision 1)

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A. INTRODUCTION

PSEG Power Connecticut LLC (or potentially an affiliated special purpose entity) (PSEG) is proposing to install and operate a Combined-Cycle Facility with a generating capacity of approximately 485 megawatts (MW) at the site of its existing Bridgeport Harbor Station (BHS) located at 1 Atlantic Street in Bridgeport, Connecticut (the Facility or Project). **Figure 1-1** shows the boundary of the existing BHS and the approximate location of the proposed Project area of development on the United States Geological Service (USGS) 7.5-minute map (Bridgeport, Connecticut Quadrangle) for the surrounding area. **Figure 1-2** is an aerial Site location map. **Figure 1-3a** and **Figure 1-3b** provide a detailed Site aerial of the proposed Project Site illustrating existing Site conditions and the location of the proposed development. This location will allow the Project to take advantage of existing Site infrastructure thereby minimizing the need for extensive off-site improvements and reducing potential construction impacts.

This report was prepared in support of the Petition to the Connecticut Siting Council (Siting Council) for a Declaratory Ruling to approve the proposed Project, pursuant to Section 16-50k of the Connecticut General Statutes and Sections 16-50j-38 to 16-50j40 of the Regulations of Connecticut State Agencies (RCSA).

B. EXISTING CONDITIONS

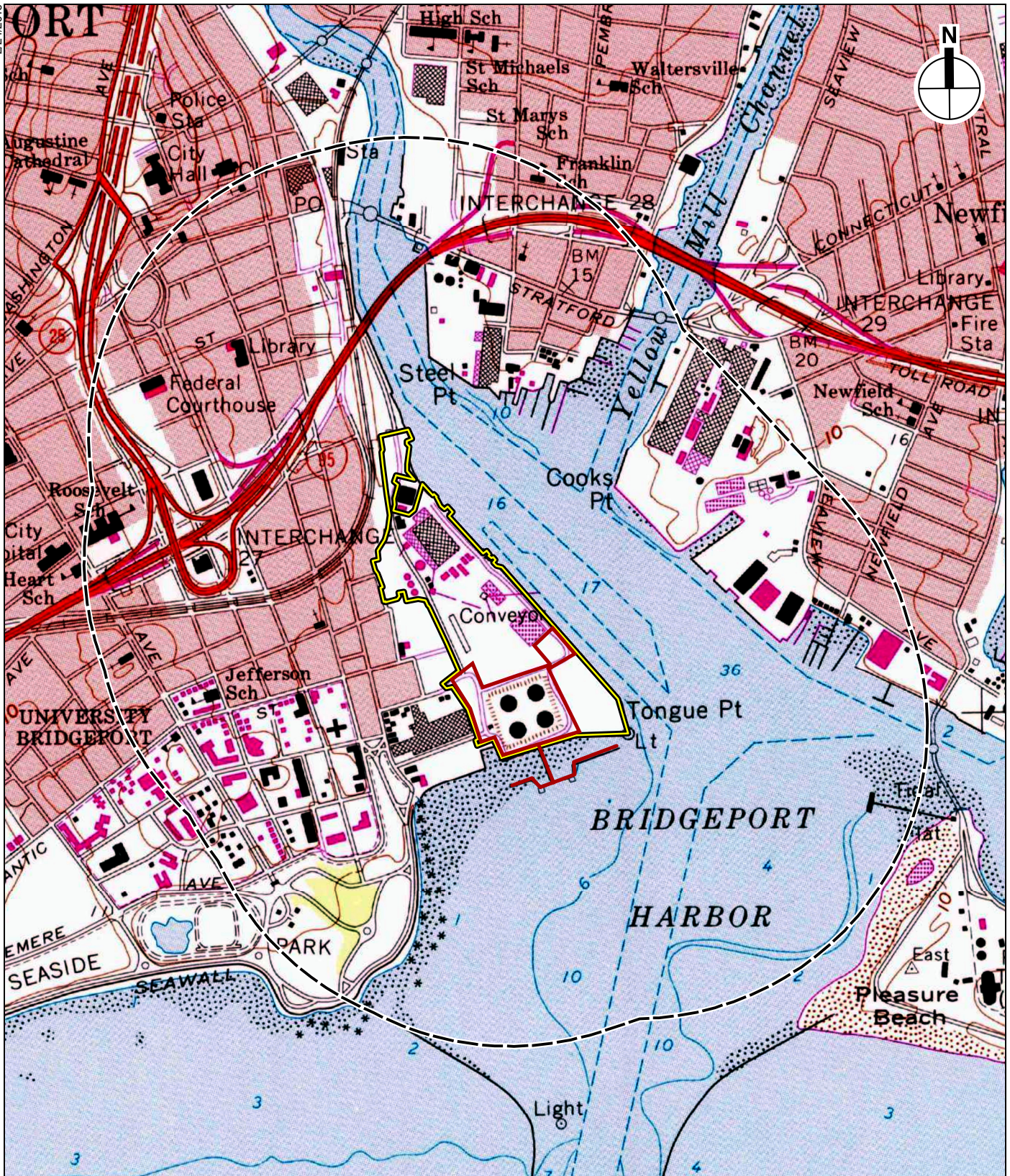
The existing Bridgeport Harbor Station encompasses approximately 58.8 acres of land near the confluence of the Pequonnock River and Long Island Sound in Bridgeport, Connecticut. Two existing generating units at the Site supply Independent System Operator – New England (ISO-NE) with approximately 400 MW of power (current summer rating), or enough power to supply electric capacity and energy to approximately half a million residential customers. BHS's existing operating units include Unit 3,¹ which runs primarily on coal, and uses fuel oil for startup, and Unit 4, a jet-fuel-fired combustion turbine peaking unit. Both units supply wholesale power to ISO-NE, which oversees the regional power grid.

C. PROPOSED PROJECT

The proposed Combined-Cycle Facility at the BHS will help meet the region's growing demand for electricity. The Facility will consist of a 485 MW dual fuel, single train combined-cycle power plant. A combined-cycle power plant uses both a gas and a steam turbine together to produce more electricity from the same fuel. The plant will include a combustion turbine (similar to a very large jet engine), a heat recovery steam generator (HRSG) and a steam turbine to generate electricity. The combustion turbine will use natural gas or ultra-low-sulfur distillate (ULSD) fuel oil to generate electricity. Waste heat from the

¹ On January 11, 1983, the Council approved the current configuration of Unit 3 in Docket No. 27, *An application of the United Illuminating Company for a Certificate of Environmental Compatibility and Public Need for the Modification of Bridgeport Harbor Unit No. 3 to Capability to Burn Either Low-Sulfur Coal or Oil.*

2/24/2016



- Project Site Property Boundary
- Approximate Area of Development
- 1/2-Mile Study Area

Approximate coordinates of Project Site:
 41° 10' 10" N, 73° 10' 55" W

0 2,000 FEET

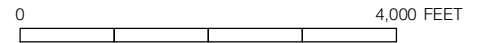
USGS 7.5 Minute Topographic Map
 Bridgeport Quad
 Figure 1-1

BRIDGEPORT HARBOR STATION - Combined Cycle Facility

2/24/2016



- Approximate Area of Development
- Project Site Property Boundary
- 1/2-Mile Study Area





-  Project Site Property Boundary
-  Approximate Area of Development

0 500 FEET

Site Aerial
Figure 1-3a

BRIDGEPORT HARBOR STATION - Combined Cycle Facility



Approximate Combined Cycle
Project Area of Development

Repairs to the
Existing Oil Dock

Bridgeport Harbor Station Combined-Cycle Facility

combustion turbine will be routed through the HRSG to create steam, powering the steam turbine and generating additional power. Using the waste heat from the combustion turbine to generate even more electricity makes a combined-cycle plant very efficient. The Facility will run primarily on natural gas, with provisions to use ULSD for up to 30 days per year, ensuring diversity and dependability.

PSEG has selected a GE 7HA.02 gas turbine for the Project. The GE turbine is an industry-leading, high-efficiency, air-cooled gas turbine, with more than 59% combined-cycle efficiency, enabling the most cost-effective conversion of fuel to electricity. Additionally, the Project design incorporates an air-cooled condenser to minimize the Facility's operational water requirements, and eliminates the need to use Bridgeport Harbor water for cooling, thereby avoiding surface water requirements and impacts. Aquarion Water Company, the local water utility, will supply the Facility's water requirements. Wastewater will be discharged to the Bridgeport Water Pollution Control Authority facility. A preliminary Site development plan for the proposed Combined-Cycle Facility and related improvements is provided in **Figure 1-4a**.

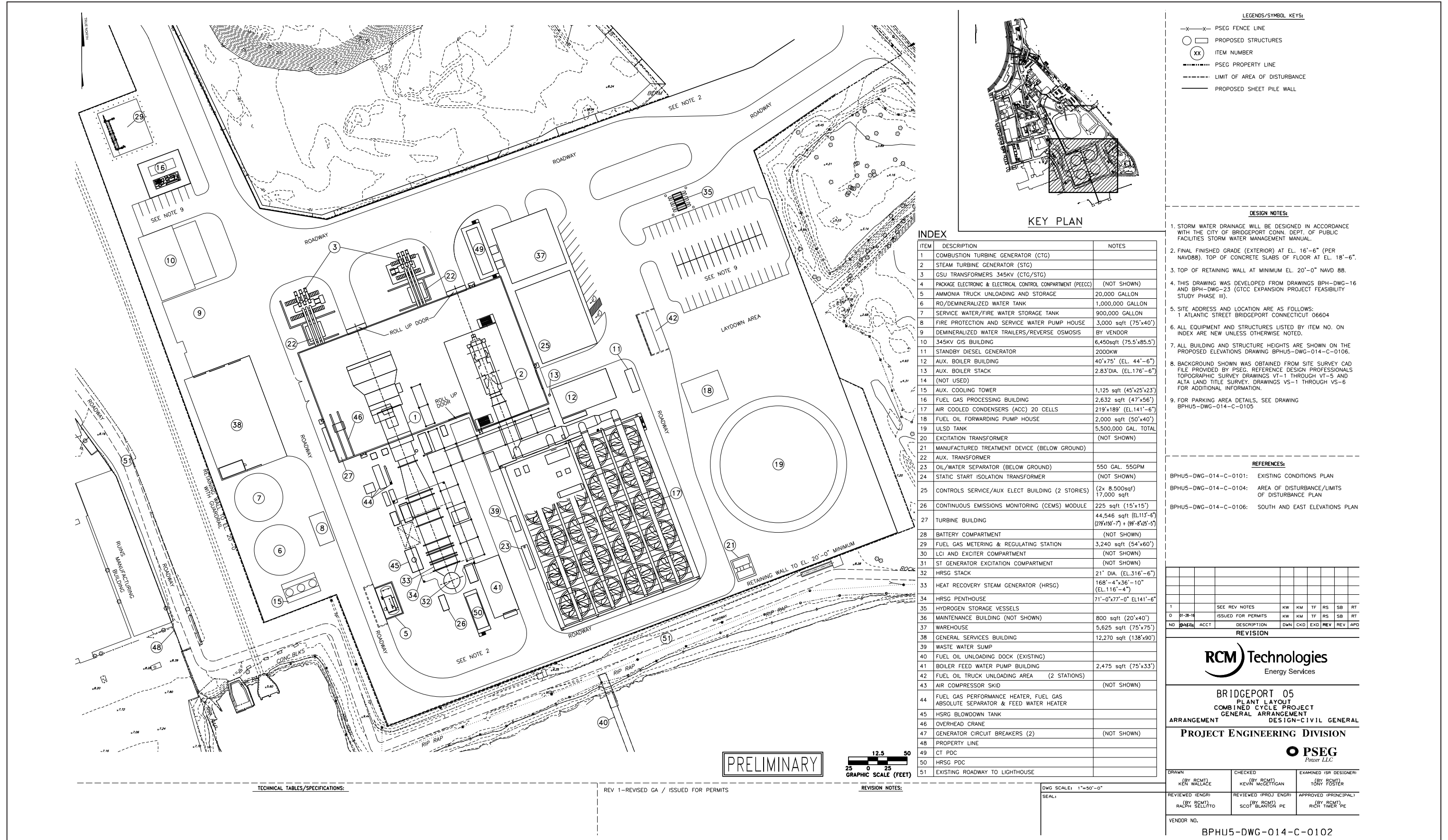
The new generating equipment will be installed on approximately 16 acres of previously disturbed land at the existing Bridgeport Harbor Station. As the development will occur within a previously disturbed industrial site, environmental impacts are minimized as compared with the development of a similar project on a "greenfield" site.

Commercial operation of the Combined-Cycle Facility will commence in June 2019. The Facility design will be based on good engineering practice, using state-of-the-art air quality control technology and using natural gas as the Facility's primary fuel source to minimize potential impacts to air quality. Additionally, the design will incorporate an air-cooled condenser to minimize Facility operational water requirements and eliminate surface water impacts. As an additional reliability measure, and to provide for storm hardening for this critical waterfront energy infrastructure, the elevation of the Project Site will be raised by approximately 7 to 10 feet, to above the 500-year Federal Emergency Management Agency flood level. Grade changes will be accomplished through use of structural retaining walls and import of fill. Remedial activities will occur within the proposed areas of development in accordance with the state of Connecticut cleanup regulations, known as the Remediation Standard Regulations (RSRs).

The Project also includes renovation of the existing fuel dock terminal facility at BHS, which was damaged during Superstorm Sandy on October 29, 2012, to allow for future oil deliveries by water.¹ The existing oil dock was designed for oil tankers much larger than those necessary to support the new Facility, so the repairs to the existing dock will involve demolishing and removing portions of the existing timber walkways, repairing existing platforms, piers, and mooring dolphins, constructing new walkways and upgrading and replacing existing fender units and mooring hardware. No new piers are necessary and the length of the walkway will be 40% smaller than with the current dock configuration. See **Figure 1-4b** for the preliminary dock repair plans.

All construction will be in accordance with applicable local and state construction standards and conditions of the regulatory approvals to be obtained for the Project. The scope includes all Site preparation, remediation of the existing Site (if and where required), installation of subsurface utilities and foundations, installation of the new Combined-Cycle Facility equipment and necessary ancillary equipment, including required electrical and municipal interconnections. Up to approximately 350 construction and approximately 20 permanent jobs will result from the Project.

¹ PSEG explained during its environmental justice public outreach process that it will use barge deliveries where feasible to reduce the potential environmental impact of excessive truck traffic through residential areas in the vicinity of the Site.



- LEGENDS/SYMBOL KEYS:**
- x-x- PSEG FENCE LINE
 - PROPOSED STRUCTURES
 - ⊙ ITEM NUMBER
 - PSEG PROPERTY LINE
 - LIMIT OF AREA OF DISTURBANCE
 - PROPOSED SHEET PILE WALL

- DESIGN NOTES:**
1. STORM WATER DRAINAGE WILL BE DESIGNED IN ACCORDANCE WITH THE CITY OF BRIDGEPORT CONN. DEPT. OF PUBLIC FACILITIES STORM WATER MANAGEMENT MANUAL.
 2. FINAL FINISHED GRADE (EXTERIOR) AT EL. 16'-6" (PER NAVD88). TOP OF CONCRETE SLABS OF FLOOR AT EL. 18'-6".
 3. TOP OF RETAINING WALL AT MINIMUM EL. 20'-0" NAVD 88.
 4. THIS DRAWING WAS DEVELOPED FROM DRAWINGS BPH-DWG-16 AND BPH-DWG-23 (GTCC EXPANSION PROJECT FEASIBILITY STUDY PHASE III).
 5. SITE ADDRESS AND LOCATION ARE AS FOLLOWS:
1 ATLANTIC STREET BRIDGEPORT CONNECTICUT 06604
 6. ALL EQUIPMENT AND STRUCTURES LISTED BY ITEM NO. ON INDEX ARE NEW UNLESS OTHERWISE NOTED.
 7. ALL BUILDING AND STRUCTURE HEIGHTS ARE SHOWN ON THE PROPOSED ELEVATIONS DRAWING BPHU5-DWG-014-C-0106.
 8. BACKGROUND SHOWN WAS OBTAINED FROM SITE SURVEY CAD FILE PROVIDED BY PSEG. REFERENCE DESIGN PROFESSIONALS TOPOGRAPHIC SURVEY DRAWINGS VT-1 THROUGH VT-5 AND ALTA LAND TITLE SURVEY DRAWINGS VS-1 THROUGH VS-6 FOR ADDITIONAL INFORMATION.
 9. FOR PARKING AREA DETAILS, SEE DRAWING BPHU5-DWG-014-C-0105

INDEX

ITEM	DESCRIPTION	NOTES
1	COMBUSTION TURBINE GENERATOR (CTG)	
2	STEAM TURBINE GENERATOR (STG)	
3	GSU TRANSFORMERS 345KV (CTG/STG)	
4	PACKAGE ELECTRONIC & ELECTRICAL CONTROL COMPARTMENT (PEECC)	(NOT SHOWN)
5	AMMONIA TRUCK UNLOADING AND STORAGE	20,000 GALLON
6	RO/DEMNERIALIZED WATER TANK	1,000,000 GALLON
7	SERVICE WATER/FIRE WATER STORAGE TANK	900,000 GALLON
8	FIRE PROTECTION AND SERVICE WATER PUMP HOUSE	3,000 sqft (75'x40')
9	DEMNERIALIZED WATER TRAILERS/REVERSE OSMOSIS	BY VENDOR
10	345KV GIS BUILDING	6,450sqft (75.5'x85.5')
11	STANDBY DIESEL GENERATOR	2000KW
12	AUX. BOILER BUILDING	40'x75' (EL. 44'-6")
13	AUX. BOILER STACK	2.83'DIA. (EL.176'-6")
14	(NOT USED)	
15	AUX. COOLING TOWER	1,125 sqft (45'x25'x23')
16	FUEL GAS PROCESSING BUILDING	2,632 sqft (47'x56')
17	AIR COOLED CONDENSERS (ACC) 20 CELLS	219'x189' (EL.141'-6")
18	FUEL OIL FORWARDING PUMP HOUSE	2,000 sqft (50'x40')
19	ULSD TANK	5,500,000 GAL. TOTAL
20	EXCITATION TRANSFORMER	(NOT SHOWN)
21	MANUFACTURED TREATMENT DEVICE (BELOW GROUND)	
22	AUX. TRANSFORMER	
23	OIL/WATER SEPARATOR (BELOW GROUND)	550 GAL. 55GPM
24	STATIC START ISOLATION TRANSFORMER	(NOT SHOWN)
25	CONTROLS SERVICE/AUX ELECT BUILDING (2 STORIES)	(2x 8,500sqft) 17,000 sqft
26	CONTINUOUS EMISSIONS MONITORING (CEMS) MODULE	225 sqft (15'x15')
27	TURBINE BUILDING	44,546 sqft (EL.113'-6") (279'x150'-7") + (99'-8'x25'-3")
28	BATTERY COMPARTMENT	(NOT SHOWN)
29	FUEL GAS METERING & REGULATING STATION	3,240 sqft (54'x60')
30	LCI AND EXCITER COMPARTMENT	(NOT SHOWN)
31	ST GENERATOR EXCITATION COMPARTMENT	(NOT SHOWN)
32	HRSG STACK	21' DIA. (EL.316'-6")
33	HEAT RECOVERY STEAM GENERATOR (HRSG)	168'-4"x36'-10" (EL.116'-4")
34	HRSG PENTHOUSE	71'-0"x77'-0" EL.141'-6"
35	HYDROGEN STORAGE VESSELS	
36	MAINTENANCE BUILDING (NOT SHOWN)	800 sqft (20'x40')
37	WAREHOUSE	5,625 sqft (75'x75')
38	GENERAL SERVICES BUILDING	12,270 sqft (138'x90')
39	WASTE WATER SUMP	
40	FUEL OIL UNLOADING DOCK (EXISTING)	
41	BOILER FEED WATER PUMP BUILDING	2,475 sqft (75'x33')
42	FUEL OIL TRUCK UNLOADING AREA (2 STATIONS)	
43	AIR COMPRESSOR SKID	(NOT SHOWN)
44	FUEL GAS PERFORMANCE HEATER, FUEL GAS ABSOLUTE SEPARATOR & FEED WATER HEATER	
45	HRSG BLOWDOWN TANK	
46	OVERHEAD CRANE	
47	GENERATOR CIRCUIT BREAKERS (2)	(NOT SHOWN)
48	PROPERTY LINE	
49	CT PDC	
50	HRSG PDC	
51	EXISTING ROADWAY TO LIGHTHOUSE	

- REFERENCES:**
- BPHU5-DWG-014-C-0101: EXISTING CONDITIONS PLAN
 - BPHU5-DWG-014-C-0104: AREA OF DISTURBANCE/LIMITS OF DISTURBANCE PLAN
 - BPHU5-DWG-014-C-0106: SOUTH AND EAST ELEVATIONS PLAN

NO.	DATE	ACCT	DESCRIPTION	DWN	CHKD	EXD	REV	APP
1			SEE REV NOTES	KW	KM	TF	RS	SB RT
0	11-28-14		ISSUED FOR PERMITS	KW	KM	TF	RS	SB RT

RCM Technologies
Energy Services

BRIDGEPORT 05
PLANT LAYOUT
COMBINED CYCLE PROJECT
GENERAL ARRANGEMENT
DESIGN-CIVIL GENERAL

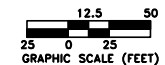
PROJECT ENGINEERING DIVISION

PSEG
Power LLC

DRAWN (BY RCMT) KEN WALLACE	CHECKED (BY RCMT) KEVIN MCCETTIGAN	EXAMINED (SR DESIGNER) (BY RCMT) TORY FOSTER
REVIEWED (ENGR) (BY RCMT) RALPH SELLITO	REVIEWED (PROJ ENGR) (BY RCMT) SCOTT BLANTON PE	APPROVED (PRINCIPAL) (BY RCMT) RICH TIMMER PE

VENDOR NO.
BPHU5-DWG-014-C-0102

PRELIMINARY



REV 1-REVISED GA / ISSUED FOR PERMITS

REVISION NOTES:

DWG SCALE: 1"=50'-0"

SEAL:



RACE
ROBERGE ASSOCIATES
 Coastal Engineers, LLC
 611 Access Road, Stratford, CT 06615
 Tel: 203-377-0663 Fax: 203-375-6561 www.racellc.com

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REVISIONS:

REV.	REVISION	BY	DATE

NOT VALID WITHOUT ENGINEER'S SEAL

PREPARED FOR:
PSEG POWER CONNECTICUT
BRIDGEPORT HARBOR STATION
ATLANTIC STREET
BRIDGEPORT, CT

PROJECT:
PSEG OIL DOCK STUDY

DRAWING:
DOCK MODIFICATION PLAN

Designed By:	TD	Date:	12-10-2015
Drawn By:	MSA	Scale:	As Noted
Checked By:		Project Number:	201502

The potential environmental and health impacts of the proposed Combined-Cycle Facility have been minimized by the following efforts and actions:

- Agreeing to retire the existing Unit 3 coal-fired power plant by July 1, 2021 as part of the Community Environmental Benefits Agreement (CEBA).
- Locating the Facility at the site of an existing power generating station that is zoned for industrial activity, which will allow the Facility to benefit from existing energy infrastructure, thereby reducing potential construction impacts.
- Employing the advanced state-of-the-art and efficient electric generation technology, which will result in lower emissions per MWh produced than older, less efficient units;
- Relying primarily on natural gas as fuel, with up to 30 days of ULSD use;
- Installing state-of-the-art air quality emission control technology, including Dry Low-NO_x burners, water injection, and selective catalytic reduction with an oxidation catalyst to substantially reduce air emissions;
- Employing an exhaust stack design to reduce potential ground-level air quality impacts to comply with all applicable state and National Ambient Air Quality Standards (NAAQS);
- Using an air cooled condenser to completely eliminate the need for surface water withdrawals from Bridgeport Harbor, provide cooling for the steam turbine, eliminate discharge of any heated cooling water to Bridgeport Harbor, and eliminate the emission of particulate matter associated with evaporative condenser cooling systems;
- Aligning with the goals of Connecticut Global Warming Solutions Act (C.G.S. § 22a-200d), by reducing carbon dioxide emissions at the site compared to the baseline specified in the Act (both 1990 and 2001 baselines) through the increased efficiency of the technology used, the selection of natural gas as the primary fuel for the Facility and the retirement of Unit 3;
- Supplying barge delivery of materials, where practicable, during construction will reduce truck travel through nearby residential neighborhoods. Delivery of ULSD by barge is anticipated upon completion of the fuel oil dock repairs; and
- Designing and operating of the Facility to meet applicable State of Connecticut and City of Bridgeport noise regulations.

As a separate project (the Unit 3 Tank Project), PSEG plans to remove the existing No. 6 fuel oil tanks, located at the proposed Unit 5 Site, and construct a replacement fuel oil storage tank to the north of the Facility, closer to Unit 3. The existing tank farm area will be remediated prior to construction of the Project. In a Notice of Exempt Modification filed on February 5, 2016, PSEG notified the Siting Council of the Unit 3 Tank Project, a separate plan to remove the four (4) existing No. 6 fuel oil storage tanks and three (3) smaller underground fuel oil storage tanks, perform limited site remediation in accordance with the Connecticut Department of Energy and Environmental Protection (CT DEEP) approved Revised Remedial Action Plan dated August 2004, and construct a replacement fuel oil tank for Unit 3.

D. PROJECT NEED

PSEG operates BHS and other generating facilities at New Haven Harbor Station in the wholesale capacity and energy markets, operated by the ISO-NE. ISO-NE operates the electrical transmission system or “the grid” in New England. Annually, ISO-NE solicits proposals for power generation development based upon their analysis of projected future power needs within New England. The process used is a Forward Capacity Auction (FCA), sometimes referred to as a “supply auction”. The FCA is

Bridgeport Harbor Station Combined-Cycle Facility

normally conducted in February of each year, and solicits power supply / generation proposals for a three year period.

The process of defining the demand for power is a complicated and ever-evolving technical analysis that is performed routinely by ISO-NE. As power plants and transmission facilities are constructed, modified, or retired, the demands for power across New England are re-assessed. The FCA defines future power demands in a consistent manner and is the basis of the need for the new plant. PSEG is proposing to add power generating capacity in the region, as current market signals have indicated that new generating capacity is required to ensure electric system reliability and to replace recently retired system assets. The latest FCA, known as FCA #10, was conducted on February 8, 2016. PSEG was notified on February 10, 2016 that the Project has been selected to provide both energy and capacity beginning June 1, 2019, consistent with the purchasing needs of the regional system operator, ISO-NE. ISO-NE has therefore determined that there is a need for the Facility consistent with the design of the wholesale market, which procures resources for reliability of the transmission system. PSEG has thus been awarded a capacity obligation of approximately 485 MW. This award requires PSEG to complete construction of the Facility and achieve commercial operation by June 1, 2019. PSEG is proceeding expeditiously to obtain all necessary regulatory permits and approvals to ensure that it can commence and complete construction in time to meet its obligations to the ISO-NE as a capacity and energy resource interconnected to the transmission system. The dock repair is needed to restore the ability to deliver fuel by barge to the Site, thereby reducing the need to deliver the fuel by truck.

E. ELECTRICAL INTERCONNECTION

The Project has signed a Large Generator Interconnection Agreement (LGIA) with ISO-NE and the United Illuminating Company (UI). Under the terms of this agreement, PSEG will construct, own, and operate a single radial 345 kilovolt (kV) underground transmission cable electrically interconnecting the Project with UI. The Project includes the installation of two 345-kV generator step up transformers and a 345-kV collector bus with gas-insulated substation equipment prior to connection of the generator lead to UI's facilities. The generator lead will run underground to UI's substation, thereby eliminating any potential environmental impact of additional overhead lines in the area. Connecting to UI's substation will require some limited construction to install the generator lead underground in the public right of way. A concrete encased underground electrical duct bank will be installed in Henry Street for a distance of approximately 650 feet from the BHS Site property line to the substation. PSEG expects to obtain the necessary street opening permits from the City of Bridgeport and has obtained consent through the LGIA with UI to allow such interconnection to its substation. The interconnection is necessary to transport the energy produced by the Facility to the electric transmission grid serving Connecticut customers.

ELECTRICAL AND MAGNETIC FIELDS

As noted above, the proposed Project requires a new 345 kV generator lead that will be routed underground from the existing BHS Site to the UI Singer Substation.

Electrical lines create electric and magnetic fields (EMFs). The term EMF can be used to describe electromagnetic fields of both high and low frequencies. EMFs produced by the generation, transmission, and use of electricity are generally in the extremely low frequency (ELF) range, typically 60 cycles per second or hertz (Hz). Currently, there are no Federal or Connecticut State standards that limit occupational or residential exposure to 60 Hz EMF. However, the Siting Council has developed "*Electric and Magnetic Field Best Management Practices for the Construction of Electric Transmission Lines in Connecticut*" to address concerns regarding potential exposure to transmission line EMF.

POTENTIAL IMPACTS AND MITIGATION

The electrical interconnect for the proposed Project will not impact residential areas and parks as no anticipated increase in EMF exposure to these areas is expected due to the fact that the new generator lead will be located underground. The Siting Council EMF *Best Management Practices* guidance documents that the level of EMF produced by electrical lines decreases with increasing distance and becomes indistinguishable from levels found outside homes at a distance of 100 to 300 feet. The closest residential area is approximately 900 feet away from the new unit. Therefore, no exposure to EMF generated by the proposed Project interconnect is expected at the nearby residences.

A. LAND USE

The Facility will be located within an industrial zoned area, where development of power plants is allowed by the City of Bridgeport and the Site's underlying zoning. Power plant operations have occurred on this Site for many decades. Neighborhoods in the vicinity of the Project Site, as defined by the City of Bridgeport Master Plan of Conservation and Development (2008), are illustrated in **Figure 2-1**. Nearby neighborhoods include the "South End", "Downtown", "East Side" and the "East End". A brief overview of each of these neighborhoods is provided below.

CITY OF BRIDGEPORT NEIGHBORHOODS WITHIN PROJECT SITE AREA*SOUTH END*

The South End neighborhood is located on a peninsula between Cedar Creek and Long Island Sound. It is directly south of I-95, a railroad corridor used by Amtrak and Metro-North Railroad to provide passenger rail service, the Bridgeport-Port Jefferson Ferry service loading area, and Downtown. The largest land use in the South End is parks/open space due to the presence of Seaside Park. Other major land uses are institutional, largely attributable to the University of Bridgeport, and industrial, mainly concentrated along the neighborhood's periphery. Residential uses are located in the northern portion of the neighborhood and are predominantly medium-and high-density.

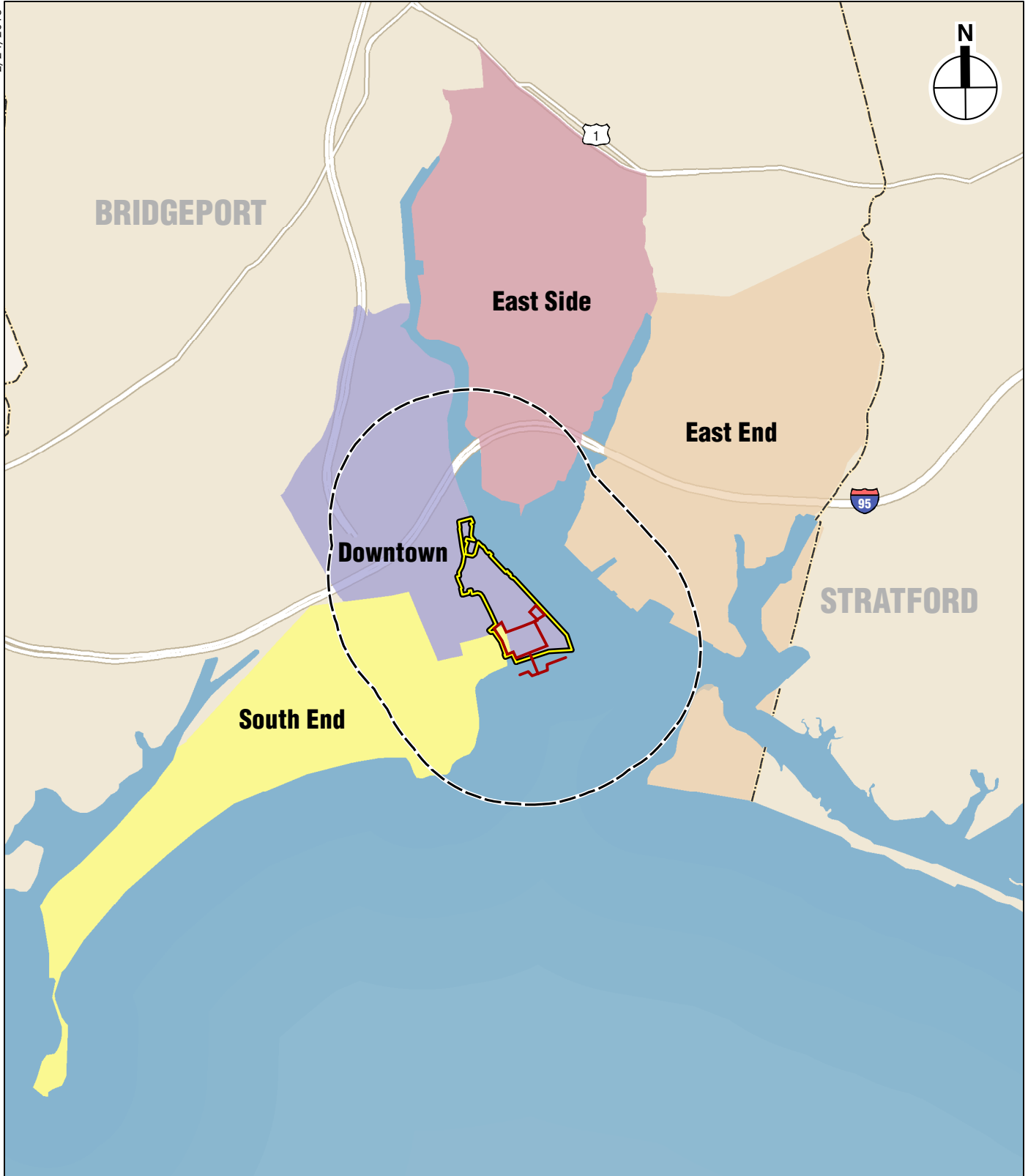
DOWNTOWN

Downtown Bridgeport has traditionally been defined as the "teardrop"-shaped area bounded by I-95 and the Amtrak and Metro-North rail corridor to the south, Route 8 to the northwest, and Pequonnock River to the northeast (See **Figure 2-1**). However, within the City's most recent Master Plan of Conservation and Development, the Downtown neighborhood was extended to the south of the teardrop "core" area to facilitate the expansion of the Downtown district to a larger area that connects the Downtown core to Bridgeport's waterfront. Land use within the downtown area is primarily commercial and institutional. Downtown Bridgeport is also home to the Housatonic Community College.

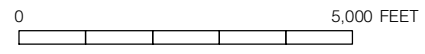
Downtown Bridgeport is home to many of the city's arts, entertainment and cultural offerings including the newly renovated Bijou Theatre, the Downtown Cabaret Theatre, the Barnum Museum, City Lights Gallery and the Housatonic Museum of Art. McLevy Green plays host to cultural events such as the Bridgeport Arts Fest, Downtown Thursdays and the Holiday Tree and Menorah Lighting. The neighborhood is also home to municipal, state and federal buildings including City Hall, Margaret E. Morton Government Center and the Brien McMahan Federal Building.

New development in the Downtown core "teardrop" has been dominated by historic preservation and adaptive reuse of existing structures. Notable developments within the expanded downtown district include the "Harbor Yard" development area, located between I-95 and the Amtrak/Metro-North rail

2/24/2016



- | | |
|--|---------------------------------|
| <i>Approximate Area of Development</i> | Study Area Neighborhoods |
| <i>Project Site Property Boundary</i> | <i>Downtown</i> |
| <i>1/2-Mile Study Area</i> | <i>East End</i> |
| | <i>East Side</i> |
| | <i>South End</i> |



Bridgeport Harbor Station Combined-Cycle Facility

corridor and home to the Bridgeport Bluefish independent league baseball team, and an indoor arena, the Webster Bank arena, which hosts hockey, basketball and special events.

EAST SIDE

The East Side neighborhood is located across the Pequonnock River and Bridgeport Harbor from the Downtown and is adjacent to the East End. This neighborhood is bisected by I-95 and the Amtrak/Metro-North rail line corridor, with its southern half having direct access to Bridgeport Harbor. The northern portion of the neighborhood, located north of I-95 corridor, is characterized primarily by residential uses interspersed with commercial uses and institutional land uses. Industrial land uses predominate along the eastern side of the Pequonnock River. The southern portion of this neighborhood, situated between Bridgeport Harbor and the Yellow Mill Channel inlet, comprises the “Steel Point” property (former Bridgeport Steel Works and power plant site), which is currently being redeveloped as a mixed-use development. Retail development is currently under construction along the waterfront side of this redevelopment area. Winners Shoreline Star Greyhound Park is located directly north of Steel Point, north of Interstate 95. Although the actual greyhound race track is no longer in use the establishment remains open as a betting center for greyhound races that take place in other locations across the country.

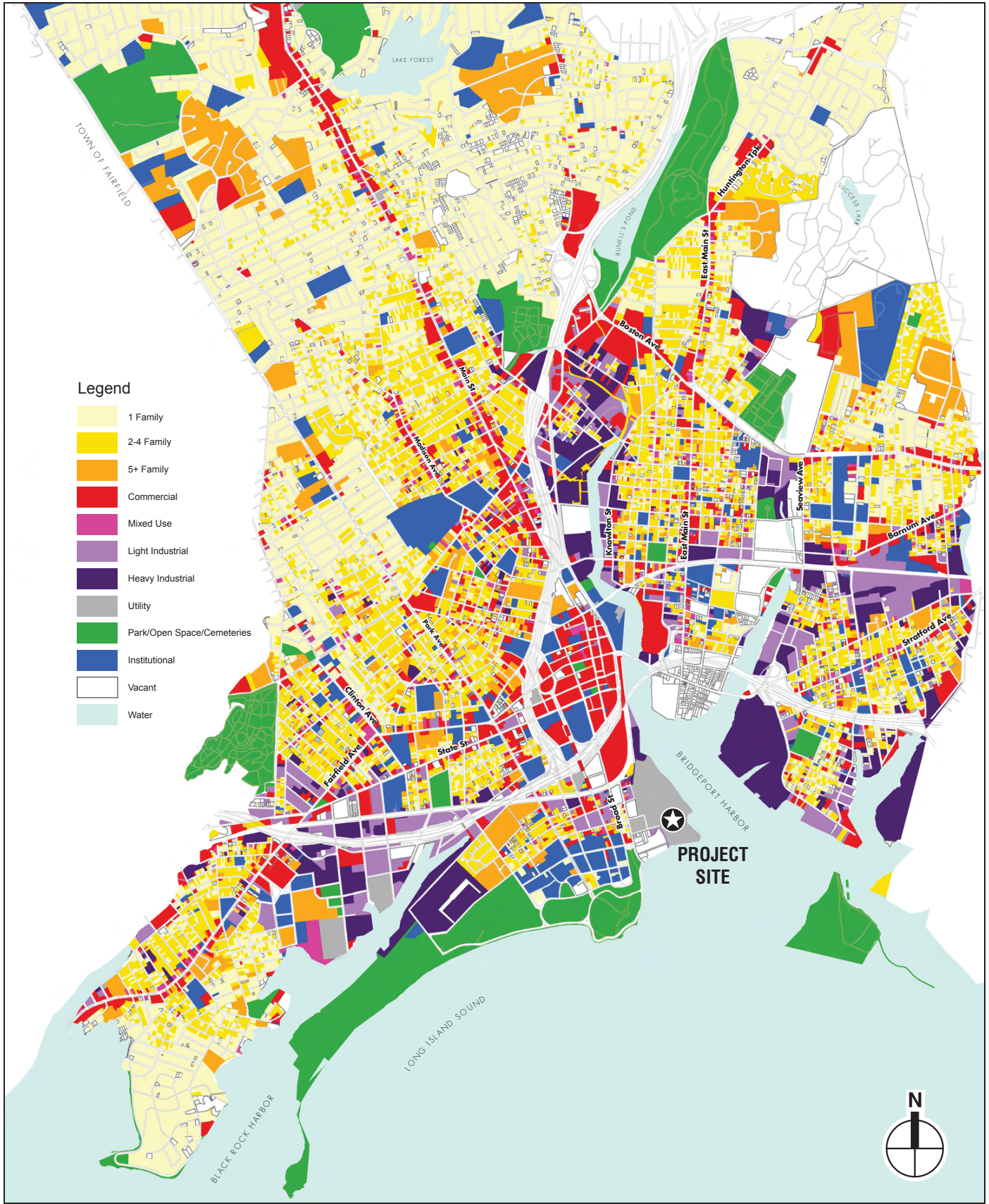
EAST END

Located on the eastern side of Bridgeport Harbor and adjacent to the Town of Stratford, the East End neighborhood is also bisected by the Amtrak/Metro-North rail line. The Port of Bridgeport is a major industrial use within the community and industrial uses dominate the waterfront of this neighborhood along Bridgeport Harbor, Yellow Mill Channel, and the east side of Johnson’s Creek. Global Co., LLC, a logistics and marketing company that transports crude oil via rail, is a major industrial land use in the East End. Its plant is located on the waterfront off State Route 113, north of the Johnsons and White Rock Creeks. Industrial land uses are also present in the northern portion of the neighborhood. Despite the presence of these industrial uses, residential land uses are the dominant land use in the neighborhood with commercial and institutional uses scattered throughout, especially along Stratford and Hollister Avenues. Pleasure Beach Park, an approximate 71-acre barrier beach public park, is situated on a peninsula within Long Island Sound in the southeastern corner of the neighborhood.

A description of the existing land uses proximate to the existing Bridgeport Harbor Station property is provided below.

B. EXISTING LAND USE DEVELOPMENT

Existing land uses within the City of Bridgeport and within the neighborhoods in the vicinity of the existing Bridgeport Station are shown in the generalized land use maps shown as **Figure 2-2a** and **Figure 2-2b**, respectively. The Site is bordered to the east and south by Bridgeport Harbor, which connects to the Pequonnock River north of the Site. At the north end of the existing Bridgeport Harbor Station Site is the United Illuminating Co. Pequonnock Substation. Immediately west of the existing Bridgeport Harbor Station Site are industrial uses, including the adjacent Bridgeport Energy Center, owned and operated by Emera Energy, Inc., and United Illuminating Co.’s Singer electrical substation. Together, the Bridgeport Harbor Station, the Bridgeport Energy Center, and the two substations represent a very significant cluster of critical energy infrastructure. Also west of the Site is the former (now vacant) Remington Shaver plant. Southwest of the vacant Remington Shaver plant is the eastern extent of Seaside Park. Directly west of the Bridgeport Energy Center facility and the Remington site are residential properties located along Main Street.



SOURCE: City of Bridgeport Comprehensive Plan, 2008

0 2000 FEET



2/24/2016

SOURCE: City of Bridgeport Comprehensive Plan, 2008

- Approximate Area of Development*
- Project Site Property Boundary*
- 1/2-Mile Study Area*

- 1 Family*
- 2-4 Family*
- 5+ Family*
- Commercial*
- Mixed Use*
- Light Industrial*
- Heavy Industrial*
- Utility*
- Park/Open Space/Cemeteries*
- Institutional*
- Vacant*
- Water*

0 2,000 FEET

Project Area Neighborhoods
Existing Generalized Land Use
Figure 2-2b

Located at 354 and 360 Main Street are the Mary and Eliza Freeman Houses. These wood-framed, clapboard-covered, two-family houses were built in 1848 in what became known as Little Liberia, a neighborhood settled by free blacks starting in the early nineteenth century. As the last surviving houses of this neighborhood, these were added to the National Register of Historic Places in February 1999. The houses are the oldest remaining houses in Connecticut built by free blacks before the state completed its gradual abolition of slavery in 1848. The homes and nearby Walter's Memorial A.M.E. Zion Church are also listed sites on the Connecticut Freedom Trail. West of Main Street is the University of Bridgeport Campus.

North of the BHS Site is the Amtrak/Metro-North railroad corridor and the “Harbor Yard” development area, which includes a minor league ballpark (Ballpark at Harbor Yard) and the Webster Bank Arena and a ferry terminal operated by the Bridgeport and Port Jefferson Steamboat Company. Further north is Interstate I-95, north of which is Bridgeport’s downtown core area.

Northeast of the Site, across Bridgeport Harbor and south of Stratford Avenue (State Route 130), is Steel Point, which currently comprises vacant land and former marina facilities, including the Pequonnock Yacht Club and the Move Yacht Club. This “Steel Point” area is currently being redeveloped as the “Steelpointe Harbor Project”. The Steelpointe Harbor development is a 2.8 million square-foot mixed-use, urban-oriented waterfront development project that will consist of retail shops, hotels, a public waterfront and residential uses. Recently constructed uses at this development site include Bass Pro Shops, Starbucks, and Chipotle, with planned additional uses including a hotel, luxury movie theater, and potentially office space and housing, surrounded by a ribbon park along the harbor.

Across the harbor directly east of the Bridgeport Harbor Station Site, west of Seaview Avenue, is industrial land that includes the Port of Bridgeport shipyards and the wastewater treatment facilities operated by the City of Bridgeport Water Pollution Control Authority. Private marinas are located south of the wastewater treatment facilities, including Dolphins Cove Marina and Lou’s Boat Basin. At the end of Seaview Avenue there is the Miamogue Yacht Club and north of that is the East End Yacht Club located on Bay Street.

Residential areas most proximate to the Bridgeport Harbor Station Site are located within the South End neighborhood, west of the Site along Main Street. The majority of the residential properties in the neighborhood are located further west, in the vicinity of Atlantic Street and Park Avenue, north of the University of Bridgeport properties. The closest park and playing fields are located at Seaside Park, southwest of the Site. As detailed in Section C below, there are also several places of worship, daycare centers and nursing homes in the adjacent neighborhoods.

C. IDENTIFICATION OF POTENTIALLY AFFECTED COMMUNITY

PROJECT ACTIVITIES THAT MAY RESULT IN COMMUNITY EFFECTS

Once in operation, the Project will produce emissions from the Combined-Cycle Facility, as discussed in Chapter 9, “Air Quality” and in noise from the Combined-Cycle Facility equipment, as discussed in Chapter 6, “Noise Assessment”. Measures to mitigate any potentially significant impacts on air quality and noise will be developed and implemented to the extent practicable. As discussed in Chapter 5, “Visual Resources”, the Project will be visible from certain viewpoints, but is not expected to significantly affect the context of or enjoyment of any significant community resources. The operation of the Project is not expected to result in any significant adverse impacts on land use, zoning, public policy, socioeconomic conditions, recreational resources, traffic, cultural resources, natural resources, water resources, air quality, hazardous materials, or public health, safety, and security.

Bridgeport Harbor Station Combined-Cycle Facility

During construction, the proposed Project could have a temporary effect on traffic, noise, and air quality. Prior to construction of the Project, the removal and disposal of potentially contaminated soil will occur in accordance with the appropriate Connecticut RSRs.

Normal access to the Site is limited to Atlantic Street for industrial security reasons. Station entrances located on Kiefer and Henry Streets are used, when required, by station personnel and for construction worker access. Most vehicle traffic, including heavy trucks and employee commuters accessing the Site will utilize Interstate 95 and Routes 8 and 25. Traffic accessing the Site from I-95 will most likely exit the interstate at Interchange 26 and 27 and drive approximately one mile, passing commercial, residential, and light industrial areas, prior to entering the existing station Site. During the construction phase of this Project, truck traffic is expected to increase along South Frontage Road (which parallels the interstate), and Broad, Lafayette, Atlantic, and Main Streets as a result of construction staff, and deliveries and removal of materials from the Site. During construction, certain trucks requiring high clearance would access the site via I-95 Exist 26 onto Pine Street, to Admiral Street, Iranistan Avenue, and to the Site entrance on Atlantic Street. Trucks leaving the Site would take Atlantic Street to Main Street, Broad Street, Gregory Street, Iranistan Avenue, and Washburn Street to I-95 at Wording Avenue.

Routine truck deliveries to and from the Site are expected to normally occur Monday through Friday from 7 AM to 4 PM, as detailed in Chapter 7, "Traffic Assessment"; however Project conditions may require different delivery times. In limited cases where critical construction activities need to take place due to schedule or other Project constraints, truck deliveries to the Site and certain construction activities may take place outside of the above noted time windows.

Existing ambient background noise levels in the direct vicinity of the Site are anticipated to be typical for areas with significant industrial activity including vehicle and other transportation-related activity during the day. Based on the Site's location, significant ambient noise sources within the nearby residential areas are expected to include I-95 highway corridor, the Metro-North rail corridor, and existing industrial uses within the Project area. The Facility will be designed to meet applicable State of Connecticut and City of Bridgeport noise regulations such that significant noise impacts will not occur as a result of the Combined-Cycle Facility's operation. Temporary increases in ambient noise and traffic levels from construction vehicles may be experienced in the nearby neighborhoods. However, these potential impacts will be temporary in nature. Further, any major noise generating construction activity will normally be performed Monday through Friday between 7 AM and 6 PM and from 9 AM to 6 PM on weekends. Back shift work will be limited in nature and generally be work that does not generate significant additional noise. More detail on noise is included in Chapter 6, "Noise Assessment". All construction will be in accordance with applicable local and state construction standards and conditions of the regulatory approvals to be obtained for the Project.

Emissions from on-site construction equipment and on-road construction-related vehicles have the potential to affect air quality as a result of diesel emissions. The main component of diesel exhaust that is of concern is diesel particulate matter (DPM). To ensure that the construction of the proposed Project results in the lowest practicable DPM emissions, an emissions reduction program will be implemented. Where applicable, the following components will be considered:

- *Clean Fuel.* ULSD will be used for all diesel engines, to the extent practicable.
- *Best Available Tailpipe Reduction Technologies.* Non-road diesel engines with a power rating of 50 horsepower (hp) or greater and controlled truck fleets, such as concrete mixing and pumping trucks, will utilize the best available tailpipe (BAT) technology for reducing DPM emissions.
- *Use of Newer Equipment.* EPA's Tier 1 through 4 standards for non-road engines regulate the emission of criteria pollutants from new engines, including particulate matter (PM), carbon monoxide

(CO), oxides of nitrogen (NO_x) and hydrocarbons (HC). Non-road construction equipment for the proposed Project with a power rating of 50 hp or greater will meet the Tier 3 emissions standard, to the extent practicable. Tier 3 NO_x emissions range from 40 to 60 percent lower than Tier 1 emissions and considerably lower than uncontrolled engines.

- *Dust Control.* Fugitive dust control plans will be implemented. For example, stabilized truck exit areas will be established for washing off the wheels of all trucks that exit the construction Site. Truck routes within the Site will be watered as needed or, in cases where such routes will remain in the same place for an extended duration, the routes will be stabilized, covered with gravel, or temporarily paved to avoid the re-suspension of dust. All trucks hauling loose material will be equipped with tight fitting tailgates and their loads securely covered prior to leaving the Sites. Other considerations include water sprays for excavation, demolition, and transfer of spoils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air.
- *Idle Restriction.* In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time will also be restricted for equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine.





Overall, the proposed emission reduction program is expected to significantly reduce DPM emissions. The use of construction equipment rated Tier 3 or higher will also reduce NO_x emissions. With the implementation of the emission reduction program, considering the distance of the Project construction Site to the locations of concern within the community, and the temporary nature of construction activities, construction will not be expected to result in significant adverse impacts.

POTENTIALLY IMPACTED COMMUNITY

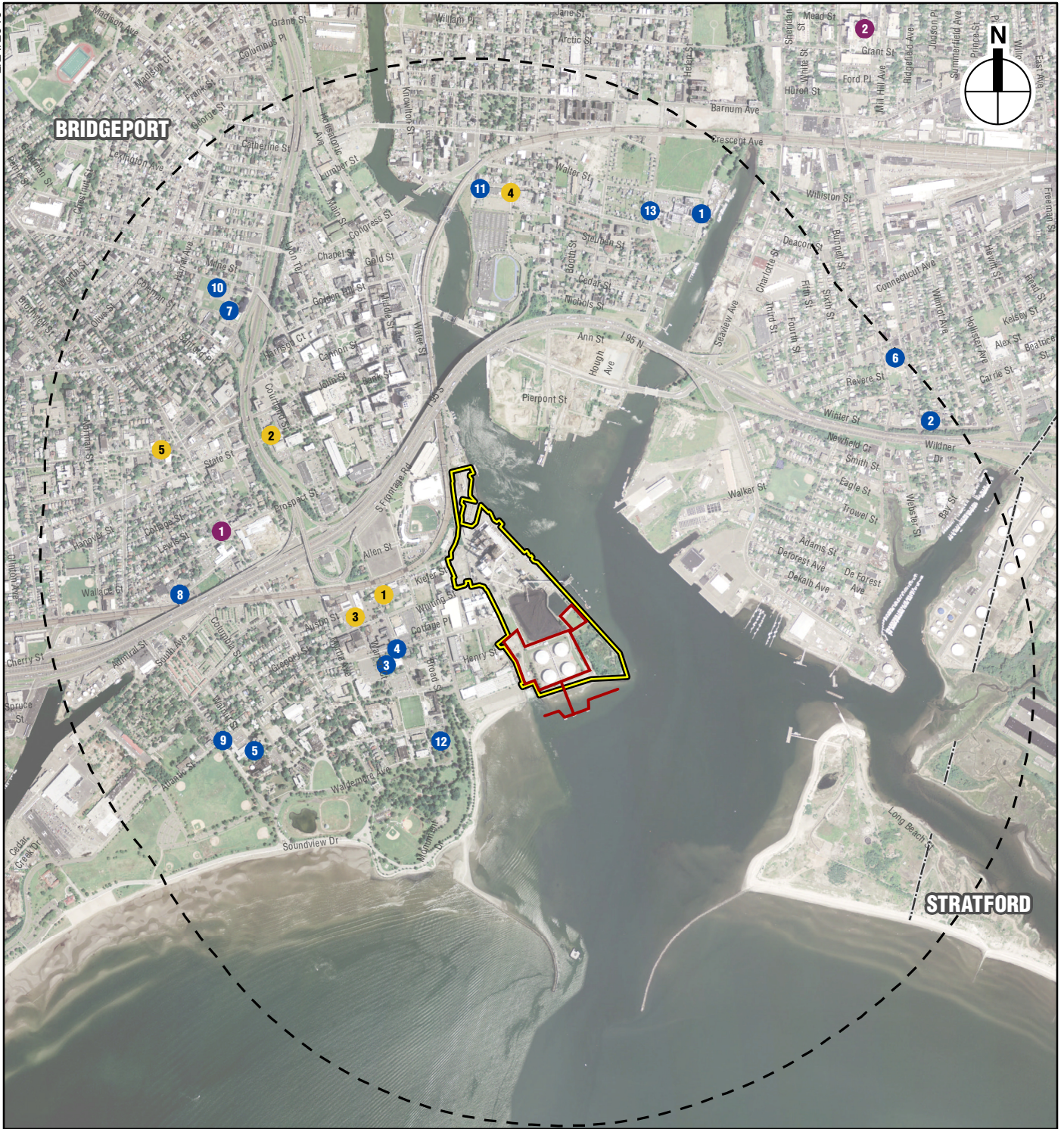
Residential areas most proximate to the Bridgeport Harbor Station Site are located within the South End neighborhood, west of the Site along Main Street. The majority of the residential properties in the neighborhood are located further west, in the vicinity of Atlantic Street and Park Avenue, north of the University of Bridgeport properties. The closest residential properties to the existing Bridgeport Harbor Station property are located along Main Street, ranging from approximately 220 to 800 feet west of the Site's western property line. The closest residence to the proposed Combined-Cycle Facility location is on Main Street, approximately 900 feet to the west of the proposed development Site.

A listing of sensitive receptors (houses of worship, schools, day care centers, etc.) within a one-mile radius of the existing Bridgeport Harbor Station Site is provided in **Table 2-1** through **Table 2-4** on the following pages. The locations of the listed facilities are illustrated in **Figure 2-3** and **Figure 2-4**. A field review was conducted to confirm the locations listed.



-  Approximate Area of Development
-  Project Site Property Boundary
-  1-Mile Study Area
-  House of Worship

0 4,000 FEET



- Approximate Area of Development
- Project Site Property Boundary
- 1-Mile Study Area
- School
- Child Care Facility
- Group Homes/Hospital

0 4,000 FEET

BRIDGEPORT HARBOR STATION - Combined Cycle Facility Schools, Child Care, and Nursing Facilities **Figure 2-4**

Bridgeport Harbor Station Combined-Cycle Facility

**Table 2-1
Local Places of Worship**

Name	Address	City	Map ID
A.M.E Zion Church	12 Gregory Street	Bridgeport	1
Apostolic Mission Church	474 East Washington Avenue	Bridgeport	2
Apostolic Worship Center	540 East Washington Avenue	Bridgeport	3
Bethel Baptist	65 Crescent Avenue	Bridgeport	4
Blessed Sacrament Roman Catholic Church	272 Union Avenue	Bridgeport	5
Mana Del Cielo Church	88 Madison	Bridgeport	6
City Harvest Ministries	499 Washington Avenue	Bridgeport	7
Calvary Temple Christian Center	319 Barnum Avenue	Bridgeport	8
Cathedral Of Praise	45 Gregory Street	Bridgeport	9
Charity Christian Temple	464 Waterview Avenue	Bridgeport	10
Church of God Center of Life	594 Harral Avenue	Bridgeport	11
Redeeming Life Unified Freewill Baptist Church	586 Newfield Avenue	Bridgeport	12
Church of God of Prophecy	48 Crescent Place	Bridgeport	13
Church of the Nazarene	150 Lee Avenue	Bridgeport	14
Emmanuel Hispanic First Baptist	258 Harriet Street	Bridgeport	15
Evangelical Baptist Church	926 State Street	Bridgeport	16
Faith Gospel Assembly Church	407 Lafayette Street	Bridgeport	17
First Assembly of God Church	1287 Park Avenue	Bridgeport	18
First Baptist Church	126 Washington Avenue	Bridgeport	19
Iglesia Pentecostal Primera Casa De Oracion	42 Laurel Avenue	Bridgeport	20
Church of God and Saints of Christ	605 Barnum Avenue	Bridgeport	21
Shekinah Glory Free Methodist Tabernacle	463 Barnum Avenue	Bridgeport	22
Golden Hill United Methodist Church	210 Elm Street	Bridgeport	23
Kingdom Builders Impact Ministries	219 James Street	Bridgeport	24
Greater Love Temple	857 East Main Street	Bridgeport	25
Holy Protection-Blessed Virgin	457 Noble Avenue	Bridgeport	26
Holy Rosary Rc Church	365 East Washington	Bridgeport	27
Thomas Merton Center	43 Madison Avenue	Bridgeport	28
House Of God Community Church	994 Stratford Avenue	Bridgeport	29
Iglesia Bautista El Calvario	849 State Street	Bridgeport	30
Iglesia De Cristo	240 Hamilton Street	Bridgeport	31
Iglesia Paptista Emanuel	258 Harriet Street	Bridgeport	32
Jehovah's Witnesses Kingdom	330 West Avenue	Bridgeport	33
Messiah Baptist Church	210 Congress Street	Bridgeport	34
Mt Calvary Holy Church	44 6th Street	Bridgeport	35
Muhammad Mosque of Islam	1200 Broad Street	Bridgeport	36
New Hope Missionary Baptist Church	1100 Park Avenue	Bridgeport	37
Pentecostal Church Fountain	837 Fairfield Avenue	Bridgeport	38
Prayer Tabernacle Church of Love	1231 Stratford Avenue	Bridgeport	39
Rehoboth Church-God In Christ	72 Beardsley Street	Bridgeport	40
Russell Temple CME Church	555 Connecticut Avenue	Bridgeport	41
Saint Augustine Cathedral	359 Washington Avenue	Bridgeport	42
Saint George Catholic Church	443 Park Avenue	Bridgeport	43
Saint John's Episcopal Parish Church	768 Fairfield Avenue	Bridgeport	44
Iglesia De Dios Pentecostal	34 Beach Street	Bridgeport	45
Shiloh Baptist Church	477 Broad Street	Bridgeport	46
St John's Pentecostal Church	84 5th Street	Bridgeport	47
St Luke's Church	294 Kossuth Street	Bridgeport	48
St Mary Rc Church	25 Sherman Street	Bridgeport	49
St Michael's Arch Church	310 Pulaski St	Bridgeport	50
Saints Cyril & Methodius Church	79 Church Street	Bridgeport	51
Timothy Chapel UFW Baptist	75 Columbia St	Bridgeport	52
United Congregational Church	877 Park Avenue	Bridgeport	53
Unity Mission Pentecostal Church	40 Margaret Morton Lane	Bridgeport	54
Wat Lao Kittisilaram Temple	382 Seaview Avenue	Bridgeport	55
Iglesia Pentecstal Unida Hispana Inc.	512 E. Washington Avenue	Bridgeport	56
The Apostolic Ark Pentecostal Church	342-344 James Street	Bridgeport	57
Greater St. John's FBH Church	804 Fairfield Avenue	Bridgeport	58
St. Paul Pentecostal Church of God in Christ	338 Connecticut Avenue	Bridgeport	59
Sources: USGS, Geographic Names Information System/ESRI, AKRF Inc.			

**Table 2-2
Local Schools**

Name	Address	City	Map ID
Barnum School	495 Waterview Avenue	Bridgeport	1
Blessed Sacrament School	264 Union Avenue	Bridgeport	2
Bridgeport Hope School	283 Lafayette Street	Bridgeport	3
Bridgeport International Academy	285 Lafayette Street	Bridgeport	4
Columbus Elementary School	600 University Avenue	Bridgeport	5
Dunbar School	445 Union Avenue	Bridgeport	6
Kolbe-Cathedral Family Academy	33 Calhoun Place	Bridgeport	7
New Beginnings Charter School	185 Garden Street	Bridgeport	8
Roosevelt School	160 Iranistan Avenue	Bridgeport	9
Saint Augustine School	63 Peguonnock Street	Bridgeport	10
The Bridge Academy	401 Kossuth Street	Bridgeport	11
University of Bridgeport	126 Park Avenue	Bridgeport	12
Waltersville School	150 Hallett Street	Bridgeport	13
Sources: USGS, Geographic Names Information System/ESRI/AKRF, Inc.			

**Table 2-3
Child Care Facilities**

Name	Address	City	Map ID
ABCD Laff Day Care Center	460 Lafayette	Bridgeport	1
Care Around The Clock	500 State Street	Bridgeport	2
Donna's Little Doves	215 Warren Street	Bridgeport	3
Pals li Daycare	401 Kossuth Street	Bridgeport	4
Precious Memories Child Care	753 Fairfield Avenue	Bridgeport	5
Lucille E. Johnson Children's Center/ ABCD Child Care Center	816 Fairfield Ave.	Bridgeport	6
Ella Jackson Child Care Center	338 Connecticut Avenue	Bridgeport	7
Precious Children Family Daycare	74 Baldwin Street	Bridgeport	8
St. John's Child Care Center	768 Fairfield Avenue	Bridgeport	9
Sources: USGS, Geographic Names Information System/ESRI/AKRF, Inc.			

**Table 2-4
Nursing Homes, Group Homes, and Hospital Facilities**

Name	Address	City	Map ID
Eleanor and Franklin Apartments	725 Park Ave	Bridgeport	1
Bridgeport Hospital (outside of one-mile radius)	267 Grant St	Bridgeport	2
St. Vincent's Medical Center (outside of one-mile radius)	2800 Main St	Bridgeport	
Harborview Towers	376 E. Washington Avenue	Bridgeport	3
Washington Heights Senior Apartments	115 Washington Avenue	Bridgeport	4
Sources: USGS, Geographic Names Information System/ESRI/AKRF, Inc.			

D. ZONING

The industrial nature of the proposed Project is compatible with the zoning for the Site. The northern portion of the proposed Project Site is located within an Industrial-Heavy (I-H) Zone and with the southern portion of the Site within an Industrial-Light (I-L) Zone. According to the City of Bridgeport Zoning and Subdivision Regulations, the I-H Zone is intended to reserve appropriate areas of the city for those industries which due to impacts in terms of dust, traffic, hazards, appearance or intensity of industrial development are not desirable in or adjacent to non-industrial areas. Development and performance standards are intended to recognize the operational needs of high impact industries while setting minimum standards to promote safe, functional, efficient, and environmentally sound development and operation. The I-L Zone is intended to promote industrial uses having minimal off-site impacts. Such zones are intended to be in areas where most industrial uses may be located, but where development and performance standards, which are stricter than those in the I-H Zone, promote uses which are compatible with non-industrial areas. West of the Bridgeport Harbor Station is a Mixed Use Waterfront (MU-W) Zone, an Office Retail (OR) Zone, Mixed Use Educational/Medical (MU-EM) Zone, as well as residential zones (from single family to residential high density zones). North of the plant are a Downtown Village District Waterfront (DVD-WF) Zone and a Downtown Village District Transit-Oriented Development (DVD-TOD) Zone.

E. IDENTIFICATION OF COMMUNITY PLANNED AND EXISTING TYPES OF DEVELOPMENT

The following are existing and future development projects near the Site.

SOUTH END

- **330 Myrtle** (Warnaco West) - An adaptive reuse project proposing 300 residential units on a 2.34-acre site.
- **University of Bridgeport Dormitories** (42 Rennell St & 472-490 University Ave) –construction of 221 bed dormitory on a 0.86-acre site.
- **Bridgeport Neighborhood Trust Scatter Site** (Columbia Ct and Ridge Ave) – Construction of 60 affordable units across multiple sites in two-family and three-family buildings.
- **60 Main Street** (former Remington Shaver site) - 12.2-acre waterfront development site that has been approved for 1,200 residential units, 75,000 SF of commercial space, and a 200-slip marina. Phase 1 development will reportedly include 222 apartments and 14,500 square feet (SF) of commercial in two 4-story buildings.

DOWNTOWN

- **Navarino** (Block 909) - Full block project in Downtown North. The full block is bounded by Congress St, Main St, Golden Hill St, and Middle St. The site is approximately 1.7 acres. The development is proposing 200 residential units and new construction with ground floor retail/commercial space. The project also proposes a renovation of the abutting Davidson building for commercial use and consists of 9,000 SF of space.
- **Financial Services Tower** (Blocks 910 & 911) - Located along Housatonic Ave, Middle St and Golden Hill in Bridgeport's downtown, the proposed project consists of a 200,000 SF commercial office building spanning two city blocks, totaling approximately 1.5 acres.

- **Jayson/Newfield** (1184-1186 Main Street & 179-205 Middle Street) - Jayson and Newfield buildings are bounded by Main, Golden Hill and Middle Streets, and is directly across Main Street from the recently refurbished Golden Hill Apartments. These two historic buildings are slated to include 105 housing units of which 10 will be affordable. The project will include approximately 5,000 SF of ground floor retail space.
- **Preservation Block** (1136-1162 Main Street) - A half-block project in Downtown North. The Project calls for the renovation of five blighted, but historic, buildings to convert them into 50 one-bedroom apartments, with approximately 9,000 SF of complementary retail space on the ground floor.
- **Securities Project** (1103, 1115 & 1135 Main Street) – Development on this 0.5-acre site that has been approved for 5,000 SF of first floor office/retail with 60 residential units above.
- **Mechanics and Farmers Building** (930 Main Street) – A proposed 67,000 SF mixed use development with 32,000 SF of office space. The 35,000 SF second and third floors of the building will be renovated to create 30 apartments, 12 of which will be affordable.
- **McLevy Square** (207-215 State Street) - Four contiguous buildings will be renovated on a site that overlooks McLevy Green at the intersection of Main and State Streets in the heart of downtown Bridgeport, creating a mixed-use and mixed-income residential development. A vacant small theater and a former bank will be converted into a restaurant and adjoining entertainment use. The upper floors of two of the buildings will be converted into 32 one-bedroom residential units.
- **375 Main Street** - a proposed 74 mixed-income residential development situated on 2.5 acres. The site is located outside of the downtown core, but within the Downtown study area identified in the City's most recent comprehensive master plan of development to facilitate the expansion of the Downtown district to a larger area that connects the Downtown core to Bridgeport's waterfront.
- **330 State Street** – A mixed use development consisting of 10,000 SF of first floor retail with 65 residential units above.
- **570 State Street** – A 5-story mixed use development consisting of 1,500 SF of first floor office space and 30 affordable residential units above situated on a 0.5-acre site.
- **515 West Avenue** – A 4-story apartment building with 48 residential units located on a 0.63 -acre site.
- **Housatonic Community College Expansion** (900 Lafayette Boulevard) – A proposed addition to accommodate for administrative offices and labs for students.
- **Roosevelt School** (680 Park Avenue) – A recently opened 86,659 SF, 2-story elementary school located on a 5.31-acre site.

EAST SIDE

- **Steelpointe Harbor** - A 2.8 million square-foot mixed-use, pedestrian-oriented waterfront development on a 53-acre site in the East Side. It will be constructed over a period of years in phases. When complete, Steelpointe Harbor will have approximately 800,000 square feet of retail, 200,000 square feet of commercial/office, 300,000 square feet of hotel/meeting area, and a new 250-slip marina with complete shore-side support and will ultimately contain 1,000 to 1,500 residential units. In April 2014, the City of Bridgeport transferred control of a 12-acre parcel to a private developer in support of the commencement of construction of the project's first retail component, a Bass Pro Shops facility, which is scheduled to open in the fall of 2015.
- **Crescent Crossing** (Block 849) – This project will create between 600 and 1,200 new units of mixed-income and transit-oriented housing. The first phase has been approved which will consist of 93 new

Bridgeport Harbor Station Combined-Cycle Facility

units of affordable housing contained in 6 buildings. These units, constructed on a portion of the land of the former Father Panik Village, will consist of 37 one-bedroom units, 46 two-bedroom units, and 10 three-bedroom units.

- **Waltersville School** - 80 low-income housing units for senior citizens.
- **704-724 East Main Street & 30 Walter Street** – mixed use building with 4,000 SF of first floor retail with 13 residential units above located on a 0.5-acre parcel.

EAST END

- **Barnum Landing** (567-589 Seaview Avenue) – This 18.3-acre site will consist of multiple buildings which enhance and support ferry operations (16,000-20,000 SF) including a ferry passenger terminal and restaurant, a ferry administration building and call center, and crew quarters. The community-oriented commercial and retail facilities (12,000-14,000 SF) will incorporate small retail storefronts, and commercial offices.
- **Seaview Plaza** (837 Seaview Avenue) – A 28.3-acre waterfront site proposing a 350,000 SF retail center that includes full service supermarket and a pharmacy to support the East End and East Side neighborhoods. The site design includes a harbor walkway and a fishing pier open to the public.
- **Civic Block** (Block 622) - City has acquired the majority of this several acre block and its development will be made public through an RFP in 2014/2015 for a medium scale mixed-use development that will likely include approximately 35 apartments and 10,000 SF of retail.
- **800 Seaview Avenue** – Approved for 54 condominium units located on a 3.81-acre site

Other planning and development initiatives within the project study area include:

- **Pleasure Beach Park** – In 2012, the City of Bridgeport completed a master planning process for the re-opening and redevelopment of Pleasure Beach Park, which had been closed for nearly two decades, after a fire destroyed the bridge that connected the barrier beach to the City of Bridgeport’s East End mainland. Pleasure Beach Park reopened this summer. The proposed master plan envisions the development of a mix of active and passive recreational opportunities and environmentally-based education program and resources at the former amusement park site. In December 2011, the City opened a new fishing pier at the site and in June 2014 established a free water taxi service to the site.
- **T.I.G.E.R. Project** – This project includes infrastructure repairs along Waterview Ave and the northeasterly side of the Steelpointe site. The \$11 million TIGER grant will fund work that will create pedestrian and bike-friendly streets that connect neighborhoods to public transit and help open the Steel Point waterfront to development.
- **Barnum Station** - Based on recent planning and development initiatives undertaken by the City of Bridgeport, as well as input received from area stakeholders, there is a strong desire for a new commuter rail station (“Barnum Station”) to be located along Barnum Avenue in East Bridgeport on the site of the former Remington factory. The new P. T. Barnum Station would improve transit and serve as a catalyst for redevelopment in the East Side, East End, and adjacent neighborhoods. Results of the analysis indicate it is feasible to construct and operate a new Barnum Station on the site of the former Remington factory. Further, the Study shows that the station has the potential to be a catalyst for redevelopment and revitalization in East Bridgeport, including creating jobs and providing additional housing options close to transit. A State grant was awarded in 2012 that resulted in the remediation and demolition of vacant buildings on the site. A state grant was announced in 2014 to fund the final design and engineering of the station which is projected to open in 2018.

- **Downtown Intermodal** - Reconstruction of the intermodal facility located in Bridgeport's downtown. This new facility has been constructed to physically and functionally integrate a variety of existing and proposed modes of transportation in the heart of the central business district. The combination of commuter and high-speed rail, ferry, intra- and inter-city bus, taxi, limousine, airport shuttle, automobile, and pedestrian modes in a single facility is an important transportation and economic development magnet to the downtown and waterfront area. Since 2010, an expanded garage, a new bus terminal, and protected pedestrian connections have been constructed. New roadway and streetscape and public spaces radiating out from the station have been designed and will be constructed in 2015.
- **Rebuild By Design** - Resilient Bridgeport is a prototype for the region's coastal cities that consists of a resilience framework and specific design proposals. It focuses on how to protect Bridgeport against climate change and flooding caused by storm surge and rainfall, while stimulating environmental restoration, economic development, and neighborhood revitalization. The City of Bridgeport was awarded a \$10M federal grant to design and implement the first phases of its flood protection strategy.

F. PUBLIC POLICY

STATE ENERGY PLAN

2013 Comprehensive Energy Strategy for Connecticut was developed to expand energy choices, lower utility bills, improve environmental conditions, create clean energy jobs, and enhance the quality of life in the state. The Strategy focuses on five priority areas: energy efficiency, industrial energy needs, electricity supply including renewable power, natural gas, and transportation. The report notes that the initiatives implemented as part of the Strategy will measurably reduce Connecticut's greenhouse gas (GHG) emissions, but that significant additional measures and breakthrough technologies will be required to achieve the goal of an 80 percent emission reduction by 2050, as spelled out in the State's 2008 Global Warming Solutions Act. The proposed Project is consistent with one of the strategies for electricity, to ensure that Connecticut has adequate generation capacity to cost-effectively meet future energy demand.

STATE CONSERVATION AND DEVELOPMENT POLICIES

Connecticut also has a draft 2013-2018 State Conservation and Development (C&D) Plan. State C&D Plan is built around six Growth Management Principles:

1. Redevelop and Revitalize Regional Centers and Areas with Existing or Currently Planned Physical Infrastructure;
2. Expand Housing Opportunities and Design Choices to Accommodate a Variety of Household Types and Needs;
3. Concentrate Development Around Transportation Nodes and Along Major Transportation Corridors to Support the Viability of Transportation Options;
4. Conserve and Restore the Natural Environment, Cultural and Historical Resources, and Traditional Rural Lands;
5. Protect and Ensure the Integrity of Environmental Assets Critical to Public Health and Safety; and
6. Promote Integrated Planning Across all Levels of Government to Address Issues on a Statewide, Regional and Local Basis.

The proposed Project supports Growth Management Principle 1, as it promotes the continued use and adaptive reuse of existing facilities and developed property, including brownfields. Furthermore, the

Bridgeport Harbor Station Combined-Cycle Facility

proposed Project is dependent and complimentary to the available infrastructure. A number of measures will be implemented to minimize potential risks and impacts from natural hazards, including flooding, and the potential effects of climate change have been considered in designing the proposed Project, consistent with Growth Management Principle 1.

The proposed Project is also consistent with Growth Management Principle 4, as it indirectly preserves natural, cultural, and rural environments, by siting the development within the footprint of the existing facility.

BRIDGEPORT MASTER PLAN OF CONSERVATION AND DEVELOPMENT

The City of Bridgeport also has a conservation and development master plan, called “Bridgeport 2020: A Vision for the Future”. The plan was finalized in March 2008 and focused on Downtown revitalization, expanding economic opportunities, fostering neighborhoods of choice, providing quality education, improving infrastructure, and improving the environment. The proposed Project will be consistent with a number of initiatives in the Bridgeport master plan, as it will result in infrastructure improvements to ensure energy reliability and provide job opportunities during construction. The proposed Site remediation will also be consistent with Bridgeport goals to remediate and redevelop brownfields.

A. ENVIRONMENTAL JUSTICE

Section 22a-20a of the Connecticut General Statutes and CT DEEP Environmental Justice Participation Guidelines require applicants seeking a permit from the CT DEEP or Siting Council for a new or expanded facility defined as an “affecting facility” to file an Environmental Justice Public Participation Plan (Plan). The Plan, which describes the applicant’s public outreach efforts in support of the new or expanded facility, must receive approval from the CT DEEP’s Environmental Justice Program prior to submittal of an application for a CT DEEP permit and/or Siting Council approval. In addition, the Plan provides an opportunity for the affected community to participate and influence the CT DEEP’s regulatory process.

On August 8, 2014 PSEG submitted its Environmental Justice Public Participation Plan in support of its proposed Bridgeport Harbor Station Combined-Cycle Facility, which proposed the development of a Combined-Cycle Facility at the Site of the existing Bridgeport Harbor Station, located at 1 Atlantic Street in Bridgeport, Connecticut. The plan outlined the efforts PSEG is taking regarding community outreach in the City of Bridgeport for the proposed Project. The Plan included a description of the Project, information on proposed design elements and methods to mitigate the potential for environmental and health impacts, the identification of the potentially impacted community and individuals or groups to notify as part of the public outreach, the schedule for the planned Public Information Meeting for the Project and a list of communication methods to be used to publicize this meeting and the Project. In addition, the Plan identified measures to ensure meaningful public participation for the Project.

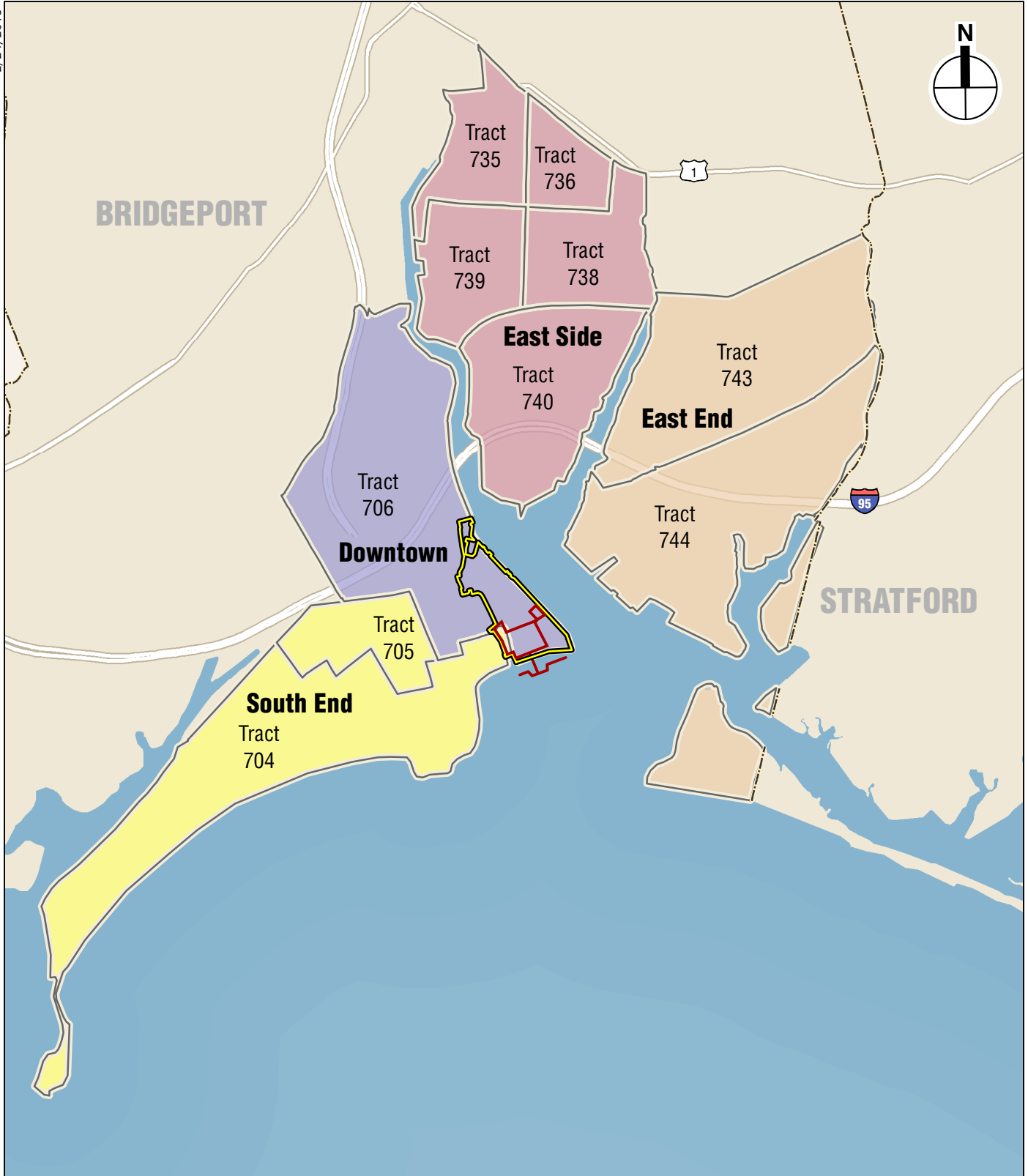
The CT DEEP approved PSEG’s Plan on August 15, 2014 and PSEG immediately began implementation of the various components of the approved Plan.







Following the implementation of its CT DEEP-approved Plan, PSEG submitted the Environmental Justice Plan Final Report (Final Report) on August 11, 2015. The Final Report describes the results of the public outreach efforts, including the details of the Informal Public Meeting and a list of concerns raised at the meeting, a list of the individuals and groups notified of the Project, results of meetings with municipal officials and neighborhood community groups as well as a description of other public outreach methods utilized including the development of a Project website and telephone hotline. PSEG has met the obligations of the approved Environmental Justice Public Participation Plan. As a result of PSEG’s consultations with City officials and community groups, PSEG entered into the CEBA with the City Connecticut Coalition for Environmental and Economic Justice (CCEJ), a community organization, and the University of Bridgeport (UB). PSEG expects that additional organizations may shortly become signatories via a joinder agreement to the CEBA.

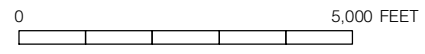
B. COMMUNITY DEMOGRAPHICS

Neighborhoods in the vicinity of the Project Site, as defined by the City of Bridgeport Master Plan of Conservation and Development (2008), are illustrated in **Figure 3-1**. As indicated on **Figure 3-1**, the existing Bridgeport Harbor Station Site is located in the Downtown neighborhood of Bridgeport, CT. The

2/24/2016



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|--|--|
|  <i>Approximate Area of Development</i> | Study Area Neighborhoods |
|  <i>Project Site Property Boundary</i> |  <i>Downtown</i> |
| |  <i>East End</i> |
| |  <i>East Side</i> |
| |  <i>South End</i> |



Bridgeport Harbor Station Combined-Cycle Facility

Downtown, South End, East Side and East End neighborhoods of Bridgeport are within a one-half mile radius of the proposed Facility. A description of the surrounding neighborhoods has been sourced from the City of Bridgeport website <http://www.bridgeportct.gov/neighborhoods>. All demographic data described below was collected from the U.S. Census Bureau's 2012 American Community Survey 5-year estimates. The collected data for the study area neighborhoods, the City of Bridgeport, and Fairfield County are summarized in **Table 3-1**. The Census Tracts comprising the study area neighborhoods are also illustrated in **Figure 3-1**.

Table 3-1
Study Area Demographics

Geography	Downtown	East End	East Side	South End	Bridgeport	Fairfield County	Connecticut
Demographics							
Total Population	2,115	8,136	13,367	3,529	144,446	918,892	3,572,213
Persons Per Square Mile	3,043	6,307	12,791	4,252	8,894	1,098	644
White Non-Hispanic	19.2%	6.7%	3.9%	23.3%	23.4%	66.2%	71.2%
Black Non-Hispanic	42.0%	49.2%	32.1%	33.6%	33.5%	10.3%	9.3%
Asian Non-Hispanic	2.4%	1.5%	2.1%	13.0%	3.6%	4.6%	3.8%
Hispanic	35.8%	41.2%	61.3%	25.5%	37.4%	16.9%	13.4%
Under 5 Years Old	2.6%	9.0%	9.5%	7.3%	7.1%	6.1%	5.6%
5 to 19 Years Old	12.9%	25.6%	28.3%	21.4%	22.4%	21.0%	20.02%
65 years or Older	23.8%	8.9%	6.5%	6.5%	9.9%	13.6%	14.3%
Language							
Speak English Less than very Well	21.4%	15.7%	26.1%	15.9%	22.2%	11.8%	8.2%
Speak Spanish	27.9%	31.6%	53.0%	20.3%	31.4%	14.4%	10.7%
Educational Attainment							
Less than High School	35.3%	28.6%	38.5%	19.1%	26.1%	11.0%	11.0%
High School Diploma	38.8%	39.1%	33.9%	21.4%	32.7%	23.1%	27.9%
Some College	12.8%	25.7%	22.5%	25.3%	26.3%	21.3%	24.9%
Bachelor's or Graduate Degree	13.1%	6.7%	5.0%	34.2%	15.9%	44.6%	36.1%
Income & Poverty							
Median Household Income	\$14,705	n/a	n/a	n/a	\$39,822	\$82,614	\$69,519
Individual Poverty Rate	39.3%	30.1%	37.3%	35.1%	23.6%	8.8%	10.0%
Tenure							
Total Households	1171	2817	4166	1293	50824	332968	1360184
Owner-Occupied	9.6%	34.7%	25.7%	30.3%	43.5%	69.7%	68.3%
Renter Occupied	90.4%	65.3%	74.3%	69.7%	56.5%	30.3%	31.7%
Source: U.S. Census Bureau's 2012 American Community Survey 5-year estimates							

SOUTH END NEIGHBORHOOD

The South End neighborhood is located on a peninsula between Cedar Creek and Long Island Sound (see **Figure 3-1**). It is directly south of I-95 and the Downtown, bordering Bridgeport Harbor with views of Pleasure Beach and the Port of Bridgeport in the East End. South End is represented by the 131st City Council District.

The education and health sector is the largest employment sector in the neighborhood, followed by manufacturing. Most of the area's housing units (70%) are renter-occupied.

The South End has four historic districts: Seaside Park, Marina Park Historic District, Barnum/Palliser Historic District and Seaside Village Historic District.

The South End neighborhood is an approximately 0.83-square mile area in Bridgeport with a population density of 4,252 persons per square mile.

Approximately 7.3% of the population is below the age of 5 and 6.5% above 65 years of age.

The primary language in the area is English, although approximately 15.9% of the neighborhood population (over 5 years old) speaks English less than very well. Of all persons over 5 years, 20.3% speak Spanish.

According to U.S. Census data, 23.3% of the South End population identify themselves as White Non-Hispanic, 25.5% as Hispanic or Latino, 33.6% as Black Non-Hispanic and 13.0% as Asian Non-Hispanic.

Approximately 81.9% of the South End population over 25 years of age are high school graduates, and 34.2% have obtained a bachelor's degree or higher.

There are approximately 1,293 households in the South End neighborhood. The median household incomes for the census tracts that make up the South End neighborhood range from \$20,982 to \$35,278, compared to a median household income of \$39,822 for the City of Bridgeport and \$82,614 in Fairfield County, Connecticut. Approximately 35.1% of the South End population is living below poverty level, higher than the 23.6% city-wide and 8.8% countywide. Compared to the City of Bridgeport at large, the South End neighborhood is less densely populated has a lower median household income and a much higher percent of people living below poverty level. At 76.7%, the South End neighborhood has a minority rate almost identical to that of Bridgeport.

DOWNTOWN NEIGHBORHOOD

Downtown Bridgeport is traditionally defined as the "teardrop"-shaped area bounded by I-95 and the Amtrak and Metro-North rail corridor to the south, Route 8 to the northwest, and Pequonnock River to the northeast. However, within the City's most recent Master Plan of Conservation and Development, the Downtown neighborhood has extended to the south of the teardrop "core" area to facilitate the expansion of the Downtown district to a larger area that connects the Downtown core to Bridgeport's waterfront (**Figure 3-1**).

The Downtown neighborhood is an approximately 0.70-square mile area in Bridgeport with a population density of 3,043 persons per square mile.

The median age of the Downtown community is 49.3 years, much higher than the City of Bridgeport median age of 32.1. Approximately 2.6% of the population is below the age of 5 and 23.8% above 65 years of age.

The primary language in the area is English, although approximately 21.4% of the neighborhood population (over 5 years old) speaks English less than very well. Of all persons over 5 years, 27.9% speak Spanish.

According to U.S. Census data, 19.2% of the Downtown population identify themselves as White Non-Hispanic, 35.8% as Hispanic or Latino, 42.0% as Black Non-Hispanic and 2.4% as Asian Non-Hispanic.

Approximately 64.7% of the Downtown population over 25 years of age are high school graduates, and 13.1% have obtained a bachelor's degree or higher.

There are approximately 1,171 households in the Downtown neighborhood. The median household income of the one census tract that comprises the core neighborhood is \$14,705, compared to a median household income of \$39,822 for the City of Bridgeport and \$82,614 in Fairfield County, Connecticut. Approximately 39.3% of the Downtown population is living below poverty level, higher than the 23.6% city-wide and 8.8% countywide.

Compared to the City of Bridgeport at large, the Downtown neighborhood is less densely populated, has a much lower median household income and a much higher percent of people living below poverty level.

Bridgeport Harbor Station Combined-Cycle Facility

At 80.8%, the Downtown neighborhood has a minority rate slightly higher than that of the City of Bridgeport as a whole.

EAST SIDE

The East Side neighborhood is located across the Pequonnock River and Bridgeport Harbor from the Downtown and is adjacent to the East End. This neighborhood is bisected by I-95 and the Amtrak/Metro-North rail line corridor, with its southern half having direct access to Bridgeport Harbor (see **Figure 3-1**). East Side is represented by the 137th City Council District.

Education and health care provide the largest number of jobs in the neighborhood.

The East Side neighborhood is an approximately 1.05-square mile area in Bridgeport with a population density of 12,791 persons per square mile.

The median age of the East Side community is 49.3 years, much higher than the City of Bridgeport median age of 32.1. Approximately 9.5% of the population is below the age of 5 and 6.5% above 65 years of age.

The primary language in the area is English, although approximately 26.1% of the neighborhood population (over 5 years old) speaks English less than very well. Of all persons over 5 years, 53.0% speak Spanish fluently.

According to U.S. Census data, 3.9% of the East Side population identify themselves as White Non-Hispanic, 61.3% as Hispanic or Latino, 32.1% as Black Non-Hispanic and 2.1% as Asian Non-Hispanic.

Approximately 61.5% of the East Side population over 25 years of age are high school graduates, and 5.0% have obtained a bachelor's degree or higher.

There are 4,166 households in the East Side neighborhood. The median household incomes for the census tracts that comprise the East Side neighborhood range from \$20,577 to \$30,927, compared to a median household income of \$39,822 for the City of Bridgeport and \$82,614 in Fairfield County, Connecticut. Approximately 37.3% of the East Side population is living below the poverty level, higher than the 23.6% citywide and 8.8% countywide.

Compared to the City of Bridgeport at large, the East Side neighborhood is more densely populated. All census tracts in the neighborhood have median household income lower than the City of Bridgeport as a whole, and a much higher percent of people living below poverty level. At 96.1%, the East Side neighborhood has a minority rate higher than that of the overall City of Bridgeport.

EAST END

The East End neighborhood is located on the eastern side of Bridgeport Harbor, adjacent to the Town of Stratford (see **Figure 3-1**). The East End is represented by the 139th City Council District.

Housing in the East End is characterized by 2-4 family flats and is mostly renter-occupied. Twelve percent of its housing stock is vacant.

The area has three historic districts: Deacon's Point Historic District, Gateway Village Historic District and Wilmot Apartments Historic District.

The East End neighborhood is an approximately 1.29-square mile area in Bridgeport with a population density of 6,307 persons per square mile.

The median age of the East End community is 49.3 years, much higher than the City of Bridgeport median age of 32.1. Approximately 9.0% of the population is below the age of 5 and 8.9% above 65 years of age.

The primary language in the area is English, although approximately 15.7% of the neighborhood's population (over 5 years old) speaks English less than very well. Of all persons over 5 years, 31.6% speak Spanish fluently.

According to U.S. Census data, 6.7% of the East End population identify themselves as White Non-Hispanic, 41.2% as Hispanic or Latino, 49.2% as Black Non-Hispanic and 1.5% as Asian Non-Hispanic.

Approximately 71.4% of the East End population over 25 years of age are high school graduates, and 6.7% have obtained a bachelor's degree or higher.

There are 2,817 households in the East End neighborhood. The median household incomes in the two census tracts making up the neighborhood are \$28,884 and \$32,266, compared to a median household income of \$39,822 for the City of Bridgeport and \$82,614 in Fairfield County, Connecticut. Approximately 30.1% of the East End population is living below poverty level, higher than the 23.6% city-wide and 8.8% countywide.

Compared to the City of Bridgeport at large, the East End neighborhood is slightly less densely populated. The two census tracts that comprise the neighborhood both have median household incomes less than Bridgeport and a much higher percent of people living below poverty level. At 93.3%, the East End neighborhood has a minority rate higher than that of the City of Bridgeport as a whole.

A. INTRODUCTION

This chapter discusses the potential effects of the proposed Project on local recreational resources. The following section includes a list of local parks within a half mile study area, based on City of Bridgeport Parks Master Plan 2011. An assessment of the potential effects of the Project on these resources is included in Section C below.

B. LOCAL PARKS AND OTHER RECREATIONAL FACILITIES

The Seaside Park is located in the South End neighborhood. Additionally, there are some recreational facilities located on the University of Bridgeport campus.

The following parks are located in the Downtown neighborhood.

- Baldwin Plaza
- McLevy Green
- Majestic Park
- Wheeler Park
- Waterfront Park

Downtown Bridgeport also contains many of the city's arts, entertainment and cultural offerings including the newly renovated Bijou Theatre, the Downtown Cabaret Theatre, the Barnum Museum, City Lights Gallery and the Housatonic Museum of Art. McLevy Green plays host to cultural events such as the Bridgeport Arts Fest, Downtown Thursdays and the Holiday Tree and Menorah Lighting. The “Harbor Yard” development area includes the Bridgeport Bluefish independent league baseball team, and the Webster Bank arena, which hosts hockey, basketball and special events.

The following parks are located in the East Side neighborhood.

- Washington Park
- Knowlton Park
- Barnum William Pocket Park
- James Brown Park (Waterview Park)
- Upchurch Park
- Luis Munoz Marin Open Space Park

The “Steel Point” property (former Bridgeport Steel Works and power plant site), is currently being redeveloped as a mixed-use development. Retail development is also currently under construction along the waterfront side of this redevelopment area. Winners Shoreline Star Greyhound Park is located directly north of Steel Point, which remains open as a betting center for greyhound races that take place in other locations across the country.

Bridgeport Harbor Station Combined-Cycle Facility

The following parks are located in the East End neighborhood.

- Newfield-Jessup Park
- Johnson Oak Park
- Pleasure Beach - Pleasure Beach Park is an approximate 71-acre barrier beach public park, located on Long Island Sound in the southeastern corner of the neighborhood.

C. POTENTIAL EFFECT OF THE PROPOSED PROJECT

With the exception of relatively minor increases in vehicle traffic associated with construction on surface streets, there are no negative impacts to parks or recreational areas in the vicinity of the Site resulting from the proposed new plant. Traffic impacts are more thoroughly addressed in Chapter 7, “Traffic Assessment.”

There may be a minor positive impact with additional attendance at community sporting and cultural events from the construction workforce. This is expected to be minimal but a positive reinforcement of the value of the redevelopment efforts of the City of Bridgeport. Other recreational and retail establishments may see a minor increase in use as well during construction. The impact of operations, including approximately 20 additional jobs will also result in minor positive impacts to these same types of facilities.

A. INTRODUCTION

This chapter considers the appearance of the proposed new plant and evaluates the potential for visual impacts of the new structures. To determine visual effects of the proposed Project, this assessment compares photographs taken from representative viewsheds before the development of the proposed Project with photo-simulation modeling of the conditions after Project construction.

B. METHODOLOGY

Locations were selected to depict representative views of the proposed Project and/or views from sensitive receptors. The representative views selected do not provide an exhaustive collection of photosimulations from every location where the proposed Project will be visible. Rather, these views are intended to demonstrate proposed conditions from typical locations in the study area from which the proposed Project structures will be potentially visible. Photographs were taken from a variety of locations and the photographs that provided the most representative and clearest view from each location were selected for the photosimulations. In general, aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility, even startling visibility of a project, is generally not used as a threshold for decision making. Instead a project, by virtue of its visibility, must clearly interfere with or reduce the general public's enjoyment and/or appreciation of a sensitive resource (such as a historic site, place of exceptional natural beauty, public park, etc.) in order to be considered to have a significant adverse visual impact.

Thus, while the elements of the proposed Project may be visible within a viewshed, mere visibility is not a threshold of significance. The significance of the visibility is dependent on several factors: presence of any designated historic or scenic resources within the viewshed of the Project, distance, general characteristics of the surrounding landscape, and the extent to which the visibility of the Project interferes with the public's enjoyment or appreciation of the resource. A significant adverse visual impact would only occur when the effects of design, distance, and intervening topography and vegetation did not minimize the visibility of an object and the visibility significantly detracts from the public's enjoyment of a resource.

C. POTENTIAL EFFECTS OF THE PROPOSED PROJECT

Primary Facility structures, including the proposed turbine building, HRSG building, and air-cooled condenser are anticipated to have heights of approximately 97, 125, and 125 feet above the proposed Site design grade, respectively. The new exhaust stack will be approximately 300 feet above the Site design grade and will be the most prominently visible new structure.

A total of four exhaust stacks are currently located at the Site, the tallest of which is 498 feet above grade. Therefore, the proposed Combined-Cycle Facility and related improvements will be located on a developed property that is already the location of existing generating units, including all visible

Bridgeport Harbor Station Combined-Cycle Facility

appurtenances such as the existing exhaust stacks, boilers, coal conveying equipment, oil tanks, and barge docks.

In light of this existing industrial development, the proposed addition of the equipment required to support the Combined-Cycle Facility, including the proposed 300-foot exhaust stack, will result in an incremental but not material change in the appearance of the Bridgeport Harbor Station. The proposed 300-foot stack will be lower than the existing 498-foot stack at the Site (tallest of the existing exhaust stacks at Site) and the remaining Facility structures will be generally consistent with the height of the other structures at the BHS Site. The oil dock, when repaired will have approximately 40% less walkways, be similar to the existing dock, and will result in some improvement in appearance. The repaired dock will not have an adverse effect on the existing views.

The five vantage points from which the photographs were taken are shown in **Figure 5-1**. The existing view and photosimulation from Soundview Drive are shown in **Figure 5-2**. The existing view and photosimulation from Broad Street and University Avenue are shown in **Figure 5-3**. The view and photosimulation from Newfield Avenue boat ramp are shown in **Figure 5-4**. The view and simulation from the new ferry site are shown in **Figure 5-5**. The view and simulation from Soundview Drive and Cove Road are shown in **Figure 5-6**.

As shown in the photosimulations, the Facility, where visible, will not be substantially different from the existing plant, nor will it be in sharp contrast with the surrounding Project area. Thus, the proposed Project will not significantly impair the visual landscape as experienced from any resource of concern or interfere with or reduce the public, or area residents', enjoyment and/or appreciation of the appearance of any open space or other resource. In addition, residents and visitors to the area will not experience a significant change in the visual character of the area. Overall, the new plant will be visible, but it will not be out of character or proportion with the views of the existing plant. Thus, there will be no significant adverse visual impacts as a result of the proposed Project.





EXISTING



PROPOSED





EXISTING



PROPOSED



View from Broad Street & University Avenue



EXISTING



PROPOSED





EXISTING

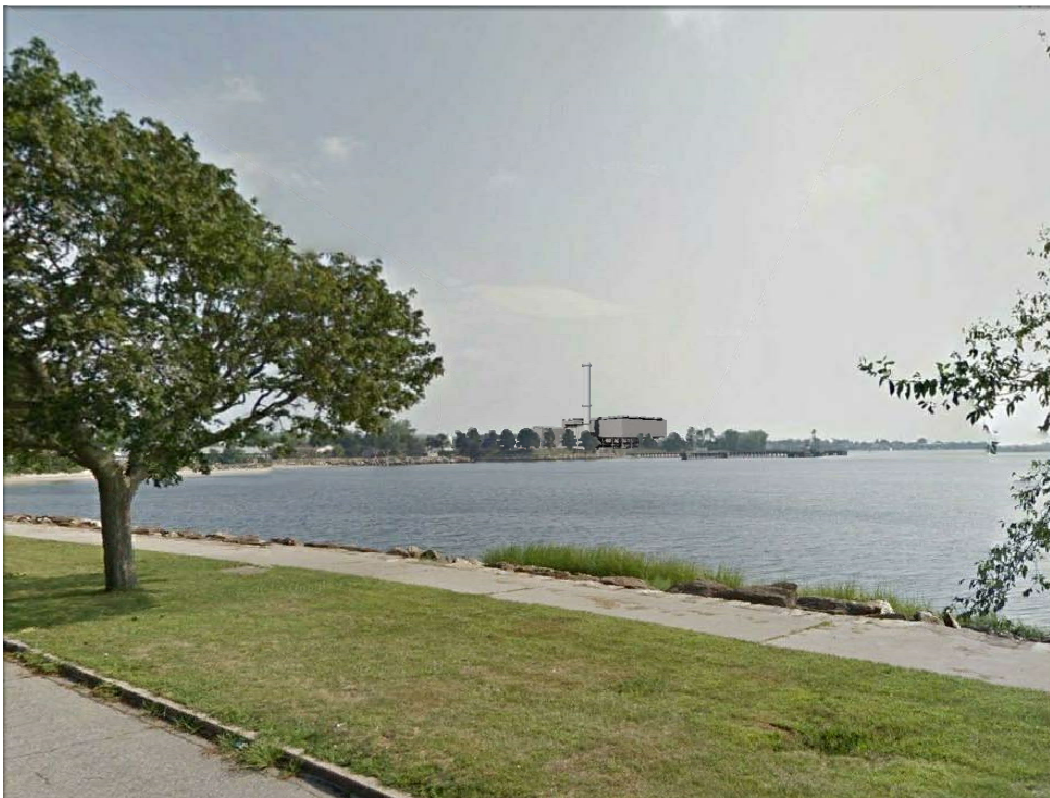


PROPOSED





EXISTING



PROPOSED



View from the corner of
Soundview Drive and Cove Road

Figure 5-6

A. INTRODUCTION

An analysis was conducted to assess the potential of the proposed Bridgeport Harbor Station Combined-Cycle Facility in Bridgeport, Connecticut to produce increased noise levels at surrounding noise receptors. Noise levels at the existing station's property line and at noise receptors in the vicinity of the station were measured as part of a noise survey, and noise levels predicted to be generated by the proposed new Combined-Cycle Facility were calculated using a 3D acoustical propagation model (the CadnaA model). The predicted noise levels were compared to the measured existing noise levels and applicable noise regulations to determine the proposed Combined-Cycle Facility's compliance with applicable noise regulations.

B. ACOUSTICAL FUNDAMENTALS

Sound is typically measured in units called decibels (dB) and frequency, measured in Hz, is the rate at which sound pressures fluctuate in a cycle over a given quantity of time. Frequency defines sound in terms of pitch components. One of the simplified scales that accounts for the dependence of perceived loudness on frequency is the use of a weighting network, known as A-weighting (dBA) in the measurement system, to simulate response of the human ear. Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise over extended periods have been developed. The "equivalent sound level," L_{eq} , is the constant sound level that, in a given situation and time period (e.g., 1 hour or 24 hours), conveys the same sound energy as the actual time-varying sound. Statistical values are used to represent the sound level that is exceeded a given percentage of the measurement sample period (e.g., L_{90} values represent levels exceeded 90% of the time and are used to isolate a steady/constant noise source from transient environmental ambient noises).

The average ability of an individual to perceive changes in noise levels is well documented (see **Table 6-1**). Generally, changes in noise levels less than 3 dBA are barely perceptible to most listeners, whereas 10 dBA changes are normally perceived as doubling (or halving) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 6-1
Average Ability to Perceive Changes in Noise Levels

Change (dBA)	Human Perception of Sound
2-3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A dramatic change
40	Difference between a faintly audible sound and a very loud sound
Source: Bolt, Beranek and Newman, Inc. <i>Fundamentals and Abatement of Highway Traffic Noise</i> , Report No. PB-222-703. Prepared for Federal Highway Administration. June 1973.	

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Various federal agencies provide guidance on acceptable noise level increases resulting from infrastructure and other noise-producing projects. Both the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) specify 6 dBA as the threshold of a significant noise level increase potentially requiring noise mitigation. While those agencies' criteria are not applicable to this Project, they are illustrative of typical significant noise evaluation criteria.

C. APPLICABLE NOISE REGULATIONS, STANDARDS, AND CRITERIA

CONNECTICUT STATE NOISE REGULATIONS

The State of Connecticut has set forth regulations for the Control of Noise prepared by CT DEEP. These regulations define three classes of noise zone (property from which noise is emitted or at which noise is received) based on land uses and their respective sensitivities to noise. **Table 6-2** summarizes the three classes of noise zone.

Table 6-2
Connecticut Noise Zone Classifications

Noise Zone Class	Included Land Uses
Class A	Residences and other places where people sleep, religious activities, cultural activities, nature and forest preserves.
Class B	Commercial, retail, agricultural, government, and institutional.
Class C	Industrial, manufacturing, warehousing, military, and mining.

Sources: State of Connecticut Regulations for Control of Noise (RCSA Section 22a-69-1 to 22a-69-7.4)

The regulations prohibit “excessive” noise to be created beyond the boundary of any noise zone, with the thresholds for excessive noise being defined based on the noise zone class of the emitter’s noise zone and the receiver’s noise zone. The Bridgeport Harbor Station, including the proposed Combined-Cycle Facility, will be a Class C noise zone according to these definitions, and the surrounding residential areas and Seaside Park are Class A noise zones, and the surrounding commercial areas are Class B noise zones. **Table 6-3** shows the thresholds for excessive noise from a Class C noise emitter.

Table 6-3
Excessive Noise Level Thresholds From a Class C Noise Emitter (in dBA)

Receiving Noise Zone	Excessive Noise Level Threshold
Class A (7AM to 10PM)	61
Class A (10PM to 7AM)	51
Class B	66
Class C	70

Sources: State of Connecticut Regulations for Control of Noise (RCSA Section 22a-69-1 to 22a-69-7.4)

However, the Connecticut noise regulations allow for short-term exceedances of these thresholds. The prescribed allowable exceedances are 8 dBA for 5 minutes per hour, 6 dBA for 7.5 minutes per hour, and 3 dBA for 15 minutes per hour.

In cases where background noise levels not subject to the Connecticut noise regulations exceed the above levels, emitted noise levels more than 5 dBA greater than the background noise level will be considered excessive.

Noise emissions containing pure tones as defined in the State of Connecticut Regulations for Control of Noise are considered excessive if they are not at least 5 dBA below the excessive noise thresholds described above.

CITY OF BRIDGEPORT NOISE REGULATIONS

The City of Bridgeport has also set forth noise control regulations in Chapter 8.80 of the Bridgeport Municipal Code. The regulations prohibit noise emissions above a specified threshold to be created beyond the property of the noise emitter, with the prohibited noise level thresholds being defined based on the emitter’s and receiver’s respective land uses.

The City of Bridgeport noise regulations define specific noise level limits, which are applied to the Bridgeport Harbor Station as shown in **Table 6-4**.

Table 6-4
Prohibited Noise Level Thresholds From Bridgeport Harbor Station (in dBA)

Receptor’s Land Use	Prohibited Noise Level Threshold
Residential (7AM to 6PM, weekdays; 9AM to 6PM, weekends)	71
Residential (6PM to 7AM, weekdays; 6PM to 9AM, weekends)	61
Commercial	76
Industrial	80
Sources: State of Connecticut Regulations for Control of Noise (RCSA Section 22a-69-1 to 22a-69-7.4)	

In cases where background noise levels not subject to the City noise regulations exceed the above levels, emitted noise levels more than 5 dBA greater than the background noise level will be considered not in compliance with the noise regulations.

The CT DEEP noise regulations are more stringent than the City of Bridgeport regulations for the station by a difference of 10 dBA. Additionally, the two regulations define the night-time hours differently. Because the CT DEEP regulation is more stringent, compliance with that code is the basis for concluding that both regulations are met.

D. NOISE PREDICTION METHODOLOGY

The noise analysis consisted of the following steps:

- Select sensitive “worst case” noise receptors near the station for analysis;
- Measure existing noise levels over the course of a 24-hour period at each of the selected receptors, both with and without the existing Unit 3 coal plant equipment in operation;
- Use the CadnaA noise calculation model, equipment manufacturers’ noise level information, and equipment manufacturer’s noise control measures insertion loss data, to calculate noise levels resulting from the proposed Combined-Cycle Facility at each selected receptor, assuming specified noise reduction previously determined.

E. EXISTING CONDITIONS

STUDY AREA

The station currently contains power generation equipment which produces noise, primarily the existing Unit 3, located on the northern section of the station.

The neighborhood west of the station includes several residential noise receptors at a distance of approximately 350 feet or more from the station. Additionally, the former Remington Shaver Plant immediately west of the station south of Henry Street, is the proposed site of a future residential development. The neighborhood across the Pequonnock River east of the station also includes residences, at distances of at least 2,500 feet from the station.

SELECTION OF REPRESENTATIVE NOISE RECEPTOR LOCATIONS

Six representative noise sensitive receptor locations were selected in the vicinity of the Bridgeport Harbor Station. The selected noise locations represent nearby residential areas and are generally the locations where maximum noise levels resulting from the proposed Combined-Cycle Facility will be expected to occur. The six receptor locations are shown in **Figure 6-1** and listed in **Table 6-5**.

Table 6-5
Noise Receptors in Vicinity of Bridgeport Harbor Station

Noise Receptor	Location	Land Use(s) Represented	Distance from Bridgeport Harbor Station (ft)
1	Bridgeport Harbor Station Southwest Corner Boundary	Future Residential	0
1a	Bridgeport Harbor Station West Boundary South of Henry Street		
1b	Bridgeport Harbor Station West Boundary South of Henry Street		
2	Henry Street East of Main Street	Residential	650
3	Atlantic Street West of Main Street	Residential	520
4	Seaview Avenue at Newfield Avenue	Residential	2,500

EXISTING NOISE LEVELS

Existing noise levels were established by 24-hour noise measurements at sites 1, 2, 3, and 4. Existing noise levels at sites 1a and 1b are represented by levels measured at site 1. Measurements were conducted on December 29 and 30, 2014 during which time the existing Unit 3 facility on the station was not operating. Measurements were also conducted on January 5 and 6, 2015, during which time the existing Unit 3 facility on the station was operating. However, on January 5 and some hours during the early morning on January 6, 2015, wind speeds in excess of 12 mph were recorded. Noise data collected during these times are not valid and were consequently discarded. Also, due to high-wind conditions, no valid noise level data were collected at site 4 in January, 2015 with Unit 3 in operation. Due to high wind conditions, the full 24-hour minimum to maximum range of measured noise levels is not reflected. Compared to the December noise survey (during which all 24 hours of noise data were valid), the minimum measured noise levels were generally higher and maximum levels were generally lower.

The range of measured existing noise one-hour equivalent noise levels ($L_{eq(1h)}$) at each measurement location in each measurement scenario is shown in **Table 6-6**.



- Approximate Area of Development
- Project Site Property Boundary
- 1/2-Mile Study Area

- Noise Receptor Location
- Unit 3 Noise Survey Control Point

0 4,000 FEET

BRIDGEPORT HARBOR STATION - Combined Cycle Facility

Noise Survey Locations
Figure 6-1

Table 6-6
Measured Existing $L_{eq(1h)}$ Noise Levels in dBA

Site	December, 2014 (Unit 3 Not Operating)				January, 2015 (Unit 3 Operating)			
	Day (7AM – 10PM)		Night (10PM – 7AM)		Day (7AM – 10PM)		Night (10PM – 7AM)	
	Min	Max	Min	Max	Min	Max	Min	Max
1	51.9	60.1	48.8	53.5	52.3	56.1	51.7	54.4
2	50.6	59.0	46.1	50.1	50.7	55.6	47.2	49.4
3	53.9	69.9	50.2	58.9	58.6	64.8	53.9	56.5
4	59.6	74.3	50.9	67.2	n/a	n/a	n/a	n/a

Notes: Field measurements conducted by AKRF on December 29 and 30, 2014 and January 5 and 6, 2015.

F. INCLUDED NOISE CONTROL MEASURES

The noise control measures to be implemented with the Combined-Cycle Facility include options for quieter equipment, acoustical treatment or silencers, noise barriers, and operational controls. The noise control measures are listed in **Table 6-7**.

Table 6-7
Recommended Noise Control Measures for BHS Combined-Cycle Facility

Noise Source	Control Type	Control Measure Description	Minimum Noise Level Reduction
Heat Recovery Steam Generator Safety Relief Valve Discharge	Quieter equipment option	Heat Recovery Steam Generator Safety Relief Valve Discharge specification for 85 dBA maximum sound pressure level at 3 feet	10 dBA
Air-Cooled Condensers	Quieter equipment option	Air-Cooled Condenser specification for 50 dBA maximum sound pressure level at 400 feet	5 dBA
Emergency Generator	Acoustical treatment	Exhaust silencer	25 dBA
Combustion Turbine Generator Inlet Ducting	Acoustical treatment	Enclosure/Treatment	10 dBA
Combustion Turbine Generator Inlet Filter Face	Acoustical treatment	Acoustically treated louver	3 dBA
HRSG Startup Vents	Acoustical treatment	Acoustically treated louver/silencer	25 dBA
Auxiliary Cooling Tower	Acoustical treatment	Enclosure/Treatment	5 dBA
Combustion Turbine Generator Compartment Fan	Acoustical treatment	Acoustically treated louver	20 dBA
Air-Cooled Condensers	Noise barrier	16-foot tall barrier at west boundary of condenser bank, wrapping around the north and south boundaries 115 feet	n/a
Emergency Generator	Operational control	Emergency generator shall not be tested during night-time hours (10PM to 7AM)	n/a

G. PREDICTED NOISE LEVELS WITH INCLUDED NOISE CONTROL MEASURES

Noise levels at each receptor site resulting from operation of the proposed Combined-Cycle Facility were calculated with all of the noise control measures shown in **Table 6-7** implemented. The resulting noise levels are shown in **Table 6-8**.

Table 6-8

Combined-Cycle Facility Noise Levels With No Noise Control Measures in dBA

Site	Combined-Cycle Facility Noise Level ¹	Combined-Cycle Facility Code Exceedance?
Day (7AM – 10PM)		
1	56.6	No
1a	49.5	No
1b	54.4	No
2	39.8	No
3	33.9	No
4	44.9	No
Night (10PM – 7AM)		
1	49.5	No
1a	49.5	No
1b	50.8	No
2	39.8	No
3	33.7	No
4	40.2	No

Notes: ¹These noise levels do not include Unit 3 noise.

As shown in **Table 6-8**, with the included noise control measures, the noise levels produced only by the proposed Combined-Cycle Facility will be less than the acceptable noise level thresholds in both the State of Connecticut and City of Bridgeport noise regulations, for both daytime and night-time periods, at each of the analyzed receptor locations. The contribution of Unit 3 noise was not included in these values.

While Unit 3 may contribute some noise at site 1, it was determined not to be the dominant source of noise at that location. Other noise receptor sites included in this analysis are located at comparable distances from Unit 3 as site 1. Therefore, they have comparable or greater existing noise levels without Unit 3 operating, and are located closer to roadways and other non-Unit 3 noise sources. Unit 3 therefore does not appreciably contribute to noise levels at these other receptors. Consequently, for the purposes of design of the proposed Unit 5 Combined-Cycle Facility, the predicted noise from the proposed Unit 5 Combined-Cycle Facility was evaluated and compared to the applicable noise regulations without adjusting for noise level contribution from Unit 3.

These selected noise receptor locations are representative of receptors in the vicinity of the Bridgeport Harbor Station, and consequently, no code exceedances are expected at any other locations.

Additionally, comparing the predicted noise levels produced only by the proposed Combined-Cycle Facility with all of the noise control measures shown in **Table 6-7** implemented to the minimum measured existing noise levels, the maximum incremental change in noise levels is predicted to be no greater than 6 dBA at sites 1, 1a, and 1b (representative of the future residential development on the former Remington Shaver Plant site), and no greater than 1 dBA at any of the other sites. These maximum increments will range from barely perceptible to readily noticeable at sites 1, 1a, and 1b, and will be imperceptible at the other sites.

Finally, equipment whose noise emissions might contain pure tones, including the Combustion Turbine Generator Inlet Ducting and all of the transformers included in the equipment list, will be at least 5 dBA below both the State and City acceptable noise level thresholds, as specified in both regulations.

Since the proposed Combined-Cycle Facility will not produce noise in excess of any of the applicable noise regulations, it will not result in any significant adverse noise impacts.

With regard to potential construction noise sources, the proposed Project is expected to comply with all applicable Connecticut and City of Bridgeport noise regulations. Construction noise sources will include the general activities typically associated with industrial construction, such as truck and site vehicles, cranes, earthmoving, and concrete delivery / placement, various handheld tools, and foundation pile driving. The most significant noise source will be pile driving, which will be performed during daylight hours and will be limited in duration. Overall, construction noise is not anticipated to result in any significant adverse noise impacts to the surrounding community.

A. INTRODUCTION

This chapter evaluates the potential effect of the proposed Project on traffic during Project construction and operation. Traffic impacts are expected to be limited to the construction time frame for the new plant. Temporary increases in traffic levels from construction vehicles may be experienced in the nearby neighborhoods. Where practicable, barges will be used to deliver materials and equipment to the Site, including large equipment and bulk deliveries of materials such as backfill and aggregates. These potential impacts will be temporary in nature. After construction is completed, the number of vehicle trips for delivery of supplies and worker commutes will be comparable to those experienced for the existing plant. Operational vehicle trips are not expected to result in excessive traffic near the Site.

B. POTENTIAL EFFECT OF THE PROJECT DURING CONSTRUCTION

Routine truck deliveries to and from the Site will be scheduled to occur Monday through Friday from 7 AM to 4 PM. In limited cases where critical construction activities need to take place due to schedule or other Project constraints, truck deliveries to the Site and certain construction activities may take place outside of the above noted time windows.

Routine access to the existing Site is limited to Atlantic Street for industrial security reasons. The exact location for construction gates has not been determined, however it is expected that access will be via Atlantic Street, Kiefer Street, and Henry Street. Station entrances located on Kiefer and Henry Streets are used, when required, by station personnel and for construction worker access related to the existing Site.

PSEG is evaluating the use of approximately 3 to 5 vacant areas near the Site for either temporary storage of construction materials or construction worker parking. These will be utilized if on-site storage locations or other PSEG property could not accommodate the necessary storage at certain points in the construction sequence for the new plant. The use of these areas will be subject to owner authorization and specific needs.

Most vehicle traffic, including heavy trucks and employee commuters accessing the Site is expected to utilize Interstate 95 and Routes 8 and 25. Traffic accessing the Site from I-95 will most likely exit the interstate at Interchange 26 or 27 and drive approximately one mile, passing commercial, residential, and light industrial areas, prior to entering the existing station Site. During the construction phase of this Project, truck traffic is expected to increase along South Frontage Road (which parallels the interstate), and Broad, Lafayette, Atlantic, and Main Streets as a result of construction staff and deliveries and removal of materials from the Site. During construction, certain trucks requiring high clearance would access the site via I-95 Exit 26 onto Pine Street, to Admiral Street, Iranistan Avenue, and to the Site entrance on Atlantic Street. Trucks leaving the Site would take Atlantic Street to Main Street, Broad Street, Gregory Street, Iranistan Avenue, and Washburn Street to I-95 at Wording Avenue.

As noted, routine truck deliveries to and from the Site will occur Monday through Friday, from 7 AM to 4 PM. The Project will comply with the applicable Connecticut laws pertaining to eliminating excessive idling of vehicles.

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The estimated average number of construction workers for the two year construction period will be up to approximately 350. Required parking area will range from less than one acre up to approximately three acres at peak workforce. Commuting traffic during the peak hours will result in up to approximately 250 to 300 additional vehicles, assuming a level of car pooling and a limited workforce for second shift construction operations. Similarly, truck trips to and from the Site are expected to average approximately 30 per day, with less than 10 per day during morning and evening peak hours. This is consistent with the level of vehicle trips for other similar power plant construction projects.

Heavy equipment will be transported to the Site via barges and other watercraft as appropriate. PSEG will offload on the existing Site and transport these components to the necessary storage location until they can be placed in their final location. The large components that are suitable for transport via barges are the HRSG modules, two generators, and the combustion and steam turbines. In addition, portions of the plant will be pre-assembled in modules which include piping, electrical cabling, structural elements, and other components. The modules pre-assembly will likely be both on-site and off-site. Due to their size, most modules pre-assembled off-site will be transported by barge.

Similarly, bulk commodities, such as aggregate, fill material and potentially other commodities such as steel, piping and cable will be transported by barge and offloaded directly to the Site, if practicable. It has not been determined if concrete will be provided by local ready-mix facilities or via an on-site batch plant.

Dock repairs will primarily be to the superstructures above the water. There will be limited repairs to the existing in-water piers to address degraded concrete. These will be performed from boats / barges and will be limited in duration. No impact to marine traffic or aquatic life is anticipated.

C. POTENTIAL EFFECT OF THE PROJECT DURING OPERATION

After construction is completed, the workforce of the Facility is expected to be approximately 20 full time positions. Operations traffic will consist of workforce commuting, limited maintenance and outage workforce for short periods of time, and relatively minor truck deliveries of materials needed to operate and maintain the new plant. The number of additional vehicle trips is expected to be less than the number of vehicle trips for the existing facility.

As a result, traffic impacts are expected to be limited to the construction time frame for the new plant, with temporary increases in traffic levels from construction vehicles in the nearby neighborhoods. Where practicable, barges will be used to deliver materials and equipment to the Site which will reduce traffic impacts.

A. INTRODUCTION

This chapter discusses the potential effects of the proposed Combined-Cycle Facility on historic and archaeological resources. The proposed generating equipment will be installed on approximately 16 acres of previously disturbed land at the existing Bridgeport Harbor Station. The new Combined-Cycle Facility will be sited in an area where four above-ground fuel oil storage tanks are currently located. These existing oil storage tanks, which were installed in 1968, will be removed in advance of the proposed Project. As the development will occur within a previously disturbed industrial site, environmental impacts are minimized as compared with the development of a similar project on a “greenfield” site. Photographs of the proposed Combined-Cycle Site are included as **Figure 8-1** and **Figure 8-2**.

To provide for storm hardening for this critical waterfront energy infrastructure, the elevation of the Project Site will be raised by approximately 7 to 10 feet. Grade changes will be accomplished through use of structural retaining walls and import of fill. Remedial activities will occur within the proposed areas of development in accordance with the Connecticut RSRs. Primary Facility structures, including the proposed turbine building, HRSG building, and air-cooled condenser are anticipated to have heights of approximately 95, 127, and 125 feet above the proposed Site design grade, respectively. The exhaust stack is approximately 300 feet above the Site design grade.

All construction will be in accordance with applicable local and state construction standards and conditions of the regulatory approvals to be obtained for the Project. The scope of the construction includes all Site preparation, installation of subsurface utilities and foundations, installation of the new Combined-Cycle Facility equipment and required ancillary equipment, including required electrical and municipal interconnections.

B. PRELIMINARY CULTURAL RESOURCE REVIEW

Connecticut State Historic Preservation Office concurred that no historic properties will be affected by the proposed Project and no further review is needed. The letter from Connecticut SHPO is included in **Appendix A**.

The Project Site is expected to have low sensitivity for archaeological resources because it is located on land largely reclaimed from Bridgeport Harbor in the late 19th and early 20th century and because it was extensively disturbed during the construction of the existing facility (see historic maps and Site soils information provided in **Appendix A**). As a result, the proposed new development at the existing BHS Site is not expected to result in potential impacts to archaeological resources.

No historic properties have been identified within or immediately adjacent to the proposed development site. The closest historic resource to the Project Site is the State and National Register of Historic Places-listed Tongue Point Lighthouse, 500 feet away, at the eastern end of the peninsula known as Tongue Point. The Mary and Eliza Freeman Houses at 354 and 360 Main Street (S/NR-listed and Connecticut Freedom Trail) are still further removed from the proposed Project at approximately 600 feet from the Project Site.



View of northwestern corner of the proposed combined cycle project site looking east. The existing aboveground storage tanks and their earthen containment berm can be seen in the photograph 1



View of western edge of proposed combined cycle project site looking north 2



View of southern edge of proposed combined cycle project site looking east 3



View of eastern edge of proposed combined cycle project site looking north from the site's southeastern corner 4

C. POTENTIAL EFFECTS OF THE PROPOSED PROJECT

The Project is not expected to have an adverse effect on historic resources. The existing station is located within an industrial area located on the western shore of Bridgeport Harbor. The Bridgeport Harbor Station has operated at this location since 1957. The plant's Unit 1 generator became operational in 1957 as a coal burning facility. Bulk coal storage was located on Site. A second unit (Unit 2) was added to the plant in 1961. This unit was later converted to exclusively burn oil. In 1968 the third BHS generating unit (Unit 3) was placed into service. Today, Unit 3 and a 20 MW peaking turbine (Unit 4) remain operational at the Site. A total of 4 exhaust stacks (including the Unit 4 stack) are located at the Site, the tallest of which is 498 feet above grade. Therefore, the proposed Combined-Cycle Facility and related improvements will be located on a developed property that is the location of existing generating units, including all visible appurtenances such as the existing exhaust stacks, boilers, oil tanks, and barge docks. The dock repairs will not affect any portion of the Bridgeport Harbor bottom and therefore no impact to underwater historic or archeological resources is anticipated.

In light of this existing industrial development, the proposed addition of the equipment required in support of the Combined-Cycle Facility, including the proposed 300-foot exhaust stack, will result in an incremental but not material change in the appearance of the Bridgeport Harbor Station property. The proposed 300-foot stack will be lower than the existing 498-foot stack at the Site (tallest of four existing exhaust stacks at Site) and the remaining Facility structures will be generally consistent with the height of the other structures at the BHS Site.

Therefore, the potential for indirect impacts as a result of the proposed Combined-Cycle Facility and related improvements will be limited, to a large extent, by the siting of the Facility at an existing Site that has been used for the generation of power for many years and by the presence of several other industrial facilities in this portion of the City of Bridgeport. As noted, the Connecticut State Historic Preservation Office concurred that no historic properties will be affected by the proposed Project and no further review is needed.

Proposed Unit 5 will be a new, low emission, dual-fuel-capable electric generating unit to be located at the existing BHS. Natural gas will be utilized as the primary fuel with provisions to use ULSD for up to 30 days per year. The new plant has been designed as a highly efficient combined-cycle unit with a single combustion turbine, a heat recovery steam generator with supplemental firing capabilities and a single steam turbine.

In a combined-cycle configuration, the hot gases from the Combustion Turbine Generator (CTG) are exhausted through ductwork to the HRSG where energy is extracted and used to generate high pressure steam. The HRSG also contains a duct burner (exclusively natural gas-fired) which can be used to provide additional heat energy to the HRSG to increase steam production under certain operating conditions. Exhaust gas flow from the HRSG is discharged to the atmosphere through an approximately 300-foot tall stack. The CTG produces electricity directly and the exhaust heat from the CTG produces steam in the HRSG, which drives a steam turbine generator to produce additional electricity.

The proposed unit will be equipped with state-of-the-art air emissions control technology, including:

- A combination of dry low NO_x combustors, a selective catalytic reduction system, and water injection to reduce NO_x emissions.
- An oxidation catalyst to reduce CO and volatile organic compound (VOC) emissions.
- An air-cooled condenser which avoids particulate emissions associated with evaporative (i.e. “wet”) cooling systems.

Construction and operation of this proposed unit requires a non-minor modification to the facility’s current Title V air operating permit as well as a Prevention of Significant Deterioration (PSD) preconstruction permit. PSEG has applied for a New Source Review (NSR) permit for the Unit 5 Project pursuant to RCSA Sec. 22a-174-3a, *Permit to Construct and Operate Stationary Sources* and the CT DEEP’s review of that application is underway. The NSR/PSD permit application was submitted on November 13, 2014. RCSA Section 22a-174-3a(i) requires performance of an air quality impact study as an integral part of this air permitting process. The required impact study includes dispersion modeling studies to predict future air quality impacts from operation of the proposed unit.

An initial air quality impact study has been completed and was submitted to the CT DEEP on April 7, 2015. This submittal has been reviewed by the CT DEEP. This study used AERMOD, the dispersion model developed and preferred by the United States Environmental Protection Agency (EPA), to evaluate the ground-level impact of Unit 5 stack emissions. Various operating conditions were studied including different ambient temperatures (which affect CTG performance), various CTG loads, firing on both fuels (natural gas and ULSD), and both steady-state CTG operation and transient CTG operation.

Steady-state operation involves “normal” operation and is usual state of the unit. Transient operating conditions involve start-up and shutdown activities. The study concluded that the impacts from the Unit 5 emissions, as proposed in the Application and after inclusion of a representative monitored background concentration to account for emissions of other sources in the region, do not exceed the NAAQS, the Connecticut state ambient standards or the PSD Class II increments. The impact study, however, did

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predict potential Significant Impact Level (SIL) exceedances for particulate matter (PM₁₀ and PM_{2.5}) and nitrogen dioxide (NO₂). The prediction of a SIL exceedance means only that further analysis is required in the form of a cumulative impact study. The cumulative impact study has not yet been performed.

On July 24, 2015, EPA posted a notice of a revision to the AERMOD model and to its meteorological preprocessor. This revision, having an EPA internal date of June 30, 2015, corrected an error in the model coding which affected the new BHS Combined-Cycle Facility dispersion modeling study. The effect of the error in the underlying model was to produce a significant overprediction of impacts for sources with relatively tall stacks, when located in a small- to moderate-size urban area, as is the location for the new plant.

PSEG is planning to re-perform the dispersion modeling study of the proposed emissions from new plant using the updated and corrected EPA model. The re-modeling is expected to confirm previous results that no ambient standards or increments are exceeded by the combination of new unit impacts plus measured background concentrations. While exact results will not be known until after the study is completed, it is also expected that the number of predicted SIL exceedances and the magnitude of those exceedances will either be eliminated or substantially reduced with use of the corrected model.

A. GEOLOGY**BEDROCK GEOLOGY**

Geologic regions (or “terranes”) reflect the role that plate tectonics have had in the geologic history of Connecticut. Each geologic terrane is named after its plate tectonics ancestry. From 450 to 250 million years ago, during the Paleozoic Era, several crustal plates, including Africa and Eurasia collided with the North American plate to create the Appalachian Mountains and the supercontinent Pangea. During this collision, the small continent of Avalonia, believed to have been part of the African plate, was thrust against the continent of Proto-North America, closing the intervening Iapetos Ocean. The collision deformed and metamorphosed the continental rocks of Proto-North America and Avalonia and the oceanic rocks and sediments of the Iapetos Ocean floor. This process created the schist, gneiss, and granite exposed today in Connecticut. Features of these metamorphic and igneous rocks exhibit evidence of this complex geologic history, confirming the continental and oceanic origins and the processes of plate tectonics.

Shortly after the collision ended at the beginning of the Mesozoic Era, or about 235 million years ago, these plate tectonics processes reversed. Pangea began to break apart, initiating the opening of the Atlantic Ocean and leaving Avalonia attached to North America. In the early stages of this breakup, rift basins formed along and on both sides of the zone as the Atlantic Ocean gradually opened. The Newark terrane in central Connecticut is the eroded remnant of one of these rift basins. It contains roughly 200 million year old sedimentary rocks (brownstone), as well as lava flows and intrusions of basalt (trap rock).

The underlying bedrock in Bridgeport reflects this complicated geological past, and the Connecticut Geological Survey (CGS) has identified local Bridgeport bedrock originating from the Iapetos, or Oceanic, terrane. The bedrock was formed during the Middle to Early Paleozoic age (350 – 500 million years ago), and comprises metamorphosed sedimentary and igneous rocks. To the north and west of Bridgeport, the bedrock consists of schist and gneiss (including granitic gneiss) of the Hartland and Gneiss Dome belts, Connecticut Valley Synclinorium. To the south and east of Bridgeport, the bedrock includes schist, gneiss, and phyllite (including greenstone and greenschist) of the Orange-Milford belt, Connecticut Valley Synclinorium (CGS 1990).

SURFICIAL GEOLOGY

Bridgeport’s surficial geology has been largely shaped by the geologically recent Wisconsin Glacial Episode, which was the most recent major advance of the North American ice sheet. This advance was synchronous with global glaciation during the last glacial period, including the North American alpine glacier advance, known as the Pinedale glaciation. The Wisconsin glaciation extended from approximately 85,000 to 11,000 years ago, between the Sangamon interglacial period (known globally as the Eemian stage) and the current interglacial period, the Holocene. The maximum ice extent occurred approximately 25,000–21,000 years ago during the most recent glacial maximum, also known as the Late

Wisconsin in North America. Long Island, New York (across Long Island Sound from Bridgeport Harbor) is a complex of terminal moraines from this episode, and represents the furthest advance of the ice sheet. Therefore, most of Bridgeport's surficial geology is derived from relatively recent glacial and post glacial processes, including the glacial scour of river valleys and other glacial landforms, the formation of new river valleys from glacial meltwater as the glaciers receded, the deposition of glacial erratic rocks and boulders (allocthanous rocks transported by glacial ice), fluvial sediment deposition and reworking, and coastal processes such as erosion and sediment transport (CGS 1990). In more recent times, the surficial geology of the Bridgeport area has been largely obscured by human development and urbanization.

B. ECOLOGICAL RESOURCES

WETLANDS

Delineated wetlands occur adjacent to the BHS in the southern portion of the PSEG Site. A field delineation effort was conducted on April 9, 2014 to determine wetland boundaries. During the field assessment and delineation, two vegetated wetland systems were identified. Based on historic aerials, the majority of these wetland areas were once part of Bridgeport Harbor. "Tongue Point" extended through the southern wetland and apparent industrial development extended up to the west side of both wetlands. The two areas are separated from the Sound by a fill embankment topped by a gravel road which is generally oriented north to south on the east side of the wetlands and east to west along the south side of the wetlands. The fill embankment is typically 20 to 40 feet wide on the east side and approximately 60 to 100 feet wide to the south. While the United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) has mapped this area as a single wetland system, an east-west vegetated berm separates the area into two distinct systems.

The northern wetland corresponds to the NWI's Cowardin classification of PEM1Eh: palustrine (P), emergent (EM), persistent (1), seasonally flooded/saturated (E), and diked/impounded (h). The invasive vine, dodder (*Cuscuta sp.*), blankets vegetation throughout the wetland. The wetland is characterized by variations in ground surface (microtopography) within common reed (*Phragmites australis*) stands that occur around fallen trees. The side slopes and road edge upland areas are dominated by quackgrass (*Elymus repens*), mugwort (*Artemisia vulgaris*), black locust (*Robinia pseudoacacia*), oak (*Quercus sp.*), and mowed lawn.

The southern wetland pocket system is a salt marsh habitat dominated by common reed; however, many native plants were identified in each tidal zone including smooth cordgrass (*Spartina alterniflora*) in the low marsh, sea lavender (*Limonium carolinianum*) and saltmeadow cordgrass (*Spartina patens*) in the high marsh, and marsh elder (*Iva frutescens*) and groundseltree (*Baccharis halimifolia*) in the spring tide zone. This wetland system corresponds to the NWI's Cowardin classification of E2EM1Ph: estuarine (E), intertidal (2), emergent (EM), persistent (1), irregularly flooded (P), and diked/impounded (h). Sections of the wetland appear to be open water habitat that is permanently flooded at low tide.

The southern wetland area has a tidal connection, is approximately rectangular in shape, and is within a bermed or otherwise filled perimeter. The filled side slopes are generally 2:1 or steeper (GEI 2014). The southern wetland interior has varying topography including hummocks, concrete, an interior low berm in the southeast corner, and shallow fill along the west side. Standing water occupies approximately half of the wetland and the bottom elevation is 2 to 3 feet below the northern wetland bottom.

Wetland soils (very poorly drained and hydric) consisted of a black, muck and peat. The non-wetland side slopes on the north and east sides consisted of sand and gravel intermixed with varying amounts of brick,

concrete and coal slag. These materials including larger pieces of concrete and metal were noted along the southern and western side slopes. Areas along the eastern and southern side of the southern wetland contained debris apparently from the overtopping of the roadway, likely during Hurricane Sandy.

A culvert located along the east side of the wetland connects to the intertidal zone through the east berm and beneath the roadway. The construction of the culvert could not be ascertained as it was inundated at the time of field delineation. Surface water on the west side of the culvert, within the wetland, was clearly subject to tidal action. The pipe outfall is located below the spring high water mark within the rock revetment.

The wetland areas transition abruptly along the perimeter berms and road edge slopes; these areas are dominated by weedy groundcovers (including the invasive common reed, *Phragmites australis*), black locust (*Robinia pseudoacacia*), and tree-of-heaven (*Ailanthus altissima*). The wetland transition is more gradual to the south and west shifting into a forest fringe dominated by black locust and oak species.

The construction of the new unit at the BHS and the repair of the oil dock will not result in the filling of these wetland areas. During construction, appropriate soil erosion and sediment control measures (e.g., silt fence, turbidity curtains, etc.) will be installed to prevent loose sediment from entering the wetland. The operation of the BHS new unit will not result in any discharges into regulated wetlands.

VEGETATION

Apart from the vegetation associated with the two wetland areas described above, the remaining vegetation on the Site comprises maintained lawn, with a mixture of grasses and forbs. Forbs occurring within the maintained lawn areas include dandelions (*Taraxacum officinale*), vetch (*Vicia spp.*), red clover (*Trifolium pretense*), chickweed (*Cerastrium spp.*), among others. Several trees also exist on the secondary containment berm surrounding the four on-site fuel tanks which will be removed during construction.

Vegetation along the tidal shoreline comprises common bladder wrack (*Fucus vesiculosus*), a common brown marine alga that attaches to rocks and other hard substrates. The rip-rap revetment around the Site provides hard substrate for the alga's holdfasts.

The construction of the new unit at the BHS will not result in clearing of vegetation, except for areas currently maintained as lawn and the trees on the fuel tank secondary containment berm. During construction, appropriate soil erosion and sediment control measures (e.g., silt fence, turbidity curtains, etc.) will be installed to prevent loose sediment from entering tidal waters and wetlands.

WILDLIFE

Wildlife use of the Site is limited due to the urban nature of the Site's surroundings, a chain-link security fence surrounding the property, and the lack of significant forage or habitat within the Site. The predominant wildlife occurring on the Site comprises birds, which are discussed below.

BIRDS

The following table (**Table 10-1**) summarizes USFWS Migratory Birds (USFWS Migratory Bird Program) having potential to occur at the Project Site.

Table 10-1
USFWS Migratory Birds Having Potential to Occur in the Project Area

Species Name	Bird of Conservation Concern	Seasonal Occurrence in Project Area
American Oystercatcher (<i>Haematopus palliatus</i>)	Yes	Year-round
American bittern (<i>Botaurus lentiginosus</i>)	Yes	Breeding
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Yes	Year-round
Black rail (<i>Laterallus jamaicensis</i>)	Yes	Breeding
Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>)	Yes	Breeding
Blue-winged Warbler (<i>Vermivora pinus</i>)	Yes	Breeding
Canada Warbler (<i>Wilsonia canadensis</i>)	Yes	Breeding
Horned Grebe (<i>Podiceps auritus</i>)	No	Wintering
Least Bittern (<i>Ixobrychus exilis</i>)	Yes	Breeding
Least tern (<i>Sterna antillarum</i>)	Yes	Breeding
Pied-billed Grebe (<i>Podilymbus podiceps</i>)	Yes	Year-round
Purple Sandpiper (<i>Calidris maritima</i>)	Yes	Wintering
Rusty Blackbird (<i>Euphagus carolinus</i>)	Yes	Wintering
Saltmarsh Sparrow (<i>Ammodramus caudacutus</i>)	Yes	Breeding
Seaside Sparrow (<i>Ammodramus maritimus</i>)	Yes	Year-round
Snowy Egret (<i>Egretta thula</i>)	Yes	Breeding
Wood Thrush (<i>Hylocichla mustelina</i>)	Yes	Breeding
Worm eating Warbler (<i>Helmitheros vermivorum</i>)	Yes	Breeding

During field wetland delineation and Site survey activities, great egrets (*Ardea alba*), mallard (*Anas platyrhynchos*), Canada geese (*Branta canadensis*), mourning doves (*Zenaida macroura*), and redwing blackbirds (*Agelaius phoeniceus*) were observed and wild turkey (*Meleagris gallopavo*) tracks were noted.

The construction and operation of the Combined-Cycle Facility at BHS and the oil dock repair are not expected to result in any adverse impacts to these species.

Osprey (*Pandion haliaetus*) are present in the vicinity of the Site, with intermittent nesting on or near waterfront structures, including the oil dock. Prior to commencement of construction, PSEG will consult with CT DEEP to avoid or minimize impacts to any nesting osprey near the Site and on the oil dock, including the potential for taking mitigating actions.

FISHERIES RESOURCES

The National Marine Fisheries Service (NMFS) lists the Atlantic Ocean waters within Long Island Sound within the square affecting south of the following: Bridgeport, CT., Fairfield, CT., Blackrock, CT., Southport, CT., Green Farms, CT., and Greenfield, CT., along with Black Rock Harbor from the entrance to the Pequonnock River west to Sherwood Pt. (just east of Sherwood Mill Pond) within Long Island Sound as Essential Fish Habitat (EFH) for the species and life stages listed in **Table 10-2**.

The development of the Combined-Cycle Facility at BHS and the repair of the oil dock will not adversely affect fisheries. The Combined-Cycle Facility will not require a water intake or discharge for cooling purposes, and water used for fire protection, evaporative / auxiliary cooling, air emissions control, and other plant service water uses will be supplied via the City of Bridgeport potable water supply. Appropriate soil erosion and sediment control measures will be taken (including, but not necessarily limited to silt fence, turbidity curtains around temporary barge activities, etc.) to prevent discharge of materials into the Bridgeport Harbor or increasing suspended sediment concentrations. The in-water pier

repairs to the existing oil dock will consist primarily of restoration of degraded concrete surfaces. This is expected to be performed from small watercraft and include installation of sleeves and / or grout to cover exposed surfaces. No materials will be discharged to the water and appropriate measures will be taken to assure that there are no impacts to the surface water or the bottom substrates of Bridgeport Harbor.

**Table 10-2
NMFS Essential Fish Habitat Species and Life Stages for the Project Area**

Species Name	Eggs	Larvae	Juveniles	Adults
Atlantic salmon (<i>Salmo salar</i>)			X	X
Pollock (<i>Pollachius virens</i>)			X	X
Whiting (<i>Merluccius bilinearis</i>)				X
Red hake (<i>Urophycis chuss</i>)	X	X	X	X
Winter flounder (<i>Pseudopleuronectes americanus</i>)	X	X	X	X
Windowpane flounder (<i>Scophthalmus aquosus</i>)	X	X	X	X
American plaice (<i>Hippoglossoides platessoides</i>)			X	X
Ocean pout (<i>Macrozoarces americanus</i>)	X	X	X	X
Atlantic sea herring (<i>Clupea harengus</i>)			X	X
Bluefish (<i>Pomatomus saltatrix</i>)			X	X
Atlantic mackerel (<i>Scomber scombrus</i>)	X	X	X	X
Summer flounder (<i>Paralichthys dentatus</i>)			X	
Scup (<i>Stenotomus chrysops</i>)	X	X	X	X
Black sea bass (<i>Centropristis striata</i>)	n/a		X	
King mackerel (<i>Scomberomorus cavalla</i>)	X	X	X	X
Spanish mackerel (<i>Scomberomorus maculatus</i>)	X	X	X	X
Cobia (<i>Rachycentron canadum</i>)	X	X	X	X
Sand tiger shark (<i>Carcharias taurus</i>)		X		

INVERTEBRATES

Due to the largely developed nature of the Site, there is little invertebrate habitat at the BHS apart from the on-site wetland areas, the intertidal shoreline, and sub-tidal waters of Bridgeport Harbor. Within the on-site wetlands, ribbed mussels (*Geukensia demissa*) were abundant along the hummocks bordering the open water zone, and fiddler crabs (*Uca sp.*) burrows occur within the marsh sediments. Along the rock shoreline revetment, Eastern oysters (*Crassostrea virginica*), blue mussels (*Mytilus edulis*), periwinkles (*Littorina saxatilis*), and slipper snails (*Crepidula fornicata*), among other shallow water estuarine invertebrates, also occur in association with bladderwrack.

The development of the Combined-Cycle Facility at the BHS and the oil dock repair will not adversely affect invertebrates. The Combined-Cycle Facility will not require a water intake or discharge for cooling purposes, and water used for the various Facility service water uses will be supplied via the City potable water supply. Appropriate soil erosion and sediment control measures will be taken (including, but not necessarily limited to silt fence, turbidity curtains around temporary barge activities, etc.) to prevent discharge of materials into the Bridgeport Harbor or increasing suspended sediment concentrations which could adversely affect marine or estuarine invertebrates.

LISTED SPECIES

Consultation with USFWS Information, Planning, and Conservation System (IPAC) Version 1.4 database (last accessed on 1/5/2015) indicates the possible presence of several species that should be considered in an effects analysis for the Project. The USFWS emphasizes that the resource list is to be used for planning purposes only and it is not an official species list.

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From the Endangered Species Act Species List (USFWS Endangered Species Program), one species was identified. The endangered Roseate tern (*Sterna dougallii dougallii*) has the potential to occur in the Project area. This species is a seabird of the tern family Sternidae. The species breeds on the Atlantic coasts of Europe and North America, and winters south to the Caribbean and western Africa. Both the European and North American populations have been in long term decline, though active conservation measures have reversed the decline in the last few years at some colonies. Roseate terns feed by plunging for fish, almost invariably from the sea; and it is more marine compared with related tern species, only rarely visiting freshwater on the coast to bathe –but not fishing - in fresh water. Roseate terns breed in colonies on coasts and islands, nesting in a ground scrape, usually in a hollow or within dense vegetation, and they lay one to three eggs.

The BHS is not nesting habitat for roseate terns; however, the surrounding waters of Pequonnock River/Bridgeport Harbor may serve as foraging habitat for the species. The construction and operation of the Combined-Cycle Facility at the BHS is not expected to adversely affect breeding or foraging for roseate terns because essentially all proposed Project elements are all landward of the high tide line. In-water activities are limited to temporary barges (anchored by retractable spuds), potential limited shoreline impacts for barge offloading, installation of a single stormwater outfall, and the oil dock pier repairs and are not expected to disrupt the feeding behavior of the species.

The USFWS's IPAC database did not identify any critical habitats or National Wildlife Refuges within the Project area. The IPAC consultation identified USFWS Migratory Birds (USFWS Migratory Bird Program) having potential to occur in the Project area. The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities.

A. PUBLIC WATER SUPPLIES

The Site of the proposed Facility is located within a heavily industrialized coastal area and, therefore, is not located within or adjacent to a public water supply watershed. In addition, the Site is not located within or adjacent to an aquifer protection area. Potable water will be used to satisfy process makeup and fire water needs, including the HRSG makeup (i.e., boiler makeup), evaporative cooler makeup, service water, and water required for air emissions control purposes (i.e., NO_x injection water).

B. SURFACE WATER

Bridgeport Harbor and the Pequonnock River both have a water quality classification of SB. These waters are saline waters and are connected directly with the waters of Long Island Sound. Designated uses of SB waters include habitat for marine fish, other aquatic life and wildlife, commercial shellfish harvesting, recreation, industrial water supply, and navigation. Various discharges may be permitted to SB waters including cooling water discharges, discharges from municipal and industrial wastewater treatment systems and other discharges subject to the provisions of Section 22a-430 of the Connecticut General Statutes (CT DEEP, 2011).

The Combined-Cycle Facility will use Air Cooled Condensers and therefore, there is no requirement for surface water to be used for condenser cooling, nor any discharge of heated effluents to the Bridgeport Harbor or Pequonnock River.

C. GROUNDWATER

Groundwater underlying the Site and vicinity is classified as GB. Groundwater with this classification is presumed suitable for the following designated uses: Industrial process water and cooling waters and as base flow for hydraulically connected surface water bodies. Groundwater with this designation is presumed potentially not suitable for human consumption without treatment. Discharges to groundwater designated as GB are restricted to: treated domestic sewage, certain agricultural wastes, certain water treatment wastewaters, and discharge from septage treatment facilities subject to stringent treatment and discharge requirements, and other wastes of natural origin that easily biodegrade and present no threat to groundwater. The Combined-Cycle Facility will result in no process discharges to groundwater and will therefore not result in adverse effects on groundwater.

D. WASTEWATER DISCHARGES

The low volume waste streams generated by the Facility will be discharged to the City of Bridgeport Water Pollution Control Authority (WPCA) municipal wastewater system if they meet standards for constituents and / or volume. They include:

- Sanitary wastewater;
- Off-line compressor wash water;

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- Demineralization system wastewater;
- HRSG blowdown;
- Evaporative cooler blowdown;
- Auxiliary Cooling Tower; and,
- Plant maintenance water collected in Facility floor drains.

Each low volume waste stream is briefly described below:

SANITARY WASTEWATER

Sanitary wastewater will be collected and conveyed directly to the sanitary collection system. The Facility is anticipated to employ up to 25 people on a three shift basis. The average daily sanitary wastewater generation rate is expected to be approximately 2 gpm.

COMPRESSOR WASH WATER

The compressor serving the CT requires periodic cleaning to maintain operating efficiency and prevent excessive wear and tear on internal components. Compressor cleaning can be performed when the CT is on-line or off-line. On-line washes do not generate wastewater, because demineralized water injected into the compressor evaporates. Off-line washes are generally performed on a monthly or quarterly basis. An off-line compressor wash consists of injecting a demineralized water/detergent mixture into the compressor when the combustion turbine is off-line. The mixture is used to remove accumulated dust, dirt or other contaminants that cannot be removed during an on-line wash. In general, the cleaning solution will consist of approximately 25 percent detergent and 75 percent demineralized water. The resultant wastewater will be collected. Two to three trucks per day will occasionally be needed to transport the wastewater for off-site processing and disposal by a licensed contractor.

DEMINERALIZATION SYSTEM WASTEWATER

The demineralization system will consist of reverse osmosis (RO) followed by mixed bed ion exchange. When firing natural gas, wastewater from the RO system (RO reject water) is expected to range from 10 to 25 gpm. When firing the backup fuel, RO reject water is expected to range between 160 and 200 gpm. The constituents in RO reject water will have a concentration approximately four (4) times the makeup water concentration. Wastewater generated in the RO system will be routed to the wastewater collection tank/sump for treatment at by the WPCA. The mixed bed ion exchange beds, which will be truck mounted, are regenerated off-site by the vendor.

HRSG BLOWDOWN

HRSG blowdown will be flashed, quenched and reused in the auxiliary cooling tower to offset cooling tower makeup requirements.

EVAPORATIVE COOLER BLOWDOWN

Blowdown from the inlet air evaporative cooler will be routed to the auxiliary cooling tower to offset cooling tower makeup requirements.

AUXILIARY COOLING TOWER BLOWDOWN

When operating on natural gas, blowdown from the Auxiliary Cooling Tower represents the primary waste stream generated by the Facility. The blowdown rate will vary depending on the allowable cycles of concentration required to control scale formation and prevent excessive corrosion. Preliminary review of water quality data from the municipal water supply distribution system indicates that the cooling tower will typically operate at from four (4) to seven (7) cycles of concentration. The resulting blowdown will consist primarily of the naturally occurring dissolved salts and minerals present in the municipal water supply, but at concentrations approximately four (4) to seven (7) times those of the makeup water because of evaporative water loss from the tower. At 4 cycles of concentration, blowdown rates are anticipated to range from approximately 20 to 80 gpm. Blowdown rates will be less if the tower is operated at greater than 4 cycles of concentration.

Cooling tower chemical additives will be needed to ensure proper tower operation. The additives will consist of the types of additives listed in **Table 11-1**. The table also identifies the purpose for each type of additive.

Table 11-1
Cooling Tower Chemical Additives

Chemical	Dose	Purpose
Sulfuric Acid	As required	<ul style="list-style-type: none"> • Maintain proper pH range for discharge • Limit potential for calcium carbonate scale formation • Control corrosion
Sodium hypochlorite	As required	<ul style="list-style-type: none"> • Prevent biofouling of tower
Blend of Corrosion Inhibitor/ Scale Inhibitor and Dispersant	As required based on manufacture's recommendations	<ul style="list-style-type: none"> • Control corrosion
Bromine	As required	<ul style="list-style-type: none"> • Alternative or supplemental biocide
Non-oxidizing Biocide	Vendor Specific	<ul style="list-style-type: none"> • Periodic treatment for slime formation

The thermal component of the discharge will vary as a function of ambient wet bulb temperature. Under typical operating conditions, the temperature of cooling tower blowdown during the spring, summer, and fall can be estimated assuming a 10 °F to 15 °F increase above ambient wet bulb temperature. During the winter, discharge temperatures are expected to range between 55 °F and 60 °F, but can approach 70 °F.

Auxiliary cooling tower blowdown will be discharged to the wastewater collection tank/sump for treatment by WPCA. In accordance with Effluent Guidelines and Standards for the Steam Electric Power Generating Point Source Category (40 CFR 423.17), the quantity of pollutants discharged in cooling tower blowdown cannot exceed the concentration based limits listed in **Table 11-2**.

Table 11-2
Pretreatment Standards for New Sources (PSNS) –
Criteria for Cooling Tower Blowdown

Constituent	Maximum for any one (1) day	30 day average
126 priority pollutants*	No detectable amount	No detectable amount
Zinc, total	1.0	1.0
Chromium, total	0.2	0.2
Note: This limitation applies to priority pollutants, except zinc and chromium, which are contained in cooling tower additives or conditioners. It does not apply to constituents, such as copper, nickel, barium or other constituents that are present in cooling tower makeup water.		

Auxiliary cooling tower blowdown from the Facility will comply with the above limitations. Neither zinc based additives nor chromium based additives will be used in the cooling tower or for the treatment or conditioning of low volume waste streams recycled to the cooling tower.

FLOOR DRAINS

Floor drains located in potentially oily areas of the Facility will be routed to an oil-water separator. The clean water processed through the oil water separator will be discharged to the wastewater collection tank/sump. The collected oil will be contained and properly disposed of off-site by a licensed contractor. Water collected in floor drains located in clean areas of the Facility will be discharged directly to the wastewater collection tank/sump.

Process wastewater collected in the wastewater collection tank/sump will be discharged to the WPCA’s sanitary collection system for subsequent processing at one of the WPCA’s wastewater treatment plants.

The following pretreatment standards for new sources (PSNS) also apply to process wastewater from the proposed Facility (40 CFR 423.17):

- a) There shall be no discharge of polychlorinated biphenyl compounds, such as those used for transformer fluid;
- b) Pollutants discharged in chemical metal cleaning wastes shall not exceed specified concentrations. Iron will be limited to 1.0 mg/l daily maximum.

The proposed Facility will comply with the pretreatment standards for new sources.

E. STORMWATER

Stormwater runoff from the Site will be managed in accordance with the CT DEEP Stormwater Management Regulations. Stormwater that collects in secondary containment structures will be managed on an “inspect and release” basis. If there is any evidence of a spill or release (i.e. visual sheen or unusual odors), stormwater will be collected and sampled. It will either be trucked for off-site treatment at an appropriately licensed Facility or discharged to the WPCA based on constituents and volume. Clean stormwater from secondary containment structures will be discharged to the Facility’s stormwater collection system.

A. REMEDIATION EFFORTS AT BRIDGEPORT HARBOR STATION

PSEG acquired the membership interests in Wisvest-Connecticut, LLC (Wisvest) in December 2002 and assumed control of BHS. Prior to 2002, a series of environmental investigations were conducted at the Site, as required by the Connecticut Transfer Act and in accordance with CT DEEP RSRs. These investigations identified 17 potential release areas (PRAs) on the Site. The supplemental soil and groundwater investigations, which were performed in accordance with the RSRs, determined that 10 of the 17 PRAs had soil and/or groundwater concentrations that required remediation or other mitigation measures. Semi-volatile organic compounds (SVOC), primarily polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbons (TPH), and metals are the predominant contaminants of concern at the Site. The elevated concentrations were primarily associated with fuel storage tanks, historic fill placement on the property, electrical transformers, and coal ash storage.

B. EXISTING CONDITIONS

In August 2004, PSEG filed a Revised Remedial Action Plan (Revised RAP) with the CT DEEP that described the remediation activities planned for the 10 PRAs. Since 2004, PSEG has removed accessible soils exceeding the Pollutant Mobility Criteria for class GB groundwater (GB PMC) from all but one area (RAA3W).

Additional soils, which are located beneath the existing tank farm at the southern end of the Site, where the Combined-Cycle Facility is proposed, also have concentrations that exceed the GB PMC. Excavation of these soils has not been possible in the past due to the presence of the tanks and supporting infrastructure (containment berm and supply piping). As a result, remediation of the soils beneath the existing tank farm is deferred until the tanks are removed, which will occur prior to the proposed construction of Unit 5.

In addition to exceedances of the GB PMC identified at BHS, several compounds also exceed the CT DEEP Industrial Direct Exposure Criteria (IDEC). The IDEC are the applicable direct exposure criteria because the Site is zoned as “Heavy Industrial” and is expected to remain an electric power generating station. Engineered Controls will be installed at several of the PRAs to mitigate exceedances of the IDEC.

Upon completion of remedial activities, an Environmental Land Use Restriction (ELUR) will be recorded on the City of Bridgeport Land Records to restrict future use of the Site to industrial activities.

C. POTENTIAL IMPACTS AND MITIGATION

PSEG expects to continue the design and implementation of certain remaining remedial activities at the Station, which will precede the initiation of construction for the proposed new plant.

Prior to the proposed Unit 5 construction, the existing tank farm and associated containment berm will be removed, as part of a separate project. Previous sampling has shown that soils beneath the tank farm are impacted with VOCs, polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH),

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and metals at concentrations exceeding the GB PMC and IDEC. Remediation of these soils is currently deferred. However, once the tank farm is removed, these soils will become accessible and, therefore, will require remediation under the RSRs. PSEG intends to file an addendum to the Revised RAP describing the remedial approach for the soil beneath the tank farm. The approach will consist of a combination of removal and off-site disposal of impacted soils and installation of engineered controls to isolate the remaining impacted soils. Per discussions with CT DEEP on October 20, 2014, the agency is in general agreement with this approach pending receipt of the Revised RAP.

Public notices will be provided pursuant to the Connecticut General Statutes §22a-134a(i). Also, workers having appropriate 40-hour HAZWOPER training will be used during the initial Site work until the impacted soils have been removed or contained beneath engineered controls to render them inaccessible. With the implementation of the proposed mitigation and engineering controls, there will be no significant adverse hazardous materials impact or with health and safety as it relates to worker exposure.

A. FIRE PROTECTION AND FIRE SUPPRESSION TECHNOLOGY

The proposed new Facility will be designed and constructed in accordance with the 2015 Connecticut State Fire Prevention Code (effective May 7, 2015) and the 2005 Connecticut Fire Safety Code (29-292-1e through 25e), the currently applicable fire codes for the state of Connecticut. In addition, the applicable City of Bridgeport fire safety regulations will be addressed in the design.

An electric generating plant is classified as a Factory Industrial F-1 Moderate–Hazard Occupancy. The specific requirements for that classification will be included in the design of the new plant. The new Combined-Cycle Facility will have a fire protection system that is independent of the existing BHS Unit 3 fire protection systems in most instances. It will include fire water storage and distribution piping networks, hydrants and two fire water pumps driven by an internal combustion motor and an electric motor.

In addition the proposed Combined-Cycle Facility will have smoke and fire detection systems as required by the applicable codes. The proposed new fuel gas compressor will be located within a separate building from the power generation equipment, as will the fire water pumps.

B. HEALTH, SAFETY, AND WARNING SYSTEMS

The Connecticut Department of Public Safety codes that are applicable, including those related to natural gas, combustible liquids, etc. will be addressed in the design of the new plant. The design, construction, and operation of the proposed Project will be implemented to ensure safety for employees, the surrounding community, and the environment, and will be in accordance with Federal, State, and local regulations, and applicable engineering practices and standards.

The proposed Combined-Cycle Facility will include the installation of an aqueous ammonia storage tank (with an approximate capacity of 20,000 gallons of 19% ammonia solution) and an associated unloading/flow control area. The aqueous ammonia (also called ammonium hydroxide) is used to reduce NO_x emissions. The tank will be located within a diked containment area as required by the applicable codes. To ensure employee safety, employees will be informed of the hazards associated with ammonia storage and handling. In addition, the ammonia storage tank and associated equipment will be installed and operated in accordance with manufacturers' specifications and an eye wash station and a safety shower will be located at the ammonia unloading station. Similar features will be included for any other miscellaneous storage areas, such as water treatment chemicals or other commodities typically used at a power plant. PSEG will comply with all of the requirements set forth in the Siting Council's Decision and Order in Docket No. NT-2010, including among others:

- PSEG will not use natural gas as a fuel pipeline/system cleaning medium for construction or any future Facility modification.
- PSEG will submit required information to the Siting Council 15 days prior to any future fuel pipeline/system cleaning operations related to construction or any future Facility modification.

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- PSEG will provide notice regarding pipe cleaning operations to the Department of Consumer Protection, Department of Labor, Department of Public Safety, Department of Public Works, Department of Emergency Management and Homeland Security, and the local Fire Marshal.
- PSEG will comply with the applicable National Fire Protection Association (NFPA) and American Society of Mechanical Engineers (ASME) codes and standards for any future fuel pipeline/system cleaning operations related to construction or any future Facility modification.
- PSEG will submit a copy of an Emergency Response/Safety Plan.
- PSEG will provide the Siting Council with written notice of the completion of Site construction and the commencement of Site operation.

C. SECURITY

The proposed Project will be located with the existing security fencing which encompasses the PSEG property. The existing secure-access entry gate and guard shack will be present at the Site during the construction and operation of the proposed new Facility. In addition, a secure entry gate and guard shack will be used at any temporary construction entrance(s). Existing security measures for the oil dock will be retained, as required by the United States Coast Guard for marine terminal facilities.

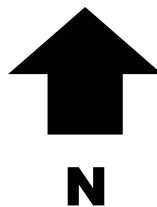
The proposed Facility will also be incorporated into the existing PSEG corporate security processes.

Valid photo identification is required for all persons exiting or entering the Site. All vehicles, packages and personal items of persons seeking to gain access to the Site may be subject to search. In addition, contractors and visitors seeking access to the Site must provide names of all individuals accessing the Site for prior authorization and must wear identification badges while on Site. No unauthorized personnel may access the Site, unless accompanied by an authorized person.

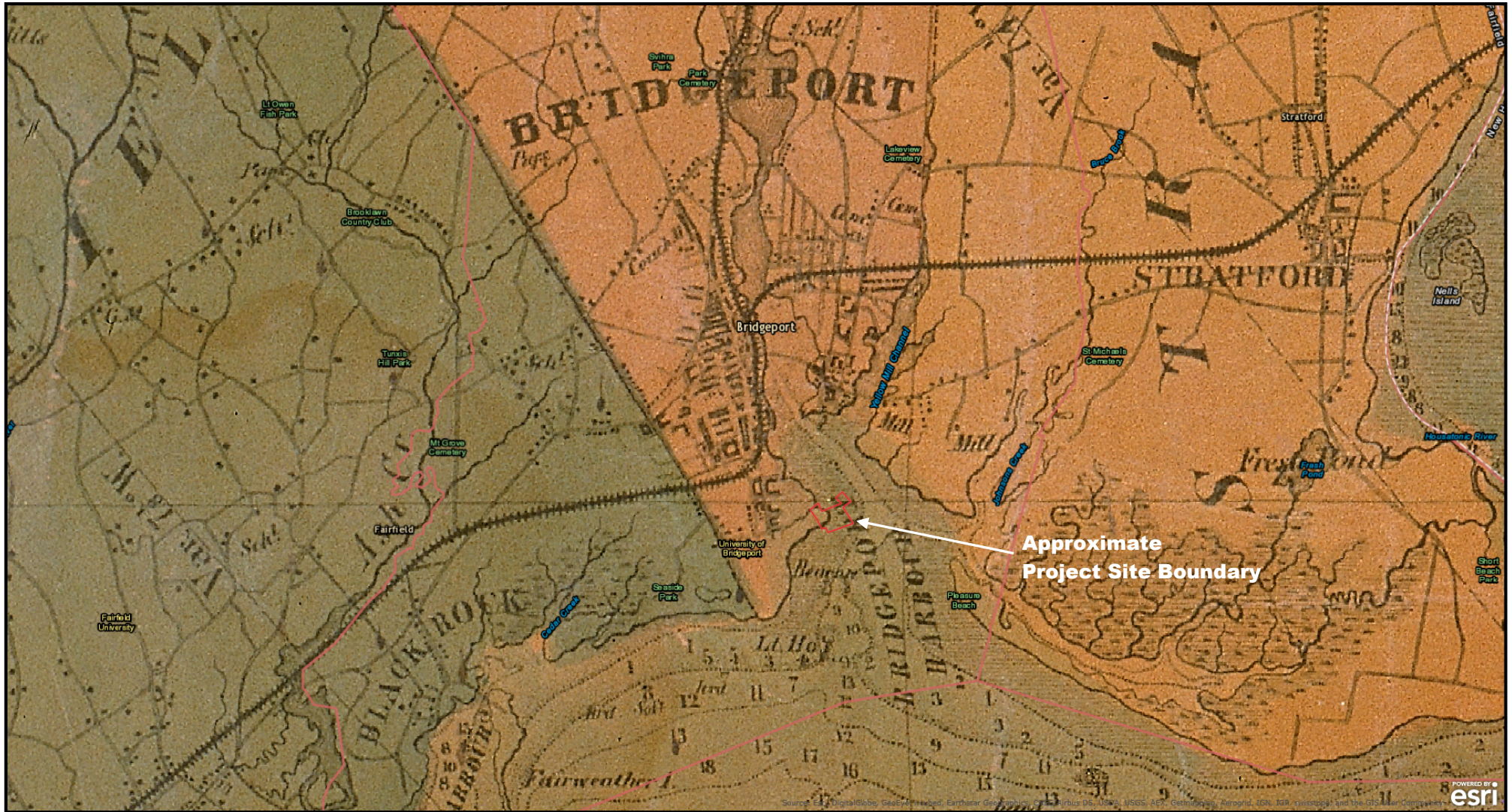
D. EMERGENCY SYSTEMS AND EMERGENCY RESPONSE PLAN

PSEG's existing emergency plans and process will be updated to include the proposed new Facility and repaired oil dock. This will include names and contact information for the qualified emergency response personnel, names of personnel and the organizations to be contacted immediately in the event of an emergency, a list of emergency response equipment and locations, a Facility evacuation plan, and a map of the Facility. Coordination with the appropriate City of Bridgeport and Connecticut personnel and agencies will be performed.

Appendix A



<p>PSEG Power Connecticut, LLC Bridgeport Unit 5 Combined Cycle Project City of Bridgeport, Fairfield County, Connecticut</p>
<p>Historic Map – Connecticut 1811 Warren Map</p>
<p><i>Map Source: UCONN Magic 2.0 Maps/ESRI</i></p>



<p>PSEG Power Connecticut, LLC Bridgeport Unit 5 Combined Cycle Project City of Bridgeport, Fairfield County, Connecticut</p>
<p>Historic Map – Connecticut 1859 Tackabury Map</p>
<p><i>Map Source: UCONN Magic 2.0 Maps/ESRI</i></p>



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PROJECT REVIEW COVER FORM

1. This information relates to a previously submitted project.

You do not need to complete the rest of the form if you have been previously issued a SHPO Project Number. Please attach information to this form and submit

SHPO Project Number (Not all previously submitted projects will have project numbers)

Project Address (Street Address and City or Town)

2. This is a new Project.

If you have checked this box, it is necessary to complete ALL entries on this form

Project Name PSEG Power Connecticut LLC - Bridgeport Unit 5 Combined Cycle Project

Project Location Bridgeport Harbor Generating Station - 1 Atlantic Street, Bridgeport CT, 06604-5513

City or Town Bridgeport CT, 06604-5513

County Fairfield

Date of Construction (for existing structures) The Bridgeport Harbor Station has operated at this location since 1957.

PROJECT DESCRIPTION SUMMARY (include full description in attachment):

PSEG Power Connecticut LLC or an affiliated special purpose entity (PSEG) is proposing to install and operate a combined cycle facility at the site of its existing Bridgeport Harbor Station (BHS) located at 1 Atlantic Street in Bridgeport, Connecticut (the "Facility" or "Project").

TYPE OF REVIEW REQUESTED

a. Does this undertaking involve funding or permit approval from a State or Federal Agency?

X Yes No

Table with 4 columns: Agency Name/Contact, Type of Permit/Approval, State, Federal. Rows include CT DEEP, CT Siting Council, US Army Corp and various permit types like PSD Air Permit, Certificate of Permission, etc.

b. Have you consulted the SHPO and UCONN Dodd Center files to determine the presence or absence of previously identified cultural resources within or adjacent to the project area?

Yes No X

If yes: Was the project site wholly or partially located within an identified archeologically sensitive area?

Does the project site involve or is it substantially contiguous to a property listed or recommended for listing in the CT State or National Registers of Historic Places?

Does the project involve the rehabilitation, renovation, relocation, demolition or addition to any building or structure that is 50 years old or older?



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PROJECT REVIEW COVER FORM

The Historic Preservation Review Process in Connecticut Cultural Resource Review under the National Historic Preservation Act – Section 106 <http://www.achp.gov/106summary.html> involves providing technical guidance and professional advice on the potential impact of publicly funded, assisted, licensed or permitted projects on the state's historic, architectural and archaeological resources. This responsibility of the State Historic Preservation Office (SHPO) is discharged in two steps: (1) identification of significant historic, architectural and archaeological resources; and (2) advisory assistance to promote compatibility between new development and preservation of the state's cultural heritage.

Project review is conducted in two stages. First, the SHPO assesses affected properties to determine whether or not they are listed or eligible for listing in the Connecticut State or National Registers of Historic Places. If so, it is deemed "historic" and worthy of protection and the second stage of review is undertaken. The project is reviewed to evaluate its impact on the properties significant materials and character. Where adverse effects are identified, alternatives are explored to avoid, or reduce project impacts; where this is unsuccessful, mitigation measures are developed and formal agreement documents are prepared stipulating these measures. For more information and guidance, please see our website at: <http://www.cultureandtourism.org/cct/cwp/view.asp?a=3933&q=293820>

ALL PROJECTS SUBMITTED FOR REVIEW MUST INCLUDE THE FOLLOWING MATERIALS*:

- PROJECT DESCRIPTION** Please attach a full description of the work that will be undertaken as a result of this project. Portions of environmental statements or project applications may be included. The project boundary of the project should be clearly defined**
- PROJECT MAP** This should include the precise location of the project – preferably a clear color image showing the nearest streets or roadways as well as all portions of the project. Tax maps, Sanborn maps and USGS quadrangle maps are all acceptable, but Bing and Google Earth are also accepted if the information provided is clear and well labeled. The project boundary should be clearly defined on the map and affected legal parcels should be identified.
- PHOTOGRAPHS** Clear, current images of the property should be submitted. Black and white photocopies will not be accepted. Include images of the areas where the proposed work will take place. May require: exterior elevations, detailed photos of elements to be repaired/replaced (windows, doors, porches, etc.) All photos should be clearly labeled.

For Existing Structures	Yes	N/A	Comments	
Property Card	<input type="checkbox"/>	<input type="checkbox"/>		
For New Construction	Yes	N/A	Comments	
Project plans or limits of construction (if available)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Figures 4a through 4c of Attachment 1	
If project is located in a Historic District include renderings or elevation drawings of the proposed structure	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Soils Maps http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Appendix B of Attachment 1	
Historic Maps http://magic.lib.uconn.edu/	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See Appendix A of Attachment 1	
For non-building-related projects (dams, culverts, bridge repair, etc)	Yes	N/S	Comments	
Property Card	<input type="checkbox"/>	<input type="checkbox"/>		
Soils Map (see above)	<input type="checkbox"/>	<input type="checkbox"/>		
Historic Maps (see above)	<input type="checkbox"/>	<input type="checkbox"/>		
STAFF REVIEW AREA	Above	Date	Below	Date
Indicate date of Review and Initials of Reviewer				

PROJECT CONTACT

Name Kevin J. Maher, AICP Title Senior Vice President
 Firm/Agency AKRF, Inc.
 Address 307 Fellowship Road, Suite 214
 City Mount Laurel State New Jersey Zip 08054
 Phone 856.359.7612 Cell 732.778.3731 Fax 856.797.9932
 Email kmaher@akrf.com

*Note that the SHPO's ability to complete a timely project review depends largely on the quality of the materials submitted.

** Please be sure to include the project name and location on *each page* of your submission.



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PROJECT REVIEW COVER FORM

SHPO USE ONLY

Based on our review of the information provided to the State Historic Preservation Office, it is our opinion that:

- No historic properties will be affected by this project. No further review is requested.
- This project will cause no adverse effects to the following historic properties. No further review is requested:
- This project will cause no adverse effects to the following historic properties, conditional upon the stipulations included in the attached letter:
- Additional information is required to complete our review of this project. Please see the attached letter with our requests and recommendations.
- This project will adversely affect historic properties as it is currently designed or proposed. Please see the attached letter for further details and guidance.

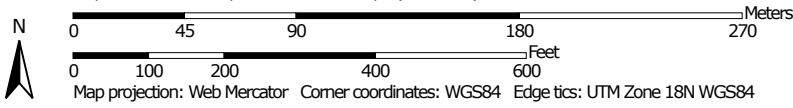

Daniel T. Forrest
~~Deputy~~ State Historic Preservation Officer


Date

Soil Map—State of Connecticut
 (Bridgeport Unit 5 Combined Cycle Project - Project Site)



Map Scale: 1:3,050 if printed on A landscape (11" x 8.5") sheet.




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.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
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 11, Nov 19, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 28, 2011—Oct 9, 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

State of Connecticut (CT600)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
306	Udorthents-Urban land complex	15.4	94.6%
307	Urban land	0.5	3.1%
W	Water	0.4	2.3%
Totals for Area of Interest		16.3	100.0%