WEYMOUTH SERVICE AREA - SOLAR POWER PROJECT AND HIGH EFFICIENCY TOILET REBATE PROGRAM

PROJECT BUDGET			
Line Item	**Requested Grant Funding**	**Cost Share ***	**Total**
Project Management, Administraton and Reporting	$0	$706,250	$706,250
Professional and Consultant Services Final Design Preparation of Construction and Bid Documents	$0	$424,216	$424,216
Construction / Equipment Solar Power System Water Conservation Equipment (Rebate Incentive)	$2,500,000	$11,625,000	$14,125,000
TOTAL	$2,500,000	$12,755,466	$15,255,466

* Cost share funding to be provided by Metropolitan's Capital Improvement Plan and Long-Term Conservation Plan

Weymouth Solar Power Generation Project

Project Cost Estimate

Solar Facility Assumptions		**Units**
Solar Generation Facility Capacity (Megawatts AC)	3 MW	Megawatts - AC
DC to AC Conversion Factor	1.25	Conversion Factor
Solar Generation Facility Capacity (Megawatts DC)	3.75	Megawatts - DC
Solar Power Generation System	$3.50	$/Watt of solar power system installed and commissioned: source: SunPower
Solar Power System Installation Cost	$13,125,000	
Total Project Cost	**$14,205,466**	

Project Cost Estimate: Weymouth Solar Power Generation Project		
Line Item	**Estimated Cost**	**Notes**
Project Management, Administraton and Reporting	$656,250	5% of Solar Power Installation Contract Cost Tasks 1, 3, 6 and 7 on the Work Plan and Schedule
SCE Interconnection Study	$125,000	Task 2 on the Work Plan and Schedule
Professional and Consultant Services Final Design Preparation of Construction and Bid Documents	$299,216	Contract with MWH Americas Reference - Task order Budget attached Task 4 on the Work Plan and Schedule
Construction Solar Power System Installation Contract	$13,125,000	Contract will include procurement and delivery of solar power equipment, installation and commissioning Reference - Technical Memorandum Solar Power Opportunities - MWH - December 17, 2013 Task 4 on the Work Plan and Schedule

Weymouth Service Area - High Efficiency Toilet Rebate Program

Project Cost Estimate

High efficiency toilet

Device annual water savings	8,016	gallons/year
Device life-time	20	year

Historical project performance (FY 2012/13 - 2013/14)

Units installed	4,806	units
Total water saved	770,497,920	gallons
MWD Contribution ($50/unit)	308,400	$

Project Assumptions (FY 2014/15 - 2015/16)

Units	10,000	units
Total water saved	1,603,200,000	gallons
MWD Contribution ($100/unit)	1,000,000	$
Total Cost	**$1,050,000**	

Project Cost Estimate: Weymouth Service Area - High Efficiency Toilet Rebate Program

Line Item	Estimated Cost	Notes
Project Management, Administration and Reporting	$ 50,000	5% of Rebate Incentive Cost Tasks 1, 2, 3, 5 and 6 on the Work Plan and Schedule
Professional and Consultant Services Marketing	$ -	Task 2 on the Work Plan and Schedule Note: Cost for marketing is included in Metropolitan's Water Conservation Program Budget
Rebate Incentive (Implementation Cost)	$1,000,000	Potential Rebate awards based on historical data. Task 4 on the Work Plan and Schedule
Total	$ 1,050,000	

TASK ORDER

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
JENSEN AND WEYMOUTH SOLAR DESIGN

Task Order No.: 13 **Revision: 0**

Agreement No.: 140025
Project Number: 104663 (Weymouth) and 104664 (Jensen)
Task Code: TBD
Project Title: Weymouth and Jensen Solar Facility Design

Consultant: MWH

Project Purpose: The purpose of this Task Order is to provide design services for new solar facilities at the F.E. Weymouth water treatment plant and the Jensen water treatment plant. The work includes the development of preliminary design and final design documents for new solar power facility at the Jensen Water Treatment Plant and the development of final design documents for a new solar power facility at the F.E. Weymouth Water Treatment Plant.

Project Background:

Metropolitan is looking at alternatives to decrease power purchases throughout their system. In the Los Angeles basin, water treatment facilities represent the consumers of power. The goal of this project will be to partially offset power purchases at the Jensen Water Treatment Plant and F.E. Weymouth Water Plant through the installation of a 1-MW and a 3-MW, respectively, solar power generating facility.

Guides Lines:

The final design drawing package will include the following drawings as an overall guideline:

- Metropolitan Approval Sheet
- General Sheets (Vicinity Maps; Drawing Index; Contractor's Access, Limit of Work and Staging Area Plan)
- Demolition Plans - If applicable
- Civil (Legends/Abbreviations; Site Plan; Grading, Paving and Drainage; Yard Piping; Civil Sections and Details)
- Landscape (Irrigation and Planting Plans/Details) – If applicable
- Structural (Legends/Abbreviations; Standard Details; Plans; Sections; Design Details) – If applicable
- Mechanical (Legends/Abbreviations; Standard Details; Plans; Sections; Design Details) – If applicable
- Electrical (Legends/Abbreviations; Standard Details; Electrical Diagrams; Plans; Sections; Design Details; Cable and Conduit Schedules)
- Instrumentation and Control (Legends/Abbreviations; Instrumentation Diagrams; Instrument List, Equipment List, Line List)
- Reference Drawings

In the performance of this work, MWH will access and share project information with Metropolitan using Projectwise.

Scope of Work:

1. **Task 1 – Jensen Preliminary Design**

   1.1. Document Review: MWH will conduct a document review of relevant B Drawings for the Jensen Water Treatment Plant. MWH will work with the Metropolitan Project Manager and other Metropolitan staff to determine the relevant B Drawings. The review will take into account of an on-going Electrical Upgrade project final design at Jensen. The study and design of this task order must be based on drawings in final design of the Jensen Electrical Upgrade project.

   1.2. Facility Equipment Survey: MWH will conduct a detailed survey of the Jensen Water Treatment Plant electrical equipment and components to collect the data needed to develop the electrical system model of the plant electrical system. Data will be gathered from documents consisting of drawings, manuals, B Drawings and field inspection. Equipment, cable, and other relevant manufacturers will be contacted to determine the electrical component modeling parameters. Relevant solar photovoltaic components will be included based on estimations supplied by equipment vendors. Facility Equipment Survey will take into account of future electrical equipment at Jensen WTP as proposed by the Electrical Upgrade project.

   After all electrical component data has been obtained; a model of the electrical system for load flow analysis will be developed. The model will include estimated equipment representation of the solar photovoltaic system. It will also include utility representation data as provided by the utility for this study.

   1.3. Load Flow Study: A complete load flow study with 3 different scenarios of solar cogeneration levels, 4 contingency cases consisting of equipment out of service, feeders out of service, plant load minimum with a maximum solar output export to utility, and plant load maximum with zero solar output will be analyzed. Reactive power flow will be analyzed in the simulation study. Recommendations will be developed for each simulation identifying corrective actions that can be taken.

   1.4. Short Circuit Study: The short circuit study will utilize the system model developed for the load flow analysis and will include protective devices data. Data from the solar inverter for short circuit current contribution will be modeled as per the expected or planned equipment vendor.

   The short circuit study will include operating plant configuration scenarios consisting of the solar cogeneration levels in conjunction with the plant operating modes. Different fault scenarios will be studied under different contingencies to identify the worst fault levels at various locations in the plant electrical system.

   MWH will develop a recommendation for the existing as well as new protective devices selection and settings including those protective devices associated with the photovoltaic equipment. The recommendations will contain recommended settings for the intertie protection with the utility, as required by electrical utility.

   1.5. Interconnection Application Study: MWH will prepare the interconnection application to LADWP for solar facility. MWH will provide assistance to Metropolitan during scoping meetings with the utilities (See Task 1.2), responding to questions about the operation and characteristics of the project.

   1.6. Preliminary Design Drawings: MWH will prepare preliminary drawings for the Jensen Solar Facility consisting of:

      i. Civil (1) – Site Plan

      ii. Electrical (3) – Electrical Site Plan, Single Line Diagram, and Substation Arrangement Plan

1.7. Draft Preliminary Design: MWH will prepare a Draft Preliminary Design Report (PDR) in standard Metropolitan format to present findings and recommendations for the work. MWH will prepare and submitted a Class 5 Opinion of Probable Construction Cost (OPCC) with the Draft Preliminary Design Report in compliance with AACE International Standards.

1.8. Final Preliminary Design: MWH will accept comments from Metropolitan on the Draft Preliminary Design Report in standard Metropolitan comment log format. MWH will review the comments and respond to the comments according to Metropolitan standards and return the comment log to Metropolitan. MWH will meet with Metropolitan to review the comments, edits to the report will be agreed to at this meeting. MWH will incorporate agreed upon edits into the Final Preliminary Design Report. MWH will submit the Final Preliminary Design Report to Metropolitan.

2. Task 2 – Jensen Final Design

2.1. 60% Design: MWH will prepare drawings and technical specifications at the 60% level of completion for review by Metropolitan. The drawings and technical specifications will be based upon the preliminary design report prepared in Task 1. MWH will submit the drawings, specifications, and a Class 4 OPCC as a 60% Design Submittal to Metropolitan for Review and Comment.

2.2. 90% Design: MWH will accept comments from Metropolitan on the 60% Design Submittal in standard Metropolitan comment log format. MWH will review the comments and respond to the comments according to Metropolitan standards and return the comment log to Metropolitan. MWH will meet with Metropolitan to review the comments, edits to the 60% Design Submittal will be agreed to at this meeting. MWH will incorporate agreed upon edits into 90% Design Submittal and advance the Drawings and Technical Specifications to the 90% completion level. MWH will submit the drawings, specifications, and a Class 3 OPCC as a 90% Design Submittal to Metropolitan for Review and Comment.

MWH will prepare a Class 3 OPCC and a Construction Schedule for review by Metropolitan. The OPCC and Construction Schedule will be submitted 2 weeks after the 90% submittal.

2.3. 99% Design: MWH will accept comments from Metropolitan on the 90% Design Submittal in standard Metropolitan comment log format. MWH will review the comments and respond to the comments according to Metropolitan standards and return the comment log to Metropolitan. MWH will meet with Metropolitan to review the comments, edits to the 90% Design Submittal will be agreed to at this meeting. MWH will incorporate agreed upon edits into 99% Design Submittal and advance the Drawings and Technical Specifications to the 99% completion level. MWH will submit the drawings, specifications, and a Class 2 OPCC as a 99% Design Submittal to Metropolitan for Review and Comment.

2.4. Final Design: MWH will accept comments from Metropolitan on the 99% Design Submittal in standard Metropolitan comment log format. MWH will review the comments and respond to the comments according to Metropolitan standards and return the comment log to Metropolitan. MWH will incorporate agreed upon edits into a Final Design Submittal. MWH will submit stamped and signed Drawings on vellum and a Technical Specification suitable for bidding.

3. Task 3 – Weymouth Design Update

3.1. Drawing and Code Compliance Check: In September 2010, drawings and specifications for the Weymouth Water Treatment Plant Solar Power Generation Facility were issued for bid under Metropolitan Specifications No. 1678. MWH will determine changes that will be made to the Weymouth Water Treatment Plant Solar Power Generation Facility drawings and technical specifications. MWH will conduct a document review of the Weymouth Electrical Upgrade drawings and specification and other relevant B Drawings of the Weymouth Water Treatment Plant. It is anticipated that Metropolitan will provide drawings which interconnect with the solar facility

equipment. MWH will check for new code requirements and other design criteria updates that need to be incorporated into the design.

3.2. Facility Equipment Survey: MWH will conduct a detailed survey of the Weymouth Water Treatment Plant electrical equipment and components to collect the data needed to develop the electrical system model of the plant electrical system. Data will be gathered from documents consisting of drawings, manuals, B Drawings and field inspection. Equipment, cable, and other relevant manufacturers will be contacted to determine the electrical component modeling parameters. Relevant solar photovoltaic components will be included based on estimations supplied by equipment vendors.

After all electrical component data has been obtained; a model of the electrical system for load flow analysis will be developed. The model will include estimated equipment representation of the solar photovoltaic system. It will also include utility representation data as provided by the utility for this study.

3.3. Load Flow Study: A complete load flow study with 3 different scenarios of solar cogeneration levels, 4 contingency cases consisting of equipment out of service, feeders out of service, plant load minimum with a maximum solar output export to utility, and plant load maximum with zero solar output will be analyzed. Reactive power flow will be analyzed in the simulation study. Recommendations will be developed for each simulation identifying corrective actions that can be taken.

3.4. Short Circuit Study: The short circuit study will utilize the system model developed for the load flow analysis and will include protective devices data. Data from the solar inverter for short circuit current contribution will be modeled as per the expected or planned equipment vendor. .

The short circuit study will include operating plant configuration scenarios consisting of the solar cogeneration levels in conjunction with the plant operating modes. Different fault scenarios will be studied under different contingencies to identify the worst fault levels at various locations in the plant electrical system.

MWH will develop a recommendation for the existing as well as new protective devices selection and settings including those protective devices associated with the photovoltaic equipment. The recommendations will contain recommended settings for the intertie protection with the utility, as required by electrical utility.

3.5. Interconnection Application Study: MWH will prepare the interconnection application to LADWP for solar facility. MWH will provide assistance to Metropolitan during scoping meetings with the utilities (See Task 1.2), responding to questions about the operation and characteristics of the project.

3.6. Weymouth Preliminary Design Update Memorandum: MWH will submit a Preliminary Design Update Memorandum and summarize recommended design updates from the Drawing and Code Compliance Check, the Facility Equipment Survey, the Load Flow Study, the Short Circuit Study, and the Interconnection Application Study.

3.7. 90% Design Submittal Update: MWH will conduct a design review workshop with Metropolitan which details anticipated changes to the design submittal summarized in the Weymouth Preliminary Design Update Memorandum. Edits to the Design Submittal will be agreed to at this meeting. MWH will incorporate agreed upon edits into a 90% Design Submittal. MWH will submit the drawings, specifications, and a Class 3 OPCC as a 90% Design Submittal to Metropolitan for Review and Comment.

3.8. 99% Design: MWH will accept comments from Metropolitan on the 90% Design Submittal in standard Metropolitan comment log format. MWH will review the comments and respond to the comments according to Metropolitan standards and return the comment log to Metropolitan. MWH will meet with Metropolitan to review the comments, edits to the 90% Design Submittal will be agreed to at this meeting. MWH will incorporate agreed upon edits into 99% Design Submittal and advance the Drawings and Technical Specifications to the 99% completion level. MWH will submit the

drawings, specifications, and a Class 2 OPCC as a 99% Design Submittal to Metropolitan for Review and Comment

3.9. Final Design: MWH will accept comments from Metropolitan on the 99% Design Submittal in standard Metropolitan comment log format. MWH will review the comments and respond to the comments according to Metropolitan standards and return the comment log to Metropolitan. MWH will incorporate agreed upon edits into a Final Design Submittal. MWH will submit stamped and signed Drawings on vellum and a Technical Specification suitable for bidding.

4. Task 4– Weymouth and Jensen Project Management, Administration, Meetings, and Workshops

4.1. Project Management: Perform project administration, consisting of invoicing, project setup and filing, establishment of subconsultant agreements, review of budgets and expenditures, and meeting conclusions and action items. MWH will develop a schedule for project delivery for the kick off meeting and will maintain updates monthly.

4.2. Meetings: MWH will attend initial kickoff meeting with Metropolitan staff to introduce the team, review scope and schedule, define communications, and establish project protocols. MWH will attend 30-minutes bi-weekly teleconference project status meeting. MWH will attend up to five (5) 2 hour design review meeting with Metropolitan to review deliverables. MWH will attend up four (4) meetings between Metropolitan and power utilities to discuss the project.

4.3. Workshops: MWH will conduct one (1) project workshop with Metropolitan staff during Task 2 to discuss engineering elements of the project. MWH will conduct one (1) project workshop with Metropolitan staff to present project alternatives and obtain input on recommended project. MWH will conduct one (1) constructability workshop with Metropolitan staff to discuss the constructability of the projects and scheduling of anticipated work activities with other projects. MWH will conduct six (6) site visits to either Weymouth or Jensen Water Treatment Plants.

4.4. Value Engineering: MWH will attend a Value Engineering (VE) workshop (typically 3 to 4 days) organized by Metropolitan. MWH Project Manager, Project Engineer, and Electrical Engineer will attend the workshop.

5. Task 5 - Permits Support Service

5.1. MWH will provide supplementary documentation on the design documents to Metropolitan required for permit approval.

5.2. MWH will provide sediment transport and receiving water risk calculations for the Weymouth and Jensen sites in compliance with National Pollutant Discharge Elimination System (NPDES) Permit for Risk determination requirements.

5.3. MWH will prepare hydrology calculation supporting no change to the hydrology.

6. Task 6 - Bidding Support Service

6.1. MWH will provide written responses to requests for information provided to Metropolitan by potential bidders.

6.2. MWH will attend one pre-bid conference and job walk will be held at the Weymouth site and one pre-bid conference and job walk at the Jensen site. MWH will provide Metropolitan with preparation of notes and list of questions from the pre-bid conferences and site visit.

Assumptions

- MWH will be provided access to Metropolitan B Drawings and specifications library.
- All studies, Draft Preliminary Design, Final Preliminary Design, 60% Design Submittal, 90% Design Submittal, and 99% Design Submittal will be printed by Metropolitan for internal review.

- MWH will provide PDF files of the specifications and drawings for the deliverables listed in the second bullet item under Assumptions. Drawings will be sized 22"x34" and documents will be sized 8 ½" x 11".
- MWH will utilize Microstation version XM configured with Metropolitan's CAD standards.
- Modifications of existing drawings will be issued as revision drawings, B numbers will remain the same for the modified drawings.
- Metropolitan will produce front-end (Division 0 and 1) documents for specification. MWH will provide support with front-end document development and bidding strategy development.
- OPCCs will be prepared in accordance with the cost estimate classes defined by AACE International. Metropolitan acknowledges that MWH has no control over costs of labor, materials competitive bidding environments and procedures, unidentified field conditions, financial and/or market conditions, or other factors likely to affect the OPCC of this project, all of which are and will unavoidably remain in a state of change, especially in light of the high volatility of the market attributable to Acts of God and other market events beyond the control of the parties. Metropolitan further acknowledges that this is a "snapshot in time" and that the reliability of this OPCC will inherently degrade over time. Metropolitan agrees that MWH cannot and does not make any warranty, promise, guarantee, or representation, either expressed or implied, that proposals, bids, project construction costs, or cost of operation or maintenance will not vary substantially from MWH's good faith Class 2 OPCC.
- The Constructability Workshops for both projects will be conducted at the same meeting.
- MWH will provide earthwork calculations for fill/cut need estimate, and any other design calculation as needed. The earthwork calculations are anticipated to be fill/cut neutral and not modify the site beyond the current hydrology.
- The Weymouth and Jensen Solar Projects are not anticipated to increase or decrease the total impermeable area, modify the run-off characteristics, or modify sediment transport.
- Engineering Services during Construction are not included in this scope of work.
- MWH has the right to rely on information provided by Metropolitan.
- Geotechnical data is assumed to be available for both sites.
- Metropolitan will pay for and submit all permits applications.
- One bid package will be developed for Weymouth and one bid package will be developed for Jensen.
- One addendum will be prepared for the Weymouth Bid Package and One Addendum will be developed for the Jensen Bid Package.

Deliverable Items:

- Meeting agendas and summaries prepared by MWH.
- Written response to Metropolitan comments
- Jensen Preliminary Design Report – January 15, 2015
- Jensen 60% Design Submittal
- Jensen 90% Design Submittal
- Jensen 99% Design Submittal
- Jensen 100% Design Submittal for Bidding package – June 30, 2015
- Weymouth Design Update Memorandum – January 8, 2015
- Weymouth 90% Design Submittal
- Weymouth 99% Design.Submittal
- Weymouth 100% Design Submittal for Bidding package – June 30, 2015

Period of Performance:
October 1st, 2014 to September 30, 2015

The period of performance extends past the final deliverable to account for project closeout and final invoicing.

Not-to-exceed man-hours:
See proposed fee estimate

Not-to-exceed dollars:
See proposed fee estimate

Authorized classifications/individuals:
Classifications per Prime Agreement.

Authorized Subconsultants / subcontractors / other direct costs:

- Mileage, parking, and public transportation
- Associated travel costs (Airfare, hotel, meals, taxi, parking, and other miscellaneous travel costs)
- Printing for reports and drawings
- Express delivery (i.e., FedEx)

Authorized Consultant Representative: S. A. Bartlett **Date:** 10/13/14

Authorized Technical Representative: [illegible] **Date:** 10/16/14

Approved: [illegible] **Date:** 10/16/14
Agreement Administrator

Revision History:

REV 0 – Original task order

Metropolitan Water District of Southern California
Agreement 140025 - On Call Engineering Services
TO - 13 Jensen and Weymouth Solar Design Projects

Date 10/10/2014

		MWH - Project Engineering and Management Personnel											Other Direct Costs		Subconsultants			
	Contract Hourly Rate	$273	$236	$216	$175	$159	$137	$116	$137	$113								
Activity No.	ACTIVITY DESCRIPTION	Company Officer	Principal Professional II	Principal Professional I	Supervising Professional	Senior Professional	Project Professional	Associate Professional	Senior Designer	Senior Administrator	TOTAL HOURS (Project Engineering / Management)	LABOR FEE (Project Engineering / Management)	Other Direct Costs (ODCs)	Total ODCs	Power-Tech Engineers Inc.	MWH Constructors	SUBCONSULTANTS SUBTOTAL	TOTAL PROJECT COST
Jensen Solar																		
1.0	Jensen Preliminary Design	32	24	52	100		160		52		420	$ 72,176	$ 3,551	$ 3,551	$ 42,000	$ 2,000	$ 44,000	$ 119,727
2.0	Jensen Design	40	60	250	220		300	280	320	24	1494	$ 237,712	$ 10,385	$ 10,385		$ 10,000	$ 10,000	$ 258,097
																	TOTAL JENSEN	$ 377,824
Weymouth Solar																		
3.0	Weymouth Design Update	28	16	150	84	68	96	32			474	$ 86,196	$ 2,747	$ 2,747	$ 75,000	$ 1,200	$ 76,200	$ 165,143
4.0	Weymouth Project Management, Administration, Meetings, and Workshops	64		40	200		120			60	484	$ 84,332	$ 4,000	$ 4,000	$ -	$ -	$ -	$ 88,332
																	TOTAL WEYMOUTH	$ 253,475
Other Services																		
5.0	Permit Support Services	12		16	32	24	64				148	$ 24,916	$ -	$ -	$ -	$ -	$ -	$ 24,916
6.0	Bidding Support Services	12		24	32		44				112	$ 20,088	$ 737	$ 737	$ -	$ -	$ -	$ 20,825
																	TOTAL WEYMOUTH	$ 45,741
	TOTAL	188	100	532	668	92	784	312	372	84	3,132	$525,420	$21,420	$ 21,420	$ 117,000	$ 13,200	$ 130,200	$ 677,040

TECHNICAL MEMORANDUM

MWH

BUILDING A BETTER WORLD

To:	Ha Nguyen Metropolitan Water District of Southern California (Metropolitan)	**Date:**	December 17, 2013
From:	Eric Mills, P.E. Laura Lamdin, P.E.	**Reference:**	10503157

Subject: Technical Memorandum: Solar Power Opportunities

Introduction

Recent changes in California law, which enhances solar's financial viability coupled with a limited window for participation and lower solar panel costs, has precipitated the development of this Technical Memorandum (TM). The intent of this TM is to identify opportunities for Metropolitan to implement solar power generation on their facilities in an attempt to offset power usage. Analysis is focused on four sites: F.E. Weymouth, Skinner, and Jensen water treatment plants and the Diamond Valley Lake (DVL). The fifth site, Lake Mathews is not considered in this TM due to lack of available space (an Agreement dated 9-14-82 between MWD and the State of CA Dept. of Fish and Game established an ecological reserve around Lake Mathews). Analysis considers land availability, the benefits and costs associated with current electrical use profiles and available renewable tariff structures. This TM also evaluates the option of developing a solar project under a Power Purchase Agreement (PPA). This TM will also be included in the update to the Energy Management and Reliability Study (2013 EMRS).

Details of the analysis are presented in the following pages.

RES-BCT Opportunity

In 2009, a similar solar evaluation study was conducted to broadly identify solar opportunities within Metropolitan's service area. As part of that study, a 1-MW solar facility was constructed at the Skinner water treatment plant. That facility is now producing power and offsetting power purchases from Southern California Edison (SCE). At the time of the design and construction of the Skinner solar project, the size of the project under a net metering tariff was limited to 1 MW.

A recent change in state law now provides incentives and new tariff structures for local governmental agencies to build renewable projects in excess of 1 MW. On April 22, 2013 a new Renewable Energy Self-Generation Bill Credit Transfer Program (RES-BCT), Resolution E-4283, was approved. The RES-BCT Program is available under the IOUs (i.e., Southern California Edison (SCE), Pacific Gas & Electric, and San Diego Gas & Electric) and allows local governmental entities to receive a credit on their electric bill for excess renewable energy generated at one facility (generating facility), and credit it against their other retail electric accounts (benefiting accounts), so long as all accounts are within the same IOU territory. Appendix A illustrates the generation of solar, use onsite, and credit generation of a typical day. Local governments, for the purpose of RES-BCT, are defined as "city, county, whether general law or chartered, city and county, special district, school district, political subdivision, or other local public agency, but shall not mean a joint powers authority, the state or any agency or department of the state, other than an individual campus of the University of California or the California State University". By this definition, Metropolitan is considered a local governmental agency, and can construct generation facilities, or convert existing generation facilities, to a RES-BCT tariff.

There are several limitations to the RES-BCT program:

1. A generating facility is capped at 5 MW
2. Each IOU has a total cap on participation in their service area; SCE's limit is 123.8 MW
3. The amount of the credit is based on the generation component of the customer's rate schedule, and not on the full retail rate.
4. Credits can only be allocated to benefiting accounts in whole percentage intervals (i.e., if there is $100 worth of credits for a month, and 40% of credits go to account A and 60% of credits go to account B, account A would be credited $40 and account B would be credited $60; you cannot have 40.5% of credits go to an account).
5. Credits can only be applied to generating charges, not demand charges.
6. Local governments may have more than one facility on a RES-BCT tariff, but each facility must have a separate and independent list of accounts that will receive credits.
7. At the end of every 12-month period, any excess credit, per specified account, shall be given to the utility.
8. Benefitting accounts must be on a TOU schedule.

It should be noted that the generating account can also be a benefiting account, and that one account can be specified as an 'overflow account'. An overflow account is credited with any excess credits.

Three of the four evaluation sites are within SCE's territory, making their specific RES-BCT program applicable to the Skinner and Weymouth water treatment plants, as well as DVL. These facilities are currently on SCE's TOU-8 rate schedule. There are several rate structures within this option: CPP, B, A, and R, and facilities can select an option pending requirements. Rate structure R is favorable to facilities with renewable generation, however total participation in this rate structure is capped and fully subscribed, and as such, is not available to Metropolitan. Rate structure A is also generally favorable to renewable generation, including

solar, because the rate structure results in a higher credit value for solar exported to the grid. However, under SCE's rate case (accepted in April 2013), SCE inserted new language defining default structures and the Otherwise Applicable Tariff (TOU-8-B). Based on SCE's interpretation of this language, Option A is no longer available for RES-BCT projects. **As of the date of this TM, SCE is reviewing the rate language which inadvertently eliminated the TOU-8-A option.** The solar evaluations included in this TM for properties in SCE's territory look at the benefits under current interpretation (Option B), and Option A (TOU-8-A), should SCE revise the rate language.

Despite the limitations to the program, RES-BCT represents an opportunity for Metropolitan to increase the amount of solar in their energy portfolio in an economical fashion.

Metropolitan's SCE Electricity Profile

To optimize benefits of a solar facility, or multiple facilities, a full accounting of potential SCE benefitting accounts must be made to ensure all benefits are being credited.

In 2012, Metropolitan had a total of 439 accounts with SCE (Appendix B), and the energy demand at each account ranged from 11,552,040 to 0 kWh/year. The average energy consumption per account is 97,433 kWh, while the median energy consumption per account is 1,119 kWh per account. These statistical values indicate that there are a few accounts with very high energy consumption and many accounts with relatively low consumption. In terms of cost, the total charges for these accounts range from approximately $1.2 million to approximately $100 per year.

Solar Evaluation

There are two main factors to consider when evaluating solar potential. The first consideration is land availability. At this time, each MW of solar requires 4-5 acres of land. Solar companies have moved toward anchoring the solar facilities on piers/piles that penetrate the ground surface. However, where driven piers is not an option, pre-fabricated concrete footings could be considered as an alternative. Therefore, soils conditions must be considered, as must any underground utilities. An important underground utility to consider on Metropolitan property, especially at treatment plants, is feeder pipelines. Protection of, and access to, these feeder pipelines is an important consideration in the development of solar facilities that may impact the effective available space. In addition, square or rectangular footprints are best for solar facilities to minimize necessary supporting infrastructure. The second consideration is the electrical load at the site of generation. Each kWh of electricity has a higher value if used onsite to offset electrical demand than if it is exported to the grid for a credit as on-site use avoids generating and demand charges while credits are received for generating charges only. This difference can be worth approximately $0.02/kWh, depending on rate schedule.

Other factors to consider in an overall solar evaluation, regardless of facility location, are the costs associated with the solar facility and the amount of credit potential within Metropolitan's accounts with SCE. In terms of cost, there are economies of scale associated with the purchase of solar facilities. These economies of scale begin to be realized in systems in the 2-3 MW range, and can reduce the unit price of a system by $0.30 - $0.50 per installed watt. As a reference point, the price for solar panels at Skinner was approximately $8-$10 per watt. Excess

supply at a low cost has driven down prices to below $3.50 per watt, with exact prices varying based on site conditions (i.e., soil type, distance to tie-in, etc.).

Based on these factors, Metropolitan facilities in SCE's territory evaluated in this document include the Weymouth and Skinner Water Treatment Plants, as well as Diamond Valley Lake. While the Diemer Water Treatment Plant is also located in SCE's service area and has large electricity demand, it is co-located with Metropolitan's Yorba Linda hydropower facility. Metropolitan is converting the Yorba Linda hydropower facility to be 'behind the meter' and directly serve demand at Diemer. It is expected that on an annual basis that Yorba Linda hydropower facility will produce enough electricity to cover 100% of Diemer's electricity needs, including the electricity demands of Diemer's ozone treatment facilities that are expected to be online in 2014. Lake Mathews was also considered in the preliminary stages of this evaluation, however environmental restrictions related to an Agreement dated September 14, 1982 between Metropolitan and the State of California's Department of Fish and Game established an ecological reserve around Lake Mathews that prevents development. Therefore, space for the development of solar is not available at Lake Mathews.

Weymouth Water Treatment Plant

The Weymouth Water Treatment Plant (Weymouth) is located in La Verne, California. In 2012, it consumed 10,396,992 kWh of electricity with a peak demand of 2,160 kW.

Land Availability

While land availability is not as constrained at Weymouth as it is at other treatment plants, some of this land is not suitable for solar because of feeder pipelines that run diagonally through the available land. Based on discussions with Metropolitan staff and the locations of feeder pipelines, a total of 17 acres is available for solar (Figure 1), This location may be suitable for a 3 MW solar facility, however more precise space and capacity optimization will need to be conducted at a more advanced phase.

Benefits and Costs – Capital Purchase

To calculate the benefits of a solar facility, Weymouth's electrical demands, in 15-min intervals was obtained from SCE for the 12-month period from August 1, 2012 to July 31, 2013. This data is used to calculate the average kWh consumed at Weymouth for each hour of the 12-month evaluation period. This consumption data is compared to expected hourly generation from a 3 MW facility, as estimated by PVSIM, a simulation program to estimate solar power production, and results in an hour-by-hour evaluation of solar consumed on-site, solar exported to the grid, and grid energy purchased from SCE. The value of avoided electricity charges and credits is then determined by factoring in SCE rate schedules, time of use, and shifts in clock time due to daylight savings. A flow-diagram of this process is contained in Appendix C.

A 3 MW system at Weymouth would generate approximately 7,700,000 kWh of electricity in the first year. An evaluation of benefiting accounts and generated credits is done to ensure that all generated credits are being used. For the evaluation of solar at Weymouth, only two benefiting accounts are assumed: Weymouth, and OC-88/OC-88A. Based on 2012 consumption, the total electricity demands from SCE are expected to be approximately 10.4 million kWh at

Weymouth and 6.8 million kWh at OC-88/OC-88A. Solar production would directly offset 4.5 million kWh at Weymouth and would generate approximately $183,000 in monetary credits under TOU-8-B and $325,000 in monetary credits under TOU-8-A.

Under TOU-8-B, Weymouth could absorb 63% of the credits while OC-88/OC-88A could absorb the remaining credits so that 100% of the credits are absorbed (Table 1). Addition of ozone at Weymouth in 2016 would provide enough additional demand that 100% of the credits could be used at Weymouth alone. Since benefitting accounts can be re-designated each year, the addition of ozone at Weymouth would be a good time to re-designate benefitting accounts to more optimally use credits.

Under TOU-8-A, Weymouth could absorb 36% of the credits while OC-88/OC-88A could absorb the remaining credits so that 100% of the credits are absorbed (Table 1). Addition of ozone at Weymouth in 2016 would provide enough additional demand that 100% of the credits could be used at Weymouth alone. Since benefitting accounts can be re-designated each year, the addition of ozone at Weymouth would be a good time to re-designate benefitting accounts to more optimally use credits.

Based on the Weymouth solar evaluations, 1% of total available credits at a 3 MW facility is expected to vary significantly based on which TOU-8 option is available. Since credits can only be allocated in full percentages, and only one overflow account can be specified, optimal allocation occurs when all benefiting accounts have minimum generation charges in the amount of 1% of the total credit value. This drastically reduces the number of potential benefiting accounts for Metropolitan.

Table 1
Solar Credit Generating and Use - Weymouth

	TOU-8-B	TOU-8-A
Before Ozone		
Annual Energy Demand (kWh)	10,400,000	10,400,000
Annual Energy Offset On-site (kWh)	4,500,000	4,500,000
Annual Credits Generated ($)	$183,000	$325,000
Annual Credits Absorbed (%) – Weymouth Alone	63%	36%
Annual Credits Absorbed (%) – Weymouth and OC-88	100%	100%
After Ozone		
Annual Energy Demand (kWh)	14,600,000	14,600,000
Annual Energy Offset On-site (kWh)	5,900,000	5,900,000
Annual Credits Generated ($)	$106,000	$177,000
Annual Credits Absorbed (%) – Weymouth Alone	100%	100%

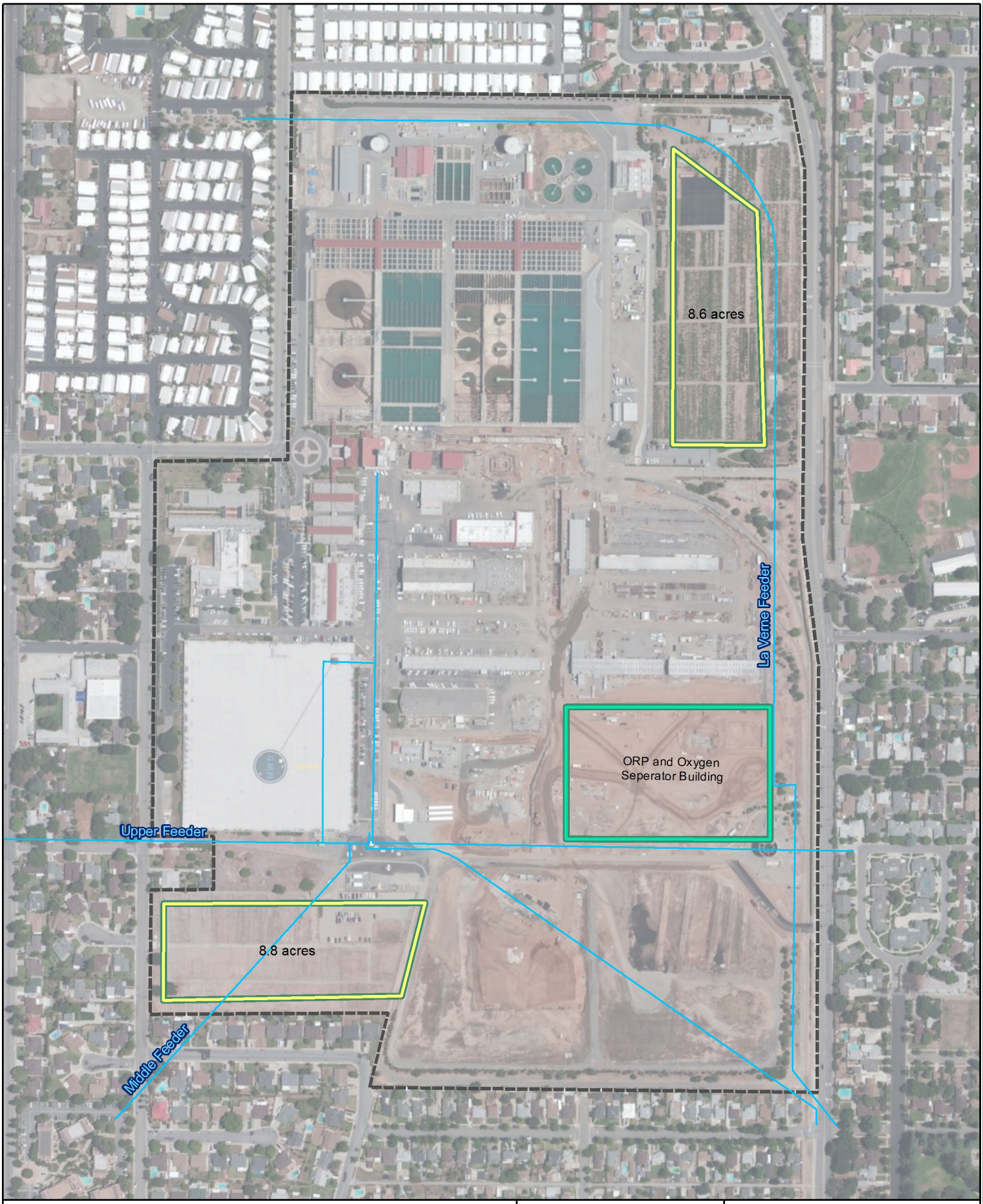
A single dollar value for a kWh ($/kWh) generated by the solar facility is needed to conduct a cost-benefit analysis. The dollar value for a kWh is the sum of the avoided costs and the value of the credits generated for the first year, divided by the total kWh generated in the first year. Additional benefits include CSI rebates for the production of 1 MW, and revenue from selling Renewable Energy Credits (RECs) (CSI rebates are available for systems enrolled in the RES-BCT program). The weighted average value per kWh for a 3 MW solar system at Weymouth is $0.1089 under TOU-8-B, and $0.1264 under TOU-8-A. Costs for the system include an installed cost, including warranties and a performance guarantee, state sales tax, and operations and maintenance costs. Additional assumptions include:

- Total Cost Estimate $15,200,000
- MWh per year 7,700
- Annual PV Degradation 0.25%
- Utility Escalation 4-8%
- O&M Escalation 3%
- Percent Financed 100%
- Interest Rate 3.5%
- Loan Term 30 Years
- Bond Issuance/Debt Service 0.5%
- SCE Interconnection $250,000
- Mobilization $50,000
- Civil Site Work $280,000/MW (includes gravel base)
- Markups $124,550/MW (includes contractor insurance program, prime contractor OH&P on subs, subcontractor markups, etc. - most is state sales tax allowance)
- Contingency 3.5%
- Admin & Management 10%
- Weymouth Solar Installation $3.12/Watt

Some expected costs were estimated to provide a benefit-cost analysis of full costs. These estimates are conservative, and include Rule 21 study (SCE Interconnection) and any associated electrical upgrades, civil site work, ground cover (i.e., adding gravel under the panels), various markups, contingency and project administration and management costs. Solar Installation costs are based on discussions with solar vendors, and variability between locations is due to differences in site specific conditions (i.e., distance to connection point, presence of existing infrastructure for solar, etc.). Some of the civil site work in the southern portion of the Weymouth water treatment plant have been done, and because of the site of the Weymouth electrical feed, the SCE interconnection study would likely cost much less, further reducing the cost per MW.

The anticipated benefits are dependent on future electricity prices. This evaluation includes a sensitivity analysis, with annual utility escalation at both 4% and 8%. This is expected to capture a range of future benefits. For comparison purposes, the annual average increase in electricity

prices since 1970 has been 6.5%, while the annual average increase in electricity prices since 2000 has been 4%.



Key to Features

- Major Feeder
- Future or In Progress Projects
- Proposed Solar Facilities
- Operations Area

0 125 250 500 Feet

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Date: November 20, 2013

Proposed Location of Solar Facilities Weymouth

MWH

Figure 1

Under TOU-8-B, based on a comparison of the costs and benefits over a 30-year period, the present value Benefit-Cost ratio for utility escalation of 4%-8% is expected to range from 1.57 to 2.83, respectively, with a payback period of 12-14 years. The associated net present value (NPV) ranges from $8.3 - $27.8 million, assuming a 4% discount rate.

Under TOU-8-A, based on a comparison of the costs and benefits over a 30-year period, the present value Benefit-Cost ratio for utility escalation of 4%-8% is expected to range from 1.80 to 3.29, respectively, with a payback period of 10-12 years. The associated NPV ranges from $12.1 - $34.8 million, assuming a 4% discount rate.

The NPV calculations are based on financing the solar over a 30 year period. Overall expenditures for the system would be less if the system were purchased from an up-front cash payment, as there would be no interest or financing fees.

Power Purchase Agreement Evaluation

A 3 MW solar facility was also evaluated under a Power Purchase Agreement (PPA). A Power Purchase Agreement is a method of acquiring solar where a third party purchases, owns, and operates a solar facility on Metropolitan property and sells all electricity produced form the system directly to Metropolitan. A solar facility under the RES-BCT program can be acquired/financed through a PPA.

A survey of California solar PV projects over 1 MW signed under a PPA agreement by IOUs in 2011 and 2012 showed that half of contracted rates were below $89/MWh. While there have been some well published instances of utilities that have received rates significantly lower (i.e., in fall of 2012, the City of Palo Alto signed a PPA for $77/MWh, and in 2013 they approved an additional PPA for 80MW at $69/MWh), these lower rates are associated with projects that are much larger than those that can be accomplished within the available space at Weymouth. In addition, publications only provided the initial contract terms and did not discuss whether they were levelized costs, or whether the contract contained a price escalator. There are significant economies of scale in solar installations that begin taking effect in the 2-4 MW range and grow larger with larger installations. Therefore, a rate of $89/MWh is considered the low end for what Metropolitan could expect to receive for a solar facility at Weymouth, and PPA prices for systems could easily be in the $100-$110 per MWh range.

Assuming a levelized (i.e., flat) cost in the range of $89 - $110 per MWh, the same production evaluated under a capital purchase, and a utility escalation of 4%-8%, the NPV of a PPA can be expected to range from $8.8 - $38.2 million. This does not include any expenditures on Metropolitan's part for engineering, design, administration, or project management. In the case of a PPA, Metropolitan would be paying the PPA for the electricity produced by the solar facility, therefore, there is no defined 'payback' period.

Weymouth Conclusion

While the NPV of the PPA is very similar to that of a capital purchase, there are several additional factors that should be considered when recommending a purchase method. The capital cost estimates include project administration and management costs that would not be included in the PPA estimates, making the real cost of the PPA higher than estimated. Entering

into a PPA also requires signing a lease agreement with the PPA organization for the land on which the solar facility will be built, as well as give the PPA organization access to the land for maintenance. This can be problematic on water treatment plant sites, reducing overall future flexibility. Concerns over lease agreements on treatment plant land may be compounded by two uncertainties: what happens at the end of the PPA agreement, and what happens if the PPA entity goes bankrupt. Currently, no PPA contract for a solar facility has been complete. It is unknown how the end of the contract would be handled (i.e., would Metropolitan have the option to purchase the facility?, how would purchasing the facility be priced?, would they remove the facility and related infrastructure?, etc.). Also, it is not clear how the lease agreement with the PPA would be handled in the event of a bankruptcy, potentially reducing control over what entity would have access to the treatment plant. Any attempt to contractually mitigate these concerns is likely to raise the contract price of the PPA. Additionally, PPA structures favor the lowest cost option, which may be prone to higher degradation and failure rates. Based on the close project costs, the concerns over leasing water treatment plant land, the uncertain future of PPAs, and the similarity in expected NPV, it is recommended that Metropolitan directly purchase the solar system.

Skinner Water Treatment Plant

The Skinner Water Treatment Plant (Skinner) is located in Winchester, California. In 2012, it consumed 11,552,040 kWh of electricity with a peak demand of 2,590 kW. This is in net of the electricity generated and consumed from the existing 1 MW Skinner Solar facility.

Land Availability

Land availability is not highly constrained at Skinner, however soil conditions must be considered, as must any underground utilities, when determining the type of foundation for the solar panels. Based on discussions with Metropolitan staff, there is more land available than needed to build 4 additional MW of solar, for a total of 5 MW, the RES-BCT limit. The land proposed for the additional 4 MW of solar is shown in Figure 2 and was selected for proximity to the existing solar facility.

Key to Features

- Major Feeder
- Future or In Progress Projects
- Proposed Solar Facilities
- Operations Area

N

0 500 1,000 Feet

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Date: October 24, 2013

Proposed Location of Solar Facilities Skinner

MWH

Figure 2

Benefits and Costs – Capital Purchase

To calculate the benefits of a solar facility, Skinner electrical demands in 15-min intervals was obtained from SCE for the 12-month period from August 1, 2012 to July 31, 2013. This data is used to calculate the average kWh consumed at Skinner for each hour of the 12-month evaluation period. This consumption data was compared to expected hourly generation from a 4-MW facility, as estimated by PVSIM, and results in an hour-by-hour evaluation of solar consumed on-site, solar exported to the grid, and grid energy purchased from SCE. The value of avoided electricity charges and credits is then determined by factoring in SCE rate schedules, time of use, and shifts in clock time due to daylight savings.

An evaluation of benefiting accounts and generated credits is done to ensure that all generated credits are being used. For the evaluation of solar at Skinner, many benefiting accounts are assumed (Table 2):

Table 2
Benefitting Accounts Assumed in Evaluation of Additional Solar at Skinner

Account Number	Address	2012 kWh	2012 Max kW
246456735	33740 Borel Road	11,552,040	2,590.0
3737427	27500 RAMONA EXPRESSWAY	1,426,627	2,284.8
1388719	18250 LA SIERRA AVE	1,293,812	304.3
1022151	700 MORENO AVE	969,396	186.2
16764308	33610 NEWPORT	569,862	432.0
29480324	2325 SEARL PKWY	438,182	233.3
18417579	NEWPORT W/O DAM	342,175	83.0
9888717	9737 PETERS CANYON	240,322	72.5
1388682	1 SYCAMORE SN DIMASCYN	168,323	34.8
1388787	CASTAIC DAM DOWN ST	155,934	41.0
1388771	35100 WASHINGTON ST	149,861	147.1
13714327	20584 BAKE PKWY	135,322	316.8
1388720	34 CAJALCO-TEMESCAL	124,506	24.0
2345598	8248 ETIWANDA AVE	119,453	45.0
29480377	2325 SEARL PKWY BLDG 1	116,164	55.0
200933	9840 MILLER WAY	113,749	23.6
8315137	33752 NEWPORT RD	95,040	42.6
16924401	19940 FIFTH C	86,775	26.0
1388813	3835 SEPULVEDA BLVD	85,948	22.8
2662293	VALVWN/OBASTNCHRY	84,601	23.4
2195883	34 BORDER-MESQUITE	82,803	23.6
1030047	5105 LIVE OAK CANYON RD	73,486	18.6
2195885	627 W LAMBERT RD	73,326	23.0
13571578	500 NEWPORT	62,310	16.0
1388784	19775 PATTERSON AVE	60,526	26.0
626825	1061 S ORANGE AVE	52,578	31.6

Account Number	Address	2012 kWh	2012 Max kW
1388773	26540 RAMONA EXPRESSWAY	51,966	19.4
3646648	PLEASANTS PEAK	49,956	13.9
29480340	2325 SEARL PKWY	47,434	18.6
150291	1061 S ORANGE AVE	43,858	52.7
1388840	41110 PINE BENCH RD	43,104	10.3
1388814	3835 SEPULVEDA BLVD	40,745	10.4
13930775	33600 PATTERSON	37,980	14.0
4803642	33740 1/2 BOREL RD FSH	34,855	10.0
1230600	26540 RAMONA EXPRESSWAY	32,943	9.7
17099812	28820 LYON	31,952	10.0
732359	OR CO RES BREA CYON	30,900	16.0
1388815	S/E COR P V D EAST	29,557	8.4
29480367	2325 SEARL PKWY MTGROOM	27,786	11.7
26898615	2340 SEARL PKWY LS-3	26,032	N/A
1388788	CASTAIC DAM DOWN ST	25,676	18.4

A 4 MW system at Skinner would generate approximately 11.1 million kWh of electricity in the first year. Based on the Skinner solar evaluations, 1% of total available credits at an additional 4 MW facility is expected to vary significantly based on which TOU-8 option is available. Under TOU-8- B, 1% of credits is worth approximately $4,500, while under TOU-8-A, 1% of credits is worth approximately $7,500. Since credits can only be allocated in full percentages, and only one overflow account can be specified, optimal allocation occurs when all benefiting accounts have minimum generation charges in the amount of 1% of the total credit value. This drastically reduces the number of potential benefiting accounts for Metropolitan.

Under TOU-8-B, the benefiting accounts listed in Table 2 could absorb 100% of the credits generated at Skinner (Table 3).

Under TOU-8-A, the benefitting accounts listed in Table 2 could absorb 70% of the credits generated at Skinner (Table 3). Since OC-88/OC-88A is not needed as a benefitting account for the Weymouth Solar facility once ozone is online at Weymouth, Metropolitan could re-allocate the benefitting accounts and use 100% of the credits (Table 3).

Table 3
Solar Credit Generating and Use - Skinner

	TOU-8-B	TOU-8-A
Annual Energy Demand (kWh)	11,300,000	11,300,000
Annual Energy Offset On-site (kWh)	3,800,000	3,800,000
Annual Credits Generated ($)	$450,000	$750,000
Annual Credits Absorbed (%) – Benefitting Accounts as in Table 2	100%	70%
Annual Credits Absorbed (%) – Benefitting Accounts as in Table 2 plus OC-88/OC-88A	100%	100%

To conduct a cost-benefit analysis, a single weighted average $/kWh value is calculated based on the blend of credits and avoided electricity charges. Additional benefits only include revenue from selling Renewable Energy Credits (RECs) as the existing 1 MW solar facility already receives CSI rebates. The weighted average value per kWh for a 4 MW solar system at Skinner is $0.0924 under TOU-8-B, and $0.1193 under TOU-8-A. Costs for the system include an installed cost, including warranties and a performance guarantee, and operations and maintenance costs. Additional assumptions include:

- Total Cost Estimate $18,100,000
- MWh per year 11,100
- Annual PV Degradation 0.25%
- Utility Escalation 4-8%
- O&M Escalation 3%
- Percent Financed 100%
- Interest Rate 3.5%
- Loan Term 30 Years
- Bond Issuance/Debt Service 0.5%
- SCE Interconnection $250,000
- Mobilization $50,000
- Civil Site Work $280,000/MW (includes gravel base)
- Markups $124,550/MW (includes contractor insurance program, prime contractor OH&P on subs, subcontractor markups, etc. - most is state sales tax allowance)
- Contingency 3.5%
- Admin & Management 10%
- Skinner Solar Installation $2.76/Watt

Some expected costs were estimated to provide a benefit-cost analysis of full costs. These estimates are conservative, and include Rule 21 study (SCE Interconnection) and any associated electrical upgrades, civil site work, ground cover (i.e., adding gravel under the panels), various

markups, contingency and project administration and management costs. Solar Installation costs are based on discussions with solar vendors, and variability between locations is due to differences in site specific conditions (i.e., distance to connection point, presence of existing infrastructure for solar, etc.)

The anticipated benefits are dependent on future electricity prices. This evaluation includes a sensitivity analysis, with annual utility escalation at both 4% and 8%. This is expected to capture a range of future benefits. For comparison purposes, the annual average increase in electricity prices since 1970 has been 6.5%, while the annual average increase in electricity prices since 2000 has been 4%.

Under TOU-8-B, based on a comparison of the costs and benefits over a 30-year period, the present value Benefit-Cost ratio for utility escalation of 4%-8% is expected to range from 1.5 to 2.83, respectively, with a payback period of 12-14 years. The associated net present value (NPV) ranges from $9.1 - $33.1 million, assuming a 4% discount rate.

Under TOU-8-A, based on a comparison of the costs and benefits over a 30-year period, the present value Benefit-Cost ratio for utility escalation of 4%-8% is expected to range from 1.97 to 3.68, respectively, with a payback period of 10-12 years. The associated net present value (NPV) ranges from $17.6 - $48.5 million, assuming a 4% discount rate.

It should be noted that this analysis is specific to adding 4 MW of solar to Skinner, and does not analyze the impacts of converting the existing 1 MW solar facility that is net metered (NEM), and adding that to the additional 4 MW for a total of 5 MW RES-BCT. It is expected that this difference will be minimal since the primary difference between a net metering arrangement and an RES-BCT arrangement is that there can be more than one benefitting account and Skinner is already on a TOU-8-CPP rate.

The NPV calculations are based on financing the solar over a 30 year period. Overall expenditures for the system would be less if the system were purchased from an up-front cash payment, as there would be no interest or financing fees.

PPA Evaluation

Assuming a levelized (i.e., flat) cost in the range of $89 - $110 per MWh, the same production evaluated under a capital purchase, and a utility escalation of 4%-8%, the NPV of a PPA can be expected to range from $6.1 - $49.5 million. This does not include any expenditures on Metropolitan's part for engineering, design, administration, or project management. In the case of a PPA, Metropolitan would be paying the PPA for the electricity produced by the solar facility, therefore, there is no defined 'payback' period.

Skinner Conclusion

Based on the same logic for Weymouth, it is recommended that Metropolitan directly purchase the solar system.

Diamond Valley Lake

Diamond Valley Lake (DVL) is located in Hemet, California. There are two meters at DVL, one on a TOU-GS3-B rate schedule and one on a TGS3-CPP rate schedule. In 2012, these meters respectively consumed 188,488 kWh and 569,646 kWh of electricity with a peak demand of 209 kW and 432 kW.

Land Availability

Land availability is not highly constrained at DVL. Based on discussions with Metropolitan staff there is more land available than needed to build 5 MW of solar, the RES-BCT limit. The land proposed for the 5 MW of solar is shown in Figure 3 and was selected for proximity to the electrical tie-in location. However, a current lease option restricts immediate opportunities at DVL.

Benefits and Costs – Capital Purchase

All potential benefiting accounts with the capacity to credit $4,500 or more in generating costs were included in the evaluations for Weymouth and Skinner. In fact, the demand at DVL is included as a benefiting account for the Skinner Evaluation. Therefore, despite available land, Metropolitan does not currently have the retail load within SCE territory to install additional solar in SCE's territory under the RES-BCT program.

While Metropolitan does not currently have the retail load within SCE territory to install additional solar under the RES-BCT program, they could build a solar facility and sell the electricity to generate revenue. As an example, a 5 MW system at DVL would generate approximately 14,000,000 kWh of electricity in the first year. At a degradation rate of 0.25%, a 5 MW system would generate approximately 406 million kWh over 30 years. Based on the same cost assumptions used to evaluate the solar facilities for both Skinner and Weymouth and a $/Watt installed cost of $2.79, the cost of the system would be $22.5 million and after including all debt servicing payments, the total expenditures would be approximately $38 million. This corresponds to a cash payment of $22.5 million. Assuming a 4% escalator in price, Metropolitan would see a benefit cost ratio of 1 with an initial electricity price of just $0.06/kWh. Assuming a 0% escalator in price, Metropolitan would see a benefit cost ratio of 1 with an initial electricity price of $0.10/kWh. Any price that exceeds $0.10/kWh would result in a higher benefit cost ratio to Metropolitan, and then if regulations, tariffs, or utility programs changed in such a way that Metropolitan could directly benefit from the solar generation (i.e., expand virtual net metering to wholesale loads, etc.) they would have existing facilities to convert to the new tariff/programs.

PPA Evaluation

Using the same levelized (i.e., flat) cost of $89/MWh used to evaluate a PPA for Weymouth and the same production evaluated under a capital purchase for DVL, the total cost over 30 years is approximately $36.2 million.

Using the same levelized (i.e., flat) cost of $110/MWh used to evaluate a PPA for Weymouth and the same production evaluated under a capital purchase, the total cost over 30 years is $44.6 million.

Diamond Valley Lake Conclusions

Based on the structure of the RES-BCT tariff, what charges the credits can cover, and how the credits are allocated, Metropolitan does not have the retail load to install solar at Weymouth, Skinner, and DVL under the RES-BCT program. The benefits of solar produced at a solar facility under the RES-BCT tariff are higher for electricity that is used onsite in comparison to electricity that is exported to the grid for a credit. Weymouth and Skinner have much higher retail demands than DVL, therefore, a solar facility at these locations have higher benefits. Since DVL has lower benefits, and Metropolitan does not have the retail load to build solar facilities at all three locations, it is recommended that Metropolitan not pursue solar at DVL under the RES-BCT program.

Key to Features

Proposed Solar Facilities

Proposed Routing to Connection Point

N

0 350 700 Feet

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Date: October 30, 2013

Proposed Location of Solar Facilities Diamond Valley Lake

MWH

Figure 3

LADWP

Renewable Energy Options

Feed-in-Tariff

The Los Angeles Department of Water and Power (LADWP) offers a feed-in-tariff (FIT) for renewable energy generation. Under the LADWP FIT program, a generating facility is limited to 3 MW and all electricity generated from the generating facility is sold to LADWP. A total of 100 MW is eligible to participate in the FIT. Of this 100 MW, the first 20 MW will be paid$0.17/kWh, the second 20 MW will receive $0.16/kWh. There are a total of 5 steps, and there is a $0.01/kWh reduction between each step. Allocations will be made every 6 months until the program is fully subscribed, and the allocations for the second step ($0.016/kWh) are complete, therefor the best possible rate that Metropolitan could expect is $0.015/kWh. All FIT rates are fixed for the life of the 20 year contract.

Net Metering

LADWP also offers a net metering program for renewable generation. Under the LADWP net metering program, the generating facility is limited to 1 MW, and all credits must be used to offset additional electricity needs at the generating facility (i.e., similar to the current net metering agreement with the 1 MW facility at Skinner). Given the large loads at Jensen, all of the electricity and credits generated from a 1 MW facility would be used on-site.

Jensen Water Treatment Plant

The Jensen Water Treatment Plant (Jensen) is located in Granada Hills, California.

Land Availability

Land availability is constrained at Jensen. Based on discussions with Metropolitan staff and the locations of feeder pipelines, a total of 17.8 acres is available for solar (Figure 4). This is sufficient for approximately 3 MW, which is also the limit of LADWP's FIT program.

Key to Features

Major Feeder

Proposed Solar Facilities

Operations Area

N

0 350 700 Feet

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Date: October 24, 2013

Proposed Location of Solar Facilities Jensen

MWH

Figure 4

Benefits and Costs Ratio – Capital Purchase

FIT

A 3 MW system at Jensen would generate approximately 7,200,000 kWh of electricity in the first year. At a degradation rate of 0.25%, a 3 MW system would generate approximately 140 million kWh over a 20 year contract, or 208 million kWh over 30 years. This is a smaller output than at the 3 MW solar facility at Weymouth (208 million kWh at Jensen compared to 244 million kWh over 30 years for Weymouth; approximately 15% fewer kWhs) because the direction of plots of land are off azimuth (i.e., not due south), and the weather expected at Jensen is less 'sunny' then at Weymouth.

At a flat $0.15/kWh, Metropolitan would receive $21 million over 20 years; a 30-year contract, while not part of the FIT program, would provide Metropolitan with $31 million. The costs are expected to be the same as for Weymouth; the total expenditures on capital costs and debt servicing is $27.7 million over 30 years. This corresponds to a cash payment of $16.5 million.

Net Metering

To calculate the benefits of a solar facility, Weymouth electrical demands in 15-min intervals is scaled up to match Jensen's annual demand from August 1, 2012 to July 31, 2013. This was done because 15-minute data for Jensen was not available. This data is used to calculate the average kWh consumed at Jensen for each hour of the 12-month evaluation period. This consumption data is compared to expected hourly generation from a 1 MW facility, as estimated by PVSIM, and results in an hour-by-hour evaluation of solar consumed on-site, solar exported to the grid, and grid energy purchased from LADWP. The value of avoided electricity charges and credits is then determined by factoring in LADWP rate schedules, time of use, and shifts in clock time due to daylight savings.

To conduct a cost-benefit analysis, a single weighted average $/kWh value is calculated based on the blend of credits and avoided electricity charges. Additional benefits only include revenue from selling Renewable Energy Credits (RECs). The weighted average dollar per kWh for a 1 MW solar system at Jensen is $0.1170 under the A-3 rate structure. The A-3 rate structure does differentiate electricity costs based on time of use. Costs for the system include an installed cost, including warranties and a performance guarantee, and operations and maintenance costs. Additional assumptions include:

- Total Cost Estimate 5,200,000
- MWh per year, 3 MW 7,200
- Annual PV Degradation 0.25%
- Utility Escalation 4-8%
- O&M Escalation 3%
- Percent Financed 100%
- Interest Rate 3.5%
- Loan Term 30 Years
- Bond Issuance/Debt Service 0.5%
- Interconnection $250,000
- Mobilization $50,000

- Civil Site Work $280,000/MW (includes gravel base)
- Markups $124,550/MW (includes contractor insurance program, prime contractor OH&P on subs, subcontractor markups, etc. - most is state sales tax allowance)
- Contingency 3.5%
- Admin & Management 10%
- Jensen Solar Installation $3.12/MW

Some expected costs were estimated to provide a benefit-cost analysis of full costs. These estimates are conservative, and include needed electrical upgrades, civil site work, ground cover (i.e., adding gravel under the panels), various markups, contingency and project administration and management costs. Solar Installation costs are based on discussions with solar vendors, and variability between locations is due to differences in site specific conditions (i.e., distance to connection point, presence of existing infrastructure for solar, etc.). The costs associated with interconnection would cover atypical metering equipment potentially required by LADWP, as well as any interconnection fees or upgrades needed. These costs are likely to be much less, further reducing the cost per MW.

Under A-3, based on a comparison of the costs and benefits over a 30-year period, the present value Benefit-Cost ratio is 1.5, and the benefits of CSI rebates, credits, and avoided electricity costs is greater than the cost of associated debt payments after year 3, and for a semi-annual payment in year 15. The payment period that is not cash flow positive is due to general site maintenance and improvements in year 15. The net present value of installing a 1 MW solar facility at Jensen is $2.9 million, assuming a 4% discount rate. This evaluation is dependent on its assumptions, and the assumption with the largest unknown component is the rate at which utilities escalate. A sensitivity analysis showed a Benefit-Cost ratio greater than one for utility escalation at 1.75% per year or greater.

The total expenditures on capital costs and debt servicing is $8.6 million (i.e., total principal and interest payments over 30 years). Alternatively, the system could be purchased for an up-front cash payment of $5.2 million.

PPA Evaluation

FIT

There is a possibility that Metropolitan could enter into a PPA agreement with a third party as well as a FIT with LADWP. In this case, the revenue would equal the difference between the PPA rate and the rate that LADWP's FIT offers. Using the same levelized (i.e., flat) cost of $89/MWh used to evaluate a PPA for Weymouth and the same production evaluated under a capital purchase for Jensen, the total revenue over 20 years is approximately $8.6 million. Using the same levelized (i.e., flat) cost of $110/MWh used to evaluate a PPA for Weymouth and the same production evaluated under a capital purchase, the total revenue over 20 years is $5.6 million. If this option were pursued it would be important to have a PPA contract for the same length as the contract with LADWP. It is important to note that PPA costs are likely to be

higher for a shorter contract period, however, documentation on existing PPA rates did not consistently provide contract lengths and contract lengths are known to vary, therefore, for consistency in analysis, the values used to evaluate Weymouth and Skinner for 30 year periods were used.

Net Metering

Assuming a levelized (i.e., flat) cost in the range of $89 - $110 per MWh, the same production evaluated under a capital purchase, and a utility escalation of 4%-8%, the NPV of a PPA can be expected to range from $4.6 - $10.5 million. This does not include any expenditures on Metropolitan's part for engineering, design, administration, or project management. In the case of a PPA, Metropolitan would be paying the PPA for the electricity produced by the solar facility, therefore, there is no defined 'payback' period. Also, since the production at Jensen is less than at Metropolitan's other facilities, it is likely that the PPA price would be higher to accommodate lower production (and thus revenues for the PPA) per installed watt.

Jensen Water Treatment Plant Conclusions

Based on the lower production expected at Jensen, the flat structure of the feed-in-tariff, and the short contract period (i.e., 20 years while capital payback is 30 years), it is not recommended to move forward with implementing solar at Jensen under the feed-in-tariff. It is recommended to consider implementing solar under a net metering arrangement at Jensen, or to engage LADWP in conversations that may lead to a unique arrangement that will allow Metropolitan to develop solar at Jensen in a more profitable manner.

Recommendations

Metropolitan is considered a local agency and can construct generation facilities under the RES-BCT program. Solar facilities at both the Weymouth and Skinner water treatment plants have benefit-cost ratios equal to or in excess of 1.5, in either TOU-8-B or TOU-8-A cases (Table 4). While the Skinner project has a slightly higher benefit-cost ratio than the Weymouth project under the TOU-8-A option, the benefit-cost ratio under the TOU-8-B option is slightly smaller and the Weymouth project is eligible for CSI rebates while the Skinner project is not as it already has a 1 MW solar facility enrolled in CSI. Since the remaining availability in the CSI program is more highly limited than participation in the RES-BCT program, it would be beneficial to slightly prioritize the Weymouth project over the Skinner project.

Based on these factors, it is recommended that Metropolitan pursue a 3 MW solar project at Weymouth and a 4 MW solar project at Skinner. It is not recommended to pursue a solar project at DVL unless Metropolitan wishes to develop solar outside of the RES-BCT program and with the sole purpose of generating revenue.

Table 4
Summary of Solar Evaluation

	TOU-8-B		TOU-8-A	
Electricity Escalation Rate Assumption	**4%**	**8%**	**4%**	**8%**
Weymouth				
$/kWh	$0.1089	$0.1089	$0.1264	$0.1264
Benefit:Cost	1.57	2.83	1.8	3.29
Net Present Value	$8.3 million	$27.8 million	$12.1 million	$34.8 million
Payback (years)	14	12	12	10
Skinner				
$/kWh	$0.0924	$0.0924	$0.1193	$0.1193
Benefit:Cost	1.50	2.83	1.97	3.68
Net Present Value	$9.1 million	$33.1 million	$17.6 million	$48.5 million
Payback (years)	14	12	12	10
	A-3			
Jensen				
Electricity Escalation Rate Assumption	**4%**		**8%**	
$/kWh	$.1170		$.1170	
Benefit:Cost	1.5		2.75	
Net Present Value	$2,900,000		$9,000,000	
Payback (years)	15		12	

Since RES-BCT program availability is limited, if Metropolitan wishes to take advantage of the RES-BCT tariff, it must move quickly to build generation at the Weymouth and Skinner water treatment plants. Based on the close costs of directly purchasing and owning a solar facility and entering into a PPA and the potential issues with entering into lease agreements with third parties on treatment plant land, it is recommended that Metropolitan directly purchase these projects. It is also recommended to make larger accounts the benefitting accounts at Skinner, and the smaller accounts the benefiting accounts at Weymouth.

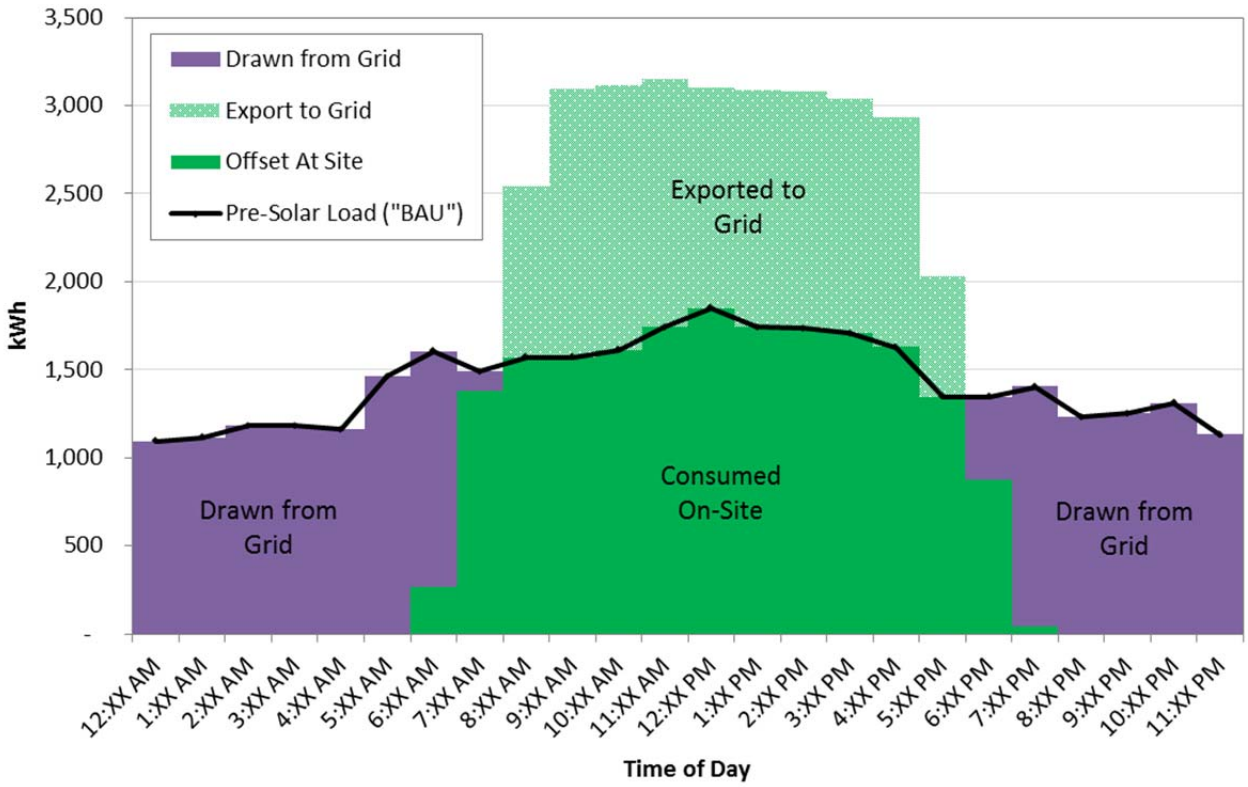
Additionally, it is recommended that Metropolitan perform an optimization analysis for the distribution of all potential benefitting accounts considering a 3 MW facility at Weymouth and a 4 MW facility at Skinner, especially if TOU-8-A becomes available. Generation is worth more under TOU-8-A, therefore, there will be additional credits available and the analysis in this TM indicated that there may not be enough creditable retail costs to fully use all credits, even with

ozone at Weymouth. An optimization study will allow Metropolitan to maximize the credits and their allocation to benefitting accounts.

If Metropolitan wishes to pursue solar in LADWP's territory at the Jensen water treatment plant it is recommended to consider implementing a smaller solar facility under a net metering arrangement or to engage LADWP in conversations that may lead to a unique arrangement that will allow Metropolitan to develop solar at Jensen in a more profitable manner. LADWP's feed-in-tariff is not recommended due to the payment flat structure and the short contract period (i.e., 20 years while capital payback is 30 years).

Appendix A

The figure below illustrates the relationship between electricity demand, solar generation, solar consumed on-site, and solar exported to the grid. In the below figure, the black line represents the facilities electricity demand (i.e., how much electricity is needed, regardless of whether it is generated from a solar facility or purchased from the grid). Solar generation is represented by the color green, with a solid green representing the solar that is consumed on-site and a textured green representing the solar that is exported to the grid. Solar that is consumed on-site reduces the electricity purchased from the grid. Solar that is exported to the grid is awarded a credit value. Electricity that still needs to be purchased from the grid is represented by the color purple.



Appendix B

Serv Acct Num	Cust Acct Num	Current Rate	Meter Num	Service Street Addr	City Name	Zip	Bill Amt	KWH Usage	Maximum KW
33395730	246456735	TOU-8-CPP	V349N-012083	33740 BOREL RD	WINCHESTER	92596	$1,231,674.21	11,552,040	2,592.0
11898426	250926573	TOU-8-B	COMBO	LAVERNE WTR SOFTNG	LA VERNE	91750	$1,233,033.04	10,396,992	2,160.0
10031399	4612404	TOU-8-B	V345N-000869	20584 BAKE PKWY	LAKE FOREST	92630	$761,087.34	6,535,664	1,760.0
65371	4612404	TOU-8-CPP	V349N-017791	3972 VALLEY VIEW AVE	YORBA LINDA	92886	$486,612.05	5,660,059	1,134.0
3737427	4612404	TOU-8-B	V349N-002943	27500 RAMONA EXPRESSWAY	NUEVO	92567	$156,022.13	1,426,627	2,284.8
1388719	250926573	TOU-PA-B	V349N-011778	18250 LA SIERRA AVE	RIVERSIDE	92503	$108,449.26	1,293,812	304.3
1022151	250926573	TOU-PA-B	V349N-016159	700 MORENO AVE	LA VERNE	91750	$84,999.58	969,396	186.2
16764308	246456735	TGS3-CPP	V349P-006517	33610 NEWPORT	HEMET	92543	$81,254.80	569,862	432.0
29480324	348552670	TOU-GS3-B	V349N-002414	2325 SEARL PKWY	HEMET	92543	$80,638.18	438,182	233.3
18417579	4612404	TOU-PA-B	349M-011884	NEWPORT W/O DAM	HEMET	92545	$28,711.20	342,175	83.0
9888717	4612404	TOU-PA-B	349M-011883	9737 PETERS CANYON	SANTA ANA	92705	$24,236.03	240,322	72.5
1388682	250926573	PA-2	259000-018608	1 SYCAMORE SN DIMASCYN	SAN DIMAS	91773	$18,157.76	168,323	34.8
1388787	4612404	TOU-PA-B	345M-006716	CASTAIC DAM DOWN ST	CASTAIC	91310	$13,526.40	155,934	41.0
1388771	4612404	TOU-PA-B	V349N-017337	35100 WASHINGTON ST	WINCHESTER	92596	$23,316.26	149,861	147.1
13714327	250926573	TOU-PA-B	V349N-000245	20584 BAKE PKWY	LAKE FOREST	92630	$30,962.60	135,322	316.8
1388720	250926573	PA-2	254000-004112	34 CAJALCO-TEMESCAL	CORONA	92879	$13,447.29	124,506	24.0
2345598	4612404	GS-2	259000-012143	8248 ETIWANDA AVE	RANCHO CUCAMONGA	91739	$16,580.10	119,453	45.0
29480377	292236650	GS-2	259000-024867	2325 SEARL PKWY BLDG 1	HEMET	92543	-$7,721.73	116,164	55.0
200933	250926573	PA-2	3412-010868	9840 MILLER WAY	SOUTH GATE	90280	$12,383.93	113,749	23.6
8315137	4612404	GS-2	PO264-017031	33752 NEWPORT RD	WINCHESTER	92596	$15,794.72	95,040	42.6
16924401	4612404	PA-2	259000-007891	19940 FIFTH C	NUEVO	92567	$10,232.84	86,775	26.0
1388813	4612404	PA-2	223000-015946	3835 SEPULVEDA BLVD	CULVER CITY	90230	$10,489.83	85,948	22.8
2662293	4612404	GS-2	256000-129684	VALVWN/OBASTNCHRY	YORBA LINDA	92886	$11,916.39	84,601	23.4
2195883	4612404	PA-2	256000-140009	34 BORDER-MESQUITE	CORONA	92883	$9,660.40	82,803	23.6
1030047	250926573	PA-2	259000-029416	5105 LIVE OAK CANYON RD	LA VERNE	91750	$9,331.36	73,486	18.6
2195885	4612404	GS-2	256000-019471	627 W LAMBERT RD	LA HABRA	90631	$10,699.93	73,326	23.0
13571578	250926573	GS-2	259000-009191	500 NEWPORT	HEMET	92543	$9,255.64	62,310	16.0
1388784	4612404	GS-2	256000-110646	19775 PATTERSON AVE	PERRIS	92570	$10,203.27	60,526	26.0
626825	250926573	GS-2	255000-002962	1061 S ORANGE AVE	MONTEREY PARK	91755	$9,400.72	52,578	31.6

Serv Acct Num	Cust Acct Num	Current Rate	Meter Num	Service Street Addr	City Name	Zip	Bill Amt	KWH Usage	Maximum KW
1388773	4612404	GS-1	256000-212727	26540 RAMONA EXPRESSWAY	PERRIS	92570	$7,601.09	51,966	19.4
3646648	4612404	GS-1	222013-995432	PLEASANTS PEAK	SILVERADO	92676	$7,684.35	49,956	13.9
29480340	246456735	GS-2	256000-192387	2325 SEARL PKWY	HEMET	92543	$8,014.03	47,434	18.6
150291	250926573	PA-2	256000-144689	1061 S ORANGE AVE	MONTEREY PARK	91755	$7,697.57	43,858	52.7
1388840	4612404	GS-1	254000-001287	41110 PINE BENCH RD	YUCAIPA	92399	$6,671.05	43,104	10.3
1388814	4612404	PA-2	255000-008181	3835 SEPULVEDA BLVD	CULVER CITY	90230	$5,333.35	40,745	10.4
13930775	250926573	GS-1	223000-000355	33600 PATTERSON	WINCHESTER	92596	$5,792.34	37,980	14.0
4803642	4612404	GS-2	259000-022890	33740 1/2 BOREL RD FSH	WINCHESTER	92596	$5,570.08	34,855	10.0
1230600	250926573	PA-1	256000-212729	26540 RAMONA EXPRESSWAY	PERRIS	92570	$5,344.01	32,943	9.7
17099812	4612404	PA-2	259000-014283	28820 LYON	HEMET	92546	$4,369.03	31,952	10.0
732359	250926573	GS-1	724-002611	OR CO RES BREA CYON	BREA	92621	$4,841.20	30,900	16.0
1388815	4612404	GS-1	256000-188379	S/E COR P V D EAST	ROLLING HILLS	90274	$4,389.95	29,557	8.4
29480367	246456735	GS-1	3416M-010276	2325 SEARL PKWY MTGROOM	HEMET	92543	$4,314.63	27,786	11.7
26898615	246456735	LS-3	Unmetered	2340 SEARL PKWY LS-3	HEMET	92543	$1,798.55	26,032	
1388788	4612404	GS-2	223000-016659	CASTAIC DAM DOWN ST	CASTAIC	91310	$6,628.67	25,676	18.4
21461493	246456735	GS-1	8-279054	1061 S ORANGE AVE	MONTEREY PARK	91755	$3,720.97	23,454	0.0
1388731	250926573	GS-1	222013-819319	2300 PALOS VERDES DR N	ROLLING HILLS ESTATES	90274	$3,496.85	22,283	5.5
9888716	4612404	GS-1	Y728-003378	360 S JAMBOREE	ORANGE	92867	$3,314.81	20,754	9.2
996530	250926573	GS-1	256000-086134	22682 WARREN ROAD	HEMET	92543	$3,357.41	20,734	5.3
1388791	4612404	GS-1	222013-779239	19755 PATTERSON AVE	PERRIS	92570	$3,006.38	18,132	6.0
5675249	4612404	GS-1	256000-108507	33150 NEWPORT ROAD	WINCHESTER	92596	$2,914.87	17,817	3.9
17815261	246456735	GS-1	222020-016507	33903 NEWPORT	HEMET	92543	$2,723.55	16,851	5.0
1388867	4612404	GS-1	256000-087696	1651 N BALSA	BREA	92621	$2,682.24	16,484	6.0
1388770	4612404	GS-1	254000-010963	78 PORTAL-SOBOBA	SAN JACINTO	92583	$2,615.75	16,226	5.8
23449489	246456735	GS-2	255000-008502	4615 CARBON CANYON RD 12KV	BREA	92823	$6,223.78	16,100	40.0
14185655	250926573	PA-1	256000-076509	37750 NEWPORT RD	HEMET	92545	$3,314.72	15,887	9.0
253109	250926573	DOMESTIC	8-350062	5103 LIVE OAK CANYON RD	LA VERNE	91750	$3,119.53	15,733	0.0
1388735	250926573	GS-1	256000-180011	MAN BCH W/O VAN NESS	GARDENA	90249	$2,550.54	15,516	7.6
1388688	250926573	GS-1	255000-008723	445 S TUSTIN ST	ORANGE	92866	$2,301.77	14,023	6.4

Serv Acct Num	Cust Acct Num	Current Rate	Meter Num	Service Street Addr	City Name	Zip	Bill Amt	KWH Usage	Maximum KW
1388774	4612404	GS-1	222013-284372	885 S ELM	CABAZON	92230	$2,289.78	13,594	3.0
1388728	250926573	GS-1	222013-740780	25 CREEK RD	IRVINE	92604	$2,139.57	13,256	5.0
1388854	4612404	GS-1	255000-002866	1 RAMONA RIVERGRADE	BALDWIN PARK	91706	$2,016.89	12,009	5.0
9611682	4612404	GS-1	259000-018274	300 N NEWPORT	HEMET	92543	$1,949.57	11,631	13.0
1388755	250926573	GS-1	255000-007264	452 E ORANGETHORPE	PLACENTIA	92870	$1,915.94	11,117	3.0
1388754	250926573	GS-1	223000-013408	452 E ORANGETHORPE	PLACENTIA	92870	$1,927.02	11,084	10.0
1388786	4612404	GS-1	222013-978701	OAK ST S/O 26225	LOMITA	90717	$1,872.10	10,926	0.0
1248755	250926573	GS-1	7-326926	1 FOOTHILL/MORENO	LA VERNE	91750	$1,973.53	10,897	0.0
253110	250926573	DOMESTIC	222011-335399	5101 LIVE OAK CANYON RD	LA VERNE	91750	$1,542.04	10,324	0.0
1388746	250926573	GS-1	222010-053401	10426 DOWNEY NORWALK RD	NORWALK	90650	$1,817.75	10,279	4.0
370475	250926573	GS-1	256000-102074	5700 DALE ST	BUENA PARK	90621	$1,711.09	9,845	4.7
1388789	4612404	GS-1	254000-008028	33736 BENTON ROAD	WINCHESTER	92596	$1,696.35	9,696	3.1
1388689	250926573	GS-1	222013-761165	445 S TUSTIN ST	ORANGE	92866	$1,730.13	9,684	8.0
836845	250926573	GS-1	256000-099146	RCH DOMGZ RD/ESPNSA	YORBA LINDA	92886	$1,680.23	9,597	11.2
4128714	4612404	LS-1-ALLNITE	Unmetered	000000 ETIWANDA AV	RANCHO CUCAMONGA	91730	$2,809.80	9,528	
1388783	4612404	GS-1	256000-199895	30975 AULD RD	WINCHESTER	92596	$1,670.71	9,486	2.5
1388775	4612404	GS-1	256000-008880	13500 WHITEWATER CANYON A	WHITEWATER	92282	$1,687.58	9,406	3.0
1388859	4612404	GS-1	222010-716516	1304 PLANT D-10 77	TEMECULA	92592	$1,590.83	9,053	3.0
1569440	4612404	GS-1	13-000267	STERLING/RAMONA	BALDWIN PARK	91706	$1,569.09	8,971	0.0
1388824	4612404	GS-1	256000-099149	21764 STONEHAVEN	YORBA LINDA	92886	$1,492.61	8,350	16.3
1388685	250926573	GS-1	222013-916804	BADILLO EO VINCENT PED	WEST COVINA	91792	$1,480.39	8,348	0.0
1388710	250926573	GS-1	222011-099330	1972 PORT CARDIFF PLCE	CORONA DEL MAR	92625	$1,472.91	8,252	2.0
1388853	4612404	GS-1	208-061371	1 RAMONA RIVERGRADE	BALDWIN PARK	91706	$1,457.06	8,206	0.0
1120788	250926573	GS-1	254000-018892	2300 PALOS VERDES DR N	ROLLING HILLS ESTATES	90274	$1,437.45	8,028	3.4
1388709	250926573	GS-1	222013-823498	ALAMEDA/CARSON	CARSON	90745	$1,430.51	8,014	0.0
1388730	250926573	GS-1	222013-819316	2300 PALOS VERDES DR N	ROLLING HILLS ESTATES	90274	$1,428.91	7,951	8.0

Serv Acct Num	Cust Acct Num	Current Rate	Meter Num	Service Street Addr	City Name	Zip	Bill Amt	KWH Usage	Maximum KW
9892634	4612404	GS-1	8-587610	23144 LOS ALISOS BLVD	MISSION VIEJO	92691	$1,399.77	7,506	0.0
1388827	4612404	GS-1	222013-989031	NS LAMBERT E BREA	BREA	92621	$1,359.19	7,381	0.0
1388716	250926573	GS-1	222013-774053	MACARTHUR/SAN JOAQUIN	CORONA DEL MAR	92625	$1,300.89	6,968	0.0
9890463	4612404	GS-1	254000-024698	25283 TRABUCO RD ST5	LAKE FOREST	92630	$1,250.43	6,564	9.0
9887214	4612404	GS-1	222014-024057	11874 SAND CANYON ST3	IRVINE	92614	$1,186.39	6,283	0.0
1388820	4612404	GS-1	222010-048631	12302 STUDEBAKER RD	NORWALK	90650	$1,143.19	6,153	2.0
1388683	250926573	GS-1	255000-004432	637 E BADILLO ST	COVINA	91723	$1,183.18	5,999	3.6
36008526	246456735	GS-1	222013-742394	608 3/4 S BRISTOL ST	SANTA ANA	92703	$1,106.15	5,680	4.0
1388750	250926573	GS-1	254000-006105	16448 IMPERIAL	LA MIRADA	90638	$1,107.56	5,617	1.1
9892633	4612404	GS-1	222013-683697	23154 LS ALISO ST 10/11	MISSION VIEJO	92691	$1,084.46	5,554	1.0
9890468	4612404	GS-1	222013-819628	26079 VIA PERA ST9	MISSION VIEJO	92691	$1,067.45	5,467	2.0
1388830	4612404	GS-1	256000-107244	78 COTTONWOOD-LYON	HEMET	92543	$1,095.52	5,439	1.4
9888840	4612404	GS-1	254000-012651	22692 CHERYL WAY UNIT S8	LAKE FOREST	92630	$1,065.46	5,316	2.3
21976451	246456735	GS-1	222013-778482	30900 EUCALYPTUS ST	MORENO VALLEY	92555	$1,023.55	5,232	0.0
9892535	4612404	GS-1	256000-109205	8628 E SANTIAGO CANYON XYZ	ORANGE	92869	$1,047.52	5,203	2.1
9887097	4612404	GS-1	222013-827280	6423 E SANTIAGO CANYON RD	ORANGE	92869	$1,018.15	5,118	1.0
9890526	4612404	GS-1	222013-819263	19599 YORBA LINDA	YORBA LINDA	92886	$1,009.97	5,027	1.0
10577878	4612404	LS-3	Unmetered	30522 WINCHESTER LS3	WINCHESTER	92596	$473.95	4,854	
1388835	4612404	GS-1	254000-003970	21764 1/2 STONEHAVEN	YORBA LINDA	92886	$970.62	4,740	1.0
10869759	4612404	LS-3	Unmetered	1703 NEWPORT ROAD LS3	HEMET	92543	$460.82	4,656	
9888831	4612404	GS-1	222013-758346	25877 TRABUCO RD S7	LAKE FOREST	92630	$954.30	4,653	1.0
1388826	4612404	GS-1	234010-067524	923 E BIRCH ST	BREA	92821	$905.11	4,523	1.0
1388684	250926573	GS-1	222013-823724	637 E BADILLO ST	COVINA	91723	$961.00	4,497	0.0
4059417	4612404	GS-1	256000-111668	5564 CITRUS AVE	FONTANA	92336	$922.05	4,471	1.1
1388862	4612404	GS-1	256000-151461	MIRAMAR/PADUA EO	CLAREMONT	91711	$911.98	4,453	2.5
1388869	4612404	GS-1	222013-916524	EL SEGUNDO E/O SPRNG	LOS ANGELES	90061	$895.56	4,339	0.0
1388811	4612404	GS-1	254000-007179	SAWTELLE/SEPULVEDA	CULVER CITY	90230	$902.64	4,132	2.0
38256289	246456735	DOMESTIC	222012-063157	20063 FALLEN LEAF DR	PERRIS	92570	$743.00	4,037	0.0
1388727	250926573	GS-1	222013-823739	9598 SUNSET BLVD	BEVERLY	90210	$831.51	3,888	0.0

Serv Acct Num	Cust Acct Num	Current Rate	Meter Num	Service Street Addr	City Name	Zip	Bill Amt	KWH Usage	Maximum KW
					HILLS				
1388721	250926573	GS-1	256000-081171	76 LA SIERRA-TIN MINE	CORONA	92879	$869.24	3,874	3.4
617058	250926573	GS-1	222013-986116	FULTON/BONITA 28	POMONA	91768	$793.84	3,566	0.0
20876940	246456735	GS-1	256000-105903	33740 BOREL RD	WINCHESTER	92596	$781.37	3,552	1.7
29201795	246456735	GS-1	222010-675697	5059 PLANT	VIDAL	92280	$815.33	3,457	0.0
1388757	4612404	GS-1	222013-760539	ALT VST E/O ANGELNA	PLACENTIA	92870	$769.06	3,450	1.0
38256346	246456735	DOMESTIC	222011-489649	20095 FALLEN LEAF DR	PERRIS	92570	$561.27	3,423	0.0
11088697	4612404	TC-1	222011-833043	30522 WINCHESTER	WINCHESTER	92596	$562.20	3,381	0.0
9887215	4612404	GS-1	222013-990328	11913 CULVER DRIV	IRVINE	92614	$736.31	3,124	0.0
1092139	250926573	GS-1	254000-009291	EL SEGUNDO/VAN NESS	GARDENA	90249	$738.71	3,110	3.6
38256324	246456735	DOMESTIC	222011-876021	23152 NORRISGROVE AVE	PERRIS	92570	$482.37	3,083	0.0
35673152	250926573	GS-1	222011-002066	305 1/2 E BONITA AVE	SAN DIMAS	91773	$709.60	3,054	0.0
1388800	4612404	GS-1	222013-682613	N/E DALHART/EL SEG	COMPTON	90222	$702.08	3,002	0.0
1388769	4612404	GS-1	222013-911972	22795 WARREN ROAD	SAN JACINTO	92583	$680.02	2,981	1.0
290902	250926573	GS-1	222013-760956	1600 BARRANCA PKWY UNIT B	IRVINE	92606	$676.34	2,939	1.0
329094	250926573	GS-1	254000-024699	25 CREEK RD	IRVINE	92604	$699.13	2,905	2.6
5129359	4612404	GS-1	222010-524726	834 W CIENEGA AVE	SAN DIMAS	91773	$683.61	2,892	0.0
648551	250926573	GS-1	222013-988761	3092 BRISTOL ST	COSTA MESA	92626	$661.38	2,806	0.0
772849	250926573	GS-1	255000-005200	OAK ST S/O 26225	LOMITA	90717	$651.18	2,798	3.0
1388806	4612404	GS-1	222011-163158	S/S OF BAKER	COSTA MESA	92626	$645.34	2,697	0.0
18445403	246456735	GS-1	222013-753237	630 1/2 RODEO	WALNUT	91789	$662.49	2,683	0.0
17622086	246456735	GS-1	256000-002301	1890 5TH AVE	REDLANDS	92374	$710.58	2,627	11.0
1388677	250926573	GS-1	222013-733836	1 ALLEN RAMONA SW	LA VERNE	91750	$653.66	2,600	0.0
10917080	4612404	GS-1	222013-781502	30508 WINCHESTER	WINCHESTER	92596	$659.99	2,599	1.0
1957611	4612404	GS-1	222013-741863	14827 1/2 S AVALON BLVD	COMPTON	90220	$633.60	2,496	0.0
1388696	250926573	GS-1	222013-752195	KATELLA/BROOKHURST	GARDEN GROVE	92843	$624.01	2,452	1.0
9890457	4612404	GS-1	222014-024528	MAGAZINE RD J-16	IRVINE	92618	$623.48	2,422	0.0
983934	250926573	GS-1	222011-370583	S/S EL SGNDO..E/BUDLONG	GARDENA	90247	$606.99	2,421	0.0
19199538	246456735	GS-1	222013-779642	35213 RAMONA EXPY	SAN JACINTO	92582	$601.12	2,298	1.0
550261	250926573	GS-1	222013-736024	135TH/AVALON	LOS ANGELES	90061	$603.06	2,284	0.0
3357689	4612404	GS-1	222013-988727	E/S MIRAMONTE N/O 70TH ST	LOS ANGELES	90002	$599.38	2,272	0.0
1388734	250926573	GS-1	254000-012227	24911 WALNUT ST	LOMITA	90717	$602.58	2,208	16.4

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9894155	4612404	GS-1	222013-756795	15640 1/2 HUNSAKER	PARAMOUNT	90723	$585.85	2,193	0.0
9892568	4612404	GS-1	222012-614683	13550 1/2 ORANGE AVE	PARAMOUNT	90723	$580.49	2,157	0.0
14255617	250926573	GS-1	222013-682679	13843 1/2 WOODRUFF AVE	BELLFLOWER	90706	$577.16	2,132	0.0
1388792	4612404	GS-1	256000-007125	8521 RUSH ST	ROSEMEAD	91770	$589.43	2,131	2.0
1388695	250926573	GS-1	222013-821175	RED HILL/WARNER	SANTA ANA	92705	$571.77	2,117	0.0
1388711	250926573	GS-1	254000-023374	1972 PORT CARDIFF PLCE	CORONA DEL MAR	92625	$580.81	2,112	0.5
1388729	250926573	GS-1	222013-736242	1 UNIVERSITY DR YALE	IRVINE	92715	$568.37	2,087	0.0
1388833	4612404	GS-1	222013-741189	8497 CRESCENT AVE	BUENA PARK	90620	$559.44	2,077	1.0
1388700	250926573	GS-1	256000-067815	9100 GARFIELD AVE	SOUTH GATE	90280	$575.75	2,045	2.0
12754449	250926573	GS-1	222013-753943	35000 DOMENIGONI	HEMET	92545	$581.58	2,039	3.0
28831341	246456735	GS-1	3416-043594	43200 1/2 ANZA RD	TEMECULA	92592	$566.83	2,019	0.8
9892534	4612404	GS-1	222013-822642	8575 SANTIAGO CANYON ROAD XYZ	ORANGE	92867	$561.02	2,015	0.0
12052522	4612404	GS-1	222010-047965	12602 1/2 PADDISON AVE	NORWALK	90650	$556.84	1,983	1.0
1388694	250926573	GS-1	222013-736445	RED HILL/WARNER	TUSTIN	92780	$555.96	1,956	1.0
14442603	250926573	GS-1	222013-684572	22300 1/2 S ALAMEDA ST	CARSON	90810	$542.70	1,887	0.0
1268605	250926573	GS-1	256000-179706	5525 W EL SEGUNDO BLVD	EL SEGUNDO	90245	$552.09	1,872	1.4
345253	250926573	GS-1	255000-000222	LAMBERT EO POMELO	BREA	92621	$545.98	1,861	2.0
1388865	4612404	GS-1	222013-776096	S/E COR DALE KATELA	ANAHEIM	92804	$533.39	1,845	1.0
2195882	4612404	GS-1	254000-021388	1 N SAN GABRIEL CANYON RD	AZUSA	91702	$546.00	1,836	1.8
2228992	4612404	GS-1	222013-910640	22102 1/2 S VERMONT AVE	TORRANCE	90502	$522.45	1,772	0.0
1388797	4612404	GS-1	222013-821433	ES LEWIS 350 N/LAMP	ORANGE	92868	$523.46	1,754	0.0
5720313	4612404	GS-1	222013-600316	240 1/2 RICHFIELD	PLACENTIA	92870	$523.42	1,750	1.0
21915250	246456735	GS-1	256000-107505	30445 1/2 CONE CAMP RD	HIGHLAND	92346	$550.85	1,720	3.2
11927820	250926573	GS-1	222010-049711	8406 1/2 STEWART AND GRAY RD	DOWNEY	90241	$514.31	1,685	1.0
11529430	4612404	GS-1	222010-045283	7280 1/2 STEWART AND GRAY RD	DOWNEY	90241	$511.18	1,676	1.0
2040151	4612404	GS-1	222013-780300	28501 RAMONA EXPRESSWAY	LAKEVIEW	92567	$513.34	1,674	1.0
546252	250926573	GS-1	222013-597293	JUNIPER/90TH	LOS ANGELES	90002	$506.70	1,666	0.0
10633937	4612404	GS-1	222013-679388	23500 NEWHALL RANCH RD	VALENCIA	91355	$506.02	1,650	0.0
20450755	4612404	LS-3	Unmetered	3203 NEWPORT LS3	HEMET	92543	$272.82	1,648	
647987	250926573	GS-1	222013-744295	1ST ST 15O F	SANTA ANA	92703	$504.04	1,619	1.0

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1388798	4612404	GS-1	222013-775758	S/S KATELLA 30W/MAG	ANAHEIM	92804	$501.47	1,615	0.0
435404	250926573	GS-1	222013-683424	701 S EUCLID ST	LA HABRA	90631	$501.08	1,599	0.0
34382460	246456735	GS-1	222012-620099	6205 OLD WATERMAN CANYON RD	SAN BERNARDINO	92404	$515.13	1,579	1.0
1388756	250926573	GS-1	8-881232	3972 VALLEY VIEW AVE BRKR	YORBA LINDA	92886	$540.49	1,570	0.0
38256366	246456735	DOMESTIC	222011-968616	31560 PARK BLVD	NUEVO	92567	$214.00	1,533	0.0
11504050	4612404	GS-1	222012-459090	14710 1/2 IMPERIAL HWY	LA MIRADA	90638	$488.50	1,523	0.0
1388780	4612404	GS-1	256000-151458	1091 MIRAMAR ST	CLAREMONT	91711	$494.01	1,520	1.0
3223214	4612404	GS-1	222010-341339	2201 N WHITE AVE	POMONA	91768	$485.57	1,502	0.0
1388808	4612404	GS-1	222013-601406	76 TEMESCAL-LA GLORIA	CORONA	92883	$486.75	1,500	0.0
2085322	4612404	GS-1	203-010549	27500 RAMONA EXPRESSWAY	NUEVO	92567	$463.77	1,491	0.0
1388714	250926573	GS-1	222013-908333	NW PALISADE/REDHILL	COSTA MESA	92627	$478.22	1,463	0.0
1441590	4612404	GS-1	222013-990150	DEL AMO/WESTERN	TORRANCE	90501	$470.68	1,451	0.0
806145	250926573	GS-1	23-014590	21501 CHAPMAN	ORANGE	92869	$484.11	1,400	0.0
34382421	246456735	GS-1	222013-602451	6667 DEVILS CANYON RD	SAN BERNARDINO	92407	$469.85	1,400	0.0
1608071	4612404	GS-1	222013-741643	9000 STATE ST	SOUTH GATE	90280	$446.77	1,390	0.0
35673160	250926573	GS-1	222011-002040	633 BADILLO	COVINA	91723	$470.26	1,384	0.0
36547242	4612404	GS-1	222013-682781	4975 1/2 BONITA CANYON	IRVINE	92603	$465.01	1,373	0.0
35673169	250926573	GS-1	222010-446898	3009 MAXSON RD	EL MONTE	91732	$472.85	1,369	1.0
1388697	250926573	GS-1	222013-740861	NE COR TUSTIN/HEIM	ORANGE	92865	$462.91	1,368	0.0
1388726	250926573	GS-1	256000-208867	FAIRVIEW/LA BREA	INGLEWOOD	90302	$478.42	1,368	2.0
10891353	4612404	GS-1	222013-674978	4505 1/2 VILLAGE CENTER	YORBA LINDA	92886	$466.41	1,363	1.0
1048715	250926573	GS-1	222013-916614	1001 E 223RD ST	CARSON	90745	$466.19	1,357	0.0
1388782	4612404	GS-1	558-006674	N/W CR APPIAN/263RD	LOMITA	90717	$463.51	1,350	2.7
9935507	4612404	GS-1	222013-682580	7681 1/2 GARFIELD AVE	BELL GARDENS	90201	$462.44	1,339	0.0
626827	250926573	GS-1	222010-124686	2329 CATHRYN DR	ROSEMEAD	91770	$450.94	1,294	1.0
1388764	4612404	GS-1	222013-599932	BALL/BLOOMFELD	CYPRESS	90630	$455.77	1,279	2.9
1388766	4612404	GS-1	222013-757984	S/W BROOKWOOD/BALSA	BREA	92621	$452.20	1,273	0.0
1388675	250926573	GS-1	222013-682534	6153 GARFIELD AVE	COMMERCE	90040	$453.77	1,271	0.0
1388747	250926573	GS-1	222010-049725	12956 IMPERIAL HWY	SANTA FE SPRINGS	90670	$455.25	1,261	1.0
1342912	250926573	GS-1	222013-752476	2098 E 223RD ST	CARSON	90810	$466.85	1,249	0.0

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2477468	4612404	GS-1	222013-741687	266 1/2 GARDENA BLVD	CARSON	90746	$450.98	1,244	0.0
20172888	246456735	GS-1	256000-086435	2000 N WARREN RD	SAN JACINTO	92582	$478.93	1,226	1.0
1388705	250926573	GS-1	222013-741888	700 KNOX ST	TORRANCE	90502	$445.92	1,219	0.0
1388822	4612404	GS-1	222013-817699	14401 IMPERIAL HWY	WHITTIER	90604	$446.92	1,207	0.0
1957610	4612404	GS-1	222013-743444	13229 1/2 AVALON BLVD	LOS ANGELES	90061	$442.12	1,201	0.0
11151345	4612404	GS-1	222012-878729	2320 W IMPERIAL HWY	LA HABRA	90631	$441.57	1,201	1.0
1388674	250926573	GS-1	222013-752282	3313 GARFIELD AVE	COMMERCE	90040	$441.72	1,200	0.0
11086241	4612404	GS-1	222013-737748	2191 1/2 LAMBERT ROAD	BREA	92621	$439.79	1,189	1.0
1388836	4612404	GS-1	222013-994030	VICTORIA/WILMINGTON	CARSON	90746	$431.58	1,182	0.0
1388829	4612404	GS-1	222013-595881	8473 KATELLA AVE	STANTON	90680	$439.15	1,170	0.0
5660289	4612404	GS-1	222013-683598	431 1/2 PACIFIC ST	TUSTIN	92780	$438.32	1,170	1.0
11362301	4612404	GS-1	222013-827057	275 VALENCIA AVE	BREA	92823	$434.36	1,152	1.0
11128236	4612404	GS-1	222013-683883	241 E LAMBERT RD	LA HABRA	90631	$434.25	1,146	1.0
5675046	4612404	GS-1	222013-741732	1921 1/2 N TUSTIN ST	ORANGE	92865	$434.61	1,141	1.0
1388856	4612404	GS-1	222013-740766	AGNES/THORSON	LYNWOOD	90262	$431.42	1,122	0.0
1388751	250926573	GS-1	222013-743526	12624 LA MIRADA BLVD	LA MIRADA	90638	$430.96	1,119	0.0
1388738	250926573	GS-1	222013-992348	N/BIXBY RD E/LOCUST	SIGNAL HILL	90807	$421.18	1,118	0.0
569388	250926573	GS-1	254000-012197	10426 DOWNEY NORWALK RD	NORWALK	90650	$433.61	1,110	5.5
24644350	250926573	GS-1	222010-836590	720 W 223RD ST	TORRANCE	90502	$427.85	1,110	0.0
10845031	4612404	GS-1	222013-757378	8501 LA PALMA AVE	BUENA PARK	90620	$428.38	1,079	1.0
1388691	250926573	GS-1	222013-280599	SE TUSTIN/FAIRHAVN	SANTA ANA	92701	$424.46	1,076	0.0
1388803	4612404	GS-1	254000-004823	W/S AVALON/EL SEGDO	LOS ANGELES	90061	$432.69	1,041	2.0
25905856	4612404	GS-1	222013-742903	19447 1/2 SHETLAND	YORBA LINDA	92886	$415.11	1,009	1.0
1388749	250926573	GS-1	222013-825739	16253 ROSECRANS AVE	LA MIRADA	90638	$415.27	1,005	1.0
996529	250926573	GS-1	256000-111861	22680 WARREN ROAD	HEMET	92543	$424.67	1,001	1.2
1388676	250926573	GS-1	222013-988209	1700 W WASHINGTON	MONTEBELLO	90640	$408.73	994	0.0
1388715	250926573	GS-1	222013-912903	PALISADES W/O S A	COSTA MESA	92627	$401.95	987	0.0
9026048	4612404	GS-1	222011-163392	4690 1/2 W EL SEGUNDO BLVD	HAWTHORNE	90250	$410.65	982	0.0
35654081	246456735	GS-1	222011-001949	10169 RUSH ST	SOUTH EL MONTE	91733	$410.21	982	1.0
34382398	246456735	GS-1	222013-595099	2904 N FRONTAGE RD GS-1	HIGHLAND	92346	$414.15	980	1.0
1957612	4612404	GS-1	222013-779597	30142 SANTIAGO RD	TEMECULA	92592	$394.01	973	0.0
1255140	250926573	GS-1	256000-137011	1SNGB CY ROAD	AZUSA	91702	$422.44	967	1.0

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10893409	4612404	GS-1	222013-756532	100 1/2 E LAMBERT RD	BREA	92821	$407.96	963	1.0
1388816	4612404	GS-1	222013-681986	24529 WALNUT ST 500	LOMITA	90717	$403.11	935	0.0
29146591	4612404	GS-1	222011-399342	5707 ETIWANDA AVE	RANCHO CUCAMONGA	91739	$402.32	934	3.0
53424	250926573	GS-1	222013-752686	CHURCH/TELEGRAPH 200N	CITY OF COMMERCE	90040	$401.19	925	0.0
21626243	246456735	GS-1	222012-609783	30661 HIGHLAND	MENTONE	92359	$398.08	908	1.0
16511008	250926573	GS-1	259000-017934	33600 PATTERSON B	WINCHESTER	92596	$410.27	903	3.0
10503760	4612404	GS-1	222013-143625	619 1/2 VAIL AVE	MONTEBELLO	90640	$395.41	886	0.0
1388678	250926573	GS-1	222013-744442	1 BREA CYN COLIMA	ROWLAND HEIGHTS	91748	$394.99	880	0.0
36026127	0	DOMESTIC	222013-659809	4232 VALLEY VIEW AVE	YORBA LINDA	92886	$113.93	848	0.0
1388866	4612404	GS-1	222013-761265	S/W COR GREENLF SNTA FE	COMPTON	90221	$388.03	834	0.0
965662	250926573	GS-1	222013-735855	BUDLONG/92ND	LOS ANGELES	90044	$383.34	825	0.0
1388693	250926573	GS-1	222013-738968	N/E NEWPORT/WALNUT	TUSTIN	92780	$389.98	825	1.0
12118750	4612404	GS-1	234010-030176	11350 1/2 CRESTRIDGE DR	CORONA	92880	$381.96	779	1.0
17840572	246456735	GS-1	208-610585	34175 PATTON RD	WINCHESTER	92596	$381.98	772	0.0
5637200	4612404	GS-1	222013-909443	18100 1/2 YALE	IRVINE	92618	$377.91	766	0.0
15515781	250926573	GS-1	222013-781080	8106 1/2 HIGHWAY-62 ROAD	DESERT HOT SPRINGS	92240	$380.71	763	0.0
38713837	345824619	DOMESTIC	222011-592535	2300 PALOS VERDES DR N	ROLLING HILLS ESTATES	90274	$133.27	750	0.0
8170193	4612404	GS-1	222013-681920	17117 1/2 S BROADWAY ST	GARDENA	90248	$377.72	739	0.0
1388736	250926573	GS-1	254000-018864	M B BL/S/W COR RDNDO	MANHATTAN BEACH	90266	$385.50	732	0.2
11274849	250926573	GS-1	222013-819285	15857 1/2 IMPERIAL HWY	LA MIRADA	90638	$373.51	729	1.0
1011544	250926573	GS-1	8-600777	1 SAWPIT CANYON ROAD	MONROVIA	91016	$369.16	710	0.0
1388825	4612404	GS-1	85-312476	VLY VW EXT/MWD PLNT	YORBA LINDA	92886	$374.79	708	0.0
1388681	250926573	GS-1	222013-600353	326 E SIERRA MADRE AVE	GLENDORA	91741	$368.52	697	0.0
1388860	4612404	GS-1	222011-375850	ARBOR VITAE/CRENSHAW	INGLEWOOD	90305	$369.41	693	0.0
5941443	4612404	GS-1	222013-740543	3300 1/2 BARRANCA	IRVINE	92606	$368.11	689	1.0
1268601	250926573	GS-1	222013-683822	ELSEGNDO/GLASGOW	HAWTHORNE	90250	$366.37	685	0.0
4054089	4612404	GS-1	222013-597296	840 1/2 E BADILLO ST	COVINA	91723	$362.39	684	0.0
1223522	250926573	GS-1	254000-024691	E/E FORD RD 500' S	CORONA DEL	92625	$383.14	680	0.9

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					MAR				
1388796	4612404	GS-1	222013-741817	3103 3/4 S BRISTOL ST	SANTA ANA	92704	$343.31	678	1.0
1388725	250926573	GS-1	254000-027950	1 FAIRVIEW/E/OLABREA	INGLEWOOD	90302	$380.04	672	2.6
1388708	250926573	GS-1	222013-916709	7200 ROOD ST	PARAMOUNT	90723	$365.85	665	0.0
10507456	4612404	GS-1	222013-112502	23550 S NORMANDIE	TORRANCE	90502	$360.86	661	0.0
514355	250926573	GS-1	222013-596545	W/S VALNCA S/O BIRCH	BREA	92621	$360.90	650	1.0
1388841	4612404	GS-1	222011-159785	5501 W SLAUSON AVE	LOS ANGELES	90056	$357.01	650	0.0
1388712	250926573	GS-1	222011-156479	BRISTOL/IRVINE N/W C/O	NEWPORT BEACH	92663	$369.63	648	0.0
1388801	4612404	GS-2	254000-027931	5920 SOUTHERN AVE	SOUTH GATE	90280	$1,710.81	630	0.8
29876650	4612404	GS-1	222010-520558	2471 N INDIAN HILL BLVD	CLAREMONT	91711	$357.47	625	0.0
1388760	4612404	GS-1	222013-682765	ARTESIA/DALE	BUENA PARK	90621	$357.80	623	0.0
594788	250926573	GS-1	222013-595751	BALL RD E/O WALKER	CYPRESS	90630	$354.79	595	1.0
1301809	250926573	GS-1	256000-182970	2300 PALOS VERDES DR E	RANCHO PALOS VERDES	90274	$366.15	588	0.4
1388692	250926573	GS-1	222013-600136	445 S TUSTIN ST	ORANGE	92866	$353.10	573	0.0
648669	250926573	GS-1	222013-595659	1 EAGLE VALLEY NR	CORONA	92879	$350.14	572	0.0
3741932	4612404	GS-1	222013-732143	2030 CASA GRANDE	RIALTO	92376	$357.10	570	1.0
23874929	246456735	GS-1	222013-604015	1330 OPAL	MENTONE	92359	$350.48	569	1.0
606056	250926573	GS-1	222012-871473	9010 KAUFFMAN AVE	SOUTH GATE	90280	$346.82	560	0.0
1388706	250926573	GS-1	222013-911487	N/WCOR EL SEG WILBK	COMPTON	90221	$346.46	559	0.0
16763181	4612404	GS-1	222013-603797	1552 BALDY VIEW CRCL	CORONA	92883	$349.48	558	0.0
1388732	250926573	GS-1	222011-162912	1902 PACIFIC COAST HWY	LOMITA	90717	$348.17	557	0.0
1388765	4612404	GS-1	222014-020309	S/S BALL W/O WALKER	CYPRESS	90630	$346.85	552	0.0
10090917	4612404	GS-1	222013-776963	3105 1/2 EL SEGUNDO BLVD	LYNWOOD	90262	$345.18	534	0.0
2508415	4612404	GS-1	222012-457771	5500 N CAJON BLVD	SAN BERNARDINO	92407	$348.09	528	1.0
1388870	4612404	GS-1	222013-817819	S/W RAYMOND/VALENCIA	FULLERTON	92832	$343.61	521	0.0
1388713	250926573	GS-1	222013-988530	BRISTOL/JAMBOREE	NEWPORT BEACH	92660	$351.09	516	0.0
1388703	250926573	GS-1	222013-740839	9006 MCNERNEY AVE	SOUTH GATE	90280	$341.20	506	0.0
5781970	4612404	GS-1	222013-737422	2111 1/2 N TUSTIN AVE	SANTA ANA	92705	$341.90	506	1.0
11124844	4612404	GS-1	222013-737556	2353 E LAMBERT RD	LA HABRA	90631	$342.44	504	1.0

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1860140	4612404	GS-1	222013-752429	947 1/2 S WHITE AVE	POMONA	91766	$339.97	488	0.0
1388818	4612404	GS-1	222013-825436	CONANT/SEBREN	LONG BEACH	90808	$337.10	483	0.0
1388748	250926573	GS-1	222010-126440	12152 STUDEBAKER RD	NORWALK	90650	$336.70	475	1.0
1167006	250926573	GS-1	222011-379252	4004 W 57TH ST	LOS ANGELES	90043	$335.24	465	0.0
1335654	4612404	GS-1	222011-163394	5259 W SLAUSON AVE	LOS ANGELES	90056	$334.79	462	0.0
1388724	250926573	GS-1	222013-681971	3600 MANHATTAN BEACH BLVD	LAWNDALE	90260	$332.73	455	0.0
1388819	4612404	GS-1	222013-826621	3690 WOODRUFF AVE	LONG BEACH	90808	$332.47	455	0.0
1388823	4612404	GS-1	222013-682730	4961 SAINT ANDREWS	BUENA PARK	90621	$334.55	455	0.0
18348201	246456735	GS-1	E302-042074	1801 1/2 GILLETTE DR	POMONA	91769	$332.73	450	0.0
5660273	4612404	GS-1	222013-757700	389 1/2 N TUSTIN ST	ORANGE	92867	$333.19	449	1.0
1388707	250926573	GS-1	222013-683777	REDONDO W/O AVALON	GARDENA	90247	$332.84	448	0.0
1118619	250926573	GS-1	211010-018063	NORMANDIEWY/REDBCH	GARDENA	90247	$331.80	436	0.0
1388781	4612404	GS-1	222013-819501	2301 MANHATTAN BEACH BLVD	REDONDO BEACH	90278	$331.34	433	0.0
26068547	246456735	GS-1	222013-824647	812 E VICTORIA ST	CARSON	90747	$330.01	430	0.0
1132030	250926573	GS-1	222013-759317	633 CITY DR S	ORANGE	92868	$330.45	427	0.0
1388744	250926573	GS-1	222010-050414	8009 STEWART AND GRAY RD	DOWNEY	90241	$329.68	425	0.0
1227143	250926573	GS-1	222013-686410	E/END SANTIAGO DAM	ORANGE	92867	$329.14	423	0.0
9892643	4612404	GS-1	256000-191278	11004 1/2 CULVER	IRVINE	92715	$341.83	423	1.6
8190391	4612404	GS-1	222013-598238	15771 1/2 RED HILL AVE	TUSTIN	92780	$306.65	419	1.0
1388741	250926573	GS-1	222013-992886	E/S INDUSTRY/BIXBY	LAKEWOOD	90712	$333.09	413	0.0
4443723	4612404	GS-1	222013-826780	1900 MCKINLEY AVE	LA VERNE	91750	$332.43	400	0.2
460431	250926573	GS-1	222013-738723	CATSKILL/223RD	CARSON	90745	$325.71	393	0.0
919674	250926573	GS-1	222014-023415	2450 E 223RD ST	CARSON	90810	$324.86	385	0.0
58502	250926573	GS-1	222010-128019	1800 W HELLMAN AVE	ALHAMBRA	91803	$321.83	375	0.0
889092	250926573	GS-1	222013-752435	BADILLO/SUNFLOWER	COVINA	91724	$323.95	375	0.0
1388812	4612404	GS-1	222013-820442	ALPINE/SUNSET	BEVERLY HILLS	90210	$322.13	373	0.0
2195887	4612404	GS-1	222013-735365	S/S DEL AMO E/ VRMNT	TORRANCE	90502	$321.14	373	0.0
1388733	250926573	GS-1	222014-020324	WALNUT S/O P C HWY	LOMITA	90717	$321.13	364	0.0
1388834	4612404	GS-1	222013-601517	9101 ZAMORA AVE	LOS ANGELES	90002	$323.39	363	0.0
1835129	4612404	GS-1	222013-826143	1009 1/2 ARROYO VERDE RD	SOUTH PASADENA	91030	$320.75	361	1.0

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995714	250926573	GS-1	222013-827035	HEATHERDALE/SLAUSON	LOS ANGELES	90043	$319.10	357	0.0
1388704	250926573	GS-1	222013-284937	ACACIA/MANVILLE	COMPTON	90221	$320.51	353	0.0
1388758	4612404	GS-1	222013-740032	8461 KASS DR	BUENA PARK	90621	$316.78	342	0.0
334835	250926573	GS-1	222013-758822	LINCOLN/400 EO 18	MONTEBELLO	90640	$316.78	337	0.0
1388742	250926573	GS-1	222013-912490	ATLANTIC/70TH	LONG BEACH	90805	$317.40	335	0.0
1388745	250926573	GS-1	222010-052133	7360 STEWART AND GRAY RD	DOWNEY	90241	$316.72	334	0.0
8190426	4612404	GS-1	222013-781192	8668 ETIWANDA AVE	ETIWANDA	91739	$316.66	333	1.0
913518	250926573	GS-1	222013-984024	5910 ALLINGTON ST	LAKEWOOD	90713	$312.82	315	0.0
4945462	4612404	GS-1	222014-022647	7925 GARFIELD AVE	BELL GARDENS	90201	$312.65	315	0.0
1388807	4612404	GS-1	222011-096501	22252 MACARTHUR BLVD	NEWPORT BEACH	92660	$312.77	310	0.0
1388810	4612404	GS-1	83-200610	EL SEGUNDO/RAMONA	HAWTHORNE	90250	$313.02	306	0.0
31058073	4612404	GS-1	222011-379196	3380 N RIVERSIDE AVE	RIALTO	92377	$311.80	305	0.0
1209923	250926573	GS-1	254000-004704	17721 WOODRUFF AVE	BELLFLOWER	90706	$320.88	301	0.8
919699	250926573	GS-1	342M-021422	7131 SAN MARCUS ST	PARAMOUNT	90723	$310.56	295	0.2
1046758	250926573	GS-1	222013-284909	1566 E GAGE AVE	LOS ANGELES	90001	$312.62	293	0.0
1388687	250926573	GS-1	211010-025116	2211 SANTA ANITA AVE	SIERRA MADRE	91024	$366.44	293	0.0
1388698	250926573	GS-1	222014-022597	BRISTOL N/O MEMORY	SANTA ANA	92706	$310.97	291	0.0
1105624	250926573	GS-1	222013-826343	HANNUM/SAWTELLE	CULVER CITY	90230	$311.08	289	0.0
10848964	4612404	GS-1	222013-781069	6031 PINE	SAN BERNARDINO	92407	$312.09	282	1.0
1275361	250926573	GS-1	222011-158777	2632 1/2 W COAST HWY	NEWPORT BEACH	92663	$309.22	280	0.0
1388737	250926573	GS-1	222013-757393	N/W RDNDO AVE/MANBCH	MANHATTAN BEACH	90266	$307.97	278	0.0
1229563	250926573	GS-1	222010-044475	9009 STEWART AND GRAY RD	DOWNEY	90241	$307.66	276	0.0
2321003	4612404	GS-1	222011-157454	N/E COR MAN BCH BLVD	REDONDO BEACH	90278	$308.94	276	0.0
1240767	250926573	GS-1	222010-043943	13552 IMPERIAL HWY	SANTA FE SPRINGS	90670	$309.12	275	1.0
1388679	250926573	GS-1	222010-336055	21469 E LA PUENTE ROAD	WALNUT	91789	$307.27	274	0.0
1388802	4612404	GS-1	222013-911485	N/O 19300 S ALAMEDA	COMPTON	90220	$309.68	274	0.0
2375038	4612404	GS-1	222011-377524	EL SEGUNDO/HALLDALE	GARDENA	90247	$307.37	274	0.0
601580	250926573	GS-1	222010-049708	7750 STEWART AND GRAY RD	DOWNEY	90241	$306.97	271	0.0

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1388793	4612404	GS-1	222010-519550	1 AMELIA FOOTHILL S/W	GLENDORA	91740	$307.22	269	0.0
1140232	250926573	GS-1	222010-342395	FERNHOLLOW/PATHFINDER	DIAMOND BAR	91765	$307.97	268	0.0
1064682	250926573	GS-1	222010-050413	12103 BELLFLOWER BLVD	DOWNEY	90242	$306.18	266	0.0
1388821	4612404	GS-1	222010-047964	12152 IMPERIAL HWY	NORWALK	90650	$307.67	266	0.0
28914827	246456735	GS-1	222013-761240	16702 WOODRUFF	BELLFLOWER	90706	$306.62	258	0.0
1388723	250926573	GS-1	222013-993243	1 WEXHAM/S/O FAIRVW	INGLEWOOD	90302	$304.99	257	0.0
11630066	4612404	GS-1	222010-048573	9364 1/2 WASHBURN RD	DOWNEY	90242	$301.45	257	1.0
1388740	250926573	GS-1	222013-990655	BIXBY W/O GAVIOTA	LONG BEACH	90807	$304.31	253	0.0
1388701	250926573	GS-1	222013-916681	CARSON W/O BATAAN	LONG BEACH	90810	$303.00	247	0.0
1320928	250926573	GS-1	222013-741862	200 FT E/O AVALON	GARDENA	90247	$303.86	235	0.0
22970998	246456735	GS-1	222012-620100	57011 ARROWHEAD SPRINGS	SAN BERNARDINO	92404	$301.56	229	0.0
61350	250926573	GS-1	222013-283935	PERRY/WESTMORELAND	MONTEBELLO	90640	$303.01	223	0.0
1388761	4612404	GS-1	222013-743259	S/S LMBRT300W/HARB	LA HABRA	90631	$299.37	217	0.0
1153823	250926573	GS-1	222013-823995	ACACIA N/O VST LOMTS	FULLERTON	92831	$297.67	208	0.0
38731146	345824619	DOMESTIC	222011-621084	2300 PALOS VERDES DR N	ROLLING HILLS ESTATES	90274	$41.34	198	0.0
1388752	250926573	GS-1	222013-684385	2400 ROLLING HILLS	FULLERTON	92835	$296.48	189	0.0
19293668	4612404	GS-1	222010-993219	13455 THEODORE ST	MORENO VALLEY	92555	$293.18	185	1.0
1252555	250926573	GS-1	222013-736301	FOX/OMELVENY	SAN FERNANDO	91340	$294.72	184	0.0
32336696	246456735	GS-1	222012-612196	3809 1/2 HOGAN	YORBA LINDA	92886	$294.45	184	0.0
2195888	4612404	GS-1	254000-016711	1204 W EL SEGUNDO BLVD	GARDENA	90247	$305.94	180	0.5
13201429	250926573	GS-1	222013-597048	35258 SIMPSON RD	WINCHESTER	92596	$295.76	179	1.0
1388759	4612404	GS-1	222012-492411	SS/ESP/MWD LINE	ANAHEIM	92807	$291.08	169	0.0
540793	250926573	GS-1	222013-600352	1021 E SIERRA MADRE AVE	GLENDORA	91741	$288.83	160	0.0
1388795	4612404	GS-1	222013-825959	KOLLE/MONTEREY	SOUTH PASADENA	91030	$293.22	152	0.0
1388722	250926573	GS-1	222014-024255	W/O DVNSHR/CHTSWTHPK	CHATSWORTH	91311	$289.46	147	0.0
5740414	4612404	GS-1	222013-755400	4325 1/2 CASA LOMA AVE	YORBA LINDA	92886	$287.84	138	1.0
12195443	4612404	GS-1	222013-780974	6268 SAN SEVAINE RD	FONTANA	92336	$288.82	135	1.0
16606146	250926573	GS-1	222013-981439	33RD/LA RIVER	LONG BEACH	90807	$287.31	134	0.0
8889600	4612404	GS-1	222013-752105	1620 1/2 W EL SEGUNDO BLVD	COMPTON	90222	$279.66	128	0.0

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607802	250926573	GS-1	254000-010484	4114 AGNES AVE	LYNWOOD	90262	$297.10	127	0.0
1388772	4612404	GS-1	222013-915122	35100 WASHINGTON ST	WINCHESTER	92596	$285.59	125	0.0
1388794	4612404	GS-1	222010-335897	3501 N RIVERGRADE ROAD	BALDWIN PARK	91706	$285.26	122	0.0
4612926	0	GS-1	222012-247315	34355 RAWSON RD C	HEMET	92545	$286.10	118	0.0
1333268	250926573	GS-1	222014-020327	990 E VICTORIA ST	CARSON	90747	$284.41	116	0.0
1388743	250926573	GS-1	254000-011281	12107 WOODRUFF AVE	DOWNEY	90241	$294.32	114	1.7
11410043	4612404	GS-1	222013-743242	7722 W LIBERTY PARK	FONTANA	92336	$283.77	113	1.0
1388817	4612404	GS-1	222013-912503	3600 STEVELY AVE	LONG BEACH	90808	$280.87	98	0.0
632436	250926573	GS-1	256000-145725	30 COOLEY-INDIAN KNOLL	COLTON	92324	$291.48	84	1.0
5781933	4612404	GS-1	222013-742477	8646 1/2 RUSH ST	ROSEMEAD	91770	$278.75	84	0.0
1388767	4612404	GS-1	222013-756026	ST COLGE N/O LAMBERT	BREA	92621	$275.97	59	0.0
1388673	250926573	GS-1	222013-819991	1061 S ORANGE AVE	MONTEREY PARK	91755	$276.51	48	0.0
686174	0	GS-1		3900 WOODRUFF AVE	LONG BEACH	90808	$238.88	36	1.0
1388828	4612404	GS-1	815-005674	LAMBERT 1/2 E/O PMA	BREA	92621	$284.99	36	1.9
35936406	246456735	GS-1	222013-911828	2332 SEARL PKWY	HEMET	92543	$273.93	31	0.0
1388699	250926573	GS-1	222013-915331	9012 1/2 SANTA FE AVE	SOUTH GATE	90280	$273.26	20	0.0
11062471	4612404	GS-1	222013-781501	33250 HOLLAND RD	WINCHESTER	92596	$271.86	15	0.0
432445	250926573	GS-1	815-005676	N LAMBERT EO OAK	BREA	92621	$280.79	12	2.6
2195884	4612404	GS-1	222013-996349	GREENLEAF/LONG BCH	LONG BEACH	90805	$268.18	4	0.0
606169	250926573	GS-1	222010-450765	34 BERLYN-5TH	ONTARIO	91764	$260.05	1	0.0
895739	250926573	GS-1	254000-025833	CONANT/SEBREN	LONG BEACH	90808	$279.42	1	1.9
104827	250926573	DOMESTIC	222013-537824	35100 WASHINGTON ST	WINCHESTER	92596	$16.20	0	0.0
430416	250926573	GS-1	222010-049302	222 S MOORE AVE	MONTEREY PARK	91754	$267.56	0	0.0
463888	250926573	GS-1	254000-013035	ALAMEDA/CARSON	LONG BEACH	90810	$279.24	0	0.0
772471	250926573	GS-1	222013-597456	1 MCALLISTER EL SO W	RIVERSIDE	92503	$268.28	0	0.0
866578	250926573	GS-1	222013-988024	EL SEGUNDO/WESTERN	GARDENA	90249	$268.29	0	0.0
870628	250926573	GS-1	254000-023280	3501 N RIVERGRADE ROAD	BALDWIN PARK	91706	$279.23	0	0.0
1046941	250926573	GS-1	222010-860234	1 WASHINGTON LIBERTY	CORONA	92883	$269.04	0	0.0
1095092	250926573	GS-1	254000-023108	N/BIXBY RD E/LOCUST	SIGNAL HILL	90807	$280.78	0	0.1
1233627	250926573	GS-1	254000-016891	3600 STEVELY AVE	LONG BEACH	90808	$278.48	0	0.0

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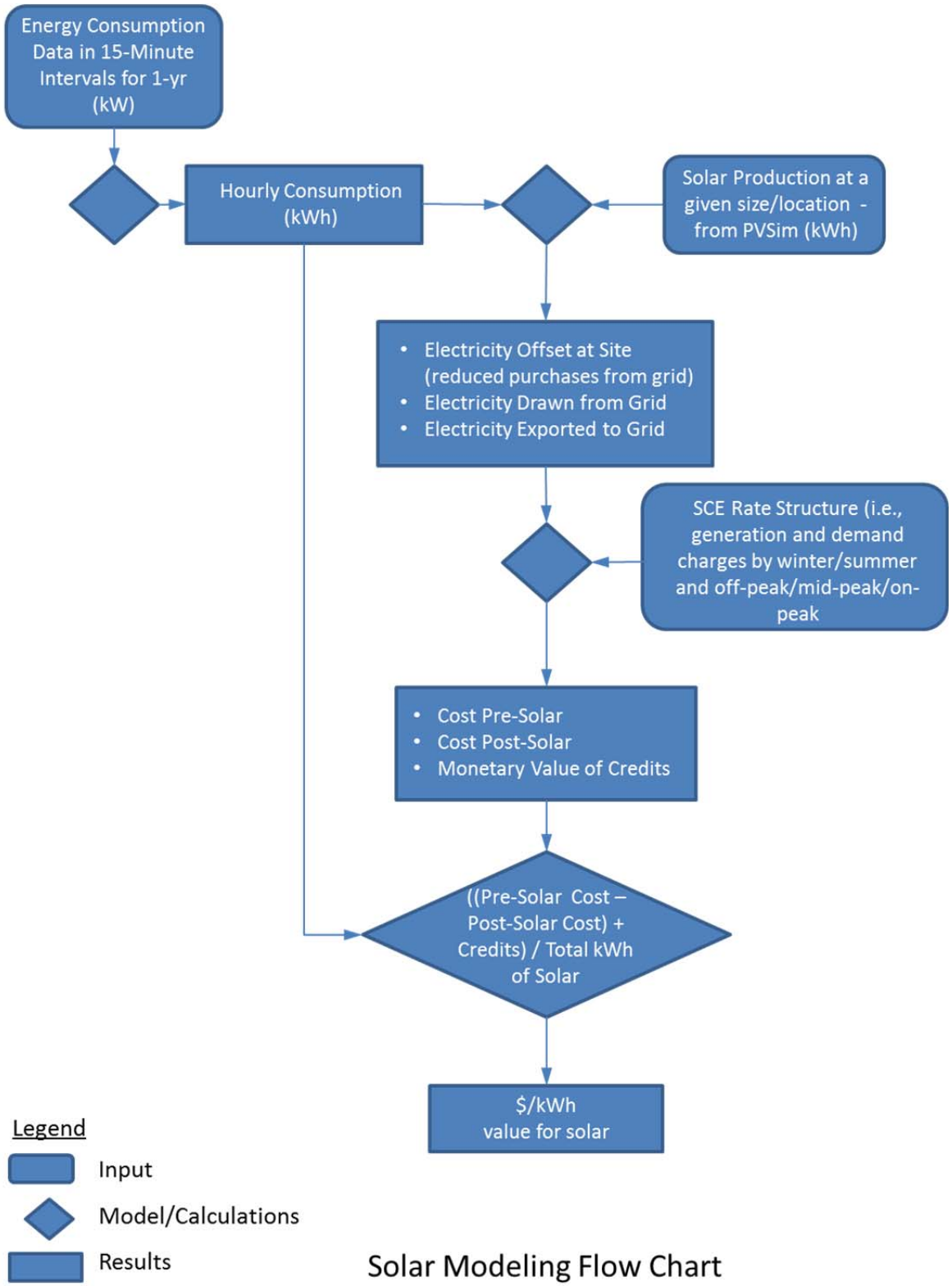
1296413	250926573	GS-1	724-006198	PVDRES/OPVDRN	ROLLING HILLS	90274	$303.62	0	0.0
1311597	250926573	GS-1	222013-778631	30 LIVE OAK-SAN BERNARDINO	FONTANA	92335	$267.57	0	0.0
1388702	250926573	GS-1	254000-005286	CARSON W/O BATAAN	LONG BEACH	90810	$279.25	0	0.0
1388717	250926573	GS-1	222013-119501	4519 PALO VERDE	MONTCLAIR	91763	$291.64	0	0.0
1388718	250926573	GS-1	222013-595048	4477 PALO VERDE	MONTCLAIR	91763	$291.65	0	0.0
1388776	0	GS-1	8416-000037	87 COXCOMB-RICE	DESERT CENTER	92239	$89.51	0	0.0
1388863	4612404	GS-1	222013-986217	1 AZUSA BADILLO N/W	COVINA	91722	$267.55	0	0.0
4370002	4612404	GS-1	222013-753942	33555 HOLLAND	HEMET	92543	$269.77	0	0.0
4985139	4612404	GS-1	259000-012657	9029 1/2 ARCHIBALD AVE	RANCHO CUCAMONGA	91730	$279.23	0	0.0
15621644	4612404	MISC-CHARGES	V345N-000869	20584 BAKE PKWY	LAKE FOREST	92630	$16,150.56	0	0.0
15621649	4612404	MISC-CHARGES	V349N-002943	27500 RAMONA EXPRESSWAY	NUEVO	92567	$6,847.80	0	0.0
15713862	250926573	MISC-CHARGES	3412-010868	9840 MILLER WAY	SOUTH GATE	90280	$589.20	0	0.0
15866595	250926573	MISC-CHARGES		VENICE	CULVER CITY	90230	$2,883.48	0	0.0
15867256	250926573	MISC-CHARGES		CORONA	CORONA	92883	$9,385.20	0	0.0
15873753	250926573	MISC-CHARGES		SAN DIMAS POWER PLANT	SAN DIMAS	91773	$2,877.00	0	0.0
15879834	250926573	MISC-CHARGES		RED MOUNTAIN POWER PLANT	FALLBROOK	92028	$18,514.44	0	0.0
15879989	250926573	MISC-CHARGES		LAKE PERRIS	PERRIS	92570	$1,214.40	0	0.0
15880463	250926573	MISC-CHARGES		LAKE MATTHEWS	PERRIS	92570	$4,366.80	0	0.0
15880720	246456735	MISC-CHARGES		TEMESCAL CANYON	PERRIS	92570	$1,561.56	0	0.0
15890441	250926573	MISC-CHARGES		COYOTE CREEK	LA HABRA	90631	$814.80	0	0.0
15895518	250926573	MISC-CHARGES		FOOTHILL/ELIZ LK	SAUGUS	91350	$10,603.32	0	0.0
15896263	250926573	MISC-CHARGES		YORBA LINDA PLANT	YORBA LINDA	92886	$4,029.60	0	0.0
15958020	250926573	MISC-		30 ARROW-ETIWANDA	RANCHO	91739	$32,902.56	0	0.0

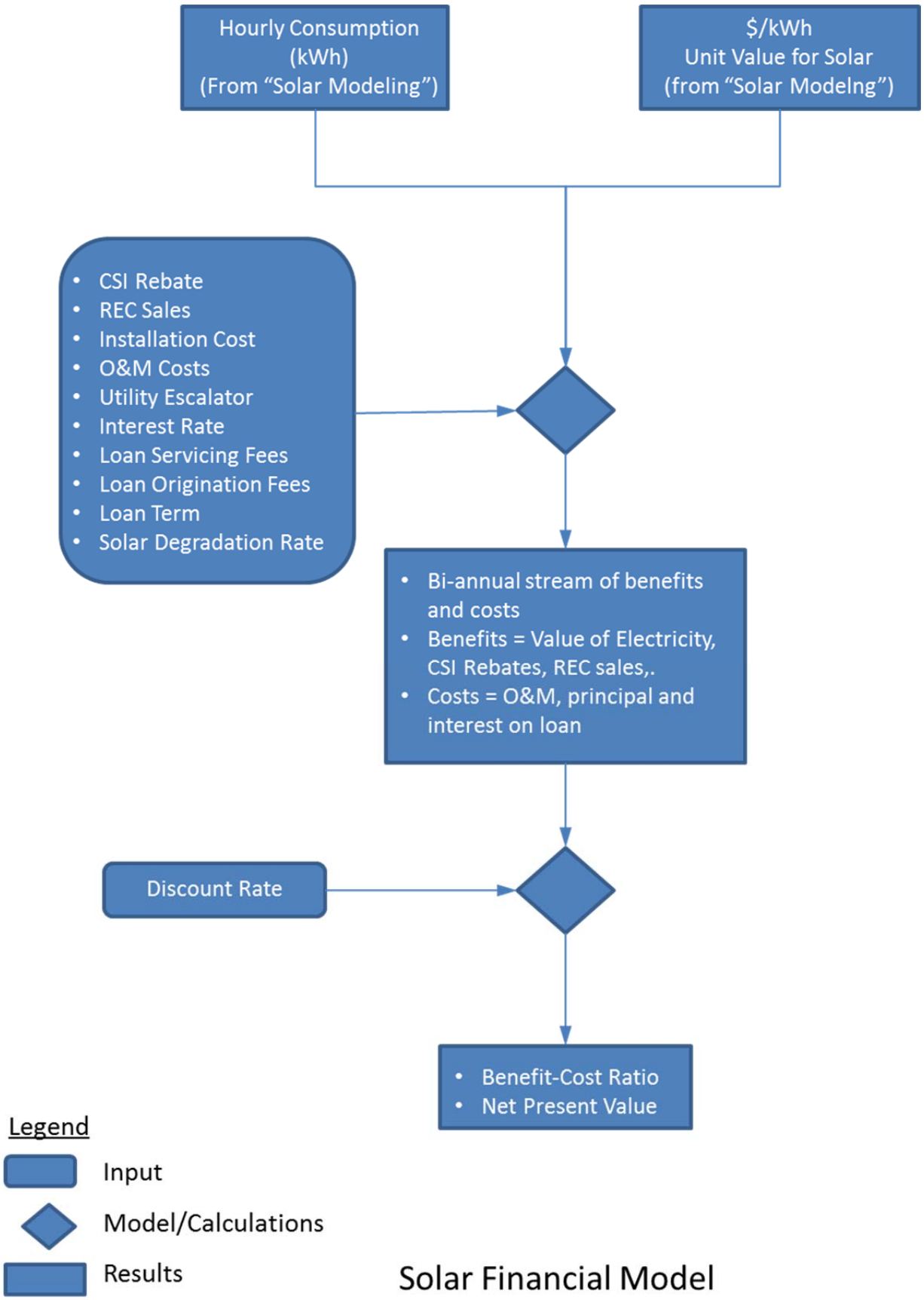
Serv Acct Num	Cust Acct Num	Current Rate	Meter Num	Service Street Addr	City Name	Zip	Bill Amt	KWH Usage	Maximum KW
		CHARGES			CUCAMONGA				
15987485	250926573	MISC-CHARGES		VALLEY VIEW GEN UNIT	YORBA LINDA	92886	$582.36	0	0.0
16877511	250926573	MISC-CHARGES		P-1 PUMPING PLANT 4 MILES S/W HEMET	HEMET	92543	$54,836.64	0	0.0
17176179	4612404	GS-1	222013-602449	6600 DEVILS CANYON RD	SAN BERNARDINO	92407	$269.02	0	0.0
18038124	250926573	GS-1	222013-778268	34499 E NEWPORT	WINCHESTER	92596	$269.76	0	0.0
29480308	246456735	GS-1	256000-192386	2325 SEARL PKWY	HEMET	92543	$280.78	0	0.0
31877549	4612404	MISC-CHARGES	V349N-017791	3972 VALLEY VIEW AVE	YORBA LINDA	92886	$580,482.00	0	0.0
38686150	4612404	TOU-8-B	V349N-014204	3201 WHEELER AVE	LA VERNE	91750	$187.76	0	0.0

Appendix C

The economic evaluation of solar was done in two stages. The first evaluated solar at a potential facility to determine production, the quantity and value of avoided electricity purchases, and the value of credits generated to determine an average value for a kWh generated by a solar facility. This stage is laid out below in a flow chart titled 'Solar Modeling Flow Chart'. The second compared the economic costs of installing the solar facility (i.e., cost to install, financing costs, etc.) to the benefits generated (i.e., avoided electricity charges, credit value, etc.). This stage is laid out below in a flow chart titled 'Solar Financial Model'.



Solar Modeling Flow Chart



Solar Financial Model