



March 29, 2024

0.04

Kevin Smith  
City of Arcata  
600 South G Street  
Arcata, CA 95521  
ksmith@cityofarcata.org

Dear Kevin,

Subject: Alliance Intertie Electrical System Replacement  
Proposal for Electrical and Structural Engineering Services

We have reviewed the City of Arcata's (City's) Request for Proposal (RFP) and are pleased to propose our electrical and structural engineering services. The scope of these services is to provide construction documents and construction administration for the replacement of the existing 480V service at the Alliance Intertie facility with a new 240V, 3-phase service. This includes coordinating with PG&E to replace the utility transformer, installation of a new manual transfer switch, generator receptacle, meter/main service equipment, and replacement of an existing motor control center with a new 240V panelboard. Existing power and control circuits will need to be reconnected to the panelboard and a new control panel to ensure existing functionality at the site. The project also includes installation of a rooftop photovoltaic (PV) system, installation of battery storage sized for 24 hours of autonomy, and coordination with PG&E to feed excess solar power back to the utility. The battery storage system shall be located outdoors and capable of mounting to the exterior of the building. Based upon our knowledge of the project and review of the available information, the Scope of Services shall be as shown below:

## **SCOPE OF SERVICES**

### **TASK 1 – CONSTRUCTION DOCUMENTS**

1. Site visit to review and document existing electrical infrastructure and structural integrity for rooftop PV system.
2. Complete utility application and load calculations as required by PG&E. Application fees will be paid by the City.
3. Attend a PG&E coordination site visit with PG&E representative.
4. One-line diagram showing electrical power distribution in the area of work.
5. Three-line diagram showing PV system interconnections to inverter, batteries, and electrical system.
6. Demo plan showing existing equipment to be demolished or modified.
7. Power plans showing new electrical equipment locations, conduit/conductor routing, and rooftop PV layout.
8. Electrical details as required to accurately depict the improvements shown on the drawings.
9. Structural roof plan for rooftop PV system layout and notes.

10. Structural calculations of existing roof framing for the proposed PV system installation.
11. Structural calculations for the proposed PV system support framing and other equipment mounting and anchorage.
12. Structural details as required to accurately depict the improvements shown on the drawings.
13. Electrical specifications shall be provided in 2004 CSI electronic format.
14. Structural specifications for building materials to be included on the drawings.
15. Construction cost estimates for the installation of the project.
16. Provide a 60% set of drawings, specifications, and cost estimate as a formal submittal to the City.
17. Attend a virtual 60% design review meeting.
18. Provide a final set of drawings, specifications, and cost estimate to the City as a formal submittal. Final design shall incorporate all applicable 60% comments from the City.
19. Attend a virtual final design review meeting.
20. Incorporate all applicable City comments from final design review into final bid documents.

## **TASK 2 – CONSTRUCTION ADMINISTRATION**

1. Attend a pre-bid meeting with the City and potential bidders.
2. Answer questions regarding the drawings and specifications during bidding.
3. Attend a pre-construction meeting with the City and contractor.
4. Attend a PG&E construction meeting with the City and contractor.
5. Review of submittals for conformance to contract documents.
6. Respond to requests for information (RFIs) that pertain to the original Scope of Services.
7. Site visit to inspect contractor's work and provide punch list for any deficiencies identified.
8. Provide a set of Record Drawings based upon the contractor's as-built markups.

## **ITEMS NOT INCLUDED**

1. Instrumentation and controls design.
2. Structural repair or retrofit of existing roof framing.
3. Re-roofing or repair of existing roof beyond necessary for installation of PV system.
4. Front-end legal bid documents.

## **FEE**

Our anticipated lump-sum fee for completing the Scope of Services as described above is \$77,114.

Please see Exhibit A for a cost breakdown of the anticipated design and construction administration costs supporting the lump-sum fee above. If this proposal is agreeable, we will send you our standard Engineering Agreement for your signature, authorizing us to proceed with this project. Please contact me with any questions regarding our proposal.

Sincerely,



Bryan Gentles  
Associate Engineer

**Enclosure**

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## EXHIBIT A - COST ESTIMATE



**CITY OF ARCATA**  
**ALLIANCE INTERTIE ELECTRICAL SYSTEM REPLACEMENT**  
**COST ESTIMATE**  
**MARCH 29, 2024**

WORK TASK	DESCRIPTION	A. Bowser QA/QC and Project Mngr.	B. Gentles Electrical Engr.	S. Wilson Structural Engr.	N. Chandler Staff Engr.	Jake Falkenstein Technician	B. Wright Technician	Office Staff	Category Subtotal
		WORK HOURS							COST
<b>TASK 1</b>	<b>CONSTRUCTION DOCUMENTS</b>								
<b>A</b>	<b>60% Design</b>								
A1.	Review and evaluate existing drawings/documentation	0.50	2.00		2.00				\$ 878
A2.	Preliminary site visit		10.00		10.00				\$ 3,770
A3.	PG&E application and coordination		4.00						\$ 816
A4.	PG&E coordination site visit		8.00						\$ 1,632
A5.	Existing roof evaluation for PV system			2.00	8.00				\$ 1,840
A6.	PV system racking and anchorage design			2.00	8.00				\$ 1,840
A7.	Electrical equipment mounting and anchorage design			1.00	6.00				\$ 1,266
A8.	Preliminary one-line diagram	0.25	2.00				2.00		\$ 816
A9.	Preliminary three-line diagram	0.25	4.00				4.00		\$ 1,570
A10.	PV and battery calculations	0.25	4.00						\$ 878
A11.	Preliminary demo plan	0.25	2.00				2.00		\$ 816
A12.	Preliminary power plans	0.25	2.00				4.00		\$ 1,162
A13.	Structural general notes and abbreviations			0.50	2.00	5.00			\$ 1,325
A14.	Preliminary roof and PV system plan			2.00	6.00	8.00			\$ 2,878
A15.	Electrical and structural details		4.00	1.00	2.00	5.00	2.00		\$ 2,601
A16.	Technical specifications	0.50	2.00					4.00	\$ 920
A17.	Construction cost estimate	0.25	4.00	0.50	2.00			1.00	\$ 1,435
A18.	Design review meeting	1.00	1.00	1.00	1.00				\$ 853
<b>B</b>	<b>Final Design</b>								
B1.	PG&E application and coordination	0.50	4.00						\$ 940
B2.	One-line diagram	0.25	2.00				2.00		\$ 816
B3.	Three-line diagram	0.25	2.00				4.00		\$ 1,162
B4.	PV and battery calculations	0.25	1.00						\$ 266
B5.	Demo plan	0.25	2.00				2.00		\$ 816
B6.	Power plans	0.25	2.00				4.00		\$ 1,162
B7.	Structural general notes and abbreviations			1.00	2.00	3.00			\$ 1,093
B8.	Roof and PV system plan			2.00	6.00	6.00			\$ 2,532
B9.	Electrical and structural details	0.25	1.00	2.00	4.00	4.00	2.00		\$ 2,452
B10.	Technical specifications	2.00	4.00					8.00	\$ 2,088
B11.	Construction cost estimate	0.50	2.00	0.50	1.00			1.00	\$ 916
B12.	Design review meeting	1.00	1.00	1.00	1.00				\$ 853
<b>Task 1 - Construction Documents Subtotal:</b>		9.00	70.00	16.50	61.00	31.00	28.00	14.00	\$ 42,392
<b>TASK 2</b>	<b>CONSTRUCTION ADMINISTRATION</b>								
<b>A</b>	<b>Services During Bidding</b>								
A1.	Attend pre-bid site visit		10.00		10.00				\$ 3,770
A2.	Respond to questions/RFIs during bidding	1.00	8.00	1.00	4.00				\$ 2,800
A3.	Assist with addendums			1.00	2.00			2.00	\$ 768
<b>B</b>	<b>Services During Construction</b>								
B1.	Attend pre-construction meeting		10.00		10.00				\$ 3,770
B2.	Issue submittal checklist	1.00	4.00	1.00	1.00			2.00	\$ 1,659
B3.	Review submittals	2.00	16.00	1.00	5.00				\$ 4,853
B4.	Respond to questions/RFIs during construction	1.00	8.00	1.00	5.00			4.00	\$ 3,361
B5.	Provide change order oversight	2.00	8.00	1.00	1.00				\$ 2,529
B6.	Attend PG&E construction meeting		8.00						\$ 1,632
<b>C</b>	<b>Project Closeout</b>								
C1.	Final site visit inspection and preparation of final punch list		10.00		10.00				\$ 3,770
C2.	Prepare Record Drawings	2.00	4.00		2.00	8.00	16.00		\$ 5,810
<b>Task 2 - Construction Administration Subtotal:</b>		9.00	86.00	6.00	50.00	8.00	16.00	8.00	\$ 34,722
<b>TOTAL PERSON-HOURS:</b>		18.00	156.00	22.50	111.00	39.00	44.00	22.00	\$ 77,114
<b>LABOR COST PER HOUR:</b>		\$ 248	\$ 204	\$ 228	\$ 173	\$ 173	\$ 173	\$ 97	
<b>LABOR COST PER CLASSIFICATION:</b>		\$ 4,464	\$ 31,824	\$ 5,130	\$ 19,203	\$ 6,747	\$ 7,612	\$ 2,134	
<b>TOTAL ENGINEERING SERVICES COST ESTIMATE:</b>									<b>\$ 77,114</b>