



September 13, 2019

Melanie Bachman, Esq.
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Petition of Bloom Energy Corporation for a Declaratory Ruling for the Location and Construction of a 600-Kilowatt Fuel Cell Customer Side Distributed Resource at 2150 Corbin Avenue, New Britain, Connecticut

Dear Attorney Bachman:

We are submitting an original and fifteen (15) copies of the above-captioned Petition, together with the filing fee of \$625.

In the Petition, Bloom Energy Corporation ("Bloom") requests the Connecticut Siting Council approve the location and construction of a 600-kilowatt fuel cell and associated equipment (the "Facility"). The Facility will be located at the Hospital for Special Care ("HSC"), 2150 Corbin Avenue, New Britain, CT (the "Site"). Electricity generated by the Facility will benefit HSC, and any excess electricity will be exported to the electric grid. The Facility will be fueled by natural gas.

Should you have any questions, concerns, or require additional information, please contact me at (860) 839-8373.

Sincerely,
Bloom Energy

A handwritten signature in black ink, appearing to read "Justin Adams".

Justin Adams
justin.adams@bloomenergy.com
(860) 839-8373

**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

PETITION OF BLOOM ENERGY : PETITION NO. ____
CORPORATION FOR A DECLARATORY :
RULING FOR THE LOCATION AND :
CONSTRUCTION OF A 600-KILOWATT FUEL :
CELL CUSTOMER-SIDE DISTRIBUTED :
RESOURCE AT 2150 CORBIN AVENUE, NEW :
BRITAIN, CT : SEPTEMBER 13, 2019

PETITION OF BLOOM ENERGY CORPORATION FOR A DECLARATORY RULING

Pursuant to Conn. Gen. Stat. §§ 4-176 and 16-50k(a) and Conn. Agencies Regs. § 16-50j-38 et seq., Bloom Energy Corporation (“Bloom”) requests that the Connecticut Siting Council (“Council”) approve by declaratory ruling the location and construction of a customer-side distributed resources project composed of three (3) ES-5 Bloom Energy Server solid oxide fuel cells and associated equipment (the “Facility”), providing 600 kilowatts (“kW”) (net) of power to the Hospital for Special Care (“HSC”) property located at 2150 Corbin Avenue, New Britain, Connecticut (the “Site”). *See* Exhibits 1A and 1B. The Facility will be installed, maintained and operated by Bloom. It will be owned by a third-party financing source of Bloom under an agreement with HSC.

Conn. Gen. Stat. § 16-50k(a) provides that:

Notwithstanding the provisions of this chapter or title 16a, the council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling . . . (B) the construction or location of any fuel cell, unless the council finds a substantial adverse environmental effect, or of any customer-side distributed resources project or facility ... with a capacity of not more than sixty-five megawatts, as long as such project meets air and water quality standards of the Department of Energy and Environmental Projection....



The proposed Facility will be a customer-side distributed resources facility under 65 MW that complies with the air and water quality standards of the State of Connecticut Department of Energy and Environmental Protection (“DEEP”). Bloom submits that no Certificate is required for the proposed Facility, as the installation would not have a substantial adverse environmental effect in the immediate vicinity of the Site or in the State of Connecticut.

I. COMMUNICATIONS

Correspondence and other communication regarding this petition should be directed to the following parties:

Justin Adams
Bloom Energy Corporation
4353 North First Street
San Jose, CA 95134
Telephone: (408) 543-1500
Fax: (408) 543-1501
Email: justin.adams@bloomenergy.com

Paul Evan
Bloom Energy Corporation
4353 North First Street
San Jose, CA 95134
Telephone: (408) 543-1500
Fax: (408) 543-1501
Email: paul.evan@bloomenergy.com

II. DISCUSSION

A. Project Description and Purpose

The Facility will be a 600-kW customer-side distributed resource consisting of three (3) state-of-the-art Bloom Energy Servers and associated equipment. The Facility will be interconnected to an existing [electrical](#) switchboard within the HSC building. See Exhibits 1B and 2.

The proposed Facility is a “customer-side distributed resources” project because it will be “a unit with a rating of not more than sixty-five megawatts [located] on the premises of an industrial end user within the transmission and distribution system including, but not limited to,



fuel cells . . .” Conn. Gen. Stat. § 16-1(a)(34)(A). Further, the Connecticut Public Utilities Regulatory Authority (“PURA”) determined that Bloom’s Energy Server qualifies as a Class I renewable energy source fuel cell as defined in Conn. Gen. Stat. §16-1(a)(20)(A). Decision, Docket No. 12-02-09, September 12, 2012.

The purpose of the proposed project is to replace the average baseload of the Site with a Class I renewable energy source, achieve HSC’s sustainability goals, and improve reliability of electrical systems and equipment. The Facility has been sized to provide at least 90% of the average HSC baseload. Exhibit 3. Electricity generated by the Facility will be consumed primarily at the Site, and any excess electricity will be exported to the grid.

B. The Facility

The Facility will consist of three Bloom solid oxide fuel cell Energy Servers, one (1) 200 kW ES5-FADAAN model and two (2) 200 kW ES5-FABAAN model, and associated equipment to be located at the HSC property. As shown in Exhibit 2, the fuel cells and associated equipment will be placed on concrete pads adjacent to an existing parking lot at the rear of the main HSC building. The associated equipment includes water deionizers, telemetry cabinets, disconnect switches and utility cabinets. The Facility is enclosed, factory-assembled and tested prior to installation on the Site. See Exhibit 3 for Bloom Energy Server Product Datasheets.

The operational life of the Facility is for the life of the 10-year contract and the solid oxide media in the fuel cells are exchanged at roughly five-year intervals. The Facility, the connections, and associated equipment will be installed in compliance with applicable building, plumbing, electrical, and fire codes. At the conclusion of the 10-year contract, HSC may renew the contract, return the Facility at no cost, or buy the Facility at a fair market value. If the



Facility is to be removed at the end of the contract or if there is a default in the contract, the Energy Servers, associated equipment and components will be dismantled and removed, the concrete pads will remain unless requested to be removed, and the site will be restored as nearly as practicable to its effective original condition.

The Facility will be capable of producing 600 kW of continuous, reliable electric power. The Facility will interconnect to the Site's distribution system and operate in parallel with the grid to provide the Site's electrical requirements. Any electricity generated in excess of the Site's requirement will be exported to the grid in accordance with the Eversource interconnection technical requirements. This installation will not have an uninterruptible power module ("UPM") and thus will not have any means to output power in a grid independent capacity at any time. The grid-parallel output will interconnect with the utility power system at the switchboard within the existing building.

Each Energy Server is equipped with a UL-1741 listed inverter set that complies with IEEE-1547 standards for interconnection of inverter-based distributed generation. It is UL Recognized under UL Category QIKH2 and UL File Number E310552. The interconnection will be provided from the existing cabinet within the nearby hospital building. The interconnection application for the Facility has been submitted to Eversource. The impact study agreement and cost determination are pending. The Facility will be fueled by natural gas supplied by Connecticut Natural Gas.

The Facility will have extensive hardware, software and operator safety control systems, designed in accordance with American National Standards Institute and Canadian Standards Association for Stationary Fuel Cell Power Systems ("ANSI/CSA"). It is Listed by UL as a



“Stationary Fuel Cell Power System” to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102. The Facility would be controlled remotely and have internal sensors that continuously monitor system operation. If safety circuits detect a condition outside normal operating parameters, the fuel supply is stopped and individual system components are automatically shut down. A Bloom Energy Remote Monitoring Control Center (RMCC) operator can also remotely initiate any emergency sequence. An emergency stop alarm initiates an automatic shutdown sequence that puts the system into “safe mode” and causes it to stop exporting power. Bloom operators can assess different situations and take the necessary actions to mitigate impacts on the fuel cells during maintenance work, shutdowns or outages and enable them to come back online smoothly and efficiently when the disruption is completed. In addition, HSC personnel are provided with an Emergency Response Plan. Exhibit 4.

The Facility will be installed in accordance with NFPA 853¹. This standard provides fire prevention and fire protection requirements for safeguarding life and physical property associated with buildings or facilities that employ stationary fuel cell systems of all sizes. The risk of fire related to the operation of the Facility is therefore very low. Furthermore, in the Facility, natural gas is not burned; it is used in a chemical reaction to generate electricity. The natural gas is digested almost immediately upon entering the unit and is no longer combustible. As stated above, any variation in heat outside of the operational parameters will trigger an automatic shutdown of the energy server. Before commissioning, the fuel lines (pipe) are cleaned in accordance with Conn. Gen. Stat. Section 16-50ii².

¹ Standard for the Installation of Stationary Fuel Cell Power Systems, 2015 Edition

² Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission,

C. Existing Environment

i. The Site

The Facility would be installed on a 32.2-acre parcel at 2150 Corbin Avenue, New Britain, CT, in the rear of the main hospital building. The Site is on the west side of Corbin Avenue, a major north-south local road, within the S-3 Residence Zoning District. Most of the surrounding area is high density residential development. Three schools are located to the southwest of the Site. The closest residential property is located approximately 337 feet to the northwest of the Facility.

The Facility was strategically placed to take advantage of the existing utility infrastructure for the hospital while minimizing impact on parking, traffic and delivery flow within the Site.

ii. Wildlife and Habitat

A review of the publicly available Natural Diversity Database (NDDB) June 2019 data shows that there are no known occurrences of state-listed species within ¼ mile of the proposed Site. *See Exhibit 6.*

iii. Wetlands and Watercourse

There are no identified wetlands or watercourses within the proposed location of the Facility. The host parcel is developed with several buildings, paved parking areas and landscaped lawn. *See Exhibit 7.*

iv. Cultural Resources

The Facility is proposed in a previously disturbed area and the construction and operation of the Facility will therefore not have a substantial adverse effect on cultural (archaeological and historical) resources.

v. Flood Zones and Aquifer Protection Area

A review of the flood hazard mapping data from Federal Emergency Management Agency's ("FEMA") National Flood Insurance Program ("NFIP") has shown the Facility would be located within Zone X, an area of Minimal Flood Hazard. *See Exhibit 8.*

The Site was also reviewed for proximity to Aquifer Protection Areas. According to GIS data provided by CTDEEP, the closest Aquifer Protection Area is located approximately 1.25 miles to the southwest of the proposed Facility.

D. Environmental Effects and Mitigation

i. Natural Gas Desulfurization Process

The first step in the production of electricity in a Bloom Energy server is desulfurization – the removal of the sulfur compounds that have been added to the natural gas as an odorant by the natural gas suppliers. This step occurs in the desulfurization unit ("Desulf Unit"), a canister that contains a filter made for this purpose. Sulfur is not "produced" in this process, but is separated from the natural gas in which it was contained. In this process, trace levels of sulfur oxides and other naturally occurring elements may also absorb to the filter.

The desulfurization process takes place entirely within the Desulf Unit. Because they are built to hold natural gas, their structural integrity is essential. That integrity is assured by around the clock monitoring of the Energy Servers to detect any leak. Were there a leak, the Server (including the desulfurization operation) would shut down automatically. The structural integrity and leak prevention continue after the desulfurization canisters are removed from service. At that point, the entry and exit points for the natural gas automatically seal shut. The desulfurization



canister remains sealed and is not opened at the Site, or anywhere in the State of Connecticut. No gaseous substances are released or vented at any point during the desulfurization process.

The Desulf Unit contains a composite copper catalyst that includes copper. This catalyst removes non-hazardous sulfur odorants from the natural gas feedstock. The sulfur, if not removed, would rapidly and irreversibly damage the fuel cells, bringing the production of electricity to a halt. Although the Desulf Unit is not intended to capture benzene or any other hazardous material, a small amount of benzene adheres to the adsorbent in the Unit.

The Desulf Units are periodically removed from service and replaced with Units containing fresh composite copper catalyst. Upon disconnection, the Desulf Unit automatically seals shut—to assure there is no release of natural gas. The Desulf Units are certified by the U.S. Department of Transportation (DOT) as meeting the hazardous waste shipment standards of the United Nations, DOT, IATA, ICAO and IMO Hazardous Materials Distribution and Packaging requirements.

The spent units are transported to ShoreMet, L.L.C. (ShoreMet) in Indiana, a facility where they are opened, the contents are removed and copper is used as an ingredient in various products. The Desulf Units are then cleaned, refilled, and sent back to the field for reuse.

The Indiana Department of Environmental Management (IDEM) reviewed ShoreMet's management of Bloom's spent desulfurization units. IDEM issued a letter concluding that the spent desulfurization units sent to ShoreMet are excluded from hazardous waste requirements because the contents (i.e., spent media) are used to make copper products (Code of Federal Regulation, title 40, section 261.2(e)(1)(i)). The US Environmental Protection reviewed IDEM's findings and agreed. The California Department of Toxic Substances Control (DTSC) reviewed

these decisions and concluded that the Desulf Units are excluded recyclable material (ERM) under California Health and Safety Code, section 25143.2, subsection (b). There are a number of conditions that apply to this exemption; Bloom satisfies those conditions.

ii. Water, Heat and Air Emissions

The construction and operation of the Facility will comply with DEEP's air and water quality standards and will not have a substantial adverse environmental effect.

With respect to water discharges, the Facility is designed to operate without water discharge under normal operating conditions. There are no connections or discharge points to the proposed Facility. Additionally, the Facility would use no water during normal operation beyond a 376-gallon injection at start-up.

Heat generated by the proposed Facility is used internally to increase the electrical efficiency of the fuel cell system. As a result, there is no useful waste heat generated by the fuel cell. The minimal amount of thermal load present at the Site would preclude the efficient deployment of a combined heat and power application.

Conn. Agencies Regs. § 22a-174-42, which governs air emissions from new distributed generators, exempts fuel cells from air permitting requirements. Accordingly, no permits, registrations, or applications are required based on the actual emissions from the Facility³. Even though the fuel cell systems are exempt from the emissions requirements, Bloom Energy fuel cells do meet the emissions standards of Section 22a-174-42. Per Section 22a-174-42(e)(1)(A) a certification by the California Air Resources Board (CARB) pursuant to Title 17, sections 94200 through 94214 of the California Code of Regulations meets the requirements of Conn. Agencies

³ See Conn. Agencies Regs. §§ 22a-174-42(b) and (e).



Regs. § 22a-174-42. The Bloom Energy fuel cells are certified under the CARB distributed generation program. A current list of certified applications is provided on the CARB’s distributed generation certification website (<http://www.arb.ca.gov/energy/dg/eo/eo-current.htm>).

The Facility will also meet state criteria thresholds for all greenhouse gases defined in Section 22a-174-1(49). Table 1 lists thresholds set by the Low and Zero Emissions Renewable Energy Credit (LREC/ZREC) program⁴, and compares them to emissions generated from the proposed Facility. By virtue of the non-combustion process the Bloom Energy fuel cells virtually eliminate NO_x, SO_x, CO, VOCs and particulate matter emissions from the energy production process. Similarly, there are no CH₄, SF₆, HFC or PFC emissions. The CH₄ is broken down in the reforming process. Reforming is the type of process where if you have sufficient catalyst, the reaction can go all the way to completion. That is the case for the Bloom Energy Server. The fuel is reformed in the hot box – with a significant excess catalyst for reaction.

Table 1: Connecticut Thresholds for Greenhouse Gases

Emission Type	Bloom Output	LREC allowance
Nitrous Oxides (NO _x)	<0.01 lbs/MWh	0.07 lbs/MWh
Carbon Monoxide (CO)	<0.05 lbs/MWh	0.10 lbs/MWh
Sulfur Oxides (SO _x)	Negligible	Not Listed
Volatile Organic Compounds (VOCs)	<0.02 lbs/MWh	0.02 lbs/MWh
Carbon Dioxide (CO ₂) ⁵	679-833 lbs/MWh	Not Listed

The proposed Facility will ultimately displace less efficient fossil fueled marginal generation on the ISO New England system. Based upon US Environmental Protection Agency

⁴ Sec. 16-244t

⁵ Carbon Dioxide is measured at Bloom’s stated lifetime efficiency level of 53-60%

(EPA) “eGrid” data, the proposed facility is expected to reduce carbon emissions by more than 25% while essentially eliminating local air pollutants like NO_x, SO_x, and particulate matter.

iii. Sound Levels

The nearest parcel boundary is with a residential property located to the northwest of the host property and defined as a Class A noise zone⁶. The results of the sound model predicting noise levels at the property boundary located approximately 337 feet to the northwest are provided as Exhibit 9. The proposed Facility would be defined as “Scenario 2” in the model. Scenario 2 models noise for a Bloom Energy Server installed with no structures behind it to reflect sound from either side. The results of the Scenario 2 sound model at 337 feet are 35.2 dBa, which is in compliance with noise criteria set forth in Connecticut regulations for the Control of Noise⁷. The City of New Britain’s noise ordinance exempts construction activities during daytime hours, and does not address operational noise.

iv. Visual Effects

The visual effect of the Facility will be minimal. The Facility will be installed between a rear parking lot and the main hospital building. In general, any off-site visibility would be masked by vegetation at the perimeter of the Site or by the building itself. The addition of the Facility is consistent with the existing development on the property.

E. Project Construction and Maintenance

Bloom anticipates construction to start in the second quarter of 2020 with 12-14 weeks of total construction time (4 weeks of site prep, 4 weeks of installation, and 4 weeks of

⁶ Conn. Agencies Regs. Sec. 22a-69-2.3. Noise zone standards

⁷ Conn. Agencies Regs. Sec. 22a-69-3.5. Noise zone standards



commissioning). Bloom will comply with the construction hour requirements of the City's Noise Ordinance (Monday – Saturday, 7 am – 9 pm; Sunday 9 am – 9 pm).

During construction, appropriate erosion and sedimentation (E&S) controls will be installed and areas of disturbance will be promptly stabilized in order to minimize the potential for soil erosion and the flow of sediments off site. Temporary E&S control measures will be maintained and inspected throughout construction to ensure their integrity and effectiveness. The temporary E&S control measures will remain in place until the work is complete and all disturbed areas have been stabilized. No effects to drainage patterns or stormwater discharges are anticipated. Due to the limited disturbance required for the Facility's installation, no construction-related storm water permits will be required.

Soils that are generated during construction activities would not be stored or stockpiled inside of wetlands or adjacent to a watercourse, and appropriate E&S control measures would be employed and maintained for any temporary soil stockpiles. Any excavated soils compatible for reuse will be used as backfill in proximity to the same excavation area from where it originated. Any excess excavated soils not suitable for reuse would be trucked off-site and managed in accordance with applicable regulations. Rock, concrete and other debris would be removed and trucked off-site.

Areas affected by construction would be re-graded as practical and stabilized using revegetation or other measures before removing temporary E&S controls. Construction-related impacts will therefore be minimal.

III. COMMUNITY OUTREACH

Bloom has provided notice of this petition via certificate of mailing to abutting property owners and appropriate municipal officials and governmental agencies to whom notice is required to be given pursuant to Conn. Agencies Regs. § 16-50j-40(a)⁸. A copy of the notice letter, a service list and documentation of mailing are provided in Exhibit 10 and the corresponding abutters map is provided as Exhibit 11.

A representative of Bloom contacted Mr. Steven P. Schiller, City Planner of the City of New Britain and provided preliminary plans for review. Mr. Schiller indicates that the proposed plans present no issue for zoning. He has invited other City entities to provide comments. Bloom will take relevant comments into account in finalizing its plans for permitting applications. *See* Exhibit 12.

IV. BASIS FOR GRANTING OF THE PETITION

Under Conn. Gen. Stat. § 16-50k(a), the Council is required to approve by declaratory ruling the construction or location of a customer-side distributed resources project or facility with a capacity of not more than 65 MW, as long as the facility meets DEEP air and water quality standards. The proposed Facility meets each of these criteria. The Facility is a “customer-side distributed resources” project, as defined in Conn. Gen. Stat. § 16-1(a)(34)(A), because the Facility is “a unit with a rating of not more than sixty-five megawatts [located] on

⁸ Conn. Agencies Regs. § 16-50j-40(a) requires that “[p]rior to submitting a petition for a declaratory ruling to the Council, the petitioner shall, where applicable, provide notice to each person other than the petitioner appearing of record as an owner of property which abuts the proposed primary or alternative sites of the proposed facility, each person appearing of record as an owner of the property or properties on which the primary or alternative proposed facility is to be located, and the appropriate municipal officials and government agencies [listed in Section 16-50/ of the Connecticut General Statutes].”



the premises of a retail end user within the transmission and distribution system including, but not limited to, fuel cells” and, as demonstrated herein, will meet DEEP air and water quality standards. In addition, as demonstrated above, the construction and operation of the Facility will not have a substantial adverse environmental effect in the State of Connecticut.

V. CONCLUSION

For the reasons stated above, Bloom respectfully requests that the Council approve the location and construction of the Facility by declaratory ruling.

Respectfully submitted,
Bloom Energy Corporation

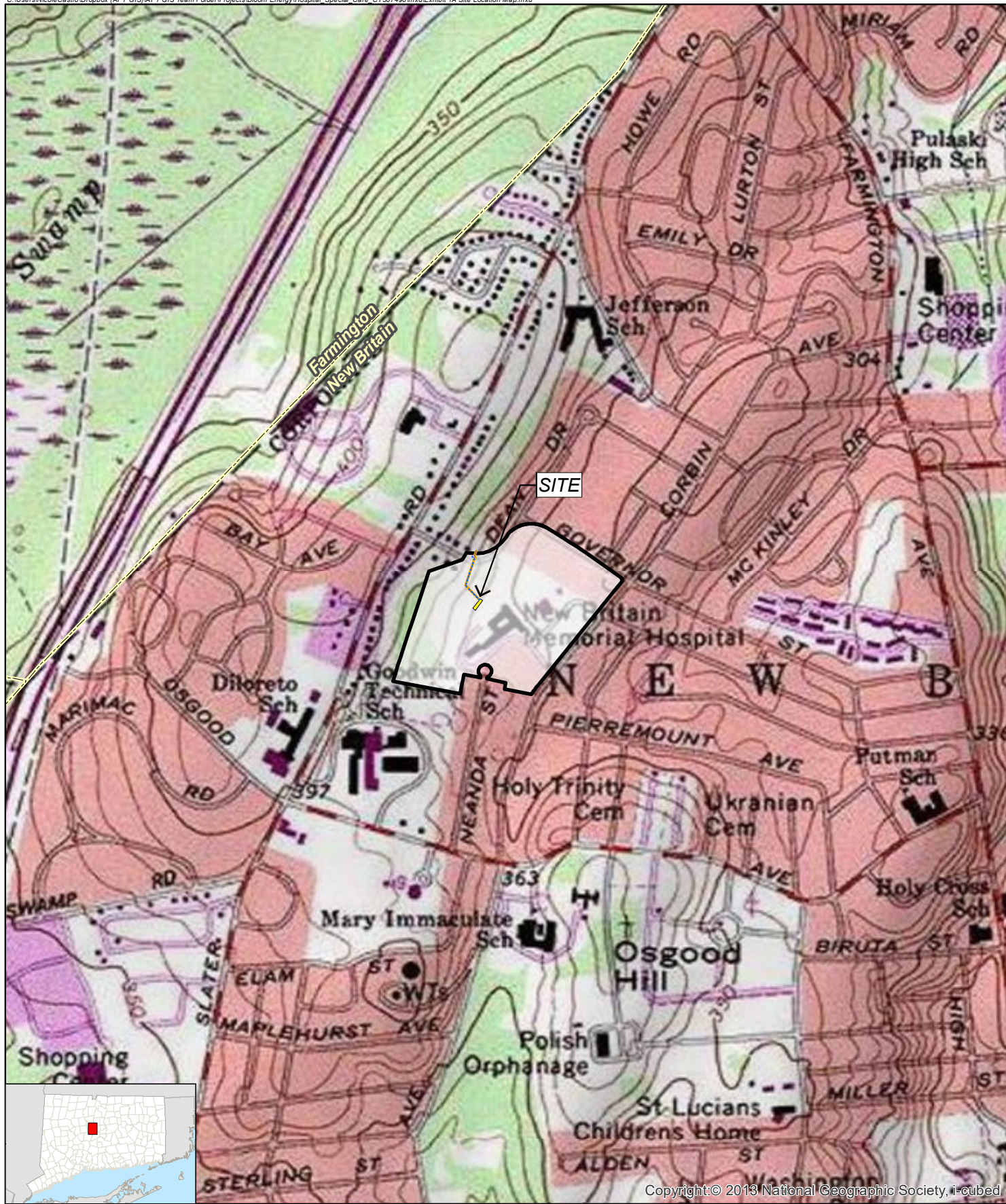
By: 

Justin Adams
Bloom Energy Corporation
4353 North First Street
San Jose, CA 95134
Telephone: (408) 543-1500
Email: justin.adams@bloomenergy.com

EXHIBITS






- Exhibit 1A: Site Location Map
- Exhibit 1B: Site Schematic
- Exhibit 2: Site and Permit Plans
- Exhibit 3: Bloom Energy Server System Background Documentation
- Exhibit 4: Emergency Response Plan
- Exhibit 5: Photos of the Proposed Location
- Exhibit 6: DEEP Coastal Boundary, Natural Diversity Data Base (NDDB), Critical Habitats
- Exhibit 7: DEEP Wetlands and Watercourse Map
- Exhibit 8: FEMA Map
- Exhibit 9: Sound Model
- Exhibit 10: Notice Pursuant to Conn. Agencies Regs. § 16-50j-40(a)
- Exhibit 11: Abutters Map
- Exhibit 12: Municipal Consultation

Exhibit 1A

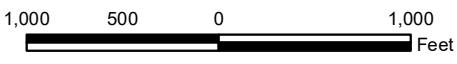


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Legend

-  Subject Property
-  Limit of Disturbance for Proposed Proposed Energy Servers
-  Proposed Underground Communication Line
-  Proposed Underground Gas Line
-  Municipal Boundary

Map Notes:
 Base Map Source: USGS 7.5 Minute Topographic
 Quadrangle Map: New Britain (1992), CT
 Map Scale: 1:12,000
 Map Date: August 2019



**Exhibit 1A
 Site Location Map**

Proposed Bloom Energy Facility
 Hospital For Special Care
 2150 Corbin Avenue
 New Britain, CT 06053

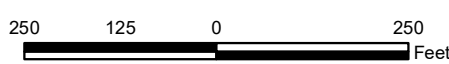


Exhibit 1B



- Legend**
- Subject Property
 - Limit of Disturbance for Proposed Proposed Energy Servers
 - Proposed Underground Gas Line
 - Proposed Underground Communication Line
 - Approximate Assessor Parcel Boundary (CTDEEP)

Map Notes:
 Base Map Source: 2016 Aerial Photograph (CTECO)
 Map Scale: 1 inch = 250 feet
 Map Date: August 2019



**Exhibit 1B
 Site Schematic**

Proposed Bloom Energy Facility
 Hospital For Special Care
 2150 Corbin Avenue
 New Britain, CT 06053



Exhibit 2



REV	REVISION ISSUE	DATE

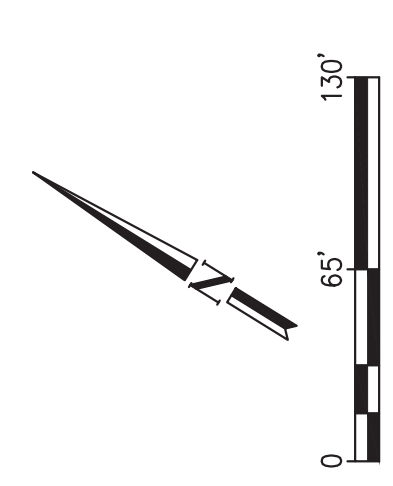
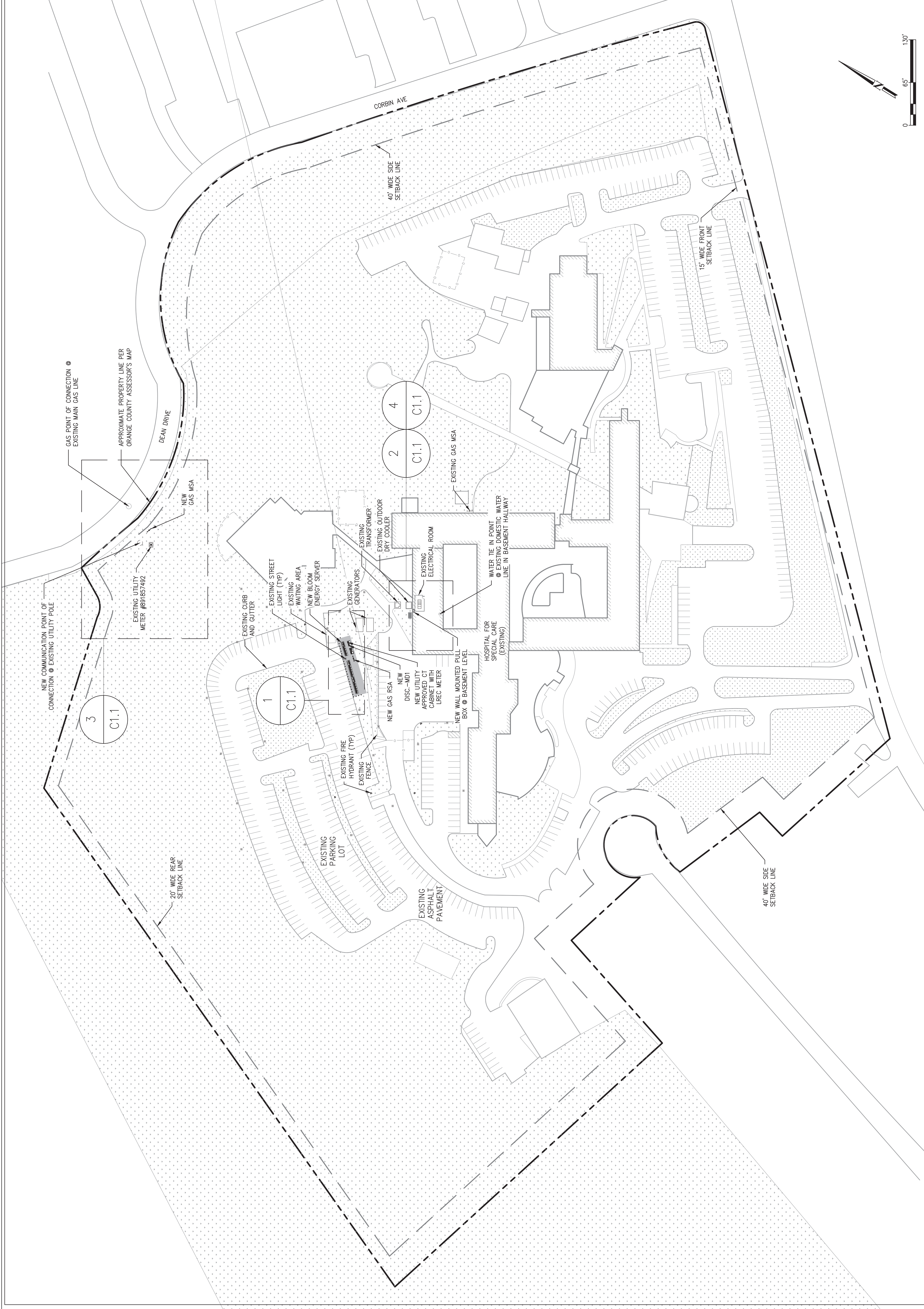
DESIGNED BY PARTHA JOSHI	REVIEWED BY MICHAEL MARK
DRAWN BY CHAITA VIJAY	APPROVED BY

SHEET TITLE
**OVERALL
SITE PLAN**

DRAWING NUMBER
G1.1

BLOOM DOCUMENT
DOC-1011669

THIS DRAWING IS 24" X 36" AT FULL SIZE
SITE ID: HSC000.0 SHEET 01 OF 03



OVERALL SITE PLAN
SCALE: 1" = 65'
1
C1.1



REV	REVISION ISSUE	DATE

DESIGNED BY PARVA JOSHI	REVIEWED BY MICHAEL MAK
DRAWN BY CHATA VAIAY	APPROVED BY

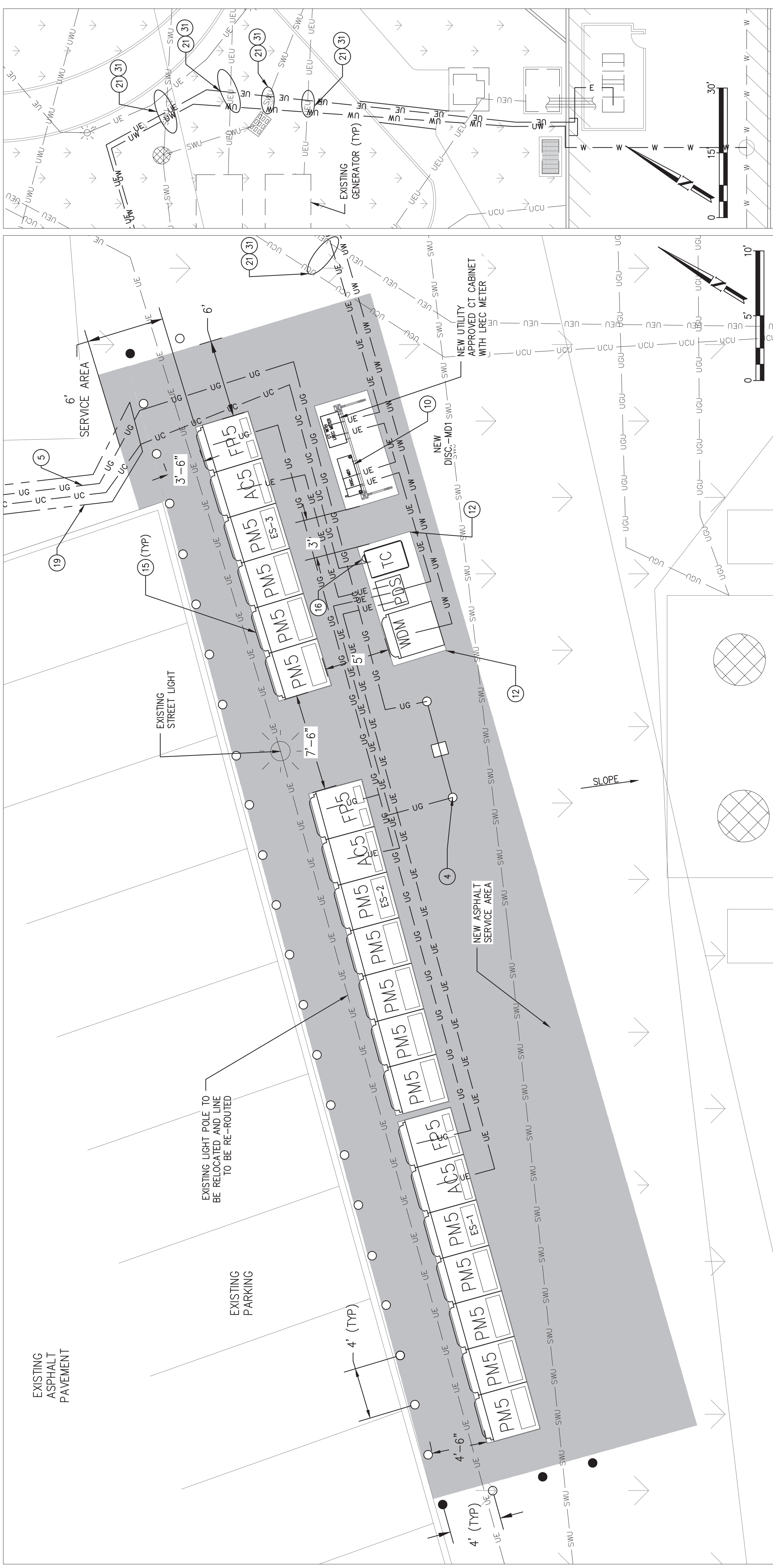
SHEET TITLE DETAILED SITE PLAN
DRAWING NUMBER C1.1
BLOOM DOCUMENT DOC-1011669
THIS DRAWING IS 24" X 36" AT FULL SIZE SITE ID: HSC0010 SHEET 02 OF 03

GENERAL NOTES

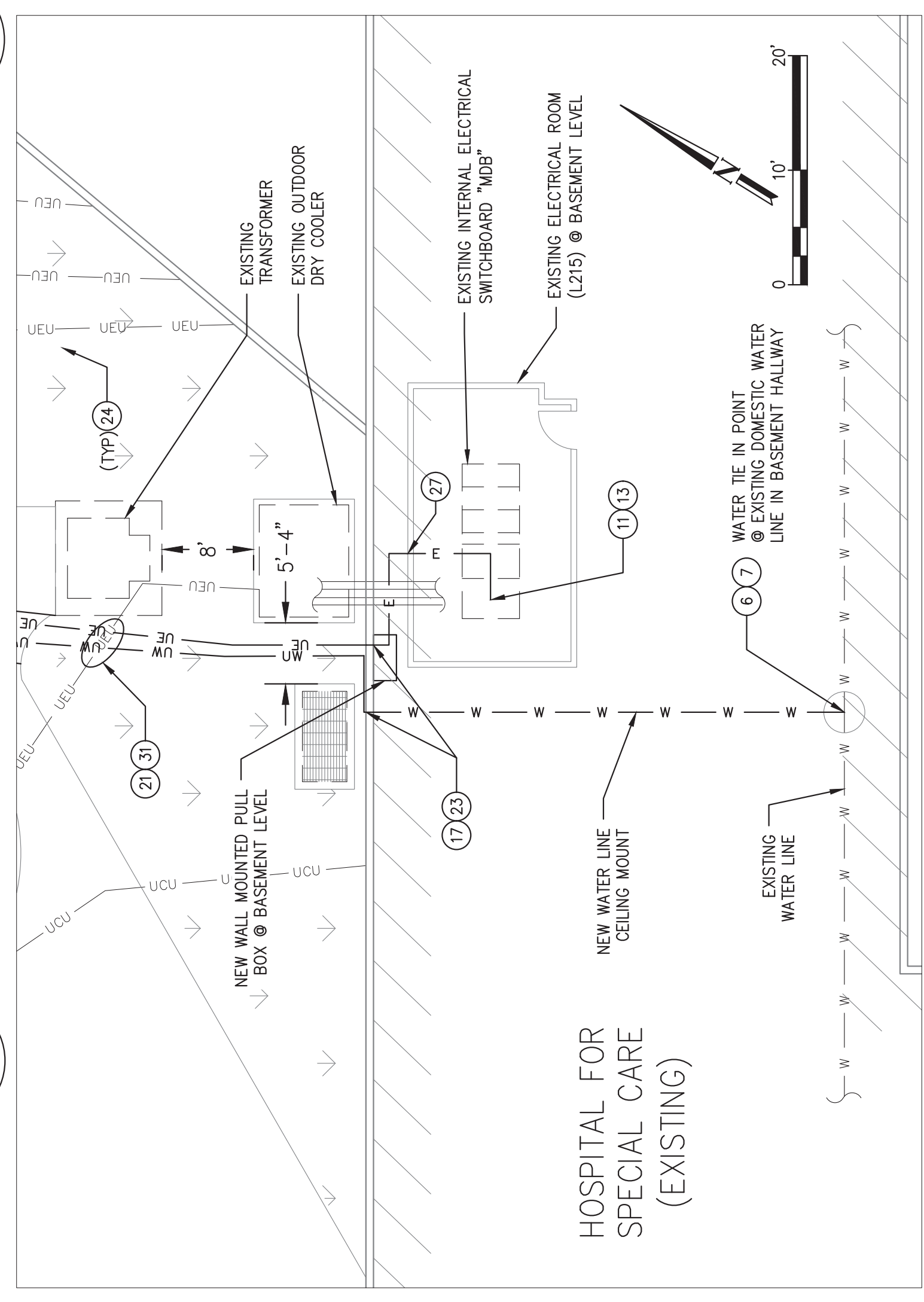
- CLEAN AND PRIME ALL NEW WIRE MOUNTED PIPING AND CONDUIT. PIPING AND CONDUIT SHALL BE PAINTED WITH EXTERIOR GRADE PAINT TO MATCH EXISTING.
- CONDUITS AND PIPES MOUNTED TO BUILDING WALL SHALL BE SUPPORTED AS PER LOCAL CODE. RUN AT HEIGHT ABOVE DOORWAYS, AND STAND OFF WALL TO AVOID EXISTING CONDUITS AND PIPES.
- SLOPE LINES SHOWN ARE APPROXIMATE AND INTENDED TO SHOW THE GENERAL DIRECTION OF WATER RUN OFF. SLOPE LINES ARE DRAWN PER VISUAL SURVEY OF SURROUNDING AREA.
- SEE BLOOM ENERGY PRODUCT INSTALLATION DRAWINGS FOR UTILITY CONNECTIONS TO ANCILLARY EQUIPMENT AND ENERGY SERVER.

REFERENCE SHEET NOTES

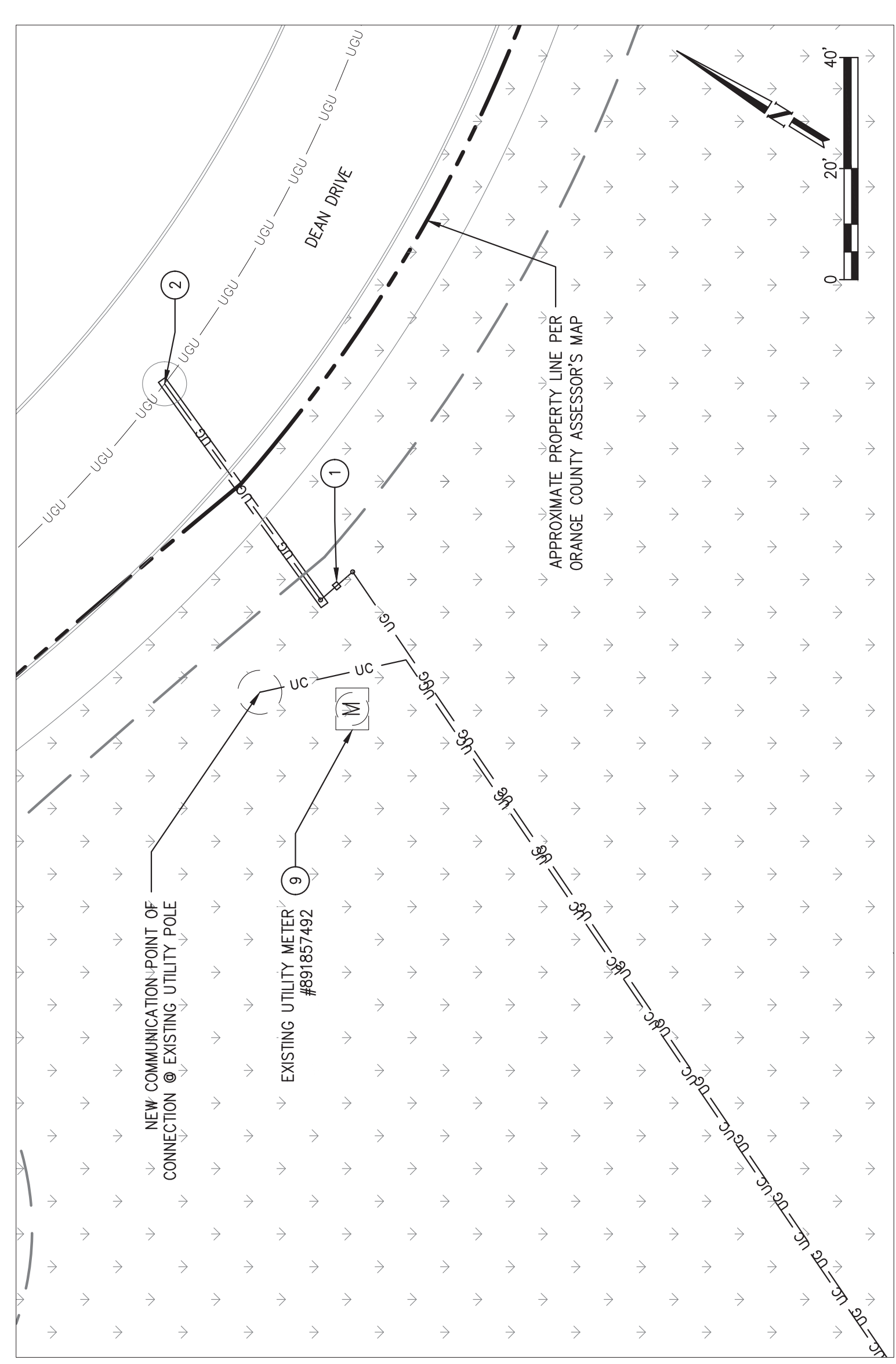
- NEW UTILITY PROVIDED AND INSTALLED. GAS METER & REGULATOR ASSEMBLY WITH SHUT-OFF VALVE. CONTRACTOR SHALL PROVIDE PAD PER DETAILS IF REQUIRED BY UTILITY COMPANY. COORDINATE ALL CONNECTIONS WITH GAS UTILITY.
- NEW UNDERGROUND GAS SERVICE TAP BY UTILITY COMPANY. COORDINATE WITH GAS UTILITY. CONTRACTOR SHALL PERFORM COMPACTING AND PATCH EXISTING SURFACE AND GRADE. CONTRACTOR SHALL PROVIDE DETAIL FOR PIPE SIZING AND INSTALLATION REQUIREMENTS WITH UTILITY.
- NEW PRIVATE GAS REGULATOR SET ASSEMBLY FOR BLOOM ENERGY SERVER WITH SHUT-OFF VALVE. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
- NEW GAS PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
- TAP EXISTING WATER LINE AT NEAREST ACCESSIBLE LOCATION IN BUILDING AS SHOWN WITH A LOCAL SHUT-OFF VALVE. REFER TO DOMESTIC WATER CONNECTION DETAIL FOR ADDITIONAL REQUIREMENTS.
- NEW WATER PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO WATER RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
- EXISTING UTILITY ELECTRIC METER. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- NEW BLOOM ENERGY FURNISHED. CONTRACTOR INSTALLED. DISCONNECT SWITCH. STRUT MOUNT PER MANUFACTURER AND UTILITY SPECIFICATIONS.
- CONTRACTOR SHALL TERMINATE ELECTRIC FEEDER AS SHOWN. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE TWO GROUNDING RODS TO BE PLACED 6' APART MINIMUM. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- NEW ELECTRICAL FEEDER SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- NEW BLOOM ENERGY SERVER. REFER TO BLOOM ENERGY STANDARD INSTALLATION DRAWING SET FOR ADDITIONAL BLOOM ENERGY SERVER DETAILS.
- FACTORY WIRED BLOOM ENERGY SERVER EMERGENCY POWER-OFF SWITCH (EPO).
- CONTRACTOR SHALL CORE CONDUIT AND/OR PIPE THROUGH WALL. SCAN WALL PRIOR TO CORING TO AVOID COLLATERAL DAMAGE TO EXISTING PLUMBING AND WIRING. REFER TO WALL PENETRATION DETAIL FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE SAWCUT TRENCH FOR UNDERGROUND UTILITIES IN THIS LOCATION AND HAND DIG TRENCHES WHERE THEY CROSS EXISTING UTILITIES. REFER TO UNDERGROUND/TRENCH CONDUIT AND PIPING DETAIL FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL SAWCUT TO ALLOW FOR EXCAVATION UNDER ENERGY SERVER AND ANCILLARY PAD LOCATIONS. REFER TO PAD DETAIL FOR ADDITIONAL EXCAVATION AND BACKFILL REQUIREMENTS.
- PROTECT EXISTING UNDERGROUND UTILITY LINES FROM DAMAGE WHEN CROSSING WITH NEW UNDERGROUND UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY DAMAGED LINES.
- CONTRACTOR SHALL TRANSDUCE ALL ABOVEGROUND NEW LINES TO UNDERGROUND TOWARD ANCILLARY EQUIPMENT ABOVE GROUND UTILITIES SHALL BE PROTECTED AS NECESSARY. THEN ROUTED UNDERGROUND TO EQUIPMENT STUB-UP LOCATIONS PER MECHANICAL DETAIL.
- PROVIDE "DANDY SACK" OR EQUAL WITH OUTFLOW PORTS AT STORM TRENCH. REFER TO EROSION CONTROL DETAIL FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL UNDER-CUT EXISTING CURB FOR TRENCHING UTILITY LINES AND BACKFILL WITH CONCRETE SLURRY. IF CURB IS DAMAGED, REPAIR TO MATCH EXISTING.
- THE LOCATION OF EXISTING UTILITIES IS SHOWN FOR THE CONTRACTOR'S REFERENCE. EXACT LOCATION, DEPTH AND SIZE OF ALL EXISTING UTILITIES IS NOT KNOWN. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES NOT SHOWN ON THESE DRAWINGS.



1
 DETAILED SITE PLAN
 SCALE: 1" = 5'



2
 DETAILED SITE PLAN
 SCALE: 1" = 15'



3
 DETAILED SITE PLAN
 SCALE: 1" = 20'

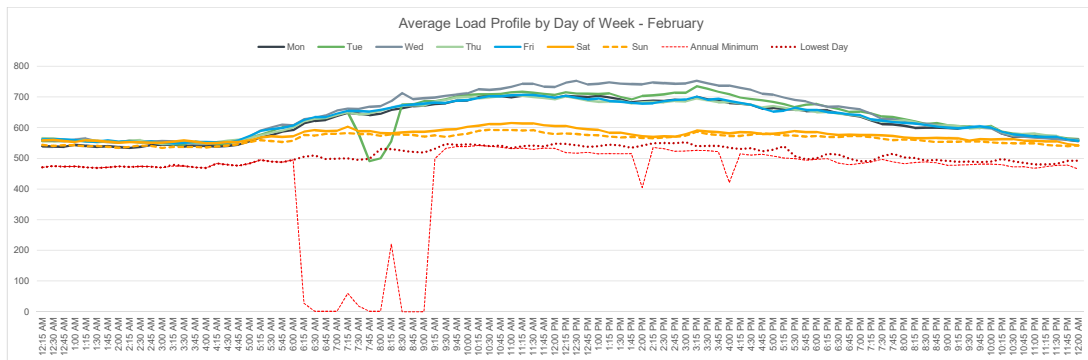
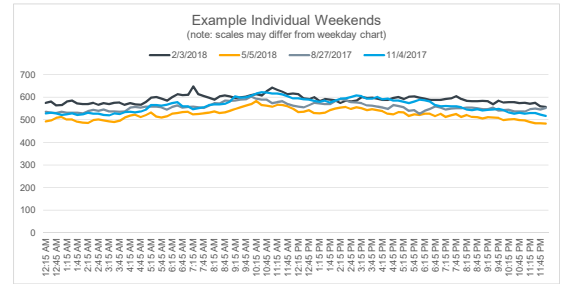
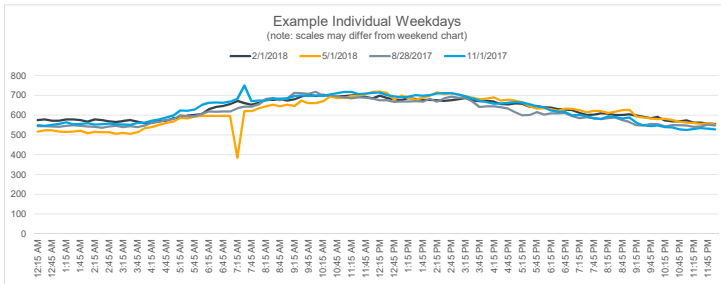
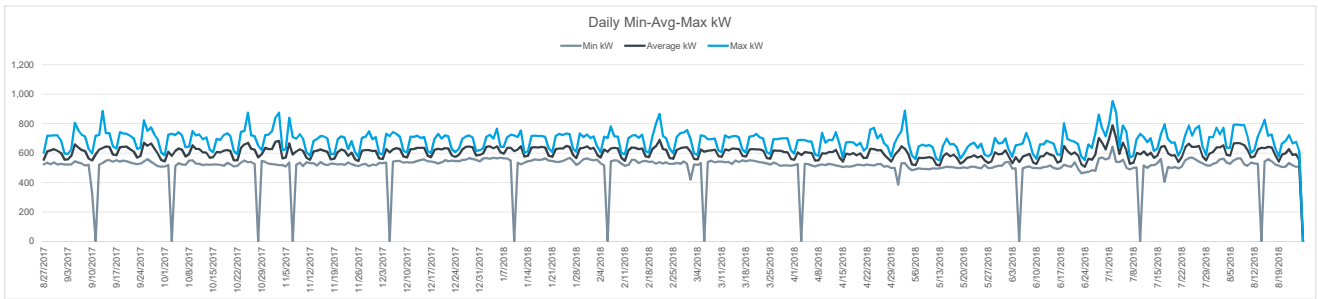
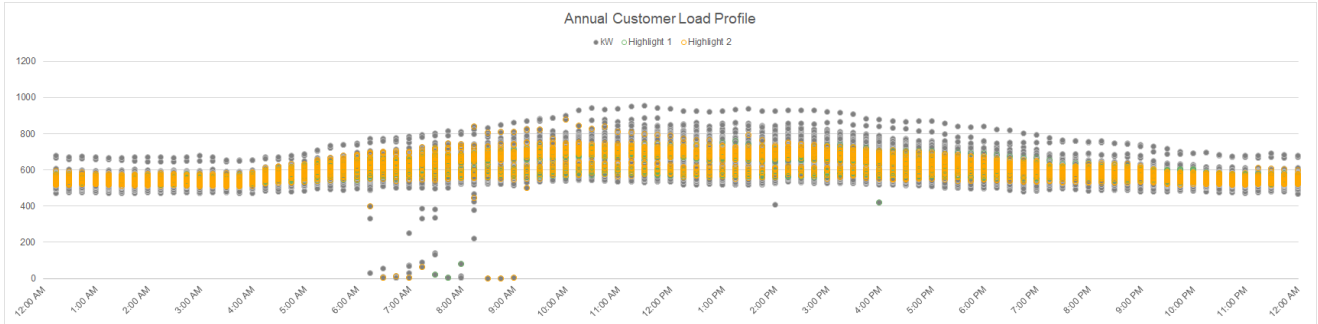
4
 DETAILED SITE PLAN
 SCALE: 1" = 10'

3
 DETAILED SITE PLAN
 SCALE: 1" = 20'

Exhibit 3

INPUTS	
Customer Name	Hospital for Special Care
Site Name	Hospital for Special Care
Select Utility	CL&P
Enter Tariff (Include Primary, Secondary, etc.)	CL&P 56 Medium ToD (Non-Manuf)
If Other, Input Tariff	
Utility Account Number	51714913068
Meter Number	891857492
DA Vintage	
Supply Rate	
Gas Utility	
NOTES	

SIZING SUMMARY	
Total Days of Complete, Non-Zero Data	364
Annual Load Factor	90%
Daily Load Factor	88%
Total Customer Usage	5,272,230 kWh
Average Hourly kW	604 kW
Average Daily Max Demand	684 kW
Absolute Minimum kW	0 kW
Recurring Minimum Baseload	490 kW
Average Baseload	534 kW
Proposed System Size*	600 kW



Energy Server™ 5

Always On, Clean Energy
Using Patented Solid Oxide
Fuel Cell Technology



The Energy Server 5 provides combustion-free electric power with these benefits



Clean

Our systems produce near zero criteria pollutants (NOx, SOx, and particulate matter) and far fewer carbon emissions than legacy technologies.



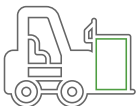
Reliable

Bloom Energy Servers are designed around a modular architecture of simple repeating elements. This enables us to generate power 24 x 7 x 365 and can be configured to eliminate the need for traditional backup power equipment.



Resilient

Our system operates at very high availability due to its fault-tolerant design and use of the robust natural gas pipeline system. Bloom Energy Servers have survived extreme weather events and other incidences and have continued providing power to our customers.



Simple Installation and Maintenance

Our Energy Servers are 'plug and play' and have been designed in compliance with a variety of safety standards. Bloom Energy manages all aspects of installation, operation and maintenance of the systems.

Energy Server 5		Technical Highlights (ES5-FADAAN)	
Outputs			
Nameplate power output (net AC)	200 kW		
Load output (net AC)	200 kW		
Electrical connection	480V, 3-phase, 60 Hz		
Inputs			
Fuels	Natural gas, directed biogas		
Input fuel pressure	10-18 psig (15 psig nominal)		
Water	None during normal operation		
Efficiency			
Cumulative electrical efficiency (LHV net AC) ¹	65-53%		
Heat rate (HHV)	5,811-7,127 Btu/kWh		
Emissions²			
NOx	0.0017 lbs/MWh		
SOx	Negligible		
CO	0.034 lbs/MWh		
VOCs	0.0159 lbs/MWh		
CO ₂ @ stated efficiency	679-833 lbs/MWh on natural gas; carbon neutral on directed biogas		
Physical Attributes and Environment			
Weight	10 tons		
Dimensions (variable layouts)	10'9" x 8'8" x 6'9" or 21'6" x 4'4" x 7'2"		
Temperature range	-20° to 45° C		
Humidity	0% - 100%		
Seismic vibration	IBC site class D		
Location	Outdoor		
Noise	< 70 dBA @ 6 feet		
Codes and Standards			
Complies with Rule 21 interconnection and IEEE1547 standards			
Exempt from CA Air District permitting; meets stringent CARB 2007 emissions standards			
An Energy Server is a Stationary Fuel Cell Power System. It is Listed by Underwriters Laboratories, Inc. (UL) as a 'Stationary Fuel Cell Power System' to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102.			
Additional Notes			
Access to a secure website to monitor system performance & environmental benefits			
Remotely managed and monitored by Bloom Energy			
Capable of emergency stop based on input from the site			

¹ 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test

² NOx and CO measured per CARB Method 100, VOCs measured as hexane by SCAQMD Method 25.3

About Bloom Energy

Bloom Energy's mission is to make reliable, clean energy affordable for everyone in the world. The company's product, the Bloom Energy Server, delivers highly reliable and resilient, Always On electric power that is clean and sustainable. Bloom's customers include twenty-five of the Fortune 100 companies and leaders in cloud services and data centers, healthcare, retail, financial services, utilities and many other industries.

Bloom Energy

4353 North First Street
San Jose, CA 95134

T 408 543 1500
F 408 543 1501

info@bloomenergy.com
www.bloomenergy.com

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DOC-1011658 Rev A

Energy Server™ 5

Always On, Clean Energy
Using Patented Solid Oxide
Fuel Cell Technology



The Energy Server 5 provides combustion-free electric power with these benefits



Clean

Our systems produce near zero criteria pollutants (NOx, SOx, and particulate matter) and far fewer carbon emissions than legacy technologies.



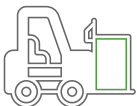
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CO	0.034 lbs/MWh		
VOCs	0.0159 lbs/MWh		
CO ₂ @ stated efficiency	679-833 lbs/MWh on natural gas; carbon neutral on directed biogas		
Physical Attributes and Environment			
Weight	12.2 tons		
Dimensions (variable layouts)	14'4" x 8'8" x 6'9" or 25'1" x 4'4" x 7'2"		
Temperature range	-20° to 45° C		
Humidity	0% - 100%		
Seismic vibration	IBC site class D		
Location	Outdoor		
Noise	< 70 dBA @ 6 feet		
Codes and Standards			
Complies with Rule 21 interconnection and IEEE1547 standards			
Exempt from CA Air District permitting; meets stringent CARB 2007 emissions standards			
An Energy Server is a Stationary Fuel Cell Power System. It is Listed by Underwriters Laboratories, Inc. (UL) as a 'Stationary Fuel Cell Power System' to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102.			
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Bloom Energy

4353 North First Street
San Jose, CA 95134

T 408 543 1500
F 408 543 1501

info@bloomenergy.com
www.bloomenergy.com

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Exhibit 4



*Fire Prevention and Emergency Planning –
Grid Parallel*

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Bloom Energy Corporation, 1299 Orleans Drive, Sunnyvale, CA 94089 USA

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1. Fire Prevention and Emergency Planning Overview
2. Fuel Cell Installation Safety Features
3. Emergency Notification Procedures
4. Fire and Smoke Procedures
5. Medical Emergency Procedures
6. Materials Release Procedures
7. Natural Disasters and Severe Weather
 - 7.1 Earthquake
 - 7.2 Flood
8. Utility Outage
9. Good Housekeeping and Maintenance
 - 9.1 Good Housekeeping
 - 9.2 Maintenance
10. Training

1. FIRE PREVENTION AND EMERGENCY PLANNING OVERVIEW

The following document is provided only as a guide to assist you in complying with national and local codes and requirements, as well as to provide other helpful information. It is not intended to supersede the requirements of any standard. You should review the standards for particular requirements that are applicable to your individual situation, and make adjustments to this program that are specific to your company. You will need to add information relevant to your facility in order to develop an effective, comprehensive program.

2. FUEL CELL SYSTEM INSTALLATION SAFETY FEATURES

The fuel cell system has redundant safety features and in-system checks to ensure that the system will not harm certified technicians or bystanders near the unit. While the actual fuel cells operate at high temperatures, these components do not move, and are contained within many layers of insulation. During normal operation, the unit is cool to the touch and operates quietly.

The fuel cell system is controlled electronically and has internal sensors that continuously measure system operation. If safety circuits detect a condition outside normal operating parameters, the fuel supply is stopped and individual system components are automatically shut down. A Bloom Energy Remote Monitoring and Control Center (RMCC) operator can also remotely initiate any emergency sequence. An Emergency Stop alarm condition initiates an automatic shutdown sequence that puts the fuel cell system into —safe modell and causes it to stop exporting power. If you have questions about any of these safety features, please contact Bloom Energy.

If you have to shut down your fuel cell system right away—for example, in case of a building fire or electrical hazard—three shutoff controls are installed at your facility external to the system. The locations of these three controls should be known to your facilities manager before operation, and should be noted on your facility diagram that you created with your Bloom Energy account manager. The three shutoffs are the **EPO button**, the **electrical disconnect**, and the **natural gas shutoff valve**.

- An **Emergency Power Off (EPO) Button** cuts all power to all systems and stops them from exporting power to your building. All natural gas flow is also stopped within the systems. (The EPO button is on the front/side of the EDM, if an EDM is installed.) Lift the protective cover and break the glass seal that covers the button with the attached hammer. After the glass seal is broken, the shutdown sequence will automatically begin.



Figure 1: Emergency Power Off Button

- An **electrical disconnect** manually disconnects systems from the grid if needed. Pressing the EPO button should already stop any power transmission, but it does not hurt the systems to also open this disconnect if you believe it is needed. The location of this disconnect will vary, however it is typically located near the point of interconnection where the wires from the fuel cell installation meet the facility's electrical framework. This may be inside your facility's electrical room, or if the fuel cell installation is near the electrical room, it may be found within the switchgear that Bloom Energy installs. This location of this disconnect is shown on the Site Map (see below) and is labeled "(name of electrical utility) Lockable Visible Generator Disconnect Switch".



Figure 2: Electrical Disconnect

- A **manual natural gas valve** shuts down all natural gas to the system. If the valve operator is perpendicular to the pipe, the valve is shut. If it is parallel with the pipe, the valve is open.



Figure 3: Manual Natural Gas Valve

Site map:

- An overhead site map showing the location of all safety features will be posted throughout the fuel cell installation
- Electronic copies are available to you for use in your site planning

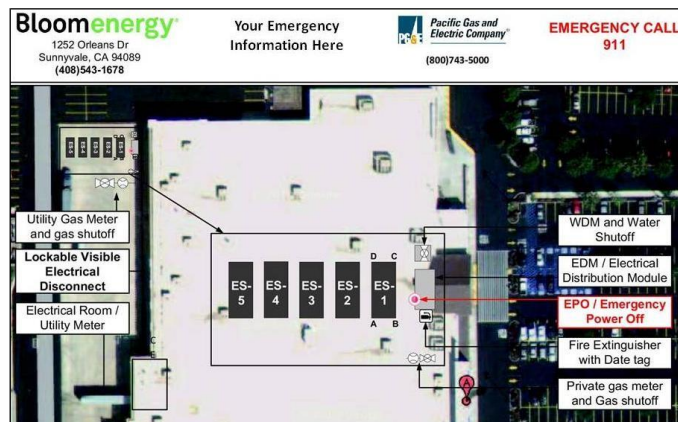


Figure 4: Sample Site Map

Manual controls:

- Clearly marked emergency stop button labeled —Fuel Cell Emergency Shut Down located at site
- Two manual fuel shutoff valves outside the system, and two isolation valves inside the system

Fire hazard mitigation:

- System is plumbed directly to utility-provided natural gas
- If system input gas pressure is compromised, a pressure switch triggers an emergency system shutdown and fuel input is isolated
- System does not use fuel compressors or pumps
- System has virtually no stored fuel (internal capacity is < 5 scf)

Electrical hazard and mitigation:

- System operates at 480V
- Signs inside the system warn of the risk of electric shock
- System has backfeed protection
- System inverter prevents grid backfeed during a power outage

Mechanical hazard and mitigation:

- Finger/hand guard protection is provided on all fans
- All moving parts are located behind secured doors

Material hazard mitigation:

- Desulfurizer bed (to remove fuel impurities) are fully enclosed
- Maintained and serviced by licensed vendors

3. EMERGENCY NOTIFICATION PROCEDURES

Life-Threatening Emergencies

To report life-threatening emergencies, immediately call:

Fire:	911
Ambulance:	911
Police:	911

Conditions that require automatic emergency notification include:

- Unconscious Victim
- Seizure
- Major Trauma
- Chest Pains
- Difficulty Breathing
- Flames

Non-Life-Threatening Emergencies

For non-life-threatening emergencies, report the incident to the local safety control center.

When you report an emergency, give the following information:

- Exact nature of the emergency (describe as clearly and accurately as possible).
- Exact location (i.e., address, building, floor, area, department, etc.).
- Telephone number from which you are calling.
- Your full name.
- **Do not hang up**, as additional information may be needed.

To assist in any subsequent investigation or determination of corrective actions, it is recommended to record the following items as close to the incident time as possible:

- Summary of any violation

- Identification of responsible parties
- Identification of victims and witnesses
- Description of evidence
- Description of general conditions
- Description of any vehicles involved
- Narratives from witnesses
- Any photographs

4. FIRE OR SMOKE PROCEDURES

This section describes the procedures involving a fire or smoke. A major fire is one that requires the use of more than one fire extinguisher or takes more than one minute to extinguish.

If you discover a fire or smoke:

1. Activate the nearest fire alarm if not activated already.
2. Activate the fuel cell Emergency Stop if possible.
3. Shut off the fuel cell installation natural gas line if possible.
4. If the fire is small and does not pose an immediate risk to personal safety, you may attempt to extinguish it with a portable fire extinguisher **only if trained to do so**.
5. Avoid using water on electrical fires.
6. Report every fire, regardless of size, immediately. Smoke or the smell of smoke should be reported.
 - From a safe location dial **911**.
 - Report the incident to the local security safety center.

5. MEDICAL EMERGENCY PROCEDURES

This section describes the necessary procedures for injuries or illnesses that may occur under extreme conditions.

A serious injury can be life-threatening and will require immediate medical attention. Injuries can include head injuries, spine injuries, broken bones, heart attack, stroke, loss of consciousness, excessive bleeding, chemical exposure, etc.

A non-serious injury is not immediately life-threatening but may still require the attention of a medical doctor. These can include headaches, nausea, itching, cuts, burns, etc.

Life-Threatening Medical Emergency

1. Remain calm.
2. Immediately dial 911.
3. Report the incident to local security safety center.
4. Do not move the victim unless it is absolutely necessary.
5. Call out for personnel trained in first aid and/or CPR which may include Building Evacuation or Emergency Response team members.

6. Ask someone to bring the area first aid kit and Automated External Defibrillator.
7. Assist if capable or asked to do so.

Non-Life-Threatening Medical Emergency

1. Remain calm.
2. Report the incident to the local security safety center.
3. Do not move the victim unless it is absolutely necessary.
4. Call out for personnel trained in first aid.
5. Ask someone to bring the area first aid kit.
6. If the victim requires further medical attention, then direct them to the nearest approved medical clinic or hospital – Contact Security or Human Resources for assistance if needed.
7. The injured employee's supervisor/manager is responsible for ensuring injury forms are properly filled out. Complete the forms within 24 hours of incident and submit to the injury reporting system for follow-up. Follow company protocols.

6. MATERIALS RELEASE PROCEDURES

The fuel cell system does not pose a hazard to health or environment. However, some internal materials when released, may pose a irritation risk to people and a possible risk of fire if not properly handled. This section was designed to address potential material release events:

In case of a material release that poses a direct threat to health, safety, or the environment:

1. Report the incident to local safety/security office.
2. If extremely life-threatening immediately dial **911** followed with a call to Security.
3. Contain the spill.
4. Evacuate the area or building if the material release is determined to be life-threatening.

In the event of an unknown indoor smell or odor, report the incident to authorities responsible for HAZMAT and spills.

7. NATURAL DISASTERS AND SEVERE WEATHER

7.1 Earthquake

This section provides information and procedures for earthquake emergencies.

The fuel cell system is designed to automatically shut off if the natural gas supply is compromised.

The natural gas supply line has an external, manual shut-off valve that should be activated if it is safe to do so. This valve will be labeled, "Notice – Fuel Cell Gas Shut

Off". The natural gas line will be labeled with the word "gas" on a yellow background with an arrow pointing in the direction of flow.

The nearby Emergency Stop can be activated to stop the flow of fuel and power to/from the fuel cell system.

A Bloom Energy Field Engineer will validate site safety and system operation during/after severe weather as necessary.

7.2 Flood

The fuel cell system support pad is designed to divert water flow. However, if flooding conditions exist, or threaten to exist due to heavy rainfall, creek bank overflows, or pipe breakage, then immediately report the incident to the local safety/security office.

Do not use the fuel cell power system if any part has been under water. If it is safe to reach the Emergency Power Off button for the site without entering the water, stop all systems until a Bloom Energy representative can assess the site.

Precautions to follow after a flood:

- Stay out of flooded areas. Flooded areas remain unsafe. Entering a flooded area places you at risk.
- Notify Bloom Energy. A Bloom Energy Field Engineer will validate site safety and system operation during/after severe weather as necessary

8. UTILITY OUTAGE

The fuel cell system is operated in "Grid-Parallel" mode. If utility provided power is lost for any reason, the fuel cell system will go "off-line". The fuel cell system will remain in stand-by mode until it automatically senses the utility grid has been restored. If utility gas is shut down, the fuel cell system will begin to shut down completely.

The Bloom Energy Remote Monitoring Control Centers monitor the fuel cells 24 hours per day and will be alerted to utility grid interruptions via its controls software. A Field Service Engineer will be dispatched to restart the fuel cell system if necessary. Customer personnel should NOT attempt to start up or operate the fuel cell system.

Before a Planned Outage

- Notify the Bloom Energy Remote Monitoring Control Center at 1-408-543-1678 at least 24 hours before planned outage.
- Bloom Energy Remote Monitoring Engineers will reduce power generated by the fuel cell system and take the fuel cell off-line.
- Abrupt fuel cell system shutdowns may cause significant system damage.

During a Utility Power Loss

- The fuel cell system will automatically go off-line.
- The Bloom Energy Remote Monitoring Control Centers will monitor the fuel cell system.
- Bloom Energy Field Service will be dispatched to start up the fuel cell system as necessary.
- If the fuel cell system has been automatically shut down and utility power is restored, there will be no impact to building power delivery: primary power will come from the utility rather than the fuel cells.

9. GOOD HOUSEKEEPING AND MAINTENANCE

9.1 Good Housekeeping

Although extremely unlikely, to minimize the risk of fire and any incidents, Facility Managers should take the following precautions around the fuel cell installation:

- What to do if you smell gas:
 - Do not try to light any appliance
 - Do not touch any electrical switch; do not use any phone in the area
 - Leave the area immediately
 - Immediately call your gas supplier. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department
- Notify Bloom Energy Remote Monitoring Control Center at 1-408-543-1678 of any condition that would impair the safety of the fuel cell installation so that mitigation measures could be determined and placed into effect.
- Prohibit smoking within the area of the fuel cell installation. Bloom Energy will furnish No Smoking signs for the area.
- Ensure only Bloom Energy Service Providers are permitted access inside the system.
- Keep the area around the fuel cell installation clear for ten feet in all directions, for safety and ease of maintenance.
- Keep the area around the fuel cell power system clear and free of combustible materials, gasoline, and other flammable vapors and liquids.
- Shut the system down and call Bloom Energy immediately if you suspect a fuel line rupture.
- **Never enclose an operating system** in a tarp, tent, shed, or other structure that would allow air to become trapped. This system runs on natural gas, and produces trace amounts of CO and CO₂. The amounts of these gases are safe for normal outdoor operation but could gather in an enclosed place.
- Do not block or obstruct air openings on the fuel cell power system. This system requires air flow in order to operate.

- Do not use this fuel cell power system if any part has been under water. Immediately call qualified service personnel to inspect the fuel cell power system and to replace any functional part which has been under water.
- Please contact Bloom Energy at 408-543-1678 with as much advance notice as possible if you plan, detect, or suspect a prolonged Internet outage.
- The Bloom Energy Field Service team will periodically clean the equipment; do not spray with pressurized hoses.

9.2 Maintenance

Your site has specific Field Service personnel assigned to it for both routine maintenance and troubleshooting. Your site project manager will introduce you to the designated Bloom Energy Field Service team assigned to your site prior to operation.

Bloom Energy Field Service personnel are trained in state Safety Law. They are trained in all the procedures required for the fuel cell installation, and their toolkit includes all the safety equipment required to work around the fuel components and high voltage in our system (480VAC).

Bloom Energy also requires its employees to follow all necessary safety precautions, including:

- Every time a Field Service technician arrives at a site for the first time and opens a service panel, the technician will use a leak detector to determine whether there is any gas buildup in the system and determine that it is safe to work on it.
- Whenever a Field Service technician is removing and replacing a component on a fuel or exhaust line, the technician must keep a CO detector nearby to make sure that no CO is present in the line even after the system has been shut down.

The Field Service team expects to conduct quarterly and yearly preventative maintenance for certain types of consumable or cleanable components such as replacement of air filters, water filters, and desulfurizer beds. Other maintenance will be performed as required. During such times, inspections for any hazards will be conducted including quarterly fire extinguisher inspection (if applicable).

10. TRAINING

Prior to system startup, a Bloom Energy representative will provide training on the fuel cell installation to include the location and operation of safety features as well as actions to take during emergencies. We desire this training to provide lasting value and are more than happy to work with you to customize the experience to suit your needs.

Exhibit 5

VIEW FROM REAR PARKING LOT
TOWARD ENERGY SERVER LOCATION



VIEW OF PROPOSED ENERGY SERVER LOCATION



VIEW OF PROPOSED ENERGY SERVER LOCATION



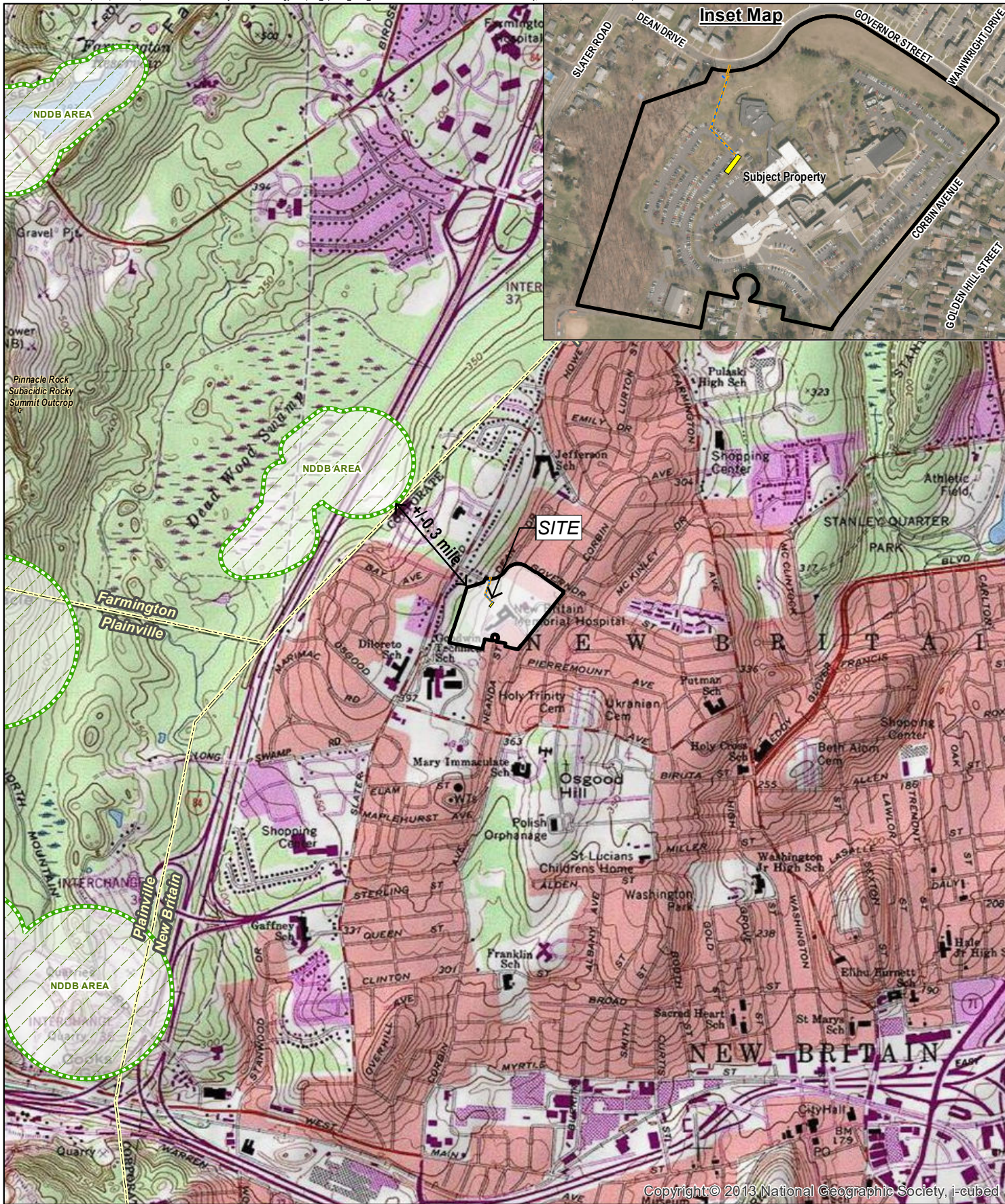
VIEW OF PROPOSED ENERGY SERVER LOCATION



VIEW OF PROPOSED ENERGY SERVER LOCATION



Exhibit 6



Legend

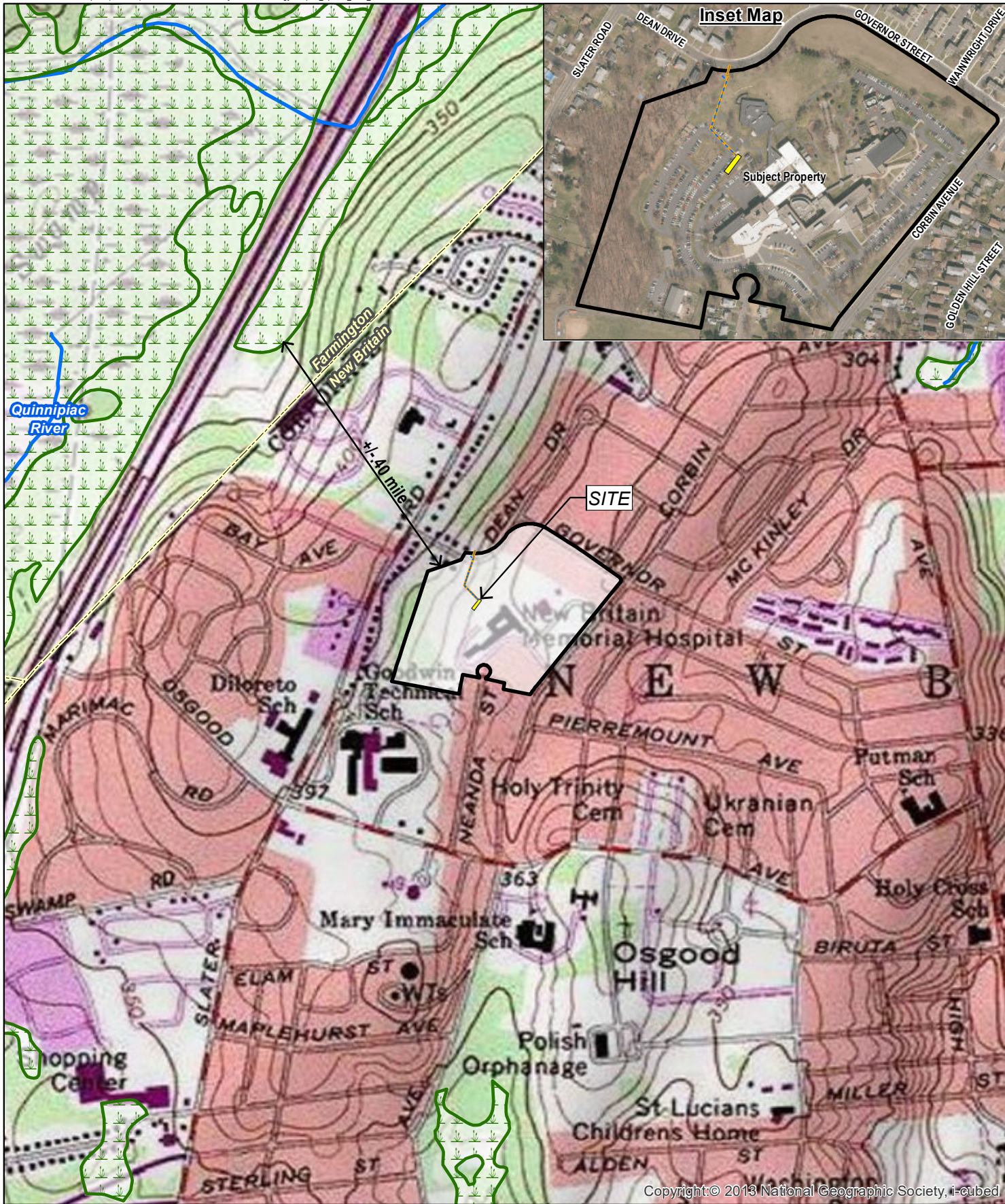
- Subject Property
- Limit of Disturbance for Proposed Proposed Energy Servers
- Proposed Underground Communication Line
- Proposed Underground Gas Line
- Coastal Boundary (CTDEEP; none within 20 miles of Site)
- NDDB Area (June 2019)
- CTDEEP Critical Habitat
- Municipal Boundary

Map Notes:
 Base Map Source: USGS 7.5 Minute Topographic
 Quadrangle Map: New Britain (1992), CT
 Map Scale: 1:24,000
 Map Date: August 2019

2,000 1,000 0 2,000
 Feet

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Exhibit 6
CTDEEP Coastal Boundary, NDDB, & Critical Habitats
 Proposed Bloom Energy Facility
 Hospital For Special Care
 2150 Corbin Avenue
 New Britain, CT 06053

Exhibit 7



Legend

- Subject Property
- CTDEEP Wetlands
- Limit of Disturbance for Proposed Energy Servers
- CTDEEP Watercourse
- Proposed Underground Communication Line
- Proposed Underground Gas Line
- Municipal Boundary

Map Notes:
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 Quadrangle Map: New Britain (1992), CT
 Map Scale: 1:12,000
 Map Date: August 2019

1,000 500 0 1,000 Feet

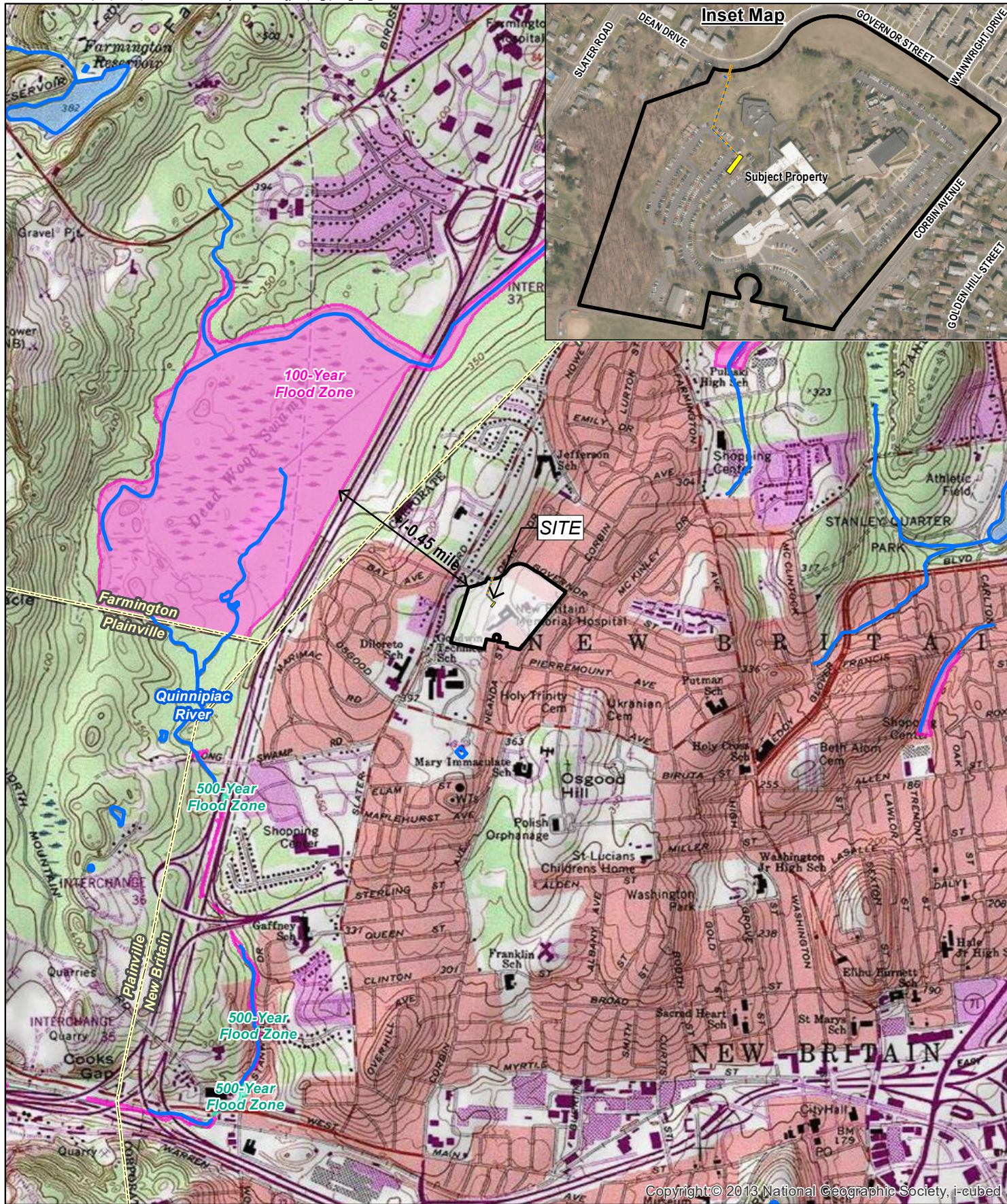
Exhibit 7
CTDEEP Wetland and Watercourses

Proposed Bloom Energy Facility
 Hospital For Special Care
 2150 Corbin Avenue
 New Britain, CT 06053

Bloomenergy
 ALL-POINTS
 TECHNOLOGY CORPORATION

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Exhibit 8



Legend

- Subject Property
- Limit of Disturbance for Proposed Proposed Energy Servers
- Proposed Underground Communication Line
- Proposed Underground Gas Line
- Municipal Boundary
- CTDEEP Watercourse
- 100-Year Flood Zone
- 500-Year Flood Zone
- Floodway

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 Base Map Source: USGS 7.5 Minute Topographic
 Quadrangle Map: New Britain (1992), CT
 Map Scale: 1:24,000
 Map Date: August 2019

**Exhibit 8
FEMA Flood Zones**

Proposed Bloom Energy Facility
 Hospital For Special Care
 2150 Corbin Avenue
 New Britain, CT 06053

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Exhibit 9

Calculation of Yuma Sound Pressure Based On Distance

By Bob Hintz 1/16

All calculations are based on the following formula for sound pressure level (L_p):

$$L_p = L_w - 10 \cdot \log \left(\frac{Q}{4\pi \cdot r^2} \right) |$$

Sound power value (L_w) attained from V1 Yuma linear in DE reported on Feb. 4, 2015 by Mei Wu.

Scenario 1

ES is installed close to a building or tall wall so noise from the ES is reflected off of the structure and added to the noise from the other side of the ES making it sound louder than normal. This is represented by a directivity factor $Q = 4$

$L_p = 38.2$ dB

Where:

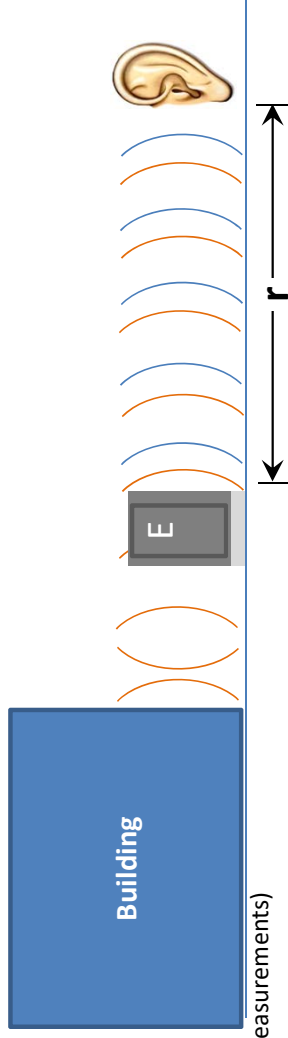
$L_w = 86.4$ dB
 $Q = 4$
 $r = 337$ Feet

ES sound power (Calc. from measurements)

Directivity factor

Enter value here for both Scenarios

Input various values for r to approximate the perceived sound pressure at that distance from the ES door



Scenario 2

ES is installed with no structures behind it to reflect sound from either side. This is represented by a directivity factor $Q = 2$

$L_p = 35.2$ dB

Where:

$L_w = 86.4$ dB
 $Q = 2$
 $r = 337$ Feet

ES sound power (Calc.)

Directivity factor

Input various values for r to approximate the perceived sound pressure at that distance from the ES door

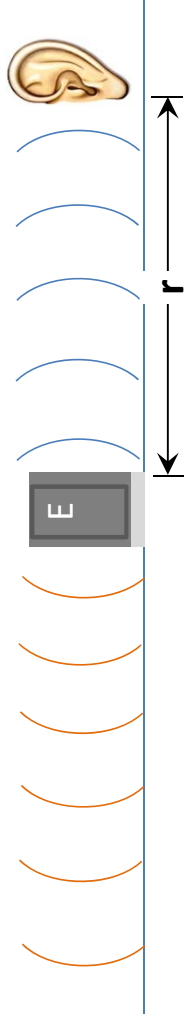


Exhibit 10

Notice and Service List Pursuant to Conn. Agencies Regs. § 16-50j-40(a)

Municipal and Elected Officials

Last Name	First Name	Title	Address	City	State	Postal Code
Stewart	Erin E.	Mayor, City of New Britain	27 West Main Street	New Britain	CT	06051
Schiller	Steven P.	City Planner	27 West Main Street, Room 208	New Britain	CT	06051
Amodio	Louis G.	Chairperson, City Plan Commission	27 West Main Street, Room 311	New Britain	CT	06051
Hargraves	Jarrell	Chairperson, Zoning Board of Appeals	27 West Main Street, Room 208	New Britain	CT	06051
Davis	Daniel	Chairperson, Conservation Commission/Inland Wetlands Agency	27 West Main Street, Room 208	New Britain	CT	06051
Blumenthal	Richard	U.S. Senator	702 Hart Senate Office Building	Washington	DC	20510
Murphy	Chris	U.S. Senator	B40A Dirksen Senate Office Building	Washington	DC	20510
Larson	John	U.S. Representative	1501 Longworth House Office Building	Washington	DC	20515
Bizzarro	Gennaro	State Senator, 6 th District	Legislative Office Building, Room 3402	Hartford	CT	06106-1591
Tercyak	Peter	State Representative, 26 th District	Legislative Office Building, Room 4017	Hartford	CT	06106-1591
Tong	William	Connecticut Attorney General	55 Elm Street	Hartford	CT	06106

Dykes	Katie	Commissioner, Department of Energy and Environmental Protection	79 Elm Street	Hartford	CT	06106- 5127
Paslick Gillett	Marissa	Chairman, Public Utilities Regulatory Authority	10 Franklin Square	New Britain	CT	06051
Coleman- Mitchell	Renée D.	Commissioner, Department of Public Health	410 Capitol Avenue	Hartford	CT	06134
Merrow	Susan D.	Chair, Council on Environmental Quality	79 Elm Street	Hartford	CT	06106
Hurlburt	Bryan P.	Commissioner, Department of Agriculture	450 Columbus Blvd., Suite 701	Hartford	CT	06103
McCaw	Melissa	Secretary, Office of Policy and Management	450 Capitol Avenue	Hartford	CT	06106
Giulietti	Joseph	Commissioner, Department of Transportation	2800 Berlin Turnpike	Newington	CT	06111
Lehman	David	Commissioner, Department of Economic and Community Development	450 Columbus Boulevard	Hartford	CT	06103
Rush-Kittle	Regina	Deputy Commissioner, Division of Emergency Management and Homeland Security (DEMHS)	1111 Country Club Road	Middletown	CT	06457
Seagull	Michelle H.	Commissioner, Department of Consumer Protection	450 Columbus Boulevard, Suite 901	Hartford	CT	06103
Geballe	Josh	Commissioner, Department of Administrative Services	450 Columbus Boulevard	Hartford	CT	06103

Westby	Kurt	Commissioner, Department of Labor	200 Folly Brook Boulevard	Wethersfield	CT	06109
		Capitol Region Council of Governments	241 Main Street	Hartford	CT	06106- 5310

Abutter Properties

Map ID Number	Site Address (New Britain)	Owner Name	Street	City	State	Zip
D3B 1	2150 Corbin Avenue	Hospital for Special Care	2150 Corbin Ave.	New Britain	CT	06053
D2C 54	39 Dean Drive	Alic Alem	39 Dean Dr.	New Britain	CT	06053
D2C 53	33 Dean Drive	Nelson Rodriguez & Zenaida Torres	33 Dean Dr.	New Britain	CT	06053
D2C 52	23 Dean Drive	Rasamy Siriphongsavath	23 Dean Dr.	New Britain	CT	06053
D3B 11	839 Slater Road	Jorge & Adin Ortiz	839 Slater Rd.	New Britain	CT	06053
D3B 10	833 Slater Road	Peter A. Siragusa	833 Slater Rd.	New Britain	CT	06053
D3B 9	825 Slater Road	Angel Plaza	825 Slater Rd.	New Britain	CT	06053
D3B 8	815 Slater Road	Brian J. Crowley	815 Slater Rd.	New Britain	CT	06053
D3B 7	807 Slater Road	Christina Deamicis	807 Slater Rd.	New Britain	CT	06053
D3B 6	799 Slater Road	Lynette Michaud	799 Slater Rd.	New Britain	CT	06053
D3B 2	735 Slater Road	State of Connecticut EC Goodwin Technical High School	735 Slater Rd.	New Britain	CT	06053
D3B 15	120 Neanda Street	Ronald A. Turchi	120 Neanda St.	New Britain	CT	06053
D3B 14	126 Neanda Street	Agnes Lopez	126 Neanda St.	New Britain	CT	06053
D3B 13	132 Neanda Street	Kathleen Hernandez	132 Neanda St.	New Britain	CT	06053
D3B 25	2120 Corbin Avenue	Hospital for Special Care	2120 Corbin Ave.	New Britain	CT	06053
D3B 24	127 Neanda Street	Dania R Miranda- Soto	127 Neanda St.	New Britain	CT	06053
D3B 12	845 Slater Road	Barbara & Manchak P Stanowski	845 Slater Rd.	New Britain	CT	06053
D2C 43	853 Slater Road	Marietta Marquez	853 Slater Rd.	New Britain	CT	06053

D2C 44	861 Slater Road	Marietta Marquez	853 Slater Rd.	New Britain	CT	06053
D3B 3	787 Slater Road	Frankie Rodriguez	135 Sunrise Rd.	New Britain	CT	06051
D3A 128	16 Heather Lane	Christian J. Boutot	16 Heather Ln.	New Britain	CT	06053
D3A 3	2169 Corbin Avenue	Isabel C & Robert Moore	2169 Corbin Ave.	New Britain	CT	06053
D3A 2	2161 Corbin Avenue	Carl R. & Rosemary E. Walczewski	97 Brown St.	New Britain	CT	06053
D3A 1	2155 Corbin Avenue	City of New Britain	27 West Main St.	New Britain	CT	06051
D3A 141	2185 Corbin Avenue	Ignacy & Cecylia Barniak (LU)	2185 Corbin Ave.	New Britain	CT	06053
D3A 142	2189 Corbin Avenue	Zygmunt & Wacława Klepacki	2189 Corbin Ave.	New Britain	CT	06053
D3A 343	2195 Corbin Avenue	Arnaldo Vargas Jr. & Arnaldo Vargas Sr.	2195 Corbin Ave.	New Britain	CT	06053
D3A 143	2199 Corbin Avenue	Josepovic Veno	2199 Corbin Ave.	New Britain	CT	06053
D3A 944	2207 Corbin Avenue	Paul Sierzant	2207 Corbin Ave.	New Britain	CT	06053
D3A 4	2175 Corbin Avenue	Julio Cruz & Ramona Camacho	2175 Corbin Ave.	Sudbury	MA	06053
D3A 146	2233 Corbin Avenue	CH Realty VIII/CG CT Atlantis LLC	3819 Maple Ave.	Dallas	TX	75219
D3B 43	2125 Corbin Avenue	John Wajda Jr.	2125 Corbin Ave.	New Britain	CT	06053
D3B 42	2131 Corbin Avenue	Rosa M. Cruz	2131 Corbin Ave.	New Britain	CT	06053
D3B 39B	2149 Corbin Avenue	Alan Zaniewski & Alexander J. Zaniewski, Est.	131 Golden Hill St.	New Britain	CT	06053
D3B 40	2143 Corbin Avenue	Wilberto Aponte	2143 Corbin Ave.	New Britain	CT	06053
D3B 41	2135 Corbin Avenue	Marlene Ferone	2135 Corbin Ave.	New Britain	CT	06053
D3A 144	2203 Corbin Avenue	Jerzy & Barbara Grochot	2203 Corbin Ave.	New Britain	CT	06053



VIA CERTIFICATE OF MAILING

September 10, 2019

RE: Application of Bloom Energy for the location and construction of three (3) new ES-5 Bloom Energy Server solid oxide fuel cells to provide 600 Kilowatts of Customer-Side Distributed Resource at 2150 Corbin Avenue, New Britain, Connecticut

Dear Ladies and Gentlemen:

Pursuant to Section §16-50j-40 of the Connecticut Siting Council's (the "Council") regulations, we are notifying you that Bloom Energy intends to file, on or about September 13, 2019, a petition for declaratory ruling with the Council. The petition will request the Council's approval of the location and construction of a 600-kilowatt (KW) fuel cell installation and associated equipment. The Facility will be located at the Hospital for Special Care ("HSC") at 2150 Corbin Avenue in New Britain, Connecticut (the "Site").

The purpose of the proposed Facility is to replace the average baseload of HSC's operations at that location with a renewable energy source¹ and improve reliability of electrical systems and equipment. Electricity generated by the Facility will be consumed primarily at the Site, and any excess electricity will be exported to the electric grid. The Facility will be fueled by natural gas.

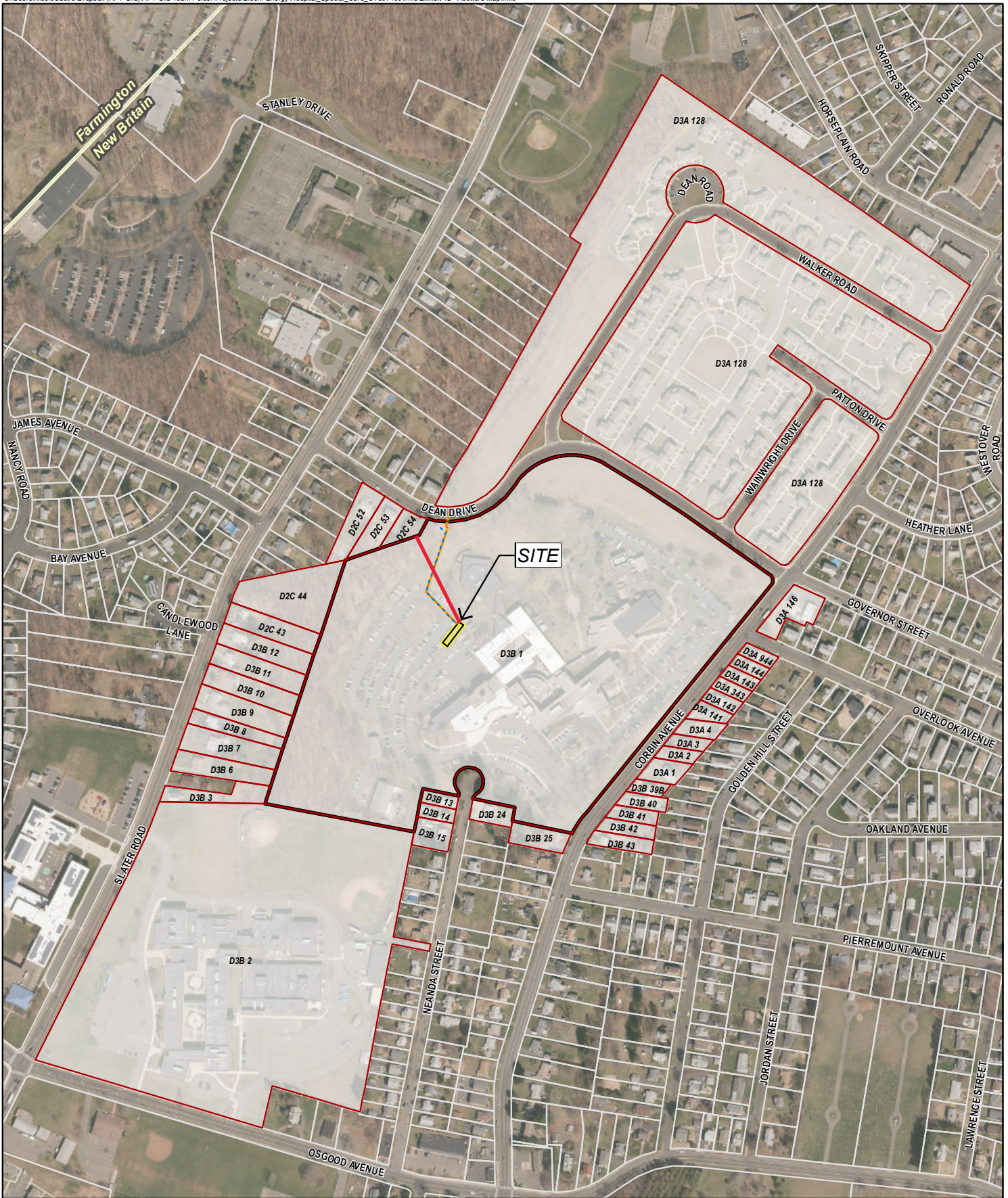
Keeping the lines of communication open is an important part of our work in your community. If you have questions about this work, please contact the undersigned or the Council.

Respectfully,

Justin Adams
justin.adams@bloomenergy.com

¹Connecticut General Statutes §16-1(a)(26)(A) identifies fuel cells as a "Class I renewable energy source"

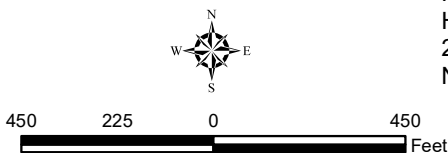
Exhibit 11



Legend

- Subject Property
- Abutting Property
- Limit of Disturbance for Proposed Proposed Energy Servers
- Municipal Boundary
- Proposed Underground Communication Line
- Proposed Underground Gas Line
- Approximate Assessor Parcel Boundary (CTDEEP)

Map Notes:
 Base Map Source: 2016 Aerial Photograph (CTECO)
 Map Scale: 1 inch = 450 feet
 Map Date: August 2019



**Exhibit 11
 Abutters Map**

Proposed Bloom Energy Facility
 Hospital For Special Care
 2150 Corbin Avenue
 New Britain, CT 06053



Exhibit 12

Jennifer Young Gaudet

From: Steven Schiller <Steven.Schiller@newbritainct.gov>
Sent: Thursday, September 5, 2019 11:36 AM
To: Jennifer Young Gaudet
Subject: FW: Bloom Energy fuel cell installation - Hospital for Special Care

Jennifer-

In case you missed them, I am forwarding these comments from City engineer Rob Trottier. I don't see any issues relative to zoning.

You're probably aware that the HFSC is undertaking an expansion for an autism wing now. This should probably be incorporated into that project planning for site plan and drainage purposes.

Steve

Steven P. Schiller, AICP
City Planner
City of New Britain
Suite 208, City Hall
27 West Main Street
New Britain, Connecticut 06051
860-826-3430
Steven.Schiller@NewBritainCT.gov

From: Robert Trottier
Sent: Thursday, September 5, 2019 11:28 AM
To: Steven Schiller <Steven.Schiller@newbritainct.gov>; Sergio Lupo <Sergio.Lupo@newbritainct.gov>; Dave Zajac <Dave.Zajac@newbritainct.gov>; Scott Wadowski <Scott.Wadowski@newbritainct.gov>; Chris Polkowski <Chris.Polkowski@newbritainct.gov>
Cc: Danielle Rosado <Danielle.Rosado@newbritainct.gov>; Jennifer Young Gaudet <jyounggaudet@allpointstech.com>
Subject: RE: Bloom Energy fuel cell installation - Hospital for Special Care

Steve,

Here are some Preliminary comments:

1. Increase in impervious surface will need to be addressed.
2. The proposed improvements should be shown on the most recent HFSC A2 Survey
3. All new utility service locations should be shown from the new facility to their connection in the City Street.
4. Dean Drive is mislabeled.
5. I assume a formal site plan will be submitted for review and comment?

Rob

Robert Trottier, P.E.

City Engineer

City of New Britain Dept of Public Works

27 West Main Street New Britain, CT 06051

Phone (860) 826-3355 Fax (860) 826-3353

Email: rtrottier@newbritainct.gov

Web: www.newbritainct.gov

From: Steven Schiller

Sent: Tuesday, September 3, 2019 9:38 AM

To: Sergio Lupo; Dave Zajac; Scott Wadowski; Robert Trottier; Chris Polkowski

Cc: Danielle Rosado; Jennifer Young Gaudet

Subject: FW: Bloom Energy fuel cell installation - Hospital for Special Care

Would you guys all take a look and comment on these pdf plans of proposed fuel cell placement at Hospital for Special Care? I don't see any issue from a zoning standpoint. Building Department's determination whether this requires site plan review or just applicable building and electrical permit reviews.

Steve

From: Jennifer Young Gaudet [<mailto:jyounggaudet@allpointstech.com>]

Sent: Tuesday, August 27, 2019 9:09 PM

To: Steven Schiller <Steven.Schiller@newbritainct.gov>

Cc: Danielle Rosado <Danielle.Rosado@newbritainct.gov>

Subject: Bloom Energy fuel cell installation - Hospital for Special Care

Dear Mr. Schiller:

All-Points Technology is working with Bloom Energy on plans for a fuel cell installation at the Hospital for Special Care. Bloom will submit a petition to the Connecticut Siting Council for approval. In preparation for the filing, we are seeking any comment you or other appropriate City staff may have on the proposed plans. Attached are preliminary plans depicting the proposed installation. As shown, the Bloom energy servers will be placed behind the main building adjacent to the rear parking lot.

I am available to discuss the plans or answer any questions you may have. I can be reached by phone at the number below or by e-mail.

Thank you.

Jennifer Young Gaudet

Jennifer Young Gaudet
Program Manager



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