Bloomenergy

Attn: Robert Stein, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Petition of Bloom Energy Corporation, as agent for FedEx Ground, for a Declaratory Ruling for the Location and Construction of a 250kW Fuel Cell Customer Side Distributed Resource at 40 Kennedy Road, South Windsor, CT.

Dear Chairman Robert 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"), as agent for FedEx Ground ("FedEx"), request the Connecticut Siting Council approve the location and construction of a 250-kilowatt fuel cell and associated equipment (the "Facility"). The Facility will be located on the site of the FedEx building at 40 Kennedy Road, South Windsor, CT (the "Site"). 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

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

Bloomenergy

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

PETITION OF BLOOM ENERGY CORPORATION AS AGENT FOR FEDEX GROUND FOR A DECLARATORY RULING FOR THE LOCATION AND CONSTRUCTION OF A 250-KILOWATT FUEL CELL CUSTOMER-SIDE DISTRIBUTED RESOURCE AT 40 KENNEDY ROAD, SOUTH WINDSOR, CT 06074	:	PETITION NO. ____
	:	December 22, 2016

PETITION OF BLOOM ENERGY CORPORTATION AS AGENT FOR IKEA 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"), as agent for FedEx Ground ("FedEx"), requests that the Connecticut Siting Council ("Council") approve by declaratory ruling the location and construction of a customer-side distributed resources project comprised of one (1) new ES-5 Bloom Energy Server solid oxide fuel cells and associated equipment (the "Facility"), providing 250-kilowatts ("kW") (net) of power to the FedEx building located at 40 Kennedy Road, South Windsor, Connecticut (the "Site"). *See* Exhibit 1. 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 FedEx.

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 resource facility under 65 megawatts ("MW") that complies with the air and water quality standards of the 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:

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II. DISCUSSION

A. Project Description and Purpose

The Facility will be a 250kW customer-side distributed resources consisting of one (1) state-of-the-art Bloom Energy Server and associated equipment. The Facility will be interconnected to the existing switchboard located within the electrical room of the FedEx building (the "Building"). *See* Exhibit 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 Building with a Class I renewable energy source[1], achieve corporate sustainability goals, and improve reliability of electrical systems and equipment. The meter interval data analysis conducted by Bloom in 2016 (Exhibit 4) determined the average baseload for the Building to be 177 kW. Therefore, the proposed Facility would provide enough power to meet all of the average electric base load under normal operating conditions. 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 one Bloom solid oxide fuel cell Energy Server and associated equipment. The dimensions of the Facility are approximately 14'9" long, 8'6" wide and 7' tall. The associated equipment includes a water deionizer, telemetry cabinet, a disconnect switch and a utility cabinet. This equipment will be located 8' feet from the Facility on a 5'8" by 9'6" concrete auxiliary pad. The concrete pads for the Facility and associated equipment will be a surrounded by a compacted gravel service area and protected from vehicle traffic on the northeast side by bollards. The proposed location is also within the gated and fenced area surrounding the Building. The Facility is enclosed, factory-assembled and tested prior to

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

installation on the Site. *See* Exhibit 5. The Facility, the connections, and associated equipment will be installed in compliance with all applicable building, plumbing, electrical, and fire codes.

The Facility will be capable of producing 250 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 interconnection will be provided from the existing switchgear located inside the electrical room. 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 Eversource.

The Facility, and more specifically the inverter within, are recognized as a "Utility Interactive Inverter" to Underwriters Laboratories, Inc. ("UL") 1741. It is UL Recognized under UL Category QIKH2 and UL File Number E310552. It will not operate without a stable utility voltage available. In the event of an outage the Facility will not automatically shut down, they will enter a state of stand-by awaiting the return of a stable utility voltage. When in a state of complete shut down the Energy Server requires a combination of remote and on-site coordination to start up the systems. This work is performed by Bloom employed, trained and certified personnel only, FedEx does not control the operation of the system directly. In

accordance with Public Act 11-101[2], an Emergency Response Plan provided to FedEx and its employees is shown in Exhibit 6.

The Facility will have extensive hardware, software and operator safety control systems, designed in accordance with the 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 will be remotely monitored by Bloom 24 hours a day, seven days a week. If software or hardware safety circuits detect an unsafe condition, variation in temperature or gas pressure outside of operational parameters, fuel supply is automatically stopped and the system is shut down. Two manual fuel shut-off valves are provided at the installation site, and two normally closed, safety shut-off rated isolation valves are installed within the system. In accordance with Public Act 11-101[3], the fuel lines (pipe) cleaning procedure are to purge for 60 seconds with 10 blasts of on off with an inert gas prior to connecting to the Facility.

The Facility will be installed in accordance with NFPA 853[4]. 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.

[2] An Act Adopting Certain Safety Recommendations of the Thomas Commission
[3] Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission,
[4] Standard for the Installation of Stationary Fuel Cell Power Systems, 2015 Edition

As stated above, any variation in heat outside of the operational parameters will trigger an automatic shutdown of the energy server.

C. Existing Environment

i. The Site

The Facility would be installed entirely within the FedEx property located at 40 Kennedy Road, Connecticut. Specifically, the Facility will be constructed on the 60.83-acre property that surrounds the Building. The Site is zoned as Industrial ("I") under the zoning regulations of the Town of South Windsor (the "Town"). The parcels to the south, east and west are zoned Industrial. The parcels bordering to the north and northeast are zoned Rural Residential ("RR"). The proposed Facility would be shielded by the building from the closest residential property located approximately 1,700 feet to the northeast.

The Facility would be located adjacent to an existing drive aisle on a concrete pad on the west side of the Building. A recently planted tree will be removed to provide space for the Facility. Photos of the proposed location are provided in Exhibit 7. This is a previously disturbed area and is currently a maintained lawn. No parking spaces would be eliminated at the proposed location. The location of the Facility was strategically placed in proximity to the existing mechanical equipment to avoid impacting operational requirements of the Building. Photos of the proposed location is provided in Exhibit 7 and the extent of disturbance is shown in Exhibit 2.

ii. Wildlife and Habitat

A review of the publicly available Natural Diversity Database (NDDB) December 2016 data has shown no known occurrences of state-listed species within the proposed Site. See Exhibit 7.

iii. Wetlands and Watercourse

The proposed Facility will be located on an area that was developed and disturbed during the construction of the Building and its access roads and parking areas. There are no identified wetlands or watercourses within the proposed location of the Facility. When the Building and its access roads and parking areas were constructed in 2012 three manmade stormwater wetland features were constructed on the Site, the closest stormwater wetland feature would be located approximately 200 feet to the west of the proposed Facility. There is an unnamed tributary of the Scantic River located off Site approximately 0.75 miles to the northwest. Protection measures described in Section E will minimize the potential for soil erosion and the flow of sediments off site or into the stormwater wetland features. Due to the distance of the proposed Facility from identified wetlands and watercourses and the implementation of construction protection measures, impacts to wetlands and watercourses are not anticipated during the construction and operation of the Facility.

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 approximately 3-miles to the north 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 – 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. In this process, the catalyst may also pick up some benzene and in some cases exceed the RCRA threshold. The catalysts are sent to a central location and processed by a qualified facility. Again, these are not "produced" from the process, but are separated from the natural gas in which they were contained. The filter is made up of inert materials.

The desulfurization process takes place entirely within desulfurization canisters. These are made of extruded aluminum or zinc-plated steel that are built to last for the life of the Energy Server and beyond. 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.

Within days that a desulfurization canister is taken out of service, it is picked up by a Bloom contractor and taken to a licensed facility outside the State, where the desulfurization unit is opened and the contents are removed. As described above, the desulfurization unit has complete structural integrity. Its safety as a container for transporting has been certified by the Department of Transportation (DOT). This certification assures that the canisters are secure and have the structural integrity to transport the desulfurization materials safely and without risk of a release.

Bloom has been engaged and expects to have further follow up discussion with regulators on the proper management of materials found in all public pipeline natural gas supplied to homes and businesses, which we filter before that fuel is consumed by our product to produce clean, environmentally friendly electric power. Because our technology is relatively new, the 35 year old regulations do not address our situation, but we have been working with the regulators to obtain clarification.

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 94-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 Facility. See Conn. Agencies Regs. §§ 22a-174-42(b) and (e). Even though the fuel cell systems are exempt from the emissions requirements, Bloom Energy does 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 pursuant to Title 17, sections 94200 through 94214 of the California Code of Regulations meets the requirements of the DEEP Section 22a-174-42. The Bloom Energy fuel cells are certified under the California Air Resources Board (CARB) distributed generation program. A current list of certified application are 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 and projected emissions for all greenhouse gases defined in Section 22a-174-1(49) as shown in Table 1. By virtue of the non-combustion process the Bloom fuel cells virtually eliminate NOx, SOx, CO, VOCs and particulate matter emissions from the energy production process. Similarly, there are no CH_4, SF_6, HFC or PFC emissions. The CH_4 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 very significant excess catalyst for reaction.

Table 1: Connecticut Thresholds for Greenhouse Gases

Emission Type	Bloom Output	LERC 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

It is not anticipated for sound generated by Facility to have a negative impact to the surrounding properties. The closest off-site structure would be a commercial building located approximately 340 feet from the Facility. There are no residential properties in proximity.

[5] Note 1: Carbon Dioxide is measured at Bloom's stated lifetime efficiency level of 53-60%

Based on a sound model performed by Bloom Energy, the anticipated sound levels at the property boundary would be approximately 38dBA and in compliance with noise criteria set forth in Connecticut regulations for the Control of Noise[6] and the Town of South Windsor Code of Ordinances[7].

iv. Visual Effects

The overall visual effect would be mitigated by the proposed location on the west side of Building. The Facility would be shielded from the rural residential areas located to the northeast. Furthermore, the Facility is located in proximity to existing mechanical equipment.

E. Project Construction and Maintenance

Bloom anticipates construction to start in the spring 2017 with 6-8 weeks of total construction time (2 weeks of site prep, 2 weeks of installation, and 2 weeks of commissioning). South Windsor defines daytime hours between 7:00 a.m. and 8:00 p.m. on every day but Sunday, and the hours of 9:00 a.m. through 8:00 p.m. on Sundays. South Windsor prohibits noise generated by machinery powered by an internal combustion engine during nighttime hours. Bloom anticipates site work construction to only occur during daytime hours Monday through Friday and would work weekends in the event an expedited schedule is required.

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.

[6] Sec. 22a-69-3.5. Noise zone standards
[7] Part II – Code of Ordinances Chapter 50 – Health and Sanitation – Article III. – Noise Control

The temporary E&S control measures will remain in place until the work is complete and all disturbed areas have been stabilized. No affect drainage patterns or stormwater discharge 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. Excess soils would be spread in an upland location on Site and managed in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*.

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).[8] A copy of the notice letter and a service list are provided in Exhibit 10 and the corresponding abutters map is provided in Exhibit 11. Additionally, prior to filing this petition, representatives from Bloom briefly discussed the proposed Facility with the Town of South Windsor Planning & Zoning Department. An

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

opportunity to comment on the proposed site plan has been provided to the Director of Planning to incorporate any design comments they may have. *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)(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, as agent for FedEx, respectfully requests that the Council approve the location and construction of the Facility by declaratory ruling.

Respectfully submitted,
Bloom Energy Corporation

By:_____

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EXHIBITS

Exhibit 1: Site Location Map

Exhibit 2: Site Plan

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: Meter Interval Data

Exhibit 5: Bloom Energy Server Product Datasheet and General Installation Overview

Exhibit 6: Emergency Response Plan

Exhibit 7: Photos of the proposed location

Exhibit 8: Natural Diversity Data Base (NDDB) State Listed Species Review

Exhibit 9: FEMA Map

Exhibit 10: Notice Pursuant to Conn. Agencies Regs. § 16-50j-40(a)

Exhibit 11: Abutters Map

Exhibit 12: Email to Mayor and City Planner

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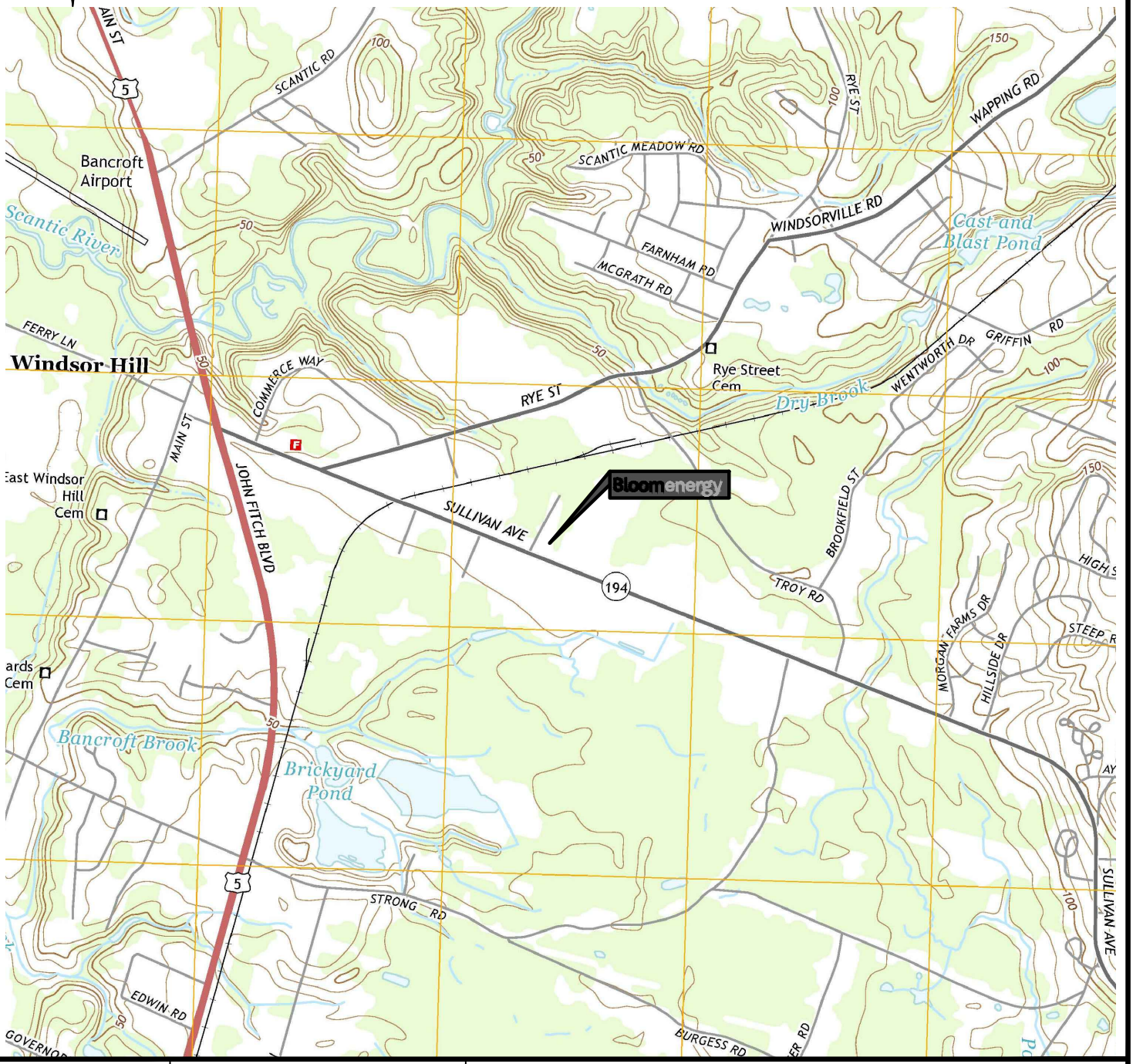
Exhibit 1



Job#:	BEC-21483
Scale:	1" ≈ 2,000'
Date:	12/22/2016
Drawn By:	MDS

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EXHIBIT 1 - SITE LOCATION MAP
USGS MAP (MANCHESTER, CT 2015)

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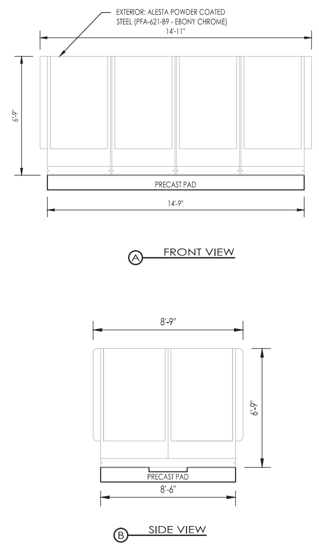
Exhibit 2



TYP ELEV OF ONE ES-AA1AA0 BLOOMENERGY ES UNIT — SCALE: NTS — 2

SYSTEM			
Output Power	250 kW	Total System Weight (Less Pad)	27,192 lbs
Voltage	480 VAC	Weight - YPM x 5	3,577 lbs
Maximum Output Current	316 Amps	Weight - YAC x 1	3,161 lbs
Frequency	60 Hz	Weight - YFP x 1	2,569 lbs
		Weight - Pad	12,637 lbs
FUEL REQUIREMENTS			
Connection	2" FNPT	Pressure	15 (+3/-1) PSIG
Fuel Type	Natural Gas	Max Consumption Rate (60F, 1atm)	1.871 MMBtu/hr
WATER REQUIREMENTS			
Connection	1/2" MNPT	Flow - Startup	< 0.8 gal/min
Quality	Municipal Grade	Flow - Continuous	0 gal/min
Minimum Pressure	35 PSI	Water Discharge	0 gal/min

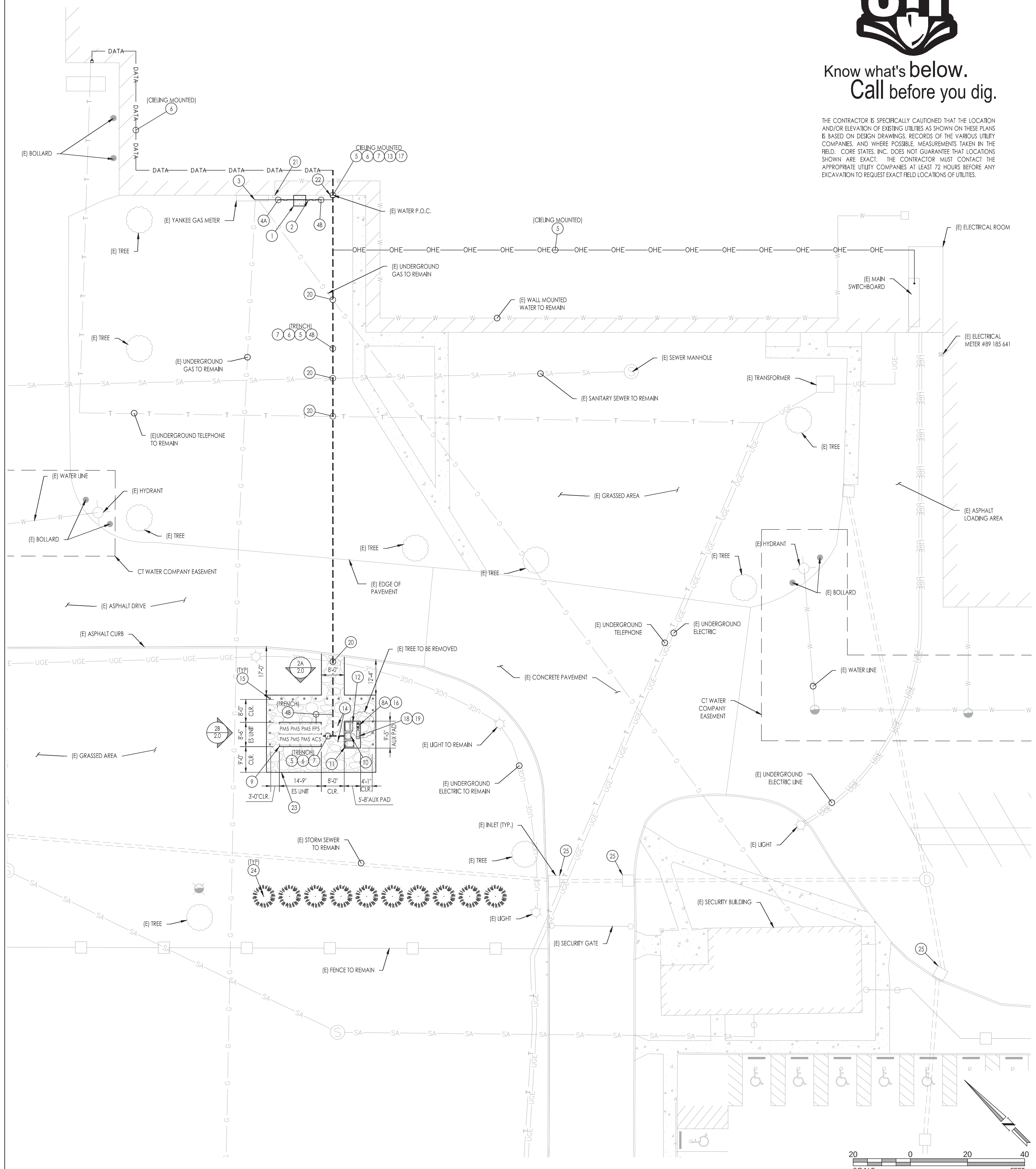
A BLOOMENERGY ES5-AA1AA0 SPECIFICATION

BLOOMENERGY ES-AA1AA0 SPECIFICATIONS — SCALE: NTS — 3

OVERALL AREA PLAN — SCALE: 1"=50' — 4

Know what's **below.**
Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORE STATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.



SITE PLAN — SCALE: 1"=10'-0" — 1

RESPONSIBILITY NOTES

1. THE FOLLOWING EQUIPMENT SHOWN ON THESE PLANS WILL BE PROVIDED AND DELIVERED BY BLOOM ENERGY. APPLICABLE TRADES TO MOUNT AND MAKE FINAL CONNECTIONS:
   - POWER DISTRIBUTION SECTION (PDS)
   - TELEMETRY CABINET (TC)
   - WATER DEIONIZATION MODULE (WDM)
   - SIGNAGE (SEE SAFETY SIGNAGE)
   - SITE KIT (SEE SITE KIT NOTES)
2. THE FOLLOWING EQUIPMENT SHOWN ON THESE PLANS WILL BE PROVIDED, DELIVERED AND MOUNTED BY BLOOM ENERGY. APPLICABLE TRADES TO MAKE FINAL CONNECTIONS:
   - CLEAN ENERGY SERVER
   - PRECAST SUPPORT PAD
3. CONTRACTOR TO REFER TO ELECTRICAL PLANS FOR ASSOCIATED WORK.

SITE KIT NOTES

1. BLOOMENERGY TO PROVIDE AND DELIVER THE SITE KIT.
2. ELECTRICAL AND PLUMBING CONTRACTOR TO INSTALL SITE KITS, CONSISTING OF PAD PLUMBING AND BUS BARS, ON THE PRECAST CONCRETE PAD PER MANUFACTURE SPECIFICATIONS.
3. PWM DEFLECTORS ARE NOT REQUIRED AT THIS SITE.

UTILITIES

GAS: EVERSOURCE
ELECTRIC: EVERSOURCE

CONDUIT & PIPE LENGTHS

TYPE	TOTAL DISTANCE FROM TIE-IN TO FURTHERMOST ES UNIT (LINEAR)
GAS PIPE	275'
ELECTRICAL CABLE (TO T.I.P.)	550'
DATA CONDUIT	425'
WATER PIPE	250'

LEGEND OF UTILITY LINES

—DATA—	DATA LINE	—SA—SA—	SANITARY LINE
-o-o-o-	FENCE LINE	—ST—ST—	STORM LINE
—FO&T—	FIBER OPTICS & PHONE	—TV—TV—TV—	TELEVISION LINE
—G—G—	GAS LINE	—UGE—UGE—	UNDERGROUND ELECT.
▬ ▬ ▬	JOINT UTILITY RUN	—W—W—	WATER LINE
—OHE—OHE—	OVERHEAD ELECTRICAL		

KEYNOTES

1. (N) UTILITY GAS METER SET ASSEMBLY (MSA) FOR CLEAN ENERGY SERVER. COORDINATE LOCATION & INSTALLATION REQUIREMENTS WITH UTILITY COMPANY PRIOR TO INSTALLATION. MAINTAIN MINIMUM 3'-0" CLEARANCE FROM ALL IGNITION SOURCES. CONTRACTOR TO PROVIDE CAST-IN-PLACE CONCRETE PAD.
2. (N) PRIVATE GAS REGULATOR SET ASSEMBLY (RSA) FOR CLEAN ENERGY SERVER WITH SHUT-OFF VALVE. MAINTAIN MINIMUM 3'-0" CLEARANCE FROM ALL IGNITION SOURCES & WET UTILITIES.
3. (N) GAS SERVICE TAP BY UTILITY COMPANY. EXACT LOCATION TO BE COORDINATED WITH UTILITY. SIZE(S) & TRENCHING REQUIREMENTS PER UTILITY COMPANY.

4A. (N) GAS PIPE FROM (N) GAS TAP TO TERMINATE AT (N) UTILITY MSA INSTALLED BY UTILITY COMPANY. SIZE(S) & TRENCHING REQUIREMENTS PER UTILITY COMPANY.

4B. (N) GAS PIPE, DATA CONDUIT & CABLE (WHERE NEEDED) FROM (N) UTILITY GAS MSA TO TERMINATE AT (N) ES UNIT INSTALLED BY CONTRACTOR.

5. (N) ELECTRICAL CONDUIT & WIRES FROM (N) ES UNIT TO (N) PDS WITH FINAL TERMINATION AT (E) SWITCHGEAR.
6. (N) DATA CONDUIT & CABLE FROM (N) ES TO (N) TC WITH FINAL TERMINATION AT (E) DATA DEMARC LOCATION.
7. (N) WATER PIPE FROM BUILDING DOMESTIC WATER SYSTEM TO (N) WDM. CONNECT TO NEAREST AVAILABLE LOCATION.

8A. (N) DISCONNECT SWITCH & NEMA 3R ENCLOSURE STRUT MOUNTED. ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES. PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL.

8B. NOT USED.

9. (N) BLOOMENERGY ES-5 ENERGY SERVER.
10. (N) POWER DISTRIBUTION SECTION (PDS). CAST-IN-PLACE PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN. CONDUIT STUB-UP LOCATIONS PER ELECTRICAL CONDUIT PLAN.
11. (N) TELEMETRY CABINET (TC) WITH FACTORY WIRED CLEAN ENERGY SERVER EMERGENCY POWER-OFF SWITCH (EPO). CAST-IN-PLACE PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN. CONDUIT STUB-UP LOCATIONS PER ELECTRICAL CONDUIT DETAILS.
12. (N) WATER DEIONIZATION MODULE (WDM). CAST-IN-PLACE PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN. PIPE & CONDUIT STUB-UP LOCATIONS PER PIPE PLAN & DETAILS & ELECTRICAL CONDUIT DETAILS.
13. (N) WATER TAP. CONNECTION PONT TO BE LOCATED DIRECTLY INSIDE BUILDING.
14. (N) 10'-0" COPPER GROUNDING RODS 6'-0" APART. SPECIFICATIONS PER ONE LINE DIAGRAM.
15. (N) BOLLARD (TYP). TYPE, SIZE AND LOCATION PER IMPACT PROTECTION PLAN. ENSURE SLEEVE IS FLUSH WITH GRADE AND NO ANGLES OR HOOKS EXIST THAT IMPEDE FORKLIFT ACCESS.
16. (N) PROVIDE SECURITY BOXES OF CONDUIT & WIRE AT ALL ELECTRICAL STUB UP LOCATIONS.
17. CORE CONDUIT AND/OR PIPE THROUGH WALL. SCAN WALL PRIOR TO CORING.
18. (N) UTILITY APPROVED CT CABINET IN NEMA 3R ENCLOSURES STRUT MOUNTED. ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES. PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL. COMPLETE SPECIFICATION PER ELECTRICAL SPECIFICATIONS.
19. (N) UTILITY APPROVED LREC METER STRUT MOUNTED ABOVE CT CABINET. ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES. PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL. COMPLETE SPECIFICATION PER ELECTRICAL SPECIFICATIONS.
20. CONTRACTOR TO INSTALL (N) UTILITIES WITHOUT DAMAGING (E) UTILITIES. (N) UTILITIES ARE TO BE INSTALLED MAINTAINING MINIMUM CLEARANCES TO (E) UTILITIES AS IDENTIFIED IN TRENCHING DETAILS. HAND DIG ALL CONFLICT AREA'S.
21. (E) IRRIGATION SPOUT TO BE RELOCATED.
22. (N) IRRIGATION SPOUT LOCATION. ENSURE (N) IRRIGATION LINE CONNECTS INTO EXISTING SYSTEM.
23. (N) COMPACTED GRAVEL SERVICE AREA.
24. (N) JUNIPERUS CHINENSIS "MOUNTBATTEN", SPACE 9' O.C.
25. CONTRACTOR TO PROVIDE INLET PROTECTION AT (E) INLETS.

CLIENT APPROVAL: ____________ DATE

BLOOMENERGY APPROVAL: ____________ DATE

Bloomenergy™
1299 Orleans Drive, Sunnyvale CA, 94089
Tel: 408 543 1500
Fax: 408 543 1501
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FedEx
NEW CONSTRUCTION OF CLEAN ENERGY SERVER
40 KENNEDY ROAD
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CORE STATES GROUP
58 MOUNT BETHEL ROAD
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WARREN, NJ 07059
amueller@core-eng.com

SEAL

REV	DATE	DESCRIPTION
-	12-09-16	PRELIM. SUBMISSION
1	12-19-16	PRELIM. SUBMISSION

PROJECT INFORMATION

JOB #	BEC-21483
DATE:	12-09-2016
DRAWN BY:	MMD
CHECKED BY:	MDS

MODEL
(1) ES-5

SHEET TITLE
SITE PLAN

SHEET NUMBER
2.0

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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. Id., 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. Id.

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. Id.

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. Id., pp. 3 and 4.

Bloom Energy Servers deliver significant environmental benefits over conventional base load technologies. In addition to significant CO_2 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. Id., p. 4.

III. AUTHORITY ANALYSIS

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

> (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.

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.

September 12, 2012

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

Date

60906902 V1-WORKSITEUS-029819/0002

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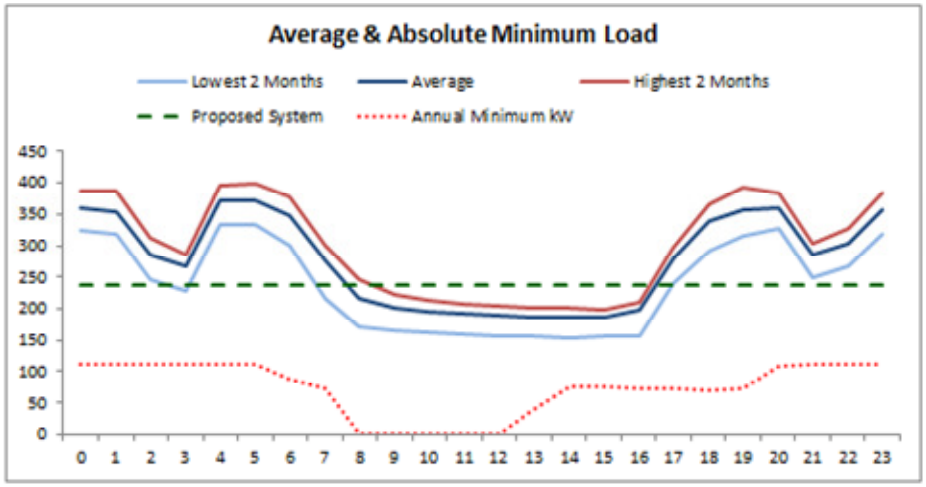
Exhibit 4

Meter Interval Data Analysis

Absolute Minimum kW	*0*	*kW*
Recurring Minimum Bas	*94*	*kW*
Average Baseload	*177*	*kW*
*Proposed System Size**	*250*	*kW*

DETAILS		
% Exported	14.5%	
% of Load Offset	73%	
Utility Exports		
Peak Hours	*188,204*	*kWh*
Partial Peak Hours	*0*	*kWh*
Off-Peak Hours	*97,548*	*kWh*
Total kWh Exported	*301,623*	*kWh*
CUSTOMER DETAILS		
Total Days of Data	364	
Annual Load Factor	74%	
Total Customer Usage	2,432,230	kWh
Average Hourly kWh	278	kWh
Daily Avg. Peak Demand	419	kW



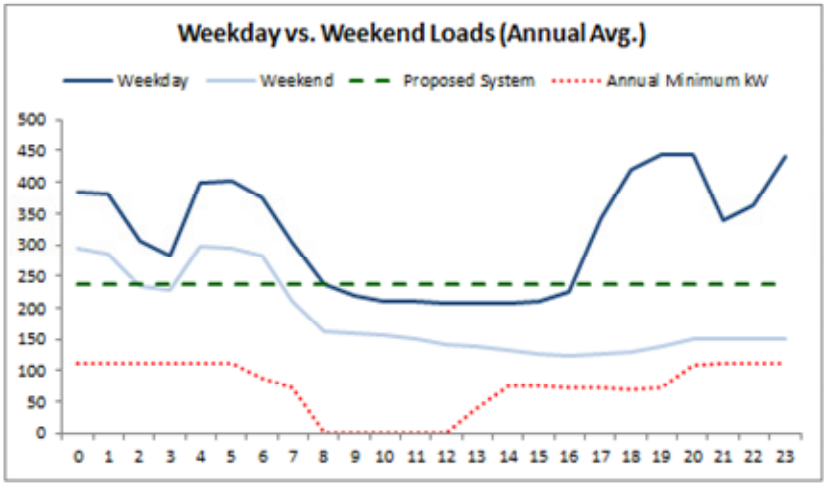


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Exhibit 5

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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

Technical Highlights (ES5-AA1AA0)	
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 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	

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

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1299 Orleans Drive
Sunnyvale CA 94089
T 408 543 1500
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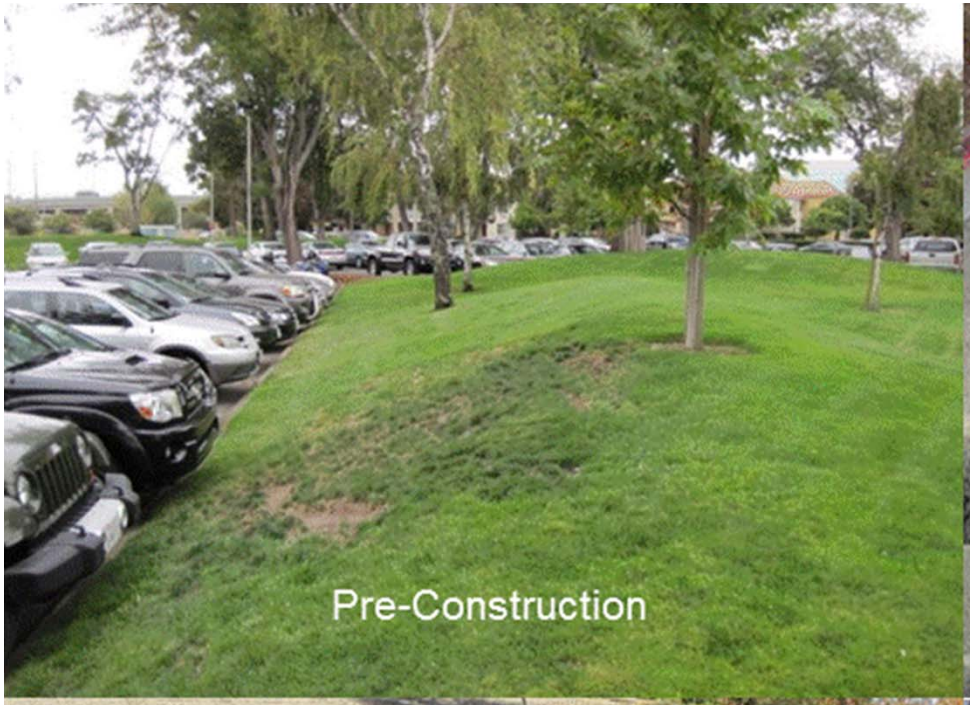
Bloom Energy Server


Pre-Construction


Install Preparations – Trenching &
Underground Utility


Set Pads


Site Completion

Bloom Energy Server Installation

Representative Installations

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Exhibit 6

Bloomenergy™

Fire Prevention and Emergency Planning

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

Table of Contents

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 mode” 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.

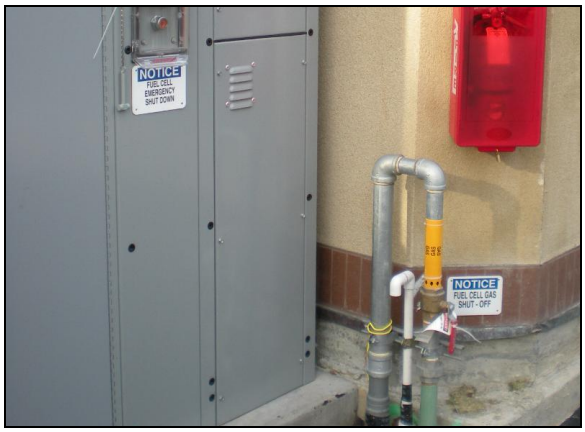

Figure 3: Manual Natural Gas Valve

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

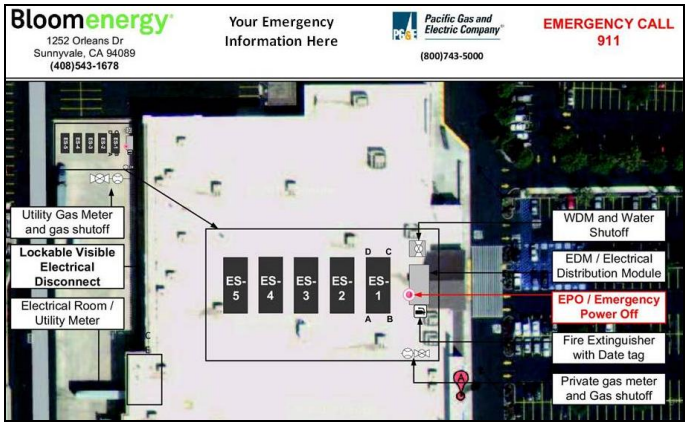

Figure 4: Sample Site Map

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.

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Exhibit 7

Front of Preferred Server Location

Back of Preferred Server Location

Left of Preferred Server Location

Right of Preferred Server Location

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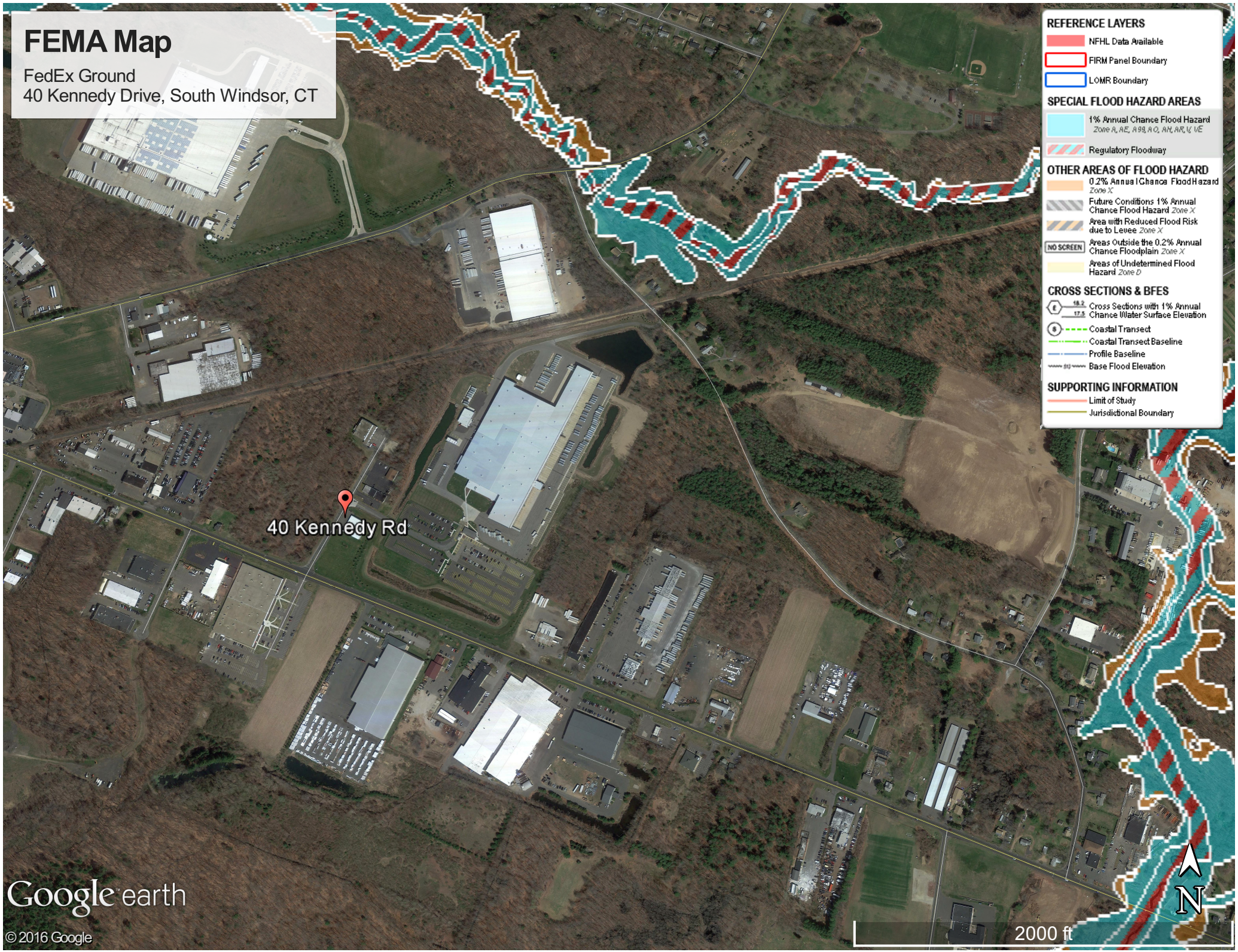
Exhibit 8


NDDB Map
FedEx Ground
40 Kennedy Drive, South Windsor, CT
Legend
NDDB Area
40 Kennedy Rd
Google earth
© 2016 Google
N
2000 ft

Bloomenergy®

Exhibit 9


FEMA Map
FedEx Ground
40 Kennedy Drive, South Windsor, CT
40 Kennedy Rd
REFERENCE LAYERS
NFHL Data Available
FIRM Panel Boundary
LOMR Boundary
SPECIAL FLOOD HAZARD AREAS
1% Annual Chance Flood Hazard
Zone A, AE, A99, AO, AH, AR, V, VE
Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD
0.2% Annual Chance Flood Hazard
Zone X
Future Conditions 1% Annual Chance Flood Hazard Zone X
Area with Reduced Flood Risk due to Levee Zone X
NO SCREEN
Areas Outside the 0.2% Annual Chance Floodplain Zone X
Areas of Undetermined Flood Hazard Zone D
CROSS SECTIONS & BFES
Cross Sections with 1% Annual Chance Water Surface Elevation
Coastal Transect
Coastal Transect Baseline
Profile Baseline
Base Flood Elevation
SUPPORTING INFORMATION
Limit of Study
Jurisdictional Boundary
Google earth
© 2016 Google
N
2000 ft

Bloomenergy®

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
Delnicki	Tom	Mayor	1540 Sullivan Avenue	South Windsor	CT	06074
Lipe	Michele	Director of Planning	1540 Sullivan Avenue	South Windsor	CT	06074
Warren	Elizabeth	Inland Wetlands Agency / Conservation Commission	1540 Sullivan Avenue	South Windsor	CT	06074
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	221 Main Street, 2nd Floor	Hartford	CT	06106
Currey	Jeff	State Representative, 11th	Legislative Office Building, Room 4010	Hartford	CT	06106
Aman	Bill	State Representative, 99th	Legislative Office Building, Room 4200	Hartford	CT	06106
Larson	Tim	State Senator, 3rd	Legislative Office Building, Room 3600	Hartford	CT	06106
Jepsen	George	Connecticut Attorney General	55 Elm Street	Hartford	CT	06106
Klee	Rob	Commissioner, Development of Energy and Environmental Protection	79 Elm Street	Hartford	CT	06106

Dykes	Katie	Chairman, Department of Public Utility Regulatory Authority	10 Franklin Square	New Britain	CT	06105
Rino	Raul	Commissioner, Department of Public Health Protection	410 Capital Avenue, PO Box 340308	Hartford	CT	06134
Merrow	Susan	Chair, Council on Environmental Quality	79 Elm Street	Hartford	CT	06106
Revicky	Steven	Commissioner, Department of Agriculture	165 Capital Avenue	Hartford	CT	06106
Barnes	Benjamin	Secretary of OPM, Office of Policy and Management	450 Capital Avenue	Hartford	CT	06106
Redeker	James	Commissioner, Department of Transportation	2800 Berlin Turnpike	Newington	CT	06111
Smith	Catherine	DECD Commissioner, Department of Economic and Community Development	501 Hudson Street	Hartford	CT	06106
Shea	Colonel, William	Deputy Commissioner, Department of Emergency Services and Public Protection, Division of Emergency Management and Homeland Security	25 Sigourney Street, 6th Floor	Hartford	CT	06106
Harris	Jonathan	Commissioner, Department of Consumer Protection	165 Capitol Ave # 3	Hartford	CT	06106
Currey	Melody	Commissioner, Department of Administrative Services	165 Capitol Ave # 3	Hartford	CT	06106
Jackson	Scott	Commissioner, Department of Labor	200 Folly Brook Boulevard	Wethersfield	CT	06109

Abutter Properties

Map ID Number	Site Address	Owner Name	Street	City	State	Zip
1	67 KENNEDY ROAD	FOUR WOODS LLC	PO BOX 1133	SOUTH WINDSOR	CT	06074-
2	R003 KENNEDY ROAD	FOUR WOODS LLC	PO BOX 684	SOUTH WINDSOR	CT	06074-
3	46 KENNEDY ROAD	LAWSONS PROPERTIES LLC	10 WEDGEWOOD LANE	SOUTH WINDSOR	CT	06074-
4	30 KENNEDY ROAD	WOODCOCK JOHN J JR TR	30 KENNEDY ROAD	SOUTH WINDSOR	CT	06074-
5	425 SULLIVAN AVENUE	CONDOR PROPERTIES LLC	425 SULLIVAN AVE	SOUTH WINDSOR	CT	06074-
6	455 SULLIVAN AVENUE	PARKSITE INC	1563 HUBBARD AVE	BATAVIA	IL	60510-
7	473 SULLIVAN AVENUE	JAYS LANDSCAPING LLC	1280 MAIN ST	SOUTH WINDSOR	CT	06074-
8	481 SULLIVAN AVENUE	G-PRO LLC	481 SULLIVAN AVE	SOUTH WINDSOR	CT	06074-
9	489 SULLIVAN AVENUE	REX LUMBER COMPANY	489 SULLIVAN AVE	SOUTH WINDSOR	CT	06074-
10	500 SULLIVAN AVENUE	SHEA JOHN F & BUSCEMI MICHAEL	500 SULLIVAN AVENUE	SOUTH WINDSOR	CT	06074-
11	524 SULLIVAN AVENUE	CHARBONNEAU ANDRE & ERNESTINE	125 EDWIN RD	SOUTH WINDSOR	CT	06074-
12	540 SULLIVAN AVENUE	R L R INVESTMENTS LLC	P O BOX 271	WILMINGTON	OH	45177-0271-
13	570 SULLIVAN AVENUE	570 SULLIVAN AVENUE LLC	312 DEMING ST	SOUTH WINDSOR	CT	06074-
14	L025 SULLIVAN AVENUE	MILLER RUTH A	20 HEATHERSTONE DR	E LONGMEADOW	MA	01028-
15	620 SULLIVAN AVENUE	KRIVICKAS GEORGE A & DOROTHY E TR	84 AYERS RD	SOUTH WINDSOR	CT	06074-
16	151 TROY ROAD	FILES TERRY H & SANDRA H	151 TROY ROAD	SOUTH WINDSOR	CT	06074-

17	199 TROY ROAD	FILES WENDY	199 TROY ROAD	SOUTH WINDSOR	CT	06074-
18	75 BROOKFIELD STREET	SOUTH WINDSOR TOWN OF	1540 SULLIVAN AVE	SOUTH WINDSOR	CT	06074-
19	313 TROY ROAD	MCLENNAN JENNIFER	313 TROY ROAD	SOUTH WINDSOR	CT	06074-
20	333 TROY ROAD	GRAY LEONARD B JR & SANDY B	333 TROY ROAD	SOUTH WINDSOR	CT	06074-
21	353 TROY ROAD	KRAMER MAX	353 TROY ROAD	SOUTH WINDSOR	CT	06074-
22	300 RYE STREET	ALTA REALTY COMPANY LLC	PO BOX 419	RIDGEFIELD	CT	06877-
23	250 RYE STREET	ALTA REALTY COMPANY LLC	PO BOX 419	RIDGEFIELD	CT	06877-
Proposed Site	40 KENNEDY ROAD	FEM SULLIVAN ROAD LLC	ATT KIMBERLY BARR	MOON TOWNSHIP	PA	15108-

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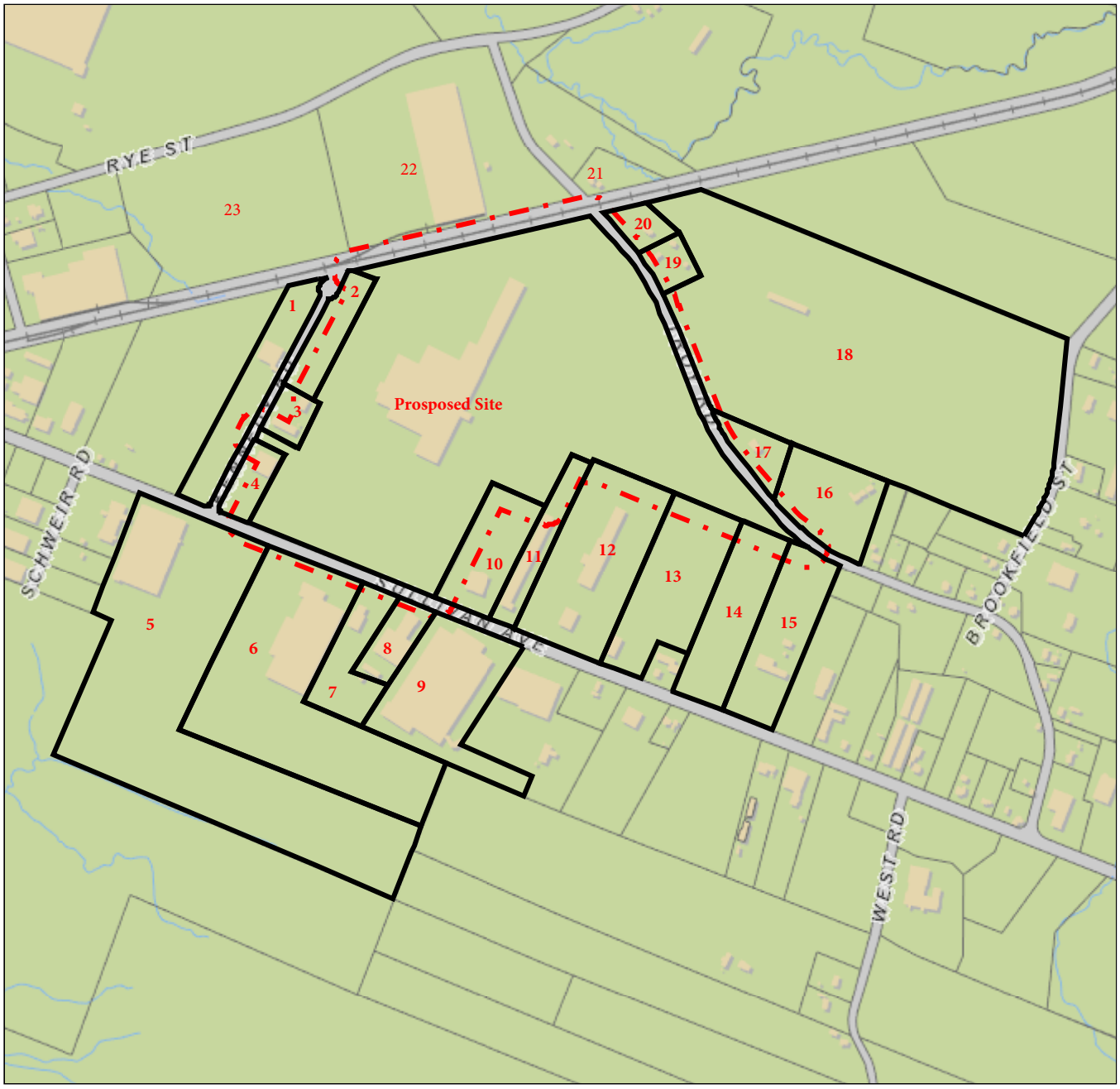
Exhibit 11

Town of South Windsor

Geographic Information System (GIS)

Date Printed: 12/12/2016



MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Town of South Windsor and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 200 ft

N W E S

Bloomenergy

Exhibit 12

Justin Adams

From: Justin Adams
Sent: Thursday, December 22, 2016 2:59 PM
To: 'michele.lipe@southwindsor.org'
Cc: 'pamela.oliva@southwindsor.org'
Subject: Bloom Fuel Cell - FedEx Ground - 40 Kennedy Road
Attachments: BEC-21483 - FedEx (South Windsor, CT) 11_17.pdf

Hello,

On behalf of Bloom Energy we would like to provide you with information pertaining to the proposed clean energy server installation project located at the. This project proposes to install two (2) new Bloom Energy Servers; a new class of distributed power generator which produces clean, reliable and affordable electricity at the customer site. The proposed project will request the Connecticut Siting Council's approval of the location and construction of a 250 kilowatt Bloom Energy Corporation fuel cells and associated equipment at the FedEx Ground facility at 40 Kennedy Road, South Windsor, Connecticut. 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.). The purpose of the proposed project is to replace the average baseload of the Frontier facility 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 are submitting to the Connecticut Siting Council within the next two weeks and wanted to give you an opportunity to see the plans in advance. We would be happy to discuss any comments 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.

Justin Adams
Lead Permitting Specialist

Bloomenergy
Connecticut
860.839.8373
justin.adams@bloomenergy.com