PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Communications Division **RESOLUTION T-17836**
Broadband, Video and Market Branch **September 12, 2024**

R E S O L U T I O N

RESOLUTION T-17836: Approval of two (2) public housing infrastructure projects for grant funding from the California Advanced Services Fund's Broadband Public Housing Account totaling $279,415.44.

I. SUMMARY

This Resolution approves grant funding in the amount of up to $279,415.44 from the California Advanced Services Fund (CASF) Broadband Public Housing Account (BPHA) for two projects from EAH Inc. These two projects will deploy fiber-connected wireless and wired broadband infrastructure utilizing wi-fi and cat-6[1] inside-wiring capable of 25 Megabits per second (Mbps) download and 3 Mbps upload[2] for 245 living units in these publicly supported housing developments. The deployment of broadband in public housing for the purpose of offering free internet access to those who do not already have access to a free broadband network will improve public safety by providing enhanced access to government, e-health, and online education opportunities.

Table 1, below, lists the two public housing infrastructure grants approved, and Appendix A shows a map of proposed project locations.

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[1] A twisted pair copper cable for ethernet and other networking physical layer under the standard TIA/EIA-568-B.2-1, which was ratified by the TIA/EIA in June 2002. CAT6 provides higher performance than CAT5e and features more stringent specifications for crosstalk and system noise.

[2] The applications were submitted on January 1, 2024, prior to the Federal Communications Commission's adoption of increased broadband speed benchmark of 100 megabits per second download speeds and 20 megabits per second upload speeds on March 14, 2024. These applications are subject to the 25 megabits per second download and 3 megabits per second upload speeds in Decision (D.) 24-03-021.

Table 1						
Applicant	**Project Name**	**Address**	**City**	**Zip**	**Grant**	**Units**
EAH Inc.	EAH Housing - Vista Park	3955 Vistapark Drive	San Jose	95136	$168,384.90	79
EAH Inc.	EAH Housing - San Clemente	33 San Clemente Drive	Corte Madera	94925	$111,030.54	166
				TOTAL	**$279,415.44**	**245**

II. BACKGROUND

On May 19, 2022, the Commission issued Decision (D.) 22-05-029 which implemented changes to the BPHA enacted by Senate Bill 156 and programmatic changes for publicly supported housing developments, including farmworker housing, and allocated $15 million funding for Fiscal Year 2023-2024.

Key provisions of the Decision relevant to this Resolution include:

- The Commission authorized CD staff (Staff) to review and approve applications through ministerial review that meet all of the ministerial review criteria.[3] Applications not meeting the ministerial review criteria may still be considered for a grant but may only be approved by the Commission via Resolution.
- Grants can be awarded to finance up to 100 percent of the installation costs (inside wiring and equipment), but not maintenance or operation costs.
- Grantees must maintain and operate the network for five years after project completion.
- The proposed network is capable of offering residents Internet service speeds of at least 25 Mbps download and 3 Mbps upload service for an average user during peak and off-peak hours or current state standard, whichever is higher.[4]
- Applicant attests that no broadband service provider offers free service that meets state standards, as defined in Section III of the BPHA Guidelines, to the subject low-income community.
- Applicant attests that it will not charge residents for broadband internet services.
- Applicant agrees to complete the project within 12 months from the date of Commission approval.

[3] D.22-05-029, Appendix 1, p. 11

[4] Peak hours mean 7 p.m. to 11 p.m. local time.; https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-eleventh-report

- Applicant has an identified internet service provider with the required internet bandwidth capacity at the Minimum Point of Entry (MPOE).
- Applicant attests that the project in the low-income community will be in residential use as low-income community for at least 10 years.

III. APPLICANTS' REQUEST

On January 1, 2024, EAH Inc. (EAH) submitted an application for CASF BPHA funding. Both projects exceed the cost per unit benchmark established in the ministerial review criteria in D.22-05-029 and therefore are ineligible for ministerial review and are addressed in this Resolution.

Applicant: EAH is an eligible applicant as defined in D.22-05-029.[5]

EAH Housing (EAH) has been approved by the IRS as a 501(c)(3) nonprofit organization for providing affordable housing since 1968. EAH has developed partnerships in 87 municipalities within 23 counties throughout California and Hawaii, serves over 25,000 residents in over 13,000 units.

Projects: Both projects are eligible projects as defined in D.22-05-029.

EAH requests funding for the installation of a fiber-connected wired and wireless 2.4GHz and 5GHz WiFi 802.11AX mesh network architecture utilizing Eero, AerHub, and ONV WiFi routers, wireless backhaul and fiber switches, to provide wireless broadband coverage to each residential unit.

According to EAH these installations will be able to provide a minimum download speed of 25 Mbps and minimum upload speed of 3 Mbps during peak use hours.

Both projects include virtual Broadband Network Gateways for broadband traffic management, security, monitoring and reporting, as well as a dedicated fiber connection for Wide Area Network Internet Service Provider (ISP) broadband service.

[5] D.22-05-029, Appendix 1, p. 5.

III. NOTICES

On January 3, 2024, Staff posted the proposed project descriptions on the Commission's BPHA webpage.[6]

IV. PROJECT REVIEW

The fiber-connected wired and wireless installations for EAH use the latest WiFi standards, which requires more expertise to properly design, configure and deploy the wireless equipment to meet the coverage needs of multiple housing facilities and to properly interface together as a local area network to connect to the ISP. In addition, the wireless mesh[7] equipment utilized in wireless installations for the EAH projects is more resilient, as it can be self-adapting to changes in wireless conditions. The use of the latest WiFi standard[8] in all these projects offers greater throughput and wireless link management capability and can carry more traffic.

The projects propose multiple Intermediate Distribution Frame (IDF)[9] that connect to Main Distribution Frame (MDF)[10] via a millimeter wave[11] wireless backhaul in a ring network topology.[12] Each IDF will serve as the local collection point for the mesh-capable wireless routers that are directly wired to the residential units, providing wireless coverage to the residential units in each housing facility. The EAH projects utilize wireless connections to bring IDFs back to the MDF, to connect to the IDFs that serve each building. The EAH projects will connect fiber service to the MDF.

IDFs distribute WiFi access equipment to serve the buildings, and the Eero wireless router equipment being proposed, use 802.11AX standard and are wireless mesh capable. The proposed Eero wireless routers include the latest technology advancements that greatly improve capacity and performance by enabling more simultaneous connections

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[6] https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/casf-adoption-and-access/bpha/january-2024-broadband-public-housing-account-grant-request.pdf

[7] A mesh network is a network composed of multiple nodes that work together as one large system.

[8] 802.11AC Wave2 (WiFi-5 wave2) or 802.11ax WiFi standard per BPHA guidelines, p.2.

[9] IDF is a localized hub and a cable distribution point, typically a rack or a cabinet, which brings internal lines to all locally distributed computing devices to the Main Distribution Frame.

[10] The MDF is the centralized distribution point for all IDFs and is the terminating point for all the computing devices within the local network. The MDF connects and manages telecommunications between the local facility and the outside world.

[11] The term "millimeter wave" derives from the wavelength of radio signals on frequencies between 30 GHz and 300 GHz, which ranges between 1 and 10 millimeters.

[12] A ring network is a network topology in which all nodes of computing devices create a closed circular data path. https://en.wikipedia.org/wiki/File:NetworkTopology-Ring.png

and a more thorough use of spectrum,[13] while maintaining backwards compatibility to older WiFi standards.

The wireless mesh equipment utilized in these projects is more costly but provides flexibility and scalability for future expansion. All proposed wireless projects are 100 Mbps download/20 Mbps upload speed ready, and, capable of exceeding 100 Mbps download/20 Mbps upload speed,[14] with better speeds for the wireless projects using the 802.11AX WiFi standard.[15]

The deployment of wireless bridge to connect system IDFs lists access limitations within the property as the primary reason for choosing wireless deployment. The complexity, labor and material cost[16] of wireless deployment has been rising thus increasing the project costs but remains a viable and less costly engineering option of system deployment as compared to direct connection, when heavy construction is required involving structural modification, trenching, laying conduits, feedthrough and backfill. Wireless bridge connections, when utilized, can also be engineered and deployed relatively quickly, as compared to heavy construction, which can require review and approval and lengthy project planning.

Based on the above, Staff determined that the extra cost per unit is reasonable and recommends approval.

V. COMPLIANCE REQUIREMENTS

EAH is required to comply with all the guidelines, requirements, and conditions associated with the grant of CASF funds as specified in D.22-05-029. Such compliance includes, but is not limited to the following:

A. California Environmental Quality Act (CEQA)

All CASF grants are subject to CEQA requirements unless the projects are statutorily or categorically exempt pursuant to the CEQA Guidelines.

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[13] https://www.wi-fi.org/discover-wi-fi/wi-fi-certified-6

[14] Based on the proposed engineering designs submitted, for the wired projects using switched ethernet technology and wireless projects using 802.11ax WiFi technology, upgrading the layer 2/layer 3 switching equipment and the firewall equipment would enable speeds greater than 100 Mbps download/20 Mbps upload toward gigabit capability.

[15] All WiFi access point hardware proposed are 802.11ax (WiFi-6) based.

[16] Applicants in Table 1 have indicated that projects are experiencing high material costs and supply chain delays.

Both projects require limited modifications of existing structures.

The hybrid projects use both wired and wireless network architecture that consist of ISP fiber connection, networking switching equipment and wireless routers. This requires installation/mounting of equipment in existing structures, such as ceilings or rooftops and installation of CAT6 inside-wiring and conduits on existing structures such as walls, hallways, or in the roof.

Based on the above information, these projects meet the criteria of the CEQA categorical exemption for existing facilities (CEQA Guidelines § 15301) and CEQA Guidelines Section 15303 – New Construction or Conversion of Small Structures, involving construction, installation, and/or conversion of limited numbers of new and/or existing facilities/structures.

B. Execution and Performance

EAH must start the projects within 30 days from the date this Resolution is approved and complete the project within a 12-month timeframe. Should the grantee or Contractor fail to begin work within 30 days of grant approval, the Commission or Director of Communications Division, upon 5 days written notice to the grantee, reserves the right to terminate the award. If the grantee is unable to complete the proposed project within the required 12-month timeframe, it must notify the Commission as soon as it becomes aware of this prospect. If such notice is not provided, the Commission reserves the right to reduce or withhold payment for failure to satisfy this requirement.

Grantees must operate and maintain the network for a minimum of five years after it has been installed. The grantee must complete all the performance on the project before the termination date in accordance with the terms of approval granted by the Commission. In the event that EAH fails to complete the project or subsequently operate and maintain the network service in accordance with the terms of approval granted by the Commission and compliance with the CASF program guidelines, EAH must reimburse some or all of the CASF BPHA funds that it has received.

EAH must sign a consent form within 30 days from the date of the award agreeing to the terms stated in the Resolution authorizing the CASF award. Should EAH not accept the award through failure to submit the consent form within 30 calendar days from the date of the award, the Commission will deem the grant null and void.

Material changes in the entries for this application, such as discontinuing operation or bankruptcy, or change of name (DBA), change of address, telephone, fax number or e-mail address must be reported immediately by a letter to the CPUC, Director of the Communications Division, 505 Van Ness Avenue, San Francisco, CA 94102.

C. Project Audit

The Commission has the right to conduct any necessary audit, quality check, verification, and discovery during project implementation and post-project completion to ensure that CASF funds are spent in accordance with the terms of approval granted by the Commission. Invoices submitted will be subject to financial audit by the Commission at any time within 5 years of the release of the final payment. [17]

D. Reporting

EAH is required to submit a project status report within six months of the project award date if the project has not been completed, irrespective of whether the grantee requests reimbursement or payment. Project status reporting requirements can be found at the Commission's website.[18] EAH must identify foreseeable risks that might prevent it from meeting future milestones. Before full payment of the project EAH must submit a project completion report. EAH shall also include speed test results in its completion report EAH must certify that each progress and completion report is true and correct under penalty of perjury.

EAH is required to maintain the broadband network for five years after it has been installed. After installation, for a five-year period, they must also submit quarterly reports showing the percentage of up time, the number of unique log-ons (either by individuals or by units) and the amount of data used.[19]

E. Payments

Submission of invoices from and payments EAH shall be made at completion intervals in accordance with D.22-05-029, Section X, Appendix 1 and according to the guidelines and supporting documentation required in D.22-05-029. Project status and completion reports must be submitted with all required supporting documentation in order to receive

[17] D.22-05-029, Appendix 1, p. 16.
[18] https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/california-advanced-services-fund/casf-public-housing-account
[19] D.22-05-029 Appendix 1, p. 14.

payment. Payments are based on submitted receipts, invoices and other supporting documentation showing expenditures incurred and work done on the project in accordance with the approved CASF funding budget included in the application. EAH must submit a project completion report before full payment. Final requests for payment must be submitted no later than 90 days after project completion.

Payment to EAH will be made in accordance with, and within the time specified in California Government Code § 927 *et seq.*

If any portion of reimbursement is found to be out of compliance, EAH will be responsible for refunding any disallowed amount along with appropriate interest rates determined in accordance with applicable Commission decisions.

VI. SAFETY CONSIDERATIONS

The deployment of affordable broadband in public housing will improve access to government and e-health services, which improves safety.

VII. COMMENTS

In compliance with Public Utilities Code, § 311(g)(1), a Notice of Availability was e-mailed on August 8, 2024, informing all parties on the CASF Distribution List of the availability of the draft of this Resolution for public comments at the Commission's website at http://www.cpuc.ca.gov/. This letter also serves to inform parties that the final conformed Resolution the Commission adopts will be posted and available on this same website. The Commission received no public comments.

VIII. FINDINGS

1. On January 1, 2024, EAH submitted applications for CASF funding for two projects totaling $279,415.44.

2. Both projects exceed the cost per unit benchmark established in the ministerial review criteria and are therefore ineligible for ministerial review.

3. Based on its review, Staff determined that both projects meet BPHA eligibility requirements. Staff further determined that both projects qualify for funding under BPHA guidelines per D.22-05-029 and recommends approval of two projects.

4. The Commission has determined that these projects are categorically exempt from CEQA review, under section 15301 regarding exemption for existing facilities and section 15303 regarding minor modifications to existing structures.

5. A notice letter was e-mailed on August 8, 2024, informing all applicants filing for CASF funding and parties on the CASF distribution list, of the availability of the draft of this Resolution for public comments at the Commissions website found here http://www.cpuc.ca.gov/documents/. The Commission received no public comments.

THERFORE, IT IS ORDERED that:

1. The Commission shall award the following grant amounts for the projects listed in Table 1:

    - $279,415.44 to EAH for two projects;

    The total grant award is $279,415.44. All awards are based on the descriptions of the projects as described herein and are predicated on commitments to install and operate broadband infrastructure as expressed in its application and compliance with the requirements in as specified in D.22-05-029 and this Resolution.

2. Grant payments of up to a total $279,415.44 for these public housing projects shall be paid out of the CASF Public Housing Account in accordance with the guidelines adopted in D.22-05-029, including compliance with CEQA.

3. EAH must complete and execute the consent form agreeing to the conditions set forth in this Resolution within 30 calendar days from the date of the award. Failure to submit the consent form within 30 calendar days from the date of the adoption of this Resolution will deem the grant null and void.

4. EAH must submit quarterly progress reports on the status of the project irrespective of whether reimbursement or payment is requested.

5. EAH is required to maintain the broadband network for five years after it has been installed.

6. Payments to EAH shall be in accordance with D.22-05-029, Section X, Appendix 1 and in accordance with the process defined in the "Payments" section of this Resolution.

7. EAH must complete all performance under the award on or before 12 months from the date this Resolution is approved.

8. By receiving a CASF grant, EAH agrees to comply with the terms, conditions and requirements of the grant and thus submits to the jurisdiction of the Commission regarding disbursement and administration of the grant.

9. EAH is required to comply with all guidelines, requirements and conditions associated with the CASF funds award as specified in D.22-05-029, and in accordance with the terms of the Commission's approval as set forth in this Resolution.

10. If EAH fails to complete the project in accordance with the terms outlined in D.22-05-029 and this Resolution, EAH must reimburse some or all CASF funds it has received.

This resolution is effective today.

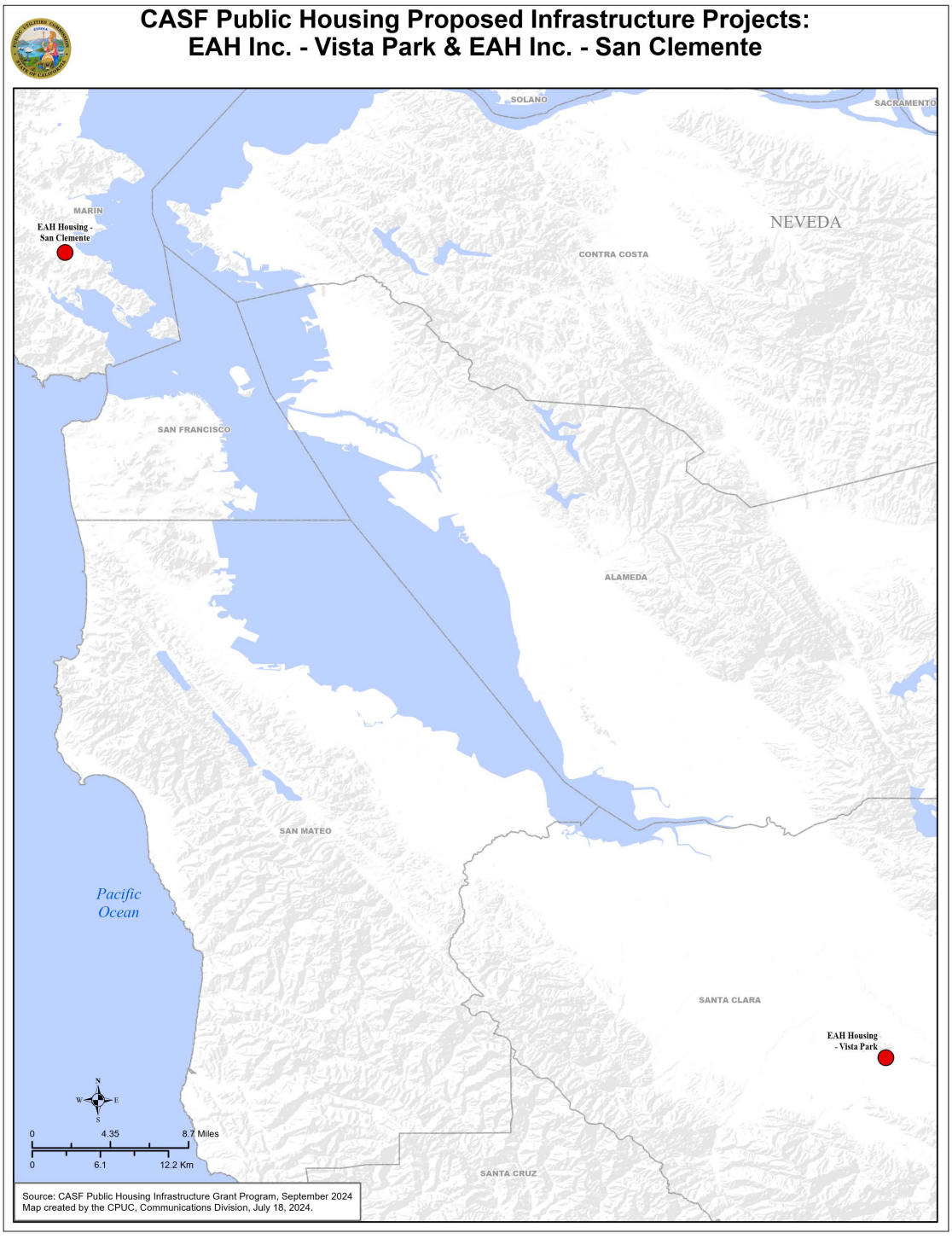
I certify that the foregoing resolution was duly introduced, passed, and adopted at a meeting of the Public Utilities Commission of the State of California held on September 12, 2024, the following Commissioners voting favorable thereon:

/s/ RACHEL PETERSON

Rachel Peterson
Executive Director

ALICE REYNOLDS
President
DARCIE HOUCK
JOHN REYNOLDS
KAREN DOUGLAS
MATTHEW BAKER
Commissioners

APPENDIX A
Resolution T-17836
Public Housing Projects Locations



End of Appendix A