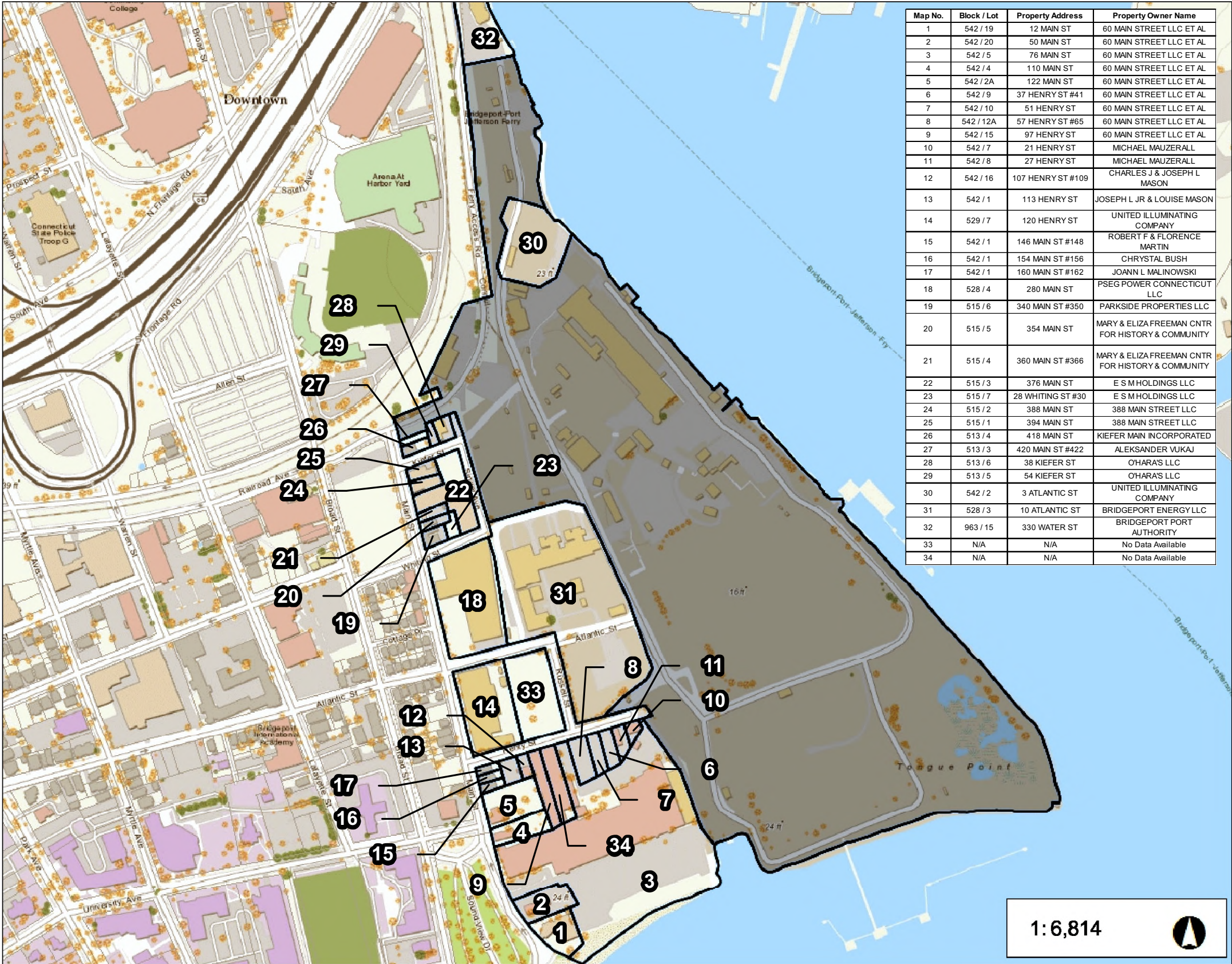


Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-01. PSEG Power Connecticut LLC (PSEG or Petitioner) included Abutters Map L-1 under Tab L of the Petition (Petition) dated March 9, 2016. Please submit a properly labeled Abutters Map identifying each parcel owner, including but not limited to, the abutters listed under L-2 of Tab L of the Petition.

Response: Attached is a revised Abutters Map L-1 with each abutting parcel labeled and each associated property owner identified. The property owners identified on the attached map are consistent with the list provided as Exhibit L-2 of the Petition dated March 9, 2016.



Map No.	Block / Lot	Property Address	Property Owner Name
1	542 / 19	12 MAIN ST	60 MAIN STREET LLC ET AL
2	542 / 20	50 MAIN ST	60 MAIN STREET LLC ET AL
3	542 / 5	76 MAIN ST	60 MAIN STREET LLC ET AL
4	542 / 4	110 MAIN ST	60 MAIN STREET LLC ET AL
5	542 / 2A	122 MAIN ST	60 MAIN STREET LLC ET AL
6	542 / 9	37 HENRY ST #41	60 MAIN STREET LLC ET AL
7	542 / 10	51 HENRY ST	60 MAIN STREET LLC ET AL
8	542 / 12A	57 HENRY ST #65	60 MAIN STREET LLC ET AL
9	542 / 15	97 HENRY ST	60 MAIN STREET LLC ET AL
10	542 / 7	21 HENRY ST	MICHAEL MAUZERALL
11	542 / 8	27 HENRY ST	MICHAEL MAUZERALL
12	542 / 16	107 HENRY ST #109	CHARLES J & JOSEPH L MASON
13	542 / 1	113 HENRY ST	JOSEPH L JR & LOUISE MASON
14	529 / 7	120 HENRY ST	UNITED ILLUMINATING COMPANY
15	542 / 1	146 MAIN ST #148	ROBERT F & FLORENCE MARTIN
16	542 / 1	154 MAIN ST #156	CHRYSTAL BUSH
17	542 / 1	160 MAIN ST #162	JOANN L MALINOWSKI
18	528 / 4	280 MAIN ST	PSEG POWER CONNECTICUT LLC
19	515 / 6	340 MAIN ST #350	PARKSIDE PROPERTIES LLC
20	515 / 5	354 MAIN ST	MARY & ELIZAFREEMAN CNTR FOR HISTORY & COMMUNITY
21	515 / 4	360 MAIN ST #366	MARY & ELIZAFREEMAN CNTR FOR HISTORY & COMMUNITY
22	515 / 3	376 MAIN ST	E S M HOLDINGS LLC
23	515 / 7	28 WHITING ST #30	E S M HOLDINGS LLC
24	515 / 2	388 MAIN ST	388 MAIN STREET LLC
25	515 / 1	394 MAIN ST	388 MAIN STREET LLC
26	513 / 4	418 MAIN ST	KIEFER MAIN INCORPORATED
27	513 / 3	420 MAIN ST #422	ALEKSANDER VUKAJ
28	513 / 6	38 KIEFER ST	OHARA'S LLC
29	513 / 5	54 KIEFER ST	OHARA'S LLC
30	542 / 2	3 ATLANTIC ST	UNITED ILLUMINATING COMPANY
31	528 / 3	10 ATLANTIC ST	BRIDGEPORT ENERGY LLC
32	963 / 15	330 WATER ST	BRIDGEPORT PORT AUTHORITY
33	N/A	N/A	No Data Available
34	N/A	N/A	No Data Available

Legend

Parcel Label

Parcels

Revised April 28, 2016



Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-02. Approximately how many residences are located within 1,000 feet of the center of the proposed power plant (Facility)? Provide the address and direction from the Facility to the nearest property boundary of the nearest residence (approximately 900 feet away) as indicated in the Petition on page 8.

Response: Based on the publicly available Geographic Information Systems mapping provided by the Greater Bridgeport Regional Council (“GBRC”), there are no residences located within 1,000 feet of the center of the Facility (proposed Unit 5). This is demonstrated on the attached figure entitled, “Bridgeport Harbor Station, Properties Within 1,000 feet of Proposed Unit 5” and associated property data. According to the data provided by the GBRC, the properties identified within 1,000 feet of the proposed Unit 5 are all zoned as Industrial and do not contain residences. The data generated by the GBRC database is also provided as documentation.

As stated on Page 2-5 of the Land Use and Environmental Report submitted with the Petition, the closest residence to the proposed Combined Cycle Facility location is on Main Street, approximately 900 feet to the west of the western boundary of the proposed development site. The address of this property is 146 Main Street #148, Bridgeport, Connecticut 06604-5706, and the property owner is listed as Robert F. and Florence Martin in the City of Bridgeport Tax Roll.



Legend

- Parcel Label
- Parcels
- Streetname
- Roadways
 - Local
 - Collector
 - Minor Collector
 - Minor Arterial
 - Major Collector
 - PA Other
 - PA Other Expwy
 - PA Interstate
- Citations

1,135.6 0 567.79 1,135.6 Feet
WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Greater Bridgeport Regional Council

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION



Parcel ID 542-22

PSEG POWER CONNECTICUT LLC
80 PARK PLAZA T-9 N/A
NEWARK, NJ 07102-4194

Parcel ID

Parcel ID 528-3

BRIDGEPORT ENERGY LLC
10 ATLANTIC ST
BRIDGEPORT, CT 06604

Parcel ID 542-8

MAUZERALL MICHAEL
000021 HENRY ST
BRIDGEPORT, CT 06604

Parcel ID 542-9

ADELMAN HIRAM ETAL
95 POST ROAD WEST
WESTPORT, CT 06880

Parcel ID 542-10

ADELMAN HIRAM ETAL
95 POST ROAD WEST
WESTPORT, CT 06880

Parcel ID 542-12A

ADELMAN HIRAM ETAL
95 POST ROAD WEST
WESTPORT, CT 06880

Parcel ID 542-5

ADELMAN HIRAM ETAL
95 POST ROAD WEST
WESTPORT, CT 06880

Parcel ID 542-7

MAUZERALL MICHAEL
000021 HENRY ST
BRIDGEPORT, CT 06604

Parcel ID

Parcel ID

Bridgeport Harbor Station - Properties Within 1000 Feet
GBRC Database - Parcel Data Output (April 14, 2016)

Parcel_ID	Type	LOCATION	SLH_OWN_NA	SLH_CO_OWN	BLD_BLDG_N	CSN_STYLE_	CSN_OCC_DE	LND_USE_CO	LND_USE_DE	LND_ZONE	LND_OCC_DE
542-22	PAR	1 ATLANTIC ST	PSEG POWER CONNECTICUT LLC		1	Warehouse	Public Pur	400	Pub Util	IHI	Pub Util
529-11	PAR				0						
528-3	CITY	10 ATLANTIC ST	BRIDGEPORT ENERGY LLC		1	Office Bldg	Public Pur	400	Pub Util	IHI	Pub Util
542-8	PAR	27 HENRY ST	MAUZERALL MICHAEL		1	Self Storage	Industrial	300	Industrial	IHI	Industrial
542-9	PAR	37 HENRY ST #41	ADELMAN HIRAM ETAL	C/O WESTPORT PROPERTY MANAGEMENT LLC	1			300V	Industrial	IHI	Industrial
542-10	PAR	51 HENRY ST	ADELMAN HIRAM ETAL	C/O WESTPORT PROPERTY MANAGEMENT LLC	1			300V	Industrial	IHI	Industrial
542-12A	PAR	57 HENRY ST #65	ADELMAN HIRAM ETAL	C/O WESTPORT PROPERTY MANAGEMENT LLC	1			300V	Industrial	IHI	Industrial
542-5	PAR	76 MAIN ST	ADELMAN HIRAM ETAL	C/O WESTPORT PROPERTY MANAGEMENT LLC	1	Office Bldg	Industrial	300	Industrial	IHI	Industrial
542-7	PAR	21 HENRY ST	MAUZERALL MICHAEL		1	Office Bldg	Industrial	300	Industrial	IHI	Industrial
NOID	ROW				0						
542-18A	PAR				0						

Witness: Kate Gerlach

Request from: Connecticut Siting Council

CSC-03. Would the proposed combined-cycle Facility have black start capability?

Response: No. The current facility design does not include black start capability.

Witness: Kate Gerlach

Request from: Connecticut Siting Council

CSC-04. Would the Facility be baseload, intermediate or peaking?

Response: Under current market conditions, PSEG expects the Facility to be load-following (intermediate).

Witness: Joel Gordon

Request from: Connecticut Siting Council

CSC-05. On page 3 of the Petition, the Petitioner notes that the proposed Facility would provide energy and capacity in ISO New England Inc. (ISO-NE) markets. Would the proposed Facility also provide ancillary services in ISO-NE's markets? If so, which ones?

Response: In addition to the energy and capacity markets, there are three ancillary services markets in which the new Facility will be able to participate: Regulation, Ten and Thirty Minute Reserves, and Voltage Support.

The proposed Facility will be equipped with an automatic generation control system which will allow it to participate in the ISO-NE Regulation Market, also known as AGC. This capability allows the unit to respond up or down to dispatch signals received by the ISO approximately every three seconds when selected to provide regulation service. The regulation market is designed to precisely balance the supply and demand for electricity on the power system.

The Facility will also be able to provide both Ten Minute Spinning Reserves and Thirty Minute Operating Reserves when the unit is on-line and operating between its low and high operating limits. These operating reserve services are part of two real-time ancillary service markets currently operated by ISO-NE.

The Facility will also be capable of providing voltage support services for both leading and lagging operations at the request of ISO-NE.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-06. Could the plant operate as simple cycle (i.e. without the steam turbine) under certain conditions? If the combined cycle efficiency is 59 percent as noted on page 5 of the Petition, what would be the approximate simple cycle thermal efficiency of the gas turbine itself?

Response: While the gas turbine can run independently, bypassing the steam turbine, it is not an expected mode of operation. In addition, the plant will not have a gas turbine exhaust bypass stack. In the event that the gas turbine unit does operate without the steam turbine, the exhaust will still run through all emission control systems, regardless of the mode of operation. The gas turbine operated independently would have an efficiency of approximately 42%.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-07. Provide a summer and winter (MW) breakdown table in a similar format to the sample table below.

Response: PSEG refers to the plant as having a capacity of 485 MWs, which reflects the Capacity Supply Obligation that PSEG has obtained from ISO-NE for 484.3 MW at 90°F. This amount is consistent with the Large Generator Interconnection Agreement that PSEG has signed with ISO-NE and the United Illuminating Company, which grants the Facility capacity injection rights (Capacity Network Resource Capability) of 484.3 MW net for summer and 529.8 MW net for winter, and energy injection rights (Network Resource Capability) of 509.6 MW net for summer and 529.8 MW net for winter.

The table below provides the maximum gas and steam turbine output capability for summer and winter. This occurs at 80°F and 20°F, respectively. The unit's actual output will depend upon ambient meteorological conditions, the amount of power being used in the plant for pumps, fans, equipment, etc., and gas availability.

Gas: GE H65 907338G1 Steam: GEH33907338S1	Winter	Summer
Natural Gas		
Gas Turbine (1 unit)	365.8 MW	338.0 MW
Steam Turbine (1 unit) (with duct firing)	170.0 MW	191.7 MW

Facility Load	(17.9 MW)	(17.6 MW)
Total Plant Net Output	517.9 MW	512.1 MW
ULSD		
Gas Turbine (1 unit)	362.3 MW	340.4 MW
Steam Turbine (1 unit) (with duct firing)	181.6 MW	182.2 MW
Facility Load	(16.9 MW)	(16.2 MW)
Total Plant Net Output	527.0 MW	506.4 MW

Notes: The amount of gas available on the Southern Connecticut Gas (SCG) lateral will be constrained in winter, when SCG uses more gas for home heating. Therefore, PSEG does not expect to utilize the duct burners at full capacity in the winter when the combustion turbine is running on gas. When running on oil in the winter, PSEG expects that there will be sufficient gas available to run the duct burners at full capacity. The table above reflects this expected run profile.

REDACTED

**PSEG Power Connecticut LLC
Petition No. 1218**

**Data Request CSC-08
Dated: 04/28/2016
CSC-08
Page 1 of 1**

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-08. What are the approximate cold and hot start-up times for the plant if dispatched?

Response: Estimates of the cold and hot start-up durations were provided by General Electric.

Start-up is defined from gas turbine roll-off from turning gear to plant baseload (gas turbine at baseload and steam turbine bypass valve closed, and steam to steam turbine at rated temperature).

Hot start (startup taking place within 8 hours of previous shutdown) –

Cold start (startup taking place 72 hours or more beyond the previous shutdown) –

REDACTED

**PSEG Power Connecticut LLC
Petition No. 1218**

**Data Request CSC-09
Dated: 04/28/2016
CSC-09
Page 1 of 1**

Witness: Joel Gordon

Request from: Connecticut Siting Council

CSC-09. Could the plant provide spinning reserves? What is the approximate ramp rate of the plant in MW/minute if the plant had to ramp up or ramp down in response to ISO-NE dispatch?

Response: As noted in CSC-05, the Facility will be capable of providing Ten Minute Spinning Reserves and Thirty Minute Operating when the unit is on-line and dispatchable between its low and high operating limits. The approximate ramp rate of the gas turbine only can be as high as pursuant to the manufacturer's design specification for the gas turbine; however, this would not be the expected operation, as the integrated plant needs to balance the coordination with other plant systems. Generally, we would expect a typical ramp rate for this project to be in the range of per minute across its operating range.

REDACTED

**PSEG Power Connecticut LLC
Petition No. 1218**

**Data Request CSC-10
Dated: 04/28/2016
CSC-10
Page 1 of 1**

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-10. On page 5 of the Petition, the PSEG notes that the Facility has provisions for use of ULSD for up to 30 days per year as a backup fuel. Is this based on 30 days of actual on-site ULSD storage or does it include fuel deliveries during that time period? What is the approximate ULSD consumption rate in gallons per day (gpd) for full load conditions operating on ULSD? Was the approximate full load natural gas consumption rate when operating on natural gas?

Response: No, the on-site storage capability will be 5.5 million gallons gross capacity, which is approximately a 10-day supply of ULSD. Therefore, fuel deliveries will be required if the unit burns more than that. The approximate ULSD consumption at 35 degrees Fahrenheit ambient temperature, baseload conditions, with duct burners off is approximately gallons per hour. The design natural gas fuel availability limit is mmbtu per hour (LHV). This is the amount of gas that will be available to PSEG on the SCG lateral, and the unit was designed to maximize that availability.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-11. Is it correct to say that the air cooled condenser would be a closed system that would not rely on evaporative cooling in order to save water?

Response: Yes, the air cooled condenser (ACC) is a fully closed loop system that does not rely on evaporative cooling. Therefore, there is no surface water intake or withdrawal and no discharge of water to the River / Harbor. An ACC is a forced draft air cooled heat exchanger used in lieu of the evaporative cooling typical of a “wet cooling tower.” The main steam cycle requires that steam exhausted from the steam turbine be cooled and condensed back to water, so that it may be pumped through the Heat Recovery Steam Generator again. In the closed system ACC, steam from the steam turbine exhaust is piped to the ACC where it cools and condenses to water.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-12. Would the air cooled condenser fans be staged so that only the minimum required number of fans run at a given time in order to reduce noise and save energy?

Response: Yes.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-13. Would the plant utilize evaporative coolers or chillers to cool the incoming air to the turbine during the summer months?

Response: Yes, evaporative cooling will be used for conditioning of incoming air to the turbine.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-14. What is the water consumption rate of the plant in gallons per day (gpd) under natural gas-fueled conditions? What is the water consumption rate of the plant in gpd under ULSD-fueled conditions? Average or worst-case or a range of values of gpd are acceptable. In general, is water consumption greater under ULSD operation due to emissions controls? Has the Petitioner consulted with Aquarion Water Company to confirm availability of sufficient water to supply the plant?

Response: The worst-case water consumptions rates are:

- Natural gas = 239 gpm (344,168 gpd if operating continuously at full load)
- ULSD = 818 gpm (1,177,920 gpd if operating continuously at full load)

Actual water consumption will depend on how the unit is dispatched.

In general, yes, water consumption under ULSD is greater due to emissions controls. PSEG has verbally consulted with Aquarion on two occasions and confirmed the availability of sufficient water to supply the plant.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-15. Would the water have to be demineralized for use at the plant? If yes, would that process be performed on-site via demineralized trailers?

Response: Yes, water will be demineralized for use at the plant, and the process will be performed on-site through demineralization trailers.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-16. Would PSEG need on-site compression for its natural gas supply, or does it expect that sufficient line pressure is available from the existing Southern Connecticut Gas Company lateral pipeline connection?

Response: The plant will need on-site compression. Information from Southern Connecticut Gas indicates that the design pressure of the lateral is 600 psig, and pressure range at the delivery point is 426-530 psig (average 475 psig). The GE 7HA.02 has a supply pressure requirement of 525 psig.

Witness: Kate Gerlach

Request from: Connecticut Siting Council

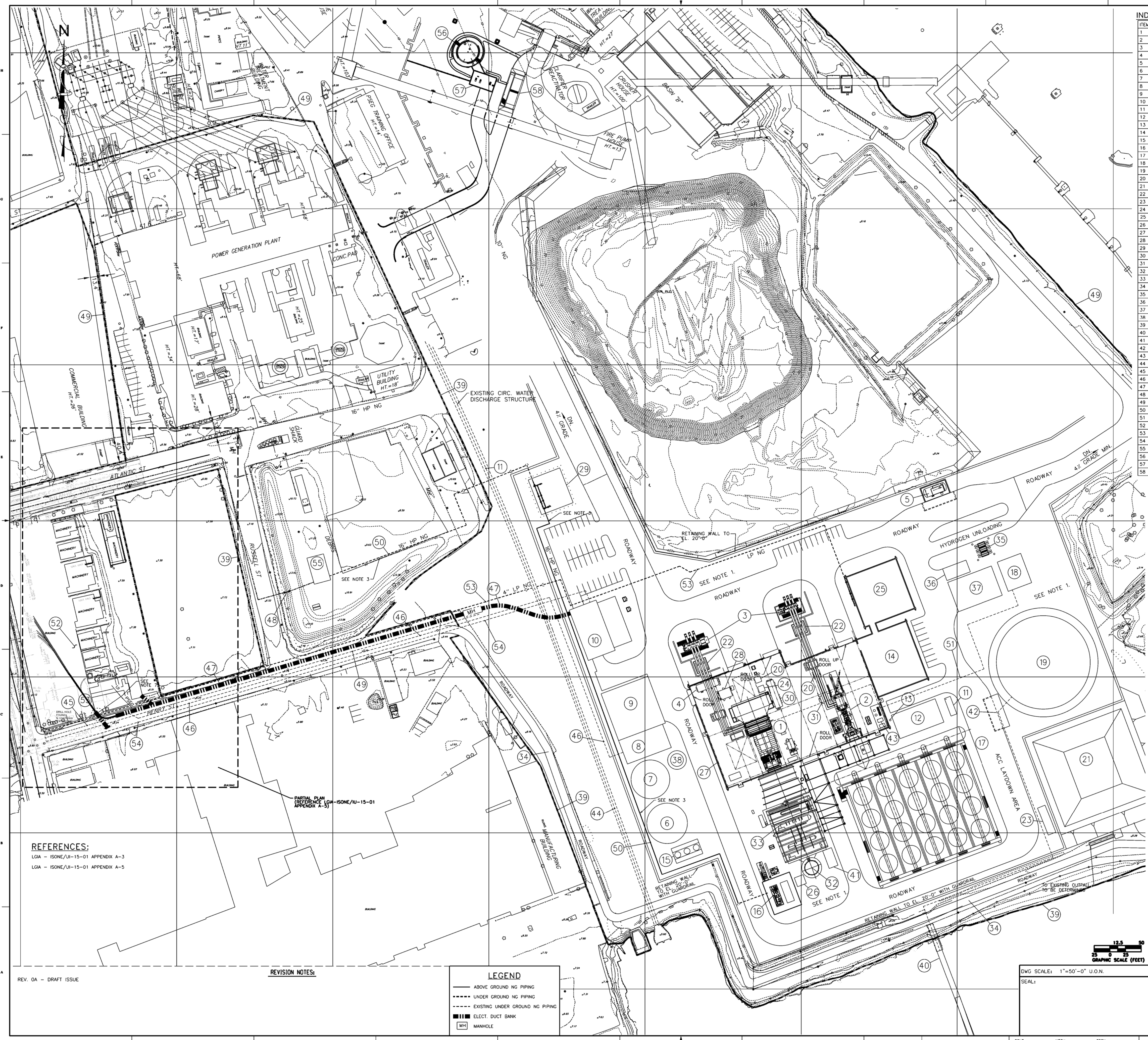
CSC-17. If the proposed project is approved, would PSEG (and/or The United Illuminating Company) file a separate petition for the 345kV underground electrical transmission cable and interconnection portion of the project or is this part of the instant Petition?

Response: The part of the interconnection that will be built, owned and operated by PSEG is part of Petition No. 1218. On January 19, 2016, PSEG (the “Interconnection Customer”), The United Illuminating Company (the “Interconnecting Transmission Owner”) and ISO New England, Inc. entered into a Large Generator Interconnection Agreement (“LGIA”). The LGIA specifies the Point of Interconnection, the Point of Change in Ownership and the construction responsibility of PSEG as summarized below:

Point of Interconnection and Point of Change in Ownership. The Point of Interconnection shall be at the Interconnecting Transmission Owner’s Singer 345 kV Substation in Bridgeport, Connecticut between switches 34C-42T-4 and 34C-41T-8. The Point of Change in Ownership between the Interconnection Customer’s 345 kV line and the Interconnecting Transmission Owner’s Singer Substation equipment will be at the conductor tap point on the cable that connects the Interconnection Customer’s 345 kV line to the Interconnecting Transmission Owner’s 345 kV terminal. The Attached Exhibit 17-A shows the plant layout.

Interconnection Customer’s Interconnection Facilities (including metering). The Interconnection Customer shall construct a 345 kV collector bus with gas insulated substation (“GIS”) equipment housed in a building. The output from the Large Generating Facility will be

directed by underground cable to the 345 kV GIS collector bus owned by the Interconnection Customer. Subsequently, a single radial, 345 kV 3000MCM XLPE underground transmission cable will be constructed, owned and operated by the Interconnection Customer. This underground transmission cable will run from the Large Generating Facility to and in Henry Street, a public street in Bridgeport, Connecticut, to the Interconnecting Transmission Owner's Singer 345 kV substation. The Interconnecting Transmission Owner has consented to the Interconnection Customer constructing, owning and operating the single radial, 345 kV 3000MCM XLPE underground transmission cable circuit in Henry Street. The Interconnection Customer's underground transmission cable will enter the Interconnecting Transmission Owner's facility and terminate at the GIS with a high voltage cable termination. The transmission cable connection can be isolated and grounded from both ends when needed. The Interconnection Customer's 345 kV substation will use a radial arrangement with the main bus rated for 2000A, and will consist of three circuit breaker bays. Each breaker bay will have a manual disconnect switch for a visible safety isolation break from the substation main bus. A three-phase GSU is required for each of the two generators comprising the Large Generating Facility to convert from the generators' output voltage to the grid 345 kV level. The transformers are sized to carry the full capacity rating of the Large Generating Facility. A circuit breaker and disconnect switch are provided for each turbine/generator to isolate each one from its respective GSU. Isolated-Phase buses rated at 25kV and 18kV are provided to connect the unit outputs to their respective GSUs. The attached Exhibit 17-B shows the specifics of the layout and interconnection.



INDEX		
ITEM	DESCRIPTION	STRUCTURE/BUILDING SIZE
1	GAS TURBINE GENERATOR	
2	STEAM TURBINE GENERATOR	
3	GSU TRANSFORMER 345KV	
4	PACKAGE ELECTRIC & ELECTRICAL CONTROL COMPARTMENT (PECC)	
5	AMMONIA TRUCK UNLOADING AND STORAGE	13'-6" DIA/20,000 GALLON
6	RO/DEMINERALIZED WATER TANK	65' DIA/1,000,000 GALLON
7	SERVICE WATER/FIRE WATER STORAGE TANK	62' DIA/900,000 GALLON
8	FIRE PROTECTION AND SERVICE WATER PUMP HOUSE	3,000 sqft (75'x40')
9	DEMINERALIZED WATER TANKS	6,400 sqft (75'x80')
10	345KV GIS BUILDING	8,900 sqft (86'-6"x76'-6')
11	EMERGENCY DIESEL GENERATOR	750kW
12	AUX. BOILER BUILDING	3,000 sqft (40'x75')
13	AUX. BOILER STACK	30' DIA/176'-6"
14	AUX. ELECTRIC BUILDING / BATTERY ROOM	6,000 sqft (60'x100')
15	AUX. COOLING TOWER	1,125 sqft (50'x22')
16	FUEL GAS PROCESSING BUILDING	3,000 sqft (85'x35')
17	AIR COOLED CONDENSERS (ACC)	40,550 sqft/EL. 141'-6"
18	FUEL OIL FORWARDING PUMP HOUSE	2,000 sqft (50'x40')
19	ULSD TANK	150' DIA/5,500,000 GALLON
20	EXCITATION TRANSFORMER	
21	STORM WATER DETENTION POND	
22	AUX. TRANSFORMER	
23	OL/WATER SEPARATOR	
24	STATIC START ISOLATION TRANSFORMER	
25	CONTROL/SERVICE BUILDING	7,600 sqft (87'x87')
26	CEMS EQUIPMENT MODULE	225 sqft (15'x15')
27	TURBINE BUILDING (PER GE 7HA02 REQUIREMENTS)	45,921 sqft
28	BATTERY COMPARTMENT	
29	NATURAL GAS METERING & REGULATING STATION	
30	LCI AND EXCITER COMPARTMENT	
31	ST GENERATOR EXCITATION COMPARTMENT	
32	HRSG STACK	21' DIA/EL. 316'-6"
33	HEAT RECOVERY STEAM GENERATOR (HRSG)	
34	EXISTING ROADWAY TO LIGHT HOUSE	
35	HYDROGEN STORAGE VESSELS	
36	MAINTENANCE BUILDING	800 sqft (20'x40')
37	WAREHOUSE	3,750 sqft (50'x75')
38	WASTE WATER TANK	30' DIA
39	PSEG PROPERTY LINE	
40	FUEL OIL UNLOADING DOCK (EXISTING)	
41	BOILER FEED WATER PUMP BUILDING	450 sqft (30'x15')
42	FUEL OIL TRUCK UNLOADING AREA	
43	AIR COMPRESSOR SKID	
44	UNIT NO. 3 CIRC. WATER PIPE (EXISTING)	UNDERGROUND
45	12" DIA. CITY WATER PIPING (EXISTING)	12" DIA.
46	12" DIA. CITY WATER SUPPLY	12" DIA.
47	ELECTRICAL DUCT TO SINGER SWITCHGEAR 345KV	UNDERGROUND
48	EXISTING 16" DRAIN VALVE	
49	12" DIA. STORM WATER (EXISTING)	
50	16" HIGH PRESSURE NATURAL GAS PIPING	16" DIA.
51	6" DIA. FUEL OIL SUPPLY PIPING TO GT	6" DIA.
52	SINGER 345KV SWITCHGEAR (EXISTING)	
53	4" LOW PRESSURE NATURAL GAS PIPING	4" DIA.
54	8" DIA. SANITARY SEWER (EXISTING)	
55	EXISTING METERING STATION	
56	UNIT 3 FUEL OIL STORAGE TANK WITH CONTAINMENT	34' DIA/200,000 GALLON
57	UNIT 3 FUEL OIL PUMP HOUSE	960 SQFT. (24'x40')
58	UNIT 3 FUEL OIL TRUCK UNLOADING	24'x65'

- NOTES:
- STORM WATER DRAINAGE WILL BE DESIGNED IN ACCORDANCE WITH THE CITY OF BRIDGEPORT CONN. DEPT. OF PUBLIC FACILITIES STORM WATER MANAGEMENT MANUAL.
 - FINAL FINISHED GRADE (EXTERIOR) AT EL. 16'-6" (PER NAVD88). TOP OF CONCRETE SLABS OF FLOOR AT EL. 18'-6".
 - TOP OF RETAINING WALL AT EL. 20'-0".
 - THE ULSD FUEL OIL PIPING WILL RUN FROM THE PROPOSED LIGHT OIL TANKS VIA FUEL OIL FORWARDING PUMPS THROUGH TRENCHES TO EXISTING PIPING AT THE UNIT 3 BOILER AREA. THE PROPOSED CONNECTION POINT IS APPROXIMATELY AT EL. 50' ON THE NORTHWEST CORNER OF THE BOILER.
 - 16" HP NG PIPING TO RUN UNDERGROUND FROM THE EXISTING METERING STATION TO THE PROPOSED METERING STATION, THEN RUN ABOVE GROUND ALONG THE ROADWAY OUTSIDE OF THE FUEL GAS PROCESSING BUILDING THEN UNDERGROUND TO THE P.O.E.
 - THE TOP OF PAD ELEVATIONS (I.E. 15'-6" NAVD88) WERE DETERMINED BY ADDING 1'-6" TO THE FEMA FLOOD PLANE OF 14' NAVD88, AS RECOMMENDED BY ASCE, WHICH IS 5'-6" HIGHER THAN THE EXISTING GROUND ELEVATIONS SHOWN ON PSEG TOPOGRAPHIC SURVEY PLAN (VT-2) OF 10'-0" APPROXIMATELY.
 - BOUNDARY INDICATES DIVISION OF OWNERSHIP FOR DUCTBANK ONLY. INTERCONNECTION CUSTOMER ASSUMES COMPLETE OWNERSHIP OF TRANSMISSION CABLE UP TO AND INCLUDING POTHEAD AT INTERCONNECTING TRANSMISSION OWNER'S SINGER SUBSTATION.

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REVISION

RCM Technologies
Power System Services

BRIDGEPORT 05
PLANT LAYOUT
UNIT 5 COMBINED CYCLE PROJECT
SITE LAYOUT PLAN

SITE PLAN DESIGN-CIVIL GENERAL

PROJECT ENGINEERING DIVISION



DRAWN (BY RCMT) TOM WALKER	CHECKED (BY RCMT) KAMAL YOUSUF	EXAMINED (SR DESIGNER) (BY RCMT) TONY FOSTER
REVIEWED (ENGR) (BY RCMT) DEEPAH RANA	REVIEWED (PROJ ENGR)	APPROVED (PRINCIPAL)

VENDOR NO.
LG1A-ISONE/UI-15-01 APPENDIX A-4

REFERENCES:
LGA - ISONE/UI-15-01 APPENDIX A-3
LGA - ISONE/UI-15-01 APPENDIX A-5

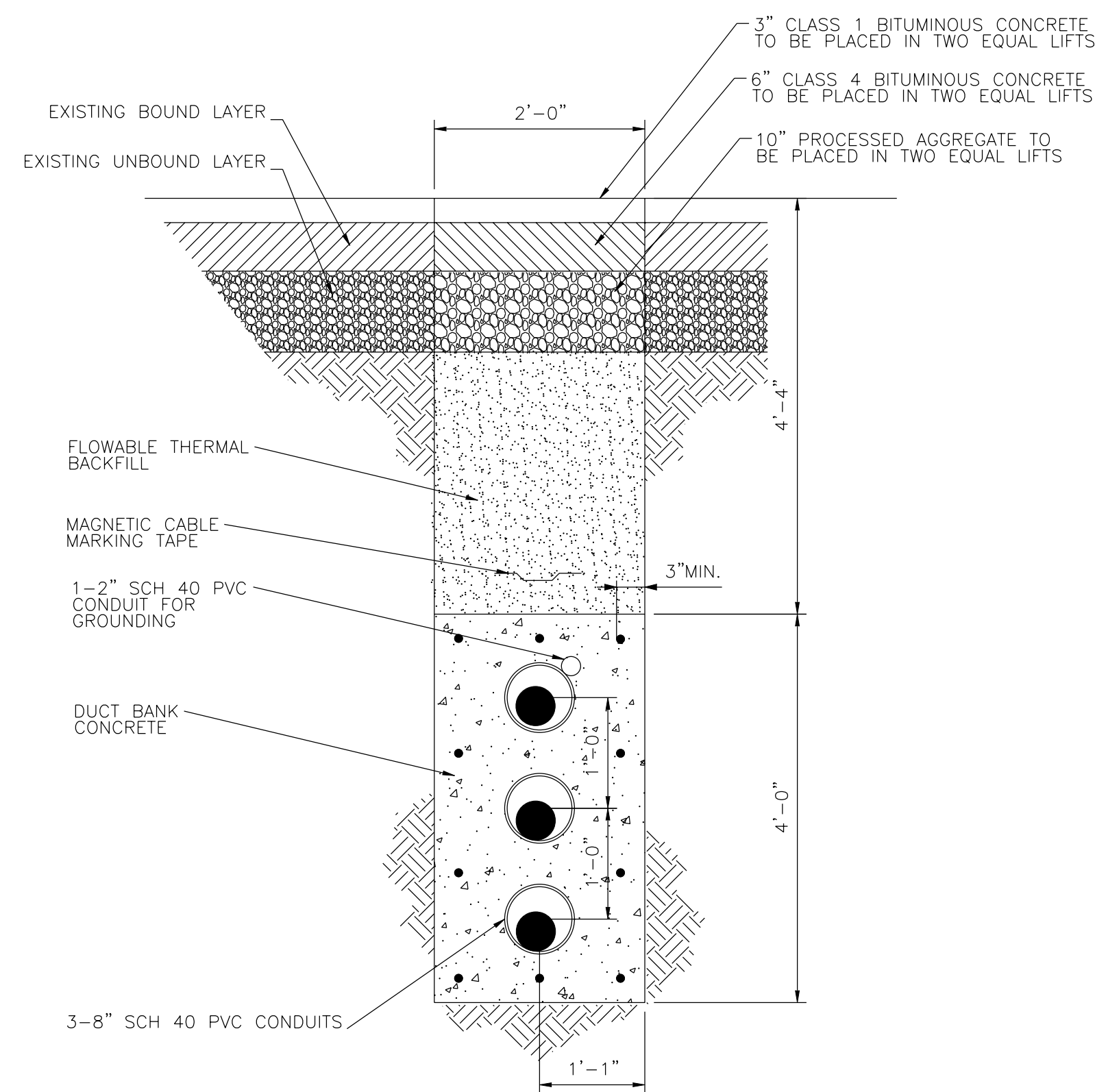
REVISION NOTES:

LEGEND	
—	ABOVE GROUND NG PIPING
---	UNDER GROUND NG PIPING
---	EXISTING UNDER GROUND NG PIPING
■	ELECT. DUCT BANK
MH	MANHOLE

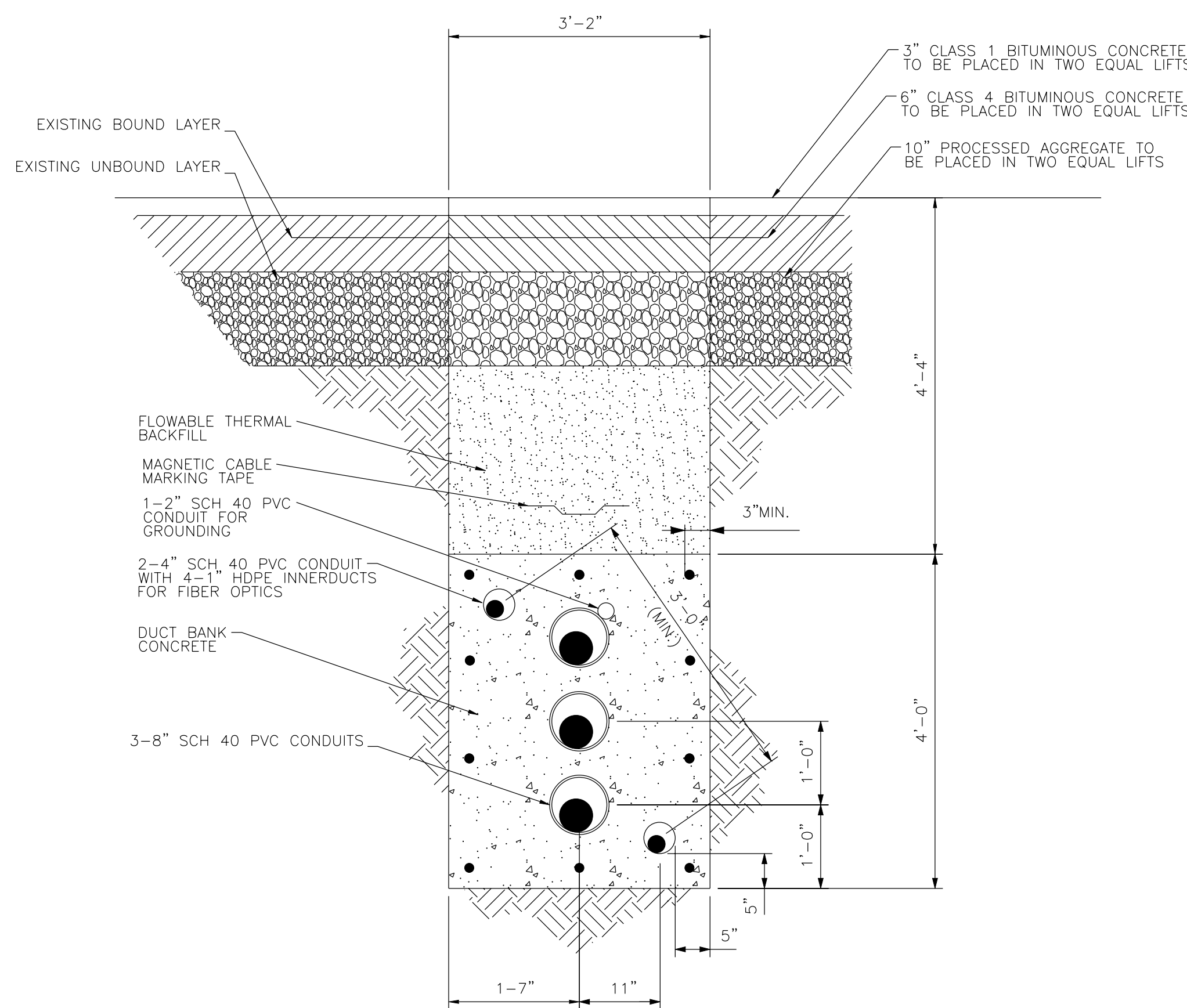
DWG SCALE: 1"=50'-0" U.O.N.
GRAPHIC SCALE (FEET)



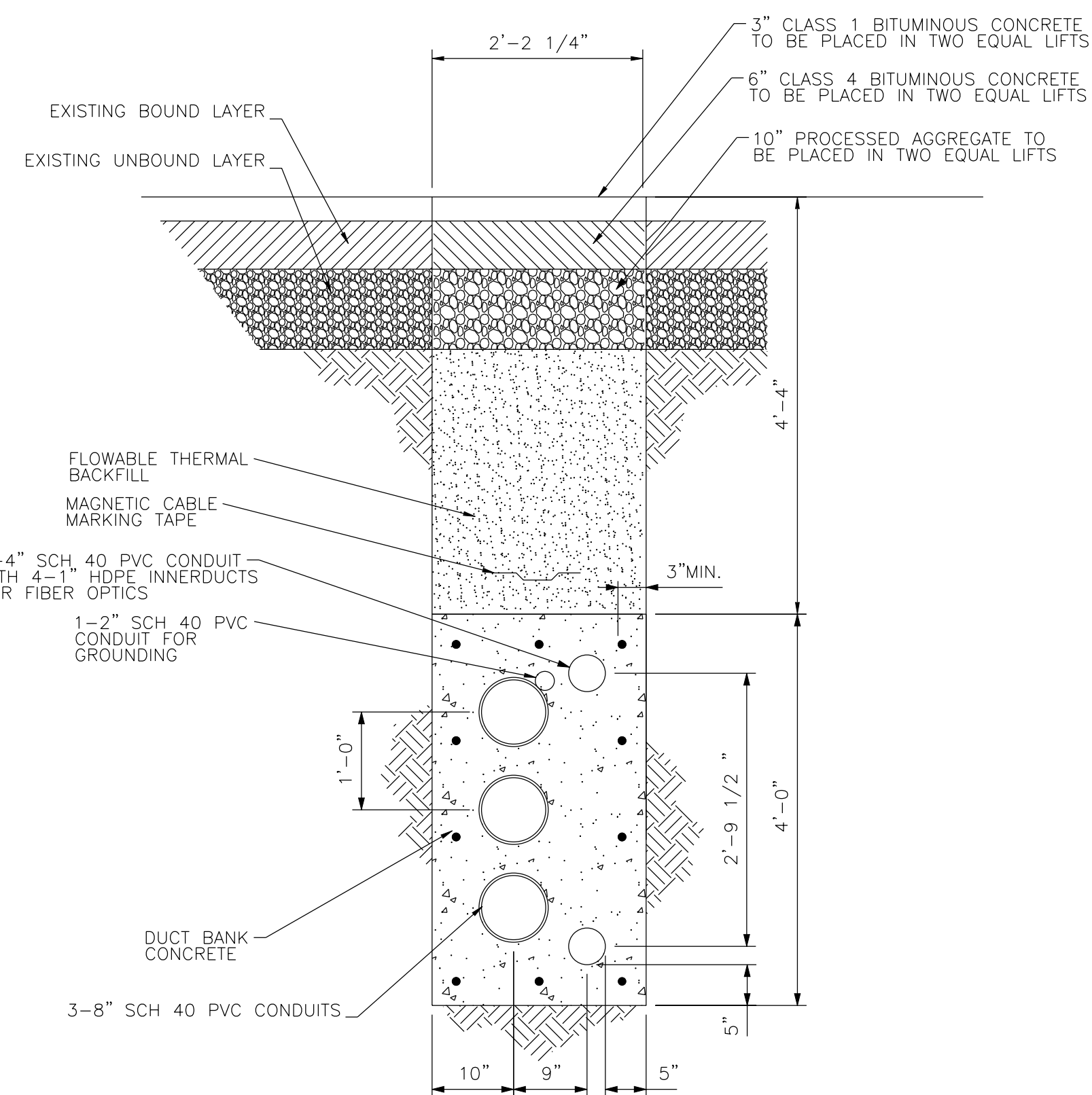
PARTIAL PLAN
SINGER SUBSTATION
(REFERENCE LGIA-ISONI-UI-15-01
APPENDIX A-4)
1"=30'-0"



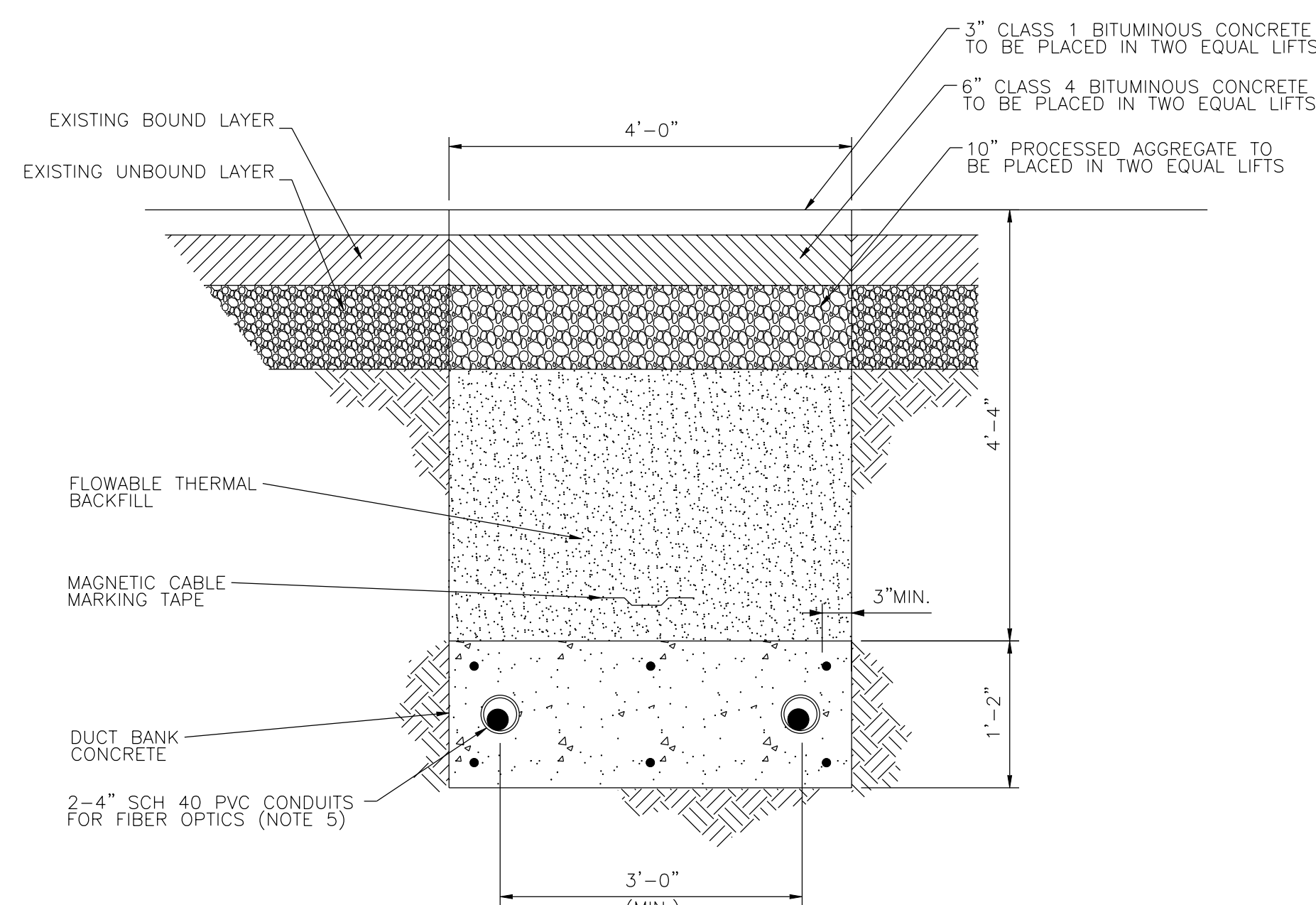
SECTION 1-1
NOT TO SCALE



SECTION 2-2
NOT TO SCALE
(PSEG)



SECTION 3-3
NOT TO SCALE
(UI)



SECTION 4-4
NOT TO SCALE

LEGENDS/SYMBOL KEYS:

DESIGN NOTES:

- BOUNDARY INDICATES DIVISION OF OWNERSHIP FOR DUCTBANK ONLY. INTERCONNECTION CUSTOMER ASSUMES COMPLETE OWNERSHIP OF TRANSMISSION CABLE UP TO AND INCLUDING THE POTHOLE AT INTERCONNECTING TRANSMISSION OWNER'S SINGER SUBSTATION.
- STUB & CAP TO BE EXTENDED FOR FUTURE USE BY UI.
- DUCTBANK ALONG HENRY STREET SHALL BE DESIGNED FOR H-20 TRUCK TRAFFIC LOADING. CONCRETE WILL BE SPRINKLED WITH RED DYE TO IDENTIFY IT AS AN ELECTRICAL DUCTBANK.
- FINAL ROUTING AT SINGER SUBSTATION TO BE DETERMINED BY UI.
- EACH FIBER OPTIC CABLE SHALL BE 24 FIBERS NDSF.

REFERENCES:

- LGIA - ISONE/UI-15-01 APPENDIX A-3
LGIA - ISONE/UI-15-01 APPENDIX A-4

NO.	DATE	ACCT	DESCRIPTION	DWN	CKD	EXD	REV	REV	APD
0C	08/19/15		SEE REV. NOTE 0C	AB	KY	TF	DR		
0B	07/29/15		SEE REV. NOTE 0B	AB	KY	TF	DR		
0A	04/23/15		SEE REV. NOTE 0A	TW	KY	TF	DR		

REVISION

RCM Technologies
Power System Services

BRIDGEPORT 05

PLANT LAYOUT
UNIT 5 COMBINED CYCLE PROJECT
SINGER SUBSTATION

SITE PLAN DESIGN-CIVIL GENERAL

PROJECT ENGINEERING DIVISION



DRAWN (BY RCMT) ANGELA BARBER	CHECKED (RCMT) KAMAL YOUSIF	EXAMINED (SR DESIGNER) TONY FOSTER
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REVIEWED (ENGR) (BY RCMT) DEEPESH RANA	REVIEWED (PROJ ENGR)	APPROVED (PRINCIPAL)
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VENDOR NO.
LGIA-ISONI/UI-15-01 APPENDIX A-5

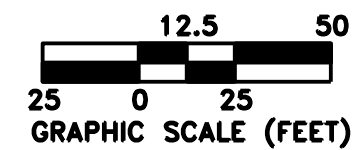
TECHNICAL TABLES/SPECIFICATIONS:

REV. 0A - DRAFT ISSUE
REV. 0B - REVISED PER UNITED ILLUMINATING COMMENTS
REV. 0C - REVISED PER UNITED ILLUMINATING COMMENTS

REVISION NOTES:

DWG SCALE: AS NOTED

SEAL:



LAST C.A.D.D. UPDATE:

CONT. --- MECH. --- SPON. ---
ELEC. --- CIVIL --- OTHER ---

SPONSOR: RONALD W. RAUFFER

ANSI E SIZE

VERSION: 0C

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-18. Is the approximately 300-foot stack the minimum height to meet air emission requirements? What is the approximate diameter of the stack? If the stack is tapered, include the approximate top and bottom diameters.

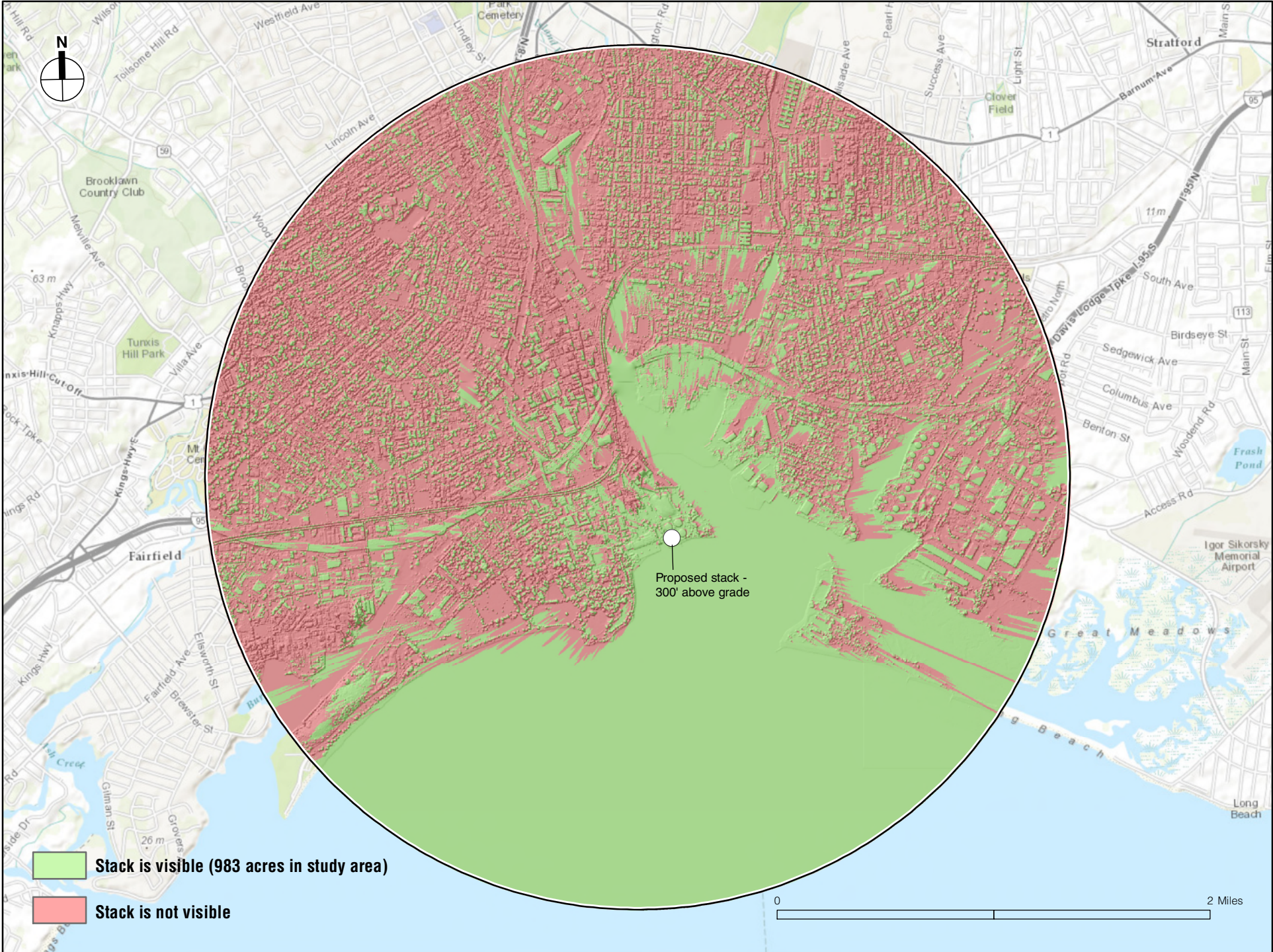
Response: Yes, the stack height is the minimum height to maintain model-predicted impacts for the pollutant PM_{2.5} at less than the Significant Impact Level, given the buildings and equipment layout per the site arrangement. The approximate stack diameter is 21 feet, untapered.

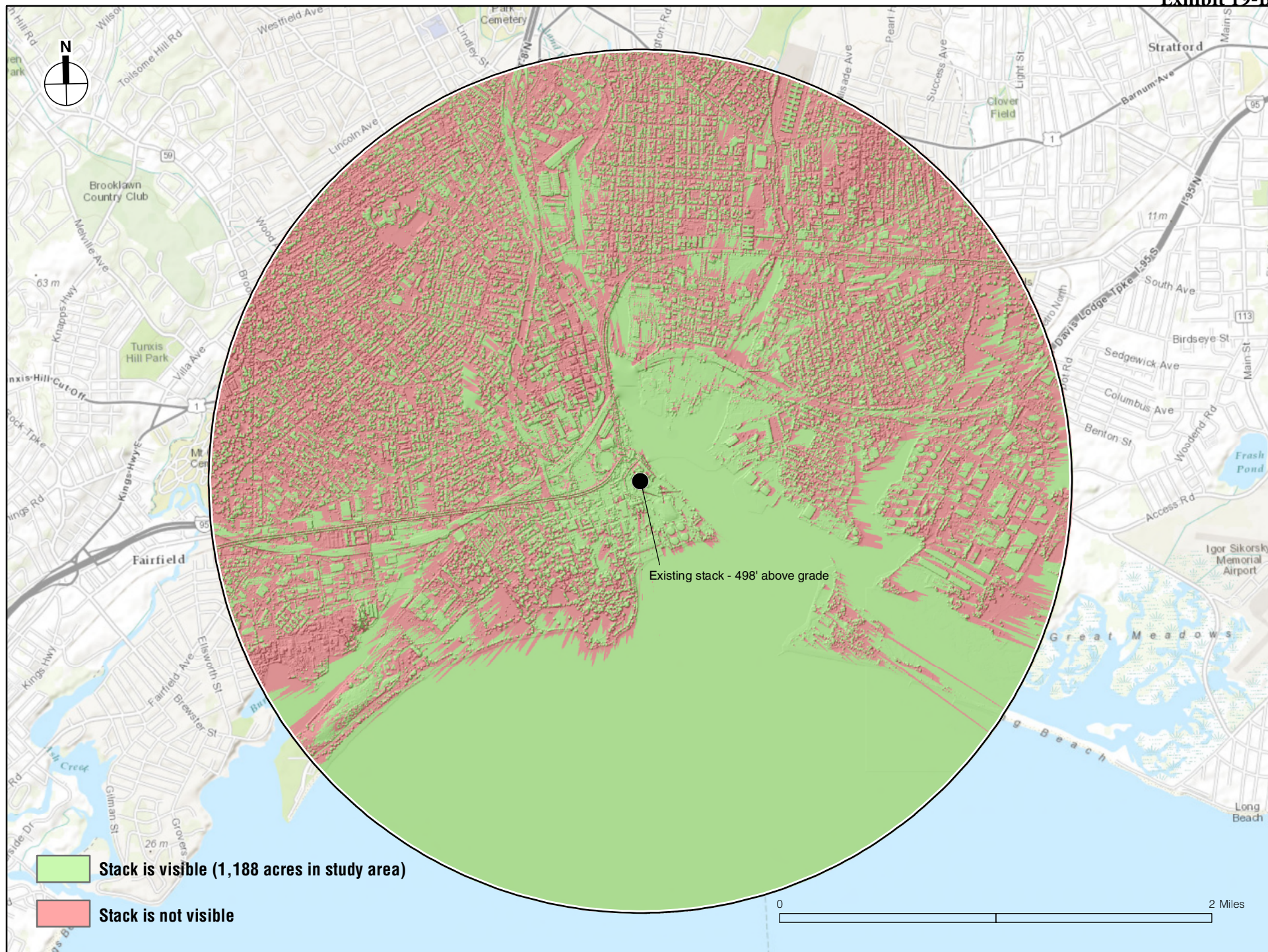
Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-19. Provide a viewshed map depicting the year-round visibility area of the proposed approximately 300-foot stack. As a comparison, provide a viewshed map depicting the year-round visibility of the existing 498-foot stack that would eventually be removed. Include the areas of visibility for both in acres choosing a suitable radius (e.g. 2 miles) for the study areas.

Response: Attached as Exhibits 19-A and 19-B are viewshed maps depicting the year-round visibility area of the proposed 300-foot stack, and the existing 498-foot stack within a 2-mile radius, respectively. The viewshed analyses provided were created using 2012 USACE Post Sandy Topographic LiDAR: Coastal Connecticut and 2011 U.S. Geological Survey Topographic LiDAR: LiDAR for the North East. As depicted, the viewshed of the proposed 300-foot stack within a 2-mile radius is approximately 983 acres, and the viewshed of the existing 498-foot stack is approximately 1,188 acres.





Witness: Doug Gordon

Request from: Connecticut Siting Council

CSC-20. Would exhaust plumes be visible under certain circumstances such as cold weather below 40 degrees F or very humid conditions? Roughly how tall could a visible plume rise on a calm day (i.e. negligible wind)?

Response: Yes, the potential exists for a visible exhaust plume. Combustion of natural gas produces significant amounts of harmless water vapor. This vapor will condense under certain meteorological conditions (generally, temperatures below 40°F or high humidity) to form a visible plume. The length and height of this plume will be controlled by meteorological conditions. Under calm winds, the plume will rise vertically from the stack top and could extend to considerable heights in the atmosphere. However, the entire lowest portion of the atmosphere is calm infrequently.

Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-21. Is the proposed project located outside of the shaded area of the Department of Energy and Environmental Protection (DEEP) Natural Diversity Database (NDDB)? If no, has PSEG consulted with DEEP regarding the NDDB? If yes, provide a copy of any reply correspondence from DEEP.

Response: Based on the Connecticut Department of Energy & Environmental Protection (CT DEEP) Bureau of Natural Resources Wildlife Division's Natural Diversity Data Base Areas Map for Bridgeport, CT, a small portion of the proposed Unit 5 development along the southern property boundary is located within the shaded area identified as State and Federal Listed Species & Significant Natural Communities. AKRF, Inc. (AKRF) on behalf of PSEG, has conducted consultation with CT DEEP requesting a review of the proposed Combined Cycle Facility Development. AKRF received an initial response from CT DEEP on October 21, 2014 stating that given the proposed upgrades, as well as the location and siting of the proposed Facility, it is unlikely that construction activities and subsequent operations of the proposed Facility will negatively impact State-listed species. AKRF subsequently received a renewed response from CT DEEP on March 12, 2016 reconfirming that CT DEEP does not anticipate negative impacts to State-listed species resulting from the proposed activity at the site. The October 21, 2014 and March 12, 2016 CT DEEP correspondence are attached to this response.

Natural Diversity Data Base Areas

BRIDGEPORT, CT

September 2015

 State and Federal Listed Species
& Significant Natural Communities

 Town Boundary

NOTE: This map shows general locations of State and Federal Listed Species and Significant Natural Communities. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a number of data sources. Exact locations of species have been buffered to produce the general locations. Exact locations of species and communities occur somewhere in the shaded areas, not necessarily in the center. A new mapping format is being employed that more accurately models important riparian and aquatic areas and eliminates the need for the upstream/downstream searches required in previous versions.

This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a shaded area there may be a potential conflict with a listed species. For more information, complete a Request for Natural Diversity Data Base State Listed Species Review form (DEP-APP-007), and submit it to the NDDB along with the required maps and information. More detailed instructions are provided with the request form on our website.

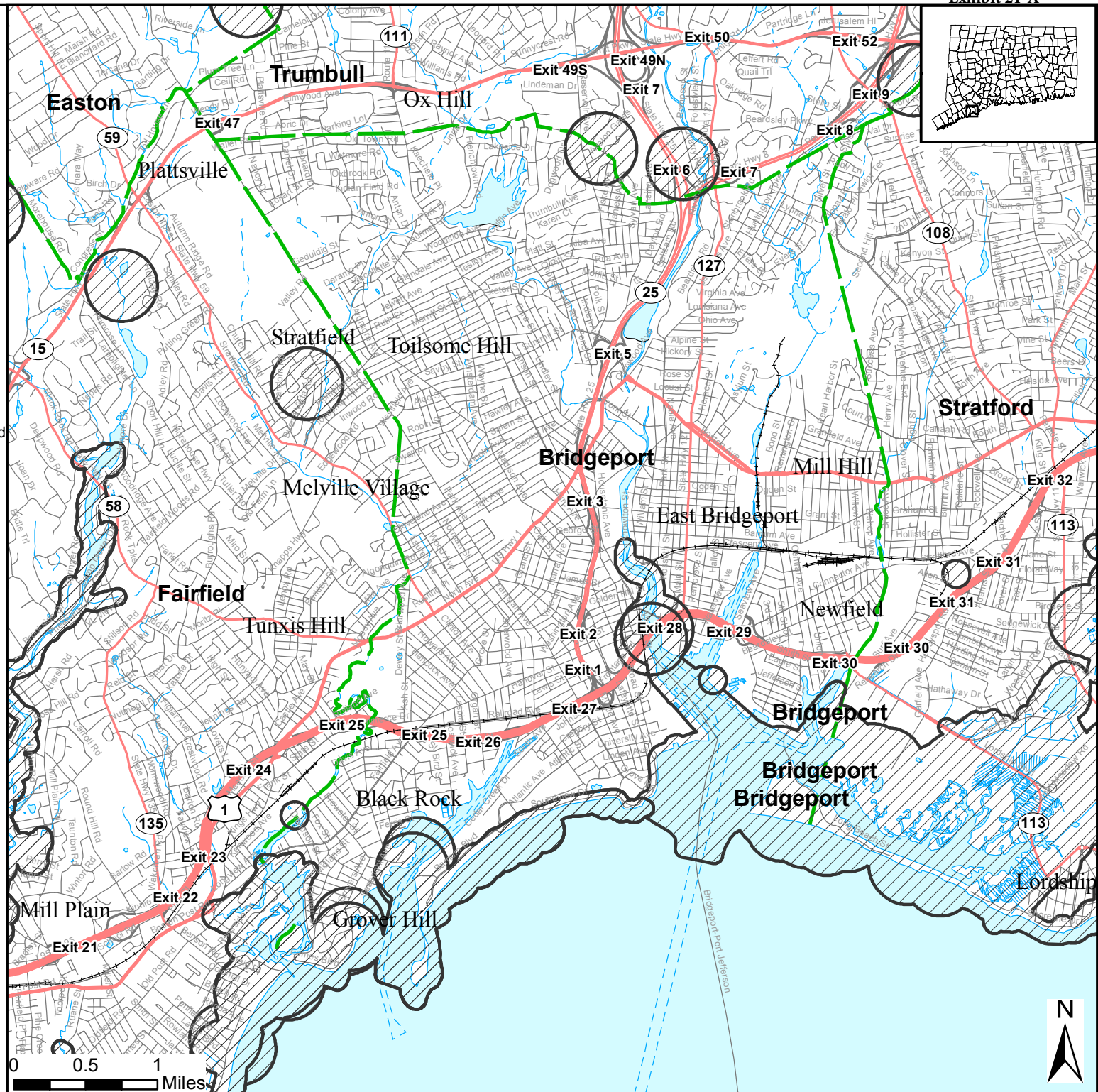
www.ct.gov/deep/nddbrequest

Use the CTECO Interactive Map Viewers at www.cteco.uconn.edu to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St., Hartford CT 06106
Phone (860) 424-3011



Connecticut Department of
Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division





Connecticut Department of

**ENERGY &
ENVIRONMENTAL
PROTECTION**

October 21, 2014

Kevin Mahar
AKRF, Inc.
307 Fellowship Road, Suite 214
Mount Laurel, NJ 08054

Re: PSEG Power Connecticut, Bridgeport Harbor Unit 5, Combined Cycle Project in Bridgeport
Connecticut
NDDB 201408872

Dear Mr. Mahar:

Materials pertaining to the above project were forwarded to me for review by the DEEP Natural Diversity Database (NDDB). Their records indicate that state-listed species occur in the vicinity of this proposed project.

Given the proposed upgrades, as well as the location and siting of this facility, it is unlikely that construction activities and subsequent operations of the facility will negatively impact state-listed species.

Natural Diversity Database information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Database should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Database as it becomes available.

This is a preliminary site review and is not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to the DEEP for the proposed site. Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEEP Wildlife Division should be requested and species-specific surveys may be required. If the proposed project has not been initiated within one year of this Wildlife Division review, you should contact the NDDB for an updated review.

If you have any additional questions, please feel free to contact me at Laura.Saucier@ct.gov, please reference the NDDB number in the subject line of this letter when you e-mail or write.

Sincerely,

Laura Saucier
Wildlife Biologist



Connecticut Department of
**ENERGY &
ENVIRONMENTAL
PROTECTION**

March 12, 2016

Jeffrey J. Pantazes
AKRF, Inc.
307 Fellowship Rd
Suite 214
Mount Laurel, NJ 08054
jpantazes@akrf.com

Project: Installation and Operation of a Combined Cycle Facility at the site of Existing Bridgeport Harbor Station PSEG Power Connecticut, LLC Located at 1 Atlantic Street in Bridgeport
NDDB Determination No.: 201603066

Dear Jeffrey J. Pantazes,

I have reviewed Natural Diversity Data Base (NDDB) maps and files regarding the area delineated on the map provided for the proposed Installation and Operation of a Combined Cycle Facility at the site of Existing Bridgeport Harbor Station PSEG Power Connecticut, LLC Located at 1 Atlantic Street in Bridgeport, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for one year. Please re-submit an NDDB Request for Review if the scope of work changes or if work has not begun on this project by March 12, 2017.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

A handwritten signature in cursive script that reads "Dawn M. McKay".

Dawn M. McKay
Environmental Analyst 3

Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-22. Where is the nearest Important Bird Area (relative to the center of the Facility) as indicated by the National Audubon Society?

Response: The nearest Important Bird Area as indicated by the National Audubon Society is the Stratford Great Meadows Area, located approximately 1.3 miles from the center of the Facility. The Great Meadows estuarine system, located on Stratford's West Shore, East of Bridgeport Harbor, is comprised of barrier beach, ditched and un-ditched saltmarsh, filled wetland and upland. About sixty percent of the marsh is low marsh dominated by saltmarsh cordgrass, and forty percent is high marsh with saltmeadow cordgrass. The next nearest Important Bird Areas are the Milford Point/Wheeler Marsh complex and the Silver Sands State Park and Charles Island in Milford, Connecticut, which are approximately 6.5 miles from the facility. The Nature Conservancy's Devil's Den area is located approximately 10 miles from the facility in Weston/Redding, Connecticut. Beyond these, the nearest Important Bird Areas are approximately 14 to 15 miles from the facility, and include Sandy Point in West Haven, East Rock Park and Lighthouse Point Park in New Haven, Connecticut. (Source: <http://ct.audubon.org/important-bird-areas-11>, last accessed 04/12/16.)

Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-23. Where is the nearest bat hibernaculum located? Provide the distance and direction from the center of the proposed Facility.

Response: According to the CT DEEP, known bat hibernacula are located in Greenwich (approximately 25 miles WSW of the facility), Morris (approximately 35 miles N of the facility), New Milford (approximately 28 miles NNW of the facility), Roxbury (approximately 26 miles NNW of the facility), Terryville (approximately 35 miles NNE of the facility), and Winstead (approximately 50 miles NNE of the facility). (Source: http://www.ct.gov/deep/lib/deep/wildlife/pdf_files/outreach/connecticut_wildlife_magazine/cwmj05.pdf, last accessed 04/12/16.)

Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-24. What is status of the Federal Aviation Administration review of the stack regarding marking and lighting? If the stack is to be lit, would it be a two-color scheme such as white light during day and red at night? If permissible by FAA, has PSEG considered utilizing lighting without the orange and white painting scheme currently utilized on the 498 foot stack in order to minimize the visual impact?

Response: The lighting that is required will include medium intensity flashing white lighting during daytime and twilight and red lighting at night. AKRF, Inc., (AKRF) on behalf of PSEG, submitted an application to the Federal Aviation Administration (FAA) on December 2, 2014. After its review, the FAA issued a “Determination of No Hazard to Air Navigation” on April 20, 2015. The authorized height of the stack is 300 feet above ground level and 317 feet above mean sea level, which is consistent with the design for the Facility. The FAA Determination requires marking / lighting “in accordance with FAA Advisory Circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, a med-dual system – Chapters 4, 8 (M-Dual), & 12.”

The FAA Determination expires on October 20, 2016 and PSEG anticipates that it will be renewed in accordance with the conditions of the Determination.

PSEG has determined that dual day / night lighting complies with the noted FAA Advisory Circular and that no orange / red and white painting scheme is required. The dual lighting scheme allows other marking to be eliminated for structures less than 500 feet in height, as the Facility’s stack will be. Generally, the lighting that is required will include medium intensity flashing white lighting during daytime and twilight and red lighting at night.



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-2323-OE

Issued Date: 04/20/2015

Thomas Copus
PSEG Power Connecticut LLC
1 Atlantic Street
Bridgeport, CT 06604

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Stack Bridgeport Unit 5 Stack
Location:	Bridgeport, CT
Latitude:	41-10-00.16N NAD 83
Longitude:	73-10-48.42W
Heights:	17 feet site elevation (SE) 300 feet above ground level (AGL) 317 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, a med-dual system - Chapters 4,8(M-Dual),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

☐ At least 10 days prior to start of construction (7460-2, Part 1)
☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 300 feet above ground level (317 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 10/20/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.

- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before May 20, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on May 30, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Darin Clipper, at (404) 305-6531. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANE-2323-OE.

Signature Control No: 235894583-249506848

(DNH)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Case Description

Map(s)

The proposed Bridgeport Unit 5 Exhaust Stack, not exceeding a height of 300 feet (ft.) above ground level (AGL), 317 ft. above means sea level (AMSL), would be located approximately 2.45 nautical miles (NM) west of Igor I Sikorsky Memorial Airport's (BDR) airport reference point (ARP), Bridgeport, CT. The proposed exhaust stack has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to BDR as follows:

Section 77.17 (a) (2): A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet. The proposed stack would exceed by up to 100 ft.

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (b): Conical surface. A surface, extending outward and upward, from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet. The proposed stack exceeds by up to 47 ft.

The proposal was circularized on March 3, 2015, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. No letters of objection were received as a result of circularization.

Aeronautical study disclosed that the proposed stack would have no effects on any proposed arrival, departure, or en route instrument flight rule (IFR) operations or procedures.

Since the proposed stack lies beyond the lateral limits of the VFR conical surface, and in the Runway 06/24 climb/descent area for Category C and D aircraft (aircraft with approach speeds of 121 knots but less than 166 knots), the maximum allowable height is 350 ft. above airport elevation or the height of 14 CFR Part 77.17(a) (2), whichever is greater not to exceed 499 ft. above the ground. The height that is 350 ft. above airport elevation is 359 ft. AMSL. The height that would not exceed 14 CFR Part 77.17(a) (2) is 217 ft. AMSL.

The proposed stack also lies beyond the lateral limits of the VFR conical surface and not in the climb/descent area for Runway 11/29. The maximum allowable height for this runway is 499 ft. above the airport elevation not to exceed 499 ft. AGL in which this proposed stack does not exceed criteria.

Study for possible visual flight rules (VFR) effect disclosed that the proposed stack would have no effects on any existing or proposed arrival or departure VFR operations or procedures. It would not conflict with airspace required to conduct normal VFR traffic pattern operations at BDR or any other known public-use or military airports. At 300 ft. AGL, the proposed stack would not have a substantial adverse effect on VFR en route flight operations because it is located within traffic pattern airspace.

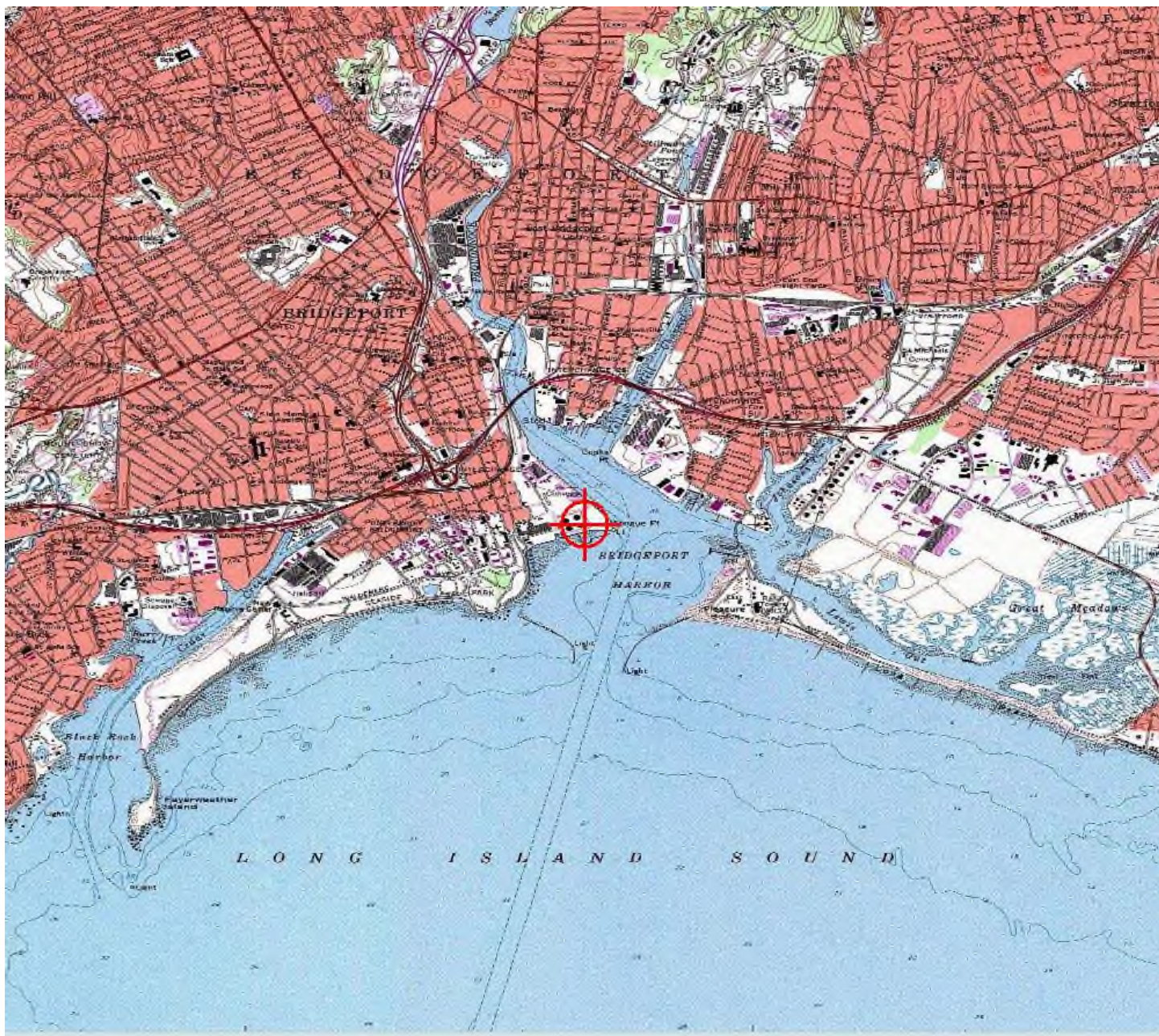
Even though the proposed stack exceeds 77.19 (b), the proposed stack does not exceed the height of the VFR transition, approach, horizontal, or conical surfaces as applied to visual approach runways at BDR, the foundation of VFR traffic pattern analysis.

The proposed stack would need appropriate obstruction marking and lighting to make it more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed stack, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effects on existing or proposed public-use or military airports or navigational facilities, nor does the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed stack would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation as long as all conditions written within this determination are met.

PSEG Power Connecticut LLC is proposing to construct a combined cycle electric generating facility (Bridgeport Unit 5) at the site of its existing Bridgeport Harbor Station. The project's proposed exhaust stack is proposed at 300 feet above the proposed site design grade of 16 feet AMSL.





Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-25. Would the ULSD storage have secondary containment? If yes, what percentage of the full amount of ULSD could it contain (e.g. 110 percent)?

Response: Yes, the ULSD storage will have secondary containment. This containment area will have the capacity to hold 110% of the full amount of ULSD, in accordance with the Facility's Spill Prevention, Control, and Countermeasure Plan and consistent with 40 CFR 112.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-26. Would both 345-kV step-up transformers have containment in case of any leaks of dielectric fluid? Would the dielectric fluid contain PCBs? If the secondary voltage of the transformers is 345-kV, approximately what is the primary voltage (or generator output voltage) to be stepped up?

Response: Yes, both step-up transformers will have containment. No, the dielectric fluid will not contain polychlorinated biphenyls (PCBs). The primary voltage to be stepped up for the combustion turbine is 25 kV to 345 kV. For the steam turbine, the primary voltage to be stepped up is 18 kV to 345 kV.

Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-27. Is the proposed project located within an aquifer protection area?

Response: No, based on CT DEEP mapping, there are no Aquifer Protection Areas mapped within the City of Bridgeport. Additionally, in accordance with the Connecticut Water Quality Standards, the site is located in an “SB” Coastal and Marine Surface Waters designated area, with designated uses including marine fish, shellfish and wildlife habitat, shellfish harvesting for transfer to approved areas for purification prior to human consumption, recreation, industrial and other legitimate uses, including navigation.

Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-28. How many trees six inches diameter or greater would be removed to construct the project? Alternatively an acreage (or area) of clearing is acceptable.

Response: Approximately thirty-nine trees with a six-inch diameter at breast height (measured 4 feet above the ground surface) will be removed to construct the Facility. It should be noted that the majority of the trees to be removed are located within previously-developed portions of the site, which are not currently forested.

Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-29. Provide the closest distance from the limits of construction of the Facility to the nearest wetland.

Response: The closest that the limits of construction approach to a delineated, vegetated wetland area is approximately 28 feet. This wetland area is designated as “Northern Wetland Area” in the May 2014 Wetland Assessment Report Bridgeport Harbor Station (GEI Consultants, 2014), and is located near the eastern limit of construction.

Witness: Jeffrey Pantazes, AKRF, Inc.

Request from: Connecticut Siting Council

CSC-30. Would the proposed Facility impact a coastal resource or coastal boundary?

Response: The entire proposed project will occur within the regulated Coastal Boundary, pursuant to the CT DEEP map entitled *Coastal Boundary, Bridgeport, Connecticut*, dated January 2013. However, due to the developed nature of the site as an active electric generating station, the project is not anticipated to adversely affect existing coastal resources. The only improvements proposed below the coastal jurisdiction line of elevation of 5 feet NAVD88 (for the City of Bridgeport), consist of the necessary repairs/maintenance to the existing oil dock to support future barge deliveries, the modifications to an existing storm water outfall, and the temporary shoreline improvements to support off-loading of equipment from spud barges during construction. As stated above, these activities will occur within previously-developed shoreline and in-water areas, and will not disturb natural areas or associated resources.

COASTAL BOUNDARY BRIDGEPORT, CONNECTICUT

LEGEND

 Coastal Boundary

EXPLANATION

The coastal boundary map shows the extent of lands and coastal waters as defined by Connecticut General Statute within Connecticut's coastal area. The coastal boundary is a continuous line delineated on the landward side by the interior contour elevation of the one hundred year frequency coastal flood zone, as defined and determined by the National Flood Insurance Act, or a one thousand foot linear setback measured from the mean high water mark in coastal waters, or a one thousand foot linear setback measured from the inland boundary of tidal wetlands, whichever is farthest inland, and shall be delineated on the seaward side by the seaward extent of the jurisdiction of the state.

Any regulated activity conducted within the coastal boundary by a municipal agency (i.e., plans of development, zoning regulations, municipal coastal programs and coastal site plan review (i.e., site plans submitted to zoning commission, subdivision or resubdivision plans submitted to planning commission, application for special permit or exception to the zoning or planning commissions or zoning board of appeals, variance submitted to

zoning board of appeals and a referral of a municipal project)) must be conducted in a manner consistent with the requirements of the Connecticut Coastal Management Act (CMA). As the Coastal Boundary is a hybrid of the Coastal Area, all state and federal agency activities must be consistent with the requirements of the CMA. The coastal boundary is a hybrid of the original 1:24,000 version maps prepared by DEP and the revised boundary mapping undertaken by twenty-two coastal towns. This layer therefore does not replace the legal maps and may not be used for legal determinations.

The following twenty-two towns have adopted municipal coastal boundaries: Chester, Clinton, Danvers, Deep River, East Haven, Essex, Fairfield, Greenwich, Groton, Guilford, Hamden, Ledyard, Madison, Milford, New Haven, New London, North Haven, Norwalk, Old Lyme, Old Saybrook, Stamford and Waterford. The coastal boundary maps for these towns may be at different scales than the original DEP draft maps and may contain minor adjustments to the boundary.

DATA SOURCES

COASTAL BOUNDARY DATA - The original boundary maps were created in 1979 on stable mylar overlay using the 1:24,000-scale US Geological Survey topographic quadrangle maps (mylar film format). The source for tidal wetland maps were the legal 1:24,000 maps (mylar format) adopted by the Commissioner of DEP and transferred to 1:24,000 mylar-scale maps by the Office of Policy and Management (OPM) using an accurate pantograph. OPM similarly converted FEMA's flood insurance maps (various scales) to a 1:24,000 mylar overlay. The inland extent of coastal waters was plotted on 1:24,000 USGS topographic maps following the procedures and sources described in The Boundary Between Saltwater and Freshwater in Connecticut, December 1978 prepared by the State of Connecticut, Department of Environmental Protection, Coastal Area Management Program.

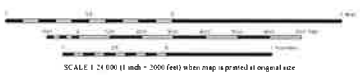
BASE MAP DATA - Based on data originals from 1:24,000-scale USGS 7.5 minute topographic quadrangle maps published between 1969 and 1992. It includes political boundaries, railroads, airports, hydrography, geographic names and geographic places. Streets and street names are from Tele Atlas® copyrighted data. Base map information is neither current nor complete.

RELATED INFORMATION

This map is intended to be printed at its original dimensions in order to maintain the 1:24,000 scale (1 inch = 2000 feet).

MAPS AND DIGITAL DATA - Go to the CT ECO website for this map and a variety of others. Go to the DEP website for the digital spatial data shown on this map.

MAP LOCATION



STATE OF CONNECTICUT
DEPARTMENT OF
ENERGY & ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-3129

Map created by: DEEP
January 2013
Map users should
Protect from light and moisture



Witness: Doug Gordon

Request from: Connecticut Siting Council

CSC-31. What is the status of the cumulative impact study for NO₂ (and particulate matter if applicable) to be submitted to DEEP?

Response: The cumulative impact study for NO₂ was completed and submitted to the CT DEEP by AKRF, Inc. on behalf of PSEG on March 22, 2016. The report concluded that there are no predicted short-term NO₂ NAAQS exceedances within the modeling area which extends 10km from the proposed Unit 5 stack location. A multisource analysis for particulate matter was not required because modeling of the Unit 5 project emissions alone produced no predicted exceedances of the PM_{2.5} Significant Impact Level.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-32. Would hydrogen be used on site for cooling the generator? If yes, what safety measures would be employed relative to the use and storage of hydrogen?

Response: Yes, hydrogen will be used onsite to cool the generators. The safety precautions which will be employed include the following:

1. PSEG Training (e.g., Safety Awareness Training, OSHA 1910, NFPA, others)
2. PSEG written procedures, (e.g., Job Hazard Analysis (JHA), hydrogen delivery, hydrogen purging & filling, others), and
3. PSEG design considerations (e.g., hydrogen sensors, hydrogen storage locations, proper venting locations, electronic bonding of mobile supply units to the system prior to hydrogen discharge, others).

The hydrogen quantity for the new plant, when combined with the current Unit 3 supply onsite, will be significantly below the EPA Risk Management Plan threshold of 10,000 pounds that would require additional response planning.

Witness: Bruce Na

Request from: Connecticut Siting Council

CSC-33. Would the proposed Facility have a backup generator on site? If yes, provide the fuel source (e.g. diesel) and the size in kilowatts or MW.

Response: Yes, an emergency diesel-driven electric generator will be permanently installed.

The emergency generator will be fueled with ULSD and its capacity will be 2,000 kilowatts—
electrical.

Witness: Neil Brown

Request from: Connecticut Siting Council

CSC-34. If the proposed Facility is approved and unit 3 later decommissioned, would the entire Unit 3 facility be removed or would portions of the Unit 3 facility remain? Explain.

Response: PSEG has agreed to work with the City of Bridgeport (“City”) on a joint planning study to explore how its redevelopment and/or reuse of the remainder of its site, including any schedule for partial or complete deconstruction of Unit #3, can reinforce City and Community objectives for the South End section of the City. One of the main components of this study will examine the near-term deconstruction, remediation, landscaping and other interim measures necessary to minimize any negative aesthetic impacts of the decommissioned Unit #3, the minimum amount of work necessary to accomplish this goal and will set a timeframe. The second part of the study will explore medium- and long-term redevelopment or re-use options for the site, specifically focusing on how the remainder of the parcel can support the City’s coastal resiliency, waterfront access, and economic development objectives. The planning study has been incorporated into the Community Environmental Benefit Agreement associated with the project (Section 4, paragraph b).