March 27, 2019

Attn: Robert Stein, Chairman

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 1.2-megawatt Fuel Cell Customer Side Distributed Resource at Connecticut College, 5 Reservoir Street, New London, CT.

Dear Chairman Stein:

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 1.2-megawatt fuel cell and associated equipment (the "Facility"). The Facility will be located on the campus of Connecticut College at 5 Reservoir Street, New London, CT (the "Site"). Connecticut College is the host and the off-taker, but has no role in the siting and operations. Electricity generated by the Facility will be consumed at the Site, 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

Mastin Adams

justin.adams@bloomenergy.com

Justin Adams

(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 1.2-MEGAWATT FUEL

CELL CUSTOMER-SIDE DISTRIBUTED :

RESOURCE AT 5 RESERVOIR STREET, NEW : MARCH 29, 2019

LONDON, CT

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 comprised of five (5) new ES-5 Bloom Energy Server solid oxide fuel cells and associated equipment (the "Facility"), providing 1.2-megawatt ("MW") (net) of power to the Connecticut College campus in New London, CT (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 Connecticut College.

Connecticut College is the host and the off-taker, but has no role in the siting and operations.

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 Projection ("DEEP"). Bloom submits that no Certificate is required because the proposed modifications would not have a substantial adverse environmental effect in the immediate vicinity of the Facility as well as in the State of Connecticut.

I. COMMUNICATIONS

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

Justin Adams Alicia Surowiec

Bloom Energy Corporation
1299 Orleans Drive
Sunnyvale, CA 94089

Bloom Energy Corporation
1299 Orleans Drive
Sunnyvale, CA 94089

Sunnyvale, CA 94089

Telephone: (860) 839-8373 Telephone: (484) 888-3621 Fax: (408) 543-1501 Fax: (408) 543-1501

Email: justin.adams@bloomenergy.com Email: Alicia.Surowiec@bloomenergy.com

II. DISCUSSION

A. Project Description and Purpose

The Facility will be a 1.2-MW customer-side distributed resource consisting of five (5) state-of-the-art Bloom Energy Servers and associated equipment. The Facility will be interconnected to an existing switchboard within a nearby equipment shelter. *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 [and is 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)(40)(A). Further, in its Final Decision in Docket No. 12-02-09, dated September 12, 2012, 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)(26)(A). *See* Exhibit 3.

The purpose of the proposed project is to replace the average baseload of the Site with a Class I renewable energy source, achieve the educational institution's sustainability goals, and improve reliability of electrical systems and equipment. The Facility was sized to provide at least 80% of the average Connecticut College baseload. (Exhibit 4) 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 four (4) 250 kW models ES5-AA2AAA & ES5AACAAA and one (1) 200.0 kW ES5-BABAAA model Bloom solid oxide fuel cell Energy Servers and associated equipment to be located on the Connecticut College campus at the corner of Mohegan Avenue (Route 32) and Reservoir Street, to the west of Mohegan Avenue. The location and arrangement for the fuel cells and equipment is shown in Exhibit 2. The associated equipment includes water deionizers, telemetry cabinets, disconnect switches and utility cabinets. The concrete pads for the Facility and associated equipment will be contained in a gravel compound, approximately 65' x 40'. The Facility is enclosed, factory-assembled and tested prior to installation on the Site. See Exhibit 4 for Bloom Energy Server Product Datasheets.

The operational life of the Facility is for the life of the 20-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 20-year contract, Connecticut College 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 1.2 MW 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 College's main switchboard. 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 switchboard within a nearby equipment shelter. The interconnection application for the Facility was submitted and under review at the time this petition was filed. The Facility will be fueled by natural gas supplied by Yankee Gas Services Company.

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 come back online smoothly and efficiently when the disruption is completed. Connecticut College will be provided with Bloom's Emergency Response Plan. (Exhibit 5)

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

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

automatic shutdown of the energy server. Before commissioning, the fuel lines (pipe) are cleaned in accordance with Public Act 11-101².

C. Existing Environment

i. The Site

The Facility would be installed at the corner of Mohegan Avenue and Reservoir Street, entirely within the Connecticut College property. Specifically, the Facility will be constructed on the 92.21-acre parcel that constitutes the main campus, including 48 buildings, as well as paved parking and roadways. The Site is within the Institutional zone under the zoning regulations of the City of New London (the "City"). It is located adjacent to Route 32, a major State north-south route. Route 32 runs immediately to the east, with additional Connecticut College parcels further to the east between Route 32 and the Thames River. The parcels to the north, south, and west are a mix of residential and additional educational institutional uses, including additional Connecticut College properties and the U.S. Coast Guard Academy. The closest residential property is located approximately 860 feet to the east/southeast.

The Facility was strategically placed to minimize impact on campus operations and to take advantage of the existing utility functions within that part of the campus.

ii. Wildlife and Habitat

A review of the publicly available Natural Diversity Database (NDDB) December 2018 data shows that there are known occurrences of state-listed species within ¼ mile of the proposed Site, but not within the area of the proposed Facility. See Exhibit 7.

iii. Wetlands and Watercourse

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

The proposed Facility would be located in a wooded area within a developed portion of the property. There are no identified wetlands or watercourses within the proposed location of the Facility. Due to the distance of the proposed Facility from identified wetlands and watercourses, impacts to wetlands and watercourses are not anticipated during the construction and operation of the Facility. See Exhibit 8.

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 not be located within a 100- or 500-year flood zone. See Exhibit 9.

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 in East Lyme, CT approximately five miles to the west 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, which 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 which 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. There has never been a leak from one of the desulfurization canisters. The structural integrity and leak prevention continues 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 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 NOx, SOx, 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

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

⁴ Sec. 16-244t

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 (NOx)	<0.01 lbs/MWh	0.07 lbs/MWh
Carbon Monoxide (CO)	<0.05 lbs/MWh	0.10 lbs/MWh
Sulfur Oxides (SOx)	Negligible	Not Listed
Volatile Organic Compounds (VOCs)	<0.02 lbs/MWh	0.02 lbs/MWh
Carbon Dioxide (CO2) 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 (EPA) "eGrid" data the proposed facility is expected to reduce carbon emissions by more than 25% while essentially eliminating local air pollutants like NOx, SOx, and particulate matter.

iii. Sound Levels

The nearest parcel boundary is with a Connecticut College property located on the east side of Mohegan Avenue/Route 32 and defined as a Class B noise zone⁶. The results of the sound model predicting noise levels at the property boundary located 860 feet to the east/southeast are provided as Exhibit 10. The proposed Facility would be defined as "Scenario 1" in the model. Scenario 1 models noise for a Bloom Energy Server installed close to a building or tall wall which reflects the noise produced to the opposite side of the Energy Server and increases the noise levels. The results of the Scenario 1 sound model at 860 feet are 37.7 dB,

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

⁶ Sec. 22a-69-2.3. Noise zone standards

which is in compliance with noise criteria set forth in Connecticut regulations for the Control of Noise⁷ and the City of New London Noise Ordinance⁸.

iv. Visual Effects

The overall visual effect of the Facility will be minor. It will be located within a wooded area in the portion of campus utilized for utility/operational functions; vegetation will remain to screen visibility from the east along Route 32 and to the south. In addition, a steady decrease in elevation from the central area of campus to the Thames River will minimize visibility from off-campus points.

E. Project Construction and Maintenance

Bloom anticipates construction to start in the third quarter of 2019 with 12-14 weeks of total construction time (4 weeks of site prep, 4 weeks of installation, and 4 weeks of commissioning). New London exempts noise generated by construction activity from the requirements of its noise ordinance. Nonetheless, Bloom anticipates that construction will take place only during "daytime hours" as defined in the ordinance, between the hours of 8:00 a.m. and 10:00 p.m., Monday through Saturday. In addition, Bloom will work with Connecticut College to coordinate construction activities to avoid conflict with major campus activities such as graduation.

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

⁷ Sec. 22a-69-3.5. Noise zone standards

⁸ Ordinance 02-07-05-1

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 effect 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. 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 certified mail to all persons and appropriate municipal officials and governmental agencies to whom notice is required to be given pursuant to Conn. Agencies Regs. § 16-50j-40(a)⁹. A copy of the notice letter and a service

⁹ 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*l* of the Connecticut General Statutes]."

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list are provided in Exhibit 11 and the corresponding abutters map is provided in Exhibit 12.

Additionally, prior to filing this petition, representatives from Bloom informed staff of the City of New London Economic Development and Planning Department of the proposed Facility, and provided an opportunity to comment on the proposal. To date, no comments have been received. *See* Exhibit 13.

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)(40)(A), because the Facility is "a unit with a rating of not more than sixty-five megawatts [and is located] on 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
Justin Adams **Bloom Energy Corporation** 1299 Orleans Drive

Sunnyvale, CA 94089

Telephone: (408) 338-7452

Email: justin.adams@bloomenergy.com

EXHIBITS

Exhibit 1A: Site Location Map

Exhibit 1B: Site Schematic

Exhibit 2: Site and Permit Plans

Exhibit 3: Final Decision, PURA Docket No. 12-02-09, *Petition of Bloom Energy*

Corporation for a Declaratory Ruling that Its Solid Oxide Fuel Cell Energy Server Will Qualify as a Class I Renewable Energy Source (Sept. 12, 2012)

Exhibit 4: Bloom Energy Server System Background Documentation

Exhibit 5: Emergency Response Plan

Exhibit 6: Photos of the proposed location

Exhibit 7: DEEP Coastal Boundary, Natural Diversity Data Base (NDDB), Critical Habitats

Exhibit 8: DEEP Wetlands and Watercourse Map

Exhibit 9: FEMA Map

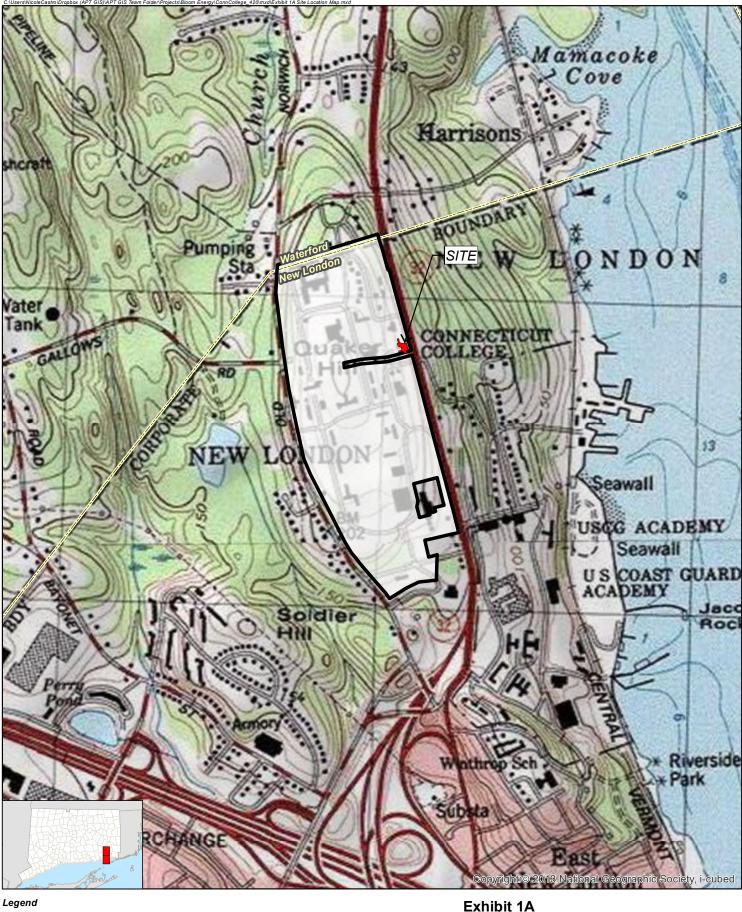
Exhibit 10: Sound Model

Exhibit 11: Notice Pursuant to Conn. Agencies Regs. § 16-50j-40(a)

Exhibit 12: Abutters Map

Exhibit 13: Email to City Planner

Exhibit 1A

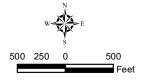




Subject Property

Municipal Boundary

Map Notes: Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps: Uncasville (1970) and New London (1984), CT Map Scale: 1:12,000 Map Date: March 2019



Site Location Map

Proposed Bloom Energy Facility Connecticut College Mohegan Avenue Parkway New London, Connecticut





Exhibit 1B

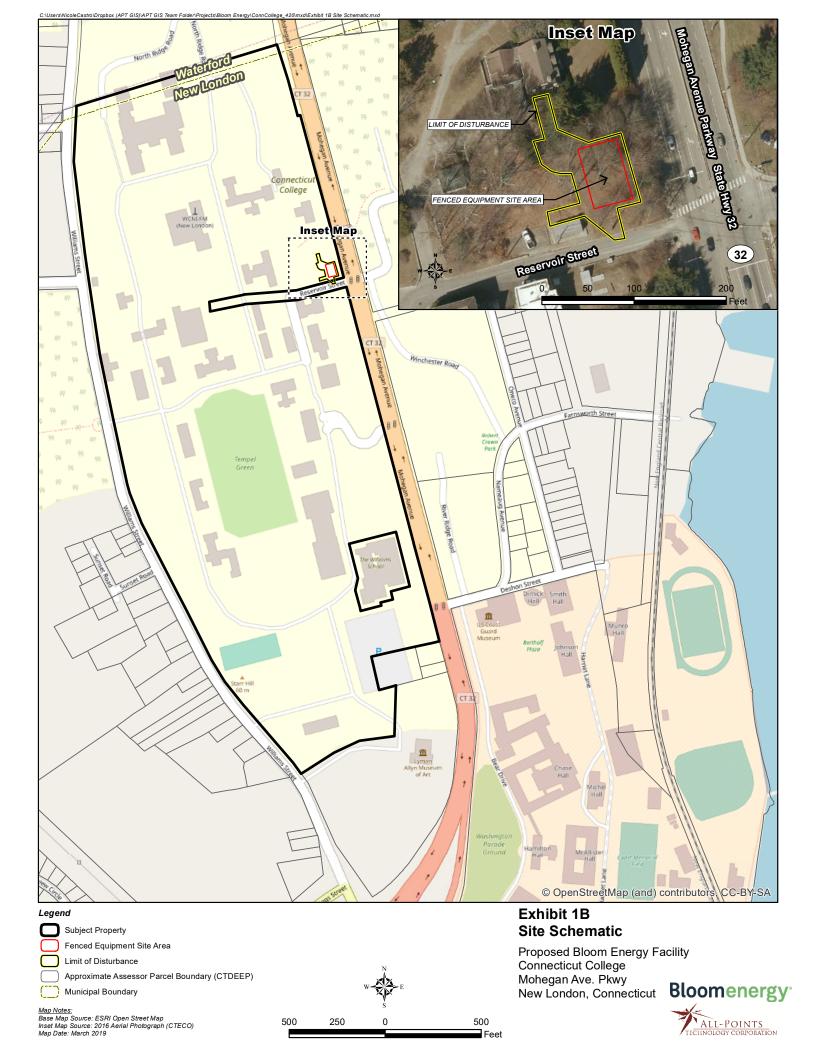


Exhibit 2



CONNECTICUT COLLEGE

5 RESERVOIR STREET, NEW LONDON, CT 06320

Bloomenergy®

- 02/26/2019

14 | RO.1 | BLOOM PRODUCT DATA SHEET

CODES



CONTACT LOCAL UTILITIES, INCLUDING BUT NOT LIMITED TO ELECTRICAL, GAS, WATER, CABLE, AND TELEPHONE, REQUESTING A UTILITY MARK OUT AND AS NECESSARY RETAIN THE SERVICES OF A PRIVATE UTILITY MARK OUT COMPANY TO PERFORM RESPONSIBILITY TO LOCATE AND VERIFY THE LOCATION OF UTILITIES, IRRIGATION, SITE LIGHTING, AND ELECTRICAL LINES IN THE VICINITY OF THE CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR ANY AND ALL UTILITIES DAMAGED BY THE CONTRACTOR'S OPERATION AT NO ADDITIONAL EXPENSE.

PRIOR TO COMMENCING ANY EXCAVATION OR DEMOLITION, THE CONTRACTOR SHALL

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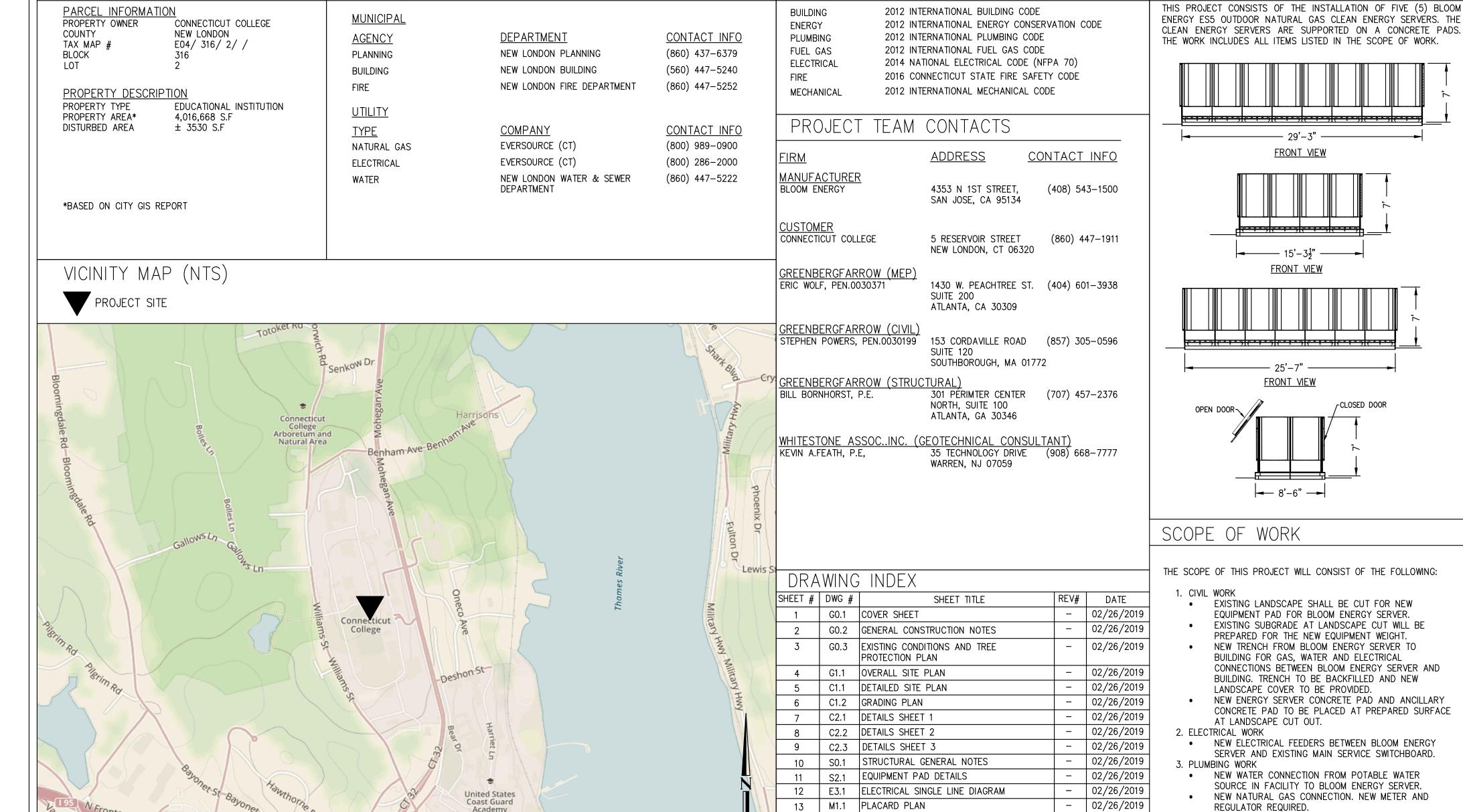
4353 N 1ST STREET SAN JOSE, CA 95134

PROPRIETARY AND CONFIDENTIAL

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ENGINEER OF RECORD STEPHEN POWERS, P.E. LICENSE # 0030199



PERMITTING INFORMATION

SITE INFORMATION

PROJECT DESCRIPTION BLOOM ENERGY FAQ's

WHAT IS A BLOOM ENERGY SERVER? A: THE BLOOM ENERGY SERVER IS A STATIONARY FUEL CELL POWER SYSTEM.

Q: IS THE BLOOM ENERGY SERVER PRODUCT LISTED OR CERTIFIED?

A: YES. ES-5XXX SERIES:

• THE FUEL CELL IS UL LISTED AS A "STATIONARY FUEL CELL POWER SYSTEM" TO ANSI/CSA AMERICA FC 1-2004. IT IS UL LISTED UNDER UL CATEGORY IRGZ AND UL FILE NUMBER MH45102.

ES5 SERIES: • THE FUEL CELL IS UL LISTED AS A "STATIONARY FUEL CELL POWER SYSTEM" TO ANSI/CSA FC 1-2014.

IT IS UL LISTED UNDER UL CATEGORY IRGZ AND UL FILE NUMBER MH45102.

Q: WHERE ARE FUEL CELLS COVERED IN THE NATIONAL ELECTRICAL CODE (NEC)?

A: FUEL CELLS ARE COVERED IN ARTICLE 692 OF THE NEC (NFPA 70). FUEL CELLS HAVE BEEN INCORPORATED INTO THE NEC SINCE 2002.

Q: WHAT IS THE MODEL NUMBER OF THIS PRODUCT?

A: PLEASE SEE THE DATA SHEET PROVIDED WITH THIS FAQ.

Q: WHAT IS THE NOISE LEVEL OF THE FUEL CELL SYSTEM? A: FOR SPECIFIC DB RANGES, PLEASE REFER TO THE DATA SHEET PROVIDED WITH THIS FAQ.

Q: DO BLOOM ENERGY FUEL CELL SYSTEMS PROVIDE LIFE SAFETY POWER?

A: NO. WE ARE NOT LIFE SAFETY AND DO NOT PROVIDE LIFE SAFETY POWER, EVEN WHEN A UPM IS INSTALLED. WE ARE NOT ALTERING WHATEVER LIFE SAFETY IS CURRENTLY PRESENT AT THE FACILITY.

Q: IS THE BLOOM ENERGY FUEL CELL SYSTEM TAMPER-PROOF?

A: YES. THE FUEL CELLS ARE SECURED IN PLACE AND DOORS ARE SECURED AND LOCKED. ONLY BLOOM SERVICE

PERSONNEL HAVE THE KEYS AND CAN BE ON-SITE WITHIN 24 HOURS.

Q: WHAT HAPPENS TO THE CUSTOMER FACILITY POWER IF THE FUEL CELLS SHUT DOWN?

A: THE FUEL CELL SYSTEM IS OPERATED IN GRID-PARALLEL MODE. IF THE UTILITY GRID IS OPERATIONAL, THE

CUSTOMER FACILITY WILL RECEIVE POWER FROM THE GRID AND NOTICE NO DIFFERENCE.

Q: WHAT HAPPENS TO THE FUEL CELL SYSTEM WHEN THE UTILITY POWER SHUTS DOWN?

A: IF UTILITY PROVIDED POWER IS LOST FOR ANY REASON, THE FUEL CELL SYSTEM WILL ALSO STOP PRODUCING POWER. THE FUEL CELL SYSTEM WILL REMAIN IN STAND-BY MODE UNTIL IT AUTOMATICALLY SENSES THE UTILITY GRID HAS BEEN RESTORED.

Q: WHAT HAPPENS TO THE FUEL CELL SYSTEM WHEN THE UTILITY GAS SHUTS DOWN?

A: IF THE UTILITY GAS IS INTERRUPTED, THE FUEL CELL SYSTEM WILL AUTOMATICALLY SHUT DOWN AS WELL. Q: CAN THE FUEL CELL SYSTEM BE SHUT DOWN LOCALLY IN CASE OF AN EMERGENCY?

A: YES. IF THE FUEL CELL MUST BE SHUT DOWN RIGHT AWAY -- FOR EXAMPLE, IN CASE OF A BUILDING FIRE OR ELECTRICAL HAZARD—-TWO SHUTOFF CONTROLS ARE INSTALLED AT THE FACILITY EXTERNAL TO THE SYSTEM. THE LOCATIONS OF THESE TWO CONTROLS SHOULD BE KNOWN TO THE FACILITIES MANAGER BEFORE OPERATION AND SHOULD

(1) THE ELECTRICAL DISCONNECT SWITCH AND (2) THE MANUAL NATURAL GAS SHUTOFF VALVE. A THIRD SHUTOFF, AN EMERGENCY POWER OFF (EPO) BUTTON, MAY BE

BE NOTED ON THE SITE DIAGRAM THAT IS CREATED FOR EACH SITE DURING INSTALLATION. THE TWO SHUTOFFS ARE:

PROVIDED ON-SITE. Q: DOES THE BLOOM ENERGY FUEL CELL SYSTEM OPERATE 24/7?

A: YES.

Q: ARE THE BLOOM ENERGY FUEL CELL SYSTEMS MONITORED?

A: YES. BLOOM ENERGY FUEL CELL SYSTEMS ARE 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 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. IF YOU HAVE QUESTIONS ABOUT ANY OF THESE SAFETY FEATURES, PLEASE CONTACT BLOOM ENERGY AT CUSTOMERCARE@BLOOMENERGY.COM.

Q: WHAT ARE THE EMISSIONS GENERATED BY BLOOM ENERGY FUEL CELL SYSTEMS?

A: THE SPECIFIC PERCENTAGE OF CARBON EMISSION REDUCTIONS ARE DEPENDENT ON YOUR STATE'S GENERATION MIX, BUT BLOOM ENERGY FUEL CELL SYSTEMS VIRTUALLY ELIMINATE NOX, SOX, AND OTHER CRITICAL AIR POLLUTANTS THAT ARE FOUND IN TRADITIONAL ELECTRICITY GENERATION METHODS. FOR SPECIFIC EMISSIONS RANGES, PLEASE REFER TO THE DATA SHEET PROVIDED WITH THIS FAQ.

Q: WHAT IS THE SUSTAINABILITY IMPACT OF BLOOM ENERGY FUEL CELL SYSTEMS?

A: BLOOM ENERGY FUEL CELL SYSTEMS GENERATE ELECTRICITY ON-SITE THROUGH AN EFFICIENT ELECTROCHEMICAL REACTION WITHOUT COMBUSTION. DUE TO THE HIGH EFFICIENCY (60%-53% COMPARED TO A COMBINED CYCLE NATURAL GAS PLANT WITH EFFICIENCY OF 40-45% OR COAL PLANTS AT 35%) BLOOM ENERGY SERVERS REDUCE CARBON EMISSIONS BY 20-50% COMPARED TO THE US GRID EMISSION RATES. THE VARIATION IN EMISSIONS REDUCTION IS DUE TO THE VARIATION IN HOW DIFFERENT STATES GENERATE ELECTRICITY. IN ADDITION, BLOOM ENERGY FUEL CELL SYSTEMS USE NO WATER DURING NORMAL OPERATION

CUSTOMER SITE

CONNECTICUT COLLEGE 5 RESERVOIR STREET, NEW LONDON, CT 06320



CONNECTICUT COLLEGE

		REVISION HISTORY		
	REV	REVISION ISSUE		DATE
	_	INITIAL RELEASE		02/26/2019
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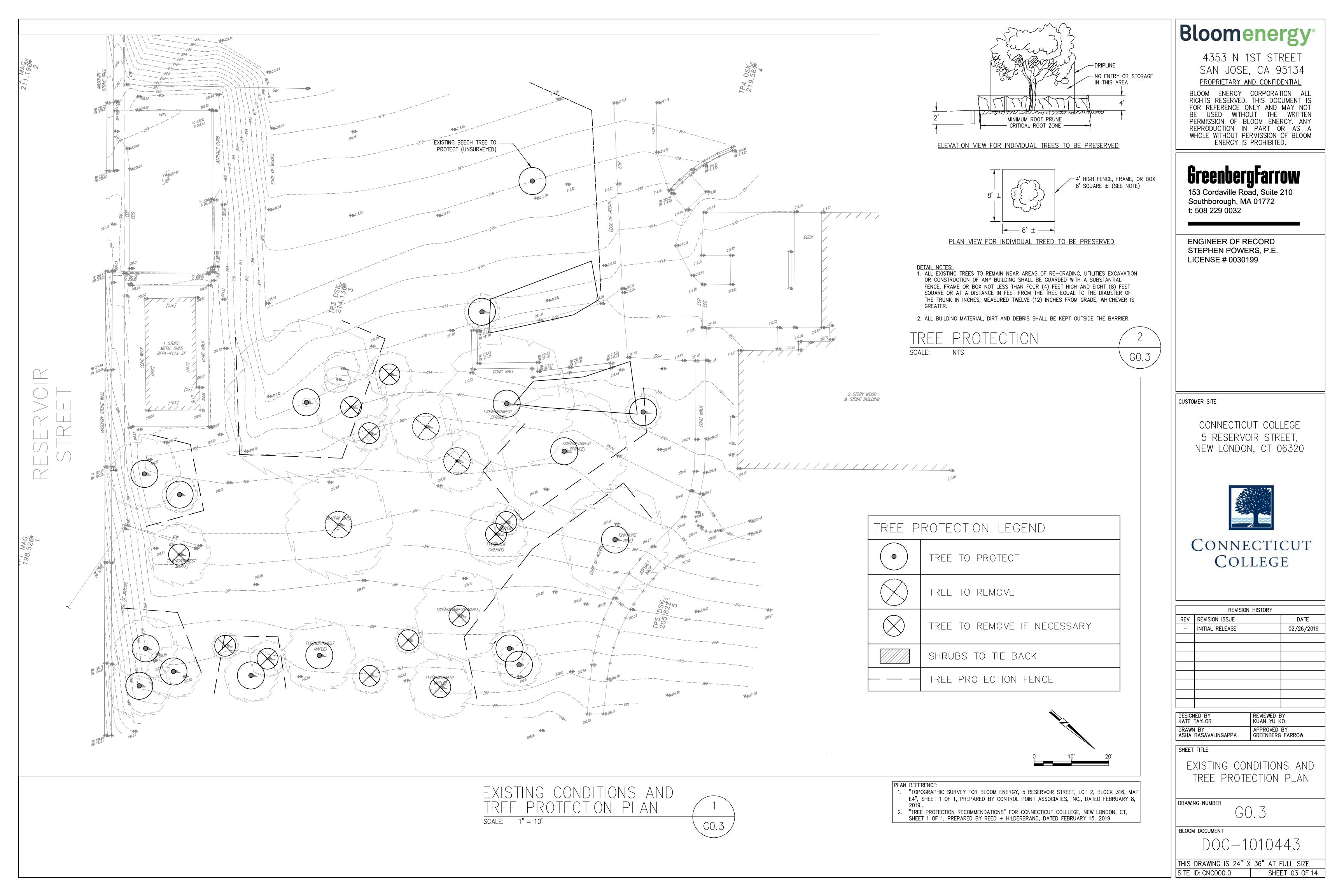
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DRAWN BY	APPROVED BY
ASHA BASAVALINGAPPA	GREENBERG FARROW

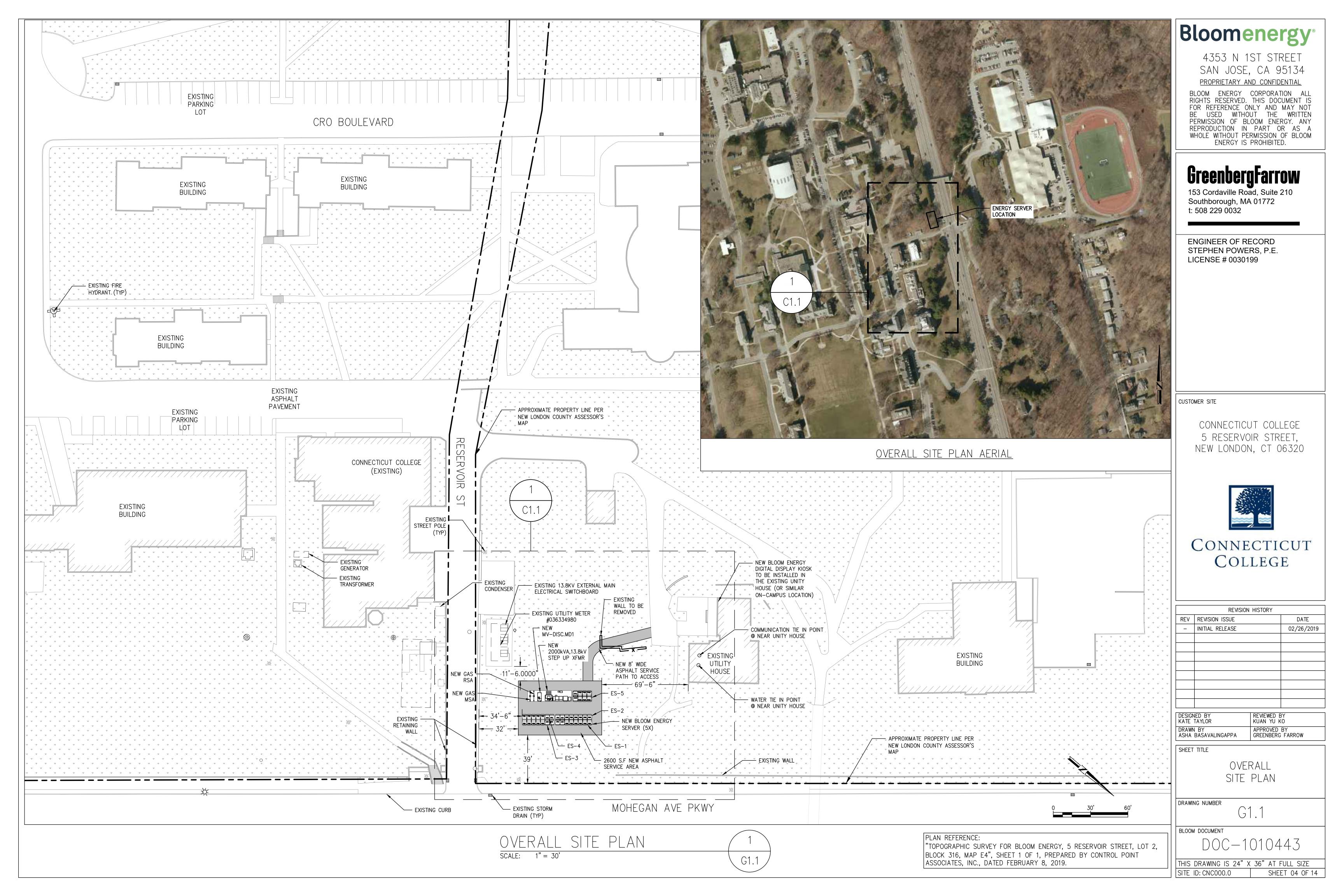
SHEET TITLE

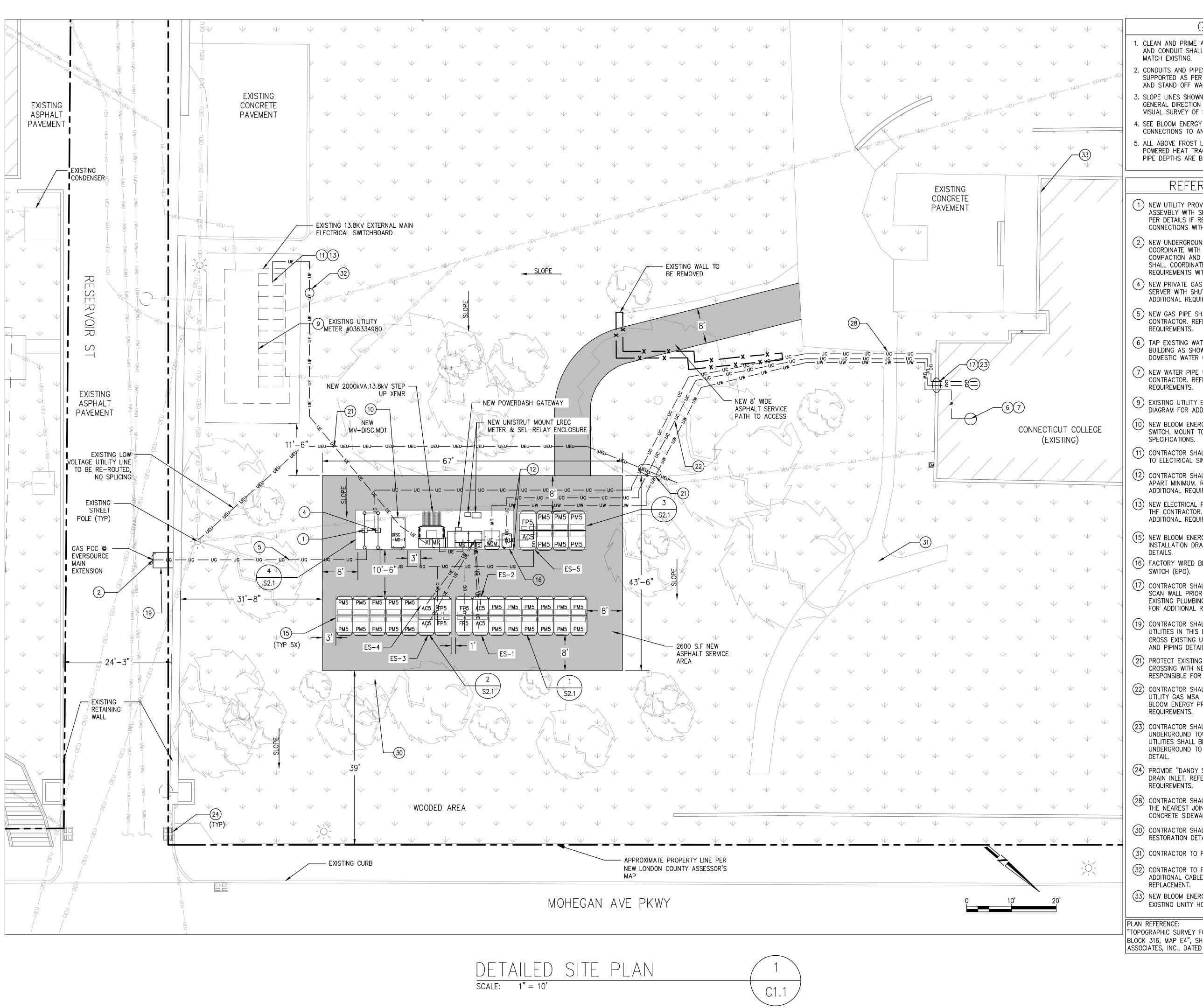
COVER SHEET

BLOOM DOCUMENT DOC-1010443

THIS DRAWING IS 24" X 36" AT FULL SIZE SITE ID: CNC000.0 SHEET 01 OF 14







GENERAL NOTES

- 1. CLEAN AND PRIME ALL NEW WIRE MOUNTED PIPING AND CONDUIT. PIPING AND CONDUIT SHALL BE PAINTED WITH EXTERIOR GRADE PAINT TO MATCH EXISTING.
- 2. 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.
- 3. 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.
- 4. SEE BLOOM ENERGY PRODUCT INSTALLATION DRAWINGS FOR UTILITY CONNECTIONS TO ANCILLARY EQUIPMENT AND ENERGY SERVER.
- 5. ALL ABOVE FROST LINE SECTIONS OF WATER PIPES SHALL HAVE POWERED HEAT TRACE AND INSULATION, ENSURE UNDERGROUND WATER PIPE DEPTHS ARE BELOW FROST LINE.

REFERENCE SHEET NOTES

- 1 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.
- 2 NEW UNDERGROUND GAS SERVICE TAP BY UTILITY COMPANY.
 COORDINATE WITH GAS UTILITY. CONTRACTOR SHALL PERFORM
 COMPACTION AND MATCH EXISTING SURFACE AND GRADE. CONTRACTOR
 SHALL COORDINATE GAS PIPE SIZING AND INSTALLATION
 REQUIREMENTS WITH UTILITY.
- (4) NEW PRIVATE GAS REGULATOR SET ASSEMBLY FOR BLOOM ENERGY SERVER WITH SHUT-OFF VALVE. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
- (5) NEW GAS PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
- 6 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.
- 7 NEW WATER PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO WATER RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
- 9 EXISTING UTILITY ELECTRIC METER. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- NEW BLOOM ENERGY FURNISHED, CONTRACTOR INSTALLED, DISCONNECT SWITCH. MOUNT TO PAD PER MANUFACTURER AND UTILITY
- (11) CONTRACTOR SHALL TERMINATE ELECTRIC FEEDER AS SHOWN. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- (12) 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
- (16) FACTORY WIRED BLOOM ENERGY SERVER EMERGENCY POWER-OFF
- 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.
- (19) 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.
- 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 PROVIDE NEW CONDUIT AND CABLE FROM NEW UTILITY GAS MSA TO CUSTOMER MPOE FOR UTILITY BILLING. REFER TO BLOOM ENERGY PRODUCT INSTALLATION DRAWINGS FOR CONNECTION
- CONTRACTOR SHALL TRANSITION 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 DRAIN INLET. REFER TO EROSION CONTROL DETAIL FOR ADDITIONAL
- CONTRACTOR SHALL REMOVE AND REPLACE CONCRETE SIDEWALK TO THE NEAREST JOINT AS REQUIRED TO COMPLETE THE WORK. REFER TO CONCRETE SIDEWALK DETAIL FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE TURF RESTORATION. REFER TO TURF RESTORATION DETAIL FOR ADDITIONAL REQUIREMENTS.
- (31) CONTRACTOR TO PATCH EXISTING WALKWAY IF AND WHERE REQUIRED.
- CONTRACTOR TO PROVIDE ELECTRICAL MANHOLE TO INCLUDE ADDITIONAL CABLE LENGTH TO FACILITATE A FUTURE SWITCHGEAR DEED ACEMENT
- NEW BLOOM ENERGY DIGITAL DISPLAY KIOSK TO BE INSTALLED IN THE EXISTING UNITY HOUSE (OR SIMILAR ON-CAMPUS LOCATION)

PLAN REFERENCE: "TOPOGRAPHIC SURVEY FOR BLOOM ENERGY, 5 RESERVOIR STREET, LOT 2, BLOCK 316, MAP E4", SHEET 1 OF 1, PREPARED BY CONTROL POINT ASSOCIATES, INC., DATED FEBRUARY 8, 2019.

Bloomenergy®

4353 N 1ST STREET SAN JOSE, CA 95134

PROPRIETARY AND CONFIDENTIAL

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GreenbergFarrow

153 Cordaville Road, Suite 210 Southborough, MA 01772 t: 508 229 0032

ENGINEER OF RECORD STEPHEN POWERS, P.E. LICENSE # 0030199

CUSTOMER SITE

CONNECTICUT COLLEGE
5 RESERVOIR STREET,
NEW LONDON, CT 06320



CONNECTICUT COLLEGE

	REVISION HISTORY		
	REV	REVISION ISSUE	DATE
	1	INITIAL RELEASE	02/26/2019
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DESIGNED BY
KATE TAYLOR

DRAWN BY
ASHA BASAVALINGAPPA

REVIEWED BY
KUAN YU KO

APPROVED BY
GREENBERG FARROW

SHEET TITLE

DETAILED SITE PLAN

DRAWING NUMBER

UI.

DOC-1010443

THIS DRAWING IS 24" X 36" AT FULL SIZE
SITE ID: CNC000.0 SHEET 05 OF 14

Exhibit 3

STATE OF CONNECTICUT



DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION PUBLIC UTILITIES REGULATORY AUTHORITY TEN FRANKLIN SQUARE NEW BRITAIN, CT 06051

DOCKET NO. 12-02-09 PETITION OF BLOOM ENERGY CORPORATION FOR A DECLARATORY RULING THAT ITS SOLID OXIDE FUEL CELL ENERGY SERVER WILL QUALIFY AS A CLASS I RENEWABLE ENERGY SOURCE

September 12, 2012

By the following Directors:

Arthur H. House John W. Betkoski, III

DECISION

I. INTRODUCTION

By Petition dated February 14, 2012, pursuant to Section 4-176 in the General Statutes of Connecticut (Conn. Gen. Stat.) and Section 16-1-113 in the Regulations of Connecticut State Agencies, Bloom Energy Corporation requests that the Public Utilities Regulatory Authority (Authority) issue a declaratory ruling that its solid oxide fuel cell energy server qualifies as a Class I renewable energy source.

II. PETITIONER'S EVIDENCE

Bloom Energy Corporation (Bloom) has commercialized a scalable, modular fuel cell using Bloom's patented solid oxide fuel cell (SOFC) technology. A fuel cell is a device that uses a fuel and oxygen to create electricity by an electrochemical process. A single fuel cell consists of an electrolyte and two catalyst-coated electrodes (an anode cathode). Fuel cells are generally categorized by the type of electrolyte used. Petition, pp. 2 and 3.

Each Bloom Energy Server consists of thousands of Bloom's patented SOFCs. Each fuel cell is a flat, solid ceramic square capable of producing at least 25 watts. In an energy server, Bloom "sandwiches" the SOFCs between metal interconnect plates into a fuel cell "stack." Bloom aggregates multiple fuel cell stacks together into a "power module," and then multiple power modules, along with a common fuel input and electrical output, are assembled as a complete energy server fuel cell. <u>Id.</u>, p. 3.

The Bloom Energy Server converts the chemical energy contained in fuel, such as natural gas, into electricity at an efficiency of approximately 50% - 60% (lower heating value net AC) without any combustion or multi-stage conversion loss. Fuel entering the energy server is processed using a proprietary catalytic method to yield a reformate gas stream, and the gaseous product and preheated air are introduced into the fuel cell stacks. Within the stacks, ambient oxygen reacts with the fuel to produce direct current (DC) electricity. The DC power produced by the energy server system is converted into 480-volt AC power using an inverter, and delivered to the host facility's electrical distribution system. <u>Id</u>.

SOFCs operate at very high temperatures, obviating the need for expensive metal catalysts. With low cost ceramic materials, and extremely high electrical efficiencies, SOFCs can deliver attractive economies without relying on combined heat and power. <u>Id</u>.

Bloom Energy Servers are a fraction of the size of a traditional base load power source, with each server occupying a space similar to that of a parking space. This small, low-impact, modular form of base load power does not pose the environmental challenges associated with a traditional base load power plant, significantly reducing environmental impacts. Moreover, Bloom's innovative design requires only an initial input of 120 gallons of water per 100 kW, after which no additional water is consumed during normal operation. <u>Id.</u>, pp. 3 and 4.

Bloom Energy Servers deliver significant environmental benefits over conventional base load technologies. In addition to significant CO₂ reductions due to its high efficiency, the energy server emits virtually no NO_x, SO_x, or other smog forming particulates since the conversion of gas to electricity in a Bloom Energy Server is done through an electrochemical reaction rather than combustion. <u>Id.</u>, p. 4.

III. AUTHORITY ANALYSIS

Conn. Gen. Stat. §16-1(a)(26) defines a Class I renewable energy source as:

Page 3

(A) energy derived from solar power; wind power; a fuel cell; methane gas from landfills; ocean thermal power; wave or tidal power; low emission advanced renewable energy conversion technologies; a run-of-the-river hydropower facility provided such facility has a generating capacity of not more than five megawatts, does not cause an appreciable change in the river flow, and began operation after the effective date of this section; or a biomass facility, including, but not limited to, a biomass gasification plant that utilizes land clearing debris, tree stumps or other biomass that regenerates or the use of which will not result in a depletion of resources, provided such biomass is cultivated and harvested in a sustainable manner and the average emission rate for such facility is equal to or less than .075 pounds of nitrogen oxides per million BTU of heat input for the previous calendar quarter, except that energy derived from a biomass facility with a capacity of less than five hundred kilowatts that began construction before July 1, 2003, may be considered a Class I renewable energy source, provided such biomass is cultivated and harvested in a sustainable manner; or (B) any electrical generation, including distributed generation, generated from a Class I renewable energy source.

Based on Bloom's assertions, the Authority finds that its Bloom Energy Server qualifies as a Class I renewable energy source "fuel cell" as defined in Conn. Gen. Stat. §16-1(a)(26)(A).

The Authority has created an electronic application process for generation owners to apply for a Connecticut Renewable Portfolio Standards registration. The application is available on the Authority's website at the web address http://www.ct.gov/pura. The application should be submitted electronically along with a single hard-copy filing. While the Authority concludes in this Decision that the Bloom Energy Server would qualify as a Class I renewable energy source pursuant to Conn. Gen. Stat. §16-1(a)(26), Bloom must still apply for registration of the aforementioned system once the facility becomes operational and is registered in the New England Generation Information System.

IV. CONCLUSION

Based upon the project as described herein, the Authority finds that, as proposed, the Bloom Energy Server would qualify as a Class I renewable energy source. However, since the energy server is not yet operational, it should apply for Class I registration once it begins operations.

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to requirements of the Americans with Disabilities Act. Any person with a disability who may need information in an alternative format may contact the agency's ADA Coordinator at 860-424-3194, or at deep.hrmed@ct.gov. Any person with limited proficiency in English, who may need information in another language, may contact the agency's Title VI Coordinator at 860-424-3035, or at deep.aaoffice@ct.gov. Any person with a hearing impairment may call the State of Connecticut relay number – 711. Discrimination complaints may be filed with DEEP's Title VI Coordinator. Requests for accommodations must be made at least two weeks prior to any agency hearing, program or event.

DOCKET NO. 12-02-09 PETITION OF BLOOM ENERGY CORPORATION FOR A DECLARATORY RULING THAT ITS SOLID OXIDE FUEL CELL ENERGY SERVER WILL QUALIFY AS A CLASS I RENEWABLE ENERGY SOURCE

This Decision is adopted by the following Directors:

Arthur H. House

John W. Betkoski, III

CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Public Utilities Regulatory Authority, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.

K. Santopieted

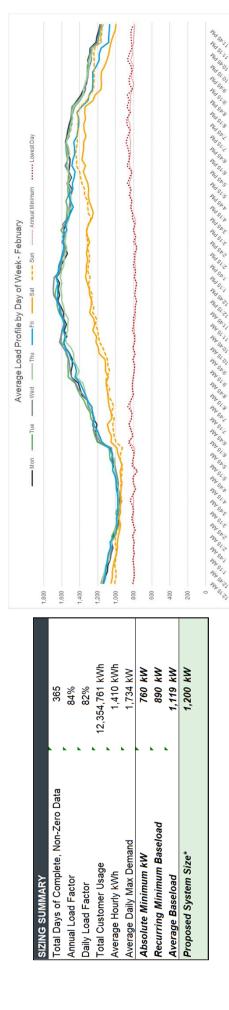
September 12, 2012

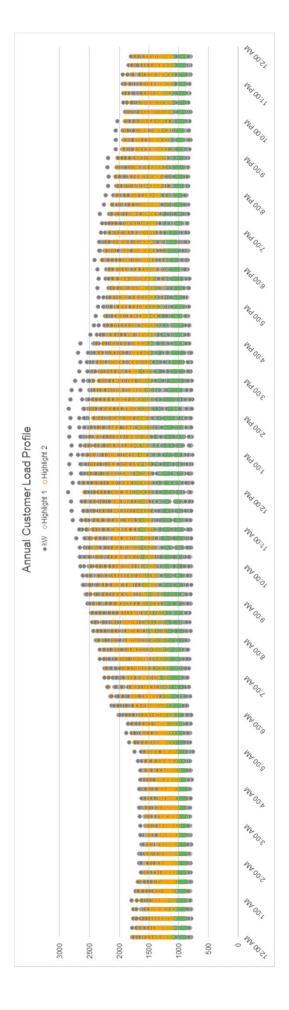
Kimberley J. Santopietro
Executive Secretary
Department of Energy and Environmental Protection
Public Utilities Regulatory Authority

Date

Exhibit 4

System Sizing – 1200 kW Grid Parallel





Energy Server 5

Clean, Reliable, Affordable Energy



CLEAN, RELIABLE POWER ON DEMAND

The Energy Server 5 delivers clean power that reduces emissions and energy costs. The modular architecture enables the installation to be tailored to the actual electricity demand, with a flexibility to add servers as the load increases. The Energy Server 5 actively communicates with Bloom Energy's network operations centers so system performance can be monitored 24 hours per day, 365 days per year.

INNOVATIVE TECHNOLOGY

Utilizing solid oxide fuel cell (SOFC) technology first developed for NASA's Mars program, the Energy Server 5 produces clean power at unprecedented efficiencies, meaning it consumes less fuel and produces less CO_2 than competing technologies. Additionally, no water is needed under normal operating conditions.

ALL-ELECTRIC POWER

The Energy Server 5, which operates at a very high electrical efficiency, eliminates the need for complicated and costly CHP systems. Combining the standard electrical and fuel connections along with a small footprint and sleek design, the Energy Server 5 is the most deployable fuel cell solution on the market.

CONTROLLED AND PREDICTABLE COST

By providing efficient on-site power generation, the economic and environmental benefits are central to the Energy Server 5 value proposition. Bloom Energy customers can lock in their long term energy costs and mitigate the risk of electricity rate increases. The Energy Server 5 has been designed in compliance with a variety of safety standards and is backed by a comprehensive warranty.

About Bloom Energy

Bloom Energy is making clean, reliable energy affordable. Our unique on-site power generation systems utilize an innovative fuel cell technology with roots in NASA's Mars program. By leveraging breakthrough advances in materials science, Bloom Energy systems are among the most efficient energy generators, providing for significantly reduced operating costs and dramatically lower greenhouse gas emissions. Bloom Energy Servers are currently producing power for many Fortune 500 companies including Apple, Google, NSA, Walmart, AT&T, eBay, Staples, as well as notable non-profit organizations such as Caltech and Kaiser Permanente.

Headquarters:

Sunnyvale, California

For More Information:

www.bloomenergy.com

Energy Server 5

Outputs	
Nameplate power output (net AC)	262.5 kW
Base load output (net AC)	250 kW
Electrical connection	480 V, 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)*	65-53%
Heat rate (HHV)	5,811-7,127 Btu/kWh
Emissions	
NOx	< 0.01 lbs/MWh
SOx	Negligible
CO	< 0.05 lbs/MWh
VOCs	< 0.02 lbs/MWh
CO ₂ @ stated efficiency	679-833 lbs/MWh on natural gas;
	carbon neutral on directed biogas
Physical Attributes and Environment	
Weight	13.6 tons
Dimensions (variable layouts)	14'9" x 8' 8" x 7' 0" or 29' 4" x 4' 5" x 7' 5"
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 IEEE154	7 standards
Exempt from CA Air District permitting; meets string	ent CARB 2007 emissions standards
An Energy Server is a Stationary Fuel Cell Power Sys	tem. It is Listed by Underwriters Laboratories, Inc. (UL) as a 'Stationary Fuel Ce
Power System' to ANSI/CSA FC1-2014 under UL Cate	gory IRGZ and UL File Number MH45102.
Additional Notes	
Access to a secure website to monitor system perfor	mance & environmental benefits

 $[\]star$ 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test

Bloomenergy°

Bloom Energy Corporation 1299 Orleans Drive Sunnyvale CA 94089 T 408 543 1500 www.bloomenergy.com

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Heat rate (HHV)	5,811-7,127 Btu/kWh
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NOx	< 0.01 lbs/MWh
SOx	Negligible
CO	< 0.05 lbs/MWh
VOCs	< 0.02 lbs/MWh
CO ₂ @ stated efficiency	679-833 lbs/MWh on natural gas;
	carbon neutral on directed biogas
Physical Attributes and Environment	
Weight	12.6 tons
Dimensions (variable layouts)	14'9" x 8' 8" x 7' 0" or 25' 9" x 4' 5" x 7' 5"
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 IEEE154	
Exempt from CA Air District permitting; meets string	
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Fire Prevention and Emergency Planning – Grid Parallel

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Bloom Energy Corporation, 1299 Orleans Drive, Sunnyvale, CA 94089 USA
Page 2 of 12

Table of Contents

- 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 Weather7.1 Earthquake7.2 Flood
- 8. Utility Outage
- 9. Good Housekeeping and Maintenance9.1 Good Housekeeping9.2 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

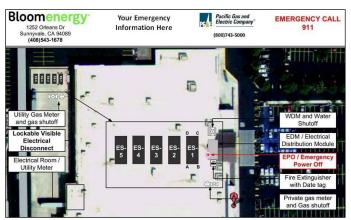


Figure 4: Sample Site Map

Manual controls:

- Clearly marked emergency stop button labeled —Fuel Cell Emergency Shut Downll 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 <u>life-threatening</u> emergencies, immediately call:

Fire: 911 Ambulance: 911 Police: 911

Conditions that require automatic emergency notification include:

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

Non-Life-Threatening Emergencies

For <u>non-life-threatening</u> 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 <u>life-threatening</u> 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 <u>is not immediately life-threatening</u> 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 <u>unknown indoor smell or odor</u>, 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:

- <u>Stay out of flooded areas</u>. 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 standby 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
 - o Do not touch any electrical switch; do not use any phone in the area
 - Leave the area immediately
 - o Immediately call your gas supplier. Follow the gas supplier's instructions.
 - o 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.

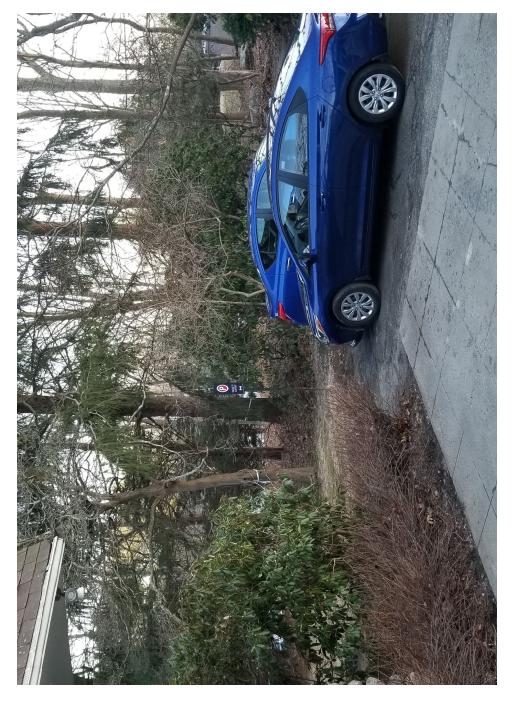
The Field Service team expects to conduct quarterly and yearly preventative maintenance for certain types of consumable or cleanable components such as replacement of air filters, water filters, and desulfurizer beds. Other maintenance will be performed as required. During such times, inspections for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

10. TRAINING

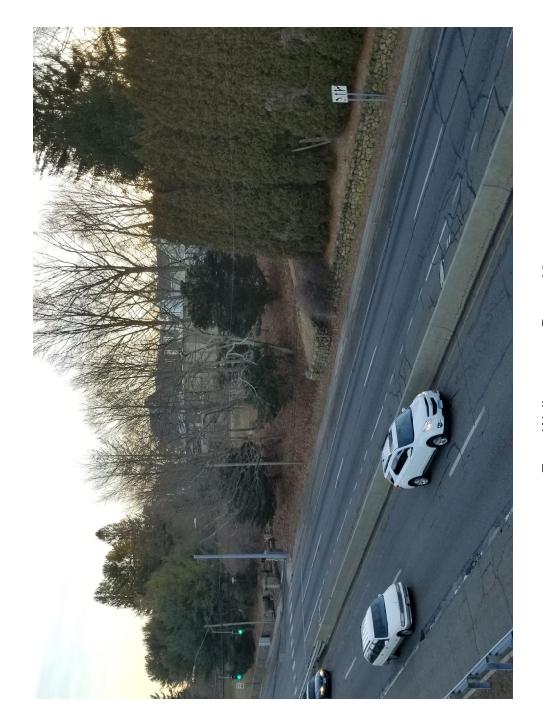
Prior to system startup, a Bloom Energy representative will provide training on the fuel cell installation to include the location and operation of safety features as well as actions to take during emergencies. We desire this training to provide lasting value and are more than happy to work with you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

From Reservoir Street

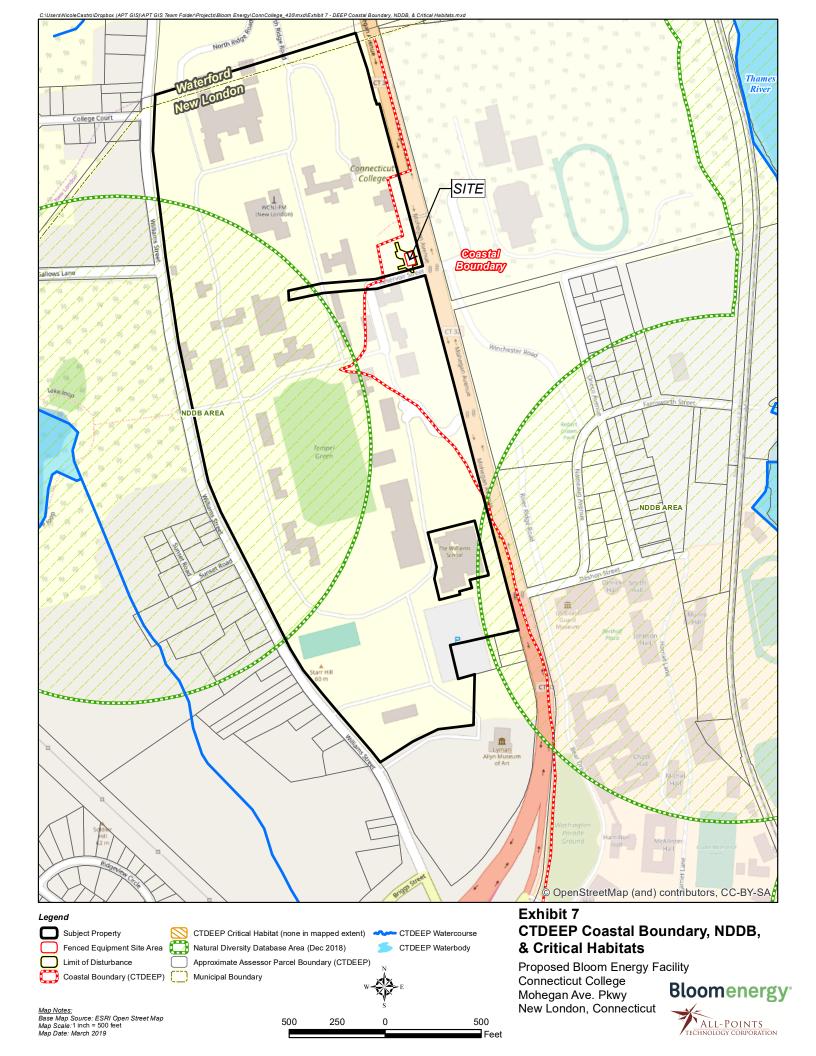
From Route 32

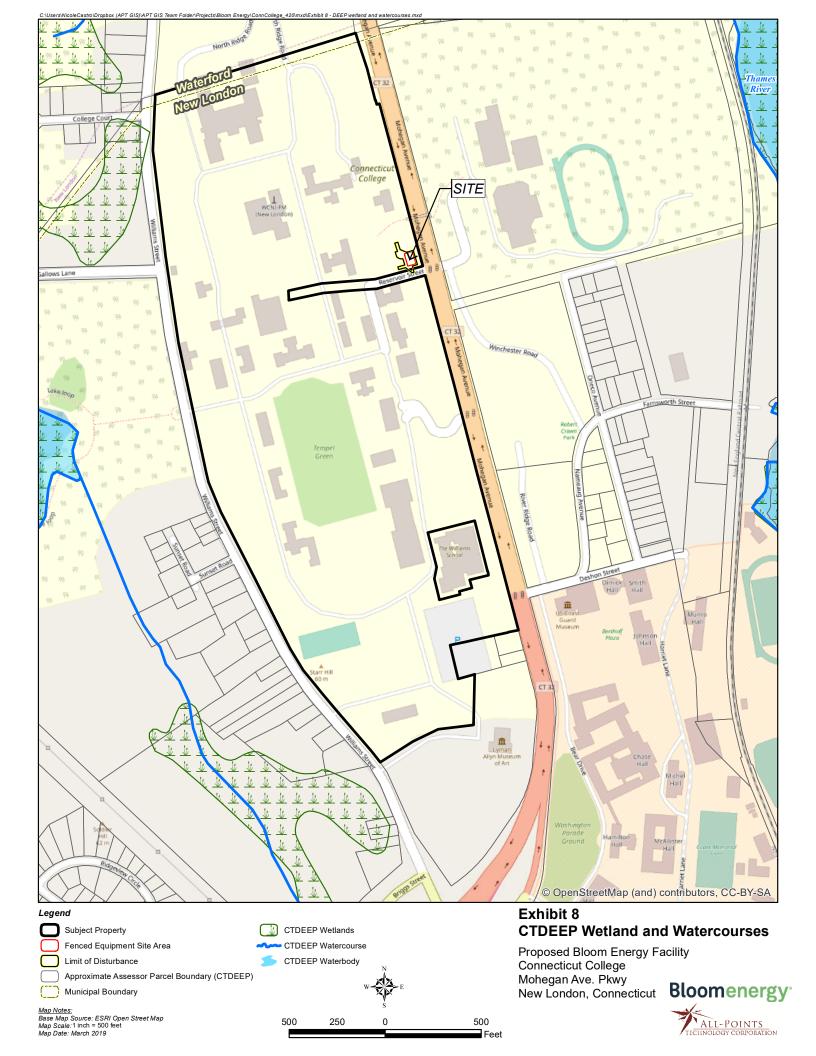


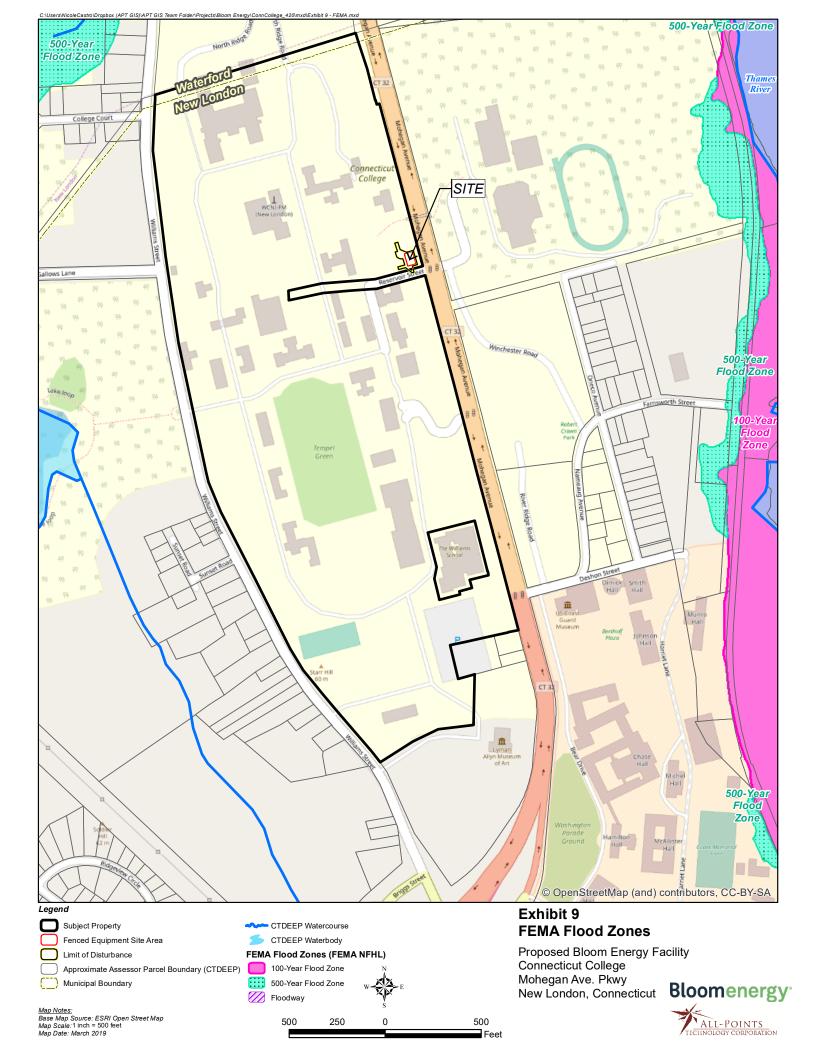
From Unity House



From Walkway over Route 32







Calculation of Catalina Sound Pressure Based On Distance

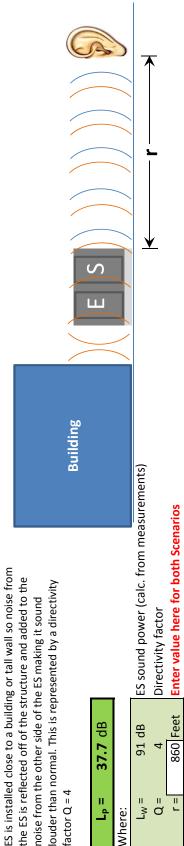
By Bob Hintz 3/15

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

$$L_{\rm p} = L_{\rm W} - |10 \cdot \log \left(\frac{Q}{4\pi \cdot r^2} \right)|$$

Scenario 1

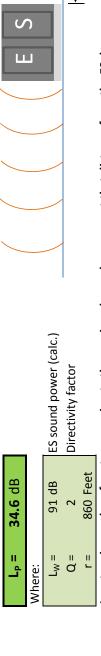
ES is installed close to a building or tall wall so noise from the ES is reflected off of the structure and added to the louder than normal. This is represented by a directivity noise from the other side of the ES making it sound factor Q = 4



Input verious values for r to approximate the percieved 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



Input verious values for r to approximate the percieved sound pressure at that distance from the ES door

Calculation of Yuma Sound Pressure Based On Distance

By Bob Hintz 1/16

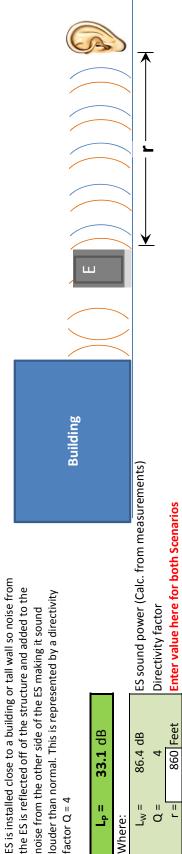
All calculations are based on the following formula for sound pressure level (L_{ρ}):

$$L_{\rm p} = L_{\rm W} - |10.\log\left(\frac{Q}{4\pi \cdot r^2}\right)|$$

Sound power value ($L_{\rm w}$) attained from V1 Yuma linear in DE reported on Feb. 4, 2015 by Mei Wu.

Scenario 1

the ES is reflected off of the structure and added to the louder than normal. This is represented by a directivity noise from the other side of the ES making it sound factor Q = 4



Input verious values for r to approximate the percieved 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



Input verious values for r to approximate the percieved sound pressure at that distance from the ES door

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

March 11, 2019

RE: Application of Bloom Energy for the location and construction of five (5) new ES-5 Bloom Energy Server solid oxide fuel cells which would provide 1.2 megawatt of Customer-Side Distributed Resource to Connecticut College at 5 Reservoir Street, New London, 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 in the next two weeks a petition for declaratory ruling with the Council. The petition will request the Council's approval of the location and construction of a 1.2 megawatt (MW) fuel cell installation and associated equipment. The Facility will be located on the Connecticut College campus at 5 Reservoir Street, near the corner of Mohegan Avenue (Route 32) (the "Site").

The purpose of the proposed Facility is to replace the average baseload of the campus 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,

stin.adams@bloomenergy.com

Be

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

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
Passero	Michael	Mayor, City of New London	181 State Street	New London	СТ	06320
Reyes	Felix J.	Director, Office of Development & Planning	181 State Street, 2 nd Floor	New London	СТ	06320
		Planning and Zoning Commission	181 State Street, 2 nd Floor	New London	СТ	06320
Tetteh	Sybil	City Planner	181 State Street, 2 nd Floor	New London	СТ	06320
		Inland Wetland / Conservation Commission	181 State Street, 2 nd Floor	New London	СТ	06320
Steward	Daniel M.	First Selectman, Town of Waterford	15 Rope Ferry Road	Waterford	СТ	06385
Piersall	Abby	Planning Director	15 Rope Ferry Road	Waterford	СТ	06385
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
Courtney	Joe	U.S. Representative	2332 Rayburn House Office Building	Washington	DC	20515
Formica	Paul	State Senator, 20th	Legislative Office Building, Room 3400	Hartford	СТ	06106- 1591
McCarty	Kathleen	State Representative, 38th	Legislative Office Building, Room 4200	Hartford	СТ	06106- 1591
Nolan	Anthony	State Representative, 39th	Legislative Office Building, Room 4043	Hartford	СТ	06106- 1591
Tong	William	Connecticut Attorney General	55 Elm Street	Hartford	СТ	06106

Dykes	Katie	Commissioner, Department of Energy and Environmental Protection	79 Elm Street	Hartford	СТ	06106
Betkoski III	John W.	Vice-Chairman, Public Utilities Regulatory Authority	10 Franklin Square	New Britain	СТ	06051
Rino	Raul	Commissioner, Department of Public Health	410 Capitol Avenue, PO Box 340308	Hartford	СТ	06134
Merrow	Susan	Chair, Council on Environmental Quality	79 Elm Street	Hartford	СТ	06106
Currey	Melody A.	Acting Commissioner, Department of Agriculture	410 Columbus Blvd., Suite 701	Hartford	СТ	06103
McCaw	Melissa	Secretary, Office of Policy and Management	450 Capitol Avenue	Hartford	СТ	06106
Giulietti	Joseph	Commissioner, Department of Transportation	2800 Berlin Turnpike	Newington	СТ	06111
Lehman	David	Commissioner, Department of Economic and Community Development	450 Capitol Avenue	Hartford	СТ	06106
Rush-Kittle	Regina	Deputy Commissioner, Division of Emergency Management and Homeland Security (DEMHS)	1111 Country Club Road	Middletown	СТ	06457
Seagull	Michelle H.	Commissioner, Department of Consumer Protection	450 Columbus Boulevard, Suite 901	Hartford	СТ	06103
Geballe	Josh	Commissioner, Department of Administrative Services	450 Columbus Boulevard	Hartford	СТ	06103

Westby	Kurt	Commissioner,	200 Folly Brook	Wethersfield	CT	06109
		Department of	Boulevard			
		Labor				
		Southeastern	5 Connecticut	Norwich	СТ	06360
		Connecticut	Avenue			
		Regional Council of				
		Governments				

Abutter Properties

Map ID Number	Site Address	Owner Name	Street	City	State	Zip
Number	270					
	Mohegan					
E04-316-2	Ave., New					
	London	Connecticut College	270 Mohegan Ave	New London	СТ	06320
	9 Benham					
23800 / 86-	Ave, Quaker					
252	Hill	Connecticut College	270 Mohegan Ave	New London	СТ	06320
	405					
	Mohegan					
	Ave.					
436100 /	Parkway,					
86-4790	Quaker Hill	Paul F. Perreten	18 Sunset Rd.	Old Saybrook	СТ	06485
	405					
	Mohegan					
E01-321-1	Ave., New London	Paul F. Perreten	18 Sunset Rd.	Old Saybrook	СТ	06485
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	Ave., New					
E02-321-9	London	Connecticut College	270 Mohegan Ave	New London	СТ	06320
	Winchester					
	Rd., New					
F03-317-2	London	Connecticut College	270 Mohegan Ave	New London	СТ	06320
	River Ridge					
	Rd., New					
F04-317-3	London	Connecticut College	270 Mohegan Ave	New London	СТ	06320
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F04-316-9	London	Trustee	Way MSJCB12	Johnston	RI	02919
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	New	Connecticut	270 Mohegan			
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E03-314-33	666	College	Ave.	New London	CI	00320
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	New	Connecticut	270 Mohegan			
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EU3-314-34	670	College	Ave.	New London	CI	00320
	Williams St.,					
	New	Connecticut	270 Mohegan			
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	Williams St.,	Timothy F. Foley,				
	New	Jr. and Paul J.				
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E05-314-28		•	694 Williams St.	New London	СТ	06320
E05-314-28	694 Williams St., New London	Robert W. Costello, Jr. and Melody R. Costello	694 Williams St.	New London	СТ	063

	698		c/o Povor Poalty			
			c/o Boyer Realty			
	Williams St., New		Management LLC,			
FOF 244 27		Cam E Davilla	400 Bayonet St.,	Nalandan	СТ	06220
E05-314-27	London	Gary E. Poulin	Suite 201	New London	СТ	06320
	712					
	Williams St.,					
	New	C.E. & B.				
E05-314-26	London	Vanderlyke	712 Williams St.	New London	CT	06320
	716					
	Williams St.,					
	New	John W. Russell,				
E04-314-25	London	Jr.	716 Williams St.	New London	CT	06320
	720					
	Williams St.,					
	New					
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		William J.				
	730	Dougherty, Jr.,				
	Williams St.,	Mary Dougherty				
	New	and Grace				
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	New	and Martha J.				
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	Williams St.,					
	New	Connecticut				
E04-314-20	London	College	Mohegan Ave.	New London	СТ	06320
L04-314-20	760	College	Wionegan Ave.	New London	Ci	00320
	Williams St.,	Drian C and Ann	20 Mars			
DO4 244 7	New	Brian C. and Ann	28 Mary	C. alla		04776
D04-314-7	London	Marie Miller	Catherine Lane	Sudbury	MA	01776
	766					
	Williams St.,	Martin F.				
	New	Hillsgrove and		_		
E04-314-6	London	Ellen S. Bremner	766 Williams St.	New London	CT	06320
	768					
	Williams St.,					
	New	Connecticut				
E04-314-5	London	College	Mohegan Ave.	New London	CT	06320
	770					
	770					
	Williams St.,		56.14			
	New		56 Washington		-	0.000
E04-314-4	London	Robert T. Langslet	St.	New London	СТ	06320

	Williams St.,					
	New	Connecticut				
D03-316-2	London	College	Mohegan Ave.	New London	СТ	06320
	33 Gallows					
	Ln., New	Connecticut	270 Mohegan			
D02-316-2	London	College	Ave.	New London	CT	06320
	932					
	Williams St.,					
	New	Morris C. Page, Jr.				
D02-315-1	London	and R. Drema	932 Williams St.	Quaker Hill	CT	06375
	2 College	Morris Calvin				
126700/	Ct., Quaker	Page, Jr. and Rae				
85-1514	Hill	Drema	932 Williams St.	Quaker Hill	СТ	06375
	950					
	Williams St.,					
	New	Christopher				
D02-322-1	London	Atwood	1 College Court	Quaker Hill	CT	06375
	1 College					
126600/	Ct., Quaker	Christopher				
85-1513	Hill	Atwood	1 College Court	Quaker Hill	CT	06375
		U S Bank Trust N				
	2 Old	A Trustee for LSF9	8 WRI Property			
	Norwich	Master	Management,			
522200/	Rd.,	Participating	3630 Peachtree			
85-5669	Waterford	Trust	Rd NE, Suite 1500	Atlanta	GA	30326
	Williams St.,					
	New	U S Bank Trust N	13801 Wireless			
D02-322-2	London	A Trustee	Way	Oklahoma City	OK	73134



Map Notes: Base Map Source: ESRI Open Street Map Map Scale: I inch = 700 feet Map Date: March 2019

Abutting Property



700

Feet

700

350

Connecticut College
Mohegan Ave. Pkwy
New London, Connecticut

Bloomenergy*



Jennifer Young Gaudet

From: Jennifer Young Gaudet <younggaudet.j@gmail.com>

Sent: Monday, February 25, 2019 4:31 PM

To: stetteh@ci.new-london.ct.us

Subject: Bloom Energy - Connecticut College

Dear Ms. Tetteh:

I am writing on behalf of Bloom Energy Corporation in connection with a proposed project at Connecticut College. Bloom is working with Connecticut College to design and operate a clean energy server installation on the College's campus. We will request the Connecticut Siting Council's approval of the location and construction of a 1.26-megawatt project consisting of fuel cells and associated equipment on the College's campus near the corner of Mohegan Avenue and the campus road known as Reservoir Street.

The project consists five (5) new Bloom Energy Servers, a new class of distributed power generator which produces clean reliable and affordable electricity at the customer site. Electricity generated by the project 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. The purpose of the proposed project is to replace the average baseload of the College with a Class I renewable energy source and improve reliability of electrical systems and equipment.

The Bloom equipment has been designed in compliance with Underwriters Laboratories (UL) in addition to various safety standards and requirements. There are no harmful off-gases or byproducts that will be produced by this equipment. Please note that the energy server is monitored 24 hours a day, 7 days a week by Bloom Energy's communications network in Sunnyvale, CA with a back-up monitoring station in India. In the unlikely event the system will require attention, the system can be remotely shut off by Bloom. Additionally, the equipment will have several means to shut down the energy server locally.

We anticipate submitting a petition to the Connecticut Siting Council during the month of March and would like to provide you an opportunity to see the plans in advance should you desire. We would be happy to discuss any comments or questions you may have either by phone or in person. 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 me.

Jennifer Young Gaudet 860.798.7454 younggaudet.j@gmail.com