AGREEMENT BETWEEN THE COUNTY OF SAN MATEO AND
SolarCity Corporation

THIS AGREEMENT, entered into this _____ day of _____ ,

20_____, by and between the COUNTY OF SAN MATEO, hereinafter called

"County," and SolarCity Corporation, hereinafter called "Contractor";

W I T N E S S E T H:

WHEREAS, pursuant to Government Code Section 31000, County may contract with independent contractors for the furnishing of such services to or for County or any Department thereof;

WHEREAS, it is necessary and desirable that Contractor be retained for the purpose of the designing and installing of a roof-mounted 119 kW solar power system on the Elections Building and a 223.2 kW car-port style solar system at the East Palo Alto Government Center;

NOW, THEREFORE, IT IS HEREBY AGREED BY THE PARTIES HERETO AS FOLLOWS:

1. Exhibits and Attachments
The following exhibits and attachments are attached to this Agreement and incorporated into this Agreement by this reference:

Exhibit A—Services

Exhibit B— Solar PV Specifications and Requirements (which is also Exhibit D.1 to the Regional Renewable Procurement Request for Proposals),

2. Services to be performed by Contractor
In consideration of the payments set forth herein and in Exhibits 1A and 1B to Exhibit A, Contractor shall perform services or undertake other obligations for County in accordance with the terms, conditions, and specifications set forth herein and in Exhibit A, as applicable.

3. Payments

In consideration of the services provided by Contractor in accordance with all terms, conditions, and specifications set forth herein and in Exhibit A, as applicable, County shall make payment to Contractor based on the rates and in the manner specified in Exhibit 5 to Exhibit A. In no event shall County's total fiscal obligation under this Agreement exceed $1,134,112.

4. Term and Termination

Subject to compliance with all terms and conditions, the term of this Agreement shall be from July 15, 2014, through March 31, 2015.

5. Intentionally Omitted.

6. Relationship of Parties

Contractor agrees and understands that the work/services performed under this Agreement are performed as an independent Contractor and not as an employee of County and that neither Contractor nor its employees acquire any of the rights, privileges, powers, or advantages of County employees.

7. Hold Harmless

7.1 (a) Indemnity by SolarCity. To the extent claims, damages, losses or expenses are not covered by insurance purchased in accordance with Section 9, SolarCity shall indemnify and hold harmless the Customer from and against any and all third party (i) claims, (ii) damages, (iii) losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from the performance of this Agreement by SolarCity, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable.

(b) Indemnity by Customer. Customer shall indemnify and hold harmless SolarCity and its Subcontractors and agents from and against third party (i) claims, (ii) damages, (iii) losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from Customer's negligence or the negligent acts or omissions of anyone directly or indirectly employed by them or anyone for whose acts they may be liable.

(c) Indemnity by Customer's Contractors. The Customer shall cause any other contractor who may have a contract with the Customer to perform work in the areas where Work will be performed under this Agreement, to agree to indemnify the Customer and SolarCity and hold them harmless from all claims for bodily injury and property damage (other than property insured under Section 9) that may arise from that contractor's operations. Such provisions shall be in a form reasonably satisfactory to SolarCity.

7.2 Intellectual Property Indemnification.

Contractor hereby certifies as of the date of this Agreement that it owns, controls, licenses or has other use rights in and to any intellectual property it uses in relation to its workmanship performed pursuant to Exhibit A, including the design, look, feel, features, source code, content, and other technology relating to any part of the workmanship services it provides under Exhibit A and including all related patents, inventions, trademarks, and copyrights, all applications therefor, and all trade names, service marks, know how, and trade secrets ("IP Rights") incorporated into such workmanship, except as otherwise noted by this Agreement. Contractor warrants as of the date of this Agreement that the workmanship services it provides under Exhibit A-1 do not infringe, violate, trespass, or constitute the unauthorized use or misappropriation of any IP Rights of any third party. Contractor shall defend, indemnify, and hold harmless County from and against all liabilities, costs, damages, losses, and expenses (including reasonable attorney fees) arising out of or related to any claim by a third party that the services provided under Exhibit A-1 infringe or violate any third-party's IP Rights provided any such right is enforceable in the United States. Contractor's duty to defend, indemnify, and hold harmless under this Section applies only if: (a) County notifies Contractor promptly in writing of any notice of any such third-party claim; (b) County cooperates with Contractor, at Contractor's expense (solely to the extent of the County's reasonable, direct and documented out of pocket costs only, and excluding County's overhead and salary costs), in all reasonable respects in connection with the investigation and defense of any such third-party claim; (c) Contractor retains sole control of the defense of any action on any such claim and all negotiations for its settlement or compromise (provided Contractor shall not have the right to settle any criminal action, suit, or proceeding without County's prior written consent, not to be unreasonably withheld, and provided further that any settlement permitted under this Section shall not impose any financial or other obligation on County, impair any right of County, or contain any stipulation, admission, or acknowledgement of wrongdoing on the part of County without County's prior written consent, not to be unreasonably withheld); and (d) should services under Exhibit A-1 become, or in Contractor's opinion be likely to become, the subject of such a claim, or in the event such a third party claim or threatened claim causes County's reasonable use of the services under Exhibit A-1, to be seriously endangered or disrupted, Contractor shall, at Contractor's option and expense, either (at Contractor's sole option): (i) procure for County the right to continue using the affected services without infringement or (ii) replace or modify the affected services so that they become non infringing but remain functionally equivalent.

Notwithstanding anything in this Section to the contrary, Contractor will have no obligation or liability to County under this Section to the extent any otherwise covered claim is based upon: (a) any aspects of the services under this Agreement which have been modified by or for County in such a way as to cause the alleged infringement at issue; (b) any aspects of the services under this Agreement which have been used by County in a manner prohibited by this Agreement or that

otherwise result in the claim.

The duty of Contractor to indemnify and save harmless as set forth by this Section shall include the duty to defend as set forth in Section 2778 of the California Civil Code.

8. Assignability and Subcontracting

Neither party shall assign this Agreement or any portion thereof to a third party without the prior written consent of the other party, not to be unreasonably withheld; provided, however, that (a) Contractor may, without the need for County's consent, (1) assign, mortgage, pledge or otherwise collaterally assign Contractor's interests in this Agreement to any party providing financing to Contractor, and (2) directly or indirectly assign this Agreement to an affiliate of Contractor, and (b) either party may, without the prior written consent of the other party but with prior written notice, transfer or assign this Agreement in its entirety to any person or entity succeeding to all or substantially all of the assets of such party or to a successor entity in a merger or acquisition transaction. Any such assignment that requires consent that proceeds without non-assigning party's prior written consent shall give the non-assigning party the right to automatically and immediately terminate this Agreement.

9. Insurance

Contractor shall not commence work or be required to commence work under Exhibit A unless and until all insurance required this Section 9 has been obtained and Contractor has furnished County with certificates of insurance evidencing the required coverage in accordance with this Section 9. Contractor shall provide County with not less than 30 days prior notice of any cancellation of Contractor's insurance for reasons other than non-payment and not less than 10 days prior notice of any cancellation of Contractor's insurance for non-payment.

(1) **Workers' Compensation and Employer's Liability Insurance.** Contractor shall have in effect during the entire term of this Agreement workers' compensation and employer's liability insurance providing full statutory coverage. In signing this Agreement, Contractor certifies, as required by Section 1861 of the California Labor Code, (a) that it is aware of the provisions of Section 3700 of the California Labor Code, which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Labor Code, and (b) that it will comply with such provisions before commencing the performance of work under this Agreement.

(2) **Liability Insurance.** Contractor shall take out and maintain during the term of this Agreement such bodily injury liability and property damage liability insurance for any and all claims for damages for bodily injury, including accidental death, as well as any and all claims for property damage which may arise from Contractor's operations under this Agreement, whether such operations be by Contractor, any subcontractor, anyone directly or indirectly

employed by either of them, or by an agent of either of them. Such insurance shall be combined single limit bodily injury and property damage for each occurrence other than professional liability, which may be claims-made, and shall not be less than the amount specified below.

Such insurance shall include:

(a)	Comprehensive General Liability	$1,000,000
(b)	Motor Vehicle Liability Insurance	$1,000,000
(c)	Professional Liability.	$1,000,000

County and its officers, agents, employees, and servants shall be named as additional insured on any such policies of insurance other than professional liability insurance, which shall also contain a provision that (a) the insurance afforded thereby to County and its officers, agents, employees, and servants shall be primary insurance to the full limits of liability of the policy and (b) if the County or its officers, agents, employees, and servants have other insurance against the loss covered by such a policy, such other insurance shall be excess insurance only.

In the event that County notifies Contractor of the breach of any provision of this Section, or in the event any notice is received by County which indicates any required insurance coverage will be diminished or canceled, and Contractor fails to cure same or procure replacement coverage within 30 days after the date of such notice, County, at its option, may, notwithstanding any other provision of this Agreement to the contrary, immediately declare a material breach of this Agreement and suspend all further work and payment pursuant to this Agreement.

10. Compliance With Laws

All services to be performed by Contractor pursuant to this Agreement shall be performed in accordance with all applicable Federal, State, County, and municipal laws, ordinances, and regulations, including but not limited to the Americans with Disabilities Act of 1990, as amended, and Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap in programs and activities receiving any Federal or County financial assistance. Such services shall also be performed in accordance with all applicable ordinances and regulations, including but not limited to appropriate licensure, certification regulations, provisions pertaining to confidentiality of records, and applicable quality assurance regulations. In the event of a conflict between the terms of this Agreement and any applicable State, Federal, County, or municipal law or regulation, the requirements of the applicable law or regulation will take precedence over the requirements set forth in this Agreement.

11. Non-Discrimination and Other Requirements

A. *General non-discrimination*. Contractor shall comply with applicable law concerning non-discrimination matters. No person shall be denied any services provided pursuant to this Agreement (except as limited by the scope of services) on the grounds of race, color, national origin, ancestry, age, disability (physical or mental), sex, sexual orientation, gender identity, marital or domestic partner status, religion, political beliefs or affiliation, familial or parental status (including pregnancy), medical condition (cancer-related), military service, or genetic information.

B. *Equal employment opportunity.* Contractor shall comply with applicable employment-related laws, including those that relate to the provision of equal employment opportunity based on objective standards of recruitment, classification, selection, promotion, compensation, performance evaluation, and management relations. Contractor's written equal employment policies shall be made available to County upon request.

C. *Section 504 of the Rehabilitation Act of 1973.* Contractor shall comply with Section 504 of the Rehabilitation Act of 1973, as amended, as applicable, which provides that no otherwise qualified handicapped individual shall, solely by reason of a disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination in the performance of this Agreement. This Section applies only to contractors who are providing services to members of the public under this Agreement.

D. *Compliance with County's Equal Benefits Ordinance.* With respect to the provision of benefits to its employeesContractor shall comply with Chapter 2.84 of the County Ordinance Code to the extent applicable, which prohibits contractors from discriminating in the provision of employee benefits between an employee with a domestic partner and an employee with a spouse. In order to meet the requirements of Chapter 2.84, Contractor must certify which of the following statements is/are accurate:

☒ Contractor complies with Chapter 2.84 to the extent applicableby:

☒ offering the same benefits to its employees with spouses and its employees with domestic partners.

☐ offering, in the case where the same benefits are not offered to its employees with spouses and its employees with domestic partners, a cash payment to an employee with a domestic partner that is equal to Contractor's cost of providing the benefit to an employee with a spouse.

☐ Contractor is exempt from having to comply with Chapter 2.84 because it has no employees or does not provide benefits to employees' spouses.

☐ Contractor does not comply with Chapter 2.84, and a waiver must be sought.

E. *Discrimination Against Individuals with Disabilities.* The Contractor shall comply fully with the nondiscrimination requirements of 41 C.F.R. 60-741.5(a), which is incorporated herein as if fully set forth.

F. *History of Discrimination.* Contractor must check one of the two following options, and by executing this Agreement, Contractor certifies that the option selected is accurate:

☒ No finding of discrimination has been issued in the past 365 days against Contractor by the Equal Employment Opportunity Commission, Fair Employment and Housing Commission, or any other investigative entity.

☐ Finding(s) of discrimination have been issued against Contractor within the past 365 days by the Equal Employment Opportunity Commission, Fair Employment and Housing Commission, or other investigative entity. If this box is checked, Contractor shall provide County with a written explanation of the outcome(s) or remedy for the discrimination.

G. *Violation of Non-discrimination provisions.* Violation of the non-discrimination provisions of this Agreement shall be considered a breach of this Agreement and subject the Contractor to penalties permitted by applicable law. To the extent that the County believes that Contractor has so breached this Agreement, it shall notify Contractor in writing of such breach and afford Contractor a reasonable time (not less than 30 days) to cure same before County pursues remedies permitted by applicable law (including termination of this Agreement, if Contractor fails to cure such breach), to be determined by the County Manager, including but not limited to the following:

i) termination of this Agreement;

ii) disqualification of the Contractor from bidding on or being awarded a County contract for a period of up to 3 years;

iii) liquidated damages of $2,500 per violation; and/or

iv) imposition of other appropriate contractual and civil remedies and sanctions, as reasonably determined by the County Manager in accordance with applicable law.

To effectuate the provisions of this Section, if Contractor fails to timely cure the alleged violation the County Manager shall have the authority to examine Contractor's non-privileged employment records with respect to the alleged non-compliance with this Section and/or to set off all or any portion of the amount described in this Section against amounts due to Contractor under this Agreement or any other agreement between Contractor and County.

Contractor shall report to the County Manager the filing by any person in any court of any complaint of discrimination or the filing by any person of any and all charges with the Equal Employment Opportunity Commission, the Fair Employment and Housing Commission, or any other entity charged with the investigation of allegations involving Contractor's non-compliance with this Section 11 within 30 days after Contractor's discovery of such filing, provided that within such 30 days such entity has not notified Contractor that such charges are dismissed or otherwise unfounded. Such notification shall include the name of the complainant, a copy of such complaint, and a description of the circumstance. Contractor shall provide County with a copy of their response to the Complaint when filed.

12. Compliance with County Employee Jury Service Ordinance

Contractor shall comply with Chapter 2.85 of the County's Ordinance Code to the extent applicable, which states that a contractor shall have and adhere to a written policy providing that its employees, to the extent they live in San Mateo County, shall receive from the Contractor, on an annual basis, no fewer than five days of regular pay for jury service in San Mateo County, with jury pay being provided only for each day of actual jury service. The policy may provide that such employees deposit any fees received for such jury service with Contractor or that the Contractor may deduct from an employee's regular pay the fees received for jury service in San Mateo County. By signing this Agreement, Contractor certifies that it has and adheres to a policy consistent with Chapter 2.85. For purposes of this Section, if Contractor has no employees that live in San Mateo County, it is sufficient for Contractor to provide the following written statement to County: "For purposes of San Mateo County's jury service ordinance, Contractor certifies that it has no employees who live in San Mateo County. To the extent that it hires any such employees during the term of its Agreement with San Mateo County, Contractor shall adopt a policy that complies with Chapter 2.85 of the County's Ordinance Code."

13. Retention of Records, Right to Monitor and Audit

(a) Contractor shall maintain all required records, including but not limited to all as-builts, design documents, specifications, Request for Information, permits, cut sheets, invoices, payment records, and meeting notes, for three (3) years after County makes final payment.

(b) Reporting and Record Keeping: Contractor shall comply with all program and fiscal reporting requirements as required by applicable law.

(c) Intentionally omitted.

14. Merger Clause & Amendments

This Agreement, including the Exhibits and Attachments attached to this Agreement and incorporated herein by reference, constitutes the sole agreement of the parties to this Agreement and correctly states the rights, duties, and obligations of each party as of this document's date, in each case as applicable. In the event that any term, condition, provision, requirement, or specification set forth in the body of this Agreement conflicts with or is inconsistent with any term, condition, provision, requirement, or specification in any Exhibit and/or Attachment to this Agreement, the provisions of the body of the Agreement shall prevail. Any prior agreement, promises, negotiations, or representations between the parties not expressly stated in this document are not binding. All subsequent modifications or amendments shall be in writing and signed by the parties. There are no third party beneficiaries to this Agreement.

15. Controlling Law and Venue

The validity of this Agreement and of its terms or provisions, the rights and duties of the parties under this Agreement, the interpretation of this Agreement, the performance of this Agreement, and any other dispute of any nature arising out of this Agreement shall be governed by the laws of the State of California without regard to its choice of law rules. Any dispute arising out of this Agreement shall be venued either in the San Mateo County Superior Court or in the United States District Court for the Northern District of California.

16. Notices

Any notice, request, demand, or other communication required or permitted under this Agreement shall be deemed to be properly given when both: (1) transmitted via facsimile to the telephone number listed below or transmitted via email to the email address listed below; and (2) sent to the physical address listed below by either being deposited in the United States mail, postage prepaid, or deposited for overnight delivery, charges prepaid, with an established overnight courier that provides a tracking number showing confirmation of receipt.

In the case of County, to:

Department of Public Works
Attn: James Porter
555 County Center, 5th Floor
Redwood City, CA 94063
Telephone: 650-599-1421
Facsimile: 650-361-8220
Email: jporter@smcgov.

In the case of Contractor, to:

SolarCity Corporation
3055 Clearview Way
San Mateo, CA 94402
Attention: Legal Department
Telephone: 650-638-1028
Facsimile: 650-560-6182
Email: contracts@solarcity.

17. Electronic Signature

If both County and Contractor wish to permit this Agreement and future documents relating to this Agreement to be digitally signed in accordance with California law and County's Electronic Signature Administrative Memo, both boxes below must be checked. Any party that agrees to allow digital signature of this Agreement may revoke such agreement at any time in relation to all future documents by providing notice pursuant to this Agreement.

For County: ☐ If this box is checked by County, County consents to the use of electronic signatures in relation to this Agreement.

For Contractor: ☒ If this box is checked by Contractor, Contractor consents to the use of electronic signatures in relation to this Agreement.

IN WITNESS WHEREOF, the parties hereto, by their duly authorized representatives, have affixed their hands.

ATTEST:

By:_____
Clerk of Said Board

SolarCity Corporation

By: B. Kelly

Name: BOB KELLY

Title: CFO

Date: 7-3-14

COUNTY OF SAN MATEO

By:_____

Name:_____

Title: President, Board of Supervisors, San Mateo County

Date:_____

LEGAL APPROVED
INITIAL JTB
DATE 7.3.14
SolarCity

Exhibit A - Services

In consideration of the payment as set forth in Exhibit 1A and Exhibit 1B, the contractor will, at his own proper cost and expense, design, obtain all necessary permits, and do all the work and furnish all the labor, materials, equipment and utilities necessary to furnish and install a 119 kW roof mount photo voltaic system on the Elections Building in San Mateo, CA, as described in Exhibits 1A, 3A, and 4A and a 223.2 kW car port style photo voltaic system in the parking lot at the East Palo Alto County Government Center as described in Exhibits 1B, 3B, and 4B, all in accordance with Exhibits 2, 5, and 6.

The exhibits listed below are incorporated by reference and made part of this Agreement.

Exhibit 1A.	System Description and Price – Elections Building
Exhibit 1B	System Description and Price – East Palo Alto Government Center
Exhibit 2.	Scope of Work
Exhibit 3A.	Design and Construction Schedule – Elections Building
Exhibit 3B	Design and Construction Schedule – East Palo Alto Government Center
Exhibit 4A.	Installation Site – Elections Building
Exhibit 4B.	Installation Site - East Palo Alto Government Center
Exhibit 5.	General Terms and Conditions
Exhibit 5.1	Value Engineering Changes and Exceptions taken to the RFP.
Exhibit 6.	State Specific Agreement Exceptions, Terms and Conditions

Exhibit 1A

System Description and Price

1. **Price:** $291,550
2. **System Size:** 119 kW
3. **System Location: 40 Tower Rd, San Mateo, CA 94402**
4. **Expected Module(s):**

Manufacturer/Model	Quantity
Trina TSM-250 P05A	476

5. **Expected Inverter(s):**

Manufacturer/Model	Quantity
SolarMax 189MT3 A	5

6. **Expected Structure:** Roof Mount
7. **Customer Required Specifications:**
8. **Includes:**

SolarCity Limited Warranty, installation of a solar energy system (includes: design, engineering, permitting, installation, monitoring, rebate application and paperwork processing for solar energy system, performance and payment bonds in an amount equal to 100% of contract price, tree removal, tree trimming, prevailing wage construction.

When applicable, SolarCity hereby agrees to pay not less than the prevailing rates of wages and be responsible for compliance with all the provisions of the California Labor Code, Article 2-Wages, Chapter 1, Part 7, Division 2, Section 1770 et seq. A copy of the prevailing wage scale established by the Department of Industrial Relations is on file in the office of the Director of Public Works, and available at www.dir.ca.gov/DLSR or by phone at 415-703-4774. **California Labor Code Section 1776(a) requires each contractor and subcontractor to keep accurate payroll records of trades workers on all public works projects and to provide copies of certified payroll records upon request.**

9. **Excludes:**

Unforeseen groundwork (including, but not limited to, excavation/circumvention of underground obstacles), upgrades or repair to customer or utility electrical infrastructure, upgrades or repair to building structure or to roofing system, tree removal, tree trimming.

Exhibit 1B

System Description and Price – East Palo Alto Government Center

1. **Price:** $739,461

2. **System Size:** 223.2 kW

3. **System Location: 2415 University Avenue, East Palo Alto, CA 94303**

4. **Expected Module(s):**

Manufacturer/Model	Quantity
Trina TSM-300 P14A	744

5. **Expected Inverter(s):**

Manufacturer/Model	Quantity
SolarMax 189MT3 A	9

6. **Expected Structure:** S

7. **Customer Required Specifications:**

8. **Includes:**

   SolarCity Limited Warranty, installation of a solar energy system (includes: design, engineering, permitting, installation, monitoring, rebate application and paperwork processing for solar energy system, performance and payment bonds in an amount equal to 100% of contract price, tree removal, tree trimming, prevailing wage construction.

9. **Excludes:**

   Unforeseen groundwork (including, but not limited to, excavation/circumvention of underground obstacles), upgrades or repair to customer or utility electrical infrastructure, upgrades or repair to building structure or to roofing system, tree removal, tree trimming.

Exhibit 2

Scope of Work

1. **SolarCity Responsibilities**

a) **Design Preparation:** Inspect the proposed System mounting site to assure long-term safety and stability.

b) **Rebate:** Prepare all rebate documentation and communicate with all relevant agencies, if applicable. Use reasonable efforts to cooperate with Customer's efforts to prepare and submit applications for available CSI incentives.

c) **Design:** Produce and provide illustrated 3-D site renderings and CAD single-line electrical and layout drawings of the System using AutoCAD 2000 or higher and cut sheets for all components of the solar photovoltaic system . Drawings will consist of a complete site plan showing the location of the array, inverters, and routing of conduits, an elevation showing panel visibility from the street, and any details necessary for the plan check and permitting.

d) **Pre-installation Conference:** Before System installation, conduct a pre-installation conference at the project site to review procedures, schedules, safety, and coordination of the installation. Several conferences may be needed if the complexities and construction schedules so require.

e) **Procurement, Installation:** Furnish all necessary mounting hardware, photovoltaic modules, electrical equipment, and labor for installation of the System up to the utility grid interconnection point[s] as indicated in this Agreement.

f) **Permits:** Obtain all permits required to perform the Work.

g) **Inspections:** Serve as the Customer's (Owner's) representative for applicable System inspections.

h) **Site Safety:** Jobsite safety meetings once per week, or upon addition of new personnel to the jobsite.

i) **Acceptance Testing and System Commissioning: SolarCity shall:**

i. Conduct an inspection, test and commissioning procedure to insure that the System is installed in a professional manner and consistent with Prudent Industry Practices. A record of the installation and the major components including modules, inverters, transformers, and source circuit combiners will be documented in a test and Commissioning report.

ii. Test and verify that all non-current-carrying metal parts are solidly grounded and all equipment and System grounding is installed and functional per NEC 2008.

iii. Test and verify that phase sequencing, fuse continuity, and open circuit voltage are within the manufacturers recommended range at the DC disconnect.

iv. Test and verify that the inverter is operating effectively within the typical start up time and record the DC operating voltage, phase currents, and inverter power.

v. Provide complete an operation and maintenance manual for the System (two printed copies and one electronic copy). The manual will include: (i) as-built electrical drawings, (ii) as-built shop drawings, (iii) a copy of any required submittals or filing, (iv) product cut sheets, (v) product operation manuals, (vi) a copy of the photo record, (vii) written Utility approval, (viii) product warranties; and (ix) supplier and installer contact information.

j) **Solar Monitoring System:** Every SolarCity System comes standard with SolarGuard™ SolarCity's proprietary solar monitoring service. SolarGuard enables SolarCity to continuously monitor the key performance variables of the System and transmit this data to SolarCity's servers through the Internet.

k) Provide complete as-built drawings in electronic format using AutoCAD 2000 or higher and cut sheets for all components of the solar photovoltaic system.

l) Provide the DECK Monitoring System as described in your proposal. Costs associated with data transmission and/or internet connection are not included.

m) Provide performance display in lobby that shows real-time system performance.

n) Contractor shall frame support structures with HSS sections with a minimum clear height of 10.0'. HSS sections shall be painted in a color designated by County.

o) To prevent theft and vandalism, provide anti-theft screws/bolts to secure solar panels, inverters and other components at the EPA Government Center.

p) Contractor shall be able to use the existing parking lot lighting circuits to supply power for all carport lighting.

q) Replacement lighting shall be LED along with photocell control and meet all codes for parking light illumination.

r) Carport structure shall not result in the elimination of any parking spaces or render existing spaces unusable.

s) Contractor guarantees that the panels and inverters supplied are covered by a manufacturer's warranty against defects in material and workmanship for 10 years, and further that the panels provided carry a manufacturer's 25 year performance warranty.

2. **Customer Responsibilities**

a) **Site Preparation:** Responsible for pre-installation site clean-up including removal of all debris and obstacles that may impede System installation.

b) **Site Access:** Responsible for security access to the System during and after installation.

c) **Network Access:** Provide a high speed internet connection for SolarGuard.

d) **Existing Facilities:** Provide all available design and as-built drawings of the existing facilities to facilitate System design and installation.

e) **System Management:** Provide a single point of contact for each installation. Customer point of contact shall have authority for all written requests for project changes and shall be available on 24 hours notice. In the event that SolarCity's is providing its services as a subcontractor and its work is part of a larger program, Customer will keep SolarCity informed about the overall progress of the program for which SolarCity's work is a part, and coordinate SolarCity's work with the work being performed by Customer's other contractors, including giving SolarCity sufficient advance notice (at least 5 business days) of when SolarCity is to perform the work under this Agreement. The foregoing shall not limit Customer's obligations under Section 5.1 (a) of the Terms and Conditions attached as Exhibit 5.

f) **Authority.** Customer represents and warrants to SolarCity that Customer has full power, authority and legal right to execute and deliver this Agreement, to perform its obligations hereunder, and, if Customer is not the Owner of the System, to act as the Site Owner's agent, and to represent, act, authorize and sign on behalf of the Owner with respect to the work to be performed by SolarCity under this Agreement, including without limitation, to grant SolarCity permission to enter and access the jobsite and to secure the permits, approvals, easements, assessments, and charges necessary for this Agreement.

3. **Clarifications**

a) **Work Hours:** SolarCity's standard work hours are Monday through Friday 7am to 5:30pm unless approved by SolarCity's System Manager.

b) **Schedule:** The schedule duration and general conditions are based on the contract documents. Any additional scope changes are subject to additional increases in time and price.

Exhibit 3A

Design and Construction Schedule

Elections Building

1. **Contract Award Date:** July 15, 2014
2. **On- Site Engineering Audit: July 21, 2014**
3. **Engineering and Design Process Begins: July 21, 2014**
4. **Building Permit: August 21, 2014**
5. **Permit Obtained and Job is Scheduled:** October 1, 2014
6. **Construction Complete: November 15, 2015**
7. **System Inspected, Interconnection Approved: November 21, 2014**
8. **System Live: November 21, 2014**

Exhibit 3B

Design and Construction Schedule

East Palo Alto Government Center

1. **Contract Award Date:** July 15, 2014
2. **On- Site Engineering Audit: July 21, 2014**
3. **Engineering and Design Process Begins: July 21, 2014**
4. **Building Permit: August 21, 2014**
5. **Permit Obtained and Job is Scheduled:** October 1, 2014
6. **Construction Complete: November 15, 2015**
7. **System Inspected, Interconnection Approved: November 21, 2014**
8. **System Live: November 21, 2014**

Exhibit 4A

Installation Site – Elections Building
Delivery Point

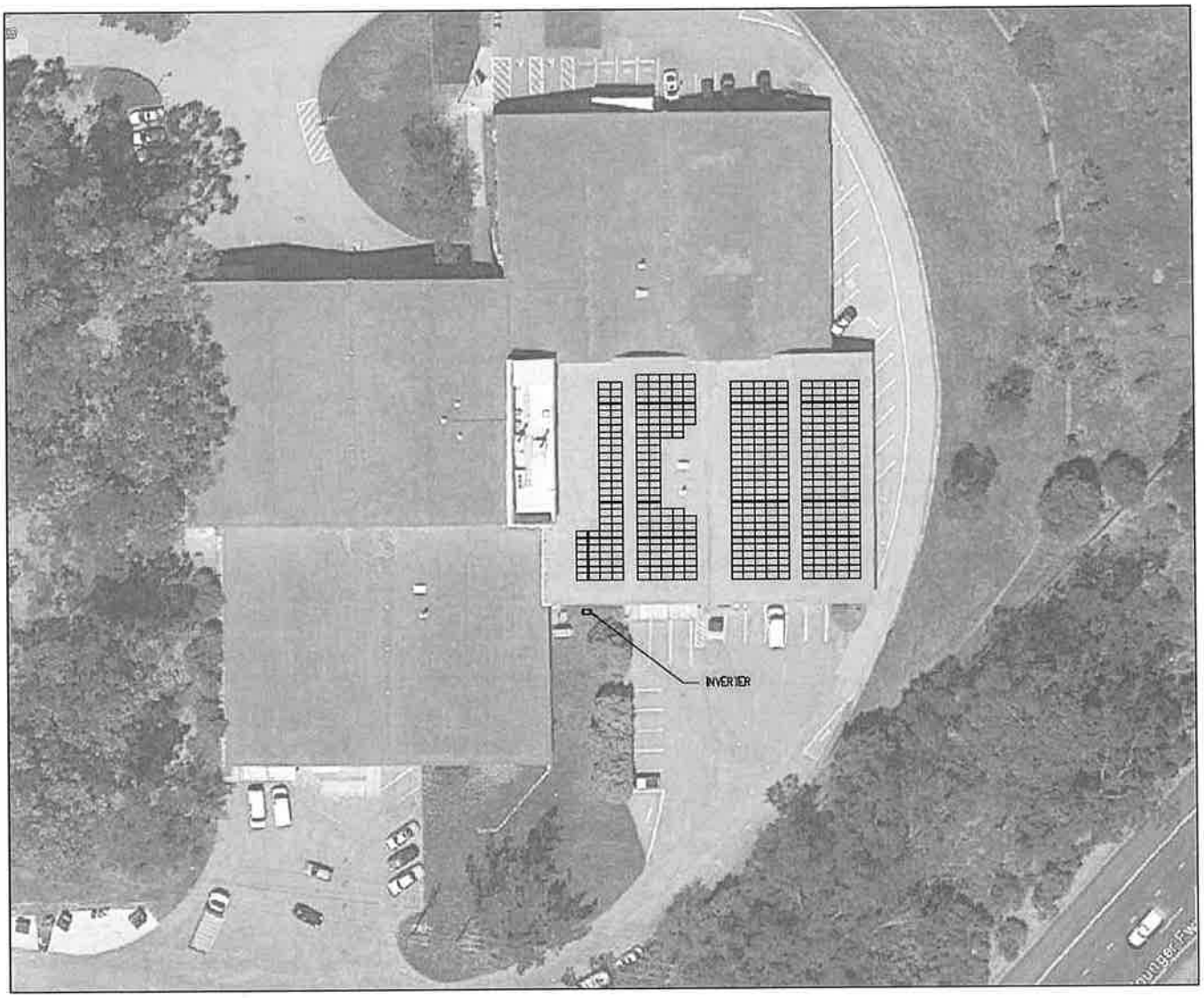

Exhibit 4B

Installation Site – East Palo Alto Government Center

Delivery Point

Exhibit 5
Commercial Solar Installation Agreement Terms and Conditions

I. Introduction; General System Services

1.1 SolarCity's Services. SolarCity shall be responsible for designing, procuring, constructing and installing the System (the "**Work**"). The System shall be installed at the address stated above (the "**Premises**") on the building or location identified in **Exhibit 4** (the "**Facility**"). The Customer and SolarCity shall agree on a design and construction phase schedule (the "**Schedule**") in substantially the form set forth as **Exhibit 3**. The Customer shall be responsible for prompt decisions and approvals so as to maintain the Schedule. Customer understands that failure to make prompt decisions and approvals may delay the completion of the Work (as defined below).

II. Design Phase

2.1 Engineering/Design Work. Based upon the Customer's written requirements, SolarCity shall investigate the Site and prepare working drawings and specifications (the "**Contract Documents**") setting forth in detail the requirements for the construction of the System. These Contract Documents will be used to confirm the Contract Price.

2.2 Contract Documents. Construction of the System shall be in accordance with the Contract Documents as approved by the Customer.

2.3 Permits. SolarCity is responsible for acquiring all necessary permits for it to perform the Work.

2.4 Standards of Practice. The Work will be performed pursuant to those practices, methods, standards, and acts (including those engaged in or approved by a significant portion of the solar-generated electric power industry for similar facilities in the United States) that at a particular time in the exercise of good judgment, and in light of the facts known at the time the decision was made, would have been expected to accomplish the desired result in compliance with all Laws and in a manner consistent with safety, environmental protection, economy, and expedition ("**Prudent Industry Practices**"). Prudent Industry Practices are not necessarily defined as the optimal standard practice method or act to the exclusion of others, but rather refer to a range of action reasonable under the circumstances. "**Law**" means any applicable Law, statute, regulation, rule, decision, writ, order, decree, or judgment, or any interpretation thereof, promulgated or issued by federal, State, municipal, local, or administrative authorities.

III. Construction Phase

3.1 Construction Responsibilities.

(a) The Work. Unless otherwise excluded in this Agreement, SolarCity will perform and provide all design, construction supervision, inspection, labor, materials, tools, construction equipment and subcontracted items necessary for the construction and installation of the System, all as further set forth in this Agreement (collectively, the "**Work**").

(b) Progress Schedule. SolarCity will prepare and submit for the Customer's approval an estimated schedule for the Work. The schedule will indicate the projected dates for the start and completion of the various stages of the Work. SolarCity will use commercially reasonable efforts to complete the Work consistent with this schedule. The schedule will be revised as required by the conditions of the Work and those conditions and events which are beyond SolarCity's control.

(c) Debris. When the Work is completed, SolarCity will remove all of its waste material and rubbish from and around the Premises as well as all its tools, construction equipment, machinery and surplus materials.

(e) Safety. SolarCity shall take necessary precautions for the safety of its employees on the Site, and shall comply with all applicable provisions of federal, state and municipal safety Laws to prevent accidents or injury to persons on, about or adjacent to the Site. It shall erect and properly maintain, at all times, as required by the conditions and progress of Work, necessary safeguards for the protection of workmen and the public. It is understood and agreed,

however, that SolarCity shall have no responsibility for the elimination or abatement of safety hazards created or otherwise resulting from Work at the Site carried on by other persons or firms directly employed by the Customer as separate contractors or by the Customer's tenants, and the Customer agrees to cause any such separate contractors and tenants to abide by and fully adhere to all applicable provisions of federal, state and municipal safety Laws and regulations and to comply with all reasonable requests and directions of SolarCity for the elimination or abatement of any such safety hazards at the Site.

(e) Certificates of Inspection. SolarCity will secure required certificates of inspection, testing or approval for the System and deliver them to the Customer.

3.2 Subcontractors. All portions of the Work that SolarCity does not perform with its own employees shall be performed under subcontracts. A "**Subcontractor**" is a person or entity who has a direct contract with SolarCity to perform any Work in connection with this Agreement. The term Subcontractor does not include any separate contractor employed by the Customer or the separate contractors' subcontractors. No contractual relationship shall exist between the Customer and any Subcontractor and Customer shall communicate with such Subcontractors only through SolarCity. SolarCity shall be responsible for the management of the Subcontractors in the performance of their Work.

3.3 Delays. If SolarCity is delayed at any time in the progress of the Work or in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control and due to no fault of its own or those for whom SolarCity is responsible, the Work schedule will be extended by Change Order for the period of time caused by such delay.

IV. Limited Warranty

4.1 Work Warranty. SolarCity warrants as follows:

(a) the Work shall be (i) free from defects in assembly and workmanship, and be new, unused, and undamaged when installed; (ii) in compliance with the requirements of this Agreement; and (iii) in compliance with all applicable Laws; and

(b) the Work will be performed (i) in a good and workmanlike manner, (ii) in accordance with the requirements of the Agreement (including Exhibit B, Solar PV Specifications and Requirements (which is also Exhibit D.1 to the Regional Renewable Procurement Request for Proposals), excluding those items listed in Exhibit 5.1 to this Agreement, Value Engineering Changes and Exceptions taken to the RFP), and (iii) in compliance with all applicable Laws.

Collectively (a) and (b) are the "Work Warranty."

4.2 Work Warranty Period. The Work Warranty shall commence on the date of interconnection and shall continue until and expire upon the tenth (10^{th}) anniversary of the date of interconnection (such applicable period, the "Work Warranty Period"); *provided, however,* that if Work is repaired or replaced pursuant to the Work Warranty, then the Work Warranty Period with respect to such component shall continue until the later of (i) the expiration of the Work Warranty Period or (ii) one (1) year from the date of completion of such repair or replacement.

4.3 Roof Warranty. If SolarCity penetrates the Facility roof in performing the installation services under the Purchase and Installation Agreement SolarCity will warrant roof damage it causes to areas that are within a three (3) inch radius of its roof penetrations. This roof warranty will run the *longer of* (i) one (1) year following the Substantial Completion Date; and (ii) the remainder of any existing installer's warranty on the Facility's roof where such installation was made in accordance with manufacturer's specifications (the "Roof Warranty") (the "Roof Warranty Period").

4.4 Repair Promise. If any failure or breach of the Work Warranty or the Roof Warranty occurs prior to the end of the Work Warranty Period or the Roof Warranty Period (as applicable), upon notice from Customer or Contractor otherwise becoming aware of such failure or breach, Contractor, at its sole cost and expense (including the cost of materials, transportation, labor and equipment), will as soon as reasonably practicable, repair or replace the Work, or take some other corrective action to cause the Work to conform to the Work Warranty or the Roof Warranty (as applicable). SolarCity may use new or reconditioned parts when making such repairs or replacements. SolarCity may also, at no additional cost to Customer, upgrade or add to any part of the System to ensure that it performs according to the Warranty set forth in this Agreement.

4.5 Exclusions from the Warranties. The Work Warranty and Roof Warranty do not apply to any repair, replacement or correction required due to the following:

(a) materials and equipment covered by Manufacturer Warranties;

(b) someone other than SolarCity or its approved service providers installed, removed, re-installed or repaired the System;

(c) destruction or damage to the System or its ability to safely produce energy not caused by SolarCity or its approved service providers while servicing the System (e.g., a tree falls on the System);

(d) Customer's failure to perform, or breach of, Customer's obligations hereunder. (such as if Customer modifies or alters the System);

(e) Customer's breach of this Agreement including being unavailable to provide access or assistance to us in diagnosing or repairing a problem or failing to maintain the System as stated in the Solar Operation and Maintenance Guide;

(f) any Force Majeure Event (as defined below);

(g) a power or voltage surge caused by someone other than SolarCity including a grid supply voltage outside of the standard range specified by the utility;

(h) shading from foliage that is new growth or is not kept trimmed to its appearance on the date the System was installed;

(i) any System Failure not caused by a System defect (e.g., such as making roof repairs);

(j) theft of the System;

(k) Customer's failure to only have the System repaired pursuant to this Limited Warranty and reasonably cooperate with the person performing the repairs when repairs are being made;

(l) Use of the System to heat a swimming pool; or

(m) Customer's failure to use the System primarily for personal, family or household purposes.

This Agreement gives you specific rights, and the Customer may also have other rights which vary from state to state. This Agreement does not warrant any specific electrical performance of the System.

4.6 Manufacturer's Warranties. Upon receipt of payment in full of the Contract Price, Contractor hereby assigns to Customer all warranties provided by suppliers of materials included in the System (e.g., PV modules, inverters, racking) ("**Manufacturer Warranties**").

4.7 SolarGuard. During the Work Warranty Period, SolarCity will provide Customer, at no additional cost the SolarGuard Monitoring Service ("**SolarGuard**"). SolarGuard is a proprietary monitoring system designed and installed by SolarCity that captures and displays historical energy generation data over an Internet connection and consists of hardware located on site and software hosted by SolarCity. The SolarGuard service requires a high speed Internet line to operate. Therefore, during the Work Warranty Period, Customer agrees to maintain the communication link between SolarGuard, the System and the Internet. Customer agrees to maintain and make available, at Customer cost, a functioning indoor Internet connection with one available wired Ethernet port and standard AC power outlet within eighty (80) feet of the System's AC/DC inverter(s). This communication link must be a 10/100 Mbps Ethernet connection that supports common internet protocols (TCP/IP and DHCP).

4.8 Maintenance and Operation. Except for honoring Work Warranty and Roof Warranty claims, SolarCity will have no obligation to service, operate or maintain the System. SolarCity will provide Customer with a copy of SolarCity's Solar

Operation and Maintenance Guide. This guide provides Customer with System operation and maintenance instructions, answers to frequently asked questions, troubleshooting tips and service information.

4.9 Claims Process. Customer can make a claim under the Work Warranty or Roof Warranty by (a) emailing SolarCity at the email address on the first page of this Agreement; (b) writing SolarCity a letter and sending it overnight mail with a well-known service; or (c) sending SolarCity a fax at the number on the first page of this Agreement.

4.10 Transferable. SolarCity will accept and honor any valid and properly submitted Work Warranty or Roof Warranty claim made during the applicable warranty period by any person who purchases the System from Customer, provided that either (i) the System is not relocated from the Premises in connection with such purchase, or (ii) Customer engages SolarCity, as an Additional Service, to relocate the System from the Premises to a new site.

4.11 Scope of Additional Services. Customer agrees that if (i) the System needs any repairs that are not the responsibility of SolarCity under this Agreement, (ii) the System needs to be removed and reinstalled to facilitate remodeling of the Facility or (iii) the System is being relocated to another Facility pursuant to this Warranty (collectively, items (i) - (iii) are "**Additional Services**"), Customer will have SolarCity, or another similarly qualified service provider, at Customer's expense, perform such repairs, removal and reinstallation, or relocation on a time and materials basis.

4.12 Approved Service Providers. Customer's retention of a third party to perform Additional Services that is not qualified to perform such Additional Services will void the Work Warranty and the Roof Warranty. To prevent voiding the Work Warranty and the Roof Warranty, Customer should obtain the written consent of SolarCity prior to engaging a third party to perform Additional Services. If Customer engages a third party service provider to perform Services without the prior consent of SolarCity, Customer does so at the risk that SolarCity will subsequently determine such service provider was not qualified to perform the Additional Services.

4.13 Pricing on Additional Services. Performance of Additional Services by SolarCity will be on a time and materials basis at SolarCity's then current standard rates.

4.14 Force Majeure.

If SolarCity is unable to perform all or some of its obligations under this Agreement because of a Force Majeure Event, SolarCity will be excused from whatever performance is affected by the Force Majeure Event, provided that:

1. SolarCity, as soon as is reasonably practical, gives Customer notice describing the Force Majeure Event;
2. SolarCity's suspension of its obligations is of no greater scope and of no longer duration than is required by the Force Majeure Event; and
3. No SolarCity obligation that arose before the Force Majeure Event that could and should have been fully performed before such Force Majeure Event is excused as a result of such Force Majeure Event.

"**Force Majeure Event**" means any event, condition or circumstance beyond the control of and not caused by SolarCity's fault or negligence. It shall include, without limitation, failure or interruption of the production, delivery or acceptance of electricity due to: an act of god; war (declared or undeclared); sabotage; riot; insurrection; civil unrest or disturbance; military or guerilla action; terrorism; economic sanction or embargo; civil strike, work stoppage, slow-down, or lock-out; explosion; fire; earthquake; volcanic eruption, abnormal weather condition or actions of the elements; hurricane; flood; lightning; wind; drought; the binding order of any governmental authority (provided that such order has been resisted in good faith by all reasonable legal means); the failure to act on the part of any governmental authority (provided that such action has been timely requested and diligently pursued); unavailability of electricity from the utility grid, equipment, supplies or products; and failure of equipment not utilized by SolarCity or under its control.

V. General Conditions

5.1 Customer's Responsibilities. The Customer shall be responsible for the Facility's condition and structural integrity and any structural or electrical modifications, archeological conditions, environmental conditions, tree removal, shading obstructions or other modifications necessary to prepare the Facility or the Site for installation of the System. SolarCity shall not be

responsible for the malfunctioning or inadequacy of existing electrical equipment and materials at the Facility or Site, including but not limited to the main electrical service panel, any major electrical devices, or any other fuses or similar devises. SolarCity shall not be responsible for any Facility or Site conditions Customer decides not to repair. SolarCity shall not be responsible for any delays or expense related to unanticipated, unusual or unforeseen conditions including but not limited to roof or structure conditions, subsurface conditions, underground or aboveground water, gas, or sewage pipes, electrical or cable lines or transformers or any other physical or material hindrance to the installation. Upon discovery of such conditions, Customer shall remediate them or, at SolarCity's option, compensate SolarCity for the costs of such remediation plus a reasonable fee. The Customer shall provide a "data connection" and 120V power supply suitable for SolarCity.

(a) Representative. The Customer shall designate a representative who shall be fully acquainted with the Work who has authority to (i) approve changes in the scope of the Work, and (ii) render decisions promptly and can provide timely information.

(b) Surveys; Reports. The Customer shall furnish all necessary Site surveys describing the physical characteristics, soils reports and subsurface investigations, legal limitations, utility locations, and a legal description. SolarCity is relying on all reports provided by Customer concerning soils or geological conditions unless specifically excluded in writing in this Agreement, or by amendments to this agreement, and shall not be responsible for any liability that may arise out of the making of or failure to make soils or geological surveys, subsurface soils or geological tests, or general soils or geological testing.

(c) Approvals. The Customer shall secure and pay for necessary approvals, easements, assessments and charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing facilities, other than the permits and approvals to be obtained by SolarCity pursuant to Exhibit 5, Section 2.3, above.

(d) Non-Conformance. If the Customer becomes aware of any fault or defect in the Work or non-conformance with the drawings or specifications, it shall promptly notify SolarCity. If during the construction phase of the project Customer discovers or becomes aware of changed field or other conditions which require clarifications, modifications or other changes to the plans, specifications, estimates or other documents prepared by SolarCity, Customer agrees to notify SolarCity and retain SolarCity to prepare the necessary changes or modifications before construction activities proceed. Further, Customer agrees to require a provision in its construction contracts with other contractors for the project which requires that contractor to promptly notify Customer of any changed field or other conditions so that Customer may in turn notify SolarCity pursuant to the provisions of this paragraph. Any extra work performed by SolarCity pursuant to this paragraph shall be compensated for as additional services and the Contract Price shall be adjusted by a Change Order.

(e) Insurance. The Customer shall provide the insurance for the System as provided in Sections 5.9(c) and (d), below.

(f) Site Access. Customer grants SolarCity and any of its subcontractors full permission to enter the Site during the duration of the construction and installation of the System, and during the Warranty Period and to use reasonable work areas to complete the installation of the System or warranty repairs thereto. Customer also grants SolarCity permission to access the Site after completion of the installation for the purposes of warranty obligations, repair, inspection, monitoring, or necessary update of the System or System components.

5.2 Contract Price. The Contract Price shall be the fixed price set forth in Exhibit 1. The Contract Price is based upon Laws, codes, and regulations in existence on the date this Agreement is executed. The Contract Price will be modified: (i) for delays caused by the Customer; or (ii) for Changes in the Work.

5.3 Changes in the System.

(a) Changes. The Customer, without invalidating this Agreement, may order changes in the System within the general scope of this Agreement consisting of additions, deletions or other revisions ("**Changes**"). In the event of any Changes, the Contract Price, if established, and the Schedule shall be adjusted accordingly. All such Changes shall be authorized by a Change Order. Notwithstanding the foregoing, SolarCity shall have the right to substitute materials or equipment incorporated into the System, excluding panels and invertors (unless such change will not have a substantial adverse impact on the appearance of the System), or other items that may have a significant adverse impact on the appearance of the System, in its sole discretion so long as the substitution does not increase the Contract Price or have a material adverse effect on the System's performance. Other changes will be by mutually agreed-upon change order.

(b) Change Orders. A change order is a written order to SolarCity signed by the Customer or its authorized agent and issued after the execution of this Agreement, authorizing a Change in the System and/or an adjustment in the Contract Price and the Schedule ("**Change Order**").

(c) Adjustment of Contract Price. The increase or decrease in the Contract Price resulting from a Change Order shall be agreed upon by Customer and SolarCity. The increase shall be arrived at by negotiation based upon Contractor's estimate. The estimate shall include quantities of materials and man hours, and a breakdown of cost showing labor, materials, profit, overhead, and all other items of cost. General requirements, project supervision, project management and facilities are not allowed. Estimated unit prices used to calculate cost shall not exceed published unit prices, such as those published by R. S. Means Company, Inc., unless it can be justified that the published unit prices do not apply. The rate for overhead and profit combined shall not exceed 15%.

(d) Concealed Conditions. Should SolarCity encounter concealed or unforeseeable conditions in the performance of the Work the Contract Price and the Schedule shall be equitably adjusted by Change Order upon claim by either party made within a reasonable time after the first observance of the conditions.

(e) Emergencies. In any emergency affecting the safety of persons or property, SolarCity shall act, at its discretion, to prevent threatened damage, injury or loss. Any increase in the Contract Price or extension of time claimed by SolarCity on account of emergency work shall be determined as provided in this Section.

5.4 Payment Schedule. County and contractor shall agree upon a schedule of values for the major components of the installation. Contractor shall submit invoices for progress payments on a monthly basis. Progress payment shall be based on the percent complete of the respective items on the schedule of values. County may retain 5% of the agreed upon amount of each invoice for progress payment. Payment shall be due 30 days after receipt of invoice.

5.5 Payment. If the Customer should fail to pay SolarCity when the payment of any amount becomes due, then SolarCity may, at any time thereafter, upon serving written notice that it will stop work within five (5) days after receipt of the notice by the Customer, and after such five (5) day period, stop working until payment of the amount due has been received. Payments due but unpaid shall bear interest at the *lesser* of (i) eighteen percent (18%) per annum; and (ii) the highest rate permissible under applicable Law.

5.6 Final Payment. Retainage shall be released 30 days following Contractor's filing of notice of completion if no claims to which the retention applies have been filed, otherwise, upon resolution of the claims; provided, that Customer shall release to SolarCity all retained monies in excess of those directly involved in such claims.

5.7 Estimated Rebates. While SolarCity makes good faith efforts to estimate Federal, State and local rebates, actual rebates are subject to change based on Federal, State and local Laws and regulations in effect from time to time. Rebate rates may even change after the execution of this Agreement or after a rebate is reserved. In any case, Customer shall pay SolarCity the full amount of the Contract Price

5.8 Title. Upon receipt of payment in full of the Contract Price by SolarCity, title to the System will pass to the Customer free and clear of all liens, claims, security interests or encumbrances (hereinafter referred to as "**Liens**"). Notwithstanding the foregoing, SolarCity retains sole and exclusive ownership of all right, title and interest in and to all intellectual property rights associated with the System including any patent, copyright, trademark or any other rights.

5.9 Risk of Loss.

(a) Risk of Loss. Upon delivery of materials or equipment to the Site including, without limitation PV modules, rails, disconnects and inverters, SolarCity shall bear all risk of loss or damage to such items from any type of physical harm, theft or damage not directly resulting from the actions of Customer.

(b)

5.10 Termination.

(a) Termination by SolarCity. If Customer is in breach of this Agreement, or if the Work is stopped for a period of thirty (30) days under an order of any court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of SolarCity

or if Work should be stopped for a period of thirty (30) days by SolarCity for the Customer's failure to make payment thereon, then SolarCity, in addition to any other rights and remedies provided in the Agreement or by Law, shall have the option to terminate this Agreement and SolarCity shall be entitled to recover from the Customer payment for all Work executed, the Contract Price payable to date, and for any proven loss sustained upon any materials, equipment, tools, construction equipment and machinery, including reasonable profit and damages. SolarCity, in addition to any other rights and remedies provided in the Agreement or by Law, shall be entitled to immediately, and without notice, suspend the performance of any and all of its obligations pursuant to this agreement if Customer files a voluntary petition seeking relief under the United States Bankruptcy Code or if there is an involuntary bankruptcy petition filed against Customer in the United States Bankruptcy Court, and that petition is not dismissed within fifteen (15) days of its filing. Any suspension of services made pursuant to the provisions of this paragraph shall continue until such time as this agreement has been fully and properly assumed in accordance with the applicable provisions of the United States Bankruptcy Code and in compliance with the final order or judgment issued by the Bankruptcy Court. If the suspension of performance of SolarCity's obligation pursuant to this agreement continues for a period in excess of ninety (90) days then SolarCity shall have the right to terminate all services pursuant to this agreement.

(b) Termination by Customer for Cause. If SolarCity fails to perform any of its obligations under this Agreement, including any obligation it assumes to perform Work with its own forces, the Customer may, after thirty (30) days' written notice, during which period SolarCity fails to perform such obligation, repair or assume such failures to perform. The Contract Price shall then be reduced by the cost to the Customer of making good such deficiencies. If SolarCity is adjudged bankrupt, or if it makes a general assignment (or the benefit of its creditors, or if a receiver is appointed on account of its insolvency, or if it persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if it fails to make proper payment to Subcontractors or (or materials or labor, or persistently disregards Laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a substantial violation of a provision of this Agreement, then the Customer may, without prejudice to any right or remedy and after giving SolarCity and its surety, if any, thirty (30) days' written notice, during which period SolarCity fails to cure the violation, terminate the employment of SolarCity and take possession of the relevant site and of all materials, equipment, tools, construction equipment and machinery thereon owned by SolarCity and may finish the Work by whatever reasonable method it may deem expedient. In such case, SolarCity shall not be entitled to receive any further payment until the Work is finished.

5.11 Assignment. Neither the Customer nor SolarCity shall assign its interest in this Agreement without the written consent of the other except as to the assignment of proceeds.

5.12 Intentionally omitted.

(a)

5.13 Intellectual Property. Customer acknowledges all reports, plans, specifications, field data and notes and other documents, including all documents on electronic media, prepared by SolarCity are instruments of service, and shall remain the property of SolarCity and may not be used by Customer without SolarCity's consent; provided, however, that Customer shall take title to the as-built plans for the System and all custom specifications prepared solely for the benefit of Customer upon SolarCity's receipt of payment in full pursuant to the Agreement. SolarCity shall not have any liability to Customer or any third party for Customer's use of the as-built plans or custom specifications after Customer takes title to same.

5.14 Limitation of Liability.

(a) No Consequential Damages. IN NO EVENT SHALL EITHER PARTY OR ITS AGENTS OR SUBCONTRACTORS BE LIABLE TO THE OTHER FOR SPECIAL, INDIRECT, PUNITIVE, EXEMPLARY, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY IN SUCH STATES.

(b) Limitation of Duration of Implied Warranties. ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY ARISING UNDER STATE LAW, SHALL IN NO EVENT EXTEND PAST THE EXPIRATION OF ANY WARRANTY PERIOD IN

THIS AGREEMENT. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY IN SUCH STATES.

(c) Limit of Liability. Notwithstanding any other provision of this Agreement to the contrary, SolarCity's total liability arising out of relating to this Agreement shall in no event:

i. For System Failure or Replacement: exceed the total cost of the System; and

ii. For damages to your Facility: exceed two million dollars ($2,000,000).

5.15 Publicity. Customer grants SolarCity permission to publicly use, display, share, distribute and advertise the photographic images, System details, price and any other non-personally identifying information related to the System installed at the Site. SolarCity shall not knowingly release any personal data about Customer. Customer shall have the right to opt-out of these publicity rights by written notice to SolarCity.

5.16 Notices.
All notices under this Agreement shall be in writing and shall be by personal delivery, facsimile transmission, electronic mail, overnight courier, or regular, certified, or registered mail, return receipt requested, and deemed received upon personal delivery, acknowledgment of receipt of electronic transmission, the promised delivery date after deposit with overnight courier, or five (5) days after deposit in the mail. Notices shall be sent to the party identified in this Agreement at the address set forth below or such other address as either party may specify in writing. Each party shall deem a document faxed to it as an original document.

To SolarCity:	SolarCity Corporation 3055 Clearview Way San Mateo, CA 94402 Attention: Legal Department Telephone: 650-638-1028 Facsimile: 650-560-6182 Email: contracts@solarcity.com
To Customer:	Department of Public Works Attn: James Porter 555 County Center, 5th Floor Redwood City, CA 94063 Telephone: 650-599-1421 Facsimile: 650-361-8220 Email: jporter@smcgov.org

5.17 Intentionally omitted.

5.18 Survival.

Provisions that should reasonably be considered to survive termination of this Agreement shall survive.

5.19 Subcontractor Authority for Customer

In the event that the Purchase and Installation Agreement is executed by a person other than ultimate Customer of the System or the Facility, the Customer represents that it has received all approvals required to execute this Agreement and that Customer acknowledges the provisions of this Agreement and agrees to be bound by the obligations of the "Customer" hereunder, as if Customer were a party to this Agreement.

5.20 Miscellaneous Provisions.

(a) Waiver. SolarCity's or Customer's waiver of any term, condition or covenant shall not constitute the waiver of any other term, condition or covenant. SolarCity's or Customer's waiver of any breach of this agreement shall not constitute the waiver of any other breach of the agreement.

(b) Severability. If any term, condition or covenant of this agreement is held by an arbitrator or court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this agreement shall be valid and binding on Customer and SolarCity.

(c) Intentionally omitted.

(d) Estimates. Estimates of land areas provided under this Agreement are not intended to be, nor should they be considered to be, precise. The estimate will be performed pursuant to generally accepted standards of professional practice in effect at the time of performance.

(e) Hazardous Materials. Customer acknowledges that SolarCity's scope of services for this project does not include any services related in any way to asbestos and/or hazardous or toxic materials. Should SolarCity or any other party encounter or disturb such materials on the job site, or should it in any other way become known that such materials are present or may be present on the job site or any adjacent or nearby areas which may affect SolarCity's services. SolarCity may, at its option, suspend or terminate work on the project until such time as Customer retains a qualified contractor to abate and/or remove the asbestos and/or hazardous or toxic materials and warrant that the job site is free from any hazard which may result from the existence of such materials. Customer hereby agrees to bring no cause of action on any basis whatsoever against SolarCity, its officers and directors, principals, employees, agents and subcontractors resulting from disturbing or encountering such materials. Customer hereby agrees to bring no cause of action on any basis whatsoever against SolarCity, its officers and directors, principals, employees, agents and subcontractors if such claim or cause of action in any way would involve SolarCity's services for the investigation, detection, abatement, replacement, use or specification, or removal of products, materials or processes containing asbestos, asbestos cement pipe, and/or any hazardous or toxic materials. Customer further agrees to defend, indemnify and hold harmless SolarCity, its officers, directors, principals, employees and subcontractors from any asbestos and/or hazardous or toxic material related claims that may be brought by third parties as a result of the services provided by SolarCity pursuant to this Agreement, except claims caused by the sole negligence or willful misconduct of SolarCity.

(f) Entire Agreement. This Agreement represents the entire agreement between the Customer and SolarCity and supersedes all prior negotiations, representations or agreements. This Agreement shall not be superseded by any provisions of the documents for construction and may be amended only by written instrument signed by both Customer and SolarCity.

(g) Counterparts. This Agreement may be executed in any number of counterparts.

(h) Interpretation. This Agreement shall not be construed more strictly against one party than against the other. Both Customer and SolarCity have contributed substantially and materially to the preparation of this Agreement.

5.21 Licensing and Regulation of SolarCity. In California, contractors are required to be licensed and regulated by the California Registrar of Contractors, State License Board, which has jurisdiction to investigate complaints against contractors. Notwithstanding anything in this Agreement to the contrary, Customer and SolarCity each retains the right to file complaints with the California Registrar of Contractors. Further, in each state, contractors are required to be licensed and regulated by the registrar of contractors, state license board, or similar governing body that has jurisdiction to investigate complaints against contractors. Notwithstanding anything in this Agreement to the contrary, Customer and SolarCity each retains the right to file complaints with the applicable state registrar of contractors, license board or other governing body set forth in Exhibit 6 of this Agreement.

5.22 Bonds. Notwithstanding any language to the contrary in this Agreement and solely to the extent a performance and/or payment bond is being issued to Purchaser:

i. Performance bond liability. Any performance bond issued for a site or system will cease one (1) year from the completion of construction. If a warranty or guarantee is provided under the terms of this Agreement, the

balance of any warranty or guarantee beyond one year term of the applicable performance bond shall continue to be guaranteed solely by Seller under the terms of this Agreement. The performance bond does not guarantee any property restorative requirements.

ii. Payment bond liability. Any payment bond issued will cease at the termination of any time required by law.

iii. Performance Guarantee. Neither payment bonds, whether for labor or materials, nor performance bonds are applicable to any specified performance guarantee.

5.23 Liquidated Damages. Should the Work not be Substantially Complete, as defined herein, by the date specified as the Guaranteed Substantial Completion Date in the Project schedule, for reason other than Force Majeure or the Customer's acts, omissions or breach of the Agreement, damages will be sustained by the Customer. It is understood and agreed that it is or may be impracticable or extremely difficult to determine the actual amount of damages the Customer will sustain in the event of and by reason of such delay in completing the Work; and it is therefore agreed that the Contractor will pay the Customer an amount equal to five hundred dollars ($500) per day for each day after the Guaranteed Substantial Completion Date that Substantial Completion is not complete.

Exhibit 5.1

Value Engineering Changes and Exceptions taken to the RFP.

1. EMT Conduit for all outdoor and above ground wire runs.
    a. Consultant requested galvanized rigid conduit (RMT, GRC)
    b. GRC is used as needed to protect wiring from damage resulting from impact (ie. hits from car bumpers).
    c. Adds significant project cost
    d. EMT conduit is approved under the National Electric Code
2. Transformerless String Inverters
    a. String inverters are quieter, more efficient, more economical, and less obstructive than central inverters.
    b. Transformerless String inverters were permitted by consultant in Addendum 4 of RFP but by the time we received we were too far along and unable to switch.
3. One Weather Station per Agency
    a. Currently have one weather station at each site at a cost of ~$0.05/w on a 100kw system
    b. We recommend one weather station per agency
4. SolarCity Monitoring, Not 3rd-party monitoring-
    a. SolarCity uses proprietary monitoring called SolarGuard
    b. SolarGuard is a revenue grade monitoring system that is recognized by our financiers as being sufficient for billing
5. Outdoor-rated string wire run outside of conduit-
    a. We propose using USE-2 or PV Wire from array to string or combiner boxes without conduit.
    b. USE-2 and PV Wire are both outdoor and UV rated and meet National Electric Code Standards.
    c. All A/C and feeder wiring will be in conduit

Exhibit 6

State Specific Agreement Exceptions, Terms and Conditions

The following provisions shall apply to Systems located in California.

1. SolarCity's license number(s). **CA:** CSLB 888104

2. Section 5.21 of the Agreement (Licensing and Regulation of Contractor):

   Contractors are required by Law to be licensed and regulated by the California Contractors' State License Board, which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four years of the date of the alleged violation. A complaint regarding a latent act or mission pertaining to structural defects must be filed within ten years of the date of the alleged violation. In California, any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, CA 95826.

Regional Renewable Energy Procurement
REQUEST FOR PROPOSALS

Exhibit D.1: Solar PV Specifications and Requirements

September 18, 2013

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THROUGHOUT THIS DOCUMENT THE TERMS DESIGN-BUILDER SHALL MEAN SELLER UNDER A PPA FINANCING, AND PURCHASER-OWNER SHALL MEAN BUYER.

1. SITE ACCESS

Design-Builder shall conform to all Purchaser-Owner rules and requirements for accessing sites. Road usage, road closures, number of vehicles, access points, etc., may be regulated by the Purchaser-Owner. Site visits shall be approved and proper check-in requirements must be followed. Design-Builder shall provide signage and/or electronic notification of possible operational impacts upon request by Purchaser-Owner. Unless otherwise determined by Purchaser-Owner, Design-Builder shall be responsible for providing bathroom and storage facilities for all workers on-site, and shall be responsible for procuring, installing, securing, and removing temporary security fencing and scaffolding.

2. PROJECT MANAGEMENT

2.1 PROJECT MANAGER

Design-Builder shall assign a Project Manager from their firm upon execution of any Agreement awarded as a result of this RFP and upon receipt of Notice to Proceed. The Project Manager shall manage all design, procurement, construction, and commissioning phases of the Project. The construction of PV systems shall be accomplished by Design-Builder with an on-site construction management team. The Project Manager shall ensure that all contract, schedule, and reporting requirements of the Project are met and shall be the primary point of contact for the Purchaser-Owner.

2.2 PROJECT SCHEDULE

A Project Schedule is to be prepared and submitted to the Purchaser-Owner within fourteen (14) days of Agreement execution. The Purchaser-Owner will review and approve the Project Schedule prior to the initiation of work. Updates shall be submitted every other week, though the Purchaser-Owner may allow less frequent updates at their discretion. The submittal shall be a Critical Path Method (CPM) schedule describing all Project activities, dependencies, and sequencing of tasks. In particular, Design-Builder shall include Purchaser-Owner review of submittals on the Critical Path. The Project Schedule shall describe all elements of project design, equipment procurement, construction and commissioning, and shall be submitted in electronic format (MS Project, Primavera P6). Adobe Acrobat is not acceptable. The schedule shall also reflect the requirement that construction activities must be coordinated to minimize impacts on normal operations at each site, including ongoing construction activities.

Sufficient information shall be shown on the Project Schedule to enable proper control and monitoring of the Work. The Project Schedule shall show the intended time for starting and completing each activity; the duration of each activity; submittal and approval times; design; delivery of materials, equipment and software; all testing; and other significant items related to the progress of the Work. The Project Schedule shall include a CPM network diagram of sufficient detail to show how Mandatory Milestones are intended to be met. If a schedule submitted by Design-Builder includes changes affecting the achievement of Mandatory Milestones, Design-Builder should clearly identify and justify those changes.

Design-Builder is encouraged to phase the Work in a way that supports efficient and effective delivery of design and build services. The following Mandatory Milestones shall be reflected in the schedule and where applicable, represents the dates upon which each milestone is to be achieved for all sites in the Agreement.

Mandatory Milestones

Mandatory Milestone	Date
50% Schematic Design submittal	TBD
90% Design Development submittal	TBD
100% Construction Documents submittal for permitting	TBD
Approved Construction Documents – All Agency Sites	TBD
Notice to Proceed	TBD
Mobilization – All Agency Sites	TBD
Substantial Completion – All Agency Sites	TBD
Final Completion – All Agency Sites	TBD

2.3 SUBMITTALS

Design-Builder shall provide the following submittals as part of the performance of the Work. The cost of developing and providing submittals shall be included in the Project price.

Agreement Submittals

Submittal	Submittal Date	Exhibit D.1 Section
I. System Design		**TBD**
a. System Design Documentation	At each design milestone	TBD
b. Warranties	At Construction Documents milestone	TBD
c. Testing Plan	At Construction Documents milestone	TBD
d. Training Plan	At Construction Documents milestone	TBD
e. Power production modeling	At Construction Documents milestone	TBD
II. Procurements and Construction		**TBD**
a. Quality Assurance / Quality Control (QA/QC) Plan	30 days before commencement of construction	TBD
b. Safety Plan	30 days before commencement of construction	TBD
c. As-built Documentation	After completion of Proving Period	TBD
III. Testing		**TBD**
a. Acceptance Test Results	After Acceptance Test	TBD
b. Startup Test Results	After Startup Test	TBD
c. Monitoring Data (Proving Period)	Continually throughout Proving Period	TBD
d. Proving Period Report	30 days after System Startup	TBD
IV. Training		**TBD**
a. Training Materials	30 days before Training Session	TBD
b. Monitoring Manual	30 days before Training Session	TBD
c. Operations & Maintenance Manual	30 days before Training Session	TBD

2.4 SOLAR INCENTIVES

Design-Builder shall submit applications for all available energy production incentives (e.g., CSI, SGIP, etc.) or, should the Purchaser-Owner already have submitted such applications, assume responsibility for all future requirements (agreements, submittals, etc.) related to these programs. This includes actions necessary to ensure compliance with the PG&E's net metering program and all

interconnection agreements and related documents for Purchaser-Owner participation and utilization of the benefits of each applicable program. Design-Builder shall attend all site verification visits conducted by the applicable public utility or Governmental Authority and shall assist the Purchaser-Owner in satisfying the requirements of the incentive program. Design-Builder shall be responsible for providing updated documentation to incentive program administrators throughout the project, as required by rules of the relevant incentive programs. Incentives shall be paid to the Purchaser-Owner if the system is to be purchased and to the Design-Builder should the system be owned by a third-party.

2.5 INTERCONNECTION APPLICATIONS

Design-Builder shall be responsible for preparing, submitting, and procuring interconnection application to appropriate utility and department. Design-Builder shall accept responsibility for payment for utility interconnection studies and/or project management that are not anticipated but may be required. All anticipated utility work (e.g. transformer installation, meter addition) shall be the responsibility of the Design-Builder. Sites on secondary networks or that feature more than 1 MW of renewable energy generating capacity are likely to require protective relays or other additional interconnection studies and equipment. Such work shall be the responsibility of the Design-Builder. At project completion, Design-Builder shall confirm Permission To Operate with the utility, and shall verify most financially-beneficial rate schedule and billing.

3. SYSTEM DESIGN

3.1 DESIGN REVIEW PROCESS/ PHASES

The Purchaser-Owner will review and approve design documentation based on the requirements in this RFP and as detailed in Section 3.3 of this document. Additional documents may be requested by the Purchaser-Owner as needed. The precise organization and format of the design submittals shall be agreed upon by Design-Builder and the Purchaser-Owner prior to the first design submission. The Purchaser-Owner will review all submittals, provide written comments, and conduct Design Review Meetings for each stage of the process. Design-Builder shall provide additional detail, as required, at each successive stage of the Design Review. Design-Builder shall not order equipment and materials until Schematic Design submittals have been approved. Design-Builder shall not begin construction until Construction Documents have been approved and all required permits have been obtained. The Purchaser-Owner will formally approve, in writing, each phase of the design and is the sole arbiter of whether each phase of the design has been completed. The Design-Builder shall not enter a subsequent design phase without the approval of the Purchaser-Owner.

Design-Builder shall be held solely responsible for obtaining approvals from the Purchaser-Owner, including revising designs as necessary until they are given approval by the Purchaser-Owner and all other required entities and organizations. A description of requirements for each design phase is provided below. System design shall comply with all applicable laws, statutes, ordinances, codes, rules, and regulations for construction projects of jurisdictions with authority over the Purchaser-Owner. Design-Builder is responsible for providing designs approved by the appropriate professional engineers registered in the State of California. Costs for engineering reviews and approvals shall be borne by the Design-Builder. System designs must take into account Purchaser-Owner aesthetic issues and not conflict with any current Purchaser-Owner operations.

3.1.1 Schematic Design

Design-Builder shall prepare Schematic Design documents consisting of drawings and other documents illustrating the scale and relationship of Project components, including but not limited to, schematic design studies, site utilization plans, PV array layouts and design information, a shading

analysis, electrical single-line diagrams, wiring and conduit schedule, equipment lists and bills of material, and equipment cut sheets or specifications.

3.1.2 Design Development

Design Development documents shall consist of elevations, cross sections, and other drawings and documents necessary to depict the design of the Project. This submittal shall include architectural, structural, geotechnical, mechanical and electrical design documents and equipment specifications to illustrate the size, character, and quality of the Project and demonstrate that it meets the performance specifications defined in this RFP. The Design Development documents shall represent 100% of the intended scope for the Project.

3.1.3 Construction Documents

Design-Builder shall prepare Construction Documents (CDs) depicting the detailed construction requirements of the Project. CDs shall conform to all applicable governmental, regulatory, and code requirements, and all pertinent federal, state, and local permitting agencies. The CDs shall show the work to be done, as well as the materials, workmanship, finishes, and equipment required for the Project. CDs shall comply with and illustrate methods to achieve the performance specifications of this RFP. CDs shall be stamped by the engineer of record and any other required engineering disciplines.

3.2 DESIGN-BUILDERS' LICENSE CLASSIFICATION

In accordance with the provisions of California Public Contract Code §3300, the Purchaser-Owner requires that Respondents possess, at the time of submission of a Proposal, at the time of award of the Agreement and at all time during construction activities, a General Contractor License (B), Electrical Contractor License (C-10), or Solar Contractor License (C-46). It shall be acceptable for a Respondent that does not possess a C-10 or C-46 License to list a Subcontractor with a C-10 or C-46 License.

3.3 DESIGN SUBMITTALS

Design-Builder shall prepare a comprehensive submittal package for each phase of the Work that will be reviewed and approved by the Purchaser-Owner. At a minimum, each submittal package shall include the elements required to convey in sufficient detail the following for each phase of the design:

- Site Layout Drawings, with distances from roof edges and existing equipment, as applicable
- Construction Specifications (trenching, mounting, etc.)
- Equipment Layout Drawings
- Detailed Drawings
- Electrical Single-Line and Three-Line Diagrams
- Module Stringing Diagrams
- Electric Wire and Conduit Schedule
- Electrical Warning Labels & Placards Plans
- Lighting Plan (for carports)
- Network Connection Diagrams
- Architectural Drawings
- Structural/Mechanical Drawings including roof penetration details

- Geotechnical Drawings
- Manufacturer's Cut Sheets with Equipment Specifications
- Data Acquisition System (DAS) Specifications, Cut Sheets, and Data Specifications

Design-Builder shall include adequate time for Purchaser-Owner review and approval of submittals, as well as re-submittals and re-reviews. Minimum Purchaser-Owner review time shall be ten (10) days from the date of receipt of each submittal package during each phase of the Design Review.

3.4 PERMITS AND APPROVALS

Construction Documents must be reviewed and approved by all authorities having jurisdiction (AHJs) over the work, which may include, but are not limited to: the Purchaser-Owner, the City or County in which the work is being done, the utility, the Office of Statewide Health Planning and Development (OSHPD), and the California Solar Initiative Program Administrator. Design-Builder shall be responsible for obtaining all approvals and shall account for permitting requirements in their system designs, project pricing, and schedule. Design-Builder shall produce required documentation in sufficient detail to obtain all regulatory approvals requested for design, construction and operation of the system, including but not limited to all federal, state, and local permits. Design-Builder shall attend all site verification visits conducted by the applicable public utility or Governmental Authority and shall assist the Purchaser-Owner in satisfying the requirements of the incentive program. The Purchaser-Owner will not grant Design-Builder relief based on Design-Builder's incomplete or incorrect understanding of permitting and approval requirements.

3.5 TECHNICAL REQUIREMENTS

3.5.1 General Considerations

All documentation and components furnished by Design-Builder shall be developed, designed, and/or fabricated using high quality design, materials, and workmanship meeting the requirements of the Purchaser-Owner and all applicable industry codes and standards. Reference is made in these specifications to various standards under which the Work is to be performed or tested. The installations shall comply with at least, but not limited to, the latest approved versions of the International Building Code (IBC), National Electrical Code (NEC), Pacific Gas and Electric (PG&E) Interconnection Requirements, California Building Code (CBC) and all other federal, state, and local jurisdictions having authority.

3.5.2 Electrical Design Standards

The design, products, and installation shall comply with at least, but not limited to, the following electrical industry standards, wherever applicable:

- Electronic Industries Association (EIA) Standard 569
- Illumination Engineering Society of North America (IESNA) Lighting Standards
- Institute of Electrical and Electronics Engineers (IEEE) Standards
- National Electrical Manufacturers Association (NEMA)
- National Electric Code (NEC)
- Insulated Power Cable Engineers Association (IPCEA)
- Certified Ballast Manufacturers Association (CBMA)
- Underwriters Laboratories, Inc. (UL)

- National Fire Protection Association (NFPA)
- Pacific Gas and Electric Utility Requirements
- American National Standards Institute (ANSI)
- Occupational Health and Safety Administration (OSHA)
- American Disabilities Act (ADA)
- American Society for Testing and Materials (ASTM)
- National Electrical Contractors Association (NECA)
- National Electrical Testing Association (NETA)
- International Building Code (IBC)
- California Building Code (CBC)
- All other Authorities Having Jurisdiction

3.5.3 Modules

In addition to the above, the PV modules proposed by Design-Builder shall comply with at least, but not limited to, the following:

- IEEE 1262 "Recommended Practice for Qualifications of Photovoltaic Modules".
- System modules shall be UL1703 listed.
- Modules shall be new, undamaged, fully warranted without defect.
- Modules shall comply with the State of California SB1 Guidelines for Eligibility, listed at: http://www.gosolarcalifornia.org/equipment/pv_modules.php
- Modules shall have minimum maintenance requirements and high reliability, have a minimum 25-year design life, and be designed for normal, unattended operation.
- Acceptable mounting methods for unframed modules shall be provided by the manufacturer. Bolted and similar connections shall be non-corrosive and include locking devices designed to prevent twisting over the 25-year design life of the PV system.
- If PV modules using hazardous materials are to be provided, then the environmental impact of the hazardous material usage must be disclosed, including any special maintenance requirements and proper disposal/recycling of the modules at the end of their useful life.

3.5.4 Inverters

In addition to the above, inverters proposed by Design-Builder must comply with at least, but not limited to the following:

- Inverters shall be suitable for grid interconnection and shall be compliant with all PG&E interconnection requirements.
- Inverters shall comply with the State of California SB1 Guidelines for Eligibility, listed at: http://www.gosolarcalifornia.org/equipment/inverters.php
- IEEE 929-2000 – "Recommended Practice for Utility Interface of Photovoltaic Systems".
- Inverters must automatically reset and resume normal operation after a power limiting operation.
- The inverter shall be capable of continuous operation into a system with voltage variation of plus or minus 10% of nominal. The inverter shall operate in an ambient temperature range of -20°C to +50°C.

- Inverters shall include all necessary self-protective features and self-diagnostic features to protect the inverter from damage (in the event of component failure or from parameters beyond normal operating range due to internal or external causes). The self-protective features shall not allow the inverters to be operated in a manner which may be unsafe or damaging.
- Inverters shall be true sine wave high frequency PWM with galvanic isolation.
- Inverters shall be sized to provide maximum power point tracking for voltage and current range expected from PV array for temperatures and solar insolation conditions expected for Project conditions.
- Inverters shall be capable of adjusting to "sun splash" from all possible combinations of cloud fringe effects without interruption of electrical production.
- Isolation transformers shall be provided.
- Inverters shall be UL 1741 and IEEE 1547 compliant.
- Inverters shall have a THD < 5%.
- Enclosures shall be rated NEMA 3R when the inverter is located outdoors. For outdoor installations in corrosive environments, NEMA 4X series 300 stainless steel enclosures must be used.
- Power factor shall be 0.99 or higher.
- Inverter selection shall take into account anticipated noise levels produced and minimize interference with Purchaser-Owner activities.
- Inverters shall have a minimum efficiency, based on the device's power rating, of 96%.

3.5.5 Electrical Balance of System Components

- Each proposed PV system shall include, at a minimum, one (1) fused DC disconnect and one (1) fused AC disconnect for safety and maintenance concerns.
- String combiner boxes must include properly-sized fusing, and all metal equipment and components must be bonded and grounded as required by NEC.
- String combiner boxes shall be load-break, disconnecting types, such that opening the combiner boxes shall break the circuit between combiner box feeders and inverters.
- All system wiring and conduit must comply with NEC stipulations, and all indoor and outdoor wiring, outdoor-rated or otherwise, must be enclosed in EMT or RIGID conduit or covered raceway, except adjacent panel connections.
- All wiring materials and methods must adhere to industry-standard best practices, and all inter-module connections must require the use of a specialized tool for disconnecting.

3.5.6 Mounting Systems

The mounting systems shall be designed and installed such that the PV modules may be fixed or tracking with reliable components proven in similar projects, and shall be designed to resist dead load, live load, corrosion, UV degradation, wind loads, and seismic loads appropriate to the geographic area over the expected 25-year lifetime. The Design-Builder's design shall sufficiently respond to the design requirements imposed by Federal, State, and local jurisdictions in effect at the time of Agreement execution and any pending code decisions affecting the design shall be identified during Schematic Design. Design-Builder shall conduct an analysis, and submit evidence thereof, including calculations, of each structure affected by the performance of the scope described herein, and all attachments and amendments. The analysis shall demonstrate that existing structures are not

compromised or adversely impacted by the installation of PV, equipment, or other activity related to this scope. Mounting systems must also meet the following requirements at a minimum:

- All structural components, including array structures, shall be designed in a manner commensurate with attaining a minimum 25-year design life. Particular attention shall be given to the prevention of corrosion at the connections between dissimilar metals.
- Thermal loads caused by fluctuations of component and ambient temperatures shall be accounted for in the design and selection of mounting systems such that neither the mounting system nor the surface on which it is mounted shall degrade or be damaged over time.
- Each PV module mounting system must be certified by the module manufacturer as (1) an acceptable mounting system that shall not void the module warranty, and (2) that it conforms to the module manufacturer's mounting parameters.
- Final coating and paint colors shall be reviewed and approved by the Purchaser-Owner during Design Review.
- Painting or other coatings must not interfere with the grounding and bonding of the array.

3.5.7 Corrosion Control

In addition to the above, Corrosion Control proposed by Design-Builder must comply with at least, but not limited to the following requirements:

- Fasteners and hardware throughout system shall be stainless steel or material of equivalent corrosion resistance
- Racking components shall be anodized aluminum, hot-dipped galvanized steel, or material of equivalent corrosion resistance
- Unprotected steel not to be used in any components
- Each PV system and associated components must be designed and selected to withstand the environmental conditions of the site (e.g., temperatures, winds, rain, flooding, etc.) to which they will be exposed.

3.5.8 Roofing Requirements

The installation of PV modules, inverters and other equipment shall provide adequate room for access and maintenance of existing equipment on the building roofs. A minimum of three (3) feet of clearance will be provided between PV equipment and existing mechanical equipment and other equipment mounted on the roof. A minimum of four feet of clearance shall be provided between PV equipment and the edge of the roof. Clearance guidelines of the local fire marshal shall be followed. The installation of solar or thermal systems will be reviewed for code compliance and adherence to the *State Fire Marshal Solar Photovoltaic Installation Guideline*. The PV equipment shall not be installed in a way that obstructs air flow into or out of building systems or equipment.

Proposed roof top mounted systems may be ballasted, standing seam attachment, or penetrating systems and must meet or exceed the following requirements:

- Systems shall not exceed the ability of the existing structure to support the entire solar system and withstand increased wind uplift and seismic loads. The capability of the existing structure to support proposed solar systems shall be verified by Design-Builder prior to design approval.
- Roof penetrations, if part of the mounting solution, shall be kept to a minimum.
- Design-Builder shall perform all work so that existing roof warranties shall not be voided, reduced, or otherwise negatively impacted.

- No work shall compromise roof drainage, cause damming or standing water or cause excessive soil build-up.
- All materials and/or sealants must be chemically compatible.
- Thermal movement that causes scuffing to the roof must be mitigated as part of the mounting solution.
- All penetrations shall be waterproofed.
- Detail(s) for the sealing of any roof penetrations shall be approved in writing to the Purchaser-Owner, as well as the manufacturer of the existing roofing system, as part of system design review and approval – prior to Design-Builder proceeding with work. The Purchaser-Owner will make available the roofing manufacturer for each building for consultation with Design-Builder as part of the design process.
- All roofing penetrations and waterproofing shall be performed or overseen by a licensed roofing contractor who is certified by the roofing materials manufacturer for the specific materials or systems comprising each roof upon which a solar system will be installed. The roofing contractor shall also be safety prequalified by the Purchaser-Owner.
- As part of the design submittals, Design-Builder shall include signed certificates from the roofing manufacturer stating:
    - The roofing contractor is certified installer of Complete Roofing System.
    - The manufacturer's Technical Representative is qualified and authorized to approve project.
    - Project Plans and specs meet the requirements of the warranty of the Complete Roofing System for the specified period.
    - Existing warranty incorporates the new roofing work and flashing work.
- Any damage to roofing material during installation of solar systems must be remedied by Design-Builder.
- The installation of PV modules, inverters and other equipment on building roofs will be designed to minimize visibility of the equipment from the ground.

3.5.9 Shade Structure Requirements

Design-Builder will be responsible for incorporating the following elements in the design and construction of the System:

- Minimum height: all shade structures shall be designed to have a minimum clear height of ten (10) feet, unless specified in a Site's Specification Sheet to be taller to accommodate larger vehicles at the site.
- All shade structures shall be installed with a fascia surrounding the exposed edge of the structure's purlins.
- Shade structures located in parking lots shall have a concrete bollards installed on support posts. The bollards shall extend up to a minimum elevation of thirty-six (36) inches above finished grade. This requirement may be waived at the Purchaser-Owner's sole discretion.
- Shade structure columns, beams, and fascia shall be painted to match site colors or to a color of the Purchaser-Owner's approval.

3.5.10 Ancillary Equipment Enclosures

Design-Builder will be responsible for incorporating the following elements in the design and construction of the System:

- Fencing: all ancillary equipment be grouped to a single location per site and shall be surrounded by a fence to prevent access by unauthorized personnel. The fence shall be a six (6) foot high chain link fence with vinyl privacy slats. This requirement may be waived at the Purchaser-Owner's sole discretion.
- Location: all ancillary equipment shall be located in a manner that minimizes its impact to normal Purchaser-Owner operations and minimizes the visual impacts to the site.

3.5.11 Placards and Signage

- Placards and signs shall correspond with requirements in the National Electric Code and the interconnecting utility in terms of appearance, wording, and placement.

- Permanent labels shall be affixed to all electrical enclosures, with nomenclature matching that found in As-Built Electrical Documents.

3.5.12 Infrastructure for Ground Mount Systems

Design-Builder will be responsible for incorporating the following elements in the design and construction of the System:

- Fencing: the site shall be surrounded by a fence to prevent unauthorized personnel from gaining access the site. The fence shall be a eight (8) foot high chain link fence with vinyl privacy slats.
- Gates shall be installed to enable site access for trucks.
- A pathway a minimum of ten (10) feet wide passable by a maintenance truck shall be provided within the array fence to allow for access to all equipment enclosed within the fence area.
- Access to water for maintenance (module cleaning) purposes, as determined adequate by Design-Builder and approved by the Purchaser-Owner.
- Access to low voltage (120V) AC power to power maintenance equipment and miscellaneous equipment.
- Design-Builder shall install and ensure activation of sufficient security cameras on site to monitor array area, connected to the site's security system, in collaboration with the Purchaser-Owner.
- Design-Builder will be responsible for installing an acceptable surface cover material under and around the modules and throughout the site that provides appropriate weed control, erosion and dust management.
- Design-Builder will be responsible for creating an access road to any ground mount system for maintenance and fire access purposes. The access road shall be passable under all weather conditions.

3.5.13 Lightning and Surge Protection

- Design-Builder shall utilize lightning arrestors to protect appropriate equipment from lightning strikes.
- Design-Builder shall utilize surge suppressors to protect the appropriate equipment from electrical surges.

3.5.14 Short Circuit Coordination

- As part of their design submittals, Design-Builder shall identify overcurrent protective devices installed on the project (AC/DC fuses and AC/DC circuit breakers). Design submittals shall

include calculations and demonstrate that the devices installed as part of the PV project are coordinated with the rest of each site's distribution, preventing an unintentional outage due to an isolated PV system fault.

3.5.15 Wiring and Cabling Runs

- Design-Builder shall install all AC conductors in conduit.
- Direct burial wire will not be acceptable. Conduit buried underground shall be suitable for the application and compliant with all applicable codes. PVC shall be constructed of a virgin homopolymer PVC compound and be manufactured according to NEMA and UL specifications. All PVC conduit feeders shall contain a copper grounding conductor sized per NEC requirements and continuity shall be maintained throughout conduit runs and pullboxes. Minimum conduit size shall be ¾". A tracing/caution tape must be installed in the trench over all buried conduit.
- Conduit installed using horizontal directional boring (HDB), shall include tracer tape or traceable conduit. The minimum depth of the conduit shall be per NEC 2011 Article 300.5. The Design-Builder is responsible for demonstrating that all conduits installed utilizing horizontal boring meets the minimum depth requirement and is solely responsible for any remediation costs and schedule impacts if the specification is not met. The HDB contractor must provide documentation of final depth and routes of all conduit installed in horizontal bores.
- Conduit installed on building roofs shall not be installed near roof edges or parapets to reduce visibility. Any conduit penetrations through roof surfaces shall not be made within five (5) feet of the roof edge to reduce visibility. If conduit is installed on the exterior face of any building, it shall be painted to match the existing building color. In all cases, the visible impact of conduit runs shall be minimized and the design and placement of conduit shall be reviewed and approved by the Purchaser-Owner as part of Design Review.
- Electro-metallic tubing (EMT) shall be used in indoor, above grade locations and where conduit needs to be protected from damage. EMT shall not be installed underground, outdoors, or embedded in concrete. EMT shall be cold-rolled zinc coated steel and be manufactured to UL and ANSI standards. Fittings shall be watertight and malleable gripping ring compression type. Pressure cast material for nuts of compression ring type fittings and set-screw type connections are not acceptable.
- Unless specified otherwise by Purchaser-Owner, Galvanized Rigid Conduit (GRC) shall be used where exposed to weather or where subject to physical damage in exposed areas. GRC shall be continuous hot-dipped galvanized manufactured per UL and ANSI requirements. Rigid aluminum conduit is not acceptable. Conduit bodies for use with steel conduit, rigid or flexible, shall be manufactured per UL requirements and shall be cast metal with gasketed closures. Fittings for GRC conduit shall be malleable iron or forged steel with cadmium or zinc coating. Union couplings for joining rigid conduit at intermediate runs shall be of the same material as the conduit. Couplings shall be threaded concrete-tight to permit completing conduit runs when neither conduit can be turned and to permit breaking the conduit run at the union. Set screw connectors are not acceptable.
- All conduits, boxes, enclosures, etc. shall be secured per NEC 690 requirements.
- All conductors shall be insulated copper rated for 600V, minimum. DC conductors shall be PV Wire or USE-2 600V UL Listed Sunlight resistant wire.
- All items shall be U.L. listed and shall bear the U.L. label.
- All spare conduits shall be cleaned, mandrelled, and provided with a pullwire. Spare conduits shall be required for security cameras for ground mount systems.

- All feeders and branch circuits shall be sized to minimize voltage drop and losses and shall be in compliance with NEC requirements.
- Design-Builder shall furnish, install, and connect combiners and recombiners as necessary to complete the System. Enclosures for combiners and recombiners shall be NEMA 3Rrated or higher.
- All systems, conduit, boxes, components, etc. shall be grounded and bonded per NEC requirements and in accordance with Section 3.5.16.
- All exposed conduit runs over 100-feet in length or passing over building connection points shall have expansion joints to allow for thermal expansion and building shift.
- Design-Builder will be responsible for locating, identifying and protecting existing underground utilities conduits, piping, substructures, etc. and ensuring that no damage is inflicted upon existing infrastructure.
- Design Builder shall install and secure the exposed string cable homeruns along the beams or structure where the combiner box is installed.
- All exposed string wiring must be installed above the lower surface of the structural purlins and beams. Wire loops under framing members are not acceptable.
- Acceptable wire loss in DC circuits is < 1.5% and acceptable wire loss in AC circuits is < 1.5% as well.

3.5.16 Grounding and Bonding

- Module ground wiring splices shall be made with irreversible crimp connectors.
- All exposed ground wiring must be routed above the lower surface of any structural framing.
- For shade structure installations, grounding electrode conductors shall be bonded to structure columns either just below grade or below the top surface of concrete bollards.

3.5.17 System Security Requirements

- Design-Builder shall utilize tamper-resistant PV module to rack fasteners for all PV module mounting.

3.5.18 Shade Structure Lighting

- Installation of shade structure PV systems in all locations shall include the installation of new high efficiency lighting. Installation of shade structure PV systems shall include the removal of existing security light poles, foundations, and fixtures that are no longer effective.
- Lighting shall be LED lighting or other similar energy efficient lighting system.
- New parking lot fixtures shall be installed to provide parking lot illumination compliant with IESNA requirements or recommendations for illumination and safety.
- Minimum horizontal illuminance of one (1) foot-candle shall be maintained at ground level with a uniformity ratio (maximum to minimum) of 15:1.
- The new lighting is required to illuminate the entire parking area and adjacent pedestrian walkways affected by the removal of existing lights, not just the area under the PV modules.
- A photometric illumination plot must be submitted for each parking lot showing all existing lighting and proposed new SSS canopy lighting.
- Submit California Title 24 Outdoor Lighting calculations with all lighting drawings and show evidence of compliance.

Photocell controls shall be used in conjunction with a lighting control system for all exterior lighting and energize lighting when ambient lighting levels fall below two (2) foot-candles measured horizontally at ground level. Lighting shall also be required to operate manually without regards to photocell input. Replacement parking lot lighting shall be served from an existing parking lot lighting circuit and any existing circuits and existing control function shall be maintained, or if replaced, done so at the approval of the Purchaser-Owner.

3.5.19 Monitoring System, DAS, and Reporting

Design-Builder shall design, build, activate and ensure proper functioning of Data Acquisition Systems (DAS) that enable the Purchaser-Owner to track the performance of the PV Systems as well as environmental conditions through an online web-enabled graphical user interface and information displays. Design-Builder shall provide equipment to connect the DAS via Ethernet cable, existing Wi-Fi network or cellular data network at all locations. The means of data connection will be determined during design. The Purchaser-Owner will pay for the cost of cellular data service if needed, but not for the modem or other equipment needed to connect to the cellular network.

The DAS(s) shall provide access to at least the following data:

- Instantaneous AC system output (kW)
- PV System production (kWh) over pre-defined intervals that may be user configured
- AC and DC voltage
- In-plane irradiance
- Ambient and back-of-cell temperature (at least two (2) sensors for each, at different positions in the array)
- Inverter status flags and general system status information
- System availability
- Site Load information. Available load data for the meter the system is connected to shall be collected by the solar monitoring solution as part of the DAS.

Environmental data (temperatures and irradiance) shall be collected via an individual weather station installed for each site

Data collected by the DAS shall be presented in an online web interface, accessible from any computer through the Internet with appropriate security (e.g., password controlled access). The user interface shall allow visualization of the data at least in the following increments: 15 minutes, hour, day, week, month, and year. The interface shall access data recorded in a server that may be stored on-site or remotely with unfettered access by the Purchaser-Owner for the life of the Project. The online interface shall enable users to export all available data in Excel or ASCII comma-separated format for further analysis and data shall be downloadable in at least 15 minute intervals for daily, weekly, monthly and annual production. Historical data from the full lifetime of the PV system shall be available through the online interface.

The Monitoring system shall enable Purchaser-Owner staff to diagnose potential problems and perform remediating action. The monitoring system shall provide alerts when the system is not functioning within acceptable operating parameters. These parameters shall be defined during the design phase of the Project and specified in the DAS design document. At a minimum, Purchaser-Owner shall have the ability to compare irradiance to simultaneous power production measurements through linear regression analysis.

Additionally, Design-Builder shall make available, at no additional cost, the following reports for a term of five (5) years after Final Completion of the project:

- Monthly Production report shall be available online to the Purchaser-Owner personnel.
- System performance data shall be made available electronically to the Purchaser-Owner in a format and at a frequency to be determined during the Design Review process.
- Additional reports shall be made available to the Purchaser-Owner to assist the Purchaser-Owner in reconciling system output with utility bills and the production guarantee, as determined in the Design Review process.

A Monitoring Manual shall be provided to the Purchaser-Owner in printed or on-line form that describes how to use the monitoring system, including the export of data and the creation of custom reports.

3.5.20 FAA Requirements

Design-Builder shall be responsible to submit the appropriate FAA Form 7460-1, along with any other required forms and documentation, for all proposed PV systems within the approach or takeoff paths or on the property of airports as defined by the Code of Federal Regulations Title 14 Part 77.9.

3.5.21 Interconnection

Design-Builder is responsible for obtaining all necessary PG&E interconnection approvals for each PV system being installed. Design-Builder must comply with all interconnection requirements, such as CPUC Rule 21 for the PG&E service territory. Design-Builder is responsible for the proper planning and scheduling of interconnection approvals and any potential interconnection study. Systems installed as part of this project will take advantage of Net Energy Metering (NEM), unless specified otherwise by Purchaser-Owner or its agents. Design-Builder shall be responsible for ensuring the system design and interconnection qualifies for NEM, as applicable. Sites on secondary networks or that feature more than 1 MW of renewable energy generating capacity are likely to require protective relays or other additional interconnection studies and equipment. Such work shall be the responsibility of the Design-Builder.

3.5.22 Production Modeling

Production modeling of the PV systems shall be performed using PVSYST or equivalent modeling software using TMY3 weather data for the location closest to the site. The simulations shall accurately simulate energy production for proposed system layouts, sizes, and orientation. It is critical that PV production models are accurate with all methodology and assumptions described. The Purchaser-Owner will independently verify production models are accurate to the designed systems and utilize simulation results for economic evaluations. Design-Builder shall be responsible for updating the production models each time sufficient changes are made to the proposed system designs that will impact production.

3.5.23 Shading

Design-Builder shall adhere to the following requirements in order to avoid excessive shading on modules. For any object near an array that is higher than the lowest point of that array by height H, Design-Builder shall locate the array farther from the object than:

- 2H to the North of the object
- 2H to the East or West of the object

- 2H to any non-cardinal direction of the object

Any Design-Builder whose system design does not adhere to these rules shall perform a shading analysis justifying the basis for their design, including any proposed tree removal, and explaining why shading does not create an adverse performance and/or economic impact.

Any trees that are in the footprint of systems to be installed by the Design-Builder shall be removed by the Design-Builder at their expense, subject to the approval of the Purchaser-Owner. A tree shall be considered to be in the footprint of a system if its canopy would extend over any part of the system, including structural components or modules. The Purchaser-Owner will remove or prune, at its discretion, trees planted outside of the work area that shade PV systems (at present time or in the foreseeable future), provided the Design-Builder identifies these trees during the design process. The Design-Builder shall be responsible for any required tree remediation efforts resulting from tree removal that is deemed the Design-Builder's responsibility.

3.6 WARRANTIES

Design-Builder shall provide a comprehensive ten (10) year warranty on all system components against defects in materials and workmanship under normal application, installation, and use and service conditions.

Additionally, the following minimum warranties are required:

- PV Modules: The PV modules are to be warranted against degradation of power output of greater than 10% of the original minimum rated power in the first ten (10) years and greater than 20% in the first twenty (20) years of operation.
- Inverters: Inverters shall carry a minimum ten (10) year warranty (direct purchase price must include a twenty (20) year warranty).
- Meters: At minimum, meters shall have a one (1) year warranty. For meters integrated in inverters, the meter warranty period must match the inverter.
- Mounting system: twenty (20) year warranty, covering at least structural integrity and corrosion.
- Balance of system components: the remainder of system components shall carry manufacturer warranties conforming to industry standards.

All work performed by Design-Builder must not render void, violate, or otherwise jeopardize any preexisting Purchaser-Owner facility or building warranties or the warranties of system components.

4. PROCUREMENT/CONSTRUCTION

4.1 SCOPE OF SUPPLY

Design-Builder shall provide all necessary labor, materials, equipment, and services required to install complete integrated turnkey PV systems. Design-Builder shall supply all solar modules, mounting equipment, inverters, AC and DC disconnect switches, metering, related wiring, monitoring equipment, and all ancillary equipment necessary to install the PV system and interconnect it to the Purchaser-Owner electrical distribution system. The PV system installations shall comply with all contract requirements, technical specifications, approved design documents, and applicable regulatory codes and requirements. Design-Builder shall submit As-Built Construction Drawings in hard copy with two (2) sets and an electronic copy in DWG format on compact disc to the Purchaser-Owner after completion of the Proving Period for each system at each site.

4.2 MATERIALS AND EQUIPMENT

Materials and equipment incorporated in the Work shall be new and suitable for the use intended. No material or equipment shall be used for any purpose other than that for which it is designed, specified or indicated.

Design-Builder shall use means necessary to protect the materials and equipment before, during and after installation. Design-Builder shall promptly replace lost or damaged materials and equipment with equal, or Purchaser-Owner-approved, replacements, or repair them, at no additional cost to the Purchaser-Owner.

4.3 LINE LOCATION

Design-Builder will be responsible for locating, identifying and protecting existing underground utilities conduits, piping, substructures, etc. and ensuring that no damage is inflicted upon existing infrastructure. In addition to USA Dig and utility line-locating, a private line-locator must be used for any project requiring underground work.

4.4 QUALITY ASSURANCE AND QUALITY CONTROL

Design-Builder shall implement a Quality Assurance / Quality Control (QA/QC) plan for construction activities on Purchaser-Owner sites. At least 30 days prior to the planned commencement of construction, Design-Builder shall submit a copy of the QA/QC Plan for review and approval by the Purchaser-Owner.

To ensure the highest quality of the installation, Design-Builder shall:

- Implement policies and procedures to ensure proper oversight of construction work, verification of adherence to construction documents and contractual requirements, and rapid identification and mitigation of issues and risks.
- Utilize best practice methods for communicating progress, performing work according to the approved Project schedule, and completing the Project on-time.
- Keep the Site clean and orderly throughout the duration of construction. All trash and rubbish shall be disposed of off-site by licensed waste disposal companies and in accordance with applicable Law.
- Provide equipment marking, as well as labeling and signage for the Project that shall be removed after Project completion.
- Fully comply with all applicable notification, safety and Work rules (including Purchaser-Owner safety standards) when working on or near Purchaser-Owner facilities.
- Provide Special Inspection for trenching, rebar, concrete, welding, and roof attachment work, according to AHJ requirements.
- Route all electrical collection system wiring and conduits in a neat and orderly fashion and in accordance with all applicable code requirements. All cable terminations, excluding module-to-module and module-to-cable harness connections, shall be permanently labeled.
- Torque all mechanical and electrical connections and terminations according to manufacturer specifications, with marking/sealing of all electrical terminations at appropriate torque point.
- Provide all temporary road and warning signs, flagmen or equipment as required to safely execute the Work. Street sweeping services shall also be provided as required to keep any dirt, soil, mud, etc. off of roads. Comply with all state and local storm water pollution prevention (SWPP) ordinances.

4.5 REMOVAL AND REMEDIATION

Design-Builder shall remove all construction spoils, abandoned footings, utilities, construction equipment and other byproducts of construction. All disturbed areas including landscaping, asphalt, and concrete shall be remediated to be in equal or better condition than found. Parking lots shall be re-striped if affected by construction operations.

The site shall be left clean and free of debris or dirt that has accumulated as a result of construction operations.

5. TESTING

Following completion of construction, Design-Builder shall provide the following services related to startup and performance testing of the PV systems:

- Acceptance Testing
- System Startup
- Proving Period

A detailed Testing Plan covering each of the phases above shall be submitted and approved by the Purchaser-Owner prior to substantial completion of construction. A detailed description of each phase is provided below.

5.1 ACCEPTANCE TESTING

Design-Builder shall perform a complete acceptance test for each PV System. The acceptance test procedures include component tests as well as other standard tests, inspections, safety and quality checks. All testing and commissioning shall be conducted in accordance with the manufacturer's specifications.

The section of the Testing Plan that covers Acceptance Testing shall be equivalent or superior to the CEC (California Energy Commission) "Guide to Photovoltaic (PV) System Design and Installation", Section 4 and shall cover at least the following:

- Detailed test methods, including sample calculations and reference to standards as required or applicable, and list of tested equipment.
- Pre-test checklist to ensure readiness and any safety measures are in-place.
- Detailed list of all items to be inspected and tests to be conducted.
- Acceptance Criteria: For each test phase, specifically indicate what is considered an acceptable test result.

The Acceptance Testing section of the Testing Plan shall include (but not be limited to) the following tests:

- String-level voltage (open circuit) and amperage (under load) testing for all PV strings. Amperage testing shall be performed concurrently with irradiance testing.
- Inverter testing for all inverters. The inverters shall be commissioned on-site by a qualified technician and shall confirm that the inverter can be operated locally per specification and that automatic operations such as wake-up and sleep routines, power tracking and fault detection

responses occur as specified. Performance testing shall be performed concurrently with irradiance testing.

- Testing of all sensors of the DAS.
- Testing of the Data Presentation interface of the DAS.

After Design-Builder conducts all Acceptance Testing based on the Testing Plan approved by the Purchaser-Owner prior to substantial completion, Design-Builder shall submit a detailed Acceptance Test Report to the Purchaser-Owner for review.

The Acceptance Test Report shall document the results of the tests conducted following the Testing Plan, and include additional information such as the date and time each test was performed. It shall also make reference to any problem and deficiencies found during testing. If there was troubleshooting done, the Report shall describe the troubleshooting methods and strategy. Design-Builder shall be responsible for providing the labor and equipment necessary to troubleshoot the System.

5.2 SYSTEM STARTUP

Following Purchaser-Owner approval of the Acceptance Test Report, Design-Builder shall conduct tests over twenty-four (24) hours and at a time resolution of fifteen (15) minutes, recording the following data:

- Average AC output (kW)
- Average DC output (kW)
- Hourly PV system production (kWh)
- AC and DC voltage
- In-plane irradiance
- Ambient and cell temperature
- Inverter status flags and general system status information

These data points shall be presented in a manner that best depicts the actual performance of the system for Purchaser-Owner review and approval and shall be submitted as part of the Startup Test Report.

5.3 PROVING PERIOD (30 DAYS)

Upon completion of Acceptance Testing and System Startup, and approval by the Purchaser-Owner, Design-Builder shall monitor the system during a thirty (30) day Proving Period and submit a report for Purchaser-Owner review and approval prior to final acceptance by the Purchaser-Owner. This includes monitoring system output and ensuring the correct functioning of system components over this time. The values for the following data shall be acquired every fifteen (15) minutes over thirty (30) days:

- AC system output (kW)
- PV system production (kWh)
- AC and DC voltage
- In-plane irradiance
- Ambient and cell temperature
- Inverter status flags and general system status information
- System availability

Design-Builder shall utilize calibrated test instruments and the DAS and monitoring system to collect the test data described above, which shall be made available to the Purchaser-Owner for access throughout the Proving Period. Design-Builder shall determine through analysis of data from the Proving Period whether the PV system delivers the expected production as determined by the final approved design (i.e., Construction Documents). Actual production shall be compared against expected production using actual weather data and other system inputs (such as module cell temperature factor, module mismatch, inverter efficiency, and wiring losses) for calculating expected production. The production figures for all meters, whether existing or installed by or on behalf of the IOU or by or on behalf of the Respondent, shall be correlated during this test to verify their accuracy in measuring system production.

All data and reports required in Section 3.5.20 shall be fully functional and available to the Purchaser-Owner at the commencement of the Proving Period. Data and reporting requirements are included in the testing scope of the Proving Period and deficiencies in these areas (including missing data, inaccurate reports, and other issues that make validation of system performance inconclusive) shall be grounds for denying approval of the Proving Period Report.

If the PV system does not perform to design specifications, diagnostic testing shall be performed by Design-Builder, deficiencies shall be identified with proposed corrective actions submitted to the Purchaser-Owner, and the Proving Period test repeated. Design-Builder shall be responsible for providing the labor and equipment necessary to troubleshoot the system. The Proving Period Report shall be submitted after the successful completion of this phase and submitted to the Purchaser-Owner for review and approval. The report shall contain, but not be limited to, the following information; calculations shall be provided in Excel format with formulas visible to allow for peer review:

- System description
- Test period
- Test results
- Anomalies identified during test
- Corrective action performed
- Actual measured performance
- Calculations detailing expected performance under TMY conditions

5.4 CLOSE-OUT DOCUMENTATION REQUIREMENTS

Close-Out documents prepared by Design-Builder must include at minimum, but not limited to, the following items:

- Final As-Built Drawing Set with accurate string diagram
- Megger test results
- Module flash-test results with serial numbers
- Component warranties
- Signed inspections cards from AHJ and required Special Inspections
- Interconnection agreements and Permission To Operate
- Owner's Manual

6. OPERATIONS AND MAINTENANCE

For systems structured as a direct purchase, Design-Builder shall offer Operations and Maintenance services for ten (10) years with their Proposal, with an option to extend the Contract for up to an additional ten (10) years. The Purchaser-Owner reserves the right to not execute the Operations and

Maintenance services agreement. For third-party owned systems, Operations and Maintenance services will be performed for the life of the contract at the expense of the Design-Builder.

In offering such services, Design-Builder shall perform all necessary preventive and corrective maintenance, which includes routine maintenance adjustments, replacements, and electrical panel/transformer/ inverter cleaning (interior and exterior) with supporting documentation delivered to the Purchaser-Owner after the Work has been performed. Maintenance by Design-Builder shall ensure that all warranties, particularly inverter warranties, are preserved. The frequency and timing of panel wash-downs shall be determined by Design-Builder based on system monitoring data. Environmental sensors such as pyranometers shall be tested and recalibrated at least once every three (3) years.

Design-Builder shall perform the following maintenance services, at a minimum, as described in the following sections:

6.1 PREVENTIVE MAINTENANCE

Preventive Maintenance shall be performed at least annually and include:

- System testing (voltage/amperage) at inverter and string levels
- System visual inspection and necessary corrections:
  - Inspect for stolen, broken or damaged PV modules, record damage and location. Report to the Purchaser-Owner and wait for the Purchaser-Owner to authorize a course of action.
  - Inspect PV wiring for loose connections and wire condition. Resolve issues as needed or report larger issues to the Purchaser-Owner.
  - Inspect for wires in contact with the structure or hanging loose from racking and resolve issues as needed.
  - Check mechanical attachment of the PV modules to the racking and resolve issue as needed.
  - Check attachment of racking components to each other and the structure and resolve issue as needed.
  - Verify proper system grounding is in place from panels to the inverter and resolve issue as needed.
  - Check conduits and raceways for proper anchorage to structures and resolve issue as needed.
  - Inspect all metallic parts for corrosion and resolve issue as needed.
  - Check combiner boxes for proper fuse sizes and continuity and resolve issue as needed.
  - Inspect all wiring connections for signs of poor contact at terminals (burning, discoloration, etc) and resolve issue as needed.
  - Inspect disconnects for proper operation and resolve issues as needed.
  - Survey entire jobsite for debris or obstructions and resolve issues as needed.
  - Inspect fasteners for proper torque and corrosion and resolve issues as needed.
  - Inspect inverter pad for cracking or settling and resolve issues as needed.
  - Inspect electrical hardware for proper warning and rating labeling and resolve issues as needed.
  - Review as built documentation as needed.
  - Inspect alignment of arrays and racking to identify settling foundations or loose attachments and resolve issues as needed or report issues to the Purchaser-Owner.
  - Inspect operation of tracking hinges, pivots, motors and actuators if present and resolve issues as needed.

  - Check for proper operation and reporting of monitoring hardware and resolve issues as needed.
  - Inspect sealed electrical components for condensation buildup and resolve issues as needed.
  - Inspect wiring and hardware for signs of damage from vandalism or animal damage and resolve issues as needed.
- Routine system maintenance to include correction of loose electrical connections, ground connections, replacement of defective modules found during testing, other minor maintenance repair work.
- Module cleaning, at a frequency to be determined by the ongoing monitoring of the system such that effect on production is no more than 5%, but not less often than twice a year.
- Routine DAS maintenance to include sensor calibration and data integrity check.

6.2 Troubleshooting, Inspection and Additional Repairs

- Dispatch of field service resources within two (2) business days of notification (via automated or manual means) for repairs as necessary to maintain system performance.
- Any corrective action required to restore the system to fully operational status shall be completed within twenty-four (24) hours of the service resources arriving on-site.
- Major system repairs, not to include mid-voltage switchgear or transformers.

6.3 CUSTOMER SERVICE SUPPORT

- Support telephone line made available to Purchaser-Owner staff to answer questions or report issues.
- Support line shall be staffed during operational hours from 8 am – 6 pm California Standard Time. During times outside of this operational period, an urgent call shall be able to be routed to a supervisor for immediate action.

6.4 MAJOR COMPONENT MAINTENANCE AND REPAIR

- Inverter repair and component replacement and refurbishment as required in the event of inverter failure.
- Inverter inspection and regular servicing as required under inverter manufacturer's warranty specifications. Those include but are not limited to the following annually:
  - Check appearance/cleanliness of the cabinet, ventilation system and all exposed surfaces.
  - Inspect, clean/replace air filter elements
  - Check for corrosion on all terminals, cables and enclosure.
  - Check all fuses.
  - Perform a complete visual inspection of all internally mounted equipment including subassemblies, wiring harnesses, contactors, power supplies and all major components.
  - Check condition of all the AC and DC surge suppressors.
  - Torque terminals and all fasteners in electrical power connections.
  - Check the operation of all safety devices (E-stop, door switches).
  - Record all operating voltages and current readings via the front display panel.
  - Record all inspections completed.
  - Inform inverter manufacturer of all deficiencies identified.

- Oversee inverter manufacturer performance of In-Warranty replacement of failed inverter components.
- Customer advocacy with vendors.

6.5 OTHER SYSTEM SERVICES

- O&M Manuals – Design-Builder shall provide three (3) copies of O&M Manuals. Updated editions of O&M Manuals shall be sent electronically to the Purchaser-Owner as they become available.
- Management of long term service and warranty agreements, ongoing.
- Design-Builder shall log all maintenance calls and document all maintenance activities. These activities shall be presented in a report, which is to be submitted to the Purchaser-Owner on a minimum monthly basis.

O&M services shall be priced separately from the design and construction of the PV system. Design-Builder shall submit a detailed description of their O&M services, detailing the activities and the intervals at which they will be performed, with their Proposal.

7. PRODUCTION GUARANTEE

Design-Builder shall offer a Production Guarantee as part of their Proposal. The Production Guarantee shall comply with the PPA Terms and Conditions and Design-Build Terms and Conditions included as Exhibits E.1 and E.2 of the RFP.

8. TRAINING

The Respondent shall provide four (4) hours of on-site training for Purchaser-Owner personnel in all aspects of operation, routine maintenance, and safety of the PV systems, DAS, and monitoring solution.

At a minimum, training topics shall include the following:

- PV system safety, including shut-down procedures
- PV module maintenance and troubleshooting
- Inverter overview and maintenance procedures
- Calibration and adjustment procedures for the inverters and tracking systems (if any)
- DAS and monitoring solution, including standard and custom reporting

Design-Builder shall submit a proposed Training Plan during the design process for approval and provide all training materials and manuals to support on-site training in advance of scheduled training sessions (see schedule of submittals in Section 2.3, "Submittals"). The on-site portion of the training program shall be scheduled to take place at the jobsite at a time agreeable to both the Purchaser-Owner and Design-Builder.