STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC & CERTIFIED MAIL
RETURN RECEIPT REQUESTED

March 17, 2023

Bruce L. McDermott, Esq.
Murtha Cullina LLP
65 Church Street
New Haven, CT 06510
bmcdermott@murthalaw.com

RE: **PETITION NO. 1553** - Allen Place FC, LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a customer-side 250-kilowatt fuel combined heat and power cell facility and associated equipment near North Campus Hall in the northern portion of the Trinity College campus located at 159 Allen Place, Hartford, Connecticut.

Dear Attorney McDermott:

At a public meeting held on March 16, 2023, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal meets air and water quality standards of the Department of Energy and Environmental Protection and would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k would not require a Certificate of Environmental Compatibility and Public Need with the following conditions:

1. Approval of any Project changes be delegated to Council staff;

2. Submit final plans for the design of the fuel cell unit and the heat recovery unit;

3. Install sound dampening measures on the heat recovery unit;

4. Submit the post-construction noise study, and any necessary additional noise mitigation measures, required to comply with DEEP Noise Control Regulations;

5. Provide a copy of the Emergency Response Plan to local emergency responders prior to facility operation and provide emergency response training that includes **the use of appropriate fire extinguishing media in accordance with the Fuel Cell Emergency Response Plan and an itemized list of necessary fire suppression equipment**;

6. The use of natural gas as a fuel system cleaning medium during fuel cell construction, installation or modification shall be prohibited;

7. The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities;

8. Submit the following information to the Council 15 days prior to any fuel pipe cleaning operations related to fuel cell construction, installation, or modification:
    a. Identification of the cleaning media to be used;
    b. Identification of any known hazards through use of the selected cleaning media;
    c. Description of how known hazards will be mitigated, including identification of any applicable state or federal regulations concerning hazard mitigation measures for such media;
    d. Identification and description of accepted industry practices or relevant regulations concerning the proper use of such media;
    e. Provide detailed specifications (narratives/drawings) indicating the location and procedures to be used during the pipe cleaning process, including any necessary worker safety exclusion zones;
    f. Identification of the contractor or personnel performing the work, including a description of past project experience and the level of training and qualifications necessary for performance of the work;
    g. Contact information for a special inspector hired by the project developer who is a Connecticut Registered Engineer with specific knowledge and experience regarding electric generating facilities or a National Board of Boiler and Pressure Vessel Inspector and written approval of such special inspector by the local fire marshal and building inspector; and
    h. Certification of notice regarding pipe cleaning operations to all state agencies listed in General Statutes § 16-50j(h) and to the Department of Consumer Protection, Department of Labor, Department of Public Safety, Department of Public Works, and the Department of Emergency Management and Homeland Security;

9. Compliance with the following codes and standards during fuel cell construction, installation or modification, as applicable:
    a. NFPA 54
    b. NFPA 853; and
    c. ASME B31;

10. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;

11. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the City of Hartford;

12. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;

13. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v; and

14. This Declaratory Ruling may be transferred or partially transferred, provided both the facility owner/operator/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. The Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer. Both the facility owner/operator/transferor and the transferee shall provide the Council with a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility, including contact information for the individual acting on behalf of the transferee.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition, dated December 6, 2023 and additional information received on February 14, 2023, and in compliance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

Enclosed for your information is a copy of the staff report on this project.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/IN/lm

Enclosure: Staff Report dated March 16, 2023

c: Service List dated December 7, 2022
The Honorable Luke Bronin, Mayor, City of Hartford (luke.bronin@hartford.gov)
Ewan Sheriff, Fire Marshal, City of Hartford (shere001@hartford.gov)

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Petition No. 1553
Allen Place Fuel Cell, LLC
Trinity College Campus
159 Allen Place, Hartford, Connecticut

Staff Report
March 16, 2023

Introduction

On December 6, 2022, the Connecticut Siting Council (Council) received a petition from Allen Place Fuel Cell, LLC (APFC), for a declaratory ruling, pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k, for the installation of a customer-side 250-kilowatt combined heat and power fuel cell facility and associated equipment at Trinity College located at 159 Allen Place, Hartford, Connecticut (Petition or Project).

APFC met with City of Hartford (City) officials to discuss the Project prior to filing with the Council.

On December 5, 2022, APFC provided notice of the Project to the City, required state officials and agencies, and abutting property owners. No comments were received.

On December 7, 2022, the Council sent correspondence to the City stating that the Council has received the Petition and invited the municipality to contact the Council with any questions or comments by January 5, 2023. No comments were received.

Also, on December 7, 2022, pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40, the Council notified all state agencies listed therein, requesting comments regarding the proposed Project be submitted to the Council by January 5, 2023. The Council on Environmental Quality submitted comments on December 16, 2022[1]. No other comments were received.

While the Council is obligated to consult with and solicit comments from state agencies by statute, the Council is not required to abide by the comments from state agencies. [2]

The Council issued interrogatories to APFC on January 23, 2023. APFC provided responses to Council interrogatories on February 14, 2023.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take action on a petition within 60 days of receipt. On February 2, 2023, pursuant to CGS §4-176(e), the Council voted to set the date by which to render a decision on the Petition as no later than June 4, 2023, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

[1] https://portal.ct.gov/-/media/CSC/3_Petitions-medialibrary/Petitions_MediaLibrary/MediaPetitionNos1501-1600/PE1553/ProceduralCorrespondence/PE1553-SACRCDPI_CEQ.pdf
[2] *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007)

Public Benefit

The Project would be a "customer-side distributed resources" facility, as defined in CGS § 16-1(a)(49). CGS § 16a-35k establishes the State's energy policy, including the goal to "develop and utilize renewable energy resources…to the maximum practicable extent." The proposed facility is a distributed generation resource and will contribute to fulfilling the State's Renewable Portfolio Standard as a low emission Class I renewable energy source. The Project was selected as part of the Low and Zero Emissions Renewable Energy Credit (LREC/ZREC) program. The facility would be installed, owned and operated by APFC's parent company, Fuel Cell Energy, Inc. (FCE), under a 15-year power purchase agreement with Trinity College.

Project Site

The facility would be located on a 3,810 square foot parcel on the North Campus of Trinity College owned by The Trustees of Trinity College. The parcel is zoned MX-2, Campus Overlay Area and developed with campus buildings and parking areas. The facility would be located in the southern edge of the parcel between Eversource's Allen Place Substation to the north and the North Campus Hall parking lot to the south.

The surrounding area consists of mostly college and residential buildings and a cemetery to the north. The nearest off-campus residence to the Project site is located at 160 Allen Place approximately 123 feet to the north. The nearest on-campus building is located about 45 feet west of the proposed facility at 155 Allen Place. This building is used as an office.

The Allen Place neighborhood, where the Project site is located, is in a Federal Opportunity Zone, defined as an economically distressed community where certain projects, including, but not limited to, renewable energy projects, are eligible for tax incentives.

Proposed Project

The facility would consist of one SureSource 250-kW fuel cell unit, a heat recovery unit (HRU) and associated equipment. The fuel cell unit utilizes non-combustion carbonate fuel cell technology that consumes natural gas as fuel to generate electrical power. The HRU extracts hot exhaust gases from the fuel cell which is used to produce heat and hot water for North Campus Hall.

The proposed facility would be a customer-side combined heat and power distributed resources project, designed to provide electricity and thermal energy. The facility would provide approximately 75 percent of North Campus Hall's electrical load and would offset approximately 24 percent of the annual thermal load for the building. The facility was not designed to operate as a backup power source but is capable of supplying power during a power outage, if required.

The fuel cell unit would consist of three main sections:

a) The mechanical section includes the desulfurization system, the main process skid and the water treatment system, providing system control, ventilation, fuel and water processing;
b) The SureSource Solid Oxide Fuel Cell (SOFC) power modules which convert the fuel supply into direct current (DC) power; and
c) The electrical portion of the fuel cell unit which converts DC power into AC power.

The HRU could be placed in two configurations; either on the top or adjacent to the SOFC. APFC is currently considering both configurations. If the HRU is installed on top of the fuel cell unit, the HRU exhaust stack would extend to a height of 14 feet above the concrete pad. The ground-mounted HRU configuration would allow for a sound damper system.

The facility would be installed on a 36-foot by 9-foot concrete foundation approximately 6 inches above grade. The unit would be about 34 feet long and about 8 feet wide and have a footprint of about 360 square feet. The fuel cell facility would be located 5 feet from the southern fence of Eversource's Allen Place Substation and 2 feet from the curb of the parking lot. Bollards would be installed along the edge of the curb to the south and west of the facility.

A 480 Volt electrical interconnection would run underground to the north and connect to a proposed transformer (to raise the voltage to 4.8-kV), feeder and extension of existing switchgear inside Allen Place Substation.

An interconnection application was submitted to Eversource by APFC in December of 2022 and is currently under review.

The facility's water connection would run underground to the west to connect to an existing water line located adjacent to North Hall. The facility's natural gas connection would extend underground for approximately 50 feet through a parking lot to an existing natural gas line located adjacent to North Hall.

Project construction is expected to begin in May 2023 and continue over a 5 month period. Construction hours would be from 7:00 a.m. to 5:00 p.m. Monday through Friday. If Saturday and Sunday work is required, the construction hours would be between 9:00 a.m. and 5:00 p.m.

The fuel cell has an operational service life of 20 years; however the solid oxide media in the fuel cell unit would be replaced every 5-7 years. At the end of the 20-year operational life, the fuel cell unit and associated equipment would be dismantled and removed.

The estimated cost of the facility is $9.2M.

Environmental Effects and Mitigation

The fuel cell facility would comply with all applicable Department of Energy and Environmental Protection (DEEP) water quality standards as no water would be consumed or discharged once the facility is operational. The proposed facility would be connected to Trinity College's water system and water consumption would only occur at system fill, requiring approximately 96 gallons. Minimal discharge of de-ionized water would occur in rare instances.

Air emissions produced during fuel cell operation would be below DEEP applicable limits for a new distributed generator, as shown below, and thus, no DEEP air permit is required.

Fuel Cell Facility	
Compound	Fuel Cell Facility (lbs/MWh)
NOx	0.01
CO_2 *	750 With waste heat recovery

* DEEP amended its regulations in 2016 to eliminate the CO_2 permit requirements from the New Source Review and Title V Programs as a result of a United States Supreme Court decision that overturned states' regulatory CO_2 permit requirements (*Utility Air Regulatory Group v. U.S. Environmental Protection Agency*, 573 U.S. 302 (2014))

The proposed facility would emit no methane (CH_4), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs) or perfluorocarbons (PFCs), which are greenhouse gases defined in RCSA §22a-174-1(49), and would emit negligible amounts of sulfur oxides, volatile organic compounds and particulate matter.

The fuel cell desulfurization system would remove sulfur that is used as an odorant in natural gas because it is a fuel cell system contaminant. Desulfurization creates zinc-sulfide, a non-hazardous waste that would be contained within the fuel cell unit until facility refurbishment is required, usually after 5-7 years of operation. The desulfurization vessel is sealed and then removed from the fuel cell for recycling and disposal. The vessel is recyclable as scrap metal.

At least two trees at the edge of the parking lot would be removed to construct the facility. Visual impact from the proposed Project would be minimal because it would be located on the college campus and views would be obstructed by existing trees and buildings. The proposed facility would only be visible from the adjacent parking lot and driveway.

No wetlands, forest or prime farmland soils would be disturbed by the proposed Project as it is located entirely within a previously disturbed area on a developed property. Erosion and sedimentation controls for the proposed facility would comply with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*.

The site is not located within a DEEP Natural Diversity Database buffered area or a DEEP-designated Aquifer Protection Area.

The site is not within a Federal Emergency Management Agency-designated flood zone.

The site is previously disturbed and would not impact historic or cultural resources.

Public Safety

Before commissioning the proposed facility, APFC would use compressed air as pipe cleaning media, in accordance with Public Act 11-01, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

The fuel cell facility has internal and remote 24/7 operational monitoring. Abnormal operation would cause the facility to automatically shut down. The facility can also be shut down through a remote operations center as well as manually. The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2004 and the National Fire Protection Association, Inc. Standard 853 for stationary fuel cell power systems and includes extensive safety control systems, including both automatic and manual shutdown mechanisms that comply with pertinent engineering standards.

An emergency response plan (ERP) for the facility is included within the Petition. APFC will submit the ERP to the City Fire Marshal and provide on-site training to local emergency responders.

The fuel cell facility would be located within an existing, secured area, accessed by a locked gate.

The fuel cell facility would be protected by bollards and the SOFC door panels would be locked and only accessible by authorized personnel. The facility would also be monitored by campus security personnel.

Noise associated with the construction of this Project would be temporary and exempt per DEEP Noise Control Regulations.

Noise modeling was performed using assumed operational sound characteristics of facility components. The modeling indicates the operational noise from the SOFC would be 50 dBA at the nearest off-campus residential receptor (123 feet north of the facility), in compliance with DEEP Noise Control Regulations. The SOFC enclosure would have a sound dampening padding/lining to mitigate noise. In addition, air blowers would be equipped with manufacturer-designed sound insulation. Noise modeling did not include the HRU. To ensure the proposed facility meets noise control criteria, APFC would perform a post-construction noise analysis, and design additional noise mitigation measures, if necessary.

The fuel cell system is controlled electronically and has sensors that will alert APFC/FCE of abnormal operation. The detection of a potential combustible gas mixture or a fire will result in an emergency facility shutdown and an alarm notification to service personnel. The natural gas supply valves would close and nitrogen (an inert gas) from the on-site storage tank would purge the fuel cell stack and fuel processing system. Also, manual emergency shut down push buttons will be located throughout the site.

Conclusion

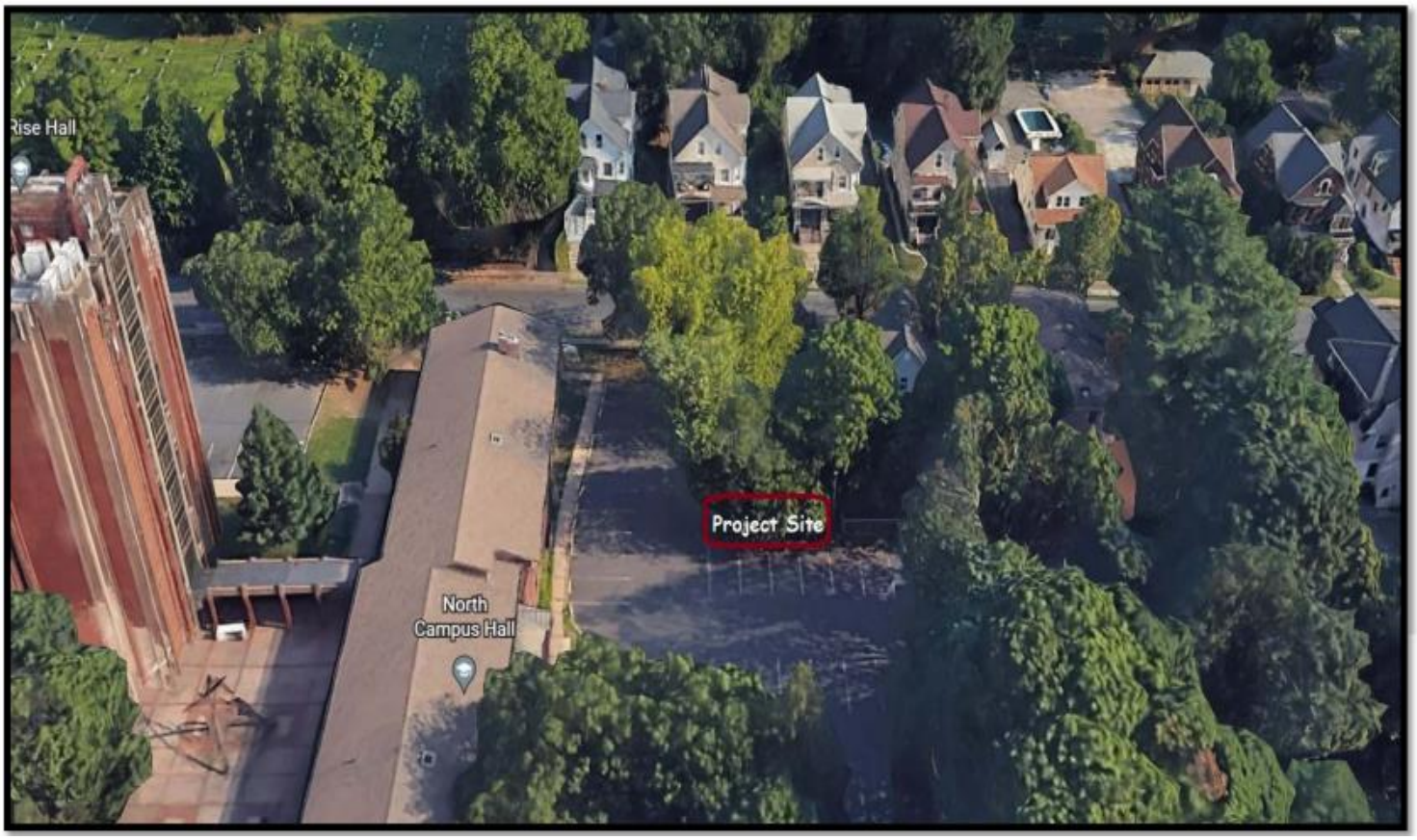
The Project is a distributed energy resource with a capacity of not more than sixty-five megawatts, meets air and water quality standards of the DEEP, and would not have a substantial adverse environmental effect. It would reduce the emission of air pollutants that contribute to smog and acid rain, and to a lesser extent, global climate change, and furthers the State's energy policy by developing and utilizing renewable energy resources and distributed energy resources. Furthermore, the Project was selected under the state's LREC/ZREC Program.

Recommendations

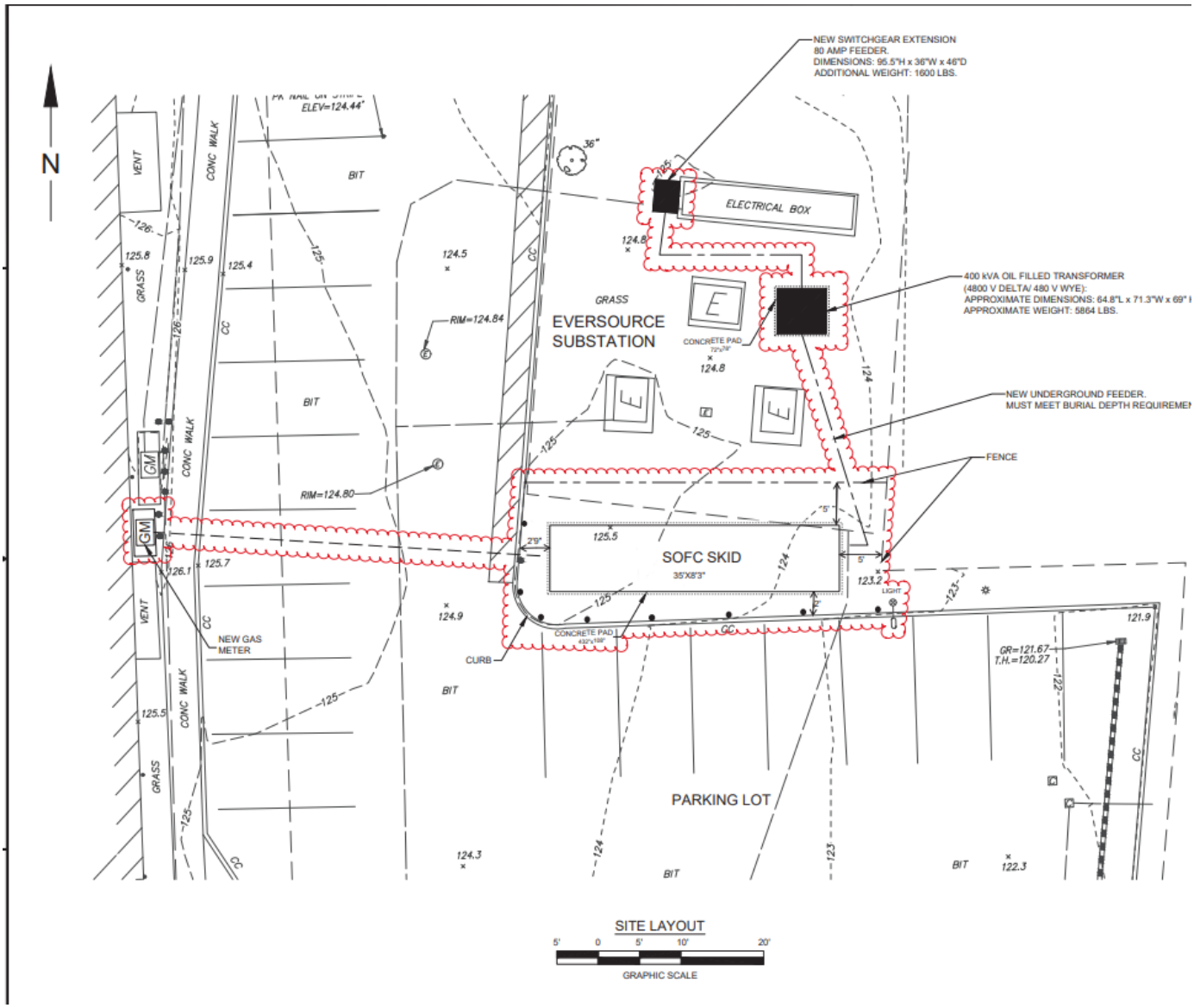
If approved, staff recommends the following conditions:

1. Approval of any Project changes be delegated to Council staff;
2. Submit final plans for the design of the fuel cell unit and the heat recovery unit;
3. Install sound dampening measures on the heat recovery unit;
4. Submit the post-construction noise study, and any necessary additional noise mitigation measures; and
5. Provide a copy of the Emergency Response Plan to local emergency responders prior to facility operation and provide emergency response training.

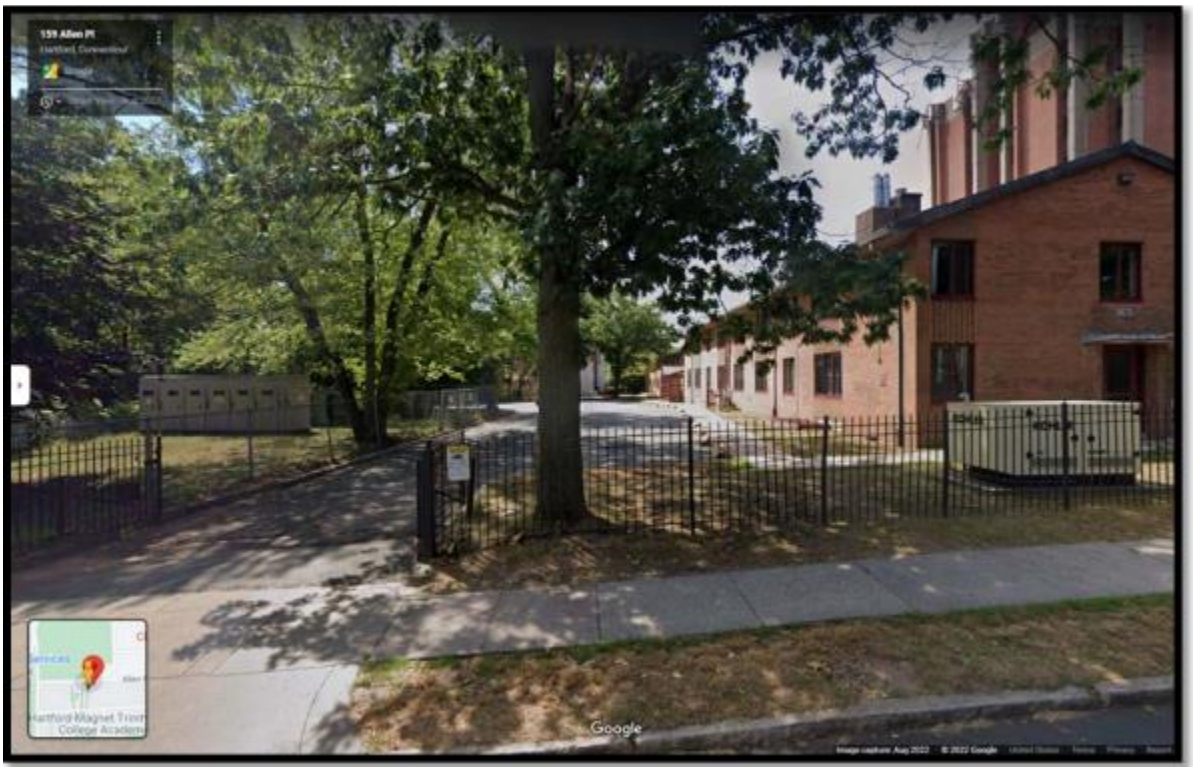
Fuel Cell Location



Site Plan


NEW SWITCHGEAR EXTENSION
80 AMP FEEDER.
DIMENSIONS: 95.5"H x 36"W x 46"D
ADDITIONAL WEIGHT: 1600 LBS.
ELECTRICAL BOX
400 kVA OIL FILLED TRANSFORMER
(4800 V DELTA/ 480 V WYE):
APPROXIMATE DIMENSIONS: 64.8"L x 71.3"W x 69"
APPROXIMATE WEIGHT: 5864 LBS.
NEW UNDERGROUND FEEDER.
MUST MEET BURIAL DEPTH REQUIREME
FENCE
EVERSOURCE
SUBSTATION
SOFC SKID
35'X8'3"
CONCRETE PAD
NEW GAS
METER
CURB
PARKING LOT
GR=121.67
T.H.=120.27
RIM=124.84
RIM=124.80
ELEV=124.44'
N
SITE LAYOUT
GRAPHIC SCALE

Site Location Photograph



STATE OF CONNECTICUT)

: ss. Southington, Connecticut March 17, 2023

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Decision and Staff Report in Petition No. 1553 issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

Melanie A. Bachman
Executive Director
Connecticut Siting Council

STATE OF CONNECTICUT)

: ss. New Britain, Connecticut March 17, 2023

COUNTY OF HARTFORD)

I certify that a copy of the Connecticut Siting Council Decision and Staff Report in Petition No. 1553 has been forwarded by Certified First Class Return Receipt Requested mail, on March 17, 2023, to all parties and intervenors of record as listed on the attached service list, dated December 7, 2022.

ATTEST:

Lisa A. Mathews
Office Assistant
Connecticut Siting Council

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Petitioner	☒ E-mail	Allen Place FC, LLC	Bruce L. McDermott, Esq. Murtha Cullina LLP 265 Church Street New Haven, CT 06510 (203) 772-7787 bmcdermott@murthalaw.com Saffi Gilani Project Manager FuelCell Energy, Inc. 539 Technology Park Drive Torrington, CT 06790 sgilani@fce.com