AMERESCO

Ameresco Project Number 1009375

Revitalizing the Willits Branch Library

Critical Infrastructure Upgrades, Reduced Carbon Footprint, and Improved Energy Resilience

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Prepared for

County of Mendocino – Willits Branch Library

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By

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I. Background Information

On August 2, 2021, the Mendocino County Board of Supervisors (BOS) unanimously passed Resolution 21-117 declaring its intent to reduce and eliminate the carbon footprint of the County's buildings and operations. To support this bold commitment, County leadership decided to utilize California Government Code (GC) 4217, a widely-used contracting statute which enables public agencies to procure turnkey engineering, construction, operations, and maintenance services from qualified energy services companies (ESCOs).

Originally introduced in 1983, **GC 4217 has proven a time-tested and effective method for public agencies to efficiently develop and implement impactful energy conservation and renewable energy generation projects.** These projects have delivered significant reductions in carbon emissions, provided a practical avenue for reducing deferred maintenance backlogs, and saved hundreds of millions of dollars in energy costs for public agencies in California.

While GC 4217 does not require agencies to issue a public solicitation, County leadership chose to issue a formal Request for Proposals (RFP) on December 12, 2023. This solicitation was issued to all seventeen (17) ESCOs that are prequalified with the California Department of General Services to execute Energy Conservation Contracts. As a result of this RFP process, which included the evaluation of written proposals and an interview with shortlisted ESCO teams, Ameresco, Inc. (NYSE:AMRC) was subsequently selected. **Ameresco will serve as the County's project developer and general contractor responsible for overseeing all elements of project delivery**, including:

- Technical engineering and development of project scope, costs, and guaranteed savings;
- Assistance with evaluating and arranging financing options (if desired by the County);
- Project implementation and construction management including subcontractor oversight;
- Commissioning of installed equipment and training of County staff; and
- Any ongoing services desired by the County (which could include operations and maintenance services, and measurement and verification of guaranteed energy and operational savings).

Since its inception in 2000, **Ameresco has implemented over $14 billion in energy projects and is recognized as the leading clean technology integrator in North America**, having been named the ESCO of the Year in 2024 and 2023, and ranking as the #1 provider of Energy-as-a-Service (EaaS) solutions.

With no manufactured products of its own (like boilers, chillers, or building automation systems, for example), Ameresco is not incentivized to recommend specific equipment brands in its projects like some ESCOs. **Instead, Ameresco's independent and vendor-agnostic approach enables the development of best-value solutions – tailored to the County's specific facility conditions and project objectives.**

II. The ESCO Process and Work Completed to Date

The first step in the process is to identify which scopes of work should be developed and, subsequently, implemented to achieve the County's strategic objectives of carbon footprint reduction, improved energy resiliency during extreme weather events and utility outages, and prudent stewardship of any taxpayer dollars which may be used to fund these projects. At the September 10, 2024 BOS Meeting, Ameresco was authorized to conduct an investment grade audit (IGA) of County facilities to commence this first step.

The IGA work completed by Ameresco has included the following elements:

- Site visits by Ameresco team members to inspect the condition of existing equipment;
- Detailed analyses of County utility bills to identify savings opportunities; and
- Strategic discussions with County staff to ensure that considered improvements achieve the appropriate balance of reducing carbon footprint, improving energy resilience, upgrading critical infrastructure, reducing deferred maintenance backlogs, and ensuring financial feasibility.

Due to the current disrepair of Willits Branch Library's current roof – and the receipt of a State grant to partially fund its replacement along with technology that would enable the Library to operate independently from the utility grid in the event of an outage – Ameresco has prioritized its initial IGA work at this facility, at the County's direction.

While significant IGA work is planned for the remaining in-scope County facilities in December and January, this briefing focuses on summarizing the proposed project for the Willits Branch Library. We plan to include an agenda item requesting approval to execute a construction contract for this project at the January 2025 BOS meeting (date TBD). To optimize efficiency and reduce construction mobilization costs, Ameresco aims to commence construction in the Summer of 2025 for both the Willits Branch Library and the additional scopes of work currently in development at the remainder of in-scope County facilities. Again, the construction contract seeking BOS approval in January will only comprise the Library scope of work, with a second construction contract for the remaining facilities to follow.

III. Overview of Proposed Project

This briefing outlines the proposed installation of a new roof, rooftop solar photovoltaic (PV) system, and a battery energy storage system (BESS) at Willits Branch Library – the latter two components collectively referred to as a "microgrid." **These measures are intended to improve energy efficiency, reduce energy costs and provide enhanced energy resilience; thus, enabling the County to power the Library independently of the grid during both planned and unplanned utility interruptions.** These measures aim to reduce the Library's reliance on grid electricity, shift energy load to lower cost times of the day and enhance comfort and safety with a new roof.

The options provided in Section IV. Measure Offerings describe the various proposed offerings for the Library as well as provide some financial insight into each system's capabilities.

IV. Proposed Offerings

A. Project Option 1

This represents Ameresco's most comprehensive offering.

- **Roof** – Taylor Metals Versa-Span roof system with an expected life of 40 years. The proposed price assumes tearing down the existing roof to purlins, installing sheathing for the new roof and insulation over the flat portion of the roof. The assumption for such an extensive upgrade is being made due to the deteriorated condition of the existing roof and significant leaks noticed on-site.
- **PV** – 32.4 kW DC solar will generate over 90% of annual electricity usage. This will allow for future electrification of the rooftop HVAC, if desired, and the elimination of natural gas usage.
- **BESS** – 40kW, 122 kWh battery. This option provides load shifting capabilities, allowing the Library to minimize electricity purchased during more expensive time of use periods. Currently the Library's peak energy usage is about 28 kW. As such, this battery can operate for 3 hours at maximum 40 kW usage – which represents an extreme use case where all electric loads are being concurrently used. With existing Library equipment, it could operate completely isolated at maximum load conditions for 4 hours. However, in reality, this battery system will enable off-grid operation of the Library for a much longer period – likely multiple days – under normal historical energy usage conditions at this facility. This will allow the Library to island itself from the utility grid and provide emergency shelter to residents and other stakeholders during utility interruptions.

Measure Name	Annual kWh Savings	Annual Therm Savings	Total $ Savings	Upfront Cost	Grants & Incentives	Net Cost	Simple Payback
Metal Roof Replacement	318	29	$2,729	$489,499	$247,040	$242,459	88.8
32.4 kW PV, 40 kW/122 kWh BESS	36,792	0	$11,915	$467,820	$140,346	$327,474	27.5
Total	**37,110**	**29**	**$14,644**	**$957,320**	**$387,386**	**$569,934**	**38.9**

This offering allocates the full $247,080 of the state provided grant funds to the roof replacement. Additional funding for the solar and BESS installation are achieved via the Inflation Reduction Act (IRA) Investment Tax Credit (ITC) totaling 30% of the installation cost for the microgrid – in this case, approximately $140,000. The resulting cost to the County is approximately $570,000 including the $247,080 that the County will match for the grant . Due to the relatively low energy usage at this facility, the savings are approximately $14,000 per year, resulting in a simple payback of about 39 years.

B. Project Option 2

This offering may be viewed by the County as "middle-of-the-road" in terms of both technical capability and financial attractiveness.

Similar to Project Option 1, this option replaces the existing roof with a like-for-like composite shingle roofing system and reduces the battery size from 40 kW to 30 kW with similar energy output.

- **Roof** – Replace the existing roof with a similar composition shingle roof with an expected useful life of 20 years – approximately half the useful life of the metal roof option. This price still assumes the complete tear down to the purlins of the existing deteriorated roof.
- **PV** – Remains the same.
- **BESS** – Remains the same.

Measure Name	Annual kWh Savings	Annual Therm Savings	Total $ Savings	Upfront Cost	Grants & Incentives	Net Cost	Simple Payback
Composition Roof Replacement	318	29	$2,729	$358,183	$247,040	$92,960	40.7
32.4 kW PV, 40 kW/122 kWh BESS	36,792	0	$11,915	$467,820	$140,346	$326,142	27.5
Total	**37,110**	**29**	**$14,644**	**$826,003**	**$387,386**	**$438,617**	**30.0**

Project Option 2 reduces the roof replacement cost due to the composition shingle installation rather than a metal roof. In this offering the same $247,080 of the state provided grant is applied to the roof replacement and the expected ITC value is similar. The resulting cost to the County with the reduced composition shingle roof cost is approximately $440,000 including the $247,080 of grant funds that the County will match. The savings remain around $14,000 annually resulting in a simple payback of about 30 years.

V. Conclusion

This initiative presents an extraordinary opportunity to dramatically enhance the facilities at Willits Branch Library. While three core project options have been identified and proposed herein, there are several alternative permutations that could be explored (for example, a metal roof combined with the smallest microgrid option). Our team will gladly organize the scopes of work into any project the County deems to best support its objectives. We at Ameresco are eager to collaborate with Willits Branch Library staff and the County of Mendocino to significantly improve the safety, aesthetics, and operational efficiency of these facilities while supporting the County's strategic goals of carbon footprint reduction, improved energy resilience, and ensuring fiscal responsibility.

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