

#### SPECIAL MEETING

# AGENDA MEASURE F OVERSIGHT/CITIZENS FINANCE COMMITTEE

#### Thursday, October 23, 2014: 7:30AM – 9:00AM 922 Machin Avenue Womack Conference Room - 2<sup>nd</sup> Floor

- A. Call to Order
- B. Approval of Final Agenda

#### C. Public Comment

(Anyone wishing to speak on non-agenda items will be recognized at this time. These items can legally have no action as they are not on the agenda. There is a three minute time limit.)

D. Committee Organizational Items

D-1: Approval of Sept 11, 2014 Meeting Minutes

#### E. General Business

(Anyone wishing to speak on agenda items will be recognized after the Committee has concluded their initial discussions. There is a three minute time limit for public comment per item.)

Time	Item/Attachments	Purpose and Actions
40 minutes	E-1: Use of Measure F Funds for Solar Installation For Hamilton Swimming Pool - Presentation by Public Works Administrative Manager, Felicia Newhouse  Attachments: Solar Installation Staff Report and presentation will be made available Friday before the meeting	Discussion. Provide direction to staff regarding use of Measure F funds for this project.
40 minutes	E-2 Investment Policy  Attachments will be made available on Friday before the meeting.	Review and discussion. No formal action necessary. Staff will bring final policy forward to the City Council.
5 minutes	E-3: Final Copy of Measure F Report  Attachments: Final Measure F Report	Informational. No action.

F. Committee / Staff Comments

#### G. Adjournment/Future Meetings

November 13 or 20

- -Selection of new Chair and Vice-Chair
- -Quarterly Forecast
- -Update on Banking RFP
- -Feedback on Local Preference Policy

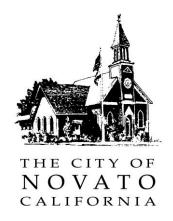
#### Attachments

1. September 11, 2014 Meeting Minutes

#### AFFIDAVIT OF POSTING

I, Carla Hansen certify that on October 14, 2014, I caused to be posted the agenda of the Thursday, October 23, 2014 meeting of the Measure F Oversight/Citizens Finance Committee of the City of Novato, California, on the City of Novato Community Service Boards in City Hall and the Police Department.

/Carla Hansen/ Management Analyst



#### SPECIAL MEETING

# MINUTES MEASURE F OVERSIGHT/CITIZENS FINANCE COMMITTEE

#### Thursday, September 11, 2014: 7:30AM – 9:00AM 922 Machin Avenue Womack Conference Room - 2<sup>nd</sup> Floor

- A. Call to Order: In attendance- Committee members: David Bentley Caitrin Devine, Bob Ratto, Robert Jordan and Bob Scott. Al Berson Cris MacKenzie were absent

  <u>City Staff:</u> Cathy Capriola, Brian Cochran, Maureen Chapman and Carlos Obiltes and Charlie Cook of PFM Asset Management
- **B.** Approval of Final Agenda

*The final agenda was approved unanimously (5-0).* 

C. Public Comment

There was no public comment.

**D.** Committee Organizational Items

D-1: Approval of August 21, 2014 Meeting Minutes

*The minutes were approved with minor edits* (5-0).

D-2: Approval of June 19, 2014 Meeting Minutes

The minutes were approved (4-0-1). Committee member Devine abstained.

#### E. General Business

Time	Item/Attachments	Purpose and Actions		
	E-1: Final draft Measure F Report Discussion			
30 minutes	Attachments: Final drafts of transmittal letter and 2013/14 annual report	Approve report.		
	summarized the changes made to the draft report. The			

Brian Cochran summarized the changes made to the draft report. The Committee discussed the edits and approved the report with several additional edits (5-0). The Chair of the Committee will present the approved report to the City Council.

60 minutes	E:-1 Investment Portfolio Review	Discussion. No action.
60 minutes	City's investment consultant, Carlos Oblites	Discussion. No action.

	Attachment: Presentation	
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The Committee heard a presentation from the City's investment consultant, Carlos Oblites. Staff will provide an updated draft of the City's investment policy at the October meeting.

#### F. Committee / Staff Comments

There were no additional comments.

#### G. Adjournment

The meeting was adjourned at 9:20 a.m.

#### STAFF REPORT

DATE: October 23, 2014

TO: Measure F Committee Members

FROM: Felicia Newhouse, PW Administrative Manager

Russell Thompson, Public Works Director

PRESENTER: Felicia Newhouse, PW Administrative Manager

SUBJECT: CONSIDERATION OF EXPENDITURE OF MEASURE F FUNDS TO

FINANCE THE PURCHASE AND INTALLATION OF A SOLAR POWER

PROJECT AT HAMILTON POOL

#### **REQUEST**

Support the approval of an expenditure of Measure F funds to finance the purchase and installation of a solar power project at Hamilton Pool.

#### **RECOMMENDATION**

Consider a recommendation to City Council to approve the expenditure of Measure F funds to finance the purchase and installation of a solar power project at Hamilton Pool.

#### **BACKGROUND**

In 2012, a local non-profit, Strategic Energy Innovations (SEI), and an independent solar consulting firm, Optony, Inc., formed the SEED Fund (Sustainable Energy and Economic Development Fund). Partially funded by the California Solar Initiative, the SEED Fund was designed to enable a group of local public partners to install new solar power projects, helping to reduce total energy costs and creating measurable environmental benefits.

On May 7, 2013, the City Council approved a resolution to execute a Memorandum of Understanding (MOU) with the SEED Fund administered by SEI. The MOU authorized the SEED Fund to prepare technical studies and facilitate bundled (group) procurement of solar power systems. Per the MOU, the City of Novato would reimburse the SEED Fund 1.9% of the system cost when the City enters into any agreement to procure a solar power system.

In September 2013, the City of Novato participated in a feasibility study guided by the SEED Fund team (SEI and Optony). The study identified and ranked three city-owned sites based on certain physical criteria such as available electricity sources, sun/tree shading, space limitations, etc. for potential solar power system installation. In addition to physical criteria, the feasibility study considered potential development cost benefits. Of three Novato sites selected for preliminary

THE CITY OF NOVATO CALIFORNIA

922 Machin Avenue Novato, CA 94945 (415) 899-8900 www.novato.org technical and financial analysis, Hamilton Pool was identified as the only viable Novato site for the collaborative procurement process.

In October 2013, the City of San Rafael issued an RFP on behalf of twelve participating agencies in Marin, Sonoma and Napa Counties. The agencies include the Cities of San Rafael, Mill Valley, Cotati and St. Helena, Town of Yountville, Marinwood Community Services District, Southern Marin Fire Protection District, Marin Healthcare District, Sonoma County Water Agency, County of Sonoma, Sonoma County Employee Retirement Association, and Napa County Office of Education. The RFP was sent out to hundreds of vendors, including clearinghouses, and garnered strong interest.

In January of 2014, a multi-agency evaluation team reviewed the proposals, interviewed firms, and selected preferred vendors. The evaluation team scored vendors on qualifications and experience, financial stability, their technical proposal, project costs, implementation plan and schedule, local hiring policies, and contract terms and conditions.

The preferred vendor who scored highest overall is a team composed of Sunetric and Danlin Construction. Sunetric is a solar development firm with focus on mid to large scale solar installations for municipal and commercial clients, and would manage the engineering, procurement and construction oversight of the project. Danlin Solar is a San Rafael-based electrical contracting firm with experience in commercial and municipal solar installations. Danlin would be responsible for the construction and installation of the solar power systems under Sunetric's management.

To date, the Cities of San Rafael, Mill Valley, St. Helena, Cotati and Cloverdale, the Town of Yountville, Napa County Office of Education, Southern Marin Fire Protection District, and Sonoma County Water Agency all have approved projects under the SEED program, representing over 3 megawatts of approved solar power projects.

#### **DISCUSSION**

#### General Information about Solar Energy

Solar power is a reliable technology that has been in popular use since about the 1970's. A well-maintained system is expected to last from 25 to as long as 40 years. It is a straightforward technology that is easily maintained. The preferred vendor team proposes using high quality modules from a U.S. based manufacturer that are guaranteed to perform efficiently for 25 years.

Solar power systems produce their greatest output during the time of day and season when PG&E has the highest demand spike in customer loads. During peak rate time of PG&E tariffs, solar energy is producing at maximum production. Net metering measures the difference between the electricity delivered by PG&E and the electricity produced by the solar power system. Under net metering, any excess electricity produced by the solar power system is delivered back into the utility grid, effectively spinning the meter backwards. The meter spins forwards when the solar energy system is not producing all of the electricity that is being used. The electric meter keeps track of the net difference as electricity is generated and consumed at the facility. Facilities with solar power are able to not only eliminate peak demand spikes but also can be credited back for

those premium tariff times when the solar power system is producing the highest amount of electricity.

#### Hamilton Pool System Design

The SEED Fund selection committee identified Sunetric and Danlin Construction as the preferred vendor team for all of the bundled solar power project sites within the participating public agencies in Marin, Sonoma and Napa counties. At Novato's Hamilton Pool site, Sunetric proposes a 46.8 kW (kilowatt) system to produce an expected annual output of approximately 70,000 kWh (kilowatt hours).

Sunetric's Commercial Project Developer, David Potovsky, is responsible for providing preliminary design, pricing and environmental benefit information for two potential solar project configurations at Hamilton Pool. Both of the system designs are proposed for the pool's lower parking lot. One of the two configurations is a ground mount system (Attachment 1) and the second configuration is a carport design (Attachment 2).

#### **Ground Mount System Option**

The ground mount system design would be located at the lower parking lot hillside slope. No significant trees are anticipated to be removed; however, some shrubs would need to be cleared prior to installation. The ground mount system may also be more visible from neighboring properties than the proposed carport design. A typical ground mount elevation is included as Attachment 1a. At a 20 degree tilt, the panels would be located two feet above grade at the lowest point and 7 feet 3 inches above grade at the highest point. The ground mount system would be surrounded by a perimeter fence as an added security and safety measure.

#### **Carport System Option**

A carport design solar power project at this location could provide useful shade and partial rain cover for Hamilton recreation visitors and employees. The preliminary carport design is currently shown to be installed at the south side of the lower parking lot; however, a similarly positioned carport system could be installed at the north side of the parking lot, further from the soccer field. The north parking lot carport design would require trimming some of the trees along Hangar Avenue. An elevation of a typical carport "T-Structure" is included as Attachment 2a.

Staff has presented the two system designs to the Hamilton Community Forum and is in the process of outreach to other Hamilton groups, including the Hamilton neighborhood HOAs. Initial responses to the two proposed system designs indicate a preference for the carport design. Staff will present a full report on outreach efforts and feedback received to the Measure F Committee at the time of the meeting.

#### Economic Analysis

Sunetric has prepared financial modeling across three different financing mechanisms for the benefit of all participating agencies. These finance mechanisms are: (1) power purchase agreement; (2) discounted cash purchase, and (3) lease/loan. Several of the participating agencies have opted for the power purchase agreement. A solar power purchase agreement (also known as

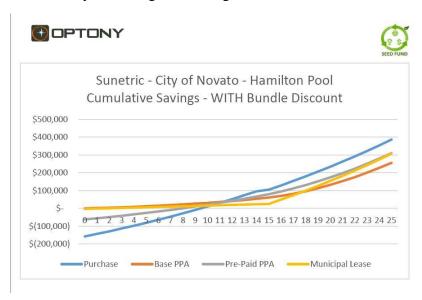
a PPA) is a financial arrangement in which a third-party develop per owns, operates and maintains the solar power system, and a host customer agrees to site the system on its property. The host customer agrees to lease the system and benefit from the electric output for a predetermined period.

The City of Novato would use existing cash reserves to take advantage of the discounted cash purchase price option. Using the carport design as an example, the system cost without discount would be \$163,152. The discounted cash purchase price of \$154,994 includes a 5% bundled discount price for participation in the SEED Fund group procurement.

In order to put together the group procurement, the SEED Fund team conducted the feasibility studies for each site, performed much of the work around development of the RFP, and helped answer questions for both potential vendors and the selection committee reviewing proposals. Per the executed MOU, the City of Novato would reimburse the SEED Fund 1.9% of the system cost (not included in the discounted cash price). The City would pay this amount of approximately \$3,000 directly to the SEED Fund.

Energy production from the solar power system would nearly completely offset the current electricity cost of approximately \$18,000 per year at the Hamilton Pool facility. Ultimate savings will depend on the actual rates imposed by PG&E during the time the solar power system is in use, as well as the actual energy usage at the Hamilton Pool facility. Average PG&E prices per kWh had remained fixed before the electrical utilities were deregulated around the year 2000. Since then, after several years of rapidly fluctuating prices, energy prices have now settled into a general upward trend that has averaged around a 4% increase per year. As presented in the Pricing and Benefits – Carport spreadsheet (Attachment 2b), assuming the same 4% average annual escalation, the "Projected Utility Cost without Solar" column shows the City of Novato would spend \$539,996 over a 20-year time period to provide electricity to the Hamilton Pool facility.

As direct purchasers, the City would be responsible for all ownership responsibility, including ongoing operations and maintenance (O&M), annual system cleaning, and cost for liability coverage. While this scenario requires an upfront cash investment and ongoing operational costs, as the below chart shows, it yields the greatest long-term returns.



Sunetric has provided the City a cost estimate for O&M billed on an annual basis at \$702 for the first year with a 3% annual escalation. The O&M cost has not been included in the system purchase price, but has been calculated in the cash flow projections under the "Discounted Cash Purchase" column in the Pricing and Benefits – Carport (Attachment 2b). Operation and maintenance costs calculated over 20 years, including cost to replace the solar power inverter in year 15, plus the discounted cash purchase cost, total \$187,897. The estimated simple payback period would be approximately 10 to 12 years with the system expected to perform efficiently for at least 25 years.

#### **Environmental Analysis**

In December 2009, the Novato City Council adopted a Climate Action Plan (CAP) with a reduction target to reduce greenhouse gas emissions 15% below 2005 baseline levels by the year 2020. The CAP identifies energy use in buildings as a significant contributor of greenhouse gas emissions resulting from municipal operations. The CAP goals include reducing energy use through energy retrofits to buildings and facilities as a measurable emission reduction strategy to meet target goals.

As reported in the 2009 CAP, for the baseline year of 2005, Novato municipal operations emitted approximately 2,329 metric tons of greenhouse gas emissions (CO2e). Municipal buildings and facilities account for 31% of greenhouse gas emissions from city operations. The proposed installation of a 46.8 kW solar power system at Hamilton Pool is estimated to offset 1,274 metric tons of greenhouse gas emissions over the life of the system, equivalent to taking 14.8 cars off the road for 25 years, or planting 24.1 acres of trees.

#### FISCAL IMPACT

Installation of a solar power system at Hamilton Pool would require an expenditure of \$154,994 for the carport design, or \$151,164 for a ground mount design. In addition to the outlay of an initial purchase, the cost for the SEED Fund feasibility studies of 1.9% of installation cost (approximately \$3,000) would be paid directly to the SEED Fund.

The cost for regular operation and maintenance of the system is projected to be \$702 in year one with a 3% annual escalation. A one-time inverter replacement of \$15,102 is estimated in year 15. After the upfront investment and ongoing operational costs are considered, the long term savings are estimated to be over \$300,000 in present-day dollars over the life of the system.

#### **CONCLUSION**

If the City of Novato decides to pursue a solar installation at the Hamilton Pool site in collaboration with the SEED Fund project, there would be measurable economic and environmental impacts to the City. From an economic perspective, participation in a bundled solar power project procurement across three counties could generate substantial dollars in local economic activity and job creation, as well as providing direct energy cost savings to the City.

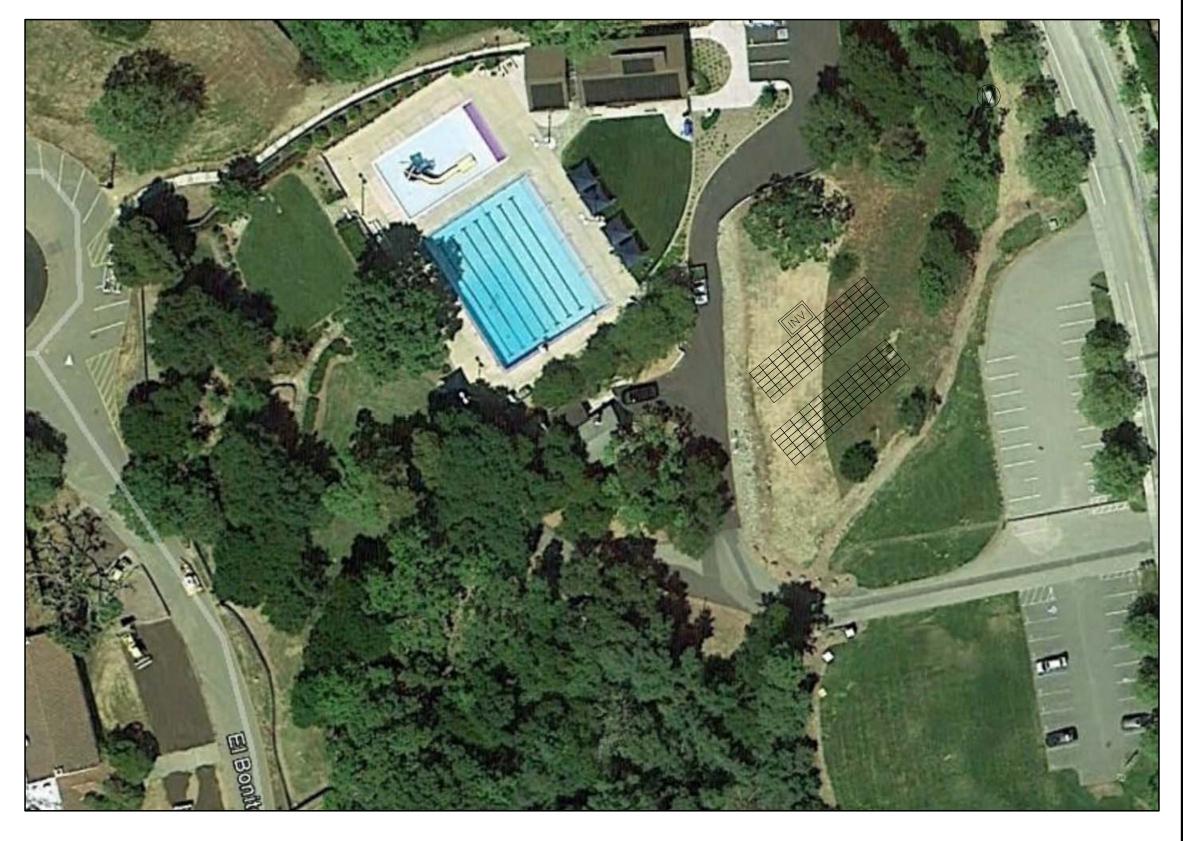
From an environmental perspective, solar energy is a cleaner power source that reduces carbon emissions and contributes to the City's Climate Action Plan goals. By producing on-site power from a clean and renewable source, the City can reduce its carbon footprint and demonstrate

environmental leadership to both City residents and to neighboring communities.

A solar power project at the Hamilton Pool would directly contribute to the ongoing financial and environmental sustainability of this important recreation facility for youth and seniors in Novato. In this way, it both directly relates to the focus areas of Measure F and improves the City's overall fiscal sustainability. Staff recommends that the use of Measure F funds to finance the purchase and installation of a solar power project at Hamilton Pool is consistent with the goals and intent of other Measure F related expenditure allocations.

#### **ATTACHMENTS**

- 1. Hamilton Pool Ground Mount System Site Plan
  - a. Ground Mount Elevation (typ.)
  - b. Ground Mount System Pricing and Benefits
  - c. Photograph Examples
- 2. Hamilton Pool Carport System Site Plan
  - a. Carport T-Structure Elevation (typ.)
  - b. Carport System Pricing and Benefits
  - c. Photograph Examples



## LEGEND OF SYMBOLS AND

**ABBREVIATIONS** PHOTOVOLTAIC NVERTER(S)
MODULE

UTILITY METER CMB COMBINER BOX

NETWORK CONNECTION DISC SYSTEM DISCONNECT SWITCH

SITE PLAN Scale: 1"=50'





#### SUNETRIC

ONE EMBARCADERO CENTER SUITE 500 SAN FRANCISCO, CA 94111 415-315-1540 ph www.sunetric.com

Consultant's Seal

Agency Approval

PROJECT TITLE

SEED NOVATO HAMILTON POOL 203 EL BONITO DR NOVATO, CA 94949

PROJECT NOTES

46.8 kW DC (144) 325W SUNIVA MODULES

(2) SMA STP 20000TL-US

NOT FOR CONSTRUCTION - DESIGN PURPOSES ONLY

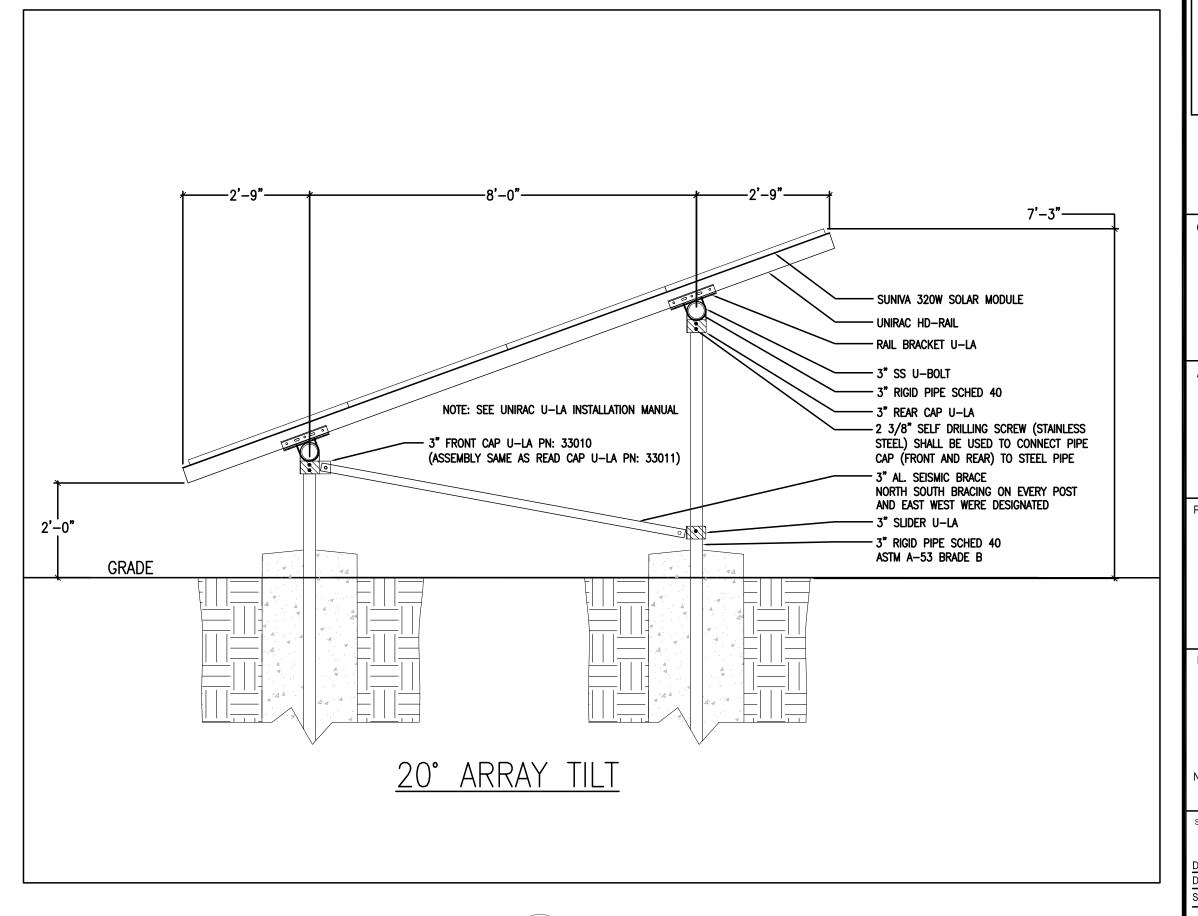
SHEET TITLE

PV SITE PLAN

DATE: 8.6.14 DRAWN: SD CHECKED: TG

SCALE: AS NOTED

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1 TYPICAL GROUND MOUNT ELEVATION

Scale: 1/2" = 1'-0"

sunetric

#### SUNETRIC

ONE EMBARCADERO CENTER SUITE 500 SAN FRANCISCO, CA 94111 415-315-1540 ph www.sunetric.com

Consultant's Seal

Agency Approval

PROJECT TITLE

PROJECT NOTES

NOT FOR CONSTRUCTION - DESIGN PURPOSES ONLY

SHEET TITLE

TYPICAL GROUND MOUNT ELEVATION

DATE: 8.5.14

DRAWN: SD CHECKED: TG SCALE: AS NOTED

DV/2C

SHEET OF

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Solar Array Cost and Output	
System Size (kW, DC)	46.8
System PVsyst Output (kWh)	71,639
System Cost	\$159,120
System Cost w/ 5% Bundle Discount	\$151,164
System Cost/W DC Before Discount	\$3.40

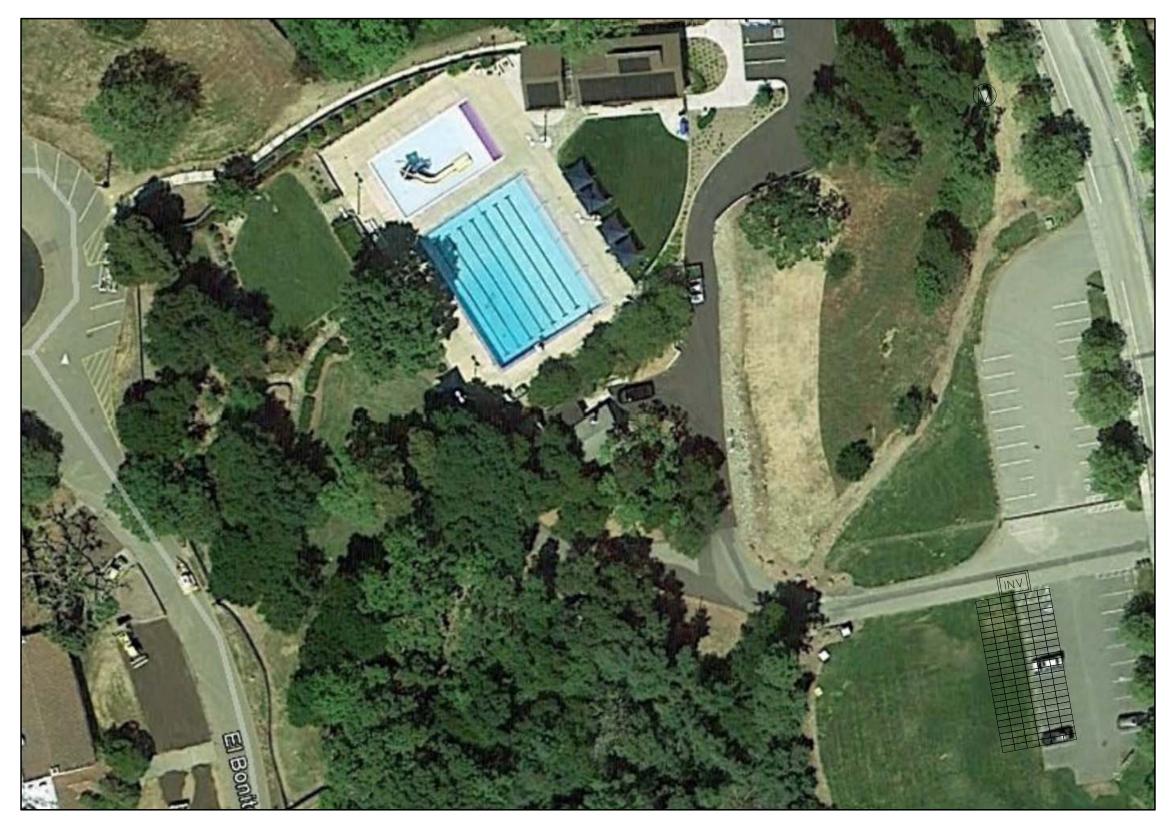
PPA Year 1 Base Rate (\$/kWh) and Escalator							
Unbundled 0.2230							
With 10% Bundle Discount	0.2007						
System Output Per DC kW	1,531						
Escalator, yr 1-15	2.5%						
De-Escalator, yr 16-20	-10.0%						

Utility and Useage Information	n
Current Utility Usage (kWh)	95,089
Current Utility Rate (\$/kWh)	0.1907
Utility Cost Escalator	4.0%
Solar Usage Offset	75.3%
Solar Bill Offset	100.0%

Valify Cost   Valify Cost   Valify Cost   Payment   Payment   Payment   Payment   Solvings   Payment   Payment   Solvings   Payment   Solvings   Payment   Solvings   Payment   Solvings   Payment   Payme		Projected	Solar	Residual							Muni Lease	w/ discount o	n purchase
1 18,134 71,639 - 15,975 2,199 14,378 3,756 702 17,432 11,627 702 5,805 2 18,859 71,281 94 16,293 2,472 14,664 4,101 723 18,042 12,237 723 5,805 3 19,614 70,924 196 16,617 2,801 14,955 4,463 745 18,673 12,869 745 5,805 4 20,338 70,570 304 16,947 3,147 15,525 4,4811 767 19,327 13,522 767 5,805 5 12,124 70,217 421 17,284 3,509 15,556 5,288 790 20,003 14,198 790 5,805 6 22,036 6,956 6 166 76,627 3,889 15,805 5,652 814 20,703 14,198 894 5,805 7 22,945 69,517 680 17,978 4,288 16,180 6,085 883 21,427 15,623 838 5,805 8 23,863 69,169 823 18,335 4,705 16,502 6,539 863 22,177 16,372 863 5,805 10 25,818 68,823 976 18,699 5,143 16,809 7,131 889 22,953 17,148 889 5,805 10 25,818 68,823 976 18,699 5,143 16,809 17,164 75,508 946 23,766 17,978 11 25,843 68,137 13,12 19,450 6,080 17,505 8,025 943 24,587 18,782 943 5,805 11 25,843 68,137 13,12 19,450 6,080 17,505 8,025 943 24,587 18,782 943 5,805 12 27,916 67,796 14,98 19,837 6,582 17,833 8,133 10,04 25,933 67,457 16,95 20,231 74,107 18,208 9,130 1,001 26,337 20,533 1,001 5,805 13 29,033 67,457 16,95 20,231 74,107 18,208 9,130 1,001 26,337 20,533 1,001 5,805 14 30,044 67,120 1,905 20,633 7,657 18,570 9,103 17,107 18,208 9,130 1,001 26,337 20,533 1,001 5,805 15 31,402 66,784 2,128 21,043 8,231 18,939 10,335 15,102 14,172 8,368 15,102 5,805 16 32,685 66,545 2,385 66,545 2,385 15,112 17,472 15,187 16,160 13,127 14,127 30,221 18 33,323 65,787 2,885 15,112 17,385 13,600 18,888 1,160 31,278 1-1,121 33,021 18 33,023 66,5787 2,885 15,112 17,286 13,600 18,888 1,160 31,278 1-1,121 33,021 18 33,023 66,5787 2,885 15,112 17,285 13,600 18,888 1,160 31,278 1-1,288 13,484 11,49 11,997 25,197 10,050 23,888 11,160 31,278 1-1,121 33,021 18 33,023 65,878 2,885 15,112 17,385 13,600 18,888 1,160 31,278 1-1,121 33,021 18 33,024 1-1,121 33,024 12,199 10,335 15,102 14,172 30,221 1,135 33,004 12,199 14,172 30,221 18 35,323 65,787 2,885 15,112 17,285 13,600 18,888 11,160 31,278 1-1,121 33,004 12,199 13,004 12,199 13,004 12,199 14,172 30,221 13,005 33,005 13,005 13,005 13,005 13,005 13,005 13,005 13,005 1		Utility Cost	Output	<b>Utility Cost</b>	Base PP	A Rate	Discounted	l PPA Rate	Disounted Cash	Purchase**	Lease	Other	
1 18,134 71,539 - 15,975 2,159 14,378 3,756 702 17,432 11,627 702 5,805 2 18,899 71,281 94 16,299 2,474 14,664 41,011 723 18,042 12,237 723 5,805 3 19,614 70,924 196 16,617 2,801 14,955 4,463 745 18,673 12,869 745 5,805 4 20,398 70,570 304 16,947 3,147 15,252 4,841 767 19,327 77 13,572 767 5,805 5 21,214 70,217 421 17,284 3,509 15,556 5,238 790 20,003 14,198 790 5,805 6 22,063 69,866 546 17,627 3,889 15,865 5,652 814 20,703 14,898 814 5,805 8 23,863 69,169 823 18,335 47,05 16,502 6,339 863 22,177 16,372 863 5,805 9 24,818 68,823 976 18,699 5,143 16,830 71,013 889 22,933 17,148 889 5,805 10 25,810 6,847 9 1,139 19,071 5,601 17,504 75,808 916 23,766 17,951 916 5,805 11 26,843 68,317 1,312 19,450 6,080 17,505 8,025 943 24,587 18,782 943 5,805 11 26,843 68,313 1,331 19,450 6,080 17,505 8,025 943 24,587 18,782 943 5,805 11 2,293 36 67,796 14,988 19,837 6,582 17,853 8,566 972 25,447 19,642 977 5,805 11 3,293,33 67,457 1,695 20,231 7,107 18,208 9,130 1,001 26,337 20,533 1,001 5,805 13 3,003 67,457 1,695 20,231 7,677 18,208 9,130 1,001 26,337 20,533 1,001 5,805 15 31,402 66,784 2,128 2,104 1,831 1,832 1,472 15,483 1,195 32,372 1,101 2,101 3,805 15 31,402 66,784 2,128 2,104 1,831 1,832 2,147 1,147 2,148 1,148 2,14	<u>Year</u>	w/o Solar	<u>(kWh)</u>	With Solar	Payment	Savings	Payment	Savings	Solar Cost*	Savings	<u>Payment</u>	Expenses*	savings
2 18,859 71,281 94 16,293 2,472 14,664 4,101 723 18,042 12,237 723 5,805 3 19,614 70,924 196 16,617 2,801 14,955 4,463 745 18,673 12,869 745 5,805 4 20,398 70,570 304 16,947 3,147 15,252 4,841 767 19,327 13,522 767 5,805 5 21,1214 70,217 421 17,284 3,509 15,555 5,238 790 20,003 14,198 790 5,805 6 22,063 69,866 546 17,677 3,889 15,865 5,652 814 20,703 14,998 814 5,805 7 22,945 69,517 680 17,978 4,288 16,180 6,085 838 21,427 15,623 838 5,805 8 23,863 69,169 823 18,335 4,705 16,502 6,539 863 22,177 16,727 8,603 5,805 9 24,818 68,823 976 18,699 5,143 16,830 7,013 889 22,953 17,148 889 5,805 10 25,810 68,479 1,139 19,071 5,501 17,164 7,508 916 23,756 17,1551 916 5,805 11 26,843 68,137 1,312 19,450 6,080 17,505 8,025 943 24,587 18,782 943 5,805 12 27,916 67,796 1,498 19,837 6,582 17,833 8,666 972 25,447 19,642 972 5,805 13 20,033 67,457 1,699 20,213 7,107 18,208 9,130 1,001 26,337 20,333 1,001 5,805 15 31,402 66,784 2,128 21,428 21,43 8,131 18,393 1,094 29,199 - 1,094 29,199 17 3,305 66,618 2,618 2,618 16,867 14,474 15,867 14,728 8,368 15,102 5,805 16 32,658 66,450 2,365 18,844 11,449 16,960 13,333 1,094 29,199 - 1,094 29,199 17 33,365 66,418 2,618 16,655 14,472 15,187 14,188 11,195 32,372 - 1,195 32,372 20,333 1,001 15,805 16 32,658 66,450 2,365 18,844 11,449 16,960 13,333 1,094 29,199 - 1,094 29,199 17 33,365 66,418 2,618 16,855 14,472 15,187 16,160 31,278 19,335 66,418 14,429 11,997 25,197 10,798 13,383 1,094 29,199 - 1,094 29,199 17 33,355 66,418 2,618 16,655 14,472 15,187 16,160 31,278 19,335 14,474 14,72 8,237 14,348 19,350 16,350	0								151,164	(151,164)			-
3 19.614 70,924 196 16.617 2,801 14,955 4,463 745 18,673 12,869 745 5,805 4 20,398 70,570 304 16,947 3,147 15,252 4,841 76 19,327 13,522 767 5,805 5 21,214 70,217 421 17,284 3,509 15,556 5,228 790 20,003 14,198 790 5,805 6 22,063 69,866 546 17,627 3,889 15,865 5,652 814 20,703 14,198 814 5,805 7 22,945 69,517 680 17,978 4,288 16,180 6,085 838 21,427 15,623 838 5,805 8 23,863 69,169 823 18,335 4,705 16,502 6,539 863 22,177 16,572 863 5,805 10 25,810 68,479 1,139 19,071 5,601 17,164 7,508 916 23,756 17,148 899 5,805 11 2,843 68,823 976 18,899 5,141 1,141	1	· · · · · · · · · · · · · · · · · · ·	71,639	-	15,975	2,159	14,378	3,756	702	17,432	11,627	702	5,805
4 20,398 70,570 304 16,947 3,147 15,252 4,841 767 19,327 13,522 767 5,805 5 5,212 144 70,217 421 17,284 3,509 15,565 5,238 790 20,003 14,198 790 5,805 6 22,063 69,866 546 17,627 3,889 15,865 5,652 814 20,703 14,898 814 5,805 7 22,945 69,517 680 17,978 4,288 16,180 6,085 838 21,447 15,623 838 5,805 9 24,818 68,823 976 18,699 5,143 16,830 7,013 889 22,953 17,148 889 5,805 10 25,810 68,879 1,139 19,071 5,610 17,144 7,508 916 23,756 17,951 10 25,810 68,479 1,139 19,071 5,610 17,144 7,508 916 23,756 17,951 19,612 27,916 67,796 1,498 19,837 6,582 17,853 8,566 922 25,447 19,612 27,916 67,796 1,498 19,837 6,582 17,853 8,566 922 25,447 19,612 27,916 67,796 1,498 19,837 6,582 17,853 8,566 922 25,447 19,612 27,916 67,796 1,498 19,837 6,582 17,853 8,566 922 25,447 19,612 27,916 67,796 1,498 19,837 6,582 17,853 8,566 922 25,447 19,612 27,916 67,796 1,498 19,837 6,582 17,853 8,566 922 25,447 19,612 27,916 67,796 1,498 19,837 6,582 17,853 8,566 922 25,447 19,612 27,916 19,052 20,633 7,657 18,570 9,720 1,031 27,259 21,454 1,031 5,805 15 31,402 66,784 2,128 21,104 8,211 18,352 16,303 1,001 26,337 20,533 1,001 5,805 15 31,402 66,784 2,128 21,104 8,144 11,449 16,960 13,333 1,094 29,199 1,194 29,199 17 33,965 66,118 2,618 16,875 14,472 15,187 16,160 1,127 30,221 1 1,112 1,112 1,132 1	2	18,859	71,281	94	16,293	2,472	14,664	4,101	723	18,042	12,237	723	5,805
5         11_214         70_217         421         17_284         3_500         15_556         5_238         790         20_003         14_188         790         5_805           6         22_063         69_866         546         17_627         3_889         1_586         5_238         21_427         1_623         38         8_8         3_8         5_805           7         22_945         69_517         680         17_978         4_288         16_180         6,085         838         21_427         15_623         38         5_805           8         23_863         69_169         823         18_335         4,705         16_502         6_539         863         22_177         16_572         863         5,805           10         25_810         68,479         1,139         19,071         5,601         17_164         7,508         916         23_756         17_951         916         5,805           11         26_843         68,137         1,312         19,450         6,080         17_558         8,025         943         24_587         18_782         93         5,805           12         27_916         67_796         1,498         19,837         6,	3	19,614	70,924	196	16,617	2,801	14,955	4,463	745	18,673	12,869	745	5,805
6 2,2,063 69,866 546 17,627 3,889 15,865 5,652 814 20,703 14,898 814 5,805 7 22,945 69,517 680 17,978 4,288 16,180 5,665 838 21,427 15,623 838 5,805 8 23,863 69,169 823 18,335 4,705 16,502 6,539 863 22,177 16,372 863 5,805 10 24,818 68,823 976 18,699 5,143 16,830 7,013 889 22,953 17,148 889 5,805 10 25,810 68,479 1,139 19,071 5,601 17,164 7,508 916 23,756 17,951 916 5,805 11 26,843 68,137 1,312 19,450 6,080 17,505 8,025 943 24,587 18,782 943 5,805 12 27,916 67,796 1,498 19,837 6,582 17,853 8,566 972 25,447 19,642 972 5,805 13 29,033 67,457 1,695 20,231 7,107 18,08 9,130 1,001 26,337 20,533 1,001 5,805 15 31,402 66,784 2,128 21,043 8,231 18,399 10,335 15,102 14,172 8,368 15,102 5,805 16 32,658 66,450 2,365 18,844 11,449 16,960 13,333 1,094 29,199 - 1,094 29,199 17 33,965 66,118 2,618 16,875 14,472 15,187 16,160 11,27 30,221 18 35,333 65,787 2,885 15,112 17,326 13,600 18,838 1,160 31,278 - 1,160 31,278 19 36,736 65,488 3,169 13,352 20,034 12,179 21,388 1,160 31,278 - 1,160 31,278 19 36,736 65,488 3,169 13,352 20,034 12,179 21,388 1,195 32,372 - 1,195 32,372 20 38,206 65,131 3,471 12,118 22,617 10,905 23,886 10,508 34,876 - 1,231 33,504 12 1,335 34,471 12,118 22,617 10,905 23,886 10,578 13,889 13,857 34,472 13,188 14,95 32,372 1,306 35,889 1 1,335 38,443 1 1,904 29,199 12,444 1,499 11,997 25,197 10,798 25,895 12,31 33,504 1 1,211 1,355 34,472 11,188 22,617 10,906 23,888 1,160 31,278 1,335 34,43 1 1,315 33,504 1 1,231 33,504 1	4	20,398	70,570	304	16,947	3,147	15,252	4,841	767	19,327	13,522	767	5,805
7 2,945 69,517 680 17,978 4,288 16,180 6,085 838 21,427 15,623 838 5,805 88 23,863 69,169 823 18,335 4,705 16,502 6,539 863 22,177 16,372 863 5,805 9 4,4,818 68,823 976 18,699 5,143 16,830 7,013 889 22,953 17,148 889 5,805 10 25,810 68,479 1,139 19,071 5,601 17,164 7,508 916 23,756 17,951 916 5,805 11 25,810 68,479 1,139 19,071 5,601 17,164 7,508 916 23,756 17,951 916 5,805 11 25,810 67,796 1,498 19,837 6,582 17,853 8,566 972 25,447 19,642 972 5,805 13 29,033 67,457 1,695 20,231 7,107 18,208 9130 1,001 26,337 20,533 1,001 5,805 14 30,144 67,120 1,905 20,633 7,657 18,570 9,720 1,031 27,259 21,454 1,031 5,805 15 31,402 66,784 2,128 21,043 8,231 18,393 10,335 15,102 14,172 8,368 15,102 5,805 16 32,658 66,502 2,365 18,844 11,449 16,960 13,333 1,004 29,199 - 1,094 29,199 17 33,965 66,118 2,618 16,875 14,472 15,187 16,160 1,127 30,221 - 1,127 30,221 18 35,323 65,786 83,169 13,552 20,034 17,179 21,388 1,195 32,372 20 33,205 65,458 3,169 13,552 20,044 12,179 21,388 1,195 32,372 20 11,203 33,304 24,976 66,458 3,169 13,552 20,04 12,179 21,388 1,195 32,372 - 1,159 32,372 20 38,206 65,131 3,471 12,118 22,617 10,906 23,886 1,195 32,372 - 1,123 33,504 22 44,655 63,838 4,667 11,937 26,551 10,744 27,745 1,345 37,144 - 1,345 37,144 24 44,655 63,838 4,867 11,937 26,551 10,749 29,159 23,886 10,852 24,976 64,159 44,487 11,937 26,551 10,749 29,159 18,067 37,704 235,224 39,93 243,644 30,75 NPV of Savings at 8% 60,137 78,104 75,095 108,052 108,052 108,052 108,052 108,052 108,052 108,052 108,052 108,052 108,052 108,052 108,052 108,059 108,052 108,0	5	21,214	70,217	421	17,284	3,509	15,556	5,238	790	20,003	14,198	790	5,805
8 23,863 69,169 823 18,335 4,705 16,502 6,539 863 22,177 16,372 863 5,805 9 24,818 68,823 976 18,699 5,143 16,830 7,013 889 22,953 17,148 889 5,805 10 25,810 68,479 1,139 19,071 5,601 17,164 7,508 916 23,756 17,951 916 5,805 11 26,843 68,137 1,312 19,450 6,080 17,505 8,025 943 24,587 18,782 943 5,805 12 27,916 67,796 1,498 19,837 6,582 17,853 8,656 972 25,447 19,642 972 5,805 13 29,033 67,457 1,695 20,231 7,107 18,208 9,130 1,001 26,337 20,533 1,001 5,805 14 30,194 67,120 1,905 20,633 7,657 18,570 9,720 1,031 27,259 21,454 1,031 5,805 15 31,402 66,784 2,128 21,043 8,231 14,449 16,960 13,333 1,094 29,199 2,454 1,031 5,805 16 32,658 66,450 2,365 18,844 11,449 16,960 13,333 1,094 29,199 2,0 1,094 29,199 17 33,965 66,118 2,618 16,875 14,472 15,187 16,160 1,127 30,221 - 1,127 30,221 18 35,323 65,787 2,885 15,112 17,326 13,600 18,838 1,160 31,278 - 1,160 31,278 20 38,206 65,131 3,471 12,118 22,617 10,906 23,828 12,31 33,504 1 2 1,231 33,504 1 2 1,231 33,504	6	22,063	69,866	546	17,627	3,889	15,865	5,652	814	20,703	14,898	814	5,805
9 24,818 68,823 976 18,699 5,143 16,830 7,013 889 22,953 17,148 889 5,805 10 25,810 68,479 1,139 19,071 5,610 17,164 7,508 916 23,756 17,951 916 5,805 11 26,843 68,137 1,312 19,450 6,080 17,505 8,025 943 24,587 18,782 943 5,805 12 27,916 67,796 1,498 19,837 6,582 17,853 8,566 972 25,447 19,642 972 5,805 13 29,033 67,457 1,695 20,231 7,107 18,208 9,130 1,001 26,337 20,533 1,001 5,805 14 30,194 67,120 1,905 20,633 7,657 18,570 9,720 1,031 27,259 21,454 1,031 5,805 15 31,402 66,784 2,128 21,043 8,231 18,939 10,335 15,102 14,172 8,368 15,102 5,805 16 32,658 66,450 2,365 18,844 11,449 16,960 13,333 1,094 29,199 - 10,104 29,199 17 33,965 66,118 2,618 16,875 14,472 15,187 16,160 11,127 30,221 - 1,127 30,221 18 35,323 65,787 2,885 15,112 17,326 13,600 18,838 1,160 31,278 - 1,160 31,278 19 36,736 65,458 31,69 13,532 20,034 12,19 21,388 1,160 31,278 - 1,160 31,278 20 38,206 65,131 3,471 12,118 22,617 10,906 23,828 1,231 33,504 - 1,231 33,504 21 39,734 64,805 3,790 12,058 23,886 10,852 25,092 1,268 34,676 - 1,268 34,676 22 41,323 64,481 41,29 11,937 26,551 10,744 27,745 1,345 37,144 - 1,345 37,144 24 44,695 63,838 4,867 11,878 77,951 10,690 29,138 1,385 38,443 - 1,385 38,443 24,976 64,159 4,487 11,937 26,551 10,744 27,745 13,45 37,144 - 1,345 37,144 24 44,695 63,838 4,867 11,878 77,951 10,690 29,138 1,385 38,443 - 1,385 38,443 24,4695 63,838 4,867 11,878 77,951 10,690 29,138 1,385 38,443 - 1,385 38,443 20 Yr NPV of Savings at 4% 50,013 78,104 75,096 50,144,573 20,770 12,509 24,445 20 Yr NPV of Savings at 4% 60,137 78,104 75,096 50,144,673 25,104 42,578 25,104 41,573 25,104 41,504 41	7	22,945	69,517	680	17,978	4,288	16,180	6,085	838	21,427	15,623	838	5,805
10	8	23,863	69,169	823	18,335	4,705	16,502	6,539	863	22,177	16,372	863	5,805
11       26,843       68,137       1,312       19,450       6,080       17,505       8,025       943       24,587       18,782       943       5,805         12       27,916       67,796       1,498       19,837       6,582       17,853       8,566       972       25,447       19,642       972       5,805         13       29,033       67,457       1,695       20,231       7,107       18,208       9,130       1,001       26,337       20,533       1,001       5,805         14       30,194       67,120       1,905       20,633       7,657       18,570       9,720       1,031       27,259       21,454       1,031       5,805         15       31,402       66,784       2,128       21,043       8,231       18,939       10,335       15,102       14,172       8,568       15,102       5,805         16       32,658       66,450       2,365       18,844       11,4472       15,187       16,160       1,127       30,221       -       1,127       30,221         17       33,965       66,118       2,618       16,875       14,472       15,187       16,160       1,127       30,221       -       1,127	9	24,818	68,823	976	18,699	5,143	16,830	7,013	889	22,953	17,148	889	5,805
12 27,916 67,796 1,498 19,837 6,582 17,853 8,566 972 25,447 19,642 972 5,805 13 29,033 67,457 1,695 20,231 7,107 18,208 9,130 1,001 26,337 20,533 1,001 5,805 15 31,402 66,784 2,128 21,043 8,231 18,939 10,335 15,102 14,172 8,368 15,102 5,805 16 32,658 66,450 2,365 18,844 11,449 16,960 13,333 1,094 29,199 - 1,094 29,199 17 33,965 66,118 2,618 16,875 14,472 15,187 16,160 1,127 30,221 - 1,127 30,221 18 35,323 65,787 2,885 15,112 17,326 13,600 18,838 1,160 31,278 - 1,160 31,278 19 36,736 65,458 3,169 13,532 20,034 12,179 21,388 1,195 32,372 - 1,195 32,372 20 38,206 65,131 3,471 12,118 22,617 10,096 23,828 1,231 33,504 - 1,231 33,504 21 39,734 64,881 4,129 11,997 25,197 10,798 26,397 1,306 35,889 - 1,306 35,889 23 42,976 64,159 4,487 11,937 26,551 10,744 27,745 1,345 37,144 - 1,345 37,144 24 44,695 63,838 4,867 11,878 27,951 10,696 29,138 1,385 38,443 - 1,345 38,443 25 46,483 53,996 1,366,722 28,225 352,503 159,268 317,253 194,519 184,067 327,704 235,224 32,903 243,644 5340,996 1,366,722 28,225 352,503 159,268 317,253 194,519 184,067 327,704 235,224 39,93 429,582 59,103 78,104 75,096 145,196 29,148 25 Yr NPV of Savings at 4% 19,500 1,687,500 176,526 244,468 235,224 39,634 25 Yr NPV of Savings at 4% 19,500 13,644 190,507 176,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 29,000 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NPV of Savings at 8% 19,500 1,765,526 244,468 221,434 25 Yr NP	10	25,810	68,479	1,139	19,071	5,601	17,164	7,508	916	23,756	17,951	916	5,805
13 29,033 67,457 1,695 20,231 7,107 18,208 9,130 1,001 26,337 20,533 1,001 5,805 14 30,194 67,120 1,905 20,633 7,657 18,570 9,720 1,031 27,259 21,454 1,031 5,805 15 31,402 66,784 2,128 21,043 8,231 18,939 10,335 15,102 14,172 8,368 15,102 5,805 16 32,658 66,450 2,365 18,844 11,449 16,960 13,333 1,094 29,199 - 1,094 29,199 17 33,965 66,118 2,618 16,875 14,472 15,187 16,160 1,127 30,221 - 1,127 30,221 18 35,323 65,787 2,885 15,112 17,326 13,600 18,838 1,160 31,278 - 1,160 31,278 19 36,736 65,458 3,169 13,532 20,034 12,179 21,388 1,195 32,372 - 1,195 32,372 20 38,206 65,131 3,471 12,118 22,617 10,906 23,828 1,231 33,504 - 1,231 33,504 21 39,734 64,805 3,790 12,058 23,886 10,852 25,092 1,268 34,676 - 1,268 34,676 22 41,323 64,481 4,129 11,997 25,197 10,798 26,397 1,306 35,889 23 42,976 64,159 4,487 11,937 26,551 10,744 27,745 1,345 37,144 - 1,345 37,144 24 44,695 63,838 4,867 11,878 27,951 10,690 29,138 1,385 38,443 - 1,385 38,443 25 46,483 63,519 5,269 11,818 29,396 10,636 30,578 14,427 39,787 - 1,427 39,787 20,77 NPV of Savings at 4% 29,77 10,67 5avings at 4% 25,77 NPV of Savings at 4% 24,468 22,44,468 221,433 25,77 NPV of Savings at 4% 25,77 NPV of Savings at 4% 25,77 NPV of Savings at 4% 24,468 22,44,468 221,433 25,77 NPV of Savings at 4% 25,77 NPV of Savings at 4% 25,77 NPV of Savings at 4% 24,468 22,44,468 221,433 25,77 NPV of Savings at 4% 25,77 NPV of Savings at 4% 24,468 22,44,468 22,44,468 221,433 25,77 NPV of Savings at 4% 24,468 221,433 25,444 25,444,468 221,433 25,444 24,468 221,433 25,444 24,468 221,433 25,444 24,468 221,433 25,444 24,468 221,433 25,444 24,468 221,433 25,444 24,468 221,433 25,444 24,448 24	11	26,843	68,137	1,312	19,450	6,080	17,505	8,025	943	24,587	18,782	943	5,805
14       30,194       67,120       1,905       20,633       7,657       18,570       9,720       1,031       27,259       21,454       1,031       5,805         15       31,402       66,784       2,128       21,043       8,231       18,939       10,335       15,102       14,172       8,368       15,102       5,805         16       32,658       66,450       2,365       18,844       11,449       16,960       13,333       1,094       29,199       -       1,094       29,199         17       33,965       66,118       2,618       16,875       14,472       15,187       16,160       1,127       30,221       -       1,127       30,221         18       35,323       65,787       2,885       15,112       17,326       13,600       18,838       1,160       31,278       -       1,160       31,278         19       36,736       65,458       3,169       13,532       20,034       12,179       21,388       1,231       33,504       -       1,1215       32,372         20       38,206       65,131       3,471       12,18       22,617       10,906       23,828       1,231       33,504       -       1,268 <td< td=""><td>12</td><td>27,916</td><td>67,796</td><td>1,498</td><td>19,837</td><td>6,582</td><td>17,853</td><td>8,566</td><td>972</td><td>25,447</td><td>19,642</td><td>972</td><td>5,805</td></td<>	12	27,916	67,796	1,498	19,837	6,582	17,853	8,566	972	25,447	19,642	972	5,805
15         31,402         66,784         2,128         21,043         8,231         18,939         10,335         15,102         14,172         8,368         15,102         5,805           16         32,658         66,450         2,365         18,844         11,449         16,960         13,333         1,094         29,199         -         1,094         29,199           17         33,965         66,118         2,618         16,875         14,472         15,187         16,160         1,127         30,221         -         1,127         30,221           18         35,323         65,787         2,885         15,112         17,326         13,600         18,838         1,160         31,778         -         1,160         31,278           19         36,736         65,458         3,169         13,532         20,034         12,179         21,388         1,195         32,372         -         1,195         32,372           20         38,206         65,131         3,471         12,118         22,617         10,906         23,828         1,231         33,504         -         1,231         33,504           21         39,734         64,805         3,790         12,058	13	29,033	67,457	1,695	20,231	7,107	18,208	9,130	1,001	26,337	20,533	1,001	5,805
16       32,658       66,450       2,365       18,844       11,449       16,960       13,333       1,094       29,199       -       1,094       29,199         17       33,965       66,118       2,618       16,875       14,472       15,187       16,160       1,127       30,221       -       1,127       30,221         18       35,323       65,787       2,885       15,112       17,326       13,600       18,838       1,160       31,278       -       1,160       31,278         19       36,736       65,458       3,169       13,532       20,034       12,179       21,388       1,195       32,372       -       1,195       32,372         20       38,206       65,131       3,471       12,118       22,617       10,906       23,828       1,231       33,504       -       1,231       33,504         21       39,734       64,805       3,790       12,058       23,886       10,852       25,092       1,268       34,676       -       1,268       34,676         22       41,323       64,811       4,129       11,997       25,197       10,798       26,397       1,306       35,889       -       1,368       37,14	14	30,194	67,120	1,905	20,633	7,657	18,570	9,720	1,031	27,259	21,454	1,031	5,805
17 33,965 66,118 2,618 16,875 14,472 15,187 16,160 1,127 30,221 - 1,127 30,221 18 35,323 65,787 2,885 15,112 17,326 13,600 18,838 1,160 31,278 - 1,160 31,278 19 36,736 65,458 3,169 13,532 20,034 12,179 21,388 1,195 32,372 - 1,195 32,372 20 38,206 65,131 3,471 12,118 22,617 10,906 23,828 1,231 33,504 - 1,231 33,504 21 34,504 21 34,504	15	31,402	66,784	2,128	21,043	8,231	18,939	10,335	15,102	14,172	8,368	15,102	5,805
18       35,323       65,787       2,885       15,112       17,326       13,600       18,838       1,160       31,278       -       1,160       31,278         19       36,736       65,458       3,169       13,532       20,034       12,179       21,388       1,195       32,372       -       1,195       32,372         20       38,206       65,131       3,471       12,118       22,617       10,906       23,828       1,231       33,504       -       1,231       33,504         21       39,734       64,805       3,790       12,058       23,886       10,852       25,092       1,268       34,676       -       1,268       34,676         22       41,323       64,481       4,129       11,997       25,197       10,798       26,397       1,366       35,889       -       1,306       35,889         23       42,976       64,159       4,487       11,937       26,551       10,744       27,745       1,345       37,144       -       1,345       38,443       -       1,385       38,443         25       46,483       63,519       5,269       11,818       29,396       10,636       30,578       1,427       39,78	16	32,658	66,450	2,365	18,844	11,449	16,960	13,333	1,094	29,199	-	1,094	29,199
19 36,736 65,458 3,169 13,532 20,034 12,179 21,388 1,195 32,372 - 1,195 32,372 20 38,206 65,131 3,471 12,118 22,617 10,906 23,828 1,231 33,504 - 1,231 33,504 21 39,734 64,805 3,790 12,058 23,886 10,852 25,092 1,268 34,676 - 1,268 34,676 22 41,323 64,481 4,129 11,997 25,197 10,798 26,397 1,306 35,889 - 1,306 35,889 23 42,976 64,159 4,487 11,937 26,551 10,744 27,745 1,345 37,144 - 1,345 37,144 24 44,695 63,838 4,867 11,878 27,951 10,690 29,138 1,385 38,443 - 1,385 38,443 25 46,483 63,519 5,269 11,818 29,396 10,636 30,578 11,427 39,787 - 1,427	17	33,965	66,118	2,618	16,875	14,472	15,187	16,160	1,127	30,221	-	1,127	30,221
20         38,206         65,131         3,471         12,118         22,617         10,906         23,828         1,231         33,504         -         1,231         33,504           21         39,734         64,805         3,790         12,058         23,886         10,852         25,092         1,268         34,676         -         1,268         34,676           22         41,323         64,481         4,129         11,997         25,197         10,798         26,397         1,306         35,889         -         1,306         35,889           23         42,976         64,159         4,487         11,937         26,551         10,744         27,745         1,345         37,144         -         1,345         37,144           24         44,695         63,838         4,867         11,818         29,396         10,636         30,578         1,427         39,787         -         1,427         39,787           20 Yr ND4         539,996         1,366,722         28,225         352,503         159,268         317,253         194,519         184,067         327,704         235,224         32,903         243,644           Savings Percent         20 Yr NPV of Savings at 4%         50,46	18	35,323	65,787	2,885	15,112	17,326	13,600	18,838	1,160	31,278	-	1,160	31,278
21       39,734       64,805       3,790       12,058       23,886       10,852       25,092       1,268       34,676       -       1,268       34,676         22       41,323       64,481       4,129       11,997       25,197       10,798       26,397       1,306       35,889       -       1,306       35,889         23       42,976       64,159       4,487       11,937       26,551       10,744       27,745       1,345       37,144       -       1,345       37,144         24       44,695       63,838       4,867       11,878       27,951       10,690       29,138       1,385       38,443       -       1,385       38,443         25       46,483       63,519       5,269       11,818       29,396       10,636       30,578       1,427       39,787       -       1,427       39,787         20 Yr Total       539,996       1,366,722       28,225       352,503       159,268       317,253       194,519       184,067       327,704       235,224       32,903       243,644         Savings Percent       29,5%       36.0%       60.7%       445,1%       60,137       78,104       75,096       92,448         25 Yr	19	36,736	65,458	3,169	13,532	20,034	12,179	21,388	1,195	32,372	-	1,195	32,372
22       41,323       64,481       4,129       11,997       25,197       10,798       26,397       1,306       35,889       -       1,306       35,889         23       42,976       64,159       4,487       11,937       26,551       10,744       27,745       1,345       37,144       -       1,345       37,144         24       44,695       63,838       4,867       11,878       27,951       10,690       29,138       1,385       38,443       -       1,385       38,443         25       46,483       63,519       5,269       11,818       29,396       10,636       30,578       1,427       39,787       -       1,427       39,787         20 Yr Total       539,996       1,366,722       28,225       352,503       159,268       317,253       194,519       184,067       327,704       235,224       32,903       243,644         Savings Percent       29.5%       36.0%       60.7%       45.1%         20 Yr NPV of Savings at 4%       94,696       119,157       167,608       144,573         25 Yr Total       755,207       1,687,525       50,766       412,191       292,249       370,972       333,469       190,798       513,642	20	38,206	65,131	3,471	12,118	22,617	10,906	23,828	1,231	33,504		1,231	33,504
22       41,323       64,481       4,129       11,997       25,197       10,798       26,397       1,306       35,889       -       1,306       35,889         23       42,976       64,159       4,487       11,937       26,551       10,744       27,745       1,345       37,144       -       1,345       37,144         24       44,695       63,838       4,867       11,878       27,951       10,690       29,138       1,385       38,443       -       1,385       38,443         25       46,483       63,519       5,269       11,818       29,396       10,636       30,578       1,427       39,787       -       1,427       39,787         20 Yr Total       539,996       1,366,722       28,225       352,503       159,268       317,253       194,519       184,067       327,704       235,224       32,903       243,644         Savings Percent       29.5%       36.0%       60.7%       45.1%         20 Yr NPV of Savings at 4%       94,696       119,157       167,608       144,573         25 Yr Total       755,207       1,687,525       50,766       412,191       292,249       370,972       333,469       190,798       513,642	21	39,734	64,805	3,790	12,058	23,886	10,852	25,092	1,268	34,676	-	1,268	34,676
23       42,976       64,159       4,487       11,937       26,551       10,744       27,745       1,345       37,144       -       1,345       37,144         24       44,695       63,838       4,867       11,878       27,951       10,690       29,138       1,385       38,443       -       1,385       38,443         25       46,483       63,519       5,269       11,818       29,396       10,636       30,578       1,427       39,787       -       1,427       39,787         20 Yr Total       539,996       1,366,722       28,225       352,503       159,268       317,253       194,519       184,067       327,704       235,224       32,903       243,644         Savings Percent       29,5%       36.0%       60.7%       235,224       32,903       243,644         20 Yr NPV of Savings at 4%       94,696       119,157       167,608       144,573         25 Yr Total       755,207       1,687,525       50,766       412,191       292,249       370,972       333,469       190,798       513,642       235,224       39,634       429,582         Savings Percent       38,7%       44,2%       68.0%       56.9%         25 Yr NPV of Savings at 4		41,323		4,129	11,997	25,197	10,798	26,397		35,889	-	1,306	35,889
24       44,695       63,838       4,867       11,878       27,951       10,690       29,138       1,385       38,443       -       1,385       38,443         25       46,483       63,519       5,269       11,818       29,396       10,636       30,578       1,427       39,787       -       1,427       39,787         20 Yr Total       539,996       1,366,722       28,225       352,503       159,268       317,253       194,519       184,067       327,704       235,224       32,903       243,644         Savings Percent       29,5%       36.0%       60.7%       60.7%       45.1%         20 Yr NPV of Savings at 4%       94,696       119,157       167,608       144,573         25 Yr Total       755,207       1,687,525       50,766       412,191       292,249       370,972       333,469       190,798       513,642       235,224       39,634       429,582         Savings Percent       38.7%       44.2%       68.0%       56.9%         25 Yr NPV of Savings at 4%       149,590       176,526       244,468       221,433         25 Yr NPV of Savings at 8%       83,644       102,675       108,052       125,404		42,976	64,159		11,937	26,551	10,744		1,345	37,144	-	1,345	37,144
25 46,483 63,519 5,269 11,818 29,396 10,636 30,578 1,427 39,787 - 1,427 39,787  20 Yr Total 539,996 1,366,722 28,225 352,503 159,268 317,253 194,519 184,067 327,704 235,224 32,903 243,644 Savings Percent 29.5% 36.0% 60.7% 45.1% 29 Yr NPV of Savings at 4% 94,696 119,157 167,608 144,573 20 Yr NPV of Savings at 8% 60,137 78,104 75,096 92,448  25 Yr Total 755,207 1,687,525 50,766 412,191 292,249 370,972 333,469 190,798 513,642 235,224 39,634 429,582 Savings Percent 38.7% 44.2% 68.0% 56.9% 25 Yr NPV of Savings at 4% 149,590 176,526 244,468 221,433 25 Yr NPV of Savings at 8% 83,644 102,675 108,052 125,404	24	44,695		4,867			10,690				-		38,443
Savings Percent       29.5%       36.0%       60.7%       45.1%         20 Yr NPV of Savings at 4%       94,696       119,157       167,608       144,573         20 Yr NPV of Savings at 8%       60,137       78,104       75,096       92,448         25 Yr Total       755,207       1,687,525       50,766       412,191       292,249       370,972       333,469       190,798       513,642       235,224       39,634       429,582         Savings Percent       38.7%       44.2%       68.0%       56.9%         25 Yr NPV of Savings at 4%       149,590       176,526       244,468       221,433         25 Yr NPV of Savings at 8%       83,644       102,675       108,052       125,404	25	46,483	63,519	5,269	11,818	29,396	10,636		1,427	39,787		1,427	39,787
20 Yr NPV of Savings at 4%       94,696       119,157       167,608       144,573         20 Yr NPV of Savings at 8%       60,137       78,104       75,096       92,448         25 Yr Total       755,207       1,687,525       50,766       412,191       292,249       370,972       333,469       190,798       513,642       235,224       39,634       429,582         Savings Percent       38.7%       44.2%       68.0%       56.9%         25 Yr NPV of Savings at 4%       149,590       176,526       244,468       221,433         25 Yr NPV of Savings at 8%       83,644       102,675       108,052       125,404	20 Yr Total	539,996	1,366,722	28,225	352,503	159,268	317,253	194,519	184,067	327,704	235,224	32,903	243,644
20 Yr NPV of Savings at 8%       60,137       78,104       75,096       92,448         25 Yr Total       755,207       1,687,525       50,766       412,191       292,249       370,972       333,469       190,798       513,642       235,224       39,634       429,582         Savings Percent       38.7%       44.2%       68.0%       56.9%         25 Yr NPV of Savings at 4%       149,590       176,526       244,468       221,433         25 Yr NPV of Savings at 8%       83,644       102,675       108,052       125,404	Savings Percent					29.5%		36.0%		60.7%			45.1%
25 Yr Total 755,207 1,687,525 50,766 412,191 292,249 370,972 333,469 190,798 513,642 235,224 39,634 429,582 Savings Percent 38.7% 44.2% 68.0% 56.9% 25 Yr NPV of Savings at 4% 149,590 176,526 244,468 221,433 25 Yr NPV of Savings at 8% 83,644 102,675 108,052 125,404	20 Yr NPV of Savi	ings at 4%				94,696		119,157		167,608			144,573
Savings Percent         38.7%         44.2%         68.0%         56.9%           25 Yr NPV of Savings at 4%         149,590         176,526         244,468         221,433           25 Yr NPV of Savings at 8%         83,644         102,675         108,052         125,404	20 Yr NPV of Savi	ings at 8%				60,137		78,104		75,096			92,448
25 Yr NPV of Savings at 4%     149,590     176,526     244,468     221,433       25 Yr NPV of Savings at 8%     83,644     102,675     108,052     125,404	25 Yr Total	755,207	1,687,525	50,766	412,191	292,249	370,972	333,469	190,798	513,642	235,224	39,634	429,582
25 Yr NPV of Savings at 8% 83,644 102,675 108,052 125,404	Savings Percent					38.7%		44.2%		68.0%			56.9%
	25 Yr NPV of Savi	ings at 4%				149,590		176,526		244,468			221,433
15 Yr Total 363,108 1,037,777 13,716 276,022 73,370 248,419 100,972 178,260 171,131 235,224 27,096 87,071	25 Yr NPV of Savi	ings at 8%				83,644		102,675		108,052			125,404
	15 Yr Total	363,108	1,037,777	13,716	276,022	73,370	248,419	100,972	178,260	171,131	235,224	27,096	87,071

<sup>\*</sup> Other Expenses include cost for annual O&M and inverter replacement in year 15.

<sup>\*\*</sup> As requested, the cash purchase cash flows do not include the 1.9% fee that will be paid to SEED. All PPA and muni lease pricing includes payment of this fee.



# sunetric

#### SUNETRIC

ONE EMBARCADERO CENTER SUITE 500 SAN FRANCISCO, CA 94111 415-315-1540 ph www.sunetric.com

Consultant's Seal

Agency Approval

PROJECT TITLE

SEED NOVATO HAMILTON POOL 203 EL BONITO DR NOVATO, CA 94949

PROJECT NOTES

46.8 kW DC (144) 325W SUNIVA MODULES

(2) SMA STP 20000TL-US

NOT FOR CONSTRUCTION - DESIGN PURPOSES ONLY

SHEET TITLE

PV SITE PLAN

DATE: 8.6.14 DRAWN: SD CHECKED: TG

SCALE: AS NOTED

### LEGEND OF SYMBOLS AND

**ABBREVIATIONS** 

PHOTOVOLTAIC NVERTER(S)
MODULE

UTILITY METER CMB COMBINER BOX

NETWORK CONNECTION SYSTEM DISCONNECT SWITCH

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DRAWN RC CHECKED





Solar Array Cost and Output	
System Size (kW, DC)	46.8
System PVsyst Output (kWh)	69,815
System Cost	\$163,152
System Cost w/ 5% Bundle Discount	\$154,994
System Cost/W DC Before Discount	\$3.49

PPA Year 1 Base Rate (\$/kWh) and Escalator						
Unbundled 0.2334						
With 10% Bundle Discount	0.2101					
System Output Per DC kW	1,492					
Escalator, yr 1-15	2.5%					
De-Escalator, yr 16-20	-10.0%					

Utility and Useage Informatio	n
Current Utility Usage (kWh)	95,089
Current Utility Rate (\$/kWh)	0.1907
Utility Cost Escalator	4.0%
Solar Usage Offset	73.4%
Solar Bill Offset	98.0%

	Projected	Solar	Residual							Muni Lease	w/ discount o	n purchase
	<b>Utility Cost</b>	Output	<b>Utility Cost</b>	Base PF	'A Rate	Discounted	I PPA Rate	Disounted Cash	Purchase**	Lease	Other	
<u>Year</u>	w/o Solar	<u>(kWh)</u>	With Solar	Payment	Savings	<u>Payment</u>	Savings	Solar Cost*	Savings	<u>Payment</u>	Expenses*	savings
0								154,994	(154,994)			-
1	18,134	69,815	363	16,295	1,476	14,665	3,106	702	17,069	12,096	702	4,97
2	18,859	69,466	470	16,619	1,771	14,957	3,433	723	17,667	12,694	723	4,97
3	19,614	69,119	584	16,949	2,081	15,254	3,776	745	18,285	13,312	745	4,97
4	20,398	68,773	706	17,286	2,406	15,557	4,135	767	18,925	13,952	767	4,97
5	21,214	68,429	837	17,629	2,748	15,866	4,511	790	19,587	14,614	790	4,97
6	22,063	68,087	976	17,980	3,107	16,182	4,905	814	20,273	15,300	814	4,97
7	22,945	67,747	1,125	18,337	3,483	16,503	5,317	838	20,982	16,009	838	4,97
8	23,863	67,408	1,284	18,702	3,878	16,831	5,748	863	21,716	16,743	863	4,97
9	24,818	67,071	1,452	19,073	4,292	17,166	6,199	889	22,476	17,503	889	4,97
10	25,810	66,735	1,632	19,452	4,726	17,507	6,671	916	23,262	18,289	916	4,97
11	26,843	66,402	1,823	19,839	5,181	17,855	7,165	943	24,076	19,103	943	4,97
12	27,916	66,070	2,026	20,233	5,657	18,210	7,681	972	24,919	19,946	972	4,97
13	29,033	65,739	2,242	20,635	6,156	18,572	8,220	1,001	25,791	20,818	1,001	4,97
14	30,194	65,411	2,471	21,046	6,678	18,941	8,783	1,031	26,693	21,720	1,031	4,97
15	31,402	65,084	2,714	21,464	7,225	19,317	9,371	15,102	13,587	8,614	15,102	4,97
16	32,658	64,758	2,971	19,221	10,466	17,299	12,388	1,094	28,593	-	1,094	28,59
17	33,965	64,434	3,245	17,212	13,508	15,491	15,229	1,127	29,594	-	1,127	29,59
18	35,323	64,112	3,534	15,414	16,376	13,872	17,917	1,160	30,629	-	1,160	30,62
19	36,736	63,792	3,841	13,803	19,093	12,423	20,473	1,195	31,700	-	1,195	31,70
20	38,206	63,473	4,165	12,360	21,680	11,124	22,916	1,231	32,809		1,231	32,80
21	39,734	63,155	4,509	12,299	22,926	11,069	24,156	1,268	33,957	-	1,268	33,95
22	41,323	62,840	4,873	12,237	24,213	11,013	25,437	1,306	35,145	-	1,306	35,14
23	42,976	62,525	5,257	12,176	25,543	10,958	26,761	1,345	36,374	-	1,345	36,37
24	44,695	62,213	5,663	12,115	26,917	10,904	28,128	1,385	37,646	-	1,385	37,64
25	46,483	61,902	6,093	12,055	28,335	10,849	29,541	1,427	38,963		1,427	38,96
20 Yr Total	539,996	1,331,924	38,460	359,549	141,987	323,594	177,942	187,897	313,639	240,713	32,903	227,92
Savings Percent					26.3%		33.0%		58.1%			42.
20 Yr NPV of Sav	rings at 4%				83,021		107,971		156,992			133,50
20 Yr NPV of Sav	rings at 8%				51,750		70,076		66,470			84,19
25 Yr Total	755,207	1,644,559	64,855	420,430	269,922	378,387	311,965	194,629	495,723	240,713	39,634	410,00
Savings Percent					35.7%		41.3%		65.6%			54.
25 Yr NPV of Sav	•				135,827		163,301		232,258			208,77
25 Yr NPV of Sav	rings at 8%				74,361		93,772		98,742			116,47
15 Yr Total	363,108	1,011,354	20,704 nverter replacement	281,539	60,865	253,385	89,019	182,091	160,313	240,713	27,096	74,59

<sup>\*\*</sup> As requested, the cash purchase cash flows do not include the 1.9% fee that will be paid to SEED. All PPA and muni lease pricing includes payment of this fee.

(Issued: April, 1996)

#### **CITY OF NOVATO INVESTMENT POLICY**

#### I. POLICY

In accordance with the City of Novato Municipal Code and under authority granted by the City Council, the City Treasurer is responsible for investing the unexpended cash in the City Treasury.

Revised: October 2014

The investment of the funds of the City of Novato is directed by the goals of safety, liquidity and yield. The authority governing investments for municipal governments is set forth in the California Government Code, Sections 53600 through 53659.

The primary objective of the investment policy of the City of Novato is **SAFETY OF PRINCIPAL**. Effective cash flow management and resulting cash investment practices are recognized as essential to good fiscal management and control. The City's portfolio shall be designed and managed in a manner responsive to the public trust and consistent with state and local law. Portfolio management requires continual analysis and as a result the balance between the various investments and maturities may change in order to give the City of Novato the optimum combination of liquidity and yield/return based on cash flow projections.

#### II. SCOPE

The investment policy applies to all financial assets of the City of Novato as accounted for in its Annual Audit. Policy statements outlined in this document focus on the City of Novato's pooled funds, but will also apply to all other funds under the City Treasurers' span of control unless specifically exempted by statue, ordinance or this policy. The City also has a unique irrevocable trust, entered into with the developer of the Hamilton housing subdivisions, the Hamilton Trust Fund. The trust provides investment income to the General Fund.

#### III. STANDARD OF CARE

#### 1. Prudence

The standard of prudence to be used by City of Novato investment officials shall be the "prudent investor" standard as defined by California Government Code \$53600.3 and shall be applied within the context of managing an overall portfolio. Investment officers acting in accordance with written procedures and this investment policy and exercising due diligence shall be relieved of personal responsibility for an individual security's credit risk or market price changes, provided deviations from expectations are reported in a timely manner and

appropriate action is taken to control adverse developments.

"When investing, reinvesting, purchasing, acquiring, exchanging, selling, or managing public funds, a trustee shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including, but not limited to, the general economic conditions and the anticipated needs of the Cit, that a prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the City."

#### 2. Ethics and Conflicts of Interest

Officers and employees involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial decisions. Employees and investment officials shall disclose through filing appropriate disclosure forms with the City Clerk any material interests in financial institutions with which they conduct business. They shall further disclose any personal financial/investment positions that could be related to the performance of the investment portfolio. Employees and officers shall refrain from undertaking personal investment transactions with the same individual with whom business is conducted on behalf of the City.

#### 3. <u>Delegation of Authority</u>

Through the authority granted by City Council, the responsibility of investing unexpended cash is assigned to the City Treasurer. This includes the daily management responsibility of the investment program and the maintenance of procedures for the management of all cash that is consistent with this investment policy. No person may engage in an investment transaction except as provided under the limits of this Investment Policy.

The City may contract for the use of investment manager services subject to all other provisions of this Investment Policy. The Treasurer shall maintain investment instructions for internal and external management of investments consistent with Government Code requirements.

#### IV. <u>OBJECTIVES</u>

#### 1. Safety of Principal

Safety of principal is the foremost objective of the City of Novato. Each investment transaction shall seek to ensure that capital losses are avoided, whether from securities default, broker-dealer default or erosion of market value. The City shall seek to preserve principal by mitigating the two types of risk, credit risk and market risk.

*Credit risk*, defined as the risk of loss due to failure of the issuer of a security, shall be mitigated by investing in investment grade securities and by diversifying the investment portfolio so that the failure of any one issuer does not unduly harm the City's capital base and cash flow.

*Market risk*, defined as market value fluctuations due to overall changes in the general level of interest rates, will be mitigated by maintaining a diversified maturity structure.

#### 2. <u>Liquidity</u>

The investment portfolio shall remain sufficiently liquid to meet all operating requirements that may be reasonably anticipated. This is accomplished by structuring the portfolio so that securities mature concurrent with cash needs to meet anticipated demands (static liquidity). Furthermore, since all possible cash demands cannot be anticipated, the portfolio should consist largely of securities with active secondary or resale markets (dynamic liquidity).

#### 3. Yield and Return

The investment portfolio shall be designed with the objective of attaining a market rate of return throughout budgetary and economic cycles, taking into account the investment risk constraints and liquidity needs. Return on investment is of least importance compared to the safety and liquidity objectives described above. The core of investments are limited to relatively low risk securities in anticipation of earning a fair return relative to the risk being assumed.

#### V. <u>SAFEKEEPING AND CUSTODY OF SECURITIES</u>

#### 1. <u>Safekeeping</u>

To protect against fraud or embezzlement or losses caused by collapse of an individual securities dealer, all securities owned by the City shall be held in safekeeping by a third party custodian bank, acting as agent for the City under the terms of City Council approved custody agreement or investment agreement, and evidenced by safekeeping receipts.

Securities held in custody for the City shall be independently audited on an annual basis to verify investment holdings.

All exceptions to this safekeeping policy must be approved by the City Treasurer in written form and included in quarterly reporting to City Council.

#### 2. Authorized Financial Dealer and Institution

A list will be maintained of financial institutions authorized to provide investment services. In addition, a list will also be maintained of approved security broker/dealers selected by creditworthiness who are authorized to provide investment services in the State of California. These may include "primary" dealers or regional dealers that are guaranteed by a primary dealer and qualify under Securities and Exchange Commission Rule 15C3-1 (uniform net capital rule). All financial institutions and broker/dealers who desire to become qualified bidders for investment transactions must supply the following as appropriate:

- · audited financial statements
- · proof of National Association of Securities Dealers (NASD) certification
- · proof of state registration
- · completed broker/dealer questionnaire
- · certification of having read the City's investment policy

An annual review of the financial condition and registration of qualified bidders will be conducted by the City Treasurer.

If the City has engaged the services of a registered investment advisory firm, the firm is authorized to conduct investment transactions on the City's behalf with their own list of approved broker/dealers and financial institutions. The investment advisor's approved list must be made available to the City upon request.

#### 3. <u>Internal Control</u>

The City of Novato Finance Manager is responsible for establishing and maintaining an internal controls structure designed to ensure that the assets of the entity are protected from loss, theft or misuse. The internal control structure shall be designed to provide reasonable assurance that these objectives are met. The concept of reasonable assurance recognizes that (1) the cost of a control should not exceed the benefits likely to be derived; and (2) the valuation of costs and benefits requires estimates and judgments by management.

The minimum controls in place for the City of Novato shall be:

- a. Separation of transaction authority from accounting and record keeping. The City Treasurer, Finance Manager and their designees may make wire transfers between City accounts. Only the City Treasurer and their designees may make investments. The Finance Manager is responsible for recording all transactions.
- b. *Custodial safekeeping*. Securities purchased from any bank or dealer including appropriate collateral (as defined by State Law) shall be placed with an independent third party for custodial safekeeping.
- c. Avoidance of physical delivery securities. Book entry securities are much easier to transfer and account for since actual delivery of a negotiable

document never takes place. Delivered securities must be properly safeguarded against loss or destruction. The potential for fraud and loss increases with physically delivered securities.

d. Wire transfer agreement with the lead bank or third party custodian. These agreements are on file in the City's Finance Division.

#### 4. <u>Delivery vs. Payment</u>

All trades where applicable will be executed by delivery vs. payment (DVP). This ensures that securities are deposited in the eligible financial institution prior to the release of funds. Securities will be held by a third party custodian as evidenced by safekeeping receipts.

#### 5. <u>Collateral Requirements</u>

Collateral is required for investments in certificates of deposit, repurchase agreements and reverse repurchase agreements. In order to reduce market risk, the collateral level will be at least 102% of market value of principal and accrued interest.

Only U.S. Treasury securities or Federal Agency securities will be acceptable collateral.

#### VI. <u>AUTHORIZED INVESTMENTS</u>

#### 1. Authorized Investments

All concentration limits and minimum credit rating requirements shall apply at the time of purchase. In the event a security held by the City is subject to a rating change that brings it below the minimum credit ratings specified in this Policy, the City shall require investment advisors engaged in the investment of City funds to notify City staff of the downgrade and provide a plan of action to address the downgrade.

Investment of City cash is governed by the California Government Code Sections 53600 et seq. Within the context of the limitations, the following investments are authorized:

- a. Bonds issued by the local agency, including bonds payable solely out of the revenues from a revenue -producing property owned, controlled, or operated by the local agency or by a department, board, agency, or authority of the local agency.
- b. United States Treasury Bills, Bonds, and Notes or those for which the full faith and credit of the United States are pledged for payment of principal

and interest. There is no percentage limitation of the portfolio which can be invested in this category, although a five year maturity limitation is applicable.

c. Federal Agency or United States Government-Sponsored Enterprise Obligations, Participations, or other Instruments, including those issued by or fully guaranteed as to principal and interest by federal agencies or United States government-sponsored enterprises. There is no percentage limitation of the portfolio which can be invested in this category, although a five year maturity limitation is applicable.

With the exception of items in the California Local Agency Investment Fund (LAIF), investments detailed in items d through j below are further restricted for any one issuer to a maximum of 15% of the cost value of the portfolio at the time the investment is made. The total value invested in any one issuer shall not exceed 5% of the issuers net worth. Again, a five year maximum maturity limitation is applicable unless determined otherwise by this policy.

- d. Bonds, notes, warrants, or other evidence of indebtedness of any local agency within this state, including bonds payable solely out of the revenues from a revenue-producing property owned, controlled, or operated by the local agency, or by a department, board, agency, or authority of the local agency, provided that these securities are rated in one of the two highest rating categories (without regard to any gradations within such categories by numerical qualifier or otherwise) by a NRSRO.
- e. Bills of exchange or time drafts drawn on and accepted by commercial banks, otherwise known as banker's acceptances. Banker's acceptances purchased may not exceed 180 days to maturity or 40% of the cost value of the portfolio. However, no more than 30% of the cost value of the portfolio may be invested in the bankers acceptances of any one commercial bank.
- f. Commercial paper rated in the highest letter and number rating category by one or more NRSROs., The corporation that issues the commercial paper shall meet all of the following conditions in either paragraph (1) or paragraph (2).
  - (1) The entity meets the following criteria: (a is organized and operating within the United States, as (a) general corporation, (b) has total assets in excess of five hundred million dollars (\$500,000,000), and (c) has debt, other than commercial paper, if any, that is rated in the highest rating category (without regard to any gradations within such categories by numerical qualifier or otherwise) by a NRSRO.
  - (2) The entity meets the following criteria: (a) is organized within the United States as a special purpose corporation, trust or limited liability company, (b) has program-wide credit enhancements

including, but not limited to over collateralization, letters of credit, or surety bond, and (c) has commercial paper that is rated "A-1" or higher, or the equivalent by a NRSRO.

Purchases of eligible commercial paper may not exceed 270 days to maturity nor represent more than 10% of the outstanding paper of the issuing corporation. Purchases of commercial paper may not exceed 25% of the cost value of the portfolio.

- g. Negotiable Certificates of deposit issued by nationally or state chartered banks or state or federal savings institutions. Purchases of negotiable certificates of deposit may not exceed 30% of the cost value of portfolio. A maturity limitation of five years is applicable.
- h. Repurchase agreements which specify terms and conditions may be transacted with banks and broker dealers. The maturity of the repurchase agreements shall not exceed 90 days. The market value of the securities used as collateral for the repurchase agreements shall be monitored by the investment staff and shall not be allowed to fall below 102% of the value of the repurchase agreement. An investment agreement is required between the City of Novato and the broker dealer or financial institution for all repurchase agreements transacted.
- i. Reverse repurchase agreements which specifies terms and conditions may be transacted with broker dealers and financial institutions but cannot exceed 20% of the cost value of the portfolio value on the date entered into. The City may enter into reverse repurchase agreements only to fund short term liquidity needs. The term of reverse repurchase agreements may not exceed 90 days.
- j. Local Agency Investment Fund (LAIF) which is a State of California managed investment pool may be used up to the statutory limit.
- k. The pooled cash program as managed by the Treasurer of Marin County may be used up to the maximum permitted by California State Law.
- 1. Time deposits, non-negotiable and collateralized in accordance with the California Government Code, in those banks and savings and loans associations which meet the requirement for investment in negotiable certificate of deposit. The issuer firm should have been in existence for at least five years. The City may waive the first \$250,000 of collateral security for such deposits if the institution is insured pursuant to federal law. Since time deposits are not liquid, no more than 25% of the cost value of the portfolio may be invested in this investment type.
- m. Medium Term Corporate Notes, issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States. may be purchased. Securities eligible for investment shall be rated A or better by a nationally recognized statistical rating organization. Purchase of

medium term notes may not exceed 30% of the cost value of the portfolio and no more than 15% of the cost value of the portfolio may be invested in notes issued by one corporation.

n. Supranationals which are United States dollar denominated senior unsecured unsubordinated obligations issued or unconditionally guaranteed by the International Bank for Reconstruction and Development (IBRD), International Finance Corporation (IFC), or Inter-American Development Bank (IADB), with a maximum remaining maturity of five years or less, and eligible for purchase and sale within the United States. Investments under this subdivision shall be rated "AA", its equivalent, or better by at least one of the three large rating agencies, Moody's, Standard & Poor's, or Fitch.

Purchases of supranationals shall not exceed 30 percent of the investment portfolio of the City. Supranationals will be permitted by California Government Code § 53601 (q) and this Policy effective January 1, 2015.

Other eligible investments are those that are described under Government Code Section 53601. It is noted that special circumstances may arise that will necessitate the purchase of securities beyond the five year limitation. On such occasions, requests must be approved by City Council prior to purchase.

Various daily cash funds administered for or by trustees, paying agents and custodian banks contracted by the City of Novato may be purchased as allowed under State of California Government Code and per the Trust Indenture.

The following summary of maximum percentage limits, by instrument, is established for the City's total pooled funds portfolio, at the time purchases are made:

Investment	Percentage
Marin County Investment Pool	0 to 100%
Repurchase Agreements	0 to 100%
Local Agency Investment Fund	0 to 100%
	up to LAIF's maximum
Local Government Agency Debt	0 to 100%
US Treasury Bonds/Notes/Bills	0 to 100%
US Government Agency Obligations	0 to 100%
Bankers' Acceptances	0 to 40%
Commercial Paper	0 to 25%
Negotiable Certificates of Deposit	0 to 30%
Time Certificates of Deposit	0 to 25%
Medium Term Corporate Notes	0 to 30%
Reverse Repurchase Agreements	0 to 20%

**Supranational Investments** 

0 to 30%

#### 2. <u>Legislative Changes</u>

Any State of California legislative action, that further restricts allowable maturities, investment type or percentage allocations, will be incorporated into the City of Novato's Investment Policy and supersede any and all previous applicable language.

#### 3. <u>Interest Earnings</u>

All moneys earned and collected from investments authorized in this policy shall be allocated quarterly to various fund accounts based on the cash balance at the end of each quarter in each fund as a percentage of the entire pooled portfolio.

#### 4. <u>Limiting Market Value Erosion</u>

The longer the maturity of securities, the greater their market price volatility. Therefore, it is the general policy of the City to limit the potential effects from erosion in market values by adhering to the following guidelines:

All immediate and anticipated liquidity requirements will be addressed prior to purchasing all investments.

All long-term securities will be purchased with the intent to hold all investments to maturity under then prevailing economic conditions. However, economic or market conditions may change, making it in the City's best interest to sell or trade a security prior to maturity.

Bond reserves and other cash for which there is a restriction on the expenditure of the principal may be invested in securities maturing in a period greater than five years. On such occasions, requests must be approved by City Council prior to purchase.

Effective May 22, 2007, the City Council of the City of Novato approved an exception to its Investment Policy to allow for funds deposited in the Hamilton Trust Fund to be invested in securities that can have maturities up to thirty years.

#### VII. ADVISE AND REVIEW

#### 1. Policy Review

The City of Novato's investment policy shall be reviewed and adopted by resolution of the City Council. This investment policy shall be reviewed at least annually to ensure its consistency with the overall objectives of preservation of

principal, liquidity and yield/return, and its relevance to current law and financial and economic trends. Any amendments to the policy shall be forwarded to City Council for approval. If there are no such amendments, it should be stated.

#### VIII. <u>INVESTMENT PARAMETERS</u>

#### 1. <u>Diversification</u>

The investments will be diversified by security type and institution.

#### 2. <u>Maximum Maturities</u>

The City of Novato shall limit its maximum final stated maturities to five years unless specific authority is given to exceed. To the extent possible, the Treasurer will attempt to match its investments with anticipated cash flow requirements. Unless matched to a specific cash flow, the Treasurer will not directly invest in securities maturing more than five (5) years from the date of purchase. The Treasurer should determine what the appropriate average weighted maturity of the portfolio should be.

Reserve funds may be invested in securities exceeding five (5) years if the maturity of such investments are made to coincide as nearly as practical with the expected use of funds. All bond reserve fund investments will be made in compliance with the bond indenture. The ability to invest these types of funds should be disclosed to the City Council including appropriate time restrictions, if any apply.

#### IX. REPORTING

#### 1. Methods

The City Treasurer shall review and render quarterly reports to the City Manager and City Council which shall include the face amount of the cash investment, the classification of the investment, the name of the institution or entity, the rate of interest, the maturity date, the current market value, and any other information required by law. The report shall also detail all repurchase agreements, reverse repurchase positions and associated liabilities. The report shall include a statement of any investment which is an exception to this policy and any realized losses in the prior period.

This report will be prepared in a manner which will allow the City Manager and City Council to ascertain whether investment activities during the reporting period have conformed to the investment policy.

#### 2. <u>Performance Standards</u>

The investment portfolio will be managed in accordance with the parameters specified within this policy. The portfolio should obtain a market average rate of return during a market/economic environment of stable interest rates. Portfolio performance should be compared to appropriate benchmarks on a regular basis. The investment results shall be reviewed annually with the Measure F Oversight/Citizens Finance Committee.

#### 3. Marking to Market

A statement of the market value of the portfolio shall be issued quarterly. This will ensure that the minimal amount of review has been performed on the investment portfolio in terms of value and subsequent price volatility. Review should be consistent with the GFOA Recommended Practice on Mark-to Market Practices for State and Local Government Investment Portfolios and Investment Pools.

#### X. POLICY

#### 1. Exemption

Any investment currently held that does not meet the guidelines of this policy shall be exempted from the requirements of this policy. At maturity or liquidation, such monies shall be reinvested only as provided by this policy.

#### 2. Amendment

This policy shall be reviewed on an annual basis. Any changes must be approved by the City Council.

#### XI. GLOSSARY OF INVESTMENT TERMS

**Accrued Interest** - Interest earned but not yet received.

*Active Deposits* - Funds which are immediately required for disbursement.

**Amortization** - An accounting practice of gradually decreasing (increasing) an asset's book value by spreading its premium (discount) over a period of time.

Asked Price - The price a broker dealer offers to sell securities. Bankers' Acceptance (BA) - Short-term credit arrangements to enable businesses to obtain funds to finance commercial transactions. They are time drafts drawn on a bank by an exporter or importer to obtain funds to pay for specific merchandise. By its acceptance, the bank becomes primarily liable for the payment of the draft at its maturity. A BA is a high grade negotiable investment instrument. Bankers' Acceptances are purchased in various denominations for a term usually not exceeding thirty, sixty, ninety days, but in no case longer than two hundred seventy days.

- **Basis Point** One basis point is one hundredth of one percent (.01%).
- **Bid Price** The price a broker dealer offers to purchase securities.
- **Bond** A financial obligation for which the issuer promises to pay the bondholder a specified stream of future cash flows, including periodic interest payments and a principal repayment.
- **Book Value** The value at which a debt security is shown on the holder's balance sheet. Book value is acquisition cost less amortization of premium or acquisition cost plus amortization of discount.
- *Certificate of Deposit* A deposit insured up to \$100,000 by the FDIC at a set rate for a specified period of time.
- **Collateral** Securities, evidence of deposit or pledges to secure repayment of a loan. Also refers to securities pledged by a bank to secure deposit of public moneys.
- **Commercial Paper** Short term unsecured promissory note issued by a corporation to raise working capital. These negotiable instruments are purchased at a discount to par value or at par value with interest bearing.
- **Constant Maturity Treasury (CMT)** An average yield of a specific Treasury maturity sector for a specific time frame. This is a market index for reference of past direction of interest rates for the given Treasury maturity range.
- **Coupon** The annual rate of interest that a bond's issuer promises to pay the bondholder on the bond's face value.
- *Credit Analysis* A critical review and appraisal of the economic and financial conditions or of the ability to meet debt obligations.
- **Current Yield** The interest paid on an investment expressed as a percentage of the current price of the security.
- **Custody** A banking service that provides safekeeping for the individual securities in a customer's investment portfolio under a written agreement which also calls for the bankto collect and pay out income, to buy, sell, receive and deliver securities when ordered to do so by the principal.
- **Delivery vs. Payment (DVP)** Delivery of securities with a simultaneous exchange of money for the securities.
- **Derivative Investments** Derivatives are investments whose value is "derived" from an underlying asset. Frequently derivatives are also indexed in some fashion either directly of indirectly. When appropriate, limited use of derivative investments tied solely to interest rate structures are allowable. However, any investment of this type must receive prior

- approval from the City Treasurer. Securities or investments classified as derivatives must be issued by an agency or entity authorized by this investment policy.
- **Discount** The difference between the cost of a security and its value at maturity when quoted at an amount lower than its value at maturity.
- **Diversification** Dividing investment funds among a variety of securities offering independent returns and risk profiles.
- **Duration** The weighted average maturity of a bond's cash flow stream, where the present value of the cash flows serve as the weights; the future point in time at which on average, an investor has received exactly half of the original investment, in present value terms; a bond's zero-coupon equivalent; the fulcrum of a bond's present value cash flow time line.
- Fannie Mae Trade name for the Federal National Mortgage Association (FNMA), a U.S. sponsored corporation.
- Federal Farm Credit Bank (FFCB) A U.S. sponsored corporation used to finance the short and intermediate term needs of farmers and national agricultural industry.
- **Federal Deposit Insurance Corporation (FDIC)** Insurance provided to customers of a subscribing bank which guarantees deposits to a set limit (currently \$100,000) per account.
- **Federal Home Loan Bank** (**FHLB**) A federal credit agency to help finance the housing industry. The notes and bonds issued by this agency provide liquidity and home mortgage credit to savings and loan associations, mutual savings banks, cooperative banks, insurance companies and mortgage-lending institutions.
- **Federal Home Loan Mortgage Corporation (FHLMC) -** A U.S. corporation and instrumentality of the U.S. government. Through its purchases of conventional mortgages, it provides liquidity to the mortgage markets, much like FNMA. FHLMC assumes and guarantees that all security holders will receive timely payment of principal and interest.
- **Federal National Mortgage Association (FNMA)** A U.S. sponsored corporation used to assist the home mortgage market by purchasing mortgages insured by the Federal Housing Veterans Administration.
- **Federal Reserve System** The central bank of the U.S. which consists of a seven member Board of Governors, 12 regional banks and 5,700 commercial banks that are members.
- **Fed Wire** A wire transmission service established by the Federal Reserve Bank to facilitate the transfer of funds through debits and credits of funds between participants within the Fed system.
- Freddie Mac Trade name for the Federal Home Loan Mortgage Corporation (FHLMC), a U.S.

- sponsored corporation.
- Governmental National Mortgage Association (GNMA) A chartered federal corporation guarantees mortgages issued by mortgage bankers, commercial banks, savings and loan associations and other institutions.
- *Ginnie Mae* Trade name for the Government National Mortgage Association (GNMA), a direct obligation bearing the full faith and credit of the U.S. Government.
- *Inactive Deposits* Funds not immediately needed for disbursement.
- Interest Rate The annual yield earned on an investment, expressed as a percentage.
- Investment Agreements An agreement with a financial institution to borrow public funds subject to certain negotiated terms and conditions concerning collateral, liquidity and interest rates.
- *Investment Grade* Securities rated BBB+ (by Standard and Poors and Fitch) and Baa1 by Moody's Investors Service.
- *Liquidity* Refers to the ability to rapidly convert an investment into cash.
- **Local Agency Investment Fund (LAIF)-** A fund managed by the California State Treasury which local government agencies may use to deposit funds for liquidity and yield. Deposits can be converted to cash within twenty-four hours
- *Market Value* The price at which a security is trading and could presumably be purchased or sold.
- *Mark to Market* The process of establishing market value.
- *Maturity* The date upon which the principal or stated value of an investment becomes due and payable.
- **Medium Term Notes** Unsecured promissory notes issued by a corporation organized and operating in the United States. These are negotiable instruments and are traded in the secondary market and mature within five years.
- Negotiable Certificates of Deposit Unsecured obligations of the financial institution, bank or savings and loan, bought at par value with the promise to pay face value plus accrued interest at maturity. They are investment grade negotiable instruments, paying a higher interest rate than regular certificates of deposit. The primary market issuance is in multiples of \$1 million, the secondary market usually trades is denominations of \$500,000.
- *New Issue* Term used when a security is originally "brought" to market.

- **Perfected Delivery** Refers to an investment where the actual security or collateral is held by an independent third party representing the purchasing entity.
- *Portfolio* Collection of securities held by an investor.
- **Primary Dealer** A group of government securities dealers that submit daily reports of market activity and security positions held to the Federal Reserve Bank of New York and are subject to its informal oversight.
- **Purchase Date** The date in which a security is purchased for settlement on that or a later date.
- **Rate of Return** The yield obtainable on a security based on its purchase price or its current market price. This may be the amortized yield to maturity on a bond or the current income return.
- **Repurchase Agreement (REPO)** A transaction where the seller (bank) agrees to buy back from the buyer (City) the securities at an agreed upon price after a stated period of time.
- **Reverse Repurchase Agreement (REVERSE REPO)** A transaction where the seller (City) agrees to buy back from the buyer (bank) the securities at an agreed upon price after a stated period of time.
- **Risk** Degree of uncertainty of return on an asset.
- **Safekeeping** see Custody.
- Sallie Mae Trade name for the Student Loan Marketing Association (SLMA), a U.S. sponsored corporation.
- **Secondary Market** A market made for the purchase and sale of securities that have already been issued.
- Separate Trading of Registered Interest and Principal of Securities (STRIPS) U.S. Treasury issued zero coupon securities.
- Settlement Date The date on which a trade is cleared by delivery of securities against funds.
- **Student Loan Marketing Association (SLMA) -** A U.S. corporation and instrumentality of the U.S. government. Through its borrowing, funds are targeted for loans to students in higher education institutions.
- **Strips** U.S. Treasury or municipal securities that brokerage firms have separated into principal and interest which are marketed as zero coupon securities.
- Supranationals Bonds issued by international organizations which promote economic

- development for members. Examples of Supranational organizations include International Bank for Reconstruction and Development (IBRD), International Finance Corporation (IFC), and Inter-American Development Bank (IADB).
- **Treasury Bills** Short-term, direct obligations of the U.S. Government issued with original maturities of 13 weeks, 26 weeks and 52 weeks; sold in minimum amounts of \$10,000 in multiples of \$5,000 above the minimum. Issued in book entry form only. T-bills are sold on a discount basis.
- *U.S. Government Agencies* Instruments issued by various US Government Agencies most of which are secured only by the credit worthiness of the particular agency.
- **Yield** The rate of annual income return on an investment, expressed as a percentage. It is obtained by dividing the current dollar income by the current market price of the security.
- **Yield to Maturity** The rate of income return on an investment, minus any premium or plus any discount, with the adjustment spread over the period from the date of purchase to the date of maturity of the bond, expressed as a percentage.
- Yield to Maturity at Maturity The rate of income return of a callable security with a variable interest rate. The Yield is calculated as if the security matures at par value and is not called.
- **Yield Curve** The yield on bonds, notes or bills of the same type and credit risk at a specific date for maturities up to thirty years.
- **Zero-Coupons** A debt security or instrument that does not pay periodic interest. They are issued at a discount to the maturity value of the security, and its value increases as its time to maturity decreases.

City Manager



#### **MEASURE F BACKGROUND**

On July 27, 2010, the Novato City Council adopted Ordinance No. 1551 which approved the placement of a 5-year, ½ cent sales and use tax increase before the voters. Measure F was placed on the November 2010 ballot to ask Novato residents to maintain vital city services during difficult economic times. The ballot language outlined that the funds were to (1) offset and prevent additional budget cuts and (2) maintain and restore vital general city services.

Measure F was approved by the Novato voters in the November 2010 election with 58% voter approval. The increase took effect on April 1, 2011 and will sunset on March 31, 2016. In 2010, and with the recession still in progress, the City estimated Measure F would generate about \$3.2 million annually. As the economy has improved, the measure has been generating over \$4 million per year, and is estimated to provide a total of \$22 million to the City of Novato over its 5-year term. In keeping with the City's tradition of fiscal prudence and accountability, a special revenue fund was established to track the revenue and expenditures associated with the measure.

Measure F identified priorities where its general fund revenue should be spent, including:

- Maintain Neighborhood Services and Public Safety
- · Support Seniors, Youth and Families
- · Reinvest in Park and Street Maintenance

The Measure F ordinance also mandated the creation of a Citizens' Oversight Committee to review and report on the revenue and expenditure of Measure F. All Measure F expenditures have been reviewed by this committee, and recommendations are made regularly to the City Council, and followed up with an annual report. The Committee's responsibilities, are as follows: (1) provide input on Measure F-related budget proposals; (2) review and report on the revenue, expenditures, and use of Measure F; (3) present an annual report to the City Council and make it available to the public; (4) comment on any concerns regarding the appropriateness of Measure F related expenditure allocations; and (5) comment on the status of efforts to achieve fiscal sustainability.

#### WHY DID NOVATO NEED MEASURE F?

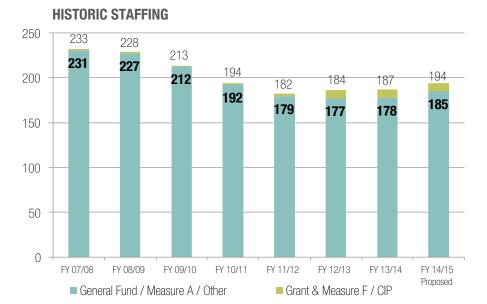
Since the voter adoption of California's Proposition 13 in 1978, Novato has frequently struggled to balance its budget, often using grant revenues or other one- time revenues, or significantly reducing costs through temporary measures such as holding positions vacant, to stay in the black. Even during boom years, when much of the rest of the state was experiencing revenue growth, Novato has lagged behind other municipalities in terms of economic growth, despite a long-term City Council tendency to be conservative with ongoing expenditures and compensation.

It is important to remember our fiscal situation during 2009 and 2010. The Great Recession had eroded City revenues by \$4 million annually, and the City found itself facing massive budget deficits. For example, in a forecast published in August 2009, and prior to implementing a sweeping package of budget reductions, the City was projecting that it would be facing a \$6.7 million deficit in 2014/15. In response, the

#### INTENT OF MEASURE F

To offset/prevent additional budget cuts and maintain/restore vital general city services including, and not limited to: neighborhood police patrols, crime prevention programs, 9-1-1 response times; city street/pothole repair; park maintenance; preventing closure or elimination of youth and senior centers/services, shall the City of Novato enact a half-cent sales tax for 5 years, with review by a citizen committee, annual independent audits, and all funds spent locally for the benefit of Novato citizens.





Measure F has allowed Novato to maintain existing services and prevented the need to reduce additional positions or programs.

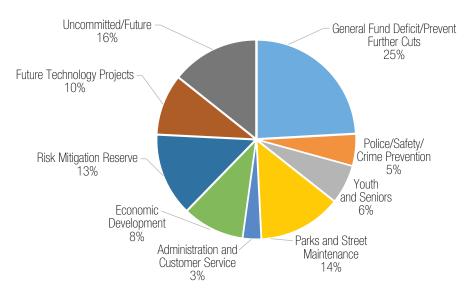
City swiftly took a series of strategic actions to address the shortfall: program and service cuts; elimination of 30% of the workforce in all departments except Police; negotiating multi-million dollar reductions in compensation and benefits for employees, including mandatory furloughs and shifting pension costs to employees; implementing cost-savings through public-private partnerships; realizing more efficiencies, including utilization of technology; and leveraging grant opportunities to supplement City services. Examples of what was lost during the recession:

- 31% of parks maintenance staff eliminated
- 37% of road maintenance staff eliminated
- Police Department Community Service Officers eliminated
- Police Department School Resource Officers eliminated
- Redevelopment / Economic Development program eliminated
- 36% of Parks and Recreation staffing eliminated
- Elimination of all free / subsidized recreation programs

Despite significant changes to City operations and reductions to employee compensation, the City was still projecting a multi-million dollar ongoing, growing deficit for the foreseeable future. It is in response to this fiscal situation, and the resulting service and staffing reductions, that the voters of Novato adopted Measure F in 2010. Measure F stopped the bleeding and temporarily filled budget deficits, revived programs that were cut, and provided the City an opportunity to chart its course for the future. Via the leadership of the City Council, Measure F dollars have been used conservatively, through this reporting period — and with the recognition that it serves a temporary need to bridge the gap.

Since Measure F's passage, the City has continued to streamline operations, implement technology, apply for and receive new grants, and experience some benefits of an improving economy.

#### MEASURE F EXPENDITURES — ACTUAL AND PROJECTED — \$22.2 MILLION



#### WHAT MEASURE F HAS DONE FOR NOVATO

To date, Measure F has delivered a direct, beneficial impact on our community:

- Saved critical City services and temporarily stopped further cuts (and filled the annual deficit);
- Funded, improved, or reinstated key City programs; and
- Investing in Novato's fiscal health and stability (via capital projects, technology, and leveraging grants and other funding).

All of the Measure F revenues and expenditures, as well as amounts reserved for the future, can be seen on the "Measure F Funding History Detail" table in the appendix.

## Saved critical city services and temporarily stopped further cuts

Measure F has provided a reliable source of funds to fill the annual General Fund budget gap. This allows Novato to maintain existing services and prevent the need to reduce additional positions or programs in response to deficits.

#### Funded, Improved, and Reinstated Key City Services

Police, Crime Prevention, and 911 Response Times — Measure F has funded a number of programs in our Police department to further the City's goals and improve safety services Citywide. Most notably perhaps is the formation of the Police Departments "Novato Response Team", or NRT. This new concept, initially funded by a 3-year Department of Justice grant, consists of three full-time sworn police officers and a Management Analyst. The goal of the team is to respond in a flexible way to a variety of neighborhood and quality of life issues, and to address crime trends in Novato as they happen. The NRT team has quickly and capably addressed issues such as gangs, graffiti, prostitution, vandalism, and auto theft. The team has also been working

## MEASURE F SUPPORTS: POLICE & CRIME PREVENTION

Novato's Crime-Free Multi-Housing Program is the first program of its kind in Marin and Sonoma Counties. This program works with property owners and managers to make improvements to their properties to reduce and discourage crime. To date, 37 representatives of 21 Novato properties have attended these classes.



closely with the owners of apartment complexes throughout Novato on the county's first "Crime Free Multi-Family Housing Program".

The Police Department has funded several other programs with Measure F resources, including an ongoing Emergency Services contract with the Novato Fire Protection District and an additional officer assigned to the Northern California Computer Crimes Task Force ("NCCCTF"). During the recession, the City eliminated its Emergency Services Manager position, leaving no dedicated resources for emergency planning and preparedness. Since the City maintains a joint emergency operations center with the Fire District, the two agencies have opted to share the cost of a contract individual to continue organizing and leading Novato emergency response preparedness efforts. Additionally, the City was recently awarded a seat on the NCCCTF, which funds 75% of an officer's salary and benefits and related supplies and equipment. The NCCCTF provides specialized investigative services for high tech crimes, and Novato benefits by having an officer receive this highly technical training. Measure F is funding the 25% that is not funded by the task force.

**Youth and Senior Programs and Projects** — Services for both Novato's youth and senior populations were another focus of the ballot language of Measure F. To date, Measure F funds have started and expanded a pilot program, in partnership with the Novato Unified School District, to bring on-campus afterschool programs to select Novato schools. Novato also received a grant from the Kaiser Foundation to further this effort. In the first year, the program was rolled to one school site; the second year it was expanded to a second school site. The program initially focused on youth character development and healthy eating / active living. In 2014/15, the City plans to not only further increase the availability of the program but also diversify the curriculum to include science, technology, engineering, and math components as well.

The Fiscal Sustainability Planning process identified two park improvements that would reduce ongoing operating costs and generate additional ongoing revenue for Novato, as well as provide additional amenities for Novato residents. These facilities include a tournament-quality bocce ball facility at the Margaret Todd Senior Center and a synthetic turf sports field to replace an existing grass field (location and other parameters are to be determined). The demand for courts to play bocce ball is significant in Novato, and this new bocce facility project would construct quality new courts and associated improvements at the senior center. The synthetic turf sports field, while still in the research phase, would replace one existing athletic field; this project would reduce watering, reduce maintenance, and increase the use the field could accommodate during the year. Overall, these park improvements are estimated to improve the City's ongoing financial condition by \$130,000 annually, representing a 10% annual return on investment.

Finally, as part of the City's broader strategy for Hamilton Base Reuse, the City leveraged several different funding sources, including Measure F, to purchase over 90 acres of hilltop open space for a bargain price of \$500,000; 90% less than the appraised value. This property surrounds the Marin Valley Mobile Country Club and overlooks the Hamilton area and the wetlands west of Novato. As an example of another win/win, this beautiful open space can also be utilized to trade development restrictions currently on some of the City's historic dilapidated buildings in Hamilton (such as the old Officers Club and Theater buildings) in order to complete the renovation and improvements to the Hamilton neighborhood. Once completed, this

#### MEASURE F SUPPORTS: YOUTH & SENIOR PROGRAMS

As part of the City's Afterschool Initiative for Youth, the Parks, Recreation and Community Services Department launched "B.E.E. You: Building, Educating, and Exercising You," an innovative program for 2nd-5th grade students. To date, the program has served more than 100 Novato children and has provided financial assistance to one-third of the participants.



process has the potential to generate millions of dollars in one-time revenue from the sale of properties, with possible ongoing revenues as well.

**Parks and Street Maintenance** — Since its inception, Measure F has funded maintenance workers that have helped offset the 30%+ reductions that occurred in this area during the recession. In 2011/12, two maintenance workers were funded on a temporary basis, and in 2012/13 and 2013/14, that number was reduced to one funded maintenance worker. In 2014/2015, two maintenance workers have been included in the core staffing going forward. These additions have helped supplement and augment the quality of the landscape, park, median, and street maintenance throughout Novato that otherwise would have declined even further had Measure F dollars not been available.

Three new capital improvement projects are slated for 2014/15, funded by Measure F, to address pedestrian safety, traffic safety, and energy efficiency. The City is beginning a pedestrian crossing safety pilot program to research the safety of crosswalks throughout Novato, recommend the most critical crossings to upgrade, and provide information about what types of crossing upgrades are most suitable to each location. The project also includes funding to install two test sites. Measure F will also be funding the design of a traffic signal improvement project to install a battery backup and appropriate ADA improvements for all 31 City-owned traffic signals.

The City will also be moving ahead with the third and final phase of its Streetlight Conversion Program, changing out all remaining streetlights to more energy efficient LED bulbs. This project, identified in the fiscal sustainability plan, will translate to significant ongoing energy savings for the City of at least \$130,000 per year and growing over time.

Finally, the City Council appropriated \$1.1 million to pay off a loan that it took out to make major facility improvements at the Public Works Corp Yard facility. The transaction will save interest costs and represent an annual budget savings of about \$100,000 annually.

**Customer Service and City Operations** — With the transition to our current location, it was initially unclear how much customer assistance would be necessary to handle the volume of walk-in citizens for all manner of City business, including one-stop-shop, business license, police permits, and general questions. Measure F extended the previously eliminated customer service position for one year. Moving forward, the position has been moved to the General Fund and reduced to a half-time position.

A significant new investment for the City for 2014/15 is the first phase of projects identified in the Information Technology Master Plan. While Novato's network infrastructure is current, a number of Novato's software systems are either non-existent or over ten years old. A full process was undertaken in 2012 and 2013 to identify all City technology needs over a four-year period, prioritize those needs, establish budgets, and stage them for implementation. FY2014/15 represents the first year of such investment, allotting nearly \$600,000 to the research, planning, and staging of several major new technologies such as in-car video cameras for police vehicles and an updated City website with enhanced customer-service features, among other projects that will allow the City to significantly enhance staff efficiency, customer service, and immediate access to information

**Economic Development** — Restoring an Economic Development program for Novato has been a strategic use of Measure F over the past few years to replace a program that was eliminated in 2011

#### MEASURE F SUPPORTS: CUSTOMER SERVICE & CITY OPERATIONS

One-stop shop staff provide hands-on, prompt, one-on-one customer service.



with the State seizures of local Redevelopment funds. The Measure F-funded economic development program has worked to identify companies looking to relocate or expand, worked with new and existing businesses to find quality commercial space in Novato, and participated in regional outreach opportunities to targeted industries.

In addition, the City commissioned a retail leakage study to analyze the sales leakage that Novato experiences to surrounding jurisdictions. The program also championed the recent "Shop Local Novato" campaign, featuring a variety of marketing materials, bus shelter ads, banners, and a website encouraging residents to shop at their local Novato businesses.

More recently, the City has led the formation of the North Bay Life Science Alliance, a collaboration between the City of Novato, the Buck Institute, four North Bay counties, UC-Davis, Sonoma State University, and a variety of other stakeholders. The Alliance was formed to accelerate growth in the life science industries in the North Bay and establish the North Bay as a strong, attractive and growing hub for bio-tech and life sciences businesses.

Finally, another critical program in the City's overall Economic Development strategy is the Hamilton Base Reuse program. With a limited-term Hamilton Base Reuse Director staff position, the program seeks to find the best uses for a variety of City-owned properties in Hamilton, including properties with historic structure. Additionally, some of the properties were deeded with "lands-to-parks" restrictions from the Army that limit uses to park and recreational uses. The City has been working closely with federal agencies to work through those restrictions. Ultimately, the goal is to encourage the private sector to redevelop these properties for the benefit of the Hamilton community and the City.

## INVESTING IN NOVATO'S FISCAL HEALTH AND STABILITY

**Future Risk and Economic Reserve Funds** — As part of the 2014/15 budget, the City Council set aside \$3 million in Measure F funds as a Risk Mitigation Reserve to guard against some future unknown costs or events. The economy is improving, but the City is proceeding with caution. Separate from the City's "Emergency & Disaster Response Reserve," this reserve is set aside for mitigating economic impacts, State takeaways, or future unforeseen mandatory expenses, among other contingencies.

**Future Technology Projects** — As previously mentioned, the City Council not only appropriated the initial \$598,000 for the first year's project in the Information Technology Master Plan, it also set aside an additional \$2.2 million in Measure F funds for multiple-year projects. As many of these projects are multi-year, multi-phase, projects, it was important to identify the budgets for the full scope of each project from the outset, and identify a funding source. The breadth of the projects spans virtually all departments and will upgrade outdated systems and put into place new, much-needed systems, that will improve efficiency of operations and enhance customer service to City residents.

**Future Community Projects** — Consistent with the City's deliberate and responsible fiscal management of Measure F revenues, an estimated \$3.5 million balance remains that the City Council could appropriate for other projects to benefit the community.

## MEASURE F SUPPORTS: ECONOMIC DEVELOPMENT

The City purchased 91 acres of vacant land at 8% of the appraised value—or \$500,000. Benefits of ownership include a Land-to-Parks exchange with the National Park Service which would allow for the renovation of several historic buildings and redevelopment in the Hamilton community.



## MEASURE F SUPPORTS: ECONOMIC DEVELOPMENT

Measure F restored the City's economic development efforts. Citywide "Shop Local Novato" campaign was created to help reduce the City's annual retail loss of \$170 million. The City has also launched a biotech initiative to bring high-paying life science jobs to Novato.



#### **NEW FINANCIAL REALITIES FOR NOVATO**

Since Measure F was adopted in 2010, the City Council has made it a priority to plan for and ultimately achieve long-term sustainability. Substantial research during 2012 and 2013 for the Fiscal Sustainability Plan highlighted a number of important financial realities for Novato. Several of these facts serve to highlight Novato's current situation, and what the key fiscal issues will be for Novato as it looks to a sustainable future.

- Infrastructure is aging and needs proper maintenance and repair, an investment of over \$1 million annually that City has not been able to adequately fund in the past.
- Seizure of local redevelopment monies by the State of California eliminated over \$800,000 in annual funding for economic development and redevelopment programs.
- Staff compensation is not competitive in the marketplace and is causing difficulty in attracting and retaining qualified employees who provide services to the public; this problem is exacerbated by reduced benefits for new employees combined with rising employee contributions to benefits and rising retirement costs to the City.
- Regional competition for quality retail and economic development projects is strong, and, as a community, Novato has limited commercially-zoned space remaining.
- As a mostly built-out community, Novato will not have the large infusions of planning fees, permit fees, and development charges that occur with large projects that have historically helped to fund new city capital projects and amenities; in the future, only about 20% or less of total City revenues will come from these types of sources.

As a response to this set of facts and a recognition of Novato's financial realities for the future, the City recently completed a multi-year planning process to chart the City's future course for both a *fiscally and operationally* sustainable Novato in the long term. The "Fiscal Sustainability Plan" was adopted by the City Council in February 2014 and the 2014/15 budget begins implementation of many of the programs outlined in the Plan.

#### **STREET: BEFORE & AFTER**

Infrastructure is aging and needs proper maintenance and repair.



#### **CONCLUSION**

Adoption of the Measure F sales tax was crucial in addressing the financial crisis and bringing much-needed interim stability to Novato. It has prevented significant budget and service cuts that would have otherwise occurred, reinstated staff positions that were previously cut, and funded important services and programs for public safety and for our community's youth and seniors. Measure F has also helped the City leverage grant opportunities and invest in the City's economic growth and development. An essential component of the City's effort to ensure long-term fiscal and organization sustainability, Measure F has protected vital City services and allowed the City to continue to provide high-quality programs to its residents.

#### MEASURE F COMMITTEE

This Annual Report is respectfully submitted to the Novato City Council and the Novato community by the Measure F Oversight / Citizens Finance Committee.

David Bentley, Chair Robert Jordan, Vice-Chair Alan Berson Caitrin Devine Chris MacKenzie Robert Ratto

Robert Scott

#### **APPENDIX**

#### **MEASURE F FUNDING HISTORY DETAIL**

	FINAL ACTUAL 2010/11	FINAL ACTUAL 2011/12	FINAL ACTUAL 2012/13	UNAUDITED ACTUAL 2013/14	ADOPTED BUDGET 2014/15
Revenues					
Measure F Sales Tax Revenue	689,126	4,089,401	4,473,532	4,412,104	4,567,000
Investment Earnings	347	9,491	20,872	33,000	33,330
TOTAL REVENUES	689,473	4,098,892	4,494,404	4,445,104	4,600,330
Expenditures					
General Fund Deficit Backfill / Prevent Budget Cuts		16,784	411,375	_	1,426,883
Police / Crime Prevention / 911 Response Times					
Novato Response Team — Staff and Program Support	_	52,302	105,126	73,582	312,490
0.50 FTE Records Clerk					36,913
0.50 FTE Admin Clerk					36,913
Emergency Services Contract				15,053	37,500
North Coast Computer Crimes Task Force				12,022	34,214
Youth and Senior Programs and Projects					
Youth After School Initiative / Needs Summit			14,236	17,337	70,000
CIP — Synthetic Turf Study / Analysis				272	9,728
Youth Athletics Scholarship Program					10,000
Parks and Streets Maintenance / Programs					
Parks, Medians, Streets Maintenance Staffing		169,864	86,092	85,542	
Geographic Info Systems Support			9,144		
CIP — Pedestrian Safety Improvement Program					50,000
CIP — Traffic Signal Improvements Design					25,000
CIP — LED Streetlight Replacement Project					1,200,000
Open Space Purchase — 90+ acres Trust for Public Lands				253,779	
Payoff of Corp Yard Lease					1,135,000
Administration and Customer Service					
Receptionist / Admin Clerk				63,123	
CIP — Technology Projects Citywide					598,000
Economic Development					
Economic Development — Staff and Program Support			170,982	215,006	_
Hamilton Base Reuse — Staff and Program Support			107,076	284,663	311,633
Shop Local Campaign			19,232	85,522	
Bio-Life Sciences Campaign			_	157,301	134,699
TOTAL EXPENDITURES	_	238,950	923,263	1,263,202	5,428,973
ADDITIONAL RESERVES / FUTURE COMMITMENTS					
Risk Mitigation Reserve					3,000,000
Future Technology Projects — IT Master Plan					2,200,000
CIP — Future Park Improvement Projects					1,300,000
MEASURE F ENDING FUND BALANCE	689,473	4,549,415	8,120,556	11,302,458	3,973,815