Bloomenergy

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

RE: Petition of Bloom Energy Corporation, as agent for Medtronic Inc., for a Declaratory Ruling for the Location and Construction of two (2) Customer Side Distributed Resource Fuel Cells on the Medtronic Inc. campus in East Haven, CT. A 300kW and a 200kW fuel cell would be located at 195 McDermott Road and 20 Middletown Avenue respectively

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 Medtronic Inc. ("Medtronic"), request the Connecticut Siting Council approve the location and construction of a 300-kilowatt and a 200-kilowatt fuel cell and associated equipment (the "Energy Servers"). Both Energy Serves will be located on the Medtronic campus in North Haven, Connecticut. The 300-kilowatt Energy Server will be located at 195 McDermott Road ("Manufacturing") and the 200-kilowatt Energy Server will be located 20 Middletown Avenue ("Office"). Electricity generated by the Energy Servers will be consumed at the Manufacturing and Office buildings, and any excess electricity will be exported to the electric grid. The Energy Servers 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 STANLEY COMMUNICATIONS CORP FOR A DECLARATORY RULING FOR THE LOCATION AND CONSTRUCTION OF A 300- AND A 200-KILOWATT FUEL CELL CUSTOMER-SIDE DISTRIBUTED RESOURCE AT 195 MCDERMOTT ROAD AND 20 MIDDLETOWN AVENUE, NORTH HAVEN, CONNECTICUT 06473	:	PETITION NO. ____ December 9, 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 Medtronic Inc. ("Medtronic"), requests that the Connecticut Siting Council ("Council") approve by declaratory ruling the location and construction of a customer-side distributed resources project comprised of two (2) new ES-5 Bloom Energy Server solid oxide fuel cells and associated equipment (the "Energy Servers"), providing 300- and 200-kilowatts ("kW") of power to the Medtronic campus for the buildings located at 195 McDermott Road ("Manufacturing") and 20 Middletown Avenue ("Office"), North Haven, CT. *See* Exhibit 1. The Energy Servers will be installed, maintained and operated by Bloom. They will be owned by a third party financing source of Bloom under an agreement with Medtronic.

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 Energy Servers 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 Energy Servers 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 Energy Servers will be a 300kW and a 200kW customer-side distributed resources consisting of state-of-the-art Bloom Energy Servers and associated equipment. The Energy Servers will be interconnected to the existing switchboard located within the electrical room of the Manufacturing and Office buildings. *See* Exhibit 2.

The proposed Energy Servers are a "customer-side distributed resources" project because they 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 Manufacturing and Office buildings on the Medtronic campus with a Class I renewable energy source, achieve corporate sustainability goals, and improve reliability of electrical systems and equipment. The meter interval data analysis conducted in 2016 (Exhibit 4) determined the average baseload for the Manufacturing and Office buildings to be 334kW and 181kW. The proposed Energy Servers would therefore provide enough power to meet nearly all of the average electric base load under normal operating conditions. Electricity generated by the Energy Servers will be consumed primarily at the Manufacturing and Office buildings, and any excess electricity will be exported to the grid.

B. The Energy Servers

Each Energy Server will consist of one Bloom solid oxide fuel cell Energy Server and associated equipment, and each will be installed in compliance with all applicable building, plumbing, electrical, and fire codes. The dimensions of the Manufacturing installation will be approximately 60 feet long, 4 feet wide and 7 feet high. The dimensions of the Office

installation will be approximately 20 feet long, 20 feet wide and 7 feet high. The Energy Server module is enclosed, factory-assembled and tested prior to installation. *See* Exhibit 5.

The Energy Servers will be capable of producing 500 kW (net) of continuous, reliable electric power. The Energy Servers will interconnect to the Manufacturing and Office building's distribution system and operate in parallel with the grid to provide the electrical requirements. Any electricity generated in excess will be exported to the grid in accordance with the United Illuminating ("UI") Interconnection Technical Requirements. This site 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 was submitted and is currently under review at the time this petition was filed. The Energy Servers will be fueled by natural gas supplied by Southern Connecticut Gas.

Bloom Energy Servers, and more specifically the inverters within, are UL1741/IEEE1547 compliant and thus will not operate without a stable utility voltage available. In the event of an outage the Energy Servers 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 Servers require 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, Medtronic does not control the operation of the system directly. In accordance with Public Act 11-101[1], the Emergency Response Plan provided to Medtronic and its employees is shown in Exhibit 6.

[1] An Act Adopting Certain Safety Recommendations of the Thomas Commission

The Energy Servers will have extensive hardware, software and operator safety control systems, designed in accordance with ANSI/CSA America FC 1-2004, the American National Standards Institute and Canadian Standards Association standard for Stationary Fuel Cell Power Systems. The Energy Servers 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 each installation site, and two normally closed, safety shut-off rated isolation valves are installed within the system. In accordance with Public Act 11-101[2], 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 Energy Servers.

The Energy Servers will be installed in accordance with NFPA 853[3]. 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 Energy Servers is therefore very low. Furthermore, in a Bloom Energy Server, 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 Servers.

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

C. Existing Environment

i. The Sites

The Energy Servers would be installed entirely within the Medtronic campus properties located in North Haven, Connecticut. When Medtronic started their campus expansion each portion of the project was on its own separate lot, and still holds true today for the Manufacturing and Office buildings. However, in 2007 Medtronic agreed with the Town of North Haven (the "Town") to treat the campus as a single entity.

The Manufacturing and Office building's Energy Servers will be constructed on abutting parcels that are a 31.34-acres and 6.72-acres respectively. Both parcels are zoned Light Industrial ("IL-30") under the zoning regulations of the Town. The surrounding properties to the north, south and east are also zoned under IL-30 and the I-91corridor borders to the west.

The Manufacturing building Energy Server would be located adjacent to an existing driveway on a concrete pad on the east side of the building. This is a previously disturbed and maintained lawn. No parking spaces would be eliminated at the proposed location. The Energy Server would be located in proximity to the existing mechanical equipment to avoid impacting operational requirements of the Manufacturing building. The site is level and only minor grading would be needed to create a level pad area. Photos of the proposed location are provided in Exhibit 7 and the extent of disturbance is shown in Exhibit 2.

The Office building Energy Server would be located on a concrete pad within an existing paved parking area on the southwest side of the building. The Energy Server and equipment would occupy four existing parking spaces. Based on parking requirements set forth by the Town code for IL-30, the Medtronic campus is required or allowed to provide 1,924 spaces and

it currently provides 2,320 spaces. The Medtronic campus is over parked by 396 spaces. The proposed location to occupy 4 parking spaces would therefore not significantly impact the required parking.

ii. Wildlife and Habitat

A review of the publicly available Natural Diversity Database (NDDB) has shown known occurrences of state-listed species within the proposed Site. Bloom submitted a *"Request for Natural Diversity Data Base (NDDB) State Listed Species Review"* (Exhibit 8) on November 11, 2016. As stated in the request, work associated with this installation will be limited to paved areas and areas where grading has previously occurred. Impacts to the identified species and their habitat is not anticipated. Bloom will however adhere to any recommendations made by CTDEEP. At the time this petition was filed, the request was still under review. Bloom will continue to consult with CTDEEP to ensure that measures are undertaken to minimize the potential impacts.

iii. Wetlands and Cultural Resources

The proposed Energy Servers will be located on an area developed and disturbed during the construction of the buildings and its parking and access roads. There are no identified wetlands or cultural resources within the proposed locations of the Energy Servers. Therefore, the construction and operation of the Energy Servers will not have a substantial adverse effect on wetlands and cultural (archaeological and historical) resources.

iv. Flood and Coastal Zones

A review of the flood hazard mapping data from Federal Emergency Management Agency's ("FEMA") National Flood Insurance Program ("NFIP") has shown that the Energy

Servers would not be located within a 100- or 500-year flood zone. The sites was also reviewed for proximity to the Coastal Boundary, which delineates the coastal boundary of Connecticut as defined in the Connecticut Coastal Management Act. As shown in Exhibit 2, the proposed Energy Servers would not be located within the Coastal Boundary.

D. Environmental Effects and Mitigation

i. Natural Gas Desulfurization Process

The first step in the production of electricity in the 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 Energy Servers 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 Energy Servers are designed to operate without water discharge under normal operating conditions. There are no connections or discharge

points to the proposed locations. Additionally, the Energy Servers would use no water during normal operation beyond a 112-gallon (300kW) and 75-gallon (200kW) injection at start up.

Heat generated by the proposed Energy Servers would be 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 Energy Servers. 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 Energy Servers 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)	<0.10 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)[4]	735-832 lbs/MWh	Not Listed

The proposed Energy Servers 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 Energy Servers are 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 the Energy Servers to have a negative impact to the surrounding properties. The closest off-campus structure is an industrial building located approximately 280 feet from the Office building. There are no residential properties in proximity. Based on a sound model performed by Bloom Energy, the anticipated sound levels at the closest property boundary would be approximately 52dBA and in compliance with noise

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

criteria set forth in Connecticut regulations for the Control of Noise[5] and the Town of North Haven Code of Ordinances[6].

iv. Visual Effects

The overall visual effect would be mitigated because the proposed locations are entirely within the Medtronic campus that is in a light industrially zoned area. In addition, the Manufacturing building Energy Server would be at the rear of the building adjacent to existing mechanical equipment and a loading area. The Office building Energy Server would be in proximity to an existing transformer and a parking lot. There are also no residential properties within proximity to the Medtronic campus.

E. Project Construction and Maintenance

Bloom anticipates construction to start in April 2017 with 6-8 weeks of total construction time (2 weeks of site prep, 2 weeks of installation, and 2 weeks of commissioning). North Haven permits noise generated from construction during daytime hours only. It defines daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays and Sundays. We anticipate site work construction to only occur during daytime hours Monday through Friday.

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.

[5] Sec. 22a-69-3.5. Noise zone standards
[6] Chapter 146: Noise.

The temporary E&S control measures will remain in place until the work is complete and all disturbed areas have been stabilized. Due to the limited disturbance required for the Energy Server installations, no construction-related storm water permits will be required. Also, the installations will not affect drainage patterns or stormwater discharge.

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 the Medtronic campus 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. Exhibit 5 provides examples of typical installations from site prep to construction to restoration.

III. COMMUNITY OUTREACH

Bloom has provided notice of this petition 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).[7] A copy of the notice letter and a service list are provided in Exhibit 9 and the corresponding abutters map is provided in Exhibit 10. Additionally, prior to filing this petition, representatives from Bloom briefly discussed the proposed Energy Servers

[7] 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]."

with the Town of North Haven Planning & Zoning Department. An opportunity to comment on the proposed Site Plan has been provided to the Land Use Administrator to incorporate any design comments he may have. *See* Exhibit 11.

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 Energy Servers meet each of these criteria. The Energy Servers are a "customer-side distributed resources" project, as defined in Conn. Gen. Stat. § 16-1(a)(40)(A), because the Energy Servers are "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 Energy Servers will not have a substantial adverse environmental effect in the State of Connecticut.

V. CONCLUSION

For the reasons stated above, Bloom, as agent for Medtronic, respectfully requests that the Council approve the location and construction of the Energy Servers by declaratory ruling.

Respectfully submitted,
Bloom Energy Corporation

By:_____
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Sunnyvale, CA 94089
Telephone: (408) 338-7452
Email: justin.adams@bloomenergy.com

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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: Request for Natural Diversity Data Base (NDDB) State Listed Species Review

Exhibit 9: Notice Pursuant to Conn. Agencies Regs. § 16-50j-40(a)

Exhibit 10: Abutters Map

Exhibit 11: Letter to Mayor and City Planner

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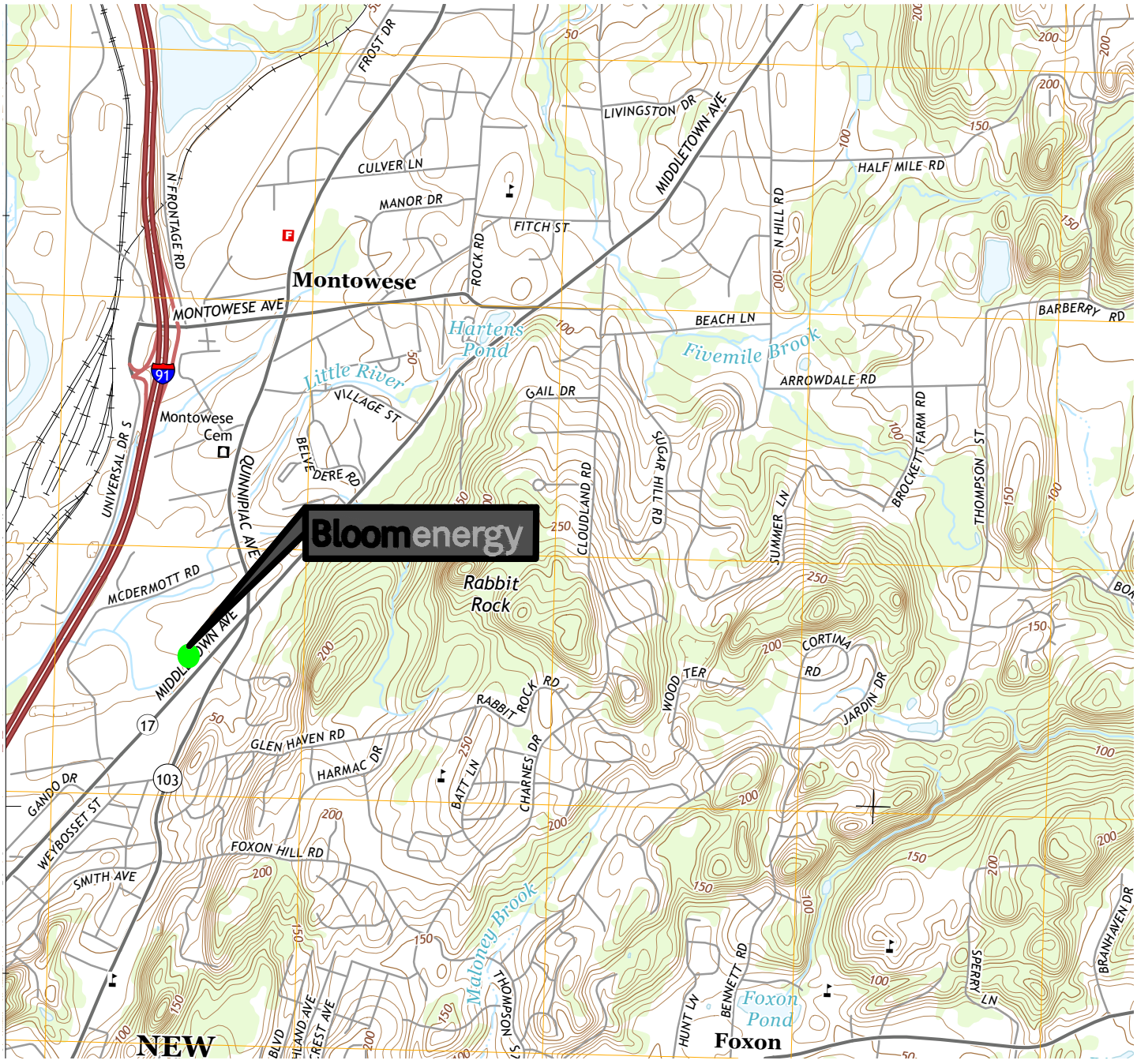
Exhibit 1



Job#:	MDC002.A/B
Scale:	1" ≈ 2,000'
Date:	11/08/2016
Drawn By:	SRI

Bloomenergy®

1299 ORLEANS DRIVE
SUNNYVALE, CA 94089

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60 Middletown Ave,
North Haven, CT 06473

EXHIBIT 1 - SITE LOCATION MAP
USGS MAP (BRANFORD)

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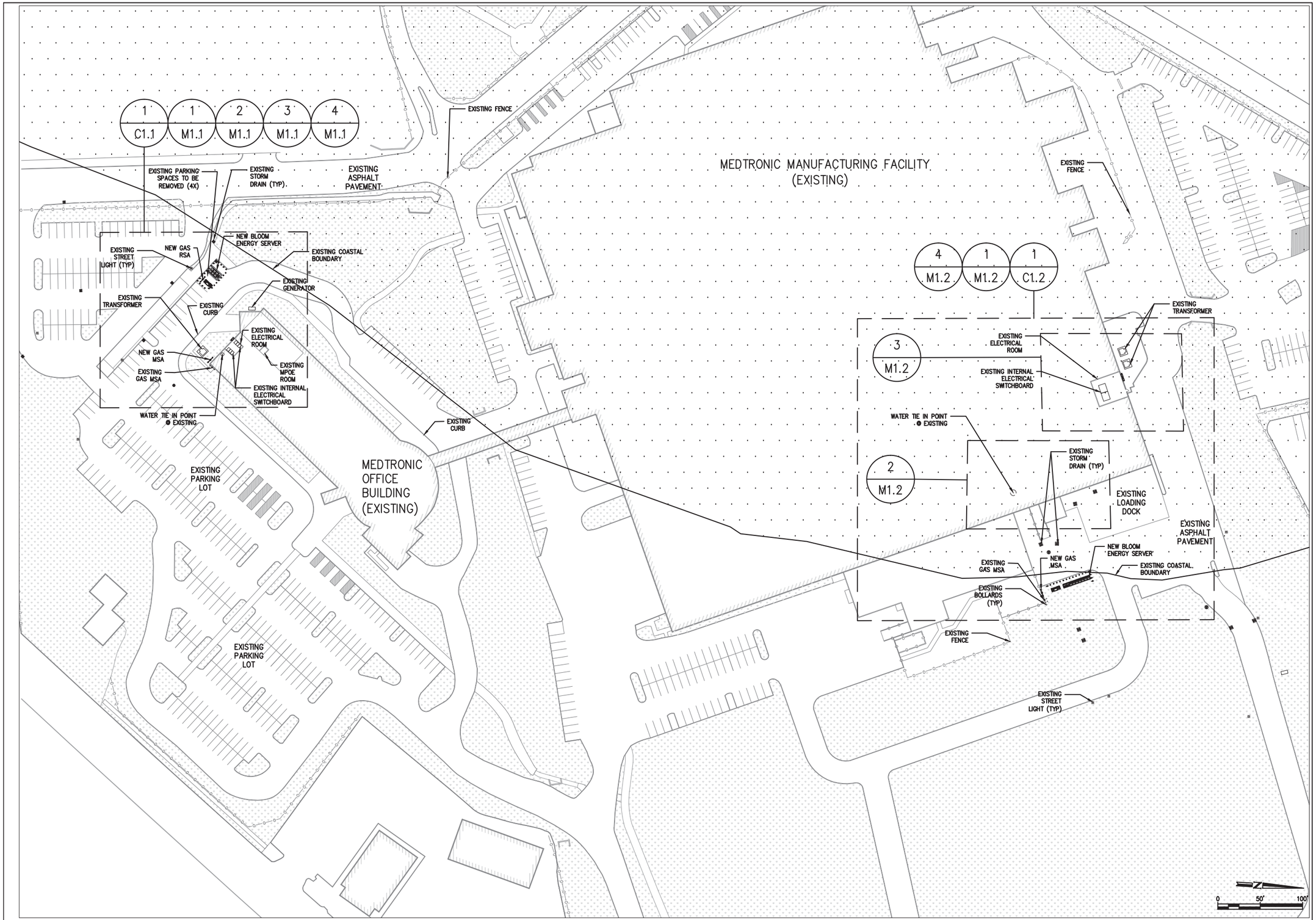
Exhibit 2



OVERALL SITE PLAN

SCALE: 1" = 50'

1
G1.1

Bloomenergy

1299 ORLEANS DRIVE
SUNNYVALE, CA 94089

SEAL

CUSTOMER SITE

MEDTRONIC
20 MIDDLETOWN AVE.
& 195 MCDERMOTT
NEW HAVEN, CT 06473

Medtronic

REVISION HISTORY		
REV	REVISION ISSUE	DATE
0	RELEASED PER ICN-10395	11/18/2016

DESIGNED BY SRI RAGHAVAN	DATE 11/18/2016
DRAWN BY ASHA G.B	DATE 11/18/2016
REVIEWED BY	DATE
APPROVED BY	DATE

SHEET TITLE

OVERALL SITE PLAN

DRAWING NUMBER

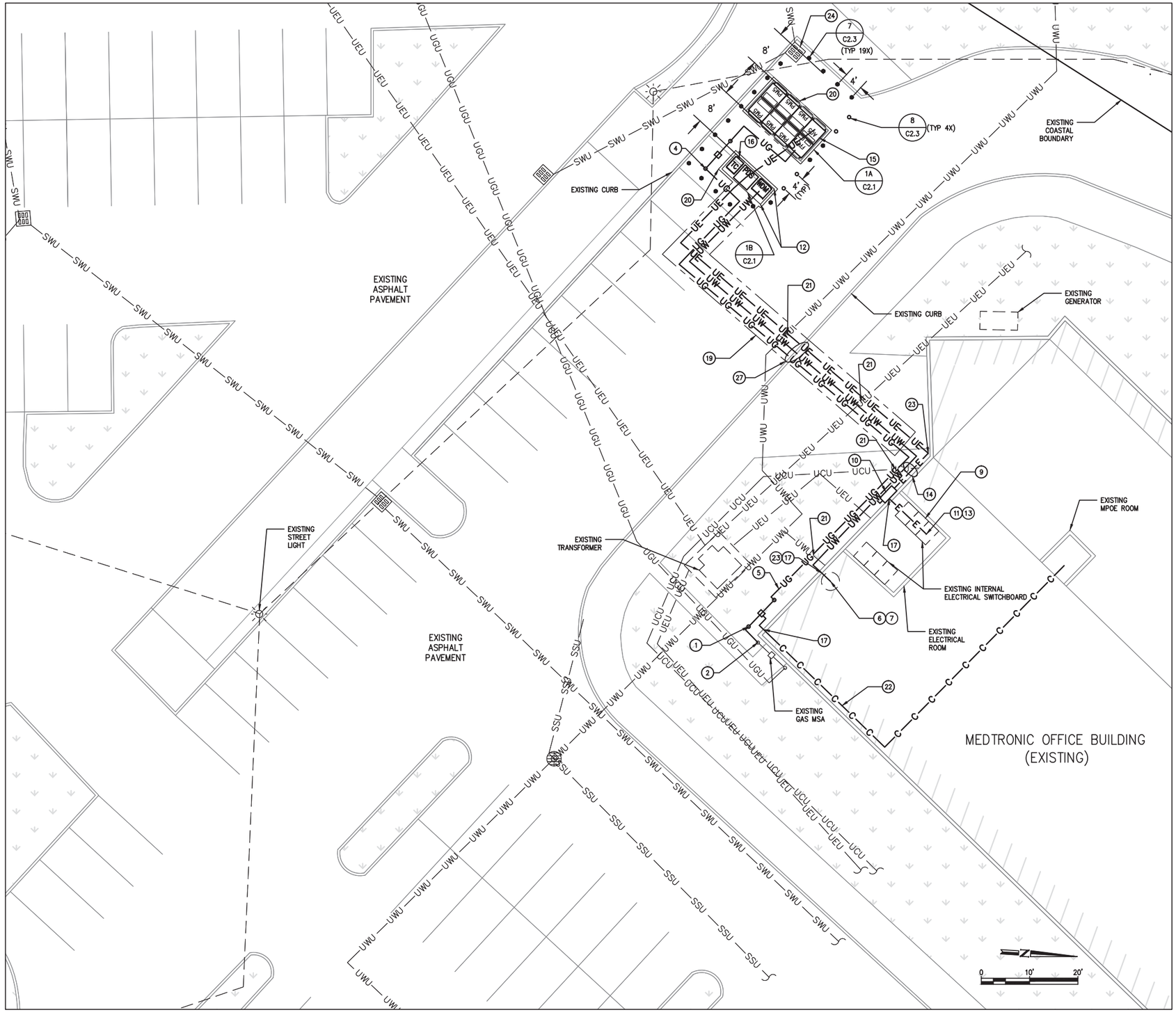
G1.1

BLOOM DOCUMENT

DOC-1008583

THIS DRAWING IS 24" X 36" AT FULL SIZE

SITE ID: MDC002.A&B | SHEET 03 OF 14



DETAILED SITE PLAN–OFFICE BUILDING

SCALE: 1" = 10'

1 / 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 & REGULATOR ASSEMBLY WITH SHUT–OFF VALVE. CONTRACTOR SHALL PROVIDE PAD PER DETAILS IF REQUIRED BY UTILITY COMPANY. COORDINATE ALL CONNECTIONS WITH GAS UTILITY.
2. NEW UNDERGROUND GAS SERVICE TAP BY UTILITY COMPANY. COORDINATE WITH GAS UTILITY. CONTRACTOR SHALL PERFORM COMPACTION AND MATCH EXISTING SURFACE AND GRADE. CONTRACTOR SHALL COORDINATE GAS PIPE SIZING AND INSTALLATION REQUIREMENTS WITH UTILITY.
4. NEW PRIVATE GAS REGULATOR SET ASSEMBLY FOR ENERGY SERVER WITH SHUT–OFF VALVE. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
5. NEW GAS PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
6. TAP EXISTING WATER LINE AT NEAREST ACCESSIBLE LOCATION IN BUILDING AS SHOWN WITH A LOCAL SHUT–OFF VALVE. REFER TO DOMESTIC WATER CONNECTION DETAIL FOR ADDITIONAL REQUIREMENTS.
7. NEW WATER PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO WATER RISER DETAIL FOR ADDITIONAL REQUIREMENTS.
9. EXISTING UTILITY ELECTRIC METER. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
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.
18. CONTRACTOR SHALL INSTALL CONDUIT AND/OR PIPE BY HORIZONTAL DIRECTIONAL DRILLING (HDD) AS NOTED ON DRAWING. PROVIDE HDD PIT AT START AND END OF HDD. PROVIDE POTHOLE AT ALL LOCATIONS WHERE HDD CROSSES EXISTING UTILITIES PRIOR TO STARTING HDD OPERATIONS. PATCH BACK PIT AND SAW CUT TO MATCH EXISTING. REFER TO UNDERGROUND/TRENCH CONDUIT AND PIPING 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.

Bloomenergy

1299 ORLEANS DRIVE
SUNNYVALE, CA 94089

SEAL

CUSTOMER SITE

MEDTRONIC
20 MIDDLETOWN AVE.
& 195 MCDERMOTT
NEW HAVEN, CT 06473

Medtronic

REVISION HISTORY		
REV	REVISION ISSUE	DATE
0	RELEASED PER ICN–10395	11/18/2016

DESIGNED BY SRI RAGHAVAN	DATE 11/18/2016
DRAWN BY ASHA G.B	DATE 11/18/2016
REVIEWED BY	DATE
APPROVED BY	DATE

SHEET TITLE

DETAILED SITE PLAN
OFFICE BUILDING

DRAWING NUMBER

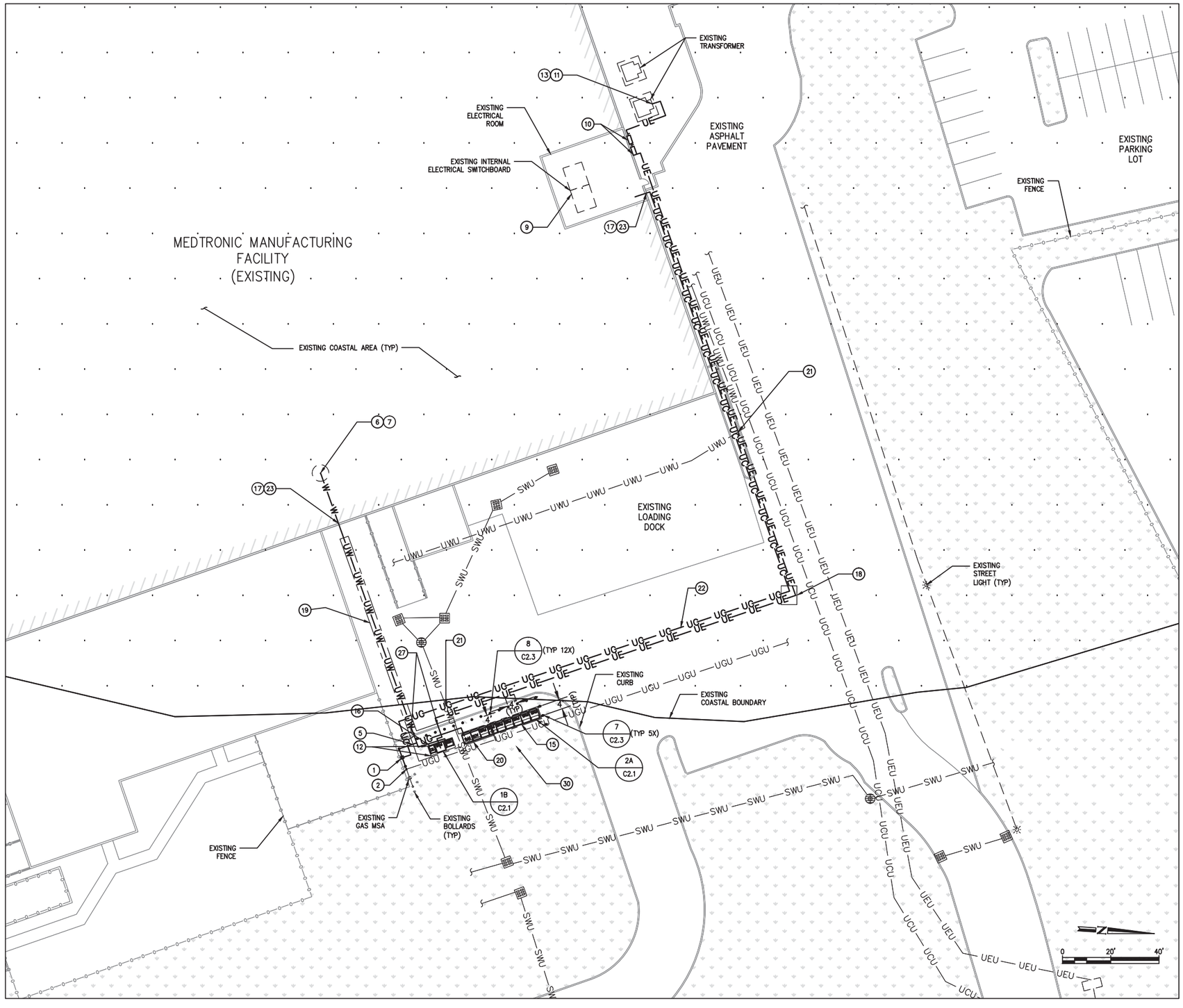
C1.1

BLOOM DOCUMENT

DOC–1008583

THIS DRAWING IS 24" X 36" AT FULL SIZE

SITE ID: MDC002.A | SHEET 04 OF 14



DETAILED SITE PLAN–MANUFACTURING FACILITY

SCALE: 1" = 20'

1
C1.2

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 & REGULATOR ASSEMBLY WITH SHUT-OFF VALVE. CONTRACTOR SHALL PROVIDE PAD PER DETAILS IF REQUIRED BY UTILITY COMPANY. COORDINATE ALL CONNECTIONS WITH GAS UTILITY.

(2) NEW UNDERGROUND GAS SERVICE TAP BY UTILITY COMPANY. COORDINATE WITH GAS UTILITY. CONTRACTOR SHALL PERFORM COMPACTION AND MATCH EXISTING SURFACE AND GRADE. CONTRACTOR SHALL COORDINATE GAS PIPE SIZING AND INSTALLATION REQUIREMENTS WITH UTILITY.

(5) NEW GAS PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO GAS RISER DETAIL FOR ADDITIONAL REQUIREMENTS.

(6) TAP EXISTING WATER LINE AT NEAREST ACCESSIBLE LOCATION IN BUILDING AS SHOWN WITH A LOCAL SHUT-OFF VALVE. REFER TO DOMESTIC WATER CONNECTION DETAIL FOR ADDITIONAL REQUIREMENTS.

(7) NEW WATER PIPE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO WATER RISER DETAIL FOR ADDITIONAL REQUIREMENTS.

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

(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.

(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.

(18) CONTRACTOR SHALL INSTALL CONDUIT AND/OR PIPE BY HORIZONTAL DIRECTIONAL DRILLING (HDD) AS NOTED ON DRAWING. PROVIDE HDD PIT AT START AND END OF HDD. PROVIDE POTHOLE AT ALL LOCATIONS WHERE HDD CROSSES EXISTING UTILITIES PRIOR TO STARTING HDD OPERATIONS. PATCH BACK PIT AND SAW CUT TO MATCH EXISTING. REFER TO UNDERGROUND/TRENCH CONDUIT AND PIPING 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.

(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.

Bloom energy

1299 ORLEANS DRIVE
SUNNYVALE, CA 94089

SEAL

CUSTOMER SITE

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SHEET TITLE

DETAILED SITE PLAN
MANUFACTURING FACILITY

DRAWING NUMBER

C1.2

BLOOM DOCUMENT

DOC-1008583

THIS DRAWING IS 24" X 36" AT FULL SIZE

SITE ID: MDC002.B | SHEET 05 OF 14

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

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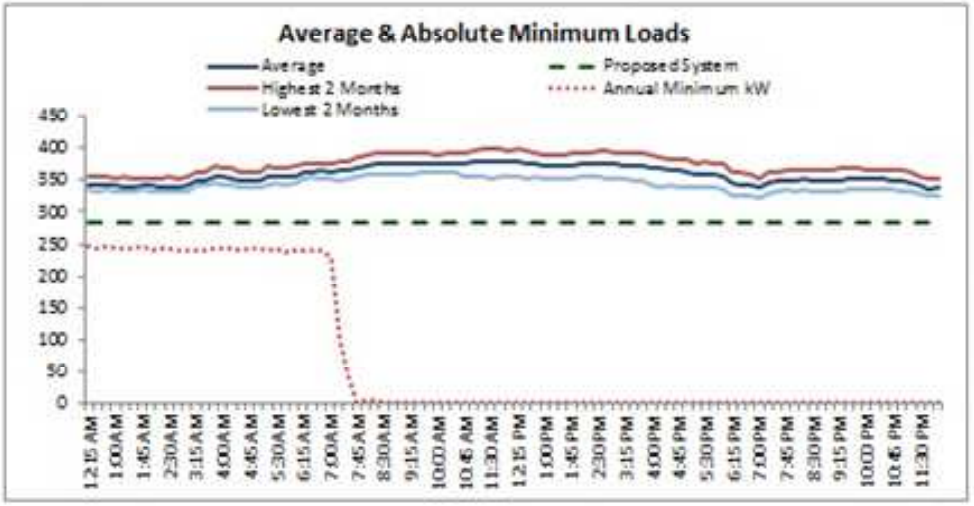
Exhibit 4

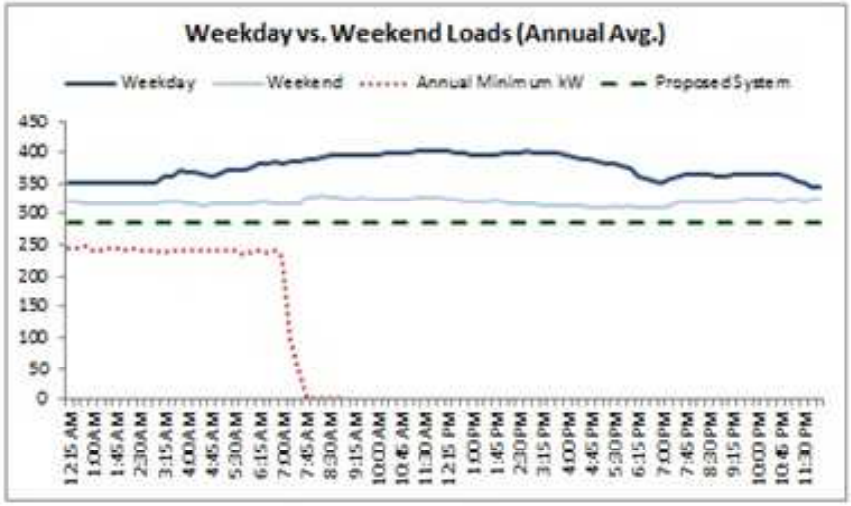
Manufacturing Meter Interval Data Analysis

INPUTS	
BE Output Factor	95%
Select Utility ----->	United Illuminating
Customer Name	edtronic North Haven
Utility Account Number	
Meter Number	100000185582

Absolute Minimum kW	*0*	*kW*
Recurring Minimum Base	*283*	*kW*
Average Baseload	*334*	*kW*
*Proposed System Size**	*300*	*kW*

SYSTEM DETAILS		
% Exported	0.6%	
% of Load Offset	79%	
Utility Exports		
Peak Hours	*4,823*	*kWh*
Partial Peak Hours	*3,549*	*kWh*
Off-Peak Hours	*2,227*	*kWh*
Total kWh Exported	*10,598*	*kWh*
CUSTOMER DETAILS		
Total Days of Data	262	
Annual Load Factor	94%	
Total Customer Usage	2,267,053	kWh
Average Hourly kWh	361	kWh
Daily Avg. Peak Demand	403	kW



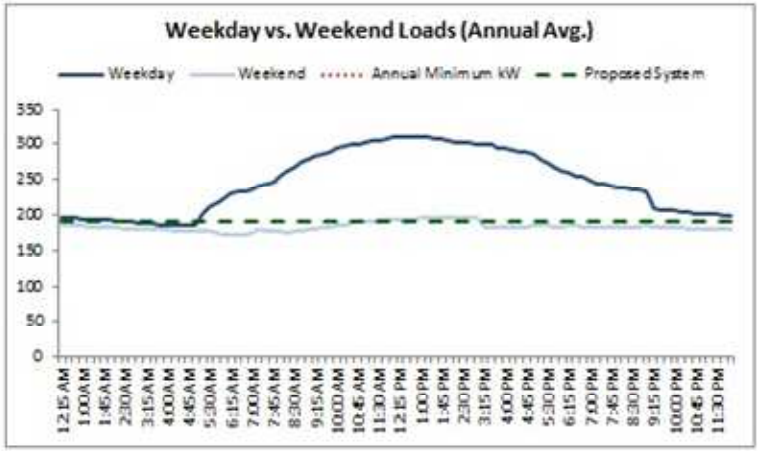


Office Meter Interval Data Analysis

INPUTS	
BE Output Factor	95%
Select Utility ----->	United Illuminating
Customer Name	Medtronic North Haven
Utility Account Number	
Meter Number	100000191835

Absolute Minimum kW	*0*	*kW*
Recurring Minimum Base	*139*	*kW*
Average Baseload	*181*	*kW*
*Proposed System Size**	*200*	*kW*

SYSTEM DETAILS		
% Exported	5.6%	
% of Load Offset	78%	
Utility Exports		
Peak Hours	*25,884*	*kWh*
Partial Peak Hours	*29,930*	*kWh*
Off-Peak Hours	*37,920*	*kWh*
Total kWh Exported	*93,733*	*kWh*
CUSTOMER DETAILS		
Total Days of Data	365	
Annual Load Factor	83%	
Total Customer Usage	2,006,244	kWh
Average Hourly kWh	229	kWh
Daily Avg. Peak Demand	295	kW



Bloomenergy®

Exhibit 5

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

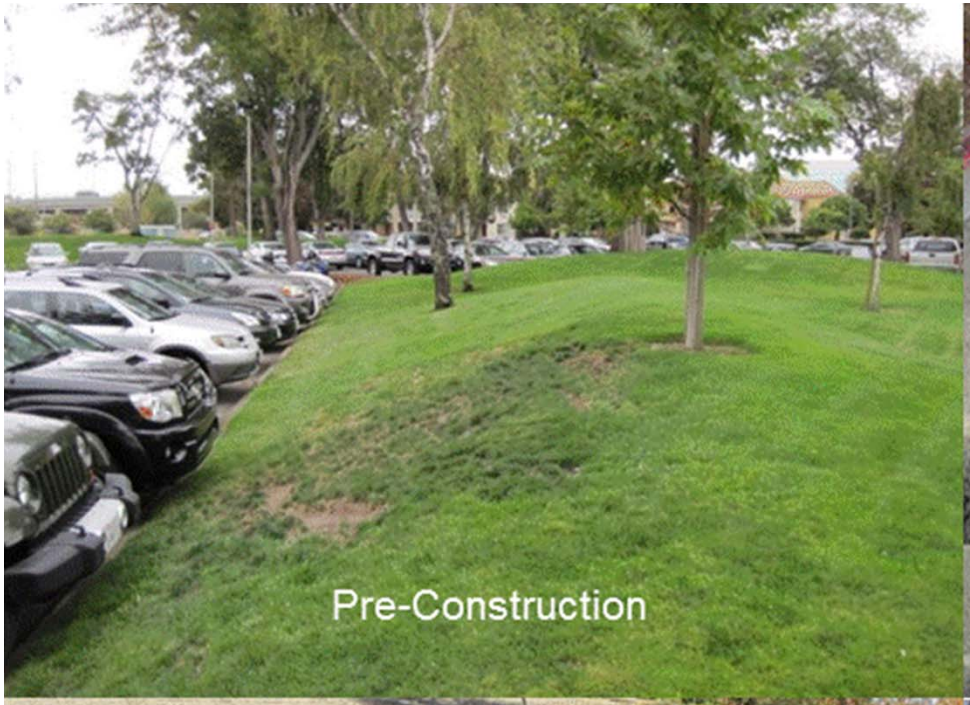
Technical Highlights (ES5-AA1AA0)	
Outputs	
Nameplate power output (net AC)	262.5 kW
Base load output (net AC)	250 kW
Electrical connection	480 V, 3-phase, 60 Hz
Inputs	
Fuels	Natural gas, directed biogas
Input fuel pressure	10-18 psig (15 psig nominal)
Water	None during normal operation
Efficiency	
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	14.3 tons
Dimensions (variable layouts)	14'9" x 8'9" x 7' or 29'6" 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	
Product Listed by Underwriters Laboratories Inc. (UL) to ANSI/CSA FC 1-2014	
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 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.

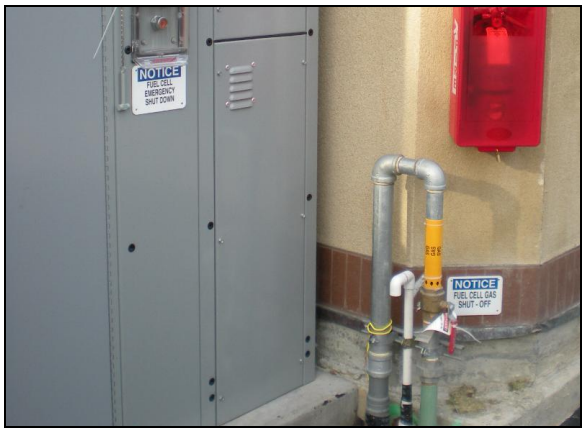


Figure 3: Manual Natural Gas Valve

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

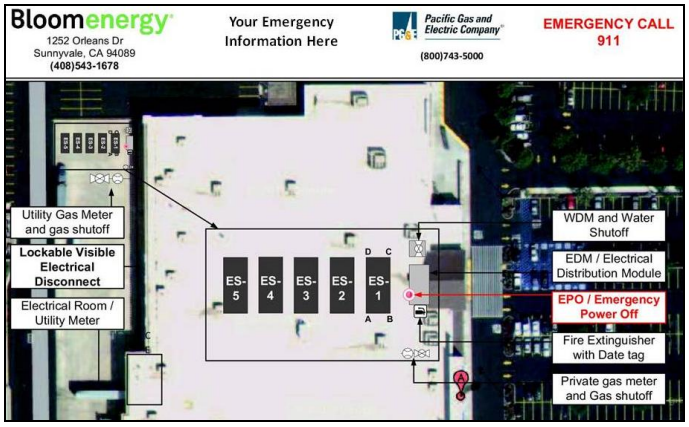


Figure 4: Sample Site Map

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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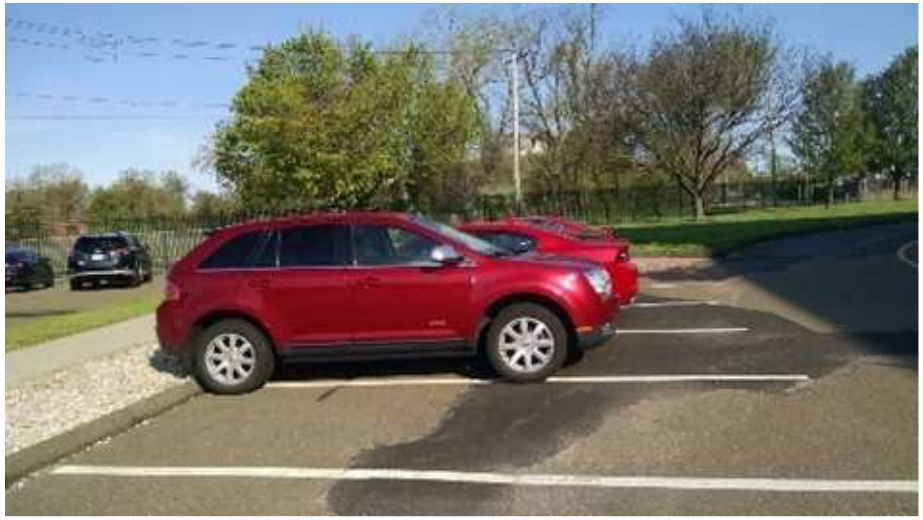
Exhibit 7

200kW System - Office Building

Front of Preferred Server Location

Back of Preferred Server Location

Left of Preferred Server Location



Right of Preferred Server Location

300kW System Manufacturing Building

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

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

CPPU USE ONLY
App #:_____
Doc #:_____
Check #: No fee required
Program: Natural Diversity Database **Endangered Species**
Hardcopy _____ **Electronic** _____

Request for Natural Diversity Data Base (NDDB) State Listed Species Review

Please complete this form in accordance with the instructions (DEEP-INST-007) to ensure proper handling of your request.
There are no fees associated with NDDB Reviews.

Part I: Preliminary Screening & Request Type

Before submitting this request, you must review the most current Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the DEEP website. These maps are updated twice a year, usually in June and December.

Does your site, including all affected areas, fall in an NDDB Area according to the map instructions:

☐ Yes ☐ No **Enter the date** of the map reviewed for pre-screening: _____

This form is being submitted for a :

■ *New* NDDB request ☐ *Renewal/Extension* of a NDDB Request, ***without*** *modifications and within* ***two years*** *of issued NDDB determination* (no attachments required) [*CPPU Use Only - NDDB-Listed Species Determination #* 1736]	☐ *New* **Safe Harbor Determination** (optional) must be associated with an application for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ☐ *Renewal/Extension* of an existing Safe Harbor Determination ☐ With modifications ☐ Without modifications (no attachments required) [*CPPU Use Only - NDDB-Safe Harbor Determination #* 1736]
Enter NDDB Determination Number for Renewal/Extension:	Enter Safe Harbor Determination Number for Renewal/Extension:

Part II: Requester Information

***If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of the State's database CONCORD.*
(www.concord-sots.ct.gov/CONCORD/index.jsp)

If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the Request to Change company/Individual Information to the address indicated on the form.

1. Requester*

Company Name: Bloom Energy

Contact Name: Justin Adams

Address: 1299 Orleans Drive

City/Town: Sunnyvale State: CA Zip Code: 94089

Business Phone: (860) 839-8373 ext.

**E-mail: justin.adams@bloomenergy.com

**By providing this email address you are agreeing to receive official correspondence from the department, at this electronic address, concerning this request. Please remember to check your security settings to be sure you can receive emails from "ct.gov" addresses. Also, please notify the department if your e-mail address changes

a) Requester can best be described as:

☐ Individual ☐ Federal Agency ☐ State agency ☐ Municipality ☐ Tribal

☒ *business entity (* if a business entity complete i through iii):

i) Check type ☒ corporation ☐ limited liability company ☐ limited partnership
☐ limited liability partnership ☐ statutory trust ☐ Other:

ii) Provide Secretary of the State Business ID #: This information can be accessed at the Secretary of the State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)

iii) ☐ Check here if your business is **NOT** registered with the Secretary of State's office.

b) Acting as (Affiliation), pick one:

☐ Property owner ☐ Consultant ☐ Engineer ☐ Facility owner ☒ Applicant

☐ Biologist ☐ Pesticide Applicator ☐ Other representative:

2. List Primary Contact to receive Natural Diversity Data Base correspondence and inquiries, if different from requester.

Company Name:

Contact Person: Title:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext.

**E-mail:

Part III: Site Information

This request can only be completed for one site. A separate request must be filed for each additional site.

1. SITE NAME AND LOCATION Site Name or Project Name: Homegoods Distribution Center

Town(s): Bloomfield

Street Address or Location Description:195 McDermott Rd and 20 Middletown Ave,

North Haven, CT 06473

Size in acres, or site dimensions:

Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):

Latitude: 41.3382789 Longitude: -72.8657592

Method of coordinate determination (check one):

☐ GPS ☐ Photo interpolation using CTECO map viewer ☐ Other (specify):

2a. Describe the current land use and land cover of the site.

The property is currently used as a retail distribution center for Homegoods. The proposed site fuel cell installation and necessary site work is adjecent to an access road located on the northeastern. The area is currently used as a manicured lawn and was graded during the construction and development of the site.

b. Check all that apply and enter the size in acres or % of area in the space after each checked category.

☒ Industrial/Commercial 100 ☐ Residential _____ ☐ Forest _____

☐ Wetland _____ ☐ Field/grassland _____ ☐ Agricultural _____

☐ Water _____ ☐ Utility Right-of-way _____

☐ Transportation Right-of-way _____ ☐ Other (specify): _____

Part IV: Project Information

1. PROJECT TYPE:

Choose Project Type: Choose Type From Dropdown List , If other describe: Fuel cell installation

2. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint? ☐ Yes ☒ No If yes, explain.

Part IV: Project Information (continued)

3. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used. Include a description of steps that will be taken to minimize impacts to any known listed species.

The proposed project would install two (2) Bloom Energy solid oxide fuel cells at two separate location on adjacent Medtronic properties. The fuel cells and associated equipment will sit on a pad that is approximately 80 feet long and 15 feet wide. The attached site plan provides the proposed location and extent of disturbance.

Site work for the fuel cell will include grading adjacent to an existing paved access road, trenching to install utility connections from the fuel cell location to the Homegoods building, and the construction of a retaining wall. The work associated with this installation will be limited to paved areas and areas where grading has previously occured. Excavation equipment will be used to complete the grading and digging necessary for the retaining wall, pad and trenches. Excess soils will remain onsite, either returned to the location from where they were generated or spread in a nearby location.

Construction of the proposed fuel cells would conform to best management practices for erosion and sedimentation (E&S) controls, including those provided in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

Typical E&S control measures include, but are not limited to, straw blankets, hay bales, and silt fencing. Silt fence would be installed prior to construction to demarcate the line of construction and prevent migration of sediment or construction materials into wetlands and watercourses. Temporary E&S control measures would be maintained and inspected throughout the project to ensure their integrity and effectiveness. Following the completion of construction, seeding and mulching would occur to permanently stabilize previously disturbed areas. The temporary E&S control measures would remain in place until the project work is complete and all disturbed areas have been stabilized.

4. If this is a renewal or extension of an existing Safe Harbor request *with* modifications, explain what about the project has changed.

5. Provide a contact for questions about the project details if different from Part II primary contact.

Name:

Phone:

E-mail:

Part V: Request Requirements and Associated Application Types

Check *one* box from either Group 1, Group 2 *or* Group 3, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, complete Parts I – VII of this form and submit the required attachments A and B.

- ☐ Preliminary screening was negative but an NDDB review is still requested
- ☐ Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
- ☐ Request regards a preliminary site assessment or project feasibility study
- ☐ Request relates to land acquisition or protection
- ☐ Request is associated with a *renewal* of an existing permit, with no modifications

Group 2. If you check one of these boxes, complete Parts I – VII of this form and submit required attachments A, B, *and* C.

- ☒ Request is associated with a *new* state or federal permit application
- ☐ Request is associated with modification of an existing permit
- ☐ Request is associated with a permit enforcement action
- ☐ Request regards site management or planning, requiring detailed species recommendations
- ☐ Request regards a state funded project, state agency activity, or CEPA request

☐ **Group 3.** If you are requesting a **Safe Harbor Determination**, complete Parts I-VII and submit required attachments A, B, and D. Safe Harbor determinations can only be requested if you are applying for a GP for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

If you are filing this request as part of a state or federal permit application(s) enter the application information below.

Permitting Agency and Application Name(s):
Connecticut Siting Council

State DEEP Application Number(s), if known: _____

State DEEP Enforcement Action Number, if known: _____

State DEEP Permit Analyst(s)/Engineer(s), if known: _____

Is this request related to a previously submitted NDDB request? ☐ Yes ■ No

If yes, provide the previous NDDB Determination Number(s), if known: _____

Part VI: Supporting Documents

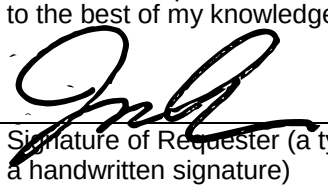
Check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all new requests and Safe Harbor renewals/extensions with modifications.** Renewals/Extensions with no modifications do not need to submit any attachments. Attachments C and D are supplied at the end of this form.

■ Attachment A:	**Overview Map:** an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
■ Attachment B:	**Detailed Site Map:** fine scaled map showing site boundary and area of work details on aerial imagery with relevant landmarks labeled. (Site and work boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
■ Attachment C:	**Supplemental Information, Group 2 requirement (attached, DEEP-APP-007C)** ■ Section i: Supplemental Site Information and supporting documents ☐ Section ii: Supplemental Project Information and supporting documents
☐ Attachment D:	**Safe Harbor Report Requirements, Group 3 (attached, DEEP-APP-007D)**

Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."

	11/11/2016
Signature of Requester (a typed name will substitute for a handwritten signature)	Date
Justin Adams	Lead Permitting Specialist
Name of the Requestor (Print or Type)	Title (if applicable)
Signature of Preparer (if different than above)	Date
Name of Preparer (print or type)	Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Or email request to: **deep.nddbrequest@ct.gov**

Attachment C: Supplemental Information, Group 2 requirement

Section i: Supplemental Site Information

1. Existing Conditions

Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan that must be submitted. Photographs of current site conditions may be helpful to reviewers.

This is a manicured area associated with the landscaped lawn and parking area of the Medtronics building. See Attachment C for photos of existing site conditions in the proposed location.

☒ **Site Photographs (optional) attached**

☒ **Site Plan/sketch of existing conditions attached**

2. Biological Surveys

Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species ☐ Yes ☒ No

If yes, complete the following questions and submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDB survey forms.

Biologist(s) name: _____

Habitat and/or species targeted by survey: _____

Dates when surveys were conducted: _____

☐ **Reports of biological surveys attached**

☐ **Documentation of biologist's qualifications attached**

☐ **NDDB Survey forms for any listed species observations attached**

Section ii: Supplemental Project Information

1. Provide a schedule for all phases of the project including the year, the month and/or season that the proposed activity will be initiated and the duration of the activity.

   The proposed project is scheduled for the Spring of 2017 (April). The duration of construction is approximately 6-weeks. Site work 2-weeks / installation 2-weeks / final inspections and startup 2-weeks. Each location will be installed concurrently.

2. Describe and quantify the proposed changes to existing conditions and describe any on-site or off-site impacts. In addition, provide an annotated site plan detailing the areas of impact and proposed changes to existing conditions.

   Due to the relatively small area of disturbance within an area that has was previously disturbed and the implementation of necessary best management practices, the proposed project does not anticipate any impacts to existing conditions on- or off-site.

☒ **Annotated Site Plan attached**

Attachment D: Safe Harbor Report Requirements

Submit a report, as Attachment D, that synthesizes and analyzes the information listed below. Those providing synthesis and analysis need appropriate qualifications and experience. A request for a safe harbor determination shall include:

1. **Habitat Description and Map(s), including GIS mapping overlays, of a scale appropriate for the site, identifying:**

    - wetlands, including wetland cover types;
    - plant community types;
    - topography;
    - soils;
    - bedrock geology;
    - floodplains, if any;
    - land use history; and
    - water quality classifications/criteria.

2. **Photographs** - The report should include photographs of the site taken from the ground and also all reasonably available aerial or satellite photographs and an analysis of such photographs.

3. **Inspection** - A visual inspection(s) of the site should be conducted, preferably when the ground is visible, and described in the report. This inspection can be helpful in confirming or further evaluating the items noted above.

4. **Biological Surveys** - The report should include all biological surveys of the site where construction activity will take place that are reasonably available to a registrant. A registrant shall notify the Department's Wildlife Division of biological studies of the site where construction activity will take place that a registrant is aware of but are not reasonably available to the registrant.

5. **Based on items #1 through 4 above, the report shall include a Natural Resources Inventory of the site of the construction activity.** This inventory should also include a review of reasonably available scientific literature and any recommendations for minimizing adverse impacts from the proposed construction activity on listed species or their associated habitat.

6. **In addition, to the extent the following is available at the time a safe harbor determination is requested, a request for a safe harbor determination shall include and assess:**

    - Information on Site Disturbance Estimates/Site Alteration information
    - Vehicular Use
    - Construction Activity Phasing Schedules, if any; and
    - Alteration of Drainage Patterns

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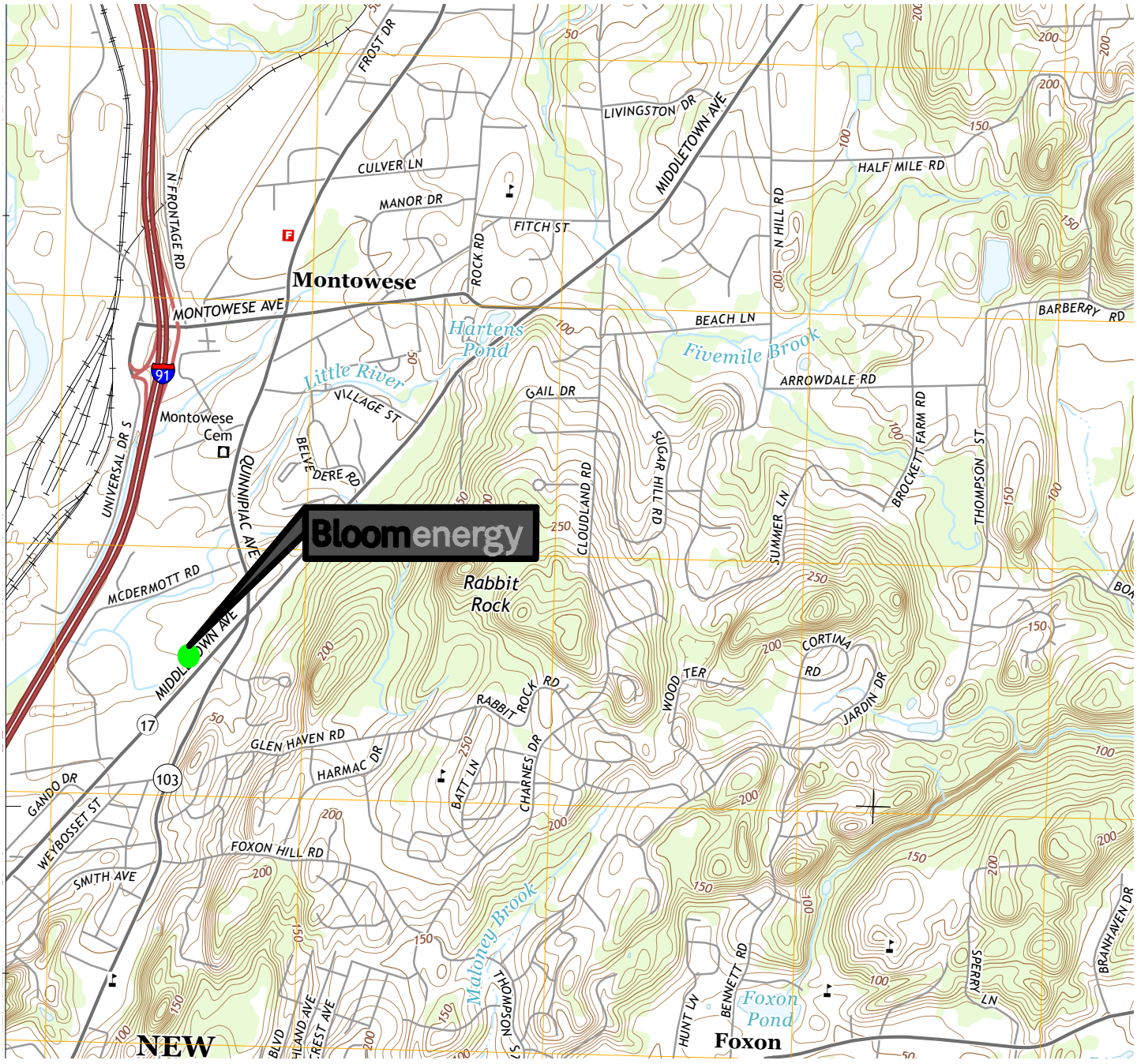
Attachment A



Job#:	MDC002.A/B
Scale:	1" ≈ 2,000'
Date:	11/08/2016
Drawn By:	SRI

Bloomenergy®

1299 ORLEANS DRIVE
SUNNYVALE, CA 94089

Bloomenergy™

1299 Orleans Drive, Sunnyvale CA, 94089
Tel: 408 543 1500 Fax: 408 543 1501

60 Middletown Ave,
North Haven, CT 06473

EXHIBIT 1 - SITE LOCATION MAP
USGS MAP (BRANFORD)

Bloomenergy

Attachment B

Figure 1: Aerial View of Possible Energy Server Locations

60 Middletown Ave
North Have, CT
Bloom ID:MDC002.A,B
Size: 500 kW

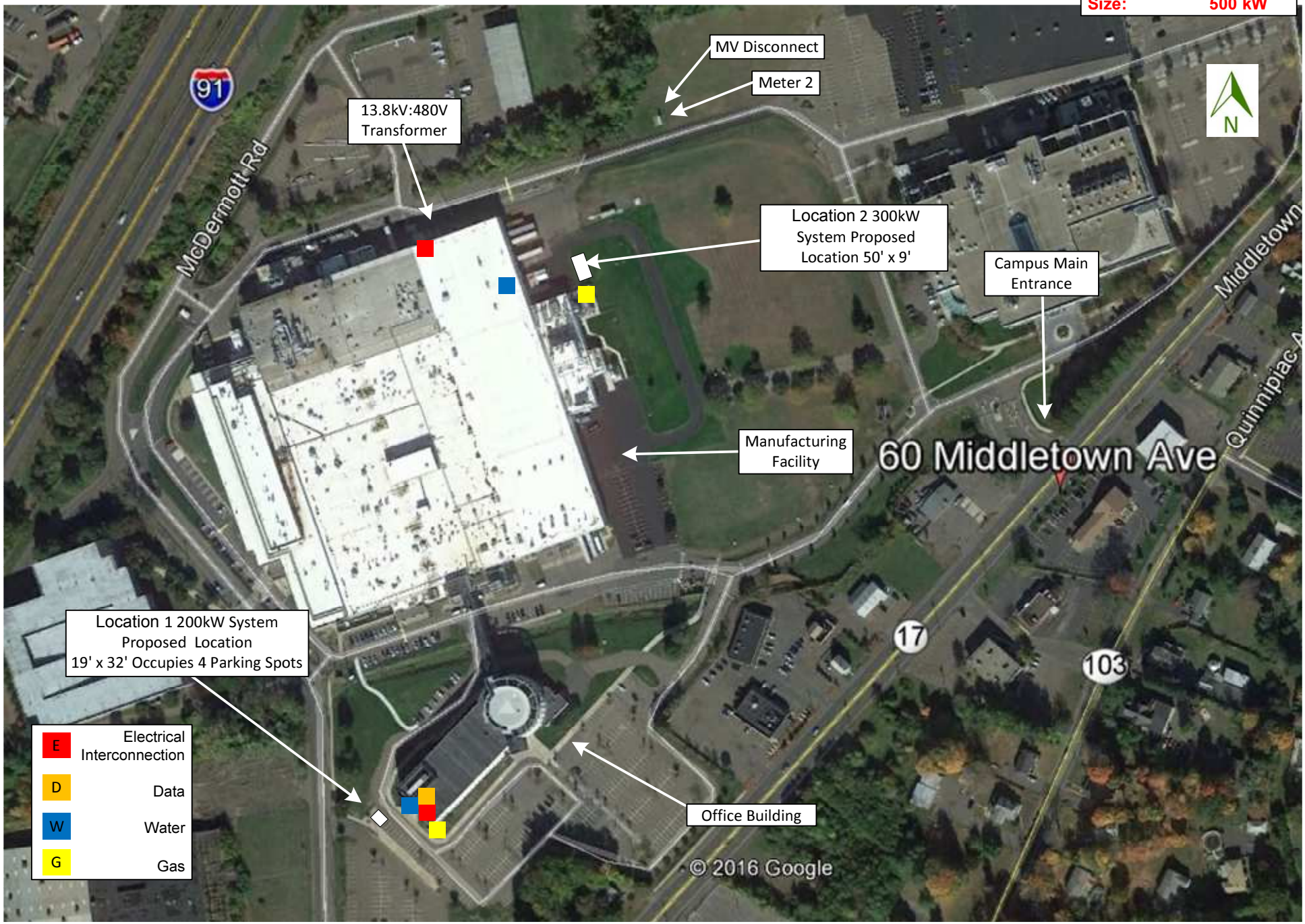
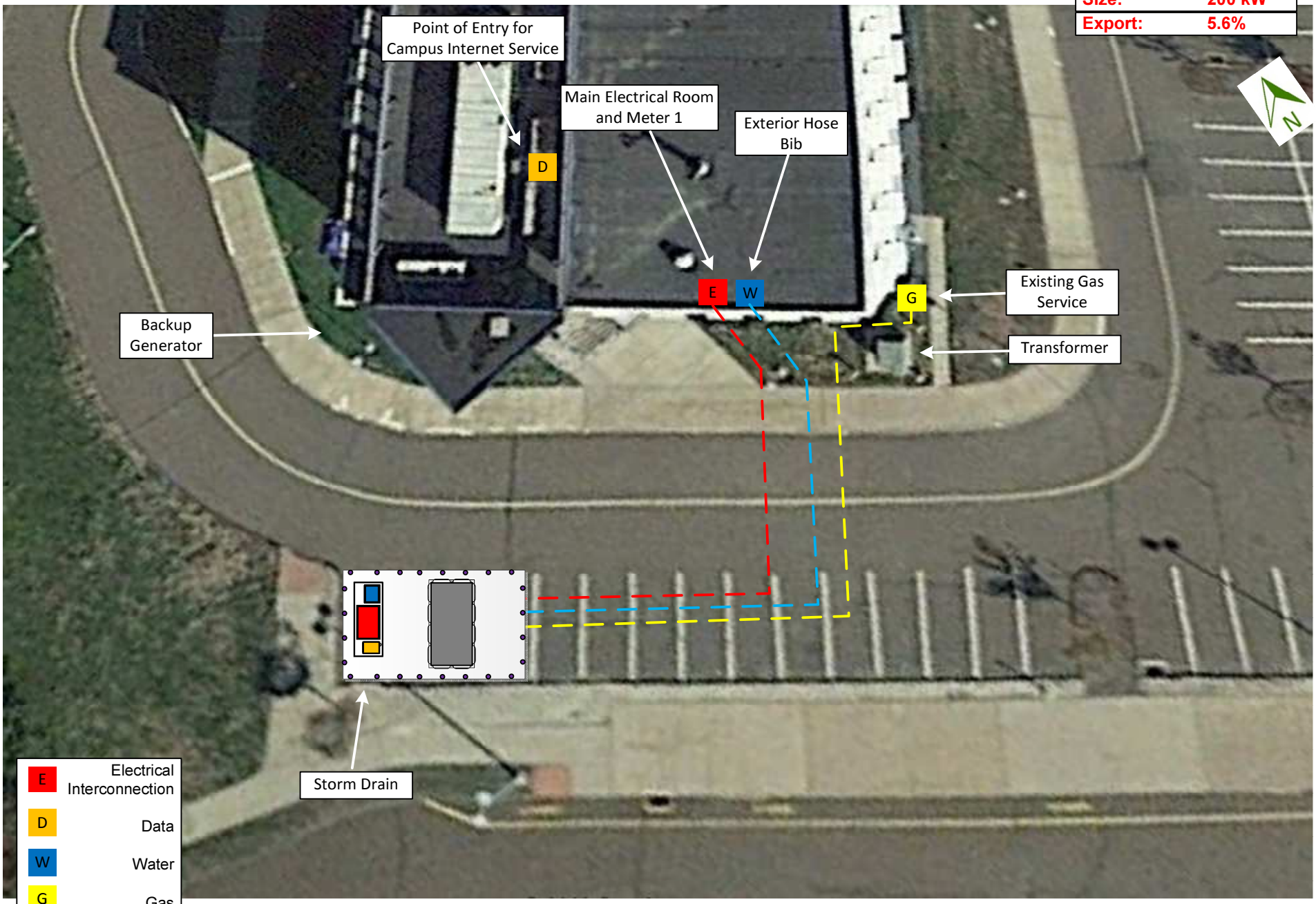


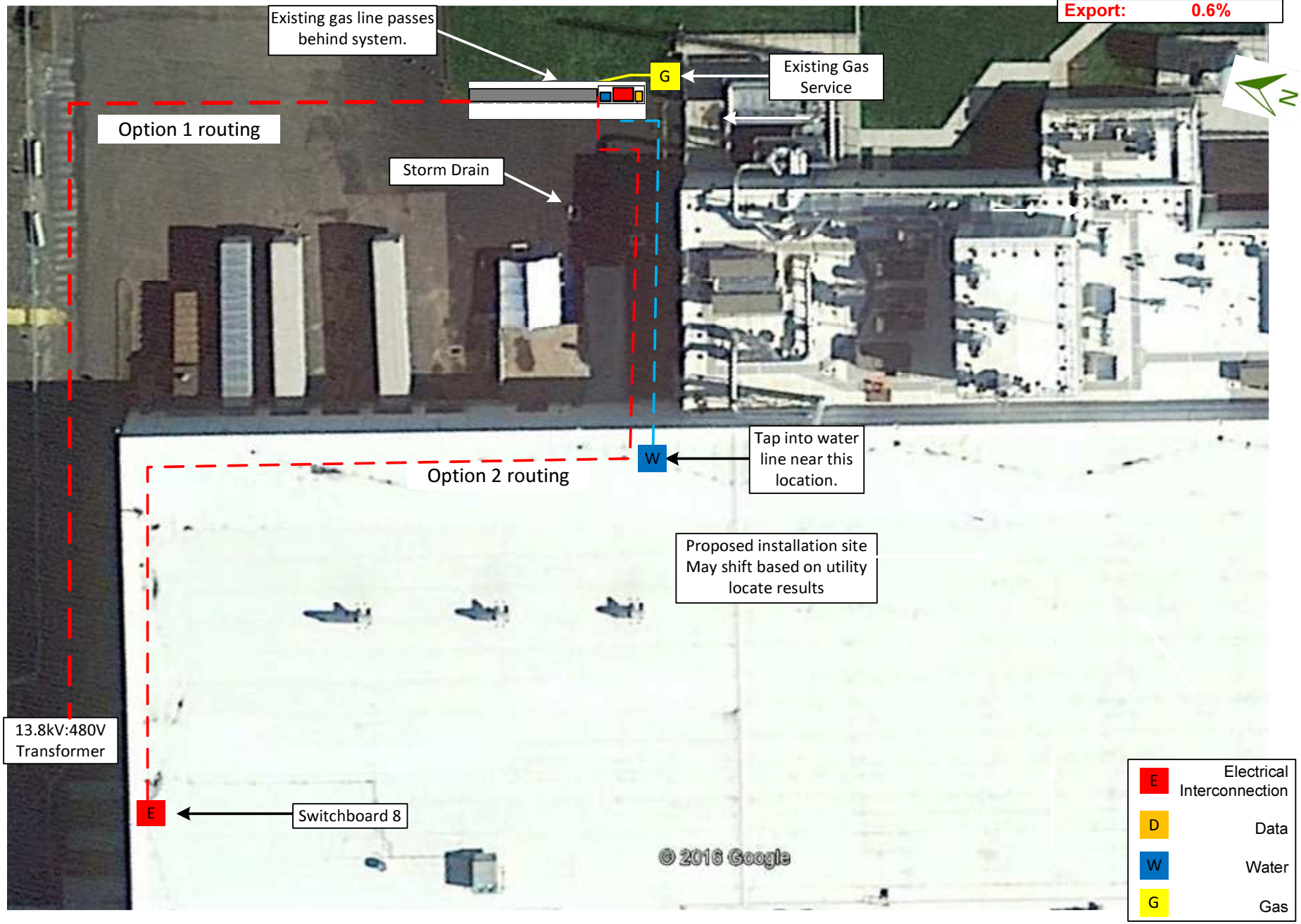
Figure 2: Meter 1 200kW System Conceptual Site Plan

40 Kennedy Road South Windsor, CT	
Bloom ID:	MDC002.A
Size:	200 kW
Export:	5.6%



Fuel Cell Location 2: 300kW System Conceptual Site Pla

40 Kennedy Road South Windsor, CT	
Bloom ID: MDC002.B	
Size:	300 kW
Export:	0.6%



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Attachment C

Fuel Cell Location 1

Figure 7: Front of Preferred Server Location

Figure 8: Back of Preferred Server Location

Figure 9: Left of Preferred Server Location

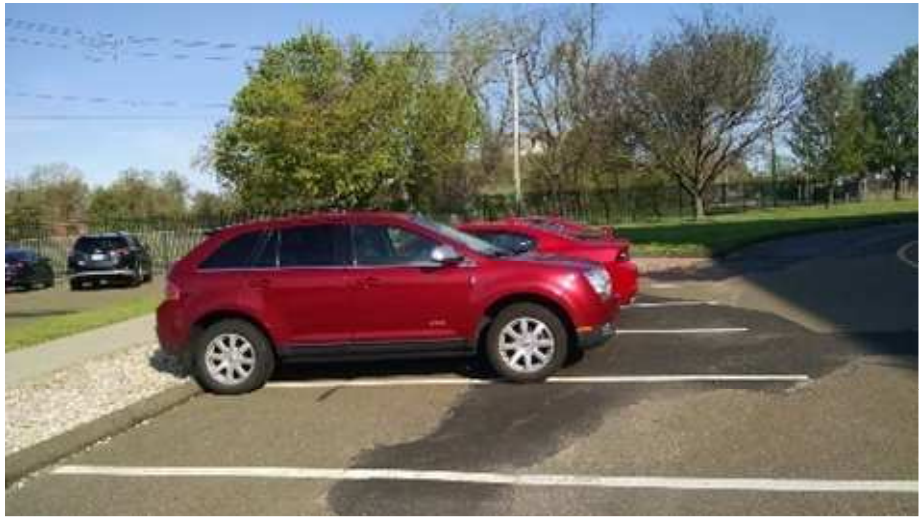

Figure 10: Right of Preferred Server Location

Fuel Cell Location 2

Figure 22: Front of Preferred Server Location

Figure 23: Back of Preferred Server Location

Figure 24: Left of Preferred Server Location

Figure 25: Right of Preferred Server Location

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Exhibit 9

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
Freda	Michael	First Selectman	18 Church Street	North Haven	CT	06473
Fredrickson	Alan	Land Use Administrator	18 Church Street	North Haven	CT	06473
Harp	Toni	Mayor, City of New Haven	165 Church Street	New Haven	CT	06510
Maturo Jr.	Joseph	Mayor, City of East Haven	250 Main Street	East Haven	CT	06512
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
DeLauro	Rosa	U.S. Representative	2413 Rayburn House Office Building	Washington	DC	25015
Esposito, JR	Louis	State Representative, 116th	Legislative Office Building, Room 4112	Hartford	CT	06106
Albis	James	State Representative, 99th	Legislative Office Building, Room 3201	Hartford	CT	06106
Megna	Robert	State Representative, 97th	Legislative Office Building, Room 2802	Hartford	CT	06106
Lemar	Roland	State Representative, 96th	Legislative Office Building, Room 4041	Hartford	CT	06106
Candelaria	Juan	State Representative, 95th	Legislative Office Building, Room 1804	Hartford	CT	06106

Porter	Robyn	State Representative, 94th	Legislative Office Building, Room 4006	Hartford	CT	06106
Walker	Toni	State Representative, 93rd	Legislative Office Building, Room 2702	Hartford	CT	06106
Dillon	Patricia	State Representative, 92nd	Legislative Office Building, Room 4019	Hartford	CT	06106
Yaccarino	David	State Representative, 87th	Legislative Office Building, Room 4200	Hartford	CT	06106
Looney	Martin	State Senator, 11th	Legislative Office Building, Room 3300	Hartford	CT	06106
Winfield	Gary	State Senator, 10th	Legislative Office Building, Room 2400	Hartford	CT	06106
Fasano	Len	State Senator, 34th	Legislative Office Building, Room 3400	Hartford	CT	06106
House	Arthur	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	Owner Name	Owner Address	City	State	Zip
10	CDRFT LLC	P O BOX 733	STIGLER	OK	74462
222	HAVEN WEST LLC	30 BERNHARD RD	NORTH HAVEN	CT	06473
50	50 MIDDLETOWN AVENUE ASSOC LLC	2 CAROLYN CT	NORTH HAVEN	CT	06473
200	UNITED STATES SURGICAL CORP	15 HAMPSHIRE STREET	MANSFIELD	MA	02048
40	N E D LLC	52 FITCH ST	NORTH HAVEN	CT	06473
18	PALMIERI SHARON M	18 MIDDLETOWN AVE	NORTH HAVEN	CT	06473
57	DEPAOLA ANTHONY FAMILY TRUST &	57 MCDERMOTT RD	NORTH HAVEN	CT	06473
19	PAPA ASSOCIATES M-Q, LLC	11 ST JOHN STREET A-4	NORTH HAVEN	CT	06473
10	VBH LLC	10 BERNHARD RD	NORTH HAVEN	CT	06473
15	FIFTEEN MIDDLETOWN AVE CORP	1-71 NORTH AVE EAST	ELIZABETH	NJ	07201

60	UNITED STATES SURGICAL CORP	15 HAMPSHIRE STREET	MANSFIELD	MA	02048
78	DIXON ANDREW T	PO BOX 1307	GREENFARMS	CT	06838
47	EMMETH PROPERTIES LLC	47 MIDDLETOWN AVENUE	NORTH HAVEN	CT	06473
171	A & V REALTY LLC	44 HERMITAGE LANE	NORTH HAVEN	CT	06473
86	UNITED STATES SURGICAL CORP	15 HAMPSHIRE STREET	MANSFIELD	MA	02048
34	NICKS CHAR-PIT INC	22 MIDDLETOWN AVE	NORTH HAVEN	CT	06473
51	LIGHTSOUT LLC	51 MIDDLETOWN AVE	NORTH HAVEN	CT	06473
170	NORTH HAVEN TOWN OF	170 MCDERMOTT RD	NORTH HAVEN	CT	06473
55	GRANITE PROPERTY HOLDINGS LLC	55 MIDDLETOWN AVENUE STE #1	NORTH HAVEN	CT	06473
22	22 MIDDLETOWN AVENUE ASSOC LLC	11 ST JOHN ST #A-4	NORTH HAVEN	CT	06473
100	RYDER TRUCK RENTAL INC #0444	P O BOX 025719	MIAMI	FL	3310-25719
250	MVL PROPERTIES LLC	30 BERNHARD RD	NORTH HAVEN	CT	06473

Bloomenergy

VIA FIRST CLASS MAIL

11/14/2016

RE: Application for Bloom Energy, as Agent for Medtronic Inc., for the construction of a new ES-5 Bloom Energy Servers solid oxide fuel cell which would provide 500 kilowatts of Customer-Side Distributed Resource at – 195 McDermott Road and 20 Middletown Avenue, North Haven, 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 Medtronic Inc. intends to file on or shortly after November 22, 2016, a petition for declaratory ruling with the Council. The petition will request the Council's approval of the location and construction of two (2) Bloom Energy Corporation fuel cells and associated equipment totaling approximately 500 kilowatts (kW). The 300 kW and 200 kW fuel cells would be located at 195 McDermott Road and 20 Middletown Avenue respectively. The buildings are adjacent to one another and located on the Medtronic campus in North Haven, 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 Facility is to replace the average baseload of the buildings with a renewable energy source[i] and improve reliability of electrical systems and equipment.

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"

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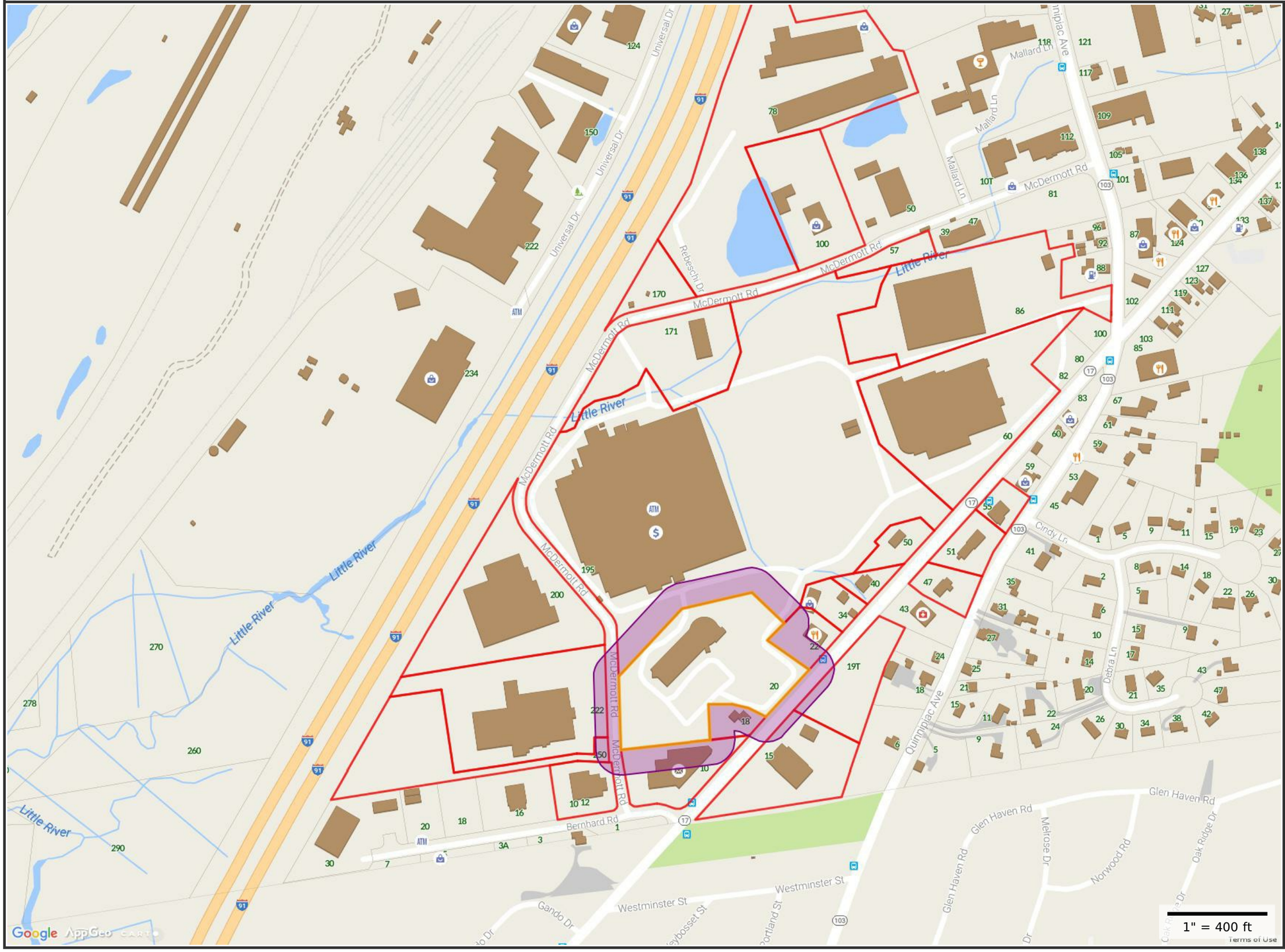
Exhibit 10

Abutters Map - 195 McDermott Road and 20 Middletown Avenue, North Haven, CT



MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Town of North Haven, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Properties updated 11/13/2016

Bloomenergy®

Exhibit 11

Justin Adams

From: Justin Adams
Sent: Monday, November 28, 2016 12:07 PM
To: 'fredricksen.alan@town.north-haven.ct.us'
Subject: FW: Proposed Bloom Energy Fuel Cell Medtronic
Attachments: MDC002.0_2A_Rollup-Planning-Set-2016-11-18.pdf

From: Justin Adams
Sent: Monday, November 28, 2016 11:48 AM
To: 'fredricksen.alan@northhaven-ct.gov' <fredricksen.alan@northhaven-ct.gov>
Subject: Proposed Bloom Energy Fuel Cell Medtronic

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. A 300 kW and 200 kW fuel cell is proposed to be located at 195 McDermott Road and 20 Middletown Avenue respectively. The buildings are adjacent to one another and located on the Medtronic campus in North Haven, 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