Bloomenergy

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

RE: Petition of Bloom Energy Corporation, as agent for Digital Realty, for a Declaratory Ruling for the Location and Construction of a 2-megawatt Fuel Cell Customer Side Distributed Resource at 80 Merritt Boulevard, Trumbull, CT.

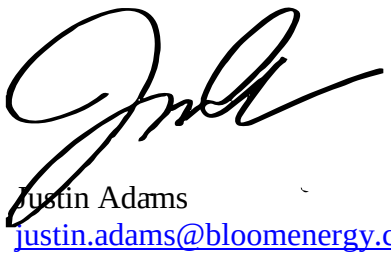
Dear Chairman Robert Stein:

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 Digital Realty, request the Connecticut Siting Council approve the location and construction of a 2-megawatt fuel cell and associated equipment (the "Facility"). The Facility will be located on the site of the Digital Realty building at 80 Merritt Boulevard, Trumbull, 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
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Bloomenergy

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

PETITION OF BLOOM ENERGY CORPORATION AS AGENT FOR DIGITAL REALTY FOR A DECLARATORY RULING FOR THE LOCATION AND CONSTRUCTION OF A 2-MEGAWATT FUEL CELL CUSTOMER-SIDE DISTRIBUTED RESOURCE AT 80 MERRITT BOULDEVARD, TRUMBULL, CT 06611	:	PETITION NO. ____ February 24, 2017

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 Digital Realty, requests that the Connecticut Siting Council ("Council") approve by declaratory ruling the location and construction of a customer-side distributed resources project comprised of eight (8) new ES-5 Bloom Energy Server solid oxide fuel cells and associated equipment (the "Facility"), providing 2-megawatts ("MW") (net) of power to the Digital Realty building located at 80 Trumbull Boulevard, Trumbull, 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 Digital Realty.

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 65MW 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 2MW customer-side distributed resources consisting of eight (8) 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 Digital Realty 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, achieve corporate sustainability goals, and improve reliability of electrical systems and equipment. The Facility was sized to provide at least 80% of the average baseload for the Building. 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 (8) 250 kW ES5-AA1AA0 model Bloom solid oxide fuel cell Energy Servers, an uninterruptable power module (UPM) and associated equipment. The location and arrangement for the fuel cells and equipment is shown in Exhibit 2. The associated equipment includes two UPMs, water deionizers, telemetry cabinets, disconnect switches and utility cabinets. The concrete pads for the Facility and associated equipment will be surrounded by a compacted gravel service area and protected from vehicle traffic by bollards. In addition, the Facility will be secured by extending the existing fence that currently surrounds the mechanical equipment yard. The Facility is enclosed, factory-assembled and tested prior to installation on the Site. *See* Exhibit 4.

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 5 year intervals. The Facility, the connections, and associated equipment will be installed in compliance with applicable building,

plumbing, electrical, and fire codes. The options at the conclusion of the 20 year contract Digital Realty 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 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 United Illuminating (UI) interconnection technical requirements. The Facility is designed to operate in parallel with the utility as well as in a standalone configuration utilizing the same base resource. Each 1MW fuel cell system shall consist of (4) Energy Servers, each equipped with (2) independent power paths; 800kW of power at 480Vac on the stand-alone output (referred to as UPM) and available balance of the 1MW capacity to the grid-parallel output (referred to as YAC) at 480Vac. The grid-parallel output (YAC) shall interconnect with the utility power system at the Building'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 stand-alone output (UPM) allows for power generation independent of the utility grid. Facility critical loads tied to the stand-alone output will continue to be served irrespective of whether utility power is available or not. 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 Southern Connecticut Gas.

The Facility will have extensive hardware, software and operator safety control systems, designed in accordance with American National Standards Institute and Canadian Standards Association for Stationary Fuel Cell Power Systems ("ANSI/CSA"). It is Listed by UL as a "Stationary Fuel Cell Power System" to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102. The Facility would be controlled remotely and have internal sensors that continuously monitor system operation. If safety circuits detect a condition outside normal operating parameters, the fuel supply is stopped and individual system components are automatically shut down. A Bloom Energy Remote Monitoring Control Center (RMCC) operator can also remotely initiate any emergency sequence. An emergency stop alarm initiates an automatic shutdown sequence that puts the system into "safe mode" and causes it to stop exporting power. Bloom operators can assess different situations and take the necessary actions to mitigate impacts on the fuel cells during maintenance work, shutdowns or outages and enable them come back online smoothly and efficiently when the disruption is completed. In addition, Digital Realty and its employees are provided with an Emergency Response Plan (Exhibit 5) to assist in the safe operation of the Facility.

The Facility will be installed in accordance with NFPA 853[1]. 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

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

risk of fire related to the operation of the Facility is therefore very low. Furthermore, in the Facility, natural gas is not burned; it is used in a chemical reaction to generate electricity. The natural gas is digested almost immediately upon entering the unit and is no longer combustible. As stated above, any variation in heat outside of the operational parameters will trigger an automatic shutdown of the energy server. Before commissioning, the fuel lines (pipe) are cleaned in accordance with Public Act 11-101[2].

C. Existing Environment

i. The Site

The Facility would be installed entirely within the Digital Realty property located at 80 Merritt Boulevard, Connecticut. Specifically, the Facility will be constructed on the 8.24-acre property that surrounds the Building. The Site is zoned as Light Industrial ("IL2") under the zoning regulations of the Town of Trumbull (the "Town"). The parcels to the north, south, east and west are also zoned Light Industrial. The proposed Facility would be shielded by the building from the closest residential property located approximately 1,200 feet to the east.

The Facility would be located within an existing mechanical equipment yard adjacent to the Building. Photos of the proposed location are provided in Exhibit 6. The proposed location is a previously disturbed area and is currently a maintained mechanical equipment yard and drive aisle. Nine (9) parking spaces need to be eliminated to locate the Facility at this location and maintain a minimum drive aisle of 24-feet. Twelve (12) additional parking spaces would be created (see Exhibit 2) to balance the loss of parking. The location of the Facility was

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

strategically placed in proximity to the existing mechanical equipment to avoid impacting operational requirements of the Building.

ii. Wildlife and Habitat

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

iii. Wetlands and Watercourse

The proposed Facility would 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. According to CTDEEP data, inland wetland soils ("Poorly Drained and/or Very Poorly Drained Soils") are located approximately 1,000 feet to the west of the proposed location. See Exhibit 8. Beaver Dam Lake is located off Site approximately 0.5 miles to the northeast. Protection measures described in *Section E* will minimize the potential for soil erosion and the flow of sediments off site. 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 6-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. No gaseous substances are released or vented at any point during the desulfurization process.

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 of Connecticut, 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 752-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[3]. 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

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

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 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) program[4], 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 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 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.

[4] Sec. 16-244t
[5] Carbon Dioxide is measured at Bloom's stated lifetime efficiency level of 53-60%

iii. Sound Levels

The nearest parcel boundary is with a commercial property located approximately 40 linear feet to the west and defined as a Class B noise zone[6]. The proposed Facility would face the rear loading dock of the adjacent building, approximately 200 feet away. The nearest Class A residential property is located 1,200 linear feet to the east and on the opposite side of the Building. The residential properties will therefore be shielded from any sound generating from the Facility. The results of the sound model predicting noise levels at the property boundary located 40 feet to the west 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 40 feet are 59.7dBA, which is in compliance with noise criteria set forth in Connecticut regulations for the Control of Noise[7] and the Town of Trumbull Noise Control Ordinance[8].

iv. Visual Effects

The overall visual effect would be mitigated by locating the Facility on the west side of Building. The Facility would be shielded by the Building to the south and east and by landscaping along Nutmeg Drive (north) and the access road (west). The row of trees lining the fence (east photo Exhibit 6) would be transplanted and/or replaced around the new expanded fence to provide a vegetative screen for the mechanical yard. Furthermore, the Facility is located

[6] Sec. 22a-69-2.3. Noise zone standards
[7] Sec. 22a-69-3.5. Noise zone standards
[8] Sec. 13-50. Noise Levels

in proximity to existing mechanical equipment and is therefore consistent with the current use in this location.

E. Project Construction and Maintenance

Bloom anticipates construction to start in the fourth quarter of 2017 with 12-14 weeks of total construction time (4 weeks of site prep, 4 weeks of installation, and 4 weeks of commissioning). Trumbull exempts noise generated by any construction equipment between 7:00 a.m. and 6:00 p.m. on every day but Sunday. Bloom anticipates site work construction to only occur during these hours Monday through Friday and would work Saturdays 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. The temporary E&S control measures will remain in place until the work is complete and all disturbed areas have been stabilized. No affect 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 (Stratford and Trumbull) 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 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 briefly discussed the proposed Facility with the Town of Trumbull Land Use Planner. An opportunity to comment on the proposed site plan has been provided to the Land Use Planner to incorporate any design comments they may have. *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

[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]."

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 Digital Realty, respectfully requests that the Council approve the location and construction of the Facility by declaratory ruling.

Respectfully submitted,
Bloom Energy Corporation

By:_____

Justin Adams
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1299 Orleans Drive
Sunnyvale, CA 94089
Telephone: (408) 338-7452
Email: justin.adams@bloomenergy.com

Bloomenergy

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: Bloom Energy Server Product Datasheet and General Installation Overview Meter

Exhibit 5: Emergency Response Plan

Exhibit 6: Photos of the proposed location

Exhibit 7: Natural Diversity Data Base (NDDB) State Listed Species Review

Exhibit 8: 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 Town Planner

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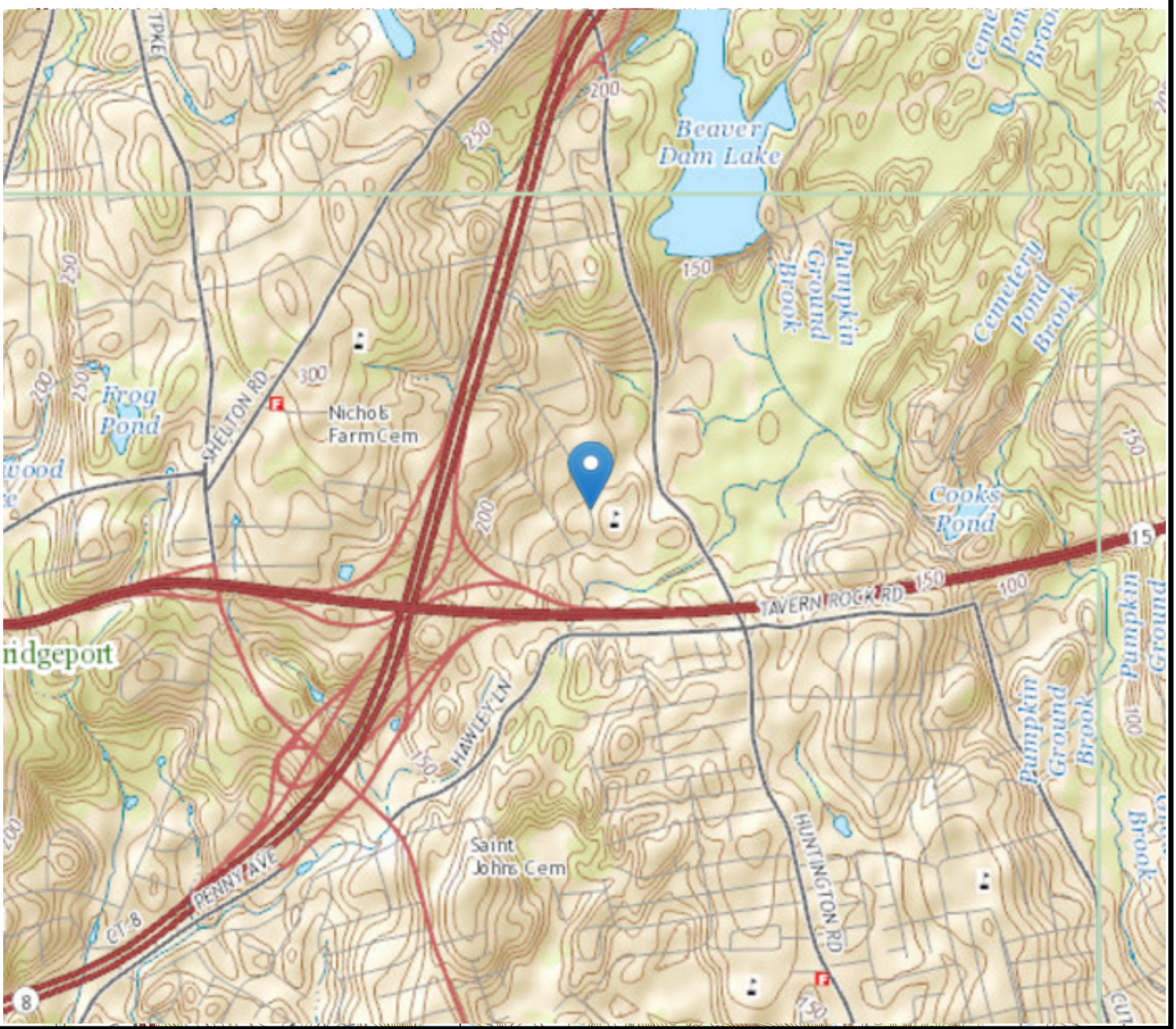
Exhibit 1



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Date:	02/09/2017
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1299 ORLEANS DRIVE
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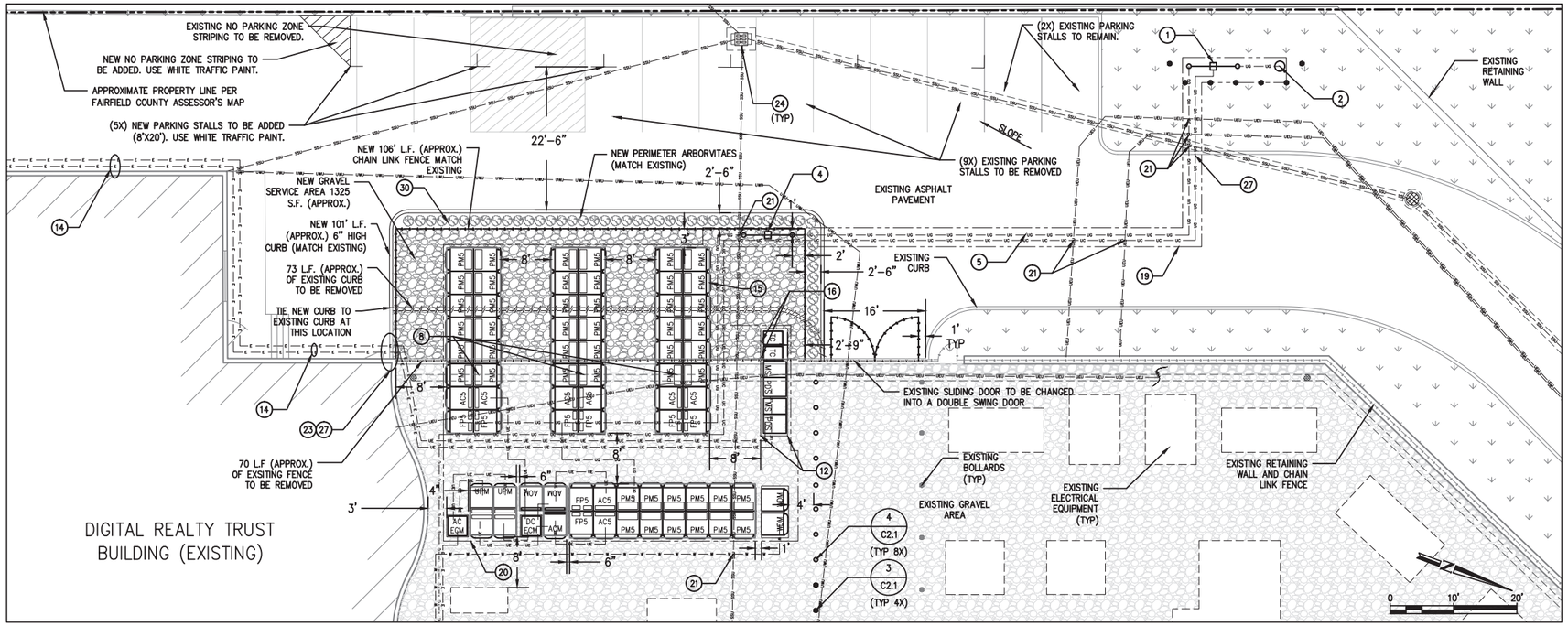
Tel: 408 543 1500 Fax: 408 543 1501

80 Meritt BLVD. 41°14'27.15"N
Trumbull, CT 06611 73° 8'50.62"W

EXHIBIT 1 - SITE LOCATION MAP
USGS MAP

Bloomenergy

Exhibit 2



DETAILED SITE PLAN
SCALE: 1" = 10'

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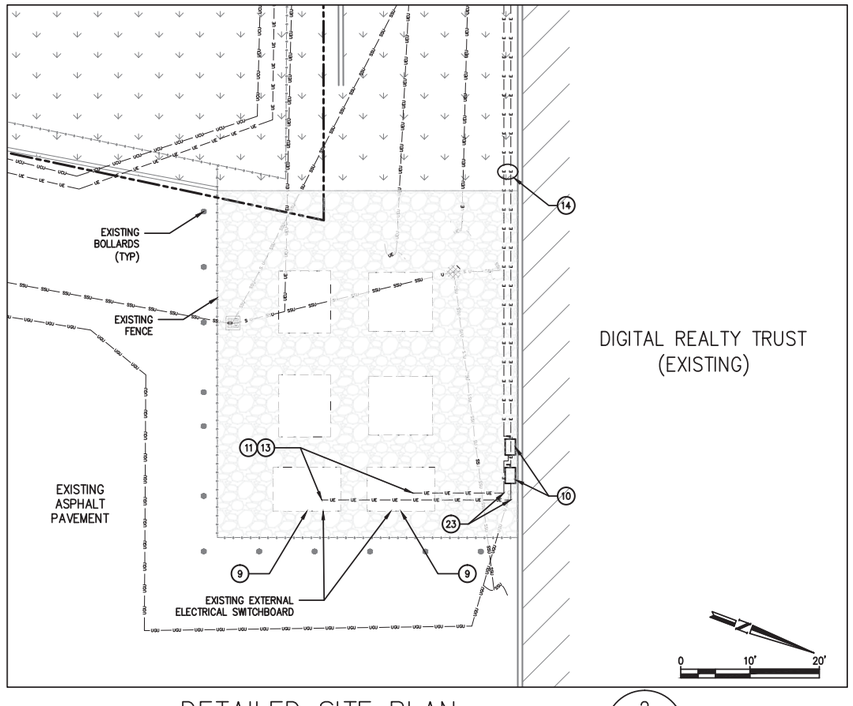

DETAILED SITE PLAN
SCALE: 1" = 10'

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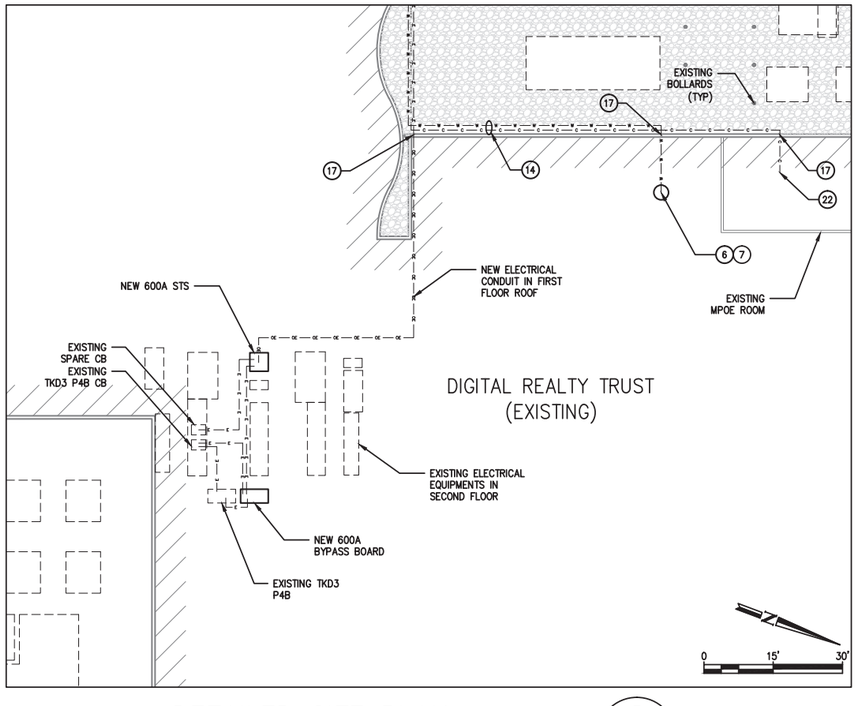


DETAILED SITE PLAN
SCALE: 1" = 15'

3
C1.1

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. FOR UTILITY CONNECTIONS FROM ANCILLARY EQUIPMENT TO SYSTEM SEE PRODUCT INSTALLATION DRAWINGS.

REFERENCE SHEET NOTES

(1) NEW UTILITY PROVIDED AND INSTALLED GAS METER ASSEMBLY. 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 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.

(8) CONTRACTOR SHALL REPLACE EXISTING STORM DRAIN PIPE UNDER SYSTEM WITH DUCTILE IRON PIPE AND MATCH EXISTING SIZE EXTENDING A MINIMUM 4' BEYOND SYSTEM.

(9) EXISTING UTILITY ELECTRIC METER. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.

(10) NEW BLOOM PROVIDED, CONTRACTOR INSTALLED, DISCONNECT SWITCH. MOUNT TO WALL PER MANUFACTURER AND UTILITY SPECIFICATIONS.

(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.

(13) NEW ELECTRICAL FEEDER SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.

(14) MOUNT NEW CONDUIT/PIPE TO EXTERIOR WALL. COORDINATE EXACT ROUTING WITH CUSTOMER REPRESENTATIVE IN THE FIELD. REFER TO WALL MOUNTING DETAIL FOR ADDITIONAL REQUIREMENTS.

(15) NEW BLOOM ENERGY SERVER. REFER TO BLOOM STANDARD INSTALLATION DRAWING SET FOR ADDITIONAL ENERGY SERVER DETAILS.

(16) FACTORY WIRED ENERGY SERVER EMERGENCY POWER-OFF SWITCH (EPO).

(17) 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.

(20) CONTRACTOR SHALL SAWCUT TO ALLOW FOR EXCAVATION UNDER ENERGY SERVER AND ANCILLARY PAD LOCATIONS. REFER TO PAD DETAIL FOR ADDITIONAL EXCAVATION AND BACKFILL REQUIREMENTS.

(21) 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.

(22) 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 REQUIREMENTS.

(23) 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.

(24) PROVIDE "DANDY SACK" OR EQUAL WITH OUTFLOW PORTS AT STORM DRAIN INLET. REFER TO EROSION CONTROL DETAIL FOR ADDITIONAL REQUIREMENTS.

(27) CONTRACTOR SHALL UNDER-CUT EXISTING CURB FOR TRENCHING UTILITY LINES AND BACKFILL WITH CONCRETE SLURRY. IF CURB IS DAMAGED, REPAIR TO MATCH EXISTING.

(30) CONTRACTOR SHALL PROVIDE TURF RESTORATION. REFER TO TURF RESTORATION DETAIL FOR ADDITIONAL REQUIREMENTS.

Bloomenergy
1299 ORLEANS DRIVE
SUNNYVALE, CA 94089

SEAL

CUSTOMER SITE

DIGITAL REALTY TRUST
80 MERITT BLVD.
TRUMBULL, CT 06611

DIGITAL REALTY

REVISION HISTORY		
REV	REVISION ISSUE	DATE

DESIGNED BY PARTHA JOSHI	DATE 01/17/2017
DRAWN BY SHASHI KUMAR	DATE 01/20/2016
REVIEWED BY	DATE
APPROVED BY	DATE

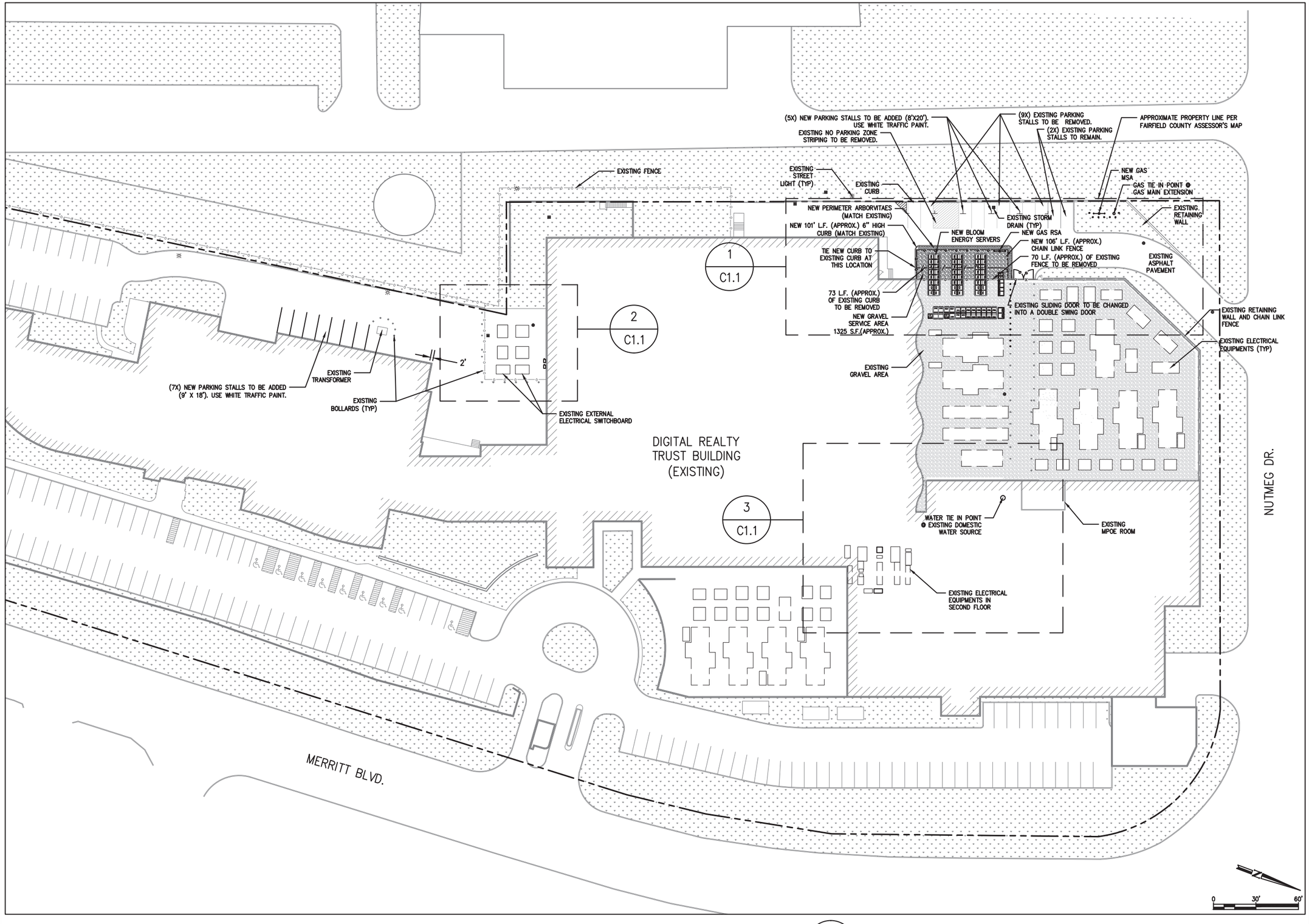
SHEET TITLE
DETAILED SITE PLAN

DRAWING NUMBER
C1.1

BLOOM DOCUMENT
DOC-1008490

THIS DRAWING IS 24" X 36" AT FULL SIZE

SITE ID: DGR000.0 | SHEET XX OF 12



OVERALL SITE PLAN
SCALE: 1" = 30'

1
G1.1

Bloomenergy

1299 ORLEANS DRIVE
SUNNYVALE, CA 94089

PROPRIETARY AND CONFIDENTIAL

SEAL

CUSTOMER SITE

DIGITAL REALTY TRUST
80 MERITT BLVD.
TRUMBULL, CT 06611

DIGITAL REALTY

REVISION HISTORY		
REV	REVISION ISSUE	DATE

DESIGNED BY PARTHA JOSHI	DATE 01/17/2017
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SHEET TITLE
OVERALL SITE PLAN

DRAWING NUMBER
G1.1

BLOOM DOCUMENT
DOC-1008490

THIS DRAWING IS 24" X 36" AT FULL SIZE

SITE ID: DGR000.0 | SHEET 04 OF 12

Bloomenergy

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

Bloomenergy

Exhibit 4

Bloomenergy®

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

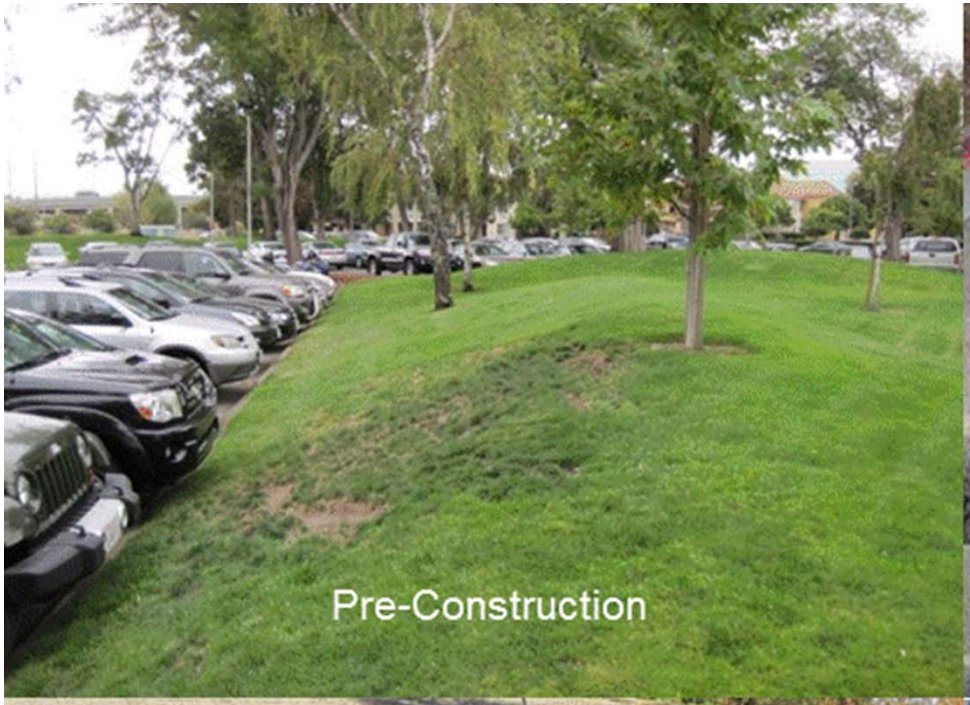
Technical Highlights (ES5-AA1AA0)	
Outputs	
Nameplate power output (net AC)	262.5 kW
Base load output (net AC)	250 kW
Electrical connection	480 V, 3-phase, 60 Hz
Inputs	
Fuels	Natural gas, directed biogas
Input fuel pressure	10-18 psig (15 psig nominal)
Water	None during normal operation
Efficiency	
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

Bloomenergy®

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

Bloom Energy Server


Pre-Construction


Install Preparations – Trenching &
Underground Utility


Set Pads


Site Completion

Bloom Energy Server Installation

Representative Installations

Bloomenergy

Bloomenergy

Exhibit 5

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.

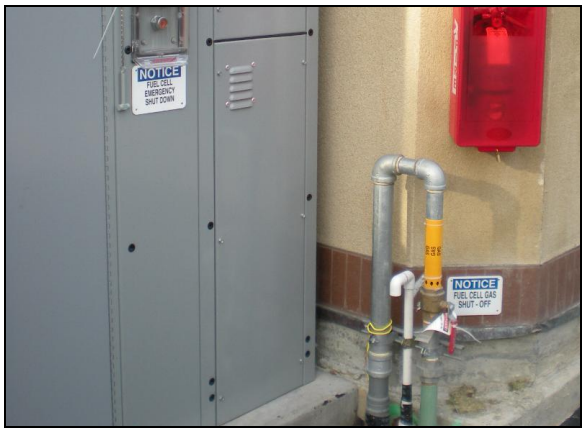


Figure 3: Manual Natural Gas Valve

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

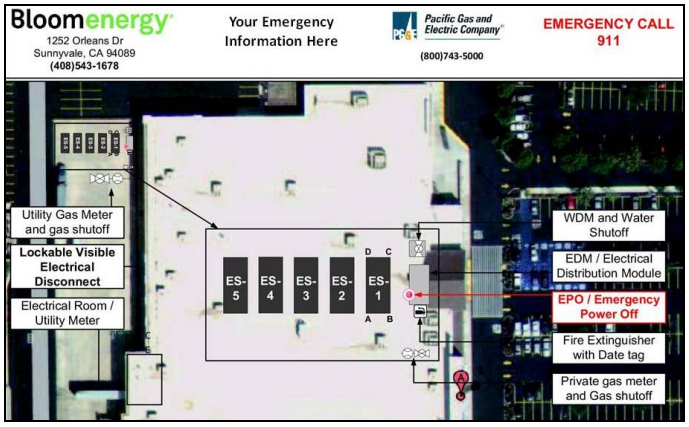


Figure 4: Sample Site Map

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.

Bloomenergy

Exhibit 6

Fuel Cell Location - North

Fuel Cell Location - South

Fuel Cell Location - West

Fuel Cell Location – East

Bloomenergy

Exhibit 7

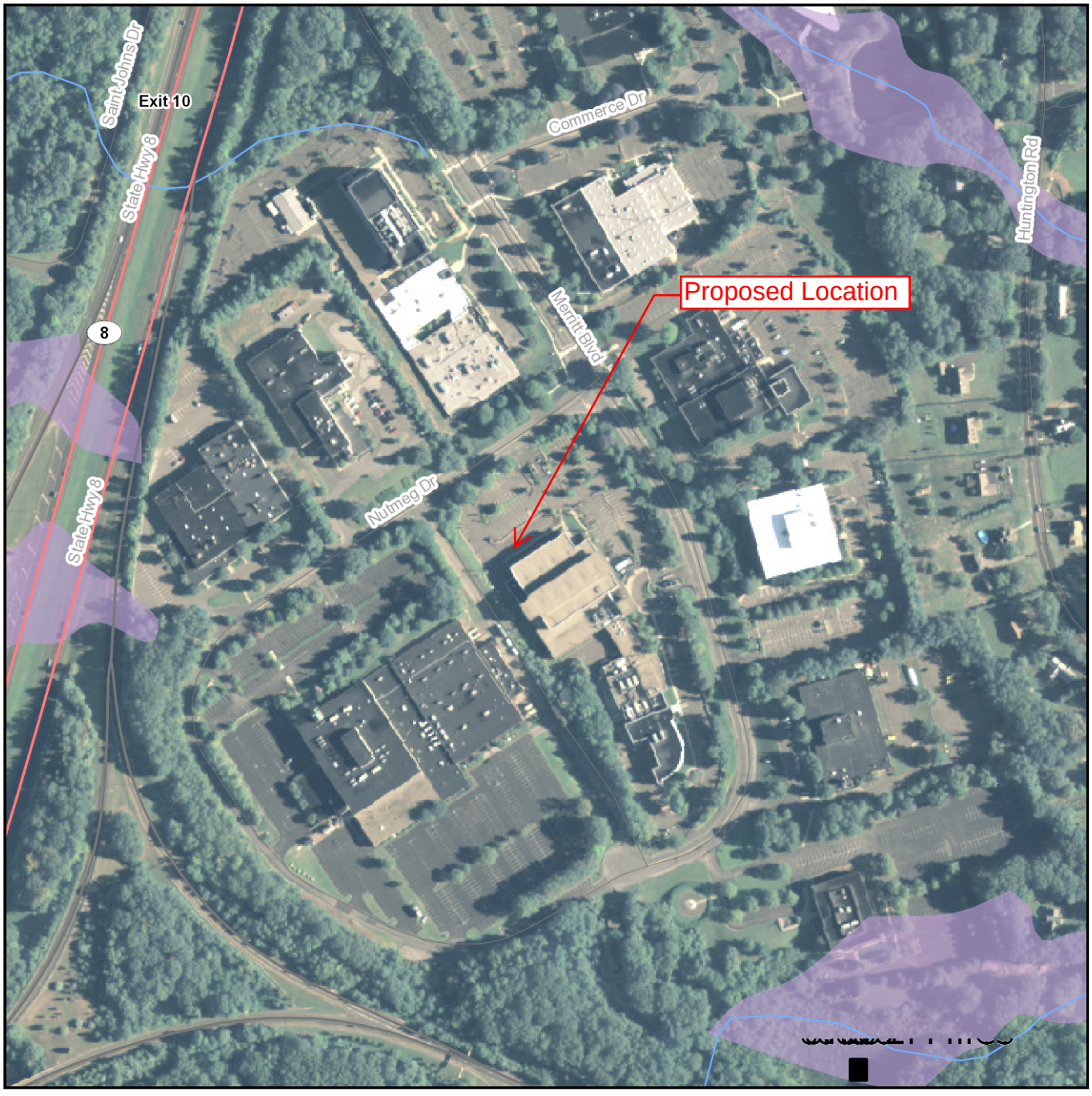

NDDB Map
CTDEEP NDDB Data
December 2016
Legend
80 Merritt Blvd
NDDB Area
80 Merritt Blvd
Google earth
© 2016 Google
N
2000 ft

Bloomenergy

Exhibit 8

Wetland and Watercourse Map

Digital Realty Trust
80 Merrit Blvd.



Streets
- Interstate
- US Route
- State Route
- Ramp
- Street

Waterbody Line 7
- Water
- Dam

Waterbody Poly 7
- Water

Inland Wetland Soils
- Poorly Drained and Very Poorly Drained Soils
- Alluvial and Floodplain Soils

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Exhibit 9

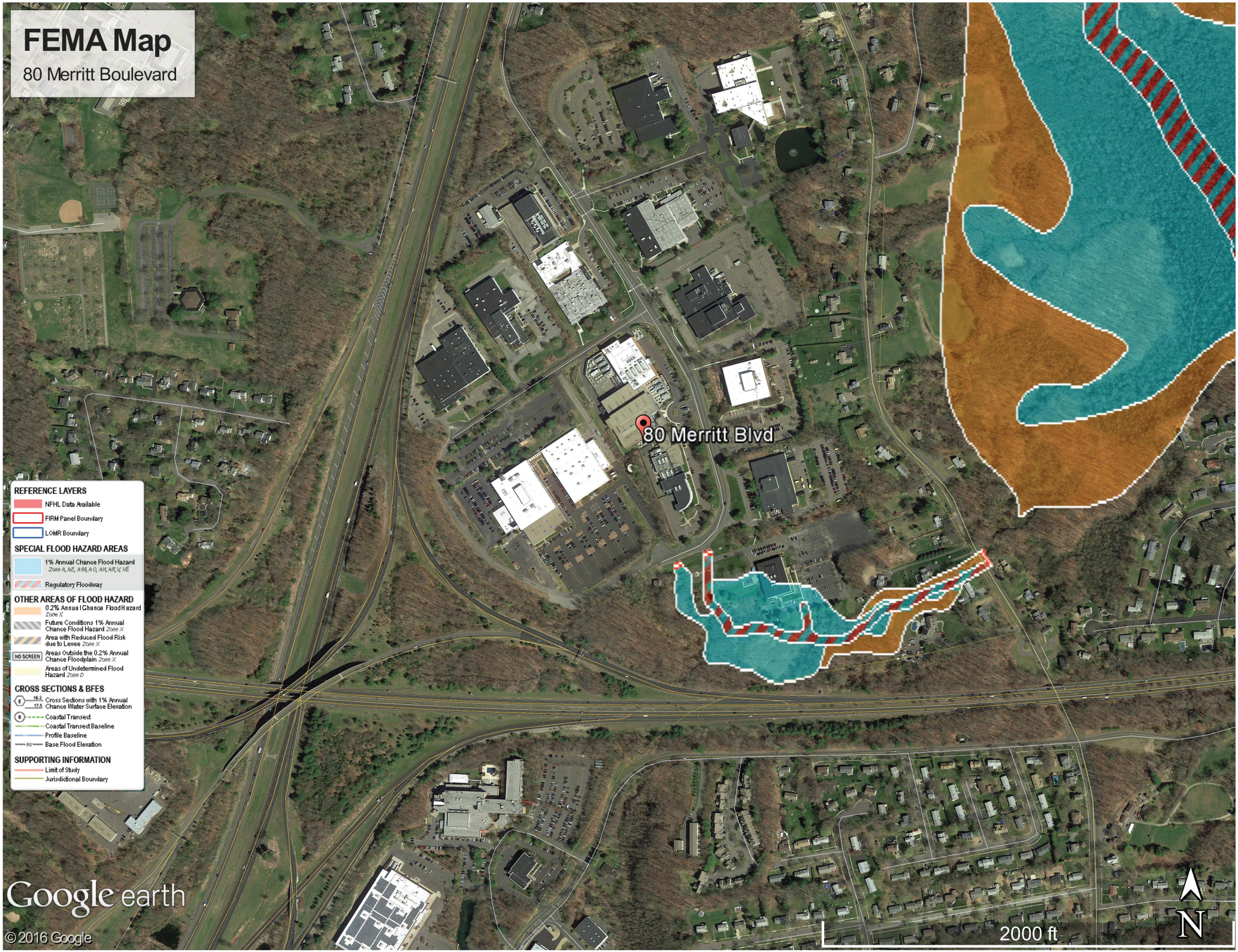
FEMA Map
80 Merritt Boulevard
80 Merritt Blvd
REFERENCE LAYERS
NFHL Data Available
FIRM Panel Boundary
LOMR Boundary
SPECIAL FLOOD HAZARD AREAS
1% Annual Chance Flood Hazard
Zone A, AE, A99, AO, AH, AR, V, VE
Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD
0.2% Annual Chance Flood Hazard
Zone X
Future 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
2000 ft
N

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Exhibit 10

Calculation of **Yuma** Sound Pressure Based On Distance

By Bob Hintz 1/16

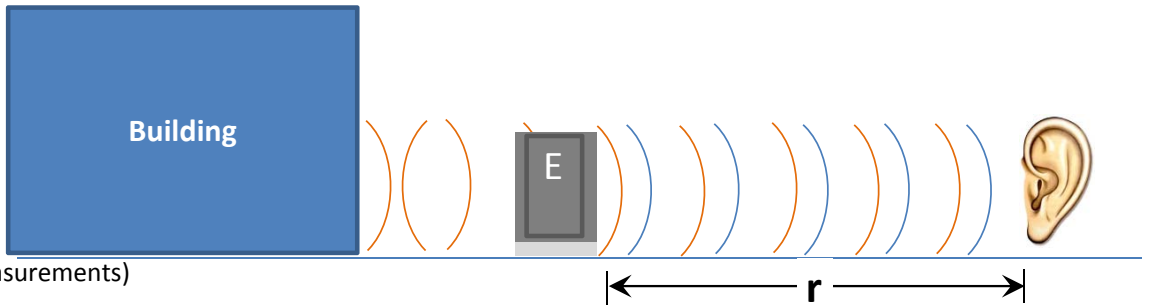
All calculations are based on the following formula for sound pressure level (L_P):

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

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

Scenario 1

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



L_P =	**59.7** dB

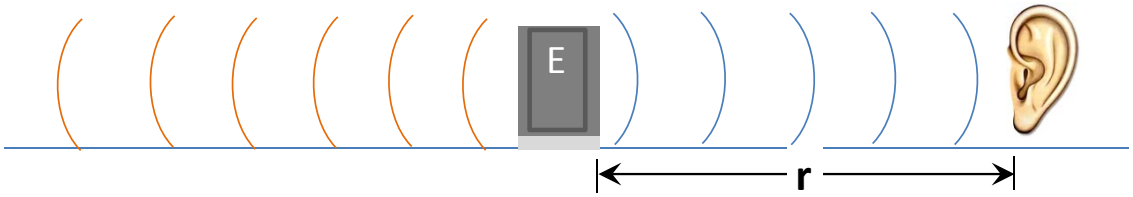
Where:

L_W =	86.4 dB	ES sound power (Calc. from measurements)
Q =	4	Directivity factor
r =	40 Feet	**Enter value here for both Scenarios**

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



L_P =	**56.7** dB

Where:

L_W =	86.4 dB	ES sound power (Calc.)
Q =	2	Directivity factor
r =	40 Feet	

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

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Exhibit 11

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VIA CERTIFIED MAIL

02/04/2017

RE: Application for Bloom Energy, as agent for Digital Realty Trust, for the construction of eight (8) new ES-5 Bloom Energy Servers solid oxide fuel cell which would provide 2 megawatts of Customer-Side Distributed Resource at – 80 Merritt Boulevard, Trumbull, CT.

Dear Ladies and Gentlemen:

Pursuant to Section §16-50j-40 of the Connecticut Siting Council's (the "Council") regulations, we are notifying you that Digital Realty Trust intends to file in the next two week a petition for declaratory ruling with the Council. The petition will request the Council's approval of the location and construction of a 2 megawatt Bloom Energy Corporation fuel cell and associated equipment at the Digital Realty Trust facility at 60 & 80 Merritt Boulevard, Trumbull, Connecticut.

The purpose of the proposed Facility is to replace the average baseload of the building with a renewable energy source[i] and improve reliability of electrical systems and equipment.
Electricity generated by the Facility will be consumed primarily at the Site, and any excess electricity will be exported to the electric grid. The Facility will be fueled by natural gas.

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

Respectfully,

Justin Adams
justin.adams@bloomenergy.com

[i] Connecticut Geneneral 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
Herbst	Timothy	First Selectman	Town Hall 2nd Floor, 5866 Main St.	Trumbull	CT	06611
Librandi	Rob	Land Use Planner	Town Hall 2nd Floor, 5866 Main St.	Trumbull	CT	06611
		Inland Wetlands / Watercourses Commission	Town Hall, 5866 Main St.	Trumbull	CT	06611
		Conservation Commission	Town Hall, 5866 Main St.	Trumbull	CT	06611
		Planning and Zoning Commission	Town Hall, 5866 Main St.	Trumbull	CT	06611
Harkins	John	Mayor	2725 Main Street	Stratford	CT	06615
Habansky	Jay	Planning and Zoning Administrator	2725 Main Street, Room 113 and 118	Stratford	CT	06615
Blumenthal	Richard	U.S. Senator	90 State House Square, 10th Floor	Hartford	CT	06103
Murphy	Chris	U.S. Senator	120 Huyshope Avenue, Ste. 401	Hartford	CT	06106
Himes	Jim	U.S. Representative	211 State Street, 2nd Floor	Bridgeport	CT	06604
McGorty	Ben	State Representative, 122nd	300 Capital Avenue	Hartford	CT	06106
Rutigliano	David	State Representative, 123rd	300 Capital Avenue	Hartford	CT	06106
Devlin	Laura	State Representative, 134th	300 Capital Avenue	Hartford	CT	06106
Moore	Marylin	State Senator, 3rd	Legislative Office Building, Room 2000	Hartford	CT	06106
Delauro	Rosa	U.S. Representative	59 Elm Street	New Haven	CT	06510
Gomes	Ed	State Senator, 23rd	Legislative Office Building, Room 3800	Hartford	CT	06106

Kelly	Kevin	State Senator, 21st	Legislative Office Building, Room 3400	Hartford	CT	06106
Hoydick	Laura	State Representative, 120th	300 Capital Avenue	Hartford	CT	06106
Gresko	Joseph	State Representative, 121st	Legislative Office Building	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
Hacket	William	Acting Deputy Commissioner, Division of Emergency	25 Sigourney Street, 6th Floor	Hartford	CT	06106

		Management and Homeland Security (DEMHS)				
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
35	35 NUTMEG DRIVE	35 NUTMEG DRIVE LLC	1 CORPORATE DRIVE	SHELTON	CT	06484
80 & 60	80 MERRITT BOULEVARD	DIGITAL 60 & 80 MERRITT LLC	80 MERRITT BOULEVARD	TRUMBULL	CT	06611
95	95 MERRITT BOULEVARD	ST VINCENTS SPECIAL NEEDS CENTER INC	95 MERRITT BLVD	TRUMBULL	CT	06611
101	101 MERRITT BOULEVARD	TRUMBULL MERRITT 101 LLC &	20 AVON MEADOW LANE STE 210	AVON	CT	06001
75	75 MERRITT BOULEVARD	UNILEVER TRUMBULL RESEARCH SERVICES INC	75 MERRITT BOULEVARD	TRUMBULL	CT	06611
135	135 MERRITT BOULEVARD	TRUMBULL TOWN OF	5866 MAIN STREET	TRUMBULL	CT	06611
40	40 MERRITT BOULEVARD	CONOPCO INC	75 MERRITT BOULEVARD	TRUMBULL	CT	06611
20	20 NUTMEG DRIVE	SECUREMARK DECAL CORP	20 NUTMEG DRIVE	TRUMBULL	CT	06611
55	55 MERRITT BOULEVARD	BELMAR CORP	15 BROADVIEW RD	WESTPORT	CT	06880

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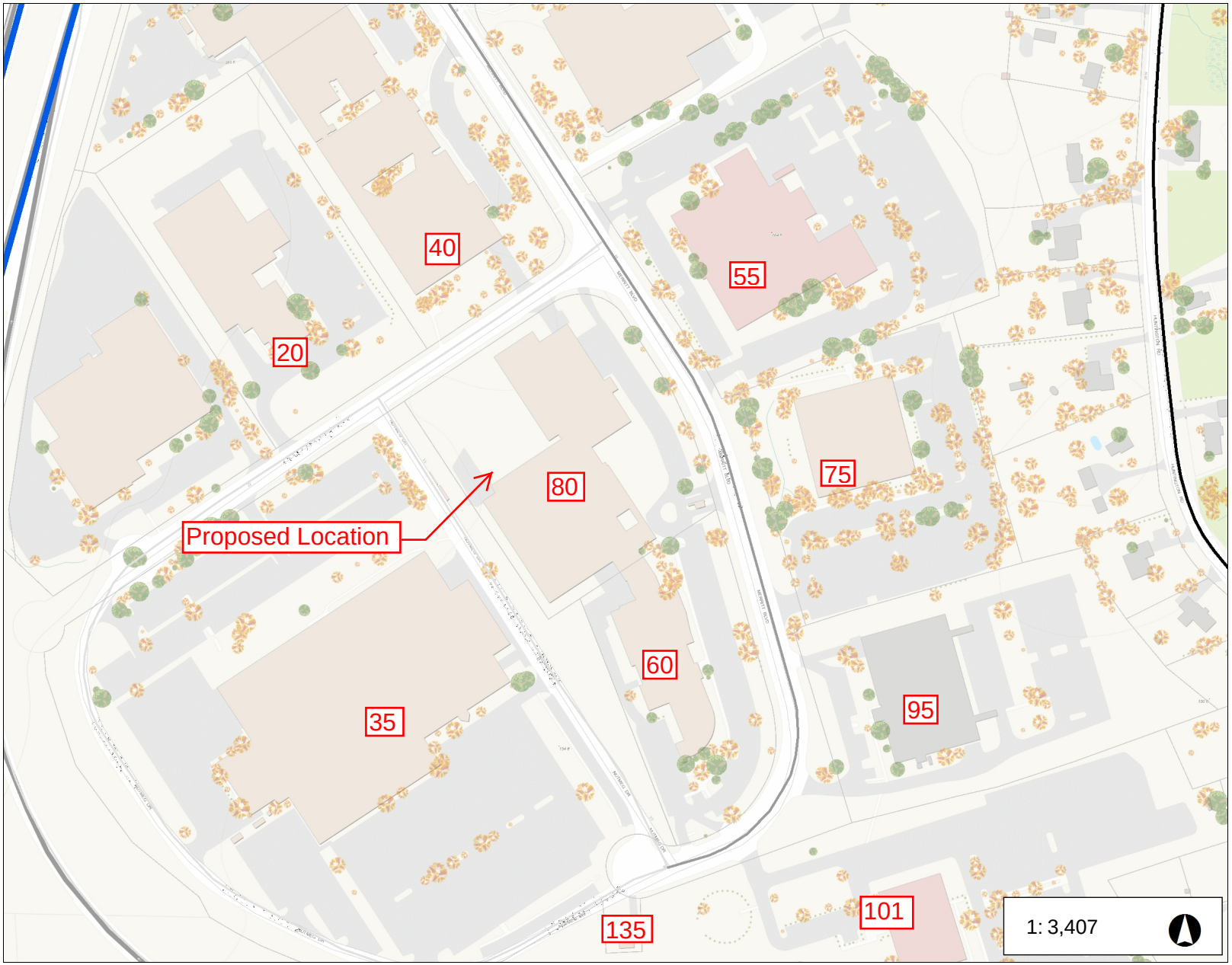
Exhibit 12

Town of Trumbull

DIGITAL 60 & 80 MERRITT LLC ABUTTERS MAP



567.8 0 283.90 567.8 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Greater Bridgeport Regional Council

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

METROCOG
Connecticut Metropolitan Council of Governments

Bloomenergy

Exhibit 13

Justin Adams

From: Justin Adams
Sent: Friday, February 17, 2017 8:54 AM
To: 'rlibrandi@trumbull-ct.gov'
Subject: Digital Realty Petition - 80 Merritt Blvd.
Attachments: DGR000.0 Revised Site Plan.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. I have attached the draft plans and have also sent a full sized print to your attention.

This project proposes to install eight (8) new Bloom Energy Servers; a new class of distributed power generator which produces clean, reliable and affordable electricity at the customer site. The fuel cells are proposed to be located at 80 Merritt Blvd. 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 are giving you an opportunity to see the plans in advance. Per Conn. Gen. Stat. §16-50x(a) the Siting Council's review and approval of a jurisdictional project, such as the subject fuel cell facility, "shall satisfy and be in lieu of all certifications, approvals and other requirements of state and municipal agencies." Therefore, Bloom is not required to undergo municipal site plan approval. Bloom is requesting that you review the plans and forward your comments to myself and the Council. 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.

Justin Adams
Lead Permitting Specialist

Bloomenergy
Connecticut
860.839.8373
justin.adams@bloomenergy.com