

DRAFT

**Petition No. 1406A
Charter Oak Borrower, LLC
600 Iranistan Avenue, Bridgeport, Connecticut**

**Development & Management (D&M) Plan
Staff Report
May 22, 2025**

Notice

On October 8, 2021, the Connecticut Siting Council (Council) issued a Declaratory Ruling to Doosan Fuel Cell America, Inc. (Doosan) for the construction, maintenance, and operation of a grid-side 9.66-megawatt fuel cell facility and associated equipment on an approximately 0.51-acre parcel at 600 Iranistan Avenue, Bridgeport, Connecticut (Project).

In its Declaratory Ruling, the Council required Doosan to submit a Development and Management (D&M) Plan in compliance with Regulations of Connecticut State Agencies (RCSA) §16-50j-60 through §16-50j-62. A D&M Plan is a condition of a Council final decision that must be met prior to commencement of construction and constitutes the “nuts and bolts” of a facility approved by the Council.

On October 31, 2024, the Council approved the transfer of the Declaratory Ruling from Doosan to Charter Oak Borrower, LLC (COB) with the condition that COB comply with all the terms, limitations, and conditions contained in the Declaratory Ruling.

On March 21, 2025, in compliance with RCSA §16-50j-61(d), COB submitted the D&M Plan for the approved facility to the Council. On April 30, 2025, COB submitted a copy of the D&M Plan to the service list. No comments were received.

On April 14 and May 1, 2025, the Council issued interrogatories to COB. COB submitted responses to the interrogatories on April 17 and May 7, 2025.

Under RCSA §16-50j-60(d), the Council must approve, modify or disapprove of the D&M Plan not later than 60 days after receipt of it. The deadline for the Council to render a decision on the D&M Plan was May 20, 2025. On May 1, 2025, the Council requested an extension of the D&M Plan decision deadline. On May 8, 2025, COB granted an extension of the D&M Plan decision deadline to June 6, 2025.

D&M Plan

Condition No. 1 of the Council’s Declaratory Ruling requires the following information to be included in the D&M Plan:

- a. A final site plan including, but not limited to, detailed site design, building design, fuel cell layout, site access, electrical, water, natural gas and thermal loop connections, project interconnection detail, fencing, lighting, and site drainage;**

The proposed facility consists of twenty-one 460-kilowatt Doosan PureCell Model 400 fuel cell power modules within a 3.5 story galvanized steel/concrete structure. The structure is on a 0.51-acre triangular parcel bound by Interstate 95 to the south, Iranistan Avenue to the west and Railroad Avenue to the north.

The structure is approximately 148.7 feet long by 48.9 feet wide and 68 feet tall, including steel framing extending above the rooftop slab. The ground footprint measures approximately 7,270 square feet.

Five fuel cells will be installed on the first floor and 8 fuel cells installed on both the second and third floors. Each fuel cell measures 8.3 feet wide by 27.3 feet long by 9.9 feet tall. Each fuel cell would have an associated fan cooling module located on the roof of the building. Exhaust vents from each fuel cell will be installed on the south side of the structure, extending to the roof.

The site will be enclosed by a 10-foot chain link fence and surfaced with gravel. Site access will be from two 12-foot wide, 20-foot long asphalt driveways extending from Railroad Avenue to a parking area adjacent to the structure. Ground-mounted equipment outside of the structure includes switchgear and meter cabinets, utility transformer, SCADA cabinet, nitrogen storage area, natural gas meter pad, and a 21-foot wide, 35-foot long, 12-foot high water filtration building. From the natural gas meter pad and interconnection point, two 4-inch diameter natural gas risers will supply the fuel cells.

Cable trays will extend along the ceiling of the first and second floors connecting the fuel cells to four 3,000 kVA and one 1,500 kVA, 13.8-kV/480-volt transformers on the ground floor. From the transformers, underground lines will be installed to connect to switchgear and meter equipment adjacent to Railroad Avenue.

Two separate 13.8-kV feeders will extend within a duct bank from the switchgear for approximately 7,800 feet to The United Illuminating Company's (UI) Congress Street Substation. COB has an executed interconnection agreement with UI. The interconnection design is approximately 70 percent complete and is under review with UI.

A modular block retaining wall will surround most of the site, ranging in height from 2 to 6 feet. A sidewalk between the site and Iranistan Avenue will be replaced when construction is complete.

The thermal loop interconnection point will be located in the eastern corner of the site. An approximate 5.7-foot wide area extending between the south edge of the structure and the abutting property line (Interstate 95) will provide space for thermal loop equipment including but not limited to, boilers, coolant pumps, expansion tanks, heat exchangers and electrical equipment. Piping for the thermal loop will extend vertically on the north exterior of the building.

The facility will contain lighting for both the structure interior and the fenced perimeter. Six pole-mounted lights will operate during nighttime hours, providing downward illumination directed toward the structure. Other exterior lighting fixtures will be controlled by motion sensor. Interior structure lighting will be activated manually. Stairwell entry lighting will remain on 24 hours a day.

An underground stormwater detention system will be installed between the fuel cell structure and the water infiltration building. It will collect storm drain runoff from the fuel cell and water filtration structures and stormwater flows from ground surfaces. It is composed of prefabricated concrete leaching galleries enclosed by washed stone. The system is accessed by manholes and inspection ports. Stormwater overflows will be directed into a catch basin inside the perimeter fence at the west access gate.

b. Construction site plans that include, but are not limited to, site preparation, grading, construction laydown areas, and erosion and sedimentation controls;

The D&M Plan contains Erosion and Sedimentation (E&S) Control Plans consistent with the *Connecticut Guidelines for Soil Erosion and Sediment Control* (E&S Guidelines). Storm drains will be covered to prevent siltation.

Stone construction aprons will be established where the proposed access drives are located. Dust from construction activities will be controlled through water application as necessary.

Excavated soils will be stockpiled at the site. Excavated materials that are not suitable for reuse, as determined by soil sampling, will be segregated and disposed of off-site at a licensed disposal facility.

A concrete washout station will be located at the site. Materials will be stored on-site or at a temporary laydown area located at 127 Garden Street in Bridgeport.

c. Site maintenance/groundskeeping plan;

The construction site maintenance/groundskeeping plan includes provisions for site safety, E&S controls, excavation dewatering, vegetation and soil stabilization, stormwater management, construction waste management, site inspection and reporting, and post-construction site cleanup, inspection and final project documentation.

An Emergency Spill Plan has been included with procedures for spill prevention, response and emergency contact information.

Once operational system performance will be monitored continuously via a remote operations center to identify and address any anomalies or deviations in real time. A technician will be on site at least once per week to perform routine visual inspections and check on the general operations of the fuel cells and supporting equipment. The cooling system will be cleaned regularly during the summer months.

Quarterly inspections will be performed to assess system condition and operation, and perform routine servicing such as filter checks, fluid top-offs, and software updates. Semi-annual preventive maintenance service will be performed for equipment calibration and replacement of wear items. Major component overhaul, such as fuel cell stacks, are expected to undergo refurbishment or replacement approximately at operational year 10, depending on equipment condition and operational hours.

d. Contact information for the spill response contractor;

Contact information for the Emergency Spill Response Contactor (Enviroshield, Inc.) has been provided.

e. Contact information for the construction contractor;

Contact information for the construction contractor and subcontractors has been provided.

f. Plans for an additional one-foot of fill as a flood protection measure for the facility;

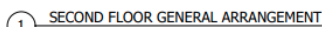
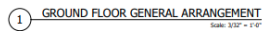
Site Plan 3.0 specifies one additional foot of fill throughout the entire site. Final fill elevations will be determined by a licensed surveyor in the State of Connecticut.

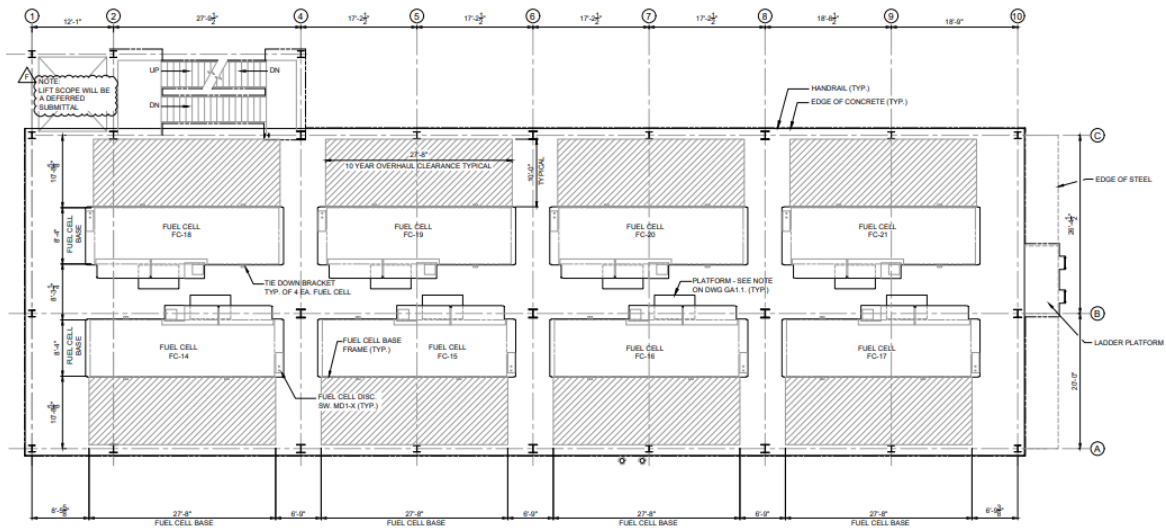
Conclusion

The D&M Plan complies with requirements of RCSA § 16-50j-60 to 16-50j-62 and is consistent with the Council's Declaratory Ruling for Petition No. 1406A, dated October 8, 2021.

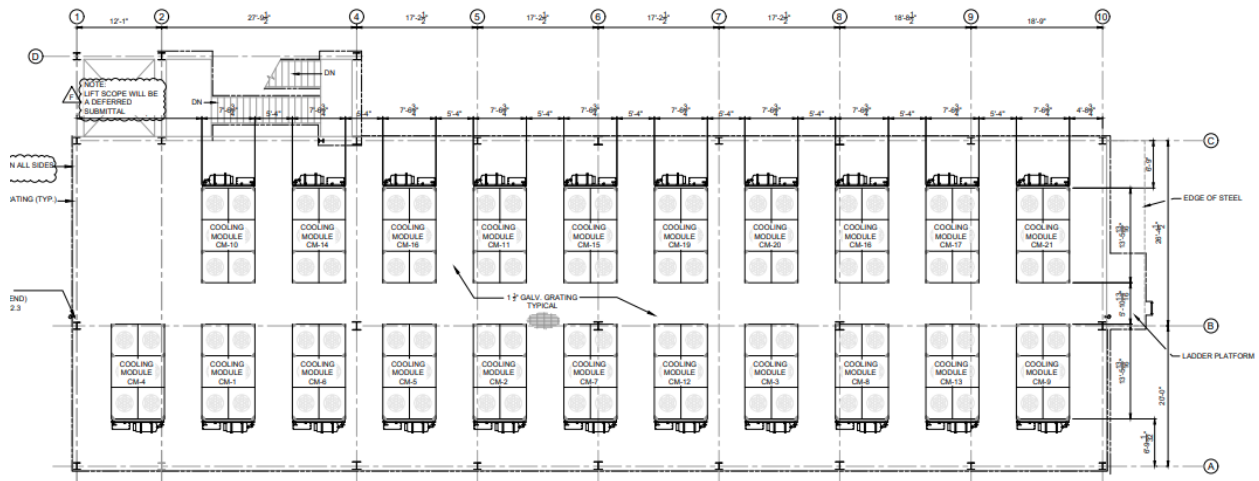
If approved, staff recommends the following conditions:

1. Submit lighting plan details prior to the commencement of construction;
2. Submit a final as-built site plan within two weeks after the completion of construction;
3. Submit a post-construction operational noise study that documents compliance with state standards, and if necessary, the identification of any mitigation measures that are employed to adhere to the standards;
4. Submit a copy of the final Emergency Response Plan, which shall include, but not be limited to, contact information for local police, fire and emergency medical technicians, to the Council and local emergency responders prior to commencement of operation and provide emergency response training that includes an itemized list of necessary fire suppression equipment and adequate water supplies for any fire issues at the facility site;
5. Submit a Federal Aviation Administration determination for the use of a crane at the site during construction; and
6. Submit written notification to the Council and the City of Bridgeport when the thermal loop is incorporated into the fuel cell facility at least two weeks in advance of installation.



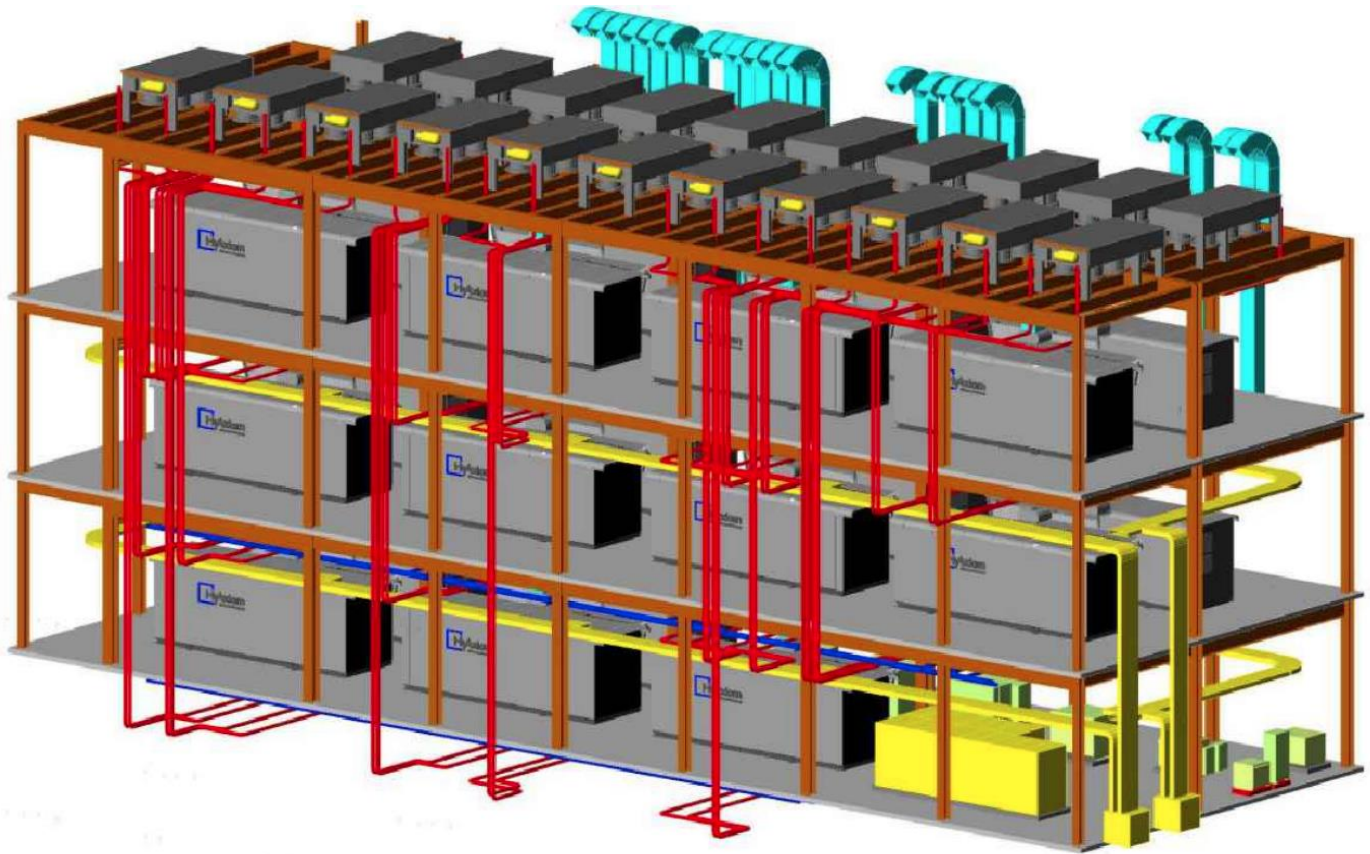


1 THIRD FLOOR GENERAL ARRANGEMENT
Scale: 1/8" = 1'-0"



1 ROOF GENERAL ARRANGEMENT
Scale: 1/8" = 1'-0"

Site Schematic



① BUILDING ISOMETRIC GENERAL ARRANGEMENT
Scale: NTS