RIVERSIDE UNIFIED SCHOOL DISTRICT
OPERATIONS DIVISION

Operations Board Subcommittee Meeting
December 20, 2017
1:00 p.m. – 2:30 p.m.
Conference Room 3
3380 14th St., Riverside, CA 92501

A G E N D A

As required by Government Code 54957.5, agenda materials can be reviewed by the public at the District's Administrative Offices, Reception Area, First Floor, 3380 Fourteenth Street, Riverside, California.

Call Meeting to Order

Public Input

The subcommittee will consider requests from the public to comment. Comments should be limited to three minutes or less. If you wish to address the subcommittee concerning an item already on the agenda, please indicate your desire to do so on a provided card. You will have an opportunity to speak prior to the subcommittee's deliberation on that item.

Pursuant to Section 54954.2 of the Government Code, no action or discussion shall be undertaken on any item not appearing on the posted agenda, except that members of the Subcommittee or staff may briefly respond to statements made or questioned posed by persons exercising their public testimony rights. Discussion of items brought forward that are not on the agenda shall be considered for future agendas by the Subcommittee Chair.

Action/Discussion Items

The following agenda items will be discussed and the subcommittee members may choose to introduce and pass a motion as desired.

1. **Approval of Minutes**
   The subcommittee will be asked to approve the minutes of the November 14, 2017, meeting.

2. **Project Design Scope of Work Protocol**
   The subcommittee will be asked to review a protocol for presenting project design scope of work.

3. **Cleveland and Myers Property Update**
   Staff will present an update on the Cleveland and Myers property.

4. **Solar Power Purchase Agreement Project Update**
   Seven (7) firms responded to the Solar Power Purchase Agreement (PPA) Request for Proposals. Each proposal has been evaluated by our consultant, Sage Environmental, and

ranked according to several qualitative and quantitative parameters. This evaluation has produced a short list of the three (3) top-ranked responding firms: Forefront Power, Opterra Energy, and REC Solar. Staff is recommending that follow-up interviews be conducted with the firms to make a final determination as to who would be the best fit for this project and RUSD. Upon selection of a single firm, a final contract and PPA terms will be negotiated.

5. Schedule of Meetings

The subcommittee will be asked to schedule a calendar of meetings for the 2018 calendar year.

Conclusion

Subcommittee Members Comments

Adjournment

Item No. 1

Riverside Unified School District
Operations Division
Operations Board Subcommittee Meeting
November 14, 2017
1:00 p.m. – 3:00 p.m.
Conference Room 1
3380 14th St., Riverside, CA 92501

MINUTES

CALLED TO ORDER: 1:00 p.m. a.m. by Mr. Hunt

PRESENT: Tom Hunt and Angelov Farooq, Board Members, and Sergio San Martin, Assistant Superintendent, Operations.

Also present were Mays Kakish, Chief Business Officer; Ana Gonzalez, Director, Planning and Development; Ken Mueller, Director, Maintenance and Operations; Gary McGuire, Director, Pupil Services, Kevin Hauser, Assistant Director, Facilities Projects; Jessica Mears, Assistant Director, Facilities Planning, Victor Cisneros, Principal, Ramona High School, Richard Prince, Community Relations Manager, and Lizette Delgado, (Recorder).

Public Input

There were no requests to speak to the subcommittee members.

Action/Discussion Items

1. **Approval of Minutes**
   Dr. Farooq moved and Mr. Hunt seconded to approve the minutes of the August 7, 2017, meeting, as presented.

2. **Ramona High School Theater Renovation Project – Update**
   The Ramona High School Theater Renovation Project began on July 16, 2016, and it is scheduled to be completed by the end of November 2017. The project's budget was $17.4 Million and the funding sources were Measure B, Career and Technical Education, and State Seismic. The project is 98% complete.

   Staff presented an update on the current progress of the project, which included East wall graphics, gallery walk exterior landscaping; main auditorium and seating, orchestra pit, theater stage and curtain installation; lobby flooring and restroom; drama classrooms/dressing rooms; gallery walk interior; band classroom instrument storage; choir classroom, and class wing restroom. The cost for an outside frosted glass vinyl film overlay impact or perforated vinyl wrap signs was also discussed. Staff mentioned that trainings have been scheduled for stage lighting, audio/visual; rigging and scaffolding, three-stop pit elevator, and fire pump.

   The Ramona High School Theater Grand Re-Opening Ceremony has been scheduled for Thursday, December 7, 2017, from 4:00 to 6:00 p.m. Site staff with the assistance from the Communications, Visual and Performing Arts, and Planning and Development departments, has put together a program, which includes the participation of students, faculty, members of

the Board of Education, District Superintendent, and Superintendent's Cabinet. Parents, members of the community, neighboring school districts, community college, and universities staff and board members, stakeholders, and dignitaries will be invited to the ceremony. Staff shared with the subcommittee that LPA Architects and Tilden Coil Constructors, Inc., the project's architect and construction management firms, respectively, donated funds towards the grand re-opening ceremony. Subcommittee members, on behalf of the Board of Education, thanked them for their donations and support.

Subcommittee members asked Communications staff to reach out to *The Press Enterprise* to promote the event. Invitations for the event are scheduled to be sent out on Friday, November 17.

3. Summer 2017 Project Recap

Staff provided a recap of the several projects that were completed during the summer. Deferred Maintenance projects included: asphalt repair at fourteen schools ($395,281); exterior painting at nine schools ($491,300); fire alarm upgrade at Sierra Middle and Riverside Polytechnic High schools($122,914); flooring and carpet replacement at various sites ($521,908); landscape and irrigation replacement at Matthew Gage (Phase I) and Sierra Middle schools, and Riverside STEM Academy ($1,260,000); roofing repair at ten schools ($1,835,876); and sewer replacement/repair at four schools ($775,000). Deep cleaning and refinishing of floors, including gym floors, was also included in the projects.

Proposition 39, 2017 Energy Savings Measures projects at five schools ($1,950,000); growth portables projects at Emerson and Kennedy Elementary schools, ($581,000 per site); Heating and Air Conditioning Replacement, Phase II, at Riverside Polytechnic High School ($3,900,000); Ramona High School Theater Remodel; Lincoln High School Serving Kitchen ($638,371); Washington Elementary School playground structure ($116,278); and Highgrove Elementary School sewer connection ($134,628); were also projects that were completed during the summer. 2017

Subcommittee members asked Maintenance and Operations staff to work with Communications Department staff to prepare a recognition at a Board of Education meeting of the maintenance and cleaning crews for a job well done. They also recommended that the report be shared with schools' PTAs to let parents and community know how the community investments are being used.

4. Solar Power Purchase Agreement Project Update

Staff reported that October 20, 2017, in response to a Request for Proposal (RFP), seven firms submitted proposals for the installation of photovoltaic systems at our three schools serviced by Southern California Edison. It was mentioned that the proposals are currently being evaluated by our consultant, Sage Renewables, using predetermined criteria in order to establish a short list of three to four firms that will go onto the next stage of the selection process. Eighteen firms responded to the initial Request for Information (RFI) and attended the mandatory job walk. The RUSD Phase 1 Solar PV Project Proposals Overview was presented to the subcommittee for information and discussion.

Subcommittee members were informed that Riverside Public Utilities is proposing a five-year plan rate increase that will raise the average commercial electrical rate by 4.8% and commercial water rates, by 8.6% per year for the next five years. It was also shared that Maintenance and Operations (M & O) staff has been working closely with RPU in response to the proposed electricity and water rate increases. Staff has begun discussions with RPU staff to determine areas where material partnerships can be developed in order to benefit RUSD students and has attended several community meetings scheduled by RPU, as well as the RPU Key Account Customer Seminar held on October 17.

Staff shared that the proposed rate increases will represent a total increase (electricity and water) of $260,000, for Year 1; $295,300, for Year 2; $303,800, for Year 3; $235,600, for Year 4; and $252,100, for Year 5. At the end of the five year period, it is anticipated that the District's annual electrical and water costs from RPU will be 21% higher than our current costs. The compounded impact to the General Fund is estimated to be $4,185,900. This does not take into account our schools serviced by Southern California Edison Company and the Western Metropolitan Water District, who have also dramatically increased their rates. A joint meeting with RPU and City Council has been scheduled for November 28. District staff will be present to testify on the impacts the rates increase will have on our schools.

Subcommittee members asked staff to work with Communications Department staff to reach out to leaders and representatives of City of Riverside, community organizations and employees unions to seek their support, as the rate increase will have a significant impact on our schools. A meeting with Girish Balachandran, RPU General Manager, was also recommended.

Staff will discuss at the November 27 Cabinet meeting the development of a plan to be presented to RPU to seek rebates that would benefit the District's educational programs. Staff will inform the Board of the outcome.

Subcommittee members asked staff to present an update on the project in February 2018.

5. Martin Luther King High School Wrestling Modular Building Project Update

Staff provided an update on the Martin Luther King High School Wrestling Modular Building project. The subcommittee briefly discussed the project and recommended it be postponed until the site is ready for modernization. Staff will communicate the school principal of the subcommittee's recommendation.

6. Security Measures Update

Staff presented an update on the District's security measures currently in place. Information included the safety cycle: policy, people, plans, prepare, predict. Staff provided with a list of current safety/security Board policies and a list of current District staff responsible for the coordination/executing of existing plans.

The subcommittee was informed that a District-wide visitor registration process is already in place along with intruder alert, emergency communication protocol and procedures. The subcommittee received information concerning the number of Campus Supervisor per site except for those sites where there is an Assistant Principal instead of a Campus Supervisor;

and the number School Resource Officers (SRO) serving the high school cluster schools. Multiyear safety security plan and components were also discussed.

Staff discussed with the subcommittee several other preliminary security measures that will be presented to the Superintendent's Cabinet for review and recommendations. Cabinet recommendations will be shared with the Board of Education at a future meeting.

7. Lincoln High School Serving Kitchen Ribbon Cutting Ceremony Update

Staff provided an update on the Lincoln High School Serving Kitchen Ribbon Cutting Ceremony scheduled for Monday, November 27, 2017, at 8:15 a.m.

Conclusion

Subcommittee Members Comments

There were no comments from subcommittee members.

Adjournment

Meeting was adjourned at 2:55 p.m.

RUSD
Innovation in Education

CLEVELAND / MYERS PROPERTY

Operations Board Subcommittee

December 20, 2017

BACKGROUND - DISTRICT SURPLUS PROPERTIES

Properties Considered for Surplus <u>September 2014</u>:

1. Van Buren (1.72 ac) – *next to King HS*
2. Grant Property (5.5 ac)
3. Cleveland-Myers (20 ac)
4. "Old" Hawthorne Property (6.85 ac)
5. District Office (1.1 ac)
6. Riverside STEM (former Hyatt Elementary) (10.8 ac)

Status - Completed:

- 7-11 Advisory Report Completed: August 2014
- Board of Education Accepted the Report. Sites not declared surplus.
- Riverside STEM (Hyatt site) – not recommended for surplus
- "Old" Hawthorne Property - no longer district owned

2440 Myers St. / 9711 Dufferin Ave.

20 Undeveloped Acres in the Riverside Greenbelt

Looking South from Cleveland

Looking North from Dufferin

Lease for Agricultural Use

Lease Conditions

- "As is" ground lease at market rate
- No structures designed for commercial or retail sales – temporary structures shall require District approval
- 5-year term with two optional 5-year terms
- Minimum of six months notice of termination
- Land restored to original condition upon lease termination

Opportunity

- Partner with GROW Riverside
- Farm to Table program at schools
- Agricultural education
- Increase opportunities to grow healthy foods locally
- Strengthen community and regional food systems
- Positive cash flow on fallow land
- Interim use

Time Line and Next Steps

Task	Due
Present to Operations Subcommittee	December 20, 2017
Draft RFP	February 1, 2018
Advertise RFP	February 15, 2018
Evaluate Proposals	March 30, 2018
Interview Finalist(s)	April 15, 2018
Negotiate Lease	June 1, 2018
Lessee Occupies	July 1, 2018

Subject: **Evaluation of Riverside Unified School District Solar PV Proposals**

Client: Riverside Unified School District

Prepared by: Sage Renewable Energy Consulting, Inc.

Date: December 4, 2017

1 Overview

In 2016, Riverside Unified School District ("RUSD" or "District") hired Sage Renewables ("Sage") to conduct a solar photovoltaic ("PV") feasibility study for several District facilities. The study concluded that the three District schools located in Southern California Edison (SCE) territory could develop solar projects that would likely generate utility savings for the District. The sites that were evaluated in Riverside Public Utilities (RPU) territory were not recommended for solar development because of the low, flat rate structure in RPU did not enable a solar project to generate savings for the District.

In late 2017, Sage assisted RUSD in developing and managing a Request for Proposals (RFP) for solar project at the three District sites in SCE territory. The three sites being considered as Phase I of the solar project are:

1. Lake Mathews Elementary School, 12252 Blackburn Rd, Riverside, CA 92503
2. Highgrove Elementary School, 690 Center St, Riverside, CA 92507
3. Woodcrest Elementary School, 16940 Krameria Ave, Riverside, CA 92504

The RFP was released on September 22, 2017. The RFP was conducted under CA Government Code 4217.10 *et seq*., which allows flexibility in process and selection of a vendor for the PV project rather than requiring the District to go with the lowest cost proposal. The RFP solicited solar proposals for turnkey design-build services, operations and maintenance ("O&M"), and performance guarantees ("PeGu") with both District purchase or third-part owned and operated Power Purchase Agreement ("PPA") financing options. Additionally, there were additive alternates, including: 1) flat screen monitoring displays for each school, 2) solar education component to assist with curriculum development, and 3) battery energy storage systems ("BESS").

Sage and District staff conducted a mandatory preproposal conference and site walk on September 29, 2017 with sixteen vendors in attendance. On October 20th, seven proposals were submitted by the following vendors:

1. Borrego Solar
2. Current by G.E., with Baker Electric
3. Forefront Power
4. Opterra Energy
5. PCI Solar
6. PermaCity Solar
7. REC Solar

2 Methodology

Sage conducted a preliminary review of all proposals to confirm that all firms met the minimum qualifications and adhered to the requirements RFP. Attachment A provides an overview of all seven proposals that were received. After the reviewing the initial analysis with the District, Sage conducted a detailed evaluation and 25-year financial modeling of the best value proposals. BESS proposals were not considered at this time due to insufficient financial performance.

Proposals were reviewed and ranked based on the criteria outlined in the RFP and established by the District. The review considered the following items provided in the responses to the RFP as well as lifecycle cost/savings analyses performed by Sage based on the base proposals from each vendor. The lifecycle cost analyses use conservative financial and utility rate assumptions agreed upon with the District.

2.1 Qualitative Proposal Evaluation Parameters (Form B1, from the RFP)

1. Firm Background
2. Relevant Project Experience
3. Proposed Project Team
4. Production and Financial Modeling
5. System Design and Components
6. Schedule
7. System Performance Monitoring and Verification
8. Warranty
9. Operations and Maintenance
10. Performance Guarantee
11. Quality Assurance/Quality Control
12. Exceptions to Energy Services Terms

2.2 Financial Quantitative Proposal Evaluation Parameters (Form B2, from the RFP)

1. Base Price/PPA Rate
2. Escalation rates
3. Performance Guarantee and O&M Costs
4. Year-1 Financial Impacts
5. Estimated and Guaranteed 25-Year Net Present Value of Savings

3 Best Value Proposals

All proposals were generally responsive to the RFP, competitive in pricing and met the objective of providing savings to the District from year 1. All proposals were reviewed for firm qualifications, the criteria requested in the RFP and for best value to the District. As part of determining best value, Sage established weighted criteria to rank the proposals with the input of District administration. Alternate proposals, value engineering and unique offers were also considered and evaluated.

Best value criteria were: 1) Project financial savings; 2) vendor project experience, qualifications, and financial stability; 3) system design, components, schedule, operations and maintenance (O&M) and performance guarantee offerings; and 4) references, alternates, and overall RFP response.

The following three firms were shortlisted based on the best value criteria:

1. Forefront Power
2. Opterra Energy
3. REC Solar

4 Findings

The following provides an overview of the shortlisted proposals. Detailed summaries of evaluation findings of all RFP parameters are provided in Attachments B, C & D.

4.1 Findings – General

1. All proposals were generally responsive to the RFP.
2. All firms are well qualified and proposed projects that would meet that goals of the District.
3. All firms confirmed they could meet schedule requirements.
4. Base proposal offerings are the focus of this memorandum.

4.2 Findings – Vendor Specific Shortlisted Proposals

Forefront	The firm has been in business as Forefront Power for only a year. It was previously operated as SunEdison, which dissolved in bankruptcy in 2016. All DSA project experience and references provided were SunEdison's. Forefront is backed by Mitsui & Co., a Japanese multinational energy company and part of one of the largest corporate groups in the world. Forefront's RFP response was comprehensive, professional, and customized to the District. Their design showed close adherence to criteria specified in the RFP, including thorough design and a well-prepared proposal. They utilized premium quality Tier 1 solar modules and inverters in their designs. They provided a 95% production guarantee (PeGu) at no additional cost and a robust, cost competitive 25-yr operations and maintenance (O&M) offering. The provided a detailed schedule with construction during the summer break and commercial operation in October.
Opterrra	OpTerra is a project development and financing firm that works with school districts and other public and private clients to develop, finance and maintain solar PV systems and energy efficiency measures. OpTerra is a well established energy firm. They acquired Chevron Energy Solutions, Chevron's renewable energy development subsidiary, in 2014. In 2016, OpTerra was acquired by Engie, a diversified international energy company. OpTerra's pricing and financial projections were the most competitive out of all proposals received. They proposed Tier 1, high efficiency LG PV modules and Solectria inverters. They offered 95% PeGu for an extra fee. Sage recommends not purchasing

	the PeGu if financing the project with a PPA because the vendor is already highly incented to ensure that the project is performing optimally. OpTerra's aggressive PPA pricing and very low contract buyout cost resulted in the greatest savings generated by the project. Opterra provided a detailed schedule with construction over the summer break and commercial operation by the beginning of October.
REC Solar	REC Solar has been in business for over 20 years, is headquartered in San Louis Obispo. REC is one of the leading commercial solar companies in the industry and has financial backing from Duke Energy, a large energy company with holdings throughout North and South America. Duke recently acquired REC. They have substantial DSA experience. Their RFP response was thorough, and their system design and system performance showed close adherence to criteria specified in the RFP. They utilize high quality, standard efficiency solar modules and inverters in their designs. They offered a 95% PeGu at additional cost. They provided the most conservative project schedule, with commercial operation at the end of November.

4.3 Financial Modeling Results

Attachment D provides details of the cost proposals and financial performance results, including 25-year cash flows for each scenario. The graphs below show the 25-year guaranteed NPV savings, the cumulative savings over the 25-year life of the project, and the expected annual utility savings for the various financing scenarios. All net present value calculations use a 2% discount rate. All values are based on 95% performance guarantee.

Figure 1

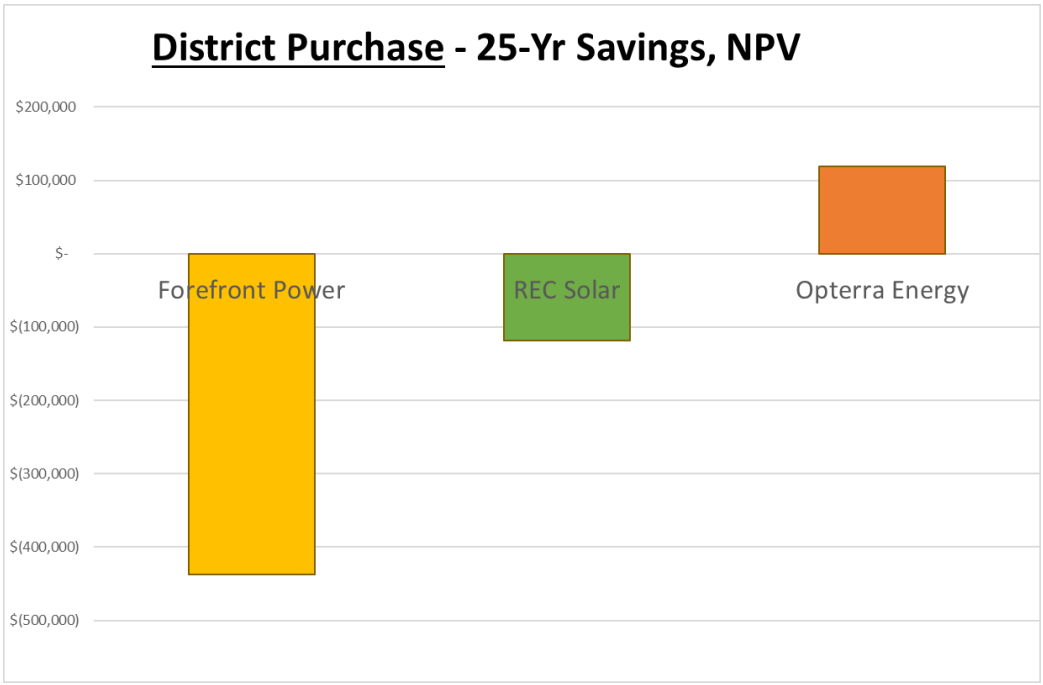


Figure 2

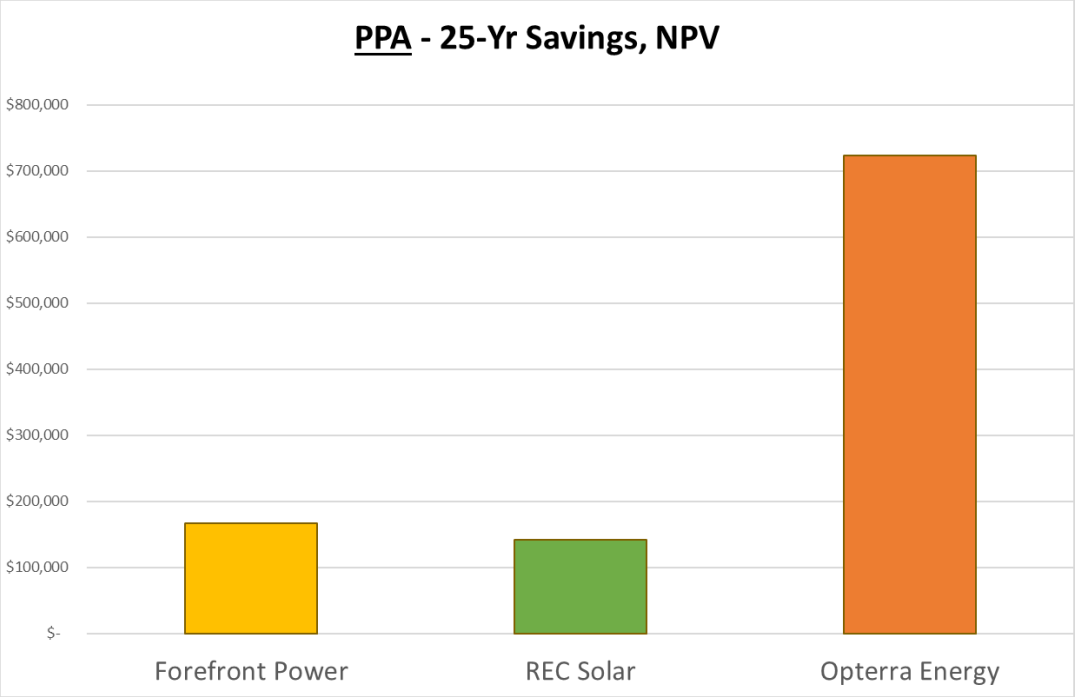


Figure 3

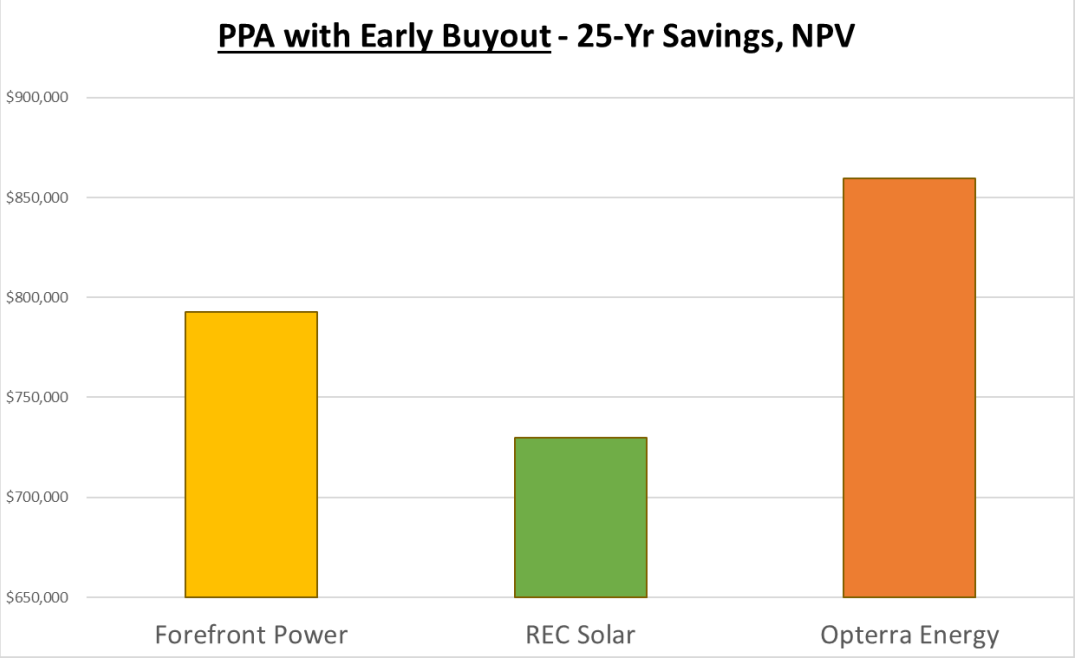


Figure 4

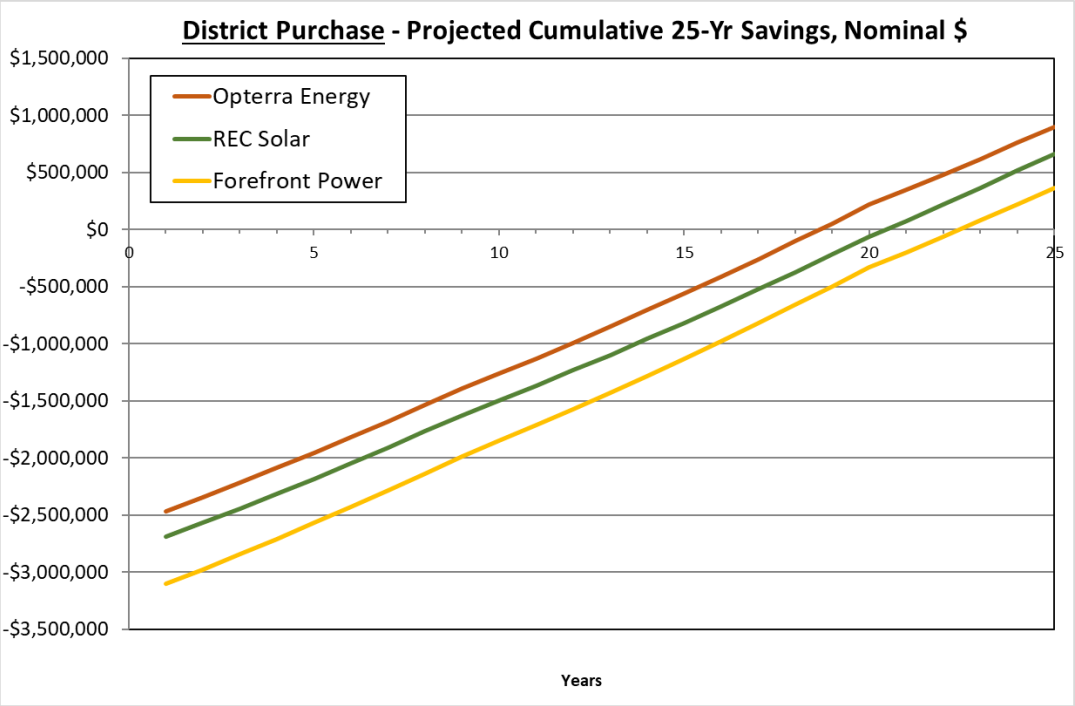


Figure 5

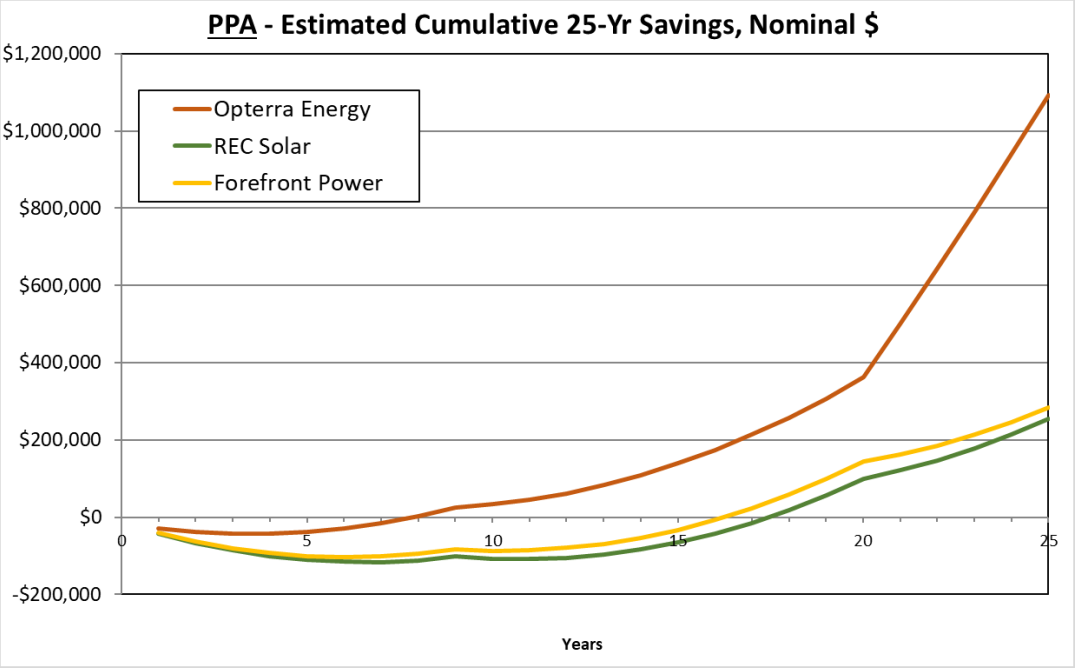


Figure 6

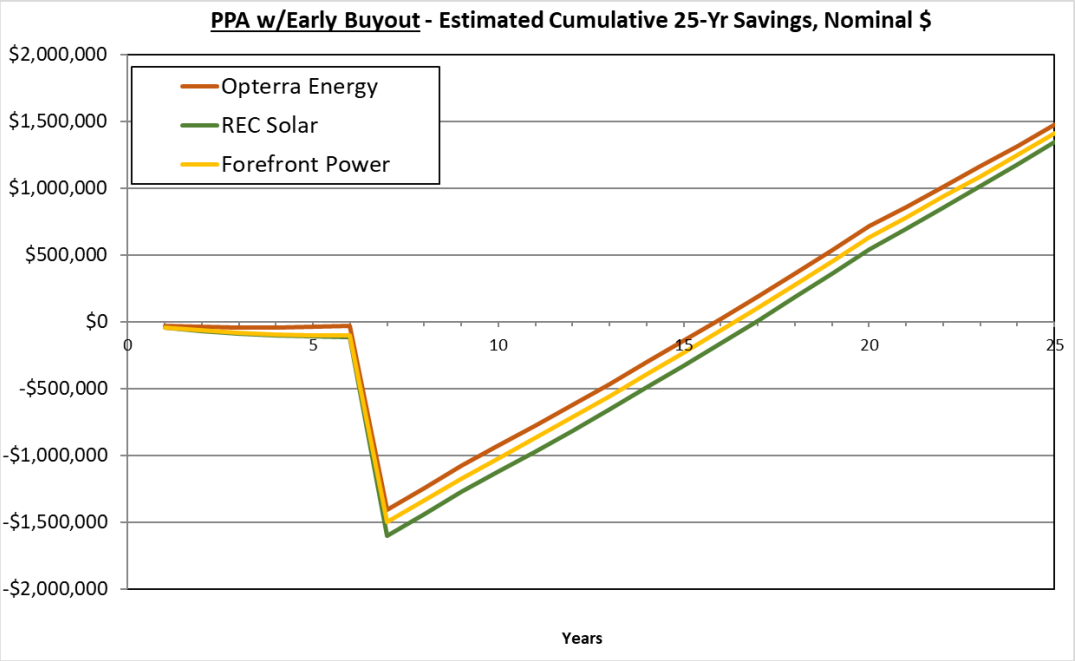
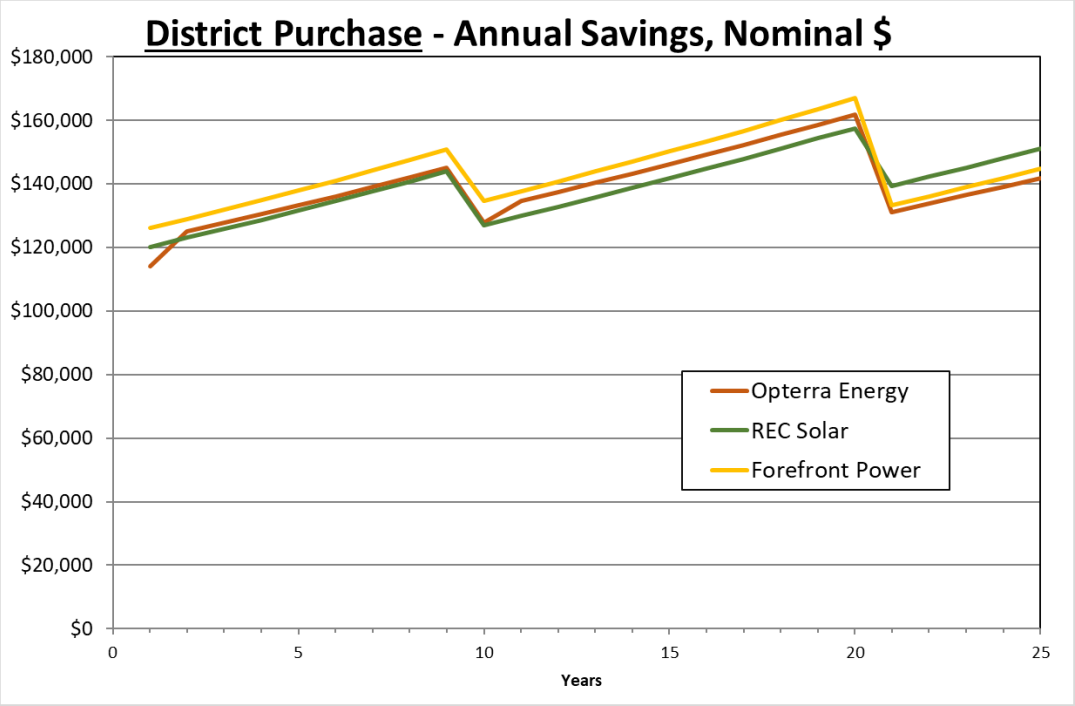
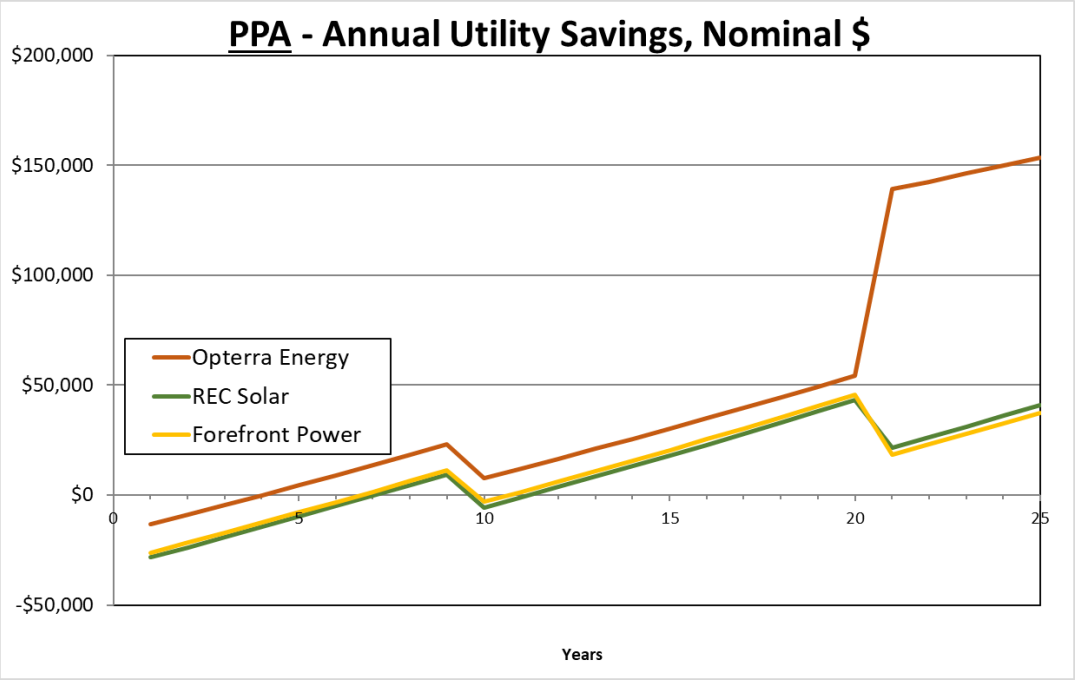


Figure 7



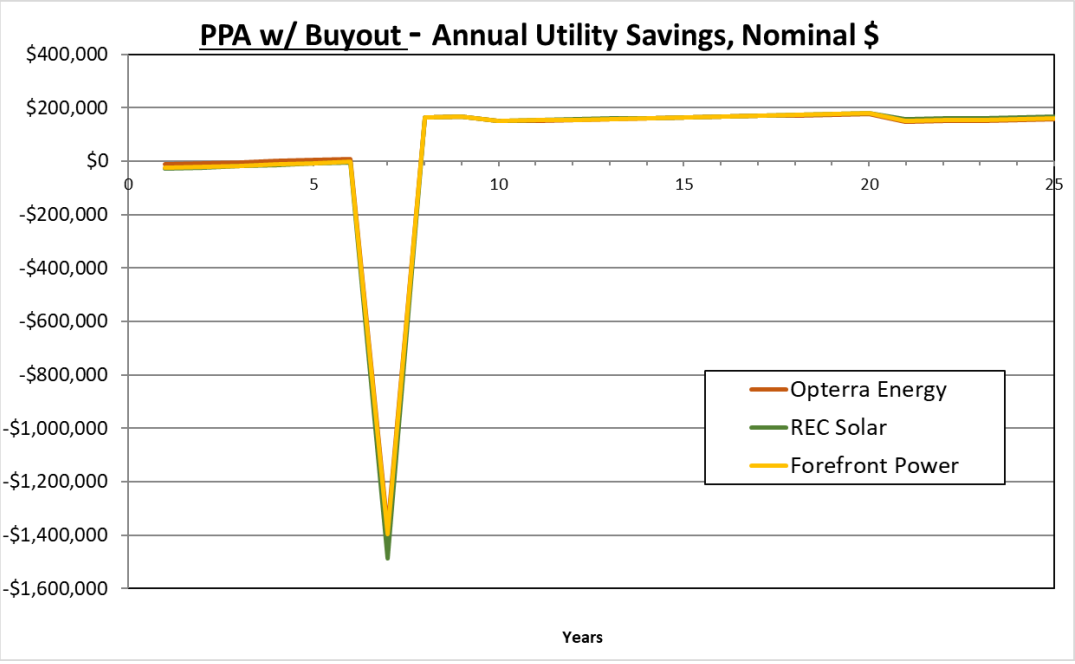
Note: Drop in savings in year 10 due to TOU grandfathering expiration and year 20 due to NEM 20-yr expiration.

Figure 8



Note: Drop in savings in year 10 due to TOU grandfathering expiration and year 20 due to NEM 20-yr expiration. Opterra dropped their PPA rate to $0.0330/kWh in years 21-25, which accounts for increased savings.

Figure 9



Note: Due to conservative SCE rate degradation assumptions and inflation of O&M services, savings appear to be relatively consistent in this graph from year-8 on. The post buyout savings in years 8-25 essentially mirror the graph in Figure 7, but the scale of this graph shows far less granularity..

5 Recommendations

Based on the criteria established by the District, Sage recommends conducting interviews with the shortlisted firms to learn more about their offerings and determine which vendor would offer the most value as a partner in the solar project. All three shortlisted firms have sufficient experience and project financing needed to develop and operate a successful solar project.

6 Next Steps

1. Interview Shortlisted Firms – Conduct formal interview process with top three firms.
2. Select Highest Ranked Firm – Rank firms based on best value criteria.
3. Contract Negotiations - Authorize District representatives to enter into contract negotiations with the preferred Proposer, with the intent to bring a finalized contract to the Board for approval.
4. Government Code 4217 – Post notice of intent to enter into energy service contract under GC 4217 two weeks before regularly scheduled Board meeting and prepare resolution with findings for Board approval.
5. Contract Award – Award contract to preferred Proposer.
6. Project Kickoff - After execution of the Contract, conduct a Project kickoff meeting to introduce all Project team members, review criteria, schedule and requirements, and set up regular Project meetings going forward.
7. Design - Oversee and assist with design and permitting of the PV systems.
8. Construction - Oversee and coordinate construction at the individual sites.
9. Commissioning - Confirm commissioning and interconnection of the systems.
10. Project Close Out – Ensure that all contract requirements were met and the Project is closed and certified with DSA.
11. Operations – Assign District personnel or hire solar asset management service to provide monitoring and verification of ongoing maintenance and performance of the systems, including quarterly and annual performance and financial reporting.

Attachment A
Overview of All Proposals

Riverside USD Phase 1 Solar PV Project Proposals Overview

Metrics	Borrego Solar	Current/ Baker Elec.	Forefront Power	Opterra Energy	PCI Solar	PermaCity Solar	PFMG Solar	REC Solar
Total System Size (kW DC)	686.40	680.40	702.90	691.20	712.80	749.16	N/A	707.94
Year 1 PPA Price ($/kWh)	**$0.1850**	**$0.1693**	**$0.1548**	**$0.1410**	**$0.1890**	**$0.1810**	N/A	**$0.1558**
PPA Term (years)	25	25	25	25	25	25	N/A	25
PPA Price Escalation (%/year)	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	N/A	**0.0%**
PPA Cost Adjustment per $25k Dev. Cost Delta ($/kWh)	$0.00000	$0.00136	$0.00528	$0.00140	$0.00150	$0.00100	N/A	$0.00150
Cash Price ($)	**$2,422,992.00**	**$2,805,867.00**	**$2,759,588.15**	**$2,207,794.25**	**$2,516,249.00**	**$2,539,652.40**	N/A	**$2,401,534.00**
Cash Price per Watt ($/W)	$3.53	$4.12	$3.93	$3.19	$3.53	$3.39	N/A	$3.39
Yr. 1 Production (kWh)	**1,199,238**	**1,205,680**	**1,165,500**	**1,217,935**	**1,136,672**	**1,216,047**	N/A	**1,205,604**
Average Annual Yield (kWh/kW DC)	1,747	1,772	1,658	1,762	1,595	1,623	N/A	1,703
Annual Degradation (%)	0.05%	0.60%	0.50%	0.50%	0.50%	0.75%	N/A	0.50%
Performance Guarantee (%)	**95%**	**95%**	**95%**	**95%**	**90%**	**90%**	N/A	**100%**
Cost for PeGu ($)	$137,037	$69,788	$0	$226,047	$98,062	$82,123	N/A	$340,357

Attachment B

Shortlist Qualitative Proposal Review

DRAFT Proposal Review

Riverside Unified School District Phase 1 Solar Project

			Forefront Power	Opterra Energy	REC Solar
Qualifications					
Q1	Minimum Qualifications	Pass/Fail	Pass*	Pass	Pass
Q2	Firm Info - PV	Summary	- Has been in business for over a decade. - Formerly operated as SunEdison - Subsidiary of Mitsui & Co, Ltd. - HQ in San Francisco	-Opterra has been in business for 43 years through its legacy companies and three years as Opterra Energy Services, Inc. -Wholly owned subsidiary of ENGIE, the largest energy services company and largest independent power producer in the world. -Based in Oakland, CA	- Founded in 1997 - Duke Energy is majority shareholder - HQ in San Luis Obispo
Q3	Firm Financial Info	Summary	- Parent Company is Mitsui & Co., a Japanese multinational energy company and part of one of the largest corporate groups in the World. - Only provided parent company financials, no subsidiary information provided. - $19B in cash on balance sheet - $40B in annual revenue	- Parent Company is Engie, a French multinational energy utility company - Only provided parent company financials, no subsidiary information provided. -Total Assests $2,707,459,000 - Total Equity $344,751,000 - Total Liabilities $2,362,708,000	- Parent company is Duke Energy, a large energy holdings company based in Charlotte, NC, with assets throughout the US, Canada, and Latin America. - Audited Financial Statement, 2015 - Liabilities: $43.1M - Assets: $53.3M - Capital Ratio: 81% - Cash Flow: $750k - Interest: $29k
Q4	Project Experience	Summary	- Substantial multi-site DSA experience as SunEdison. - Extensive DSA experience as SunEdison. - Substantial carport experience as SunEdison	- Substantial multi-site DSA experience. - Extensive DSA experience. - Substantial carport experience	- Substantial multi-site DSA experience - Both canopy subs have substantial DSA experience - Included multiple medium voltage switchgear projects
	Project Team	Summary	-Detailed project team outlined. - SunWorks is the listed EPC vendor	-Detailed project team outlined with extensive DSA experience	-Detailed project team outlined with extensive DSA experience
Proposals					
P-1	System Performance Modeling	Summary	-Utilized Pvsyst -No details on soil loss - Panel degradation of 0.5%	-Propietary modeling, energy tool base and PVsyst - Panel degradation of 0.55% - 3.4% soiling rates	-Propietary modeling and helioscope - Panel degradation of 0.3% - 0.5% - 5% soiling rates
P-2	System Design & Components	Summary	- Solar panels - Trina Solar - Inverter - Sungrow - Shade Structure -DSA Precheck MBL Canopy - Monitoring - Locus Energy	- Solar panels - LG400N2W-A5 - Inverter - Solectria Solar - Shade Structure -DSA Precheck but no specific vendor listed - Monitoring - Powerlogic	- Solar panels - ET Solar mono or equiv Tier 1 - Inverter - Solectria Solar - Shade Structure - MBARC, RBI Solar or DSA Precheck - Monitoring - Green Power Monitoring
P-3	Schedule	Summary	-Detailed project schedule - Design Complete 6/6/18 - Construction ,Cx and PTO by 9/18/18	-Detailed project schedule - Design Complete 5/4/18 - Construction Complete 8/10/18 - Cx Complete 9/13/18 - COD 10/05/18	-Detailed project schedule - Design Complete 4/16/18 - Construction Complete 10/10/18 - Cx Complete 11/8/18 - COD 11/29/18

SAGE RENEWABLES

RUSD

DRAFT Proposal Review

Riverside Unified School District Phase 1 Solar Project

			Forefront Power	Opterra Energy	REC Solar
P-4	Construction	Summary	-Detailed explanation of construction plan, communication and meeting/reporting -'SunWorks is sub	-detailed team and construction management plan provided. - Opterra intends to use the following subctontractors 4Stel, Herzog Electric and M Bar C.	-Specific resources, subcontractors and suppliers cannot be officially commited to projects prior to contract exuction. -SR PM and SR Engineer will oversee the project - MBarC is normal subcontractor for carports
P-5	System Performance Monitoring & Verification	Summary	-SolarNOC web based platform	- UtillityVision - Screen shots provided in body of proposal	- Green Power Monitoring (GPM) - Screen shots of GPM provided in body of proposal - Web based, cloud based, PV SCADA, PV+ and PV Portal
P-6	Warranty	Summary	-Modules 25 Years - Inverters - 10 Years - Racking - 20 Years - Transformers - 3 years - Extended warranty costs also listed	- 1 Year workmanship warranty - 'Solar Generating System Components' is covered under warranty for 10 years from the Substantial Completion Date - Modules: Power output: 25 Year limited warranty (meets RFP) - Inverters, string: 10 year warranty (meets RFP)	- REC 10 Year Workmanship Warranty provided. -Product Warranty 10 years -Power Output Warranty 25 years with a degrade rate over the term of the warranty.
P-7	Performance Guarantee & O&M	Summary	- Annual Degradation Rate - 0.50% - PeGu - 95% -Pegu Costs - First Year $0 -Annual PeGu Escalator 0% -PeGu Duration - 20 years - Yr. 1 O&M Costs : $9,841 - Annual O&M Escalator - 3% - O&M Terms - 20 years	-Annual Degradation Rate - 0.50% - PeGu - 95% -Pegu Costs - First Year $6,200 -Annual PeGu Escalator - 3% -PeGu Duration - 25 years - Yr. 1 O&M Costs : $15,206 - Annual O&M Escalator - 3% - O&M Terms - 10 years	-Annual Degradation Rate - 0.50% - PeGu - 100% -Pegu Costs - First Year $4,050 -Annual PeGu Escalator - 2.5% -PeGu Duration - 20 years - Yr. 1 O&M Costs - $17,940 - Annual O&M Escalator - 2.5% - O&M Terms - 20 years
P-8	Quality Assurance	Summary	-Detailed explanation of QA/QC process in various stages of project.	-"Our Energy Management Group acts as the QA/QC to promote continous, efficient operation of PV systems". -15 full time dedicated staff	- QA/QC procedure articulated and (6) full time personnel on staff
P-9	Exceptions to Contract Terms	Summary	-Forefront has the following comments: • Section 7.1, Option to Purchase – OK so long as the purchase price is the higher of the buyout value and fair market value. (This is for ITC eligibility and financing purposes). • Section 20, Insurance – OK with providing coverage, but because the system is located on the school's property for the term we would require that the school continue to maintain its own insurance as well. • Section 22, Assignment – Request that the Seller be able to make assignments to affiliates without prior written consent of purchaser. (We anticipate making at least 1 assignment to an affiliate during the term of the agreement for purposes of financing).	-Subject to final negotiation. -Sample Opterra PPA provided	-Provided a proposed PPA contract but no specific exceptions
P-10	Educational Component	Summary	-Integrated STEM curriculum for renewable energy. -Training for students and teachers	-Detailed educational component offered at a to be determined cost.	-Detailed offering at no additional costs and example Academic Services Agreement. 'Additional educational services offered for increased cost

Attachment C

Summary of Shortlisted Proposed Components, Energy Production, and Environmental/Ancillary Benefits

Attachment C - Summary of System Design & Performance

Riverside Unified School District Phase 1 Solar Project

	Forefront Power	Opterra Energy	REC Solar
System Details			
System Lifetime (years)	25	25	25
System Nameplate Size (kWp)	702.9	691.2	707.94
PV Module Manufacturer	Sungrow	LG	ET Solar
Module Nameplate (Wp)	355	400	345
Number of Modules	1980	1728	2052
Inverter Manufacturer	Trina	Solectria	Solectria Solar
Carport/Shade Structure Manufacturer(s)	MBL	PC - Not Specified	MBarC
Energy Production			
Year-1 Production, Estimated (kWh)	1,165,500	1,217,900	1,205,600
System Yield (kWh/kWp)	1,658	1,762	1,703
Production Guarantee	95%	95%	100%
Year-1 Production, Guaranteed (kWh)	1,107,200	1,157,000	1,205,600
Annual Output Degradation, Vendor	0.5%	0.5%	0.5%
25-yr Cumulative Output - Vendor Guaranteed (kWh)	26,081,700	27,255,100	28,399,100
Environmental Savings & Ancillary Benefits			
CO2e Offset, Year 1 (tons)	388	405	401
CO2e Offset, 25-Year (tons)	9,130	9,540	9,440
Equivalent Trees Planted (per year)	77,500	81,000	80,200
Equivalent Passenger Cars Emissions Offset (per year)	39,500	41,200	40,800
Shade Area Created (Sq. feet)	122,800	107,100	127,200
Notes			

CO2e - Carbon dioxide equivalent
kWh - Kilowatt-hour
Wp - Watt Peak
kWp - Kilowatt peak

Attachment D

Summary of Shortlisted Cost Proposals and Financial Performance

Attachment D - Summary of Financial Analysis with TOU Grandfathering

Riverside Unified School District Phase 1 Solar Project

	Forefront Power	Opterra Energy	REC Solar
District Purchase - Financial Summary			
Base Cost	$2,759,588	$2,207,794	$2,401,534
Base Cost, Cost $/Watt	$3.93	$3.19	$3.39
Soft Costs and Project Contigency	$469,100	$375,300	$408,300
Soft Costs and Project Contigency, %	17.0%	17.0%	17.0%
Cash - First Year Financial Analysis			
Year-1 Bill, No PV	$255,300	$255,300	$255,300
Year-1 Estimated Total Energy Costs, w/ PV	$129,200	$141,100	$135,000
Year-1 Estimated Savings vs. Utility	$126,100	$114,200	$120,300
Year-1 Residual Utility Energy Cost	$93,700	$86,400	$88,100
Year-1 Utility Bill Offset	49%	45%	47%
Cash-25 Year Financial Analysis			
Year 25, Project Lifetime Energy Savings, NOMINAL	$509,600	$1,050,900	$814,600
Year 25, Project Lifetime Energy Savings, NPV	($333,800)	$226,700	($12,200)
PPA- First Year Financial Analysis			
PPA Rate per kWh	$0.1580	$0.1410	$0.1558
PPA Rate Escalator per year	0%	0%	0%
Year-1 Bill, No PV	$255,300	$255,300	$255,300
Year-1 Estimated Total Energy Costs, w/ PV	$281,400	$268,600	$283,500
Year-1 Estimated Savings vs. Utility	($26,100)	($13,300)	($28,200)
Year-1 Residual Utility Energy Cost	$93,700	$86,400	$88,100
Year-1 Utility Bill Offset	-10%	-5%	-11%
PPA-25 Year Financial Analysis			
Year 25, Project Lifetime Energy Savings, NOMINAL	$302,400	$1,159,000	$277,700
Year 25, Project Lifetime Energy Savings, NPV	$179,900	$766,800	$156,500
PPA-25 Year Financial Analysis w/ Buyout at Year 7			
Year 25, Project Lifetime Energy Savings, NOMINAL	$1,543,300	$1,614,800	$1,486,700
Year 25, Project Lifetime Energy Savings, NPV	$887,200	$959,000	$827,800

Forefront Power Proposal - 25-year Cashflow Analysis for *PPA*								
Year	Annual PPA Rate	Solar Energy Cost Purchased from PPA	Residual SCE Electricity Cost	Annual Project Operating Costs	Total Annual Energy Cost *with* Solar	Total Annual Energy Costs *without* Solar	Total Annual Utility Savings	Cumulative Project Savings
0				$15,000				($15,000)
1	$0.1580	$184,100	$93,700	$3,500	$281,400	$255,300	($26,100)	($41,100)
2	$0.1580	$183,200	$97,700	$3,600	$284,600	$262,900	($21,700)	($62,800)
3	$0.1580	$182,300	$101,900	$3,700	$288,000	$270,800	($17,200)	($79,900)
4	$0.1580	$181,400	$106,300	$3,800	$291,500	$278,900	($12,600)	($92,500)
5	$0.1580	$180,500	$110,800	$4,000	$295,200	$287,300	($7,900)	($100,400)
6	$0.1580	$179,600	$115,400	$4,100	$299,100	$295,900	($3,200)	($103,600)
7	$0.1580	$178,700	$120,300	$4,200	$303,200	$304,800	$1,600	($102,000)
8	$0.1580	$177,800	$125,300	$4,300	$307,400	$313,900	$6,500	($95,500)
9	$0.1580	$176,900	$130,500	$4,500	$311,900	$323,400	$11,500	($84,000)
10	$0.1580	$176,000	$155,600	$4,600	$336,200	$333,100	($3,200)	($87,100)
11	$0.1580	$175,100	$161,600	$4,700	$341,500	$343,100	$1,600	($85,500)
12	$0.1580	$174,300	$167,900	$4,900	$347,000	$353,300	$6,400	($79,200)
13	$0.1580	$173,400	$174,300	$5,000	$352,700	$363,900	$11,200	($68,000)
14	$0.1580	$172,500	$181,000	$5,200	$358,700	$374,900	$16,200	($51,800)
15	$0.1580	$171,700	$187,900	$5,300	$364,900	$386,100	$21,200	($30,500)
16	$0.1580	$170,800	$195,000	$5,500	$371,300	$397,700	$26,400	($4,100)
17	$0.1580	$170,000	$202,400	$5,600	$378,000	$409,600	$31,600	$27,500
18	$0.1580	$169,100	$210,100	$5,800	$385,000	$421,900	$36,900	$64,400
19	$0.1580	$168,300	$218,000	$6,000	$392,200	$434,600	$42,300	$106,700
20	$0.1580	$167,400	$226,200	$6,200	$399,800	$447,600	$47,800	$154,600
21	$0.1580	$166,600	$268,600	$6,300	$441,500	$461,000	$19,500	$174,100
22	$0.1580	$165,800	$278,100	$6,500	$450,400	$474,900	$24,400	$198,500
23	$0.1580	$164,900	$288,000	$6,700	$459,600	$489,100	$29,500	$228,000
24	$0.1580	$164,100	$298,100	$6,900	$469,200	$503,800	$34,600	$262,600
25	$0.1580	$163,300	$308,700	$7,100	$479,100	$518,900	$39,800	$302,400

Totals	**$4,337,800**	**$4,523,400**	**$ 143,000**	**$8,989,400**	**$9,306,700**	**$ 317,100**

Opterra Energy Proposal - 25-year Cashflow Analysis for *PPA*								
Year	Annual PPA Rate	Solar Energy Cost Purchased from PPA	Residual SCE Electricity Cost	Annual Project Operating Costs	Total Annual Energy Cost *with* Solar	Total Annual Energy Costs *without* Solar	Total Annual Utility Savings	Cumulative Project Savings
0				$15,000				($15,000)
1	$0.1410	$171,700	$86,400	$10,500	$268,600	$255,300	($13,300)	($28,300)
2	$0.1410	$170,800	$90,300	$10,800	$271,900	$262,900	($9,000)	($37,300)
3	$0.1410	$170,000	$94,300	$11,100	$275,400	$270,800	($4,500)	($41,800)
4	$0.1410	$169,100	$98,500	$11,400	$279,000	$278,900	($100)	($41,900)
5	$0.1410	$168,300	$102,800	$11,700	$282,800	$287,300	$4,500	($37,400)
6	$0.1410	$167,400	$107,300	$12,000	$286,800	$295,900	$9,200	($28,200)
7	$0.1410	$166,600	$112,000	$12,400	$290,900	$304,800	$13,900	($14,300)
8	$0.1410	$165,800	$116,800	$12,700	$295,200	$313,900	$18,700	$4,400
9	$0.1410	$164,900	$121,800	$13,100	$299,800	$323,400	$23,600	$28,000
10	$0.1410	$164,100	$147,600	$13,400	$325,100	$333,100	$7,900	$35,900
11	$0.1410	$163,300	$153,400	$13,800	$330,500	$343,100	$12,500	$48,400
12	$0.1410	$162,500	$159,500	$14,200	$336,100	$353,300	$17,200	$65,700
13	$0.1410	$161,700	$165,700	$14,600	$342,000	$363,900	$22,000	$87,600
14	$0.1410	$160,800	$172,200	$15,000	$348,100	$374,900	$26,800	$114,400
15	$0.1410	$160,000	$178,900	$15,400	$354,400	$386,100	$31,700	$146,200
16	$0.1410	$159,200	$185,900	$15,800	$361,000	$397,700	$36,700	$182,900
17	$0.1410	$158,400	$193,100	$16,300	$367,800	$409,600	$41,800	$224,700
18	$0.1410	$157,700	$200,500	$16,700	$374,900	$421,900	$47,000	$271,700
19	$0.1410	$156,900	$208,200	$17,200	$382,300	$434,600	$52,300	$323,900
20	$0.1410	$156,100	$216,200	$17,700	$390,000	$447,600	$57,600	$381,500
21	$0.0326	$35,900	$259,900	$18,200	$314,000	$461,000	$147,000	$528,500
22	$0.0326	$35,700	$269,300	$18,700	$323,700	$474,900	$151,200	$679,700
23	$0.0326	$35,500	$278,900	$19,300	$333,700	$489,100	$155,400	$835,100
24	$0.0326	$35,400	$288,900	$19,800	$344,100	$503,800	$159,700	$994,800
25	$0.0326	$35,200	$299,200	$20,400	$354,800	$518,900	$164,100	$1,159,000
Totals		**$3,453,000**	**$ 4,307,600**	**$ 387,200**	**$8,132,900**	**$9,306,700**	**$1,173,900**	

REC Solar Proposal - 25-year Cashflow Analysis for *PPA*								
Year	Annual PPA Rate	Solar Energy Cost Purchased from PPA	Residual SCE Electricity Cost	Annual Project Operating Costs	Total Annual Energy Cost *with* Solar	Total Annual Energy Costs *without* Solar	Total Annual Utility Savings	Cumulative Project Savings
0				$15,000				($15,000)
1	$0.1558	$187,800	$88,100	$7,600	$283,500	$255,300	($28,200)	($43,200)
2	$0.1558	$186,900	$92,000	$7,800	$286,700	$262,900	($23,700)	($67,000)
3	$0.1558	$185,900	$96,100	$8,000	$290,000	$270,800	($19,200)	($86,200)
4	$0.1558	$185,000	$100,300	$8,200	$293,500	$278,900	($14,600)	($100,700)
5	$0.1558	$184,100	$104,600	$8,500	$297,200	$287,300	($9,900)	($110,600)
6	$0.1558	$183,200	$109,200	$8,700	$301,000	$295,900	($5,100)	($115,700)
7	$0.1558	$182,200	$113,900	$8,900	$305,000	$304,800	($300)	($116,000)
8	$0.1558	$181,300	$118,700	$9,200	$309,300	$313,900	$4,700	($111,300)
9	$0.1558	$180,400	$123,800	$9,400	$313,600	$323,400	$9,700	($101,600)
10	$0.1558	$179,500	$149,400	$9,700	$338,600	$333,100	($5,600)	($107,200)
11	$0.1558	$178,600	$155,300	$9,900	$343,900	$343,100	($800)	($108,000)
12	$0.1558	$177,700	$161,400	$10,200	$349,400	$353,300	$4,000	($104,000)
13	$0.1558	$176,800	$167,700	$10,500	$355,100	$363,900	$8,900	($95,100)
14	$0.1558	$176,000	$174,200	$10,800	$361,000	$374,900	$13,900	($81,300)
15	$0.1558	$175,100	$181,000	$11,100	$367,200	$386,100	$18,900	($62,300)
16	$0.1558	$174,200	$188,000	$11,400	$373,600	$397,700	$24,100	($38,200)
17	$0.1558	$173,300	$195,200	$11,700	$380,300	$409,600	$29,400	($8,900)
18	$0.1558	$172,500	$202,700	$12,000	$387,200	$421,900	$34,700	$25,800
19	$0.1558	$171,600	$210,500	$12,300	$394,400	$434,600	$40,100	$66,000
20	$0.1558	$170,800	$218,500	$12,700	$401,900	$447,600	$45,700	$111,600
21	$0.1558	$169,900	$261,900	$6,400	$438,200	$461,000	$22,800	$134,400
22	$0.1558	$169,000	$271,300	$6,600	$446,900	$474,900	$27,900	$162,400
23	$0.1558	$168,200	$281,000	$6,800	$456,000	$489,100	$33,100	$195,500
24	$0.1558	$167,400	$291,000	$7,000	$465,400	$503,800	$38,400	$233,900
25	$0.1558	$166,500	$301,400	$7,200	$475,100	$518,900	$43,800	$277,700
Totals		**$4,423,900**	**$4,357,200**	**$247,600**	**$9,014,000**	**$9,306,700**	**$ 292,700**	