

**ADDENDUM #3 Solar Projects 2009**

July 1, 2009

**TO:** Prospective Bidders**FROM:** Housing Authority of the County of Monterey**Instructions to Bidders**

The following information is hereby incorporated into the RFQ due July 27, 2009:

The Bid Date has been **extended from July 9, 2009 until July 27, 2009 at 3:00 p. m.** All bids are due at 134 East Rossi Street, attention Tom Sears.

PDF drawings are available for use on the Housing Authority website at [www.hamonterey.org](http://www.hamonterey.org). These drawings can be attached to cad files as reference layers and can be used for layout purposes. Full AutoCAD files are available by going to the website: <https://www.getdropbox.com>. Log on using the user name: [it@hamonterey.org](mailto:it@hamonterey.org). The password is: upload09. Click on the "Public" folder. Drawings of all sites are NOT available as of this date, but the last site is being developed now and should be available by July 8, 2009. Check back on the website to get the last drawing.

1. The size of the project is being reduced to include only the following locations:

Natividad	44 Natividad Road, Apartments # 1 thru 40	Dwg (coming)
Sanborn Estates	1025 North Sanborn Road, units # 1 thru 14	Dwg 18A
Sanborn Plaza	1039 North Sanborn Road, units # 1 thru 14	Dwg 18B
Sanborn Arms	1058 North Sanborn Road, units # 1 thru 16	Dwg 20B
Del Monte Plaza	1415 Del Monte Avenue, units # 1 thru 44	Dwg 25-1 & 25-2
Montecito	242 Montecito Street, units # A thru E	Dwg 29
Watson	531 Watson Street, units # 1 thru 8	Dwg 30
Los Ositos	1083 Elm Avenue, units # 1 thru 25	Dwg 02-1 thru 02-7
Northridge Plaza	1511 Wheeler Drive, units # 1 thru 32	Dwg 06-6 & 06-7
Northridge Plaza	1513 Wheeler Drive, units # 1 thru 32	Dwg 06-3 & 06-4
Northridge Plaza	1515 Wheeler Drive, units # 1 thru 32	Dwg 06-2 & 06-5
Elgin Village	350 Casentini Street, units # 1 thru 50	Dwg 11-1 thru 11-7
Housing Authority	123 Rico Street	Dwg 12

Any community center or carport at these locations is also available for pv panel installation.

2. The bid shall be based on:
  - a. the average common area annual consumption of 100% offset by approx. 0.5 kWdc (i.e., 500 Wdc) per apartment unit; and
  - b. the average apartment annual consumption (i.e., average of typical mix of 1-, 2-, and 3-BR units) of 50% offset by approx. 1.5 kWdc (i.e., 1,500 Wdc) per apartment unit.
  - c. 2.0 kWdc per unit shall be the "target system size" for bidders. Each bidder shall give the Housing Authority suggested installation solutions for that amount of PV on a given project (building) and the associated installed system price. The contract amount shall be based on

the final approved installed cost as determined by the Housing Authority and based on final approved design by the bidder.

3. Measurement and Payment for this item shall be based on a lump sum price paid for furnishing all labor, materials, tools, equipment, incidentals and work involved in the installation of a Crystalline Photovoltaic Solar Module system. The system shall be capable of producing two (2) KW per hour per unit installed under standard sunlight measuring conditions. This shall be estimated as the product of “**CSI Rating**”, as calculated using the California Solar Initiative Incentive Calculator website (<http://www.csi-epbb.com>), times the minimum performance tolerance of the panel as described in these Specifications, Structural Drawings, and attached documents.

*The following is an example of how the Contractor shall estimate the system output. See attachment #1 which is a print out of the CSI EPBB Calculator reflecting an example system (for a project in Monterey, CA with a specified 25 KW system):*

181 (one hundred and eighty one) individual Sharp Corporation:NT-175U1 solar modules will give a DC Rating (kW PTC) of 27.9464. 6 (six) SMA America:SB5000US (240V) inverters with an efficiency rating of 95.50 % mounted directly south with a 22° tilt angle will provide a CEC-AC Rating of 26.689 kW. Based on Monterey’s geographic location the design factor is 98.807% and therefore the **CSI Rating** is **26.371 kW**. The Sharp NT-175U1 solar modules have a power performance tolerance of +10%,-5%. This means that the panels are guaranteed to produce anywhere between 95% and 110% of their rated output. Therefore the minimum performance tolerance shall be 95% of the rated output. The estimate system production shall be the product of the **CSI Rating** and the performance tolerance.

$$\text{CSI Rating} * \text{Performance Tolerance} = 25 \text{ kW} \quad (\text{equation 1})$$

$$26.371 \text{ kW} * 95\% = 25.05245 \text{ kW}$$

4. The warranty period with respect to power output shall continue for a total of 25 years from the date of purchase. The power output shall be warranted for the first 10 years at 90% rated output and the following 15 years at 80% of the rated output.
5. The Housing Authority is not requiring the Contractor to test each panel individually in place. The Contractors shall follow IEC 60904 procedures. The output will be tested at sub-assembly points. If at those points, the Contractor cannot demonstrate the expected power output, then the Contractor shall be responsible for determining and repairing the problem. Problems may be with individual panels and may require Contractor to test panels on an individual basis.
6. Contractors are required to submit shop drawings for review and permit by the City Building Safety Dept., Permitting Dept., and Fire Departments. These drawings shall comply with all requirements of the project Specifications and current building code.
7. Contractors shall minimize roof penetrations. Contractors may use alternate panel mounting methods such as stick on mounting if designed for interface with TPO roof, guaranteed by manufacturer, and meets all California Building Code and roof design load limits. Contractor shall provide setback from eaves to comply with all California Building Code and California Fire Code.
8. The following items should be listed for each building:  
Number of pv panels

Number of inverters  
Array tilt (degrees)  
Array Azimuth (degrees)

9. Any rebate associated with the pv installed system shall be to the benefit to the Housing Authority of the County of Monterey, the owner of the property. The Housing Authority will sign all contracts or forms required to receive the rebates. The bid price shall be given before any rebates, tax credits, financing discounts, etc, and then any estimated rebates, tax credits, financing discounts shall be listed. The successful bidder shall work with the Housing Authority and provide paperwork, applications, forms and required information in order to obtain the available rebates.
10. The Housing Authority shall be using “virtual metering”. Therefore one inverter shall be installed per building.
11. Any tree trimming required in order to get better exposure shall be listed as an alternate in the price for each building or specific site.
12. All permits and fees shall be included in the bidders quote. This shall include all fees associated with the installation of the pv system and for any required plan review (Fire Dept review if required).
13. Existing plumbing vents can be cut down (to 6 inches above the roof) if allowed by the local building inspector.
14. PV panel frame attachment to the roof shall be an approved method of attachment that does not allow rain/water leaks. The pv installer shall be required to give a warranty against water leaks on the roofs. Membrane roofs shall not be penetrated, but ballast shall be used as required.
15. All conduit installed shall be painted to match the color of the building siding or roofing.

Attachments:

Bid Form – Section 00410 revised for Addendum 03  
Attachment # 1

## **Housing Authority of the County of Monterey**

### **Solar Projects 2009**

123 Rico Street  
Salinas, California 93907  
Telephone 831.775.5000 | Facsimile 831.759.9363



ATTACHMENT #1



	Proposed	Reference
<b>Site Specifications:</b>		
Project Name	Building 735	
ZIP Code	93940	92867
City	Monterey	Orange
Utility	PG&E	
Customer Type	Government/Non-Profit	
Incentive Type	EPBB	
<b>PV System Specifications:</b>		
PV Module	Sharp Corporation:NT-175U1 175.0W STC, 154.4W PTC, 157.0W PTC <sub>adj</sub> <sup>1</sup>	
Number of Modules	181	
Mounting Method	>6" average standoff	
DC Rating (kW STC)	31.6750	
DC Rating (kW PTC)	27.9464	
Inverter	SMA America:SB5000US (240V)	
Number of Inverters	6	
Inverter Efficiency (%)	95.50 %	
Shading	Minimal Shading	Minimal Shading
Array Tilt (degrees)	22	
Array Azimuth (degrees)	180 True North 0°	
Optimal Tilt (proposed azimuth)	22	
Optimal Tilt (facing South)	22	17
<b>Results</b>		
Annual kWh	47,233 (a)	
at optimal tilt	47,167 (b)	
facing south at optimal tilt	47,167 (c)	47,735 (d)
Summer Months	May-October	
Summer kWh	27,571 (e)	
at optimal tilt	27,572 (f)	
facing south at optimal tilt	27,572 (g)	27,574 (h)
CEC-AC Rating	26.689 kW	
Design Correction <sup>2</sup>	99.996%	
Geographic Correction <sup>3</sup>	98.810%	
Installation Correction <sup>4</sup>	100.000%	
Design Factor <sup>5</sup>	98.807%	
CSI Rating <sup>6</sup>	26.371 kW	
Incentive Rate	\$1.85/Watt	
Incentive <sup>7</sup>	\$48,786	

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The CSI-EPBB calculator is a tool available to the public and participants of the CSI program, whose sole purpose is to determine the EPBB Design Factor and calculate an appropriate incentive level based on a reasonable expectation of performance for an individual system. The results of the calculator should not be interpreted as a guarantee of system performance. Actual performance of an installed PV system is based on numerous factors, and may differ with the results summarized in the CSI-EPBB calculator. For this reason, contractors, participating customers, and other interested parties should only utilize the calculator to determine an appropriate incentive when applying to the CSI incentive program. Additional uses for the calculator other than its intended purpose as stated above are not endorsed or encouraged.

[Recalculate](#)

Notes:

1. PTC<sub>adj</sub>: The adjusted PTC rating is calculated based on the installation method and panel specifications. See the User Guide Appendix A for details on the adjusted PTC calculation.
2. Design Correction: This is the ratio of the summer output of the proposed system (e) and the summer output of the summer optimal system at the proposed location (f).
3. Geographic Correction: This is the ratio of the annual output of the summer optimal south facing system at the proposed location (c) and the annual output of the summer optimal south facing system at the reference location (d).
4. Installation Correction: This is the ratio of the adjusted PTC rating and the unadjusted PTC rating.
5. Design Factor: This is the product of the Design Correction, Geographic Correction, and Installation Correction.
6. CSI Rating: This is the product of the Design Factor and the CEC-AC Rating.
7. Incentive: This is the total incentive for the proposed system. It is the product of the CSI Rating and the Incentive Rate.  
Please be aware that the final CSI incentive rate that is reserved for you will be determined by your CSI Program Administrator at the time your reservation request (RR) application is approved, and may be lower than the current incentive rate shown in the CSI Statewide Trigger Point Tracker. Please note that final incentive amounts are subject to change based upon the configuration of the as-built system. (Per the CSI Handbook, no projects or applications are reserved CSI funding until all required information has been submitted and approved in writing by the Program Administrator.)
8. As of 6/20/08, the CSI-EPBB calculator performs rounding as follows:
  - o Estimated kWh production is rounded to the kWh
  - o CEC-AC rating is rounded to the watt
  - o CSI rating is rounded to the watt
  - o Design factor is rounded to 5 significant digits

◦ Incentive is rounded to the dollar

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E-mail [CSI-EPBB@aesc-inc.com](mailto:CSI-EPBB@aesc-inc.com) with questions or comments.  
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