

Meeting Date 8/19/2020

DATE: August 10, 2020

File: AR 20-05

TO: Architectural Review and Historic Preservation Board

FROM: Dexter O'Connell, Associate Planner

530-879-6810, dexter.oconnell@chicoca.gov

RE: Architectural Review 20-05 (Bloom Energy)

1531 Esplanade, APN 003-024-005 and 003-023-024, et al

RECOMMENDATION

Staff recommends that the Architectural Review and Historic Preservation Board adopt the required findings contained in the agenda report and approve the project, subject to the recommended conditions.

Proposed Motion

I move that the Architectural Review and Historic Preservation Board adopt the required findings contained in the agenda report and approve Architectural Review 20-05 (Bloom Energy), subject to the recommended conditions.

BACKGROUND

The applicant proposes construction of a set of natural gas fuel cells consisting of four blocks of equipment on an approximately 4,700 square foot portion of the Enloe Hospital campus, west of the main building and parking lot, and east of Enloe Park, along West 5th Avenue (see **Attachment A**, Location Map). Proposed along with the fuel cells are grading, a retaining wall, and new bollards, along with appropriate gas and electrical equipment to operate the fuel cells. The site is designated Public Facilities and Services (PFS) on the City's General Plan Land Use Diagram and zoned PQ (Public and Quasi-Public Facilities) with the SD4 (Special Design Considerations - West Avenue Neighborhood Area) overlay.

It is true that pursuant to Chico Municipal Code (CMC) section 19.18.030.D, new construction on existing, partially developed parcels is generally considered a "minor project" not requiring Board review. In this case, the aesthetic implications of the grading, removal of open space, and installation of the large, tall fuel cells are sufficiently meaningful to refer the project to the ARHPB.

The proposed fuel cells would be set back approximately eleven feet from West 5th Avenue and would not alter the parking area or the formal garden portion of Enloe Park (see **Attachment B**, Site Plan). The fuel cells require no additional parking.

The proposed fuel cells would have a sleek, hypermodern appearance (see **Attachment C**, Rendering and **Attachment D**, Color and Materials Sample Panel). They would be set within an area partially screened by a cement retaining wall on three of their four sides. Condition #4 would require installation of a landscaped screen or living fence on the west elevation, which is proposed to be left open. That condition responds to both aesthetic and noise

concerns raised by neighbors and included as supplemental materials in **Attachment H** and would support compatibility with the neighborhood.

No new landscaping is proposed, but some minor tree removal is required. Proposed Condition #4 would require a small amount of new landscaping, with final review by staff to ensure AB 1881 compliance and other appropriate landscaping measures.

DISCUSSION

The proposal would result in the most visible installation of the proposed fuel cells anywhere in the City. The applicant claims that the fuel cells, which combine fuel and air in the presence of heat and a catalyst to produce electrical energy, produce less greenhouse gasses than other fossil fuel methods of energy production. They provide on-site electricity production to supplement grid-based power, similar to solar panels or a personal wind turbine.

The proposal is consistent with several General Plan policies. While it is rarely the case that a fossil fuel technology is compatible with any of the renewable energy policies in the Sustainability Element of the General Plan, this proposed fuel cell project is technically consistent with Policy SUS-6.1, which calls for a generalized reduction in greenhouse gas emissions. If Enloe's existing energy mix includes electricity derived from fossil fuel sources, the fuel cells will represent a reduction in greenhouse gasses if they substitute for that energy.

The noise of the proposed fuel cells is consistent with the Noise Contours of Enloe Hospital in the Noise Element of the General Plan and Policy N-3.1, which establishes the basis for the City's more specific noise standards. Condition #4 will enhance project consistency with Action N-2.1.1 encouraging noise attenuation measures that support the goals of the General Plan. Finally, the project is consistent with Goal PPFS-7, which supports health facilities and services to enhance the local quality of life, and Policy PPFS-7.2, which pledges the city to support efforts to improve and expand health and social services for all segments of the community. A reduction of Enloe's electricity costs is likely to result in a reinvestment of that funding into care.

Consistency with the Enloe Hospital Master Plan and development agreement is analyzed in great depth in **Attachment G**, the Applicant's Project Description. Generally speaking, the applicant draws attention to Enloe's ability to alter portions of the property in order to support the provision of medical services in Section 2.1 of the Development Agreement, and it is true that this project would help support the hospital's mission, in part by significantly reducing their electricity costs and in part by helping to increase energy efficiency consistent with state regulations and the Enloe Master Plan. The proposed fuel cells are not within the "Enloe Park" portion of the property, which is not impacted by the proposal.

The project is consistent with the City's adopted Design Guidelines (DGs) as conditioned. Condition #4 ensures consistency with DG 5.1.54. It is not possible to underground or architecturally incorporate the utility equipment, so the two potential landscape screening options offered create the required consistency. This would also build consistency with DG 5.1.46 by reducing the available space for potential graffiti vandalism through planting. As

conditioned, the project is also consistent with DG 1.1.13 because it sustains a pedestrianfriendly environment and DG 1.2.12 and 1.2.13 by responding to surrounding context of wellscreened and leafy uses.

The proposed project meets all applicable setback, parking, and landscaping requirements. Some removal of small trees is proposed, but none would require mitigation.

REQUIRED FINDINGS FOR APPROVAL

Environmental Review

The project has been determined to be categorically exempt under Section 1.40.220 of the Chico Municipal Code, and pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15332 (Infill Development Projects). This exemption applies to infill projects which are consistent with the general plan and zoning; are on sites less than five acres in size within the City limits; are substantially surrounded by urban uses; have no value as habitat for endangered, rare, or threatened species; would not create any significant effects relating to traffic, noise, air quality, or water quality; and can be adequately served by all required utilities and public services.

Architectural Review

According to Chico Municipal Code Section 19.18.060, the Architectural Review and Historic Preservation Board shall determine whether or not a project adequately meets adopted City standards and design guidelines, based upon the following findings:

- 1. The proposed development is consistent with the General Plan, any applicable specific plan, and any applicable neighborhood or area plans.
 - The proposal is consistent with several General Plan policies, particularly those that encourage Noise compatibility (N-2.1.1 and N-3.1) and health services in a broad spectrum of the community (PPFS-7.2). The project is consistent with the Enloe Hospital Master Plan.
- 2. The proposed development, including the character, scale, and quality of design are consistent with the purpose/intent of this chapter and any adopted design guidelines.
 - The project, as conditioned, is consistent with the City's adopted Design Guidelines. The design would be of good quality, as discussed above.
- 3. The architectural design of structures, including all elevations, materials and colors are visually compatible with surrounding development. Design elements, including screening of equipment, exterior lighting, signs, and awnings, have been incorporated into the project to further ensure its compatibility with the character and uses of adjacent development.

The project, as conditioned, would be compatible both visually and aurally with surrounding development, as discussed above. No new exterior lighting or landscaping is

proposed, except as conditioned.

- 4. The location and configuration of structures are compatible with their sites and with surrounding sites and structures, and do not unnecessarily block views from other structures or dominate their surroundings.
 - As conditioned, this project would have adequate screening to the west, and would be screened from other directions by setting the units into a cut into a small hillside. The project would not block any views. The screening, as conditioned, ensures compatibility with surrounding sites.
- 5. The general landscape design, including the color, location, size, texture, type, and coverage of plant materials, and provisions for irrigation and maintenance, and protection of landscape elements, have been considered to ensure visual relief, to complement structures, and to provide an attractive environment.

No new landscaping is proposed, but as conditioned the landscaped screen or living fence would provide visual relief and promote an attractive environment, as discussed above.

RECOMMENDED CONDITIONS OF APPROVAL

- 1. All approved building plans and permits shall note on the cover sheet that the project shall comply with AR 20-05 (Bloom Energy). The approval documents for this project are date stamped August 7, 2020.
- 2. All wall-mounted utilities and roof or wall penetrations, including vent stacks, utility boxes, exhaust vents, gas meters and similar equipment, shall be screened by appropriate materials and colors. Adequate screening shall be verified by Planning staff in the field prior to issuance of a certificate of occupancy.
- 3. Proposed project signage shall be permitted through a separate sign permit in compliance with CMC 19.74 (Signs).
- 4. Building plans shall include and prior to permit final the applicant shall install on the west side of the energy servers a screen to improve aesthetics. That shall consist of a fence between five and six feet in height planted with appropriate climbing vines or hung with other acoustically-reducing material of high aesthetic quality, or a living fence planted with appropriate thick native shrubs that will grow to at least five feet in height and create a hedgerow to provide relief from potential noise impacts. Staff shall field-verify such an installation prior to the operation of the Fuel Cells.
- 5. The applicant shall defend, indemnify, and hold harmless the City of Chico, its boards and commissions, officers and employees against and from any and all liabilities, demands, claims, actions or proceedings and costs and expenses incidental thereto (including costs of defense, settlement and reasonable attorney's fees), which any or all of them may suffer, incur, be responsible for or pay out as a result of or in connection with any challenge to or claim regarding the legality, validity, processing

or adequacy associated with: (i) this requested entitlement; (ii) the proceedings undertaken in connection with the adoption or approval of this entitlement; (iii) any subsequent approvals or permits relating to this entitlement; (iv) the processing of occupancy permits and (v) any amendments to the approvals for this entitlement. The City of Chico shall promptly notify the applicant of any claim, action or proceeding which may be filed and shall cooperate fully in the defense, as provided for in Government code section 66474.9.

PUBLIC CONTACT

A notice was published in the Chico Enterprise Record 10 days prior to the meeting date, notices were mailed out to all property owners and tenants within 500 feet of the project site, and a notice was placed on the project site. The meeting agenda was posted at least 10 days prior to the Architectural Review and Historic Preservation Board meeting.

ATTACHMENTS

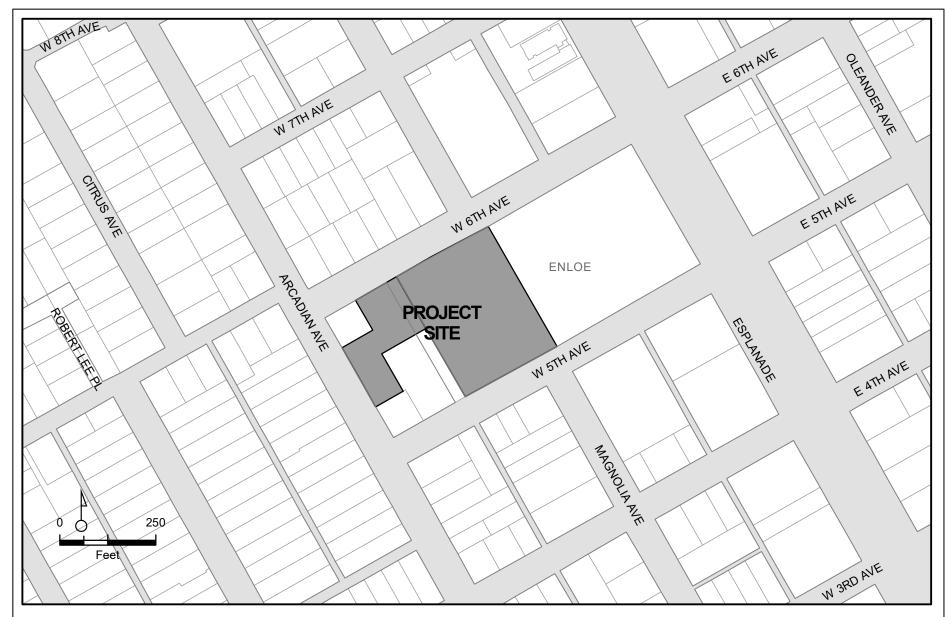
- A. Location Map
- B. Site Plan
- C. Rendering
- D. Color Board
- E. Architectural Elevation
- F. Noise Study
- G. Applicant's Project Description
- H. Supplemental Materials Neighborhood Comments

DISTRIBUTION

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Bill Seguine. Enloe Medical Center. bill.seguine@enloe.org
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John Whitehead, CANA. jockbaw@sbcglobal.net
PP Ambo
SP Sawley

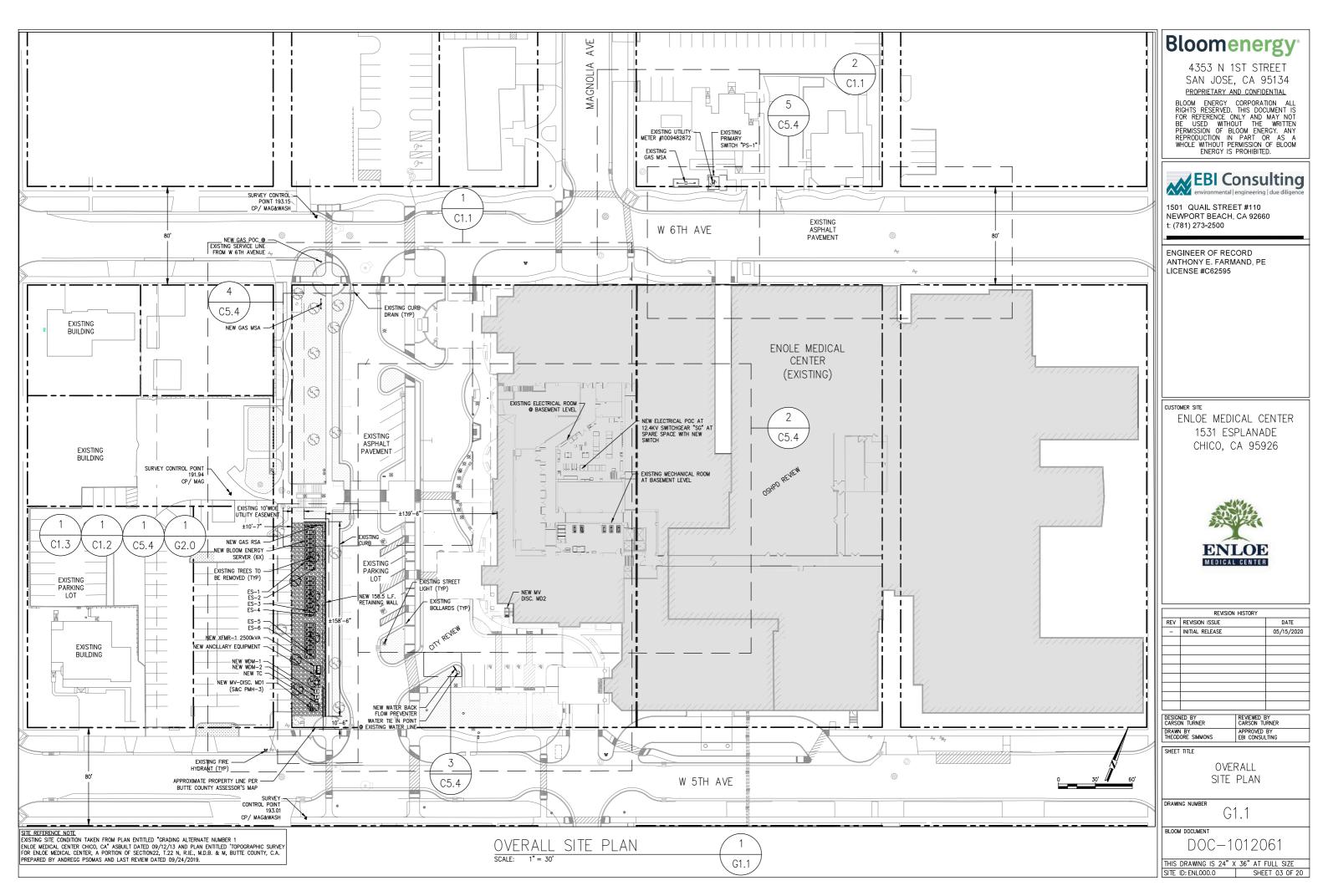
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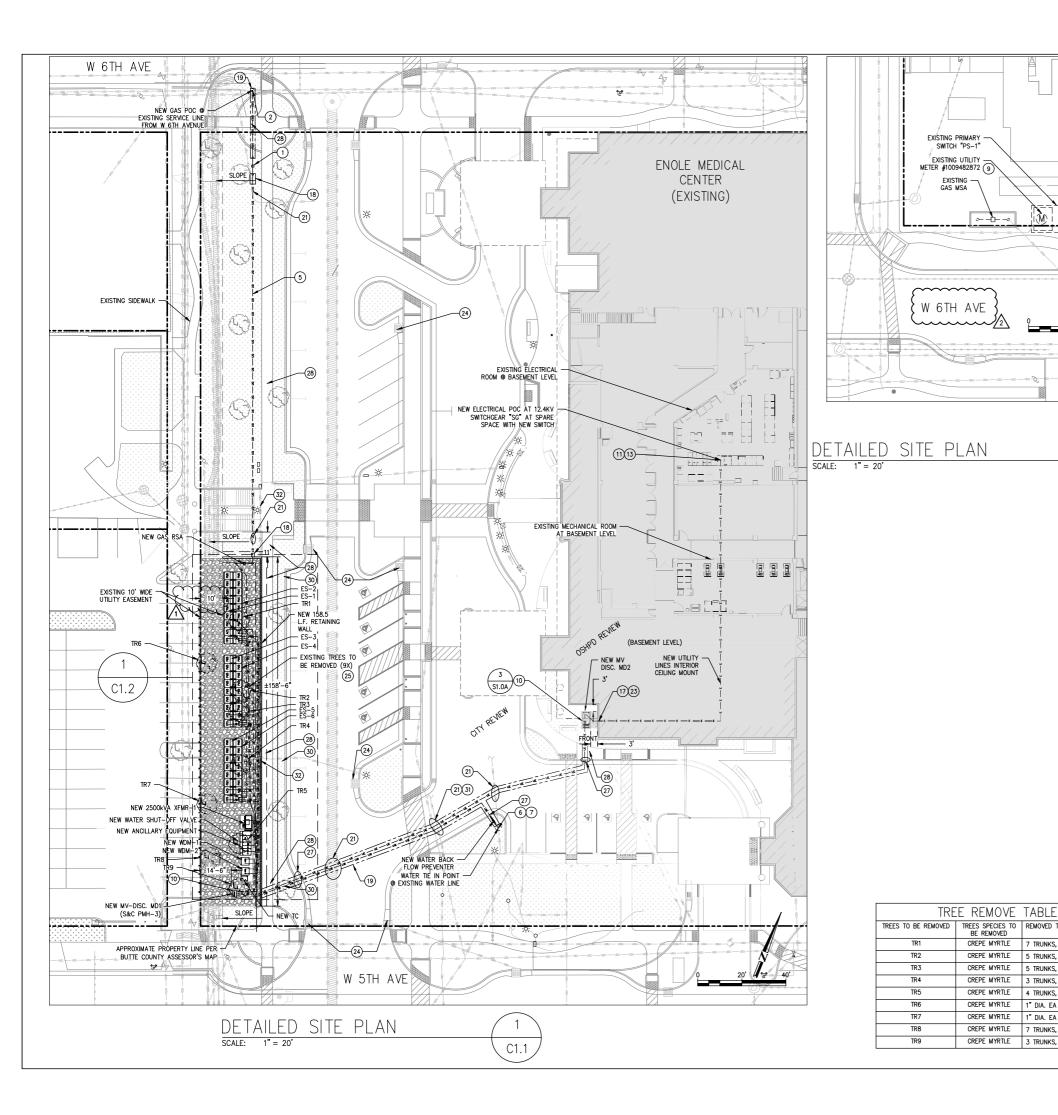
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AR 20-05 (Bloom Energy) 1531 Esplanade APN 003-023-005-000, 003-023-024-000







GENERAL NOTES

- CLEAN AND PRIME ALL NEW WALL MOUNTED PIPING AND CONDUIT.
 PIPING AND CONDUIT SHALL BE PAINTED WITH EXTERIOR GRADE PAINT
- 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.
- . 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.
- SEE BLOOM ENERGY PRODUCT INSTALLATION DRAWINGS FOR UTILITY CONNECTIONS TO ANCILLARY EQUIPMENT AND ENERGY SERVER.

REFERENCE SHEET NOTES

- 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.
- 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 LANDSCAPE AREA OF PARKING LOT 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
- (9) EXISTING UTILITY ELECTRIC METER. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- (10) NEW BLOOM ENERGY FURNISHED, CONTRACTOR INSTALLED, DISCONNECT SWITCH. MOUNT TO PAD PER MANUFACTURER AND UTILITY SPECIFICATIONS.
- (1) CONTRACTOR SHALL TERMINATE ELECTRIC FEEDER AS SHOWN, REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- (3) NEW ELECTRICAL FEEDER SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. REFER TO ELECTRICAL SINGLE LINE DIAGRAM FOR ADDITIONAL REQUIREMENTS.
- (7) CONTRACTOR SHALL CORE CONDUIT AND/OR PIPE THROUGH WALL. SCAN WALL PRIOR TO CORING TO AVOID COLLATERAL DAMAGE TO EXISTING PLUMBING AND WRITING. REFER TO WALL PENETRATION DETAIL FOR ADDITIONAL REQUIREMENTS.
- (18) CONTRACTOR SHALL INSTALL CONDUIT AND/OR PIPE BY HORIZONTAL DIRECTIONAL DRILLING (HDD) AS NOTED ON DRAWNIG. 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 TO MATCH EXISTING. REFER TO UNDERGROUND/TRENCH CONDUIT AND PIPING DETAIL FOR ADDITIONAL REQUIREMENTS.
- (9) 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 REQUI
- (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.
- (23) CONTRACTOR SHALL TRANSTION 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.
- PROVIDE "DANDY SACK" OR EQUAL WITH OUTFLOW PORTS AT STORM DRAIN INLET. REFER TO EROSION CONTROL DETAIL FOR ADDITIONAL REQUIREMENTS.

- (25) CONTRACTOR SHALL REMOVE EXISTING TREE.
- 27 CONTRACTOR SHALL UNDER-CUT EXISTING CURB FOR TRENCHING UTILITY LINES AND BACKFILL WITH CONCRETE SLURRY. IF CURB IS DAMAGED, REPAIR TO MATCH EXISTING.
- (28) CONTRACTOR SHALL REMOVE AND REPLACE CONCRETE SIDEWALK TO THE NEAREST JOINT AS REQUIRED TO COMPLETE THE WORK. REFER TO CONCRETE SIDEWALK DETAIL FOR ADDITIONAL REQUIREMENTS.
- (30) CONTRACTOR SHALL REMOVE AND REPLACE ALL LANDSCAPING WITHIN EXCAVATION AREA FOR NEW RETAINING WALL. CONTRACTOR SHALL SAFE OFF EXISTING RIRGIATION AS NEEDED AND REPAIR AND REPLACE IRRIGATION MATCHING EXISTING AFTER COMPLETION OF THE RETAINING WALL. WALL WORK.
- (32) THE CONTRACTOR SHALL REMOVE AND RELOCATE EXISTING STREET LIGHT CONDUIT AND CONDUCTORS FROM WORK AREA AS NEEDED. COORDINATE ALL WORK WITH OWNER REPRESENTATIVE. CONDUCTORS SHALL BE PLACED FROM TERMINATION TO TERMINATION, NO SPLICING, TYP.

FXISTING LITHLITY NOTE:

TREES SPECIES TO REMOVED TREES TRUNK SIZE

CREPE MYRTLE 5 TRUNKS, 2" DIA. EA @ 5'

CREPE MYRTLE 5 TRUNKS, 1.5" DIA. EA @ 5'

CREPE MYRTLE 3 TRUNKS, 1" DIA. EA @ 5' CREPE MYRTLE 4 TRUNKS, 1" DIA. EA @ 5'

CREPE MYRTLE 7 TRUNKS, 2.5" DIA. EA @ 5' CREPE MYRTLE 3 TRUNKS, 3" DIA. EA @ 5'

CREPE MYRTLE 1" DIA. EA @ 5'

CREPE MYRTLE 1" DIA. EA @ 5'

7 TRUNKS, 1" DIA. EA @ 5'

C1.1

EXISTING UTILITY NOTE:
THE LOCATION OF EXISTING UTILITIES IS SHOWN FOR THE CONTRACTOR'S REFERENCE. EXACT LOCATION, DEPTH AND SIZE OF ALL EXISTING UTILITIES IS NOT KNOWN. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES NOT SHOWN ON THESE DRAWINGS. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES AND PROTECT THE EXISTING UNDERGROUNDL UNILITIES AND PROTECT THE EXISTING UNDERGROUNDL WILDES FROM DAMAGE WHEN CROSSING WITH THE EXISTING UNDERGROUNDL UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY DAMAGE LINES. THE CONTRACTOR SHALL NOTIFY THE ENGINEET IMMEDIATELY IF ANY FIELD CONDITIONS ENCOUNTERED DIFFER FROM THOSE REPRESENTED HEREON. SUCH CONDITIONS COULD RENDER THE DESIGNS HEREON INAPPROPRIATE AND MAY REQUIRE ADJUSTMENTS TO AVOID CONFLICTS.

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1501 QUAIL STREET #110 NEWPORT BEACH, CA 92660 t: (781) 273-2500

ENGINEER OF RECORD ANTHONY E. FARMAND, PE LICENSE #C62595

CUSTOMER SITE

ENLOE MEDICAL CENTER 1531 ESPLANADE CHICO, CA 95926



REVISION HISTORY				
REV	REVISION ISSUE	DATE		
-	INITIAL RELEASE	05/15/2020		
1	REVISION PER PLAN REVIEW	03/31/2020		
2	REVISION PER PLAN REVIEW	06/10/2020		

DESIGNED BY	REVIEWED BY
CARSON TURNER	CARSON TURNER
DRAWN BY	APPROVED BY
THEODORE SIMMONS	EBI CONSULTING

DETAILED SITE PLAN - 1

BLOOM DOCUMENT DOC-1012061

THIS DRAWING IS 24" X 36" AT FULL SIZE SITE ID: ENLO00.0





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ENLOE MEDICAL CENTER 1531 ESPLANADE CHICO, CA 95926



	REVISION HIST	TORY
REV	REVISION ISSUE	DATE
-	INITIAL RELEASE	05/15/2020
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DRAWN BY THEODORE SIMMONS

SHEET TITLE

COLOR ELEVATIONS

DRAWING NUMBER

G2.2 BLOOM DOCUMENT

DOC-1012061

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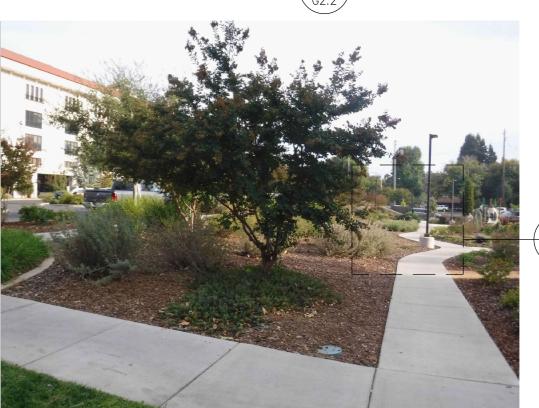
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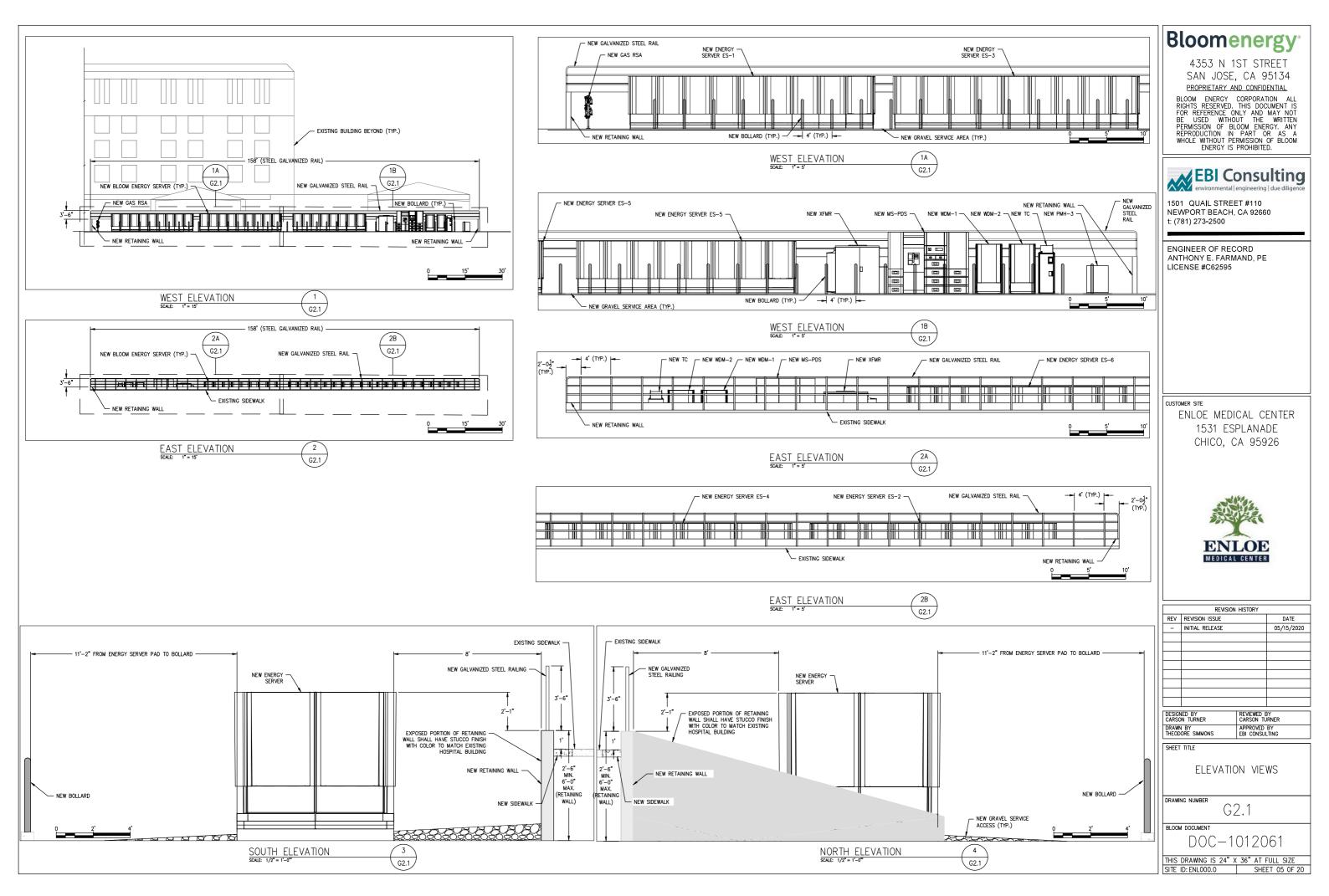


SOUTH ELEVATION G2.2





NORTH ELEVATION SCALE: NTS G2.2



July 10, 2020

Bloom Energy 4353 North 1st Street San Jose, California 95134

Attention: Cheryl Bullock | Supply Chain Commodity Manager

Subject: Enloe Medical Center

Chico, California

Fuel Cell Banks Property Line Noise Analysis

Veneklasen Project No. 4631-004

Dear Cheryl:

Veneklasen Associates, Inc. (Veneklasen) was contracted to evaluate noise impact of the proposed fuel cell banks for the subject project in Chico, California. This report includes the predicted noise levels at the adjacent property lines and an evaluation of necessary mitigation, if warranted, to comply with the local noise ordinance in the surrounding community. This report documents our findings.

Noise Criteria

The Chico Code of Ordinances, Chapter 9.38 "Noise" Section 9.38.040 "Commercial and industrial property noise limits" states the following:

No person shall produce, suffer or allow to be produced by human voice, machine, animal, or device, or any combination of same, on commercial or industrial property, a noise level at any point outside of the property plane that exceeds seventy (70) dBA.

Veneklasen assumes that the proposed fuel cells will run 24-hours a day.

Measurements

Veneklasen visited the site on Tuesday October 8, 2019 and placed a sound level meter on the first level roof of the Enloe Medical Center building to capture the hourly sound levels of the site for a 24-hour period. Veneklasen also performed short-term noise measurements. Table 1 and Figure 1 show the location and summary of the noise measurements.

Table 1. Sound Level Measurement Summary

Location	Daytime Average Hourly Level, dBA	Nighttime Quietest Hourly Level, dBA
Long-Term 1	55	44
Short-Term 1	-	45
Short-Term 2	-	43
Short-Term 3	-	48
Short-Term 4	52	-



Enloe Medical Center; Chico, California Fuel Cell Banks Property Line Noise Analysis Veneklasen Project No. 4631-004 July 10, 2020; Page 2 of 6

Figure 1, sound Level measurement totations

State 2, sound Level

Figure 1. Sound Level Measurement Locations

Property Line Analysis

Drawings dated March 31, 2020 indicate several of the proposed fuel cell units installed toward the southern boundary of the project, shown in green in the above figure. Using the sound power data of the fuel cell units, Veneklasen calculated the expected sound levels at the north, south, and west edges of the Enloe property as shown in yellow in Figure 1 above. Fuel cell equipment sound power levels are reported in Appendix A below. The reported distances to the property line are taken from the middle of the nearest fuel cell unit to the closest Enloe property edge. The sound contribution from each fuel cell was independently calculated (distance taken at the center of the particular fuel cell to the property edge) and the reported level in Table 2 below is the cumulative level of all fuel cells. Details of how property line noise levels were calculated, how sound attenuates over distance, and the effects of the adjacent retaining wall are all described in Appendix B.

While there is no code requirement, the expected noise level at the west façade of the Enloe Medical Center building is also presented. The results of these calculated noise levels are shown in Table 2.

Table 2. Enloe Property Line Noise Analysis: No Mitigation

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Property Line	Distance to Property Line, ft	Calculated Fuel Cell Noise Level, dBA	Noise Code Compliant		
North	255	43	Yes		
South	70	53	Yes		
Enloe Building Façade	145	43	N/A		
West	235	50	Yes		



Enloe Medical Center; Chico, California Fuel Cell Banks Property Line Noise Analysis Veneklasen Project No. 4631-004 July 10, 2020; Page 3 of 6

The calculated noise levels at all of the Enloe property lines are all below the required 70 dBA and are therefore compliant with the City of Chico Noise Code.

Veneklasen also calculated the expected noise levels produced by the proposed fuel cells at adjacent residential property lines. Reported distances were taken the same way as described above and noise level calculations were conducted in the same way as the above results. The results of these calculated noise levels with the locations shown in Figure 2 are reported in Table 3 below.

Table 3. Property Line Noise Analysis: No Mitigation

Property Line	Distance to Property Line, ft	Calculated Fuel Cell Noise Level, dBA	Noise Code Compliant
North Residential	335	41	Yes
South Residential	147	50	Yes
West Residential	280	49	Yes



Summary

Veneklasen has reviewed the noise impact on the north, south, and west Enloe property lines resulting from the noise generated by proposed fuel cells on the Enloe Medical Center property. Veneklasen calculated the noise levels at each of these property lines and has determined that no mitigation will be required to comply with the City of Chico Noise Code. Calculation methods are summarized in Appendix B.

Veneklasen has also calculated the expected noise levels at the adjacent residential property lines. The nearest



Enloe Medical Center; Chico, California Fuel Cell Banks Property Line Noise Analysis Veneklasen Project No. 4631-004 July 10, 2020; Page 4 of 6

residential receptors are to the north (along 6th Ave), to the south (along 5th Ave) and next to the west (along Arcadian Ave) of the medical center property. These calculated noise levels are comparable to existing nighttime ambient noise levels measured by Veneklasen.

If there are any questions with regard to the information within this report, please do not hesitate to contact us.

Sincerely,

Veneklasen Associates, Inc.

Kevin Patterson

Associate

John LoVerde, FASA

Principal



Enloe Medical Center; Chico, California Fuel Cell Banks Property Line Noise Analysis Veneklasen Project No. 4631-004 July 10, 2020; Page 5 of 6

Appendix A – Sound Power Levels

Sound power data was taken from a Mei Wu Acoustics Report titled "Bloom Energy – ES5 Linear Sound Power Measurement", dated June 21, 2016.

Table 4. Fuel Cell Measured Sound Power Level

Measured Sound Power Level [dB] – 1/1 Octave Bands							
63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	LwA
77.9	80.9	84.1	82.3	80.5	76.9	69.4	84.9



Enloe Medical Center; Chico, California Fuel Cell Banks Property Line Noise Analysis Veneklasen Project No. 4631-004 July 10, 2020; Page 6 of 6

Appendix B - Calculation Methods

Sound level attenuates over distance by a factor of -6 dB per doubling of distance. For example, if a sound source was measured to be 60 dBA at a distance of 10 feet, the measured sound level at 20 feet would be 54 dBA. Sound level reduction due to distance is calculated according to the following equation:

$$L_p = L_w + 10 \log Q - 20 \log d - 0.7$$

Where:

d = The distance between the center of the fuel cell unit to the property line in feet.

 L_p = The sound pressure level at a distance d in decibels.

 L_w = The sound power level from the fuel cell. Sound power levels are reported above in Appendix A in decibels. Q = The directivity factor which dictates how sound radiates outward from the source. See Figure 3 below from the 2015 American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Handbook, Chapter 48 describing Q factors and their associated sound radiation patterns.

Figure 3. ASHRAE Handbook: Q Factor Sound Radiation Patterns

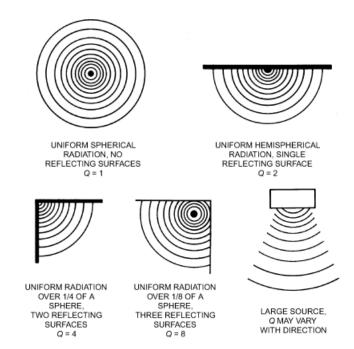


Fig. 30 Directivity Factors for Various Radiation Patterns

In the equation above, the greater the distance away from the sound source (*d*), the lower the sound level. This is intuitive and most people would consider this common knowledge.

In general, the more reflecting surfaces there are adjacent to a noise source, the more sound will bounce off of these surfaces and radiate outward. In other words, larger Q factors will increase the noise level. For the north and south property line noise level calculations, a Q factor of 2 was used because the ground that the fuel cell units are sitting on act as a single reflecting surface. For the west property line noise calculation, the retaining wall to the east of the fuel cells is close enough to the equipment to act as a second reflecting source. Therefore, a Q factor of 4 was used. A doubling of the Q factor increases the receiver noise level, L_p , by 3 dB.

Bloomenergy

Project Description

July 10, 2020

City of Chico Planning Division 411 Main St Chico CA 95928

RE: Bloom Energy fuel cells at Enloe Medical Center - 1531 Esplanade - AR20-05

To Whom It May Concern:

We are proposing to construct and install clean technology, solid oxide fuel cell generation systems (a.k.a., the "Bloom Energy Servers") and associated ancillary equipment and retaining walls at the Enloe Medical Center campus at 1531 Esplanade. The proposed system is a 1.7 MW grid-parallel system. The system will provide baseload power to the facility but will not replace nor interfere with backup/life safety generation existing at the hospital.

The purpose of the generators is to provide clean base load power generated "at the site, for the site" as an alternative to solely pulling power from the existing energy grid. Compared to grid power, Bloom delivers enhanced sustainability benefits in many ways: high efficiency, greenhouse gas emissions reductions, avoided air pollutants, small physical footprint, and reduced water use. Our aim at Bloom is to be a leader in the environmentally friendly, 21st century energy revolution by creating highly customizable and adaptable, at-site energy solutions for our customers as opposed to the present energy grid which is troubled by aging infrastructure, pollution, fire risk and transmission loss over miles and miles of unsightly power lines. The Energy Server is able to work by converting fuel directly into electricity without the need of combustion as a conventional electrical generator would. The process is a quiet application involving a chemical reaction-natural gas and air, heating tiles to produce clean energy. Bloom Energy is a leader in fuel cell technology with hundreds of Energy Servers installed throughout California and beyond.

Unlike often unsightly mechanical equipment, we screen Bloom Energy fuel cells in an attractive steel casing, designed to be aesthetically pleasing and to showcase our brand and thus, our customers' commitment to the environment. The location proposed is in a landscaped area to the west of the main entrance and adjacent parking area. The area where we are proposing is currently sloped. The architectural/design concept idea here is we more subtly fit into that slope via the installation of retaining walls in order to keep a lower overall profile while looking panoramically at the installation (colored renderings of this proposal are included in this submittal). We consider this a passive design of an active energy conservation system consistent with Chico's Community Design Objectives and Guidelines.

The incorporation of this new technology is compatible with the previously approved master plan as it applies to Energy Efficiency Design Features and Central Plant Noise Attenuation Features and with the recitals and general provisions of the Development Agreement dated March 28, 2006.

Bloomenergy

- Section 2.1 of the Development Agreement "Development of the Property. ...In addition to the development expressly shown in the Project Description, Enloe shall, during the life of the Development Agreement, be permitted to change the use of any portion of the Property, including but not limited to the remodeling or reconstruction of existing building owned by Enloe provided that the nature of the use remains the provision of medical services, or support thereof, and the intensity and density of the use is consistent with that of the preexisting use"
 - The location of the proposed project is within a landscaped berm that transitions from a parking area to Magnolia Ave. The proposed accessory use development is directly related to supporting the hospital's ability to provide high quality health care for our community. The proposed development does not create any additional traffic or impact on the area and is immediately adjacent to a parking lot.
- The Project Description does not specifically call out Fuel Cells as one of the items in either the Energy Efficient Design Features or the Utilities section because in 2006 when this was approved, Fuel Cells were not an approved part of the California Electric Code (CEC). Fuels Cells were first specifically listed in the CEC in article 517.30 as being an allowable source of independent power. In reviewing the codes of 2013 and 2016 this same section does not list fuel cells. The NFPA 99 which governs Health Care Facilities does not include fuel cells until its 2015 edition (article 6.4.1.1.7). While this technology was not specifically called out, the Project Description clearly notes that areas of Energy Efficiency (pages 3 & 4) and Utility Relocations (page 3) will be an integral part of the Master Plan.
- The original landscaping plan of the hospital (Figure 1), approved by the city, and the Park plan (Figure 2), approved after numerous design review and revision meetings with the neighborhood and the city have been included. The area identified for the proposed Fuel Cells is not part of the approved area of the Park that was designed through collaboration with CANA and the City. The proposed area is a landscaped berm that transitions between parking areas.
- Recital D of the development Agreement "Development Agreement Goals. The City and Enloe
 desire to enter into the Agreement relating to the Property in order to facilitate the
 implementation of the Enloe Medical Center Master Plan which provides for appropriate ongoing
 and future care of the residents and visitors to the Chico community.
 - The costs to provide high quality care to our community are increasing exponentially, and our largest fixed expense is the cost of utilities. By implementing this along with other energy efficient programs we will reduce our power costs by an average of \$453,000 yearly. Allowing us to continue to reinvest in the critical support facilities and services that our community needs.
- For the reasons outlined above, we believe that this application is compatible with the previously approved Enloe Hospital Master Plan.

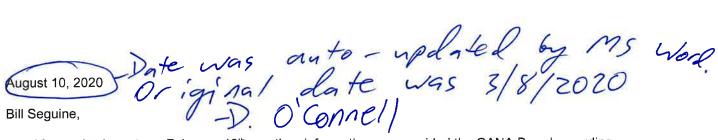
We look forward to working with your agency to see our clean energy solutions come to fruition for this community hospital. Please let me know if you should have any questions! Regards,

James Matthews

West Coast Manager, Planning and Permitting Specialist

Bloomenergy Cell: (408) 394-1628

James.Matthews@bloomenergy.com



After reviewing, at our February 19th meeting, information you provided the CANA Board regarding the installation of fuel cells adjacent to the Enloe Park and parking lot directly west of the hospital the Board has authorized the following statement.

We strongly object to the installation of fuel cells west of Magnolia adjacent to Enloe Park.

- 1) The placement of fuel cells would eliminate existing landscaping.
- 2) The fuel cells would reduce the size of Enloe Park.
- 3) The installation and maintenance of fuel cells would permanently encroach into Enloe Park.
- 4) Table 2 Property Line Noise Mitigation lists the estimated noise level to the Enloe Building facade, 145 feet away, at 58 dBA. The noise mitigation table does not include estimated noise levels inside Enloe Park.

The proposed fuel cells would be installed inside a "concrete basin." (See attached 6th Avenue picture.) This concrete structure would bounce sound into Enloe Park. The noise level inside Enloe Park would exceed the noise level at the Enloe Building facade, 145 feet away.

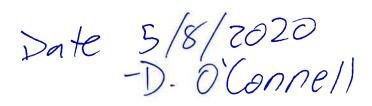
Directly in front of the proposed fuel cells are children's playground equipment and Donation Plaza. High noise levels would destroy the usefulness and enjoyment of these areas.

5) High noise levels will diminish the attractiveness of Enloe Park. Non-stop noise is a nuisance to the residential neighborhood.

Sincerely,

John Whitehead

President, CANA BOD



Dexter O'Connell,

Enloe Park provides an important buffer between Enloe Hospital and the surrounding neighborhood. Between the park and the hospital is Magnolia Avenue. To the best of my knowledge, this block of Magnolia Avenue is a private street, owned by the Enloe Hospital. Both fuel cells and Magnolia Ave are within parcel #4 as shown on the boundary line modification 17-03 from April, 2018.

The fuel cells would represent a new industrial expansion of Enloe Hospital. The proposed location is approximately 145 feet west of the nearest hospital wall, on the west side of Magnolia Avenue. Noise levels generated by the fuel cells would exceed current hospital noise levels, be 145 feet closer to the surrounding neighborhood, and be present 24 hours a day, seven days a week.

In the City of Chico Community Development letter to Bloom Energy, dated March 27, 2020;

a) Planning Comment 7 states that the noise analysis be done per Sec. 9.38.040 of the Chico Municipal Code: "No person shall produce, suffer, or allow to be produced by human voice, machine, animal, or device, or any combination of same, on commercial or industrial property, a noise level <u>at any point</u> outside of the property plane that exceeds seventy (70) dB."

For this project, where is the boundary of the property plane? Property lines of the new parking lot (Parcel 2) and Enloe Park (Parcel 1) were set forth in the City of Chico BLM 17-03. Do these parcels share the same zoning as Enloe Hospital (Parcel 4)? We propose that Enloe Park be considered outside the property plane.

- b) Planning Comment 9 reads "This project appears to be incompatible with the approved Enloe Hospital Master Plan and related previously-approved items..."
- c) The sound levels produced by the fuel cells would be spread over a wide area from West 5th to 6th Avenues or in the revised design along the east side of the valet parking lot. Does the sound study take into consideration the fact the noise source is so widely dispersed?

We do not support the fuel cell project at this time because there are too many unanswered questions.

Sincerely,

Chico Avenues Neighborhood Association

Dexter O'Connell

From: John Whitehead <jockbaw@sbcglobal.net>

Sent: Friday, April 24, 2020 4:17 PM

To: Dexter O'Connell

Cc: Bill Seguine; James.Matthews@bloomenergy.com; Donna Wallace

Subject: Re: Enloe Fuel Cell Proposal

ATTENTION: This message originated from outside City of Chico. Please exercise judgment before opening attachments, clicking on links, or replying.

Thanks Dexter,

I found the Bloom Energy Server ES5 data sheets on the company's website. It appears that all models produce a noise level of 70 dB at 6 feet. I'll look forward to the updated noise report.

Sincerely,

John Whitehead

CANA BOD

530-680-4505

On Apr 24, 2020, at 3:34 PM, Dexter O'Connell < dexter.o'connell@chicoca.gov > wrote:

John,

We have requested some adjustments to the Noise report, when we receive it I will forward it directly to you.

Thanks,

Dexter

Dexter N. O'Connell Associate Planner (530) 879-6810 <image001.png>

From: John Whitehead < jockbaw@sbcglobal.net>

Sent: Friday, April 24, 2020 3:25 PM

To: Bill Seguine < bill.seguine@enloe.org >; Dexter O'Connell < dexter.o'connell@Chicoca.gov >;

James.Matthews@bloomenergy.com

Cc: Donna Wallace < donna91105@gmail.com>

Subject: Enloe Fuel Cell Proposal

ATTENTION: This message originated from outside City of Chico. Please exercise judgment before opening attachments, clicking on links, or replying.

Do you have a model number of the proposed fuel cells or a specification sheet for them? I'm interested in the actual noise level that each fuel cell produces. Thanks for you assistance, John Whitehead CANA BOD 530-680-4505 cell

Dexter O'Connell

From: John Whitehead <jockbaw@sbcglobal.net>

Sent: Tuesday, July 14, 2020 6:59 AM

To: Dexter O'Connell

Cc: Mary Davidson; Betty Nopel; M Vasquez; Ken Fleming; Charles Withuhn; Hey Jann;

Chuck Nelson; Kirk Monfort; Donna Wallace; Nancy Ostrom; Lee Laney

Subject: Re: AR 20-05 (Bloom Energy)

ATTENTION: This message originated from outside **City of Chico**. Please exercise judgment before opening attachments, clicking on links, or replying.

Dexter,

I'm out of town and will not be able to fully go through the new noise study until Friday. However one concern is Bloom treats Enloe as one parcel of property when it fact the fuel cells are on a different parcel then the park or parking lot or two house which are all on separate parcels. I thought noise levels were measured from the property line and their impact on Enloe Park is still a major concern.

Sincerely, John Whitehead 530-680-4505

On Jul 13, 2020, at 7:52 AM, Dexter O'Connell < dexter.o'connell@chicoca.gov > wrote:

Good Morning John,

I wanted to let you know that we received a resubmittal from Bloom Energy on Friday, and that my preliminary review and the applicant's responses to my letter both suggest that it is likely complete. I have not formally made that determination, because I need to review some of the items in more depth, but barring unforeseen circumstances I expect to make that determination today. I will, of course, be in touch with you whichever way the decision falls.

I have attached the revised Noise Study and Project Description. Those were the two items requiring major revision, as the other items required were plan clarifications and the one clarification about the location of the exhaust.

Thanks, Dexter

Dexter N. O'Connell Associate Planner (530) 879-6810 <image001.png>

<AR20-05 Project Description 7 10 20.pdf> <AR20-05 Noise Study Rev 7 10 20.pdf>

Dexter O'Connell

From: John Whitehead <jockbaw@sbcglobal.net>

Sent: Friday, July 24, 2020 11:24 AM **To:** Dexter O'Connell; Donna Wallace

Subject: Fw: Project Description AR 20-05 (Bloom Energy)

Attachments: AR20-05 Project Description 7 10 20.pdf

ATTENTION: This message originated from outside **City of Chico**. Please exercise judgment before opening attachments, clicking on links, or replying.

Dexter,

I received this from one of the CANA BOD members. It points out the the ground beneath the proposed fuel cells was in fact Magnolia Avenue between 5th and 6th Avenues at the time of the Development Agreement.

Sincerely, John Whitehead 530-680-4505 cell

---- Forwarded Message -----

From: Donna <donna91105@gmail.com>
To: John Whitehead <jockbaw@sbcglobal.net>
Sent: Thursday, July 23, 2020, 04:47:30 PM PDT
Subject: Project Description AR 20-05 (Bloom Energy)

Hi John,

I also take issue with the Project Description by Bloom Energy:

(Top of page 2) Section 2.1 of the Development Agreement (dated March 28, 2006) 'Development of the Property. ...In Addition to the development expressly show in the Project Description, Enloe shall, during the life of the Development Agreement, be permitted to change the use of any portion of the Property.'

Comment: On March 28, 2006, the land beneath the proposed fuel cells was not owned by Enloe Hospital. It was the relocated Magnolia Avenue and owned by the City of Chico. It was the intent of the Development Agreement that this land remain a public city street. Therefore, Section 2.1 of the Development Agreement does not apply to the proposed fuel cells.

Donna Wallace

On 7/13/2020 7:52 AM, Dexter O'Connell wrote:

Good Morning John,

I wanted to let you know that we received a resubmittal from Bloom Energy on Friday, and that my preliminary review and the applicant's responses to my letter both suggest that it is likely complete. I have not formally made that determination,

because I need to review some of the items in more depth, but barring unforeseen circumstances I expect to make that determination today. I will, of course, be in touch with you whichever way the decision falls.

I have attached the revised Noise Study and Project Description. Those were the two items requiring major revision, as the other items required were plan clarifications and the one clarification about the location of the exhaust.

Thanks,

Dexter

Dexter N. O'Connell

Associate Planner

(530) 879-6810



Dexter O'Connell

From:

John Whitehead <jockbaw@sbcglobal.net>

Sent: To: Friday, August 7, 2020 11:16 AM Dexter O'Connell; Donna Wallace

Subject:

Fw: Fuel Cells

Attachments:

Panoramic View.jpg

ATTENTION: This message originated from outside City of Chico. Please exercise judgment before opening attachments, clicking on links, or replying.

Dexter,

Below are some additional comments from the CANA BOD and a jpg of the fuel cells behind Home Depot which has been expanded to about the size of the proposed Enloe installation.

Is the staff report complete and will the ARHPB meet in person taking comments from the audience?

Thanks, John Whitehead 530-680-4505 cell

---- Forwarded Message -----

From: Donna <donna91105@gmail.com>

To: John Whitehead <jockbaw@sbcglobal.net>; Marv Davidson <davidson.marv@gmail.com>; wanderboy517@gmail.com <wanderboy517@gmail.com>; kenplan@pacbell.net <kenplan@pacbell.net>; Ken Fleming

<kenplan67@gmail.com>; Charles & Sally Withuhn <cswithuhn@yahoo.com>; heyjann@gmail.com

<heyjann@gmail.com>; cnelson880@gmail.com <cnelson880@gmail.com>; kmonfort@csuchico.edu

<kmonfort@csuchico.edu>; Laneyhogs <laneyhogs@aol.com>; Donna <donna91105@gmail.com>; nostrom@csuchico.edu <nostrom@csuchico.edu>; joneill57@comcast.net <joneill57@comcast.net>;

kbultema@chicousd.org <kbultema@chicousd.org>; sandychico@gmail.com <sandychico@gmail.com>; Ken Dickson

<ken.dickson.ca@gmail.com>; rgitelson@csuchico.edu <rgitelson@csuchico.edu>; pam.chico@sbcglobal.net

<pam.chico@sbcglobal.net>; mail@jimfaulbaum.com <mail@jimfaulbaum.com>

Sent: Sunday, August 2, 2020, 07:40:36 PM PDT

Subject: Fuel Cells

Hi John and CANA Board,

I offer the following comments to John's comments dated 07/31:

A. Exhibit "D", item 6 of the Development Agreement dated June 1, 2006, Project Approval reads: "The acceptance by the City of the dedication of right-of-way for the realigned segment of Magnolia Avenue;"

If the City had accepted the realigned segment of Magnolia Avenue, this project would be not be possible. The proposed fuel cell location is inside the realigned area of Magnolia Avenue.

B. From the Project Description by Bloom Energy: "The architectural/design concept here is we more subtly fit into that slope via the installation of retaining walls in order to keep a lower overall profile while looking panoramically at the installation."

The fuel cells cells will be largely hidden from Enloe Hospital and completely visible to residential neighborhood on Arcadian Avenue. We, the neighbors, strongly prefer the existing landscaping over a panoramic view of industrial fuel

cells.

The fuel cell installation will have three banks of fuel cells. Using John's picture from 07/31, I created a "panoramic view" of the what the fuel cells would look like. See the attached jpg.

The removed landscaping will cover an area of approximately 4984 square feet (28' x 178'). Also, the landscaping in the berm north of the concrete staircase to West 6th Avenue will be damaged by the trench required for the new natural gas line.

C. The generation of electricity is a manufacturing use. According to Section 19.50 of the Chico Municipal Code, a use permit is required for manufacturing uses.

Donna Wallace

