



CITY OF MORRO BAY PUBLIC WORKS ADVISORY BOARD MEETING AGENDA

The City of Morro Bay is dedicated to the preservation and enhancement of the quality of life. The City shall be committed to this purpose and will provide a level of municipal service and safety consistent with and responsive to the needs of the public.

**Thursday, February 19, 2015
Veteran's Memorial Building - 6:00 P.M.
209 Surf Street, Morro Bay, CA**

Janith Goldman
Marlys McPherson
Stephen Shively
David Sozinho

Deborah Owen
Christopher Parker
Stewart Skiff

ESTABLISH QUORUM AND CALL TO ORDER
MOMENT OF SILENCE/PLEDGE OF ALLEGIANCE
ANNOUNCEMENTS
PRESENTATIONS – None

ELECTION OF OFFICERS

PUBLIC COMMENT PERIOD

Members of the audience wishing to address the Board on City business matters other than scheduled items may do so at this time. To increase the effectiveness of the Public Comment Period, the following rules shall be followed:

- When recognized by the Chair, please come forward to the podium and state your name and address for the record. Board meetings are audio and video recorded and this information is voluntary and desired for the preparation of minutes.
- Comments are to be limited to three minutes.
- All remarks shall be addressed to the Board, as a whole, and not to any individual member thereof.
- The Board respectfully requests that you refrain from making slanderous, profane or personal remarks against any elected official, commission and/or staff.
- Please refrain from public displays or outbursts such as unsolicited applause, comments or cheering.
- Any disruptive activities that substantially interfere with the ability of the Board to carry out its meeting will not be permitted and offenders will be requested to leave the meeting.
- Your participation in Board meetings is welcome and your courtesy will be appreciated.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Public Services Department at (805) 772-6264. Notification 24 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

A. CONSENT CALENDAR

- A-1 Approval of Minutes of January 29, 2015 Meeting
Recommendation: Approve minutes.

- A-2 Director's Report
Recommendation: Receive and file.

B. OLD BUSINESS

- B-1 Continued Discussion of Preliminary Water and Sewer Rate Study - *Bring Staff Report and study from January 29, 2015 Special Meeting to this meeting*
Recommendation: Review, discuss and make a recommendation to City Council regarding the rate study options.

C. NEW BUSINESS

- C-1 Review of Stop Sign Request for the intersection at Main Street and Pacific Avenue (*Staff Report will not be available until the Meeting*)
Recommendation: Review, discuss and make a recommendation to City Council regarding the intersection.

D. ADJOURNMENT

Adjourn to the Public Works Advisory Board meeting at the Veteran's Memorial Building, 209 Surf Street, on **Thursday, April 16, 2015 at 6:00 p.m.**

This agenda is subject to amendment up to 72 hours prior to the date and time set for the meeting. Please refer to the agenda posted at the Public Services Department, 955 Shasta Avenue, for any revisions or call the department at 772-6264 for further information.

Materials related to an item on this Agenda are available for public inspection during normal business hours in the Public Services Department, at Mill's/ASAP, 495 Morro Bay Boulevard, or the Morro Bay Library, 695 Harbor, Morro Bay, CA 93442, or online at www.morro-bay.ca.us/pwab . Materials related to an item on this Agenda submitted to the Board after publication of the Agenda packet are available for inspection at the Public Services Department during normal business hours or at the scheduled meeting.

AGENDA ITEM: A-1

DATE: February 19, 2015

ACTION: _____

CITY OF MORRO BAY
PUBLIC WORKS ADVISORY BOARD (PWAB)
SPECIAL MEETING – JANUARY 29, 2015
VETERAN’S HALL – 6:00 P.M.

SYNOPSIS MINUTES

PRESENT:	Marlys McPherson	Board Member
	Janith Golman	Board Member
	Deborah Owen	Board Member
	Steven Shively	Board Member
	David Sozinho	Board Member
	Stu Skiff	Board Member
ABSENT:	Ron Burkhart	Vice-Chairperson
STAFF:	Rob Livick	Public Services Director
	Kay Merrill	Administrative Utilities Technician
CONSULTANT:	Alex Handlers	Bartle Wells Associates

ESTABLISH QUORUM AND CALL TO ORDER
MOMENT OF SILENCE / PLEDGE OF ALLEGIANCE

Marlys McPherson called the meeting to order at 6:07 p.m., stating all Board members are present with the exception of Ron Burkhart and introduced Stu Skiff, new Board Member. Marlys McPherson asked for a moment of silence.

ANNOUNCEMENTS - None

PRESENTATIONS - None

PUBLIC COMMENT PERIOD

A. CONSENT CALENDAR

A-1 Approval of minutes from the PWAB meeting of October 16, 2014

MOTION: Steven Shively moved to approve the minutes. Janith Golman seconded the motion and the motion passed unanimously. (6-0).

B. OLD BUSINESS - None

C. NEW BUSINESS

C-1 Discussion of Preliminary Water and Sewer Rate Study

Rob Livick stated tonight’s meeting is a workshop session on the preliminary water/sewer rate findings that consultant Alex Handlers provided. He stated water rates have not been adjusted since the mid 1990’s and rates

have caught up with inflation and the City is not meeting the debt coverage ratio. Wastewater rates need to be adjusted as the City has a very expensive project in progress. Prop 218 will be addressed which will set maximum rates. Rob presented an update on the status of water supply including the following: The primary source of water comes the State Water Project, the City has ground water, brackish water which is treated through reverse osmosis, there are five seawater wells that can be treated at the desal plant, conservation is a source of water and reclaimed water is the City's future. State water is an interruptible water supply and allocations fluctuate every year. The City is currently in a severely restricted water supply mode and there are water restrictions the public is required to abide by.

The City has a new Facebook page which will provide current news, events and breaking news for the Public to access.

Rob Livick clarified the use of reclaimed water will be available in approximately six or seven years.

Alex Handlers presented the following water rate study power point presentation:

Presentation Overview

- Background
- Water Finances & Rates
- Sewer Finances & Rates
- Next Steps
- Questions/Discussion

Background

- City population = about 10,300
- City provides water & sewer services to 5,425 accounts
 - Almost 90% of accounts are residential
- City's water & sewer utilities are financially self-supporting
- Service charges are the main source of revenue
 - Rates currently account for roughly 98% of revenues
- Both water and sewer utilities are facing major financial challenges
- Substantial rate increases needed in upcoming years

Project Overview

- 10-Year Water & Sewer Financial Plans
 - Develop 10-year financial projections
 - Evaluate financial & rate scenarios
 - Determine overall rate increases
- Water & Sewer Rate Analyses
 - Review current rate structures
 - Analyze utility billing and water use data
 - Identify and evaluate rate alternatives
 - Develop new rates based on a cost-of-service approach
- Update connection fees and miscellaneous charges
- Obtain input for development of final recommendations

Water Finances

- Water rates have not been increased in almost 20 years
- Adjusted for inflation, water rates are 36% lower than in 1995
- Water utility operating in deficit mode
- Projected \$940,000 deficit in current fiscal year
- Fund reserves being drawn down
- City is out of compliance with CCWA Bond debt covenants
- Water enterprise facing substantial financial challenges

Financial Challenges

- Eliminate deficits & restore financial stability
- Roughly 30% rate increase needed to balance budget
- Capital needs & repair/replacement of aging infrastructure
- \$9 million of improvements over 10 years; \$6 million within 5 years
- 5-year projects include new storage tanks, desal plant improvements, AMR meters, replace aging water pipelines
- Plus future construction of recycled water facilities (debt financed)
- Reduced water sales = reduced revenues
Water sales have declined in recent years & may continue to decrease
- Customers who conserve buy less water and mitigate rate impact
- Ongoing operating cost inflation

Financial Projections

- BWA developed draft 10-year financial projections
- Evaluate funding requirements and rate increases
- Based on reasonable, slightly-conservative assumptions
- Operating costs based on current budget + 4% cost escalation
- State water contract expenses increase by 5% per year
- City's share of CCWA bond debt service is paid off in 8 years
- Water sales based on 98% of 2-year historical average and decrease by 1.5% for each 10% increase in rates
- Capital project costs escalated at 3% per year
- Assumes debt financing for \$3.5 million of capital projects next year
- Assumes 15-year bank loan; City should pursue low-rate I-Bank funding
- \$12 million recycled water system financed by SRF Loan (starting 2020/21)
- Includes \$300,000 of future operating costs for future recycled

Financial Findings

- Rates need to more than double over the next 5 years
- Need a larger increase in first year (45% - 50%)
- Help restore financial stability & eliminate deficits
- Meet legal debt service coverage covenants on CCWA bonds
- Position water utility to be able to finance \$3.5M of capital projects
- Additional increases can be phased in over subsequent 4 years

Current Water Rates

Rate Structure Observations

- Same rates apply to all accounts

- Fixed charges generate roughly 30% of total rate revenues
- Reasonable balance of revenue stability and conservation incentive
- Fixed charges are much lower than fixed expenses
- Small anomalies in quantity charge increases
- Lower use customers & second homes benefit from low fixed charges coupled with no charges for first 3 units of water
- 35% of bills at 3 units of water or less
- 32% of water use not billed
- Historically, inclining rates were justified for conservation incentive, but now rates may also need a cost basis (pending legal case)

Draft 4-Tiered Rate Option

- BWA developed draft 4-tiered water quantity rates
- Tier rates phase in over 5 years with larger increase in year 1
- Phased in charges for first 3 units of water (currently not billed)
- All customer affected the same in \$ increases
- Represents higher % increase for low users
- Fixed charge continues to recover roughly same % of revenues
- Impacts vary based on water use
- Higher \$ increases for higher levels of use
- But higher % increase for low users as first 3 units are billed
- *Many rate structure options are acceptable*

Draft 4-Tiered Rate Option

Other Rate Issues

- Pass-through for State Water Project cost increases
- Impact of Bay-Delta peripheral canal
- Surcharge for desal facility operations
- Only charged when desal is in use
- Seawater treatment: about \$1600/AF or \$3.70 per hcf
- Brackish water treatment: about \$1,000/AF or \$2.30 per hcf
- Should allow for annual inflationary increases
- Potential water shortage rate surcharges
- Implemented by Council authorization in response to water shortages and reduced water sales
- Goal: ensure revenue stability during periods of reduced water sales

Marlys McPherson opened Public Comment period.

Rick Drescher stated he was on PWAB 15 years ago and the Board wanted to increase water rates at that time but the City Council and the Mayor chose not to address the issue. He suggested in future presentations to not state that the lower use/rate payers are getting water for “free”. The lower tier is a base rate and the water bill is the same whether the water usage is one unit or three units.

Nancy Bast asked when does the Contract for State Water end and when can we stop paying 2.5 million dollars for a small amount of water.

Rob Livick stated the contract with CCWA is up for renewal in eight years which may coincide with other water sources supply with reclaimed water becoming more viable and the City’s ground water supply. A

proposed goal and objective for the City is water supply diversification and to look at other sources of water besides State Water. State Water is a limited, very expensive supply of water and it would benefit the City to get off State Water supply as soon as it is practical for the City.

Barry Branin asked if it's possible to not receive any State Water if the City diversifies.

Rob Livick replied at the end of the debt obligation to CCWA, the City will have the ability to return the City's allocation of water to the County Water Conservation and Flood Control District and they can sell the water to someone else.

Marlys McPherson closed Public Comment period.

Discussion amongst the committee, staff and the consultant included the validity of surcharges, obligation to pay for State Water even if the City receives no water, getting back in compliance will occur the first year of the rate hike and the way the covenant works is, the revenue needs to cover operating costs, state water costs and an additional 25% for the revenue stream to show adequate security. The extra 25% may be used for capital projects and other needs. Discussion continued in regard to the tier rate system and fixed charges, moving away from State Water and use brackish water and reclaimed water and clarification of the 5 and 10 year plan.

Marlys McPherson opened Public Comment period.

Nancy Bast asked what is the 32% of water use that is not billed?

Alex Handlers responded 32% of the City's water use falls in the first tier.

John G. (last name unintelligible) stated vacation rentals should pay for every unit of water consumed.

Marlys McPherson closed Public Comment period.

Alex Handlers responded the fixed charge is equal to three units of water so you have to a fixed rate whether you use one, two or three units of water. The City could have a fixed rate and then charge for each unit of water.

Marlys McPherson closed Public Comment period.

Discussion amongst the committee, staff and the consultant continued regarding the rates being in compliance in order to obtain loans from the State Revolving Fund (SRF) loan, updating water meters, conversion to automated meter reading (AMR) and billing service, water revenue and expense projections, the need for the base rate to be increased and budget for water pipes to be replaced and the water system master plan.

Alex Handlers presented the following sewer rate study power point presentation:

Financial Challenges

- Need to fund a new \$75 million wastewater treatment plant
 - "Reclamation ready" facility at Rancho Colima site
 - Cayucos expected to participate as partner or customer
 - \$10M of design, enviro, & other preliminary costs through end of 2016/17
 - \$65M 2-year construction phase starting 2018/19
 - Plant operational in about 5 years
- Capital needs & repair/replacement of aging infrastructure
 - \$10 million of improvements over 10 years; \$7.6 million within 5 years

- Mostly for rehab/replacement of aging sewer collection system pipelines
- Also anticipate \$2.3 million (in current and next 3 years) of deferred maintenance and repairs at existing treatment plant to meet permit req's
- Ongoing operating cost inflation

Financial Projections

- BWA developed draft 10-year financial projections
- Evaluate funding requirements and rate increases
- Based on reasonable, slightly-conservative assumptions
- Operating costs based on current budget + 4% cost escalation
- Sewer revenues account for a slight decline in volumetric charges
- Capital project costs escalated at 3% per year
- Assumes new treatment plant is funded by a 30-year SRF Loan at 3%
- Assumed City obtains SRF Planning Loan to fund design & preliminary costs on an interim basis; can be rolled into long-term SRF loan
- Assumes Cayucos SD pays 25% of treatment plant O&M, capital, and debt service for new facility

Financial Findings

- Rates need to increase by approx. 82% over next 5 years
- Single family charge increases from \$45.59 to \$83.00 per month
- Can phase in rate increases with a slightly bigger increase in year 1
- SRF financing debt service doesn't start until 2019/20
- Sewer utility needs to set aside 1 year of debt service in 2018/19
- Allows for cash funding of other near-term capital needs

Current Sewer Rates

Rate Structure Observations

- Residential rates
- Allowances vary widely
- Very little revenue collected from use over allowances
- Same fixed charge for all residential units
- Non-Residential rates
- Essentially 5 rate classes
- Minimum charge is higher than the residential rate

Draft Rate Option

- Draft Residential Rates
- Fixed monthly charge per dwelling unit (no add'l usage charges)
- Multi-family & condos pay a charge 80% of single family rate
- Need to determine number of multi-family dwelling units
- May be a big transition for some multi-family accounts
- Draft Non-Residential Rates
- Rates boiled down to 5 rate classes (based on strength)
- Two customer classes reclassified based on sewage strength
- Minimum charge recommended at reduced multi-family rate
- Based on updated draft cost allocations, each rate class increases by roughly the same \$ amount (not %)

Other Rate Issues

- Potential separate charge for new wastewater treatment facility
- Could be collected on property tax rolls (for residential accounts)
- Could be structured as a maximum charge that City could phase in
- Prefer to have flexibility to use the charge to help fund other capital projects in near term

Marlys McPherson opened Public Comment period, and seeing none, closed Public Comment period.

Discussion amongst the committee, staff and the consultant continued regarding the rate structure for sewer, keeping the existing plant running while building the new plant, the State Revolving Fund (SRF) fixed interest rate loan, preventing storm water from getting into system, Sewer System Master Plan (SSMP) and different strengths of wastewater.

Marlys McPherson opened Public Comment period.

Barry Brannin stated when the new reclamation facility is operating there will be seven acres on the beach where the old reclamation facility was and perhaps the City could lease the property and acquire some revenue.

Marlys McPherson closed Public Comment period.

Rob Livick clarified this item will be continued to the next PWAB meeting.

The next steps are:

- Jan-29: Obtain Preliminary PWAB input
- Feb-19: Potential additional PWAB review and input
- Feb-24: Council Workshop(Set Public Hearing & Approve Notices)
- March: Initiate Prop 218 process
 - Mail notices of proposed rates to all affected parcels
 - Hold public hearing at least 45 days after mailing notices
 - Rate increases subject to majority protest
- May 26: Council Meeting/Public Rate Hearing
- July 1: New rates become effective

Rob Livick stated the election of chair and vice-chair will be agenzized to the next PWAB meeting.

Rick Sauerwein announced the San Luis Obispo Council of Governments (SLOCOG) invites residents throughout the county to participate in the preparation of the 2014 Regional Transportation Plan. SLOCOG developed a "Budget Challenge" and created a tool on-line which allows residents to talk about how they would like regional dollars to be spent. Morro Bay has several projects that have been proposed in previous Regional Transportation Improvement Program (RTIP) and it is important to make the City's needs known to the decision makers and this is a great opportunity to do that. Google SLOCOG and click on the banner and you can voice your opinion there.

D. ADJOURNMENT

The meeting adjourned at 8:42 p.m. to the next regular PWAB meeting to be held at the Veteran's Memorial Building, 209 Surf Street, on Thursday, February 19, 2015 at 6:00 p.m.

PUBLIC WORKS ADVISORY BOARD
 City of Morro Bay, Department of Public Works
Director's Report / Information Items
 Prepared: 2/11/2015

AGENDA NO.: <u>A-2</u>
DATE: <u>2-19-2015</u>

Category	Information Item	Staff Contact	Status																																																																																										
Water	Resource Management, Operations	Rob Livick, Jamie James, Damaris Hanson	<p>The City Council at its February 10, 2015, did approve Resolution XX-15 that continued the water allocation offset program provided for in the Morro Bay Municipal Code Chapter 13.20 for new development and requires WEUs of in-lieu fees be offset on a two to one basis. Council also continued the in-lieu fee of \$2,900/Required WEU for a total of \$5,800 per WEU</p> <p>Statistics</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th></th> <th style="text-align: center;">Oct-14</th> <th style="text-align: center;">Nov-14</th> <th style="text-align: center;">Dec-14</th> <th style="text-align: center;">2014 Total</th> <th style="text-align: center;">Jan-15</th> </tr> </thead> <tbody> <tr> <td colspan="6" style="text-align: center;">Million Gallons</td> </tr> <tr> <td>Morro Basin</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Chorro Basin</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>R/O</td> <td style="text-align: center;">0.68</td> <td style="text-align: center;">2.79</td> <td style="text-align: center;">0.38</td> <td style="text-align: center;">13.25</td> <td style="text-align: center;">1.12</td> </tr> <tr> <td>State Water</td> <td style="text-align: center;">31.86</td> <td style="text-align: center;">24.27</td> <td style="text-align: center;">25.98</td> <td style="text-align: center;">371.65</td> <td style="text-align: center;">28.41</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: center;">32.54</td> <td style="text-align: center;">27.06</td> <td style="text-align: center;">26.36</td> <td style="text-align: center;">384.90</td> <td style="text-align: center;">29.53</td> </tr> </tbody> </table> <p style="text-align: center;">Average Daily City Use (including Commercial, Industrial and Irrigation) Gallons/Day</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>Morro Basin</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Chorro Basin</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>R/O</td> <td style="text-align: center;">22,666.67</td> <td style="text-align: center;">90,000.00</td> <td style="text-align: center;">12,258.06</td> <td style="text-align: center;">13,250,000.00</td> <td style="text-align: center;">37,333.33</td> </tr> <tr> <td>State Water</td> <td style="text-align: center;">1,062,000.00</td> <td style="text-align: center;">782,903.23</td> <td style="text-align: center;">838,064.52</td> <td style="text-align: center;">371,650,000.00</td> <td style="text-align: center;">947,000.00</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: center;">1,084,666.67</td> <td style="text-align: center;">872,903.23</td> <td style="text-align: center;">850,322.58</td> <td style="text-align: center;">384,900,000.00</td> <td style="text-align: center;">984,333.33</td> </tr> <tr> <td>Monthly Rain Total</td> <td style="text-align: center;">0.91</td> <td style="text-align: center;">0.23</td> <td style="text-align: center;">4.59</td> <td style="text-align: center;">12.35 calendar</td> <td style="text-align: center;">0.24</td> </tr> <tr> <td>Gal/person/day</td> <td style="text-align: center;">100.77</td> <td style="text-align: center;">81.09</td> <td style="text-align: center;">79.00</td> <td style="text-align: center;">97.97</td> <td style="text-align: center;">91.45</td> </tr> </tbody> </table>		Oct-14	Nov-14	Dec-14	2014 Total	Jan-15	Million Gallons						Morro Basin						Chorro Basin						R/O	0.68	2.79	0.38	13.25	1.12	State Water	31.86	24.27	25.98	371.65	28.41	TOTAL	32.54	27.06	26.36	384.90	29.53							Morro Basin						Chorro Basin						R/O	22,666.67	90,000.00	12,258.06	13,250,000.00	37,333.33	State Water	1,062,000.00	782,903.23	838,064.52	371,650,000.00	947,000.00	TOTAL	1,084,666.67	872,903.23	850,322.58	384,900,000.00	984,333.33	Monthly Rain Total	0.91	0.23	4.59	12.35 calendar	0.24	Gal/person/day	100.77	81.09	79.00	97.97	91.45
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Category	Information Item	Staff Contact	Status
Streets/Sidewalks/ Storm Drain Maintenance	Local Street Maintenance Projects	Mike Wilcox	Street, Sidewalk, Street Tree and Storm drain maintenance has shifted Back to the newly reformed Public Works Department as of February 1, 2015. If you have street, street tree or storm drain maintenance issues please call 772-6261 so that it can be added to the list of work. The City will still be patching potholes and the best way to notify the City regarding a pothole that needs attention is to use our E-Notify – “Let us Know system (on the City's website www.morro-bay.ca.us , click on City Departments, then on Recreation and Parks to the E-Request Form or http://morro-bay.ca.us/erequest). Upon receipt, those E-Requests will be reviewed, cataloged and entered into our database. Finally, the repairs will be scheduled. In the future, the City will be adding to the website a list or "Street Maintenance Queue" so you will be able to monitor the progress and see when your pothole may be repaired.
	Pavement Management Plan	Sauerwein/Whelan	The 2014/2015 PMP project is currently under way.
	Morro Creek Bridge	Sauerwein/Rands	The project is proceeding forward per the schedule. Construction is underway and the ribbon cutting is tentatively scheduled for July 3, 2015
Street Trees	Urban Forest Plan	Hanson	Was heard at City Council April 8, 2014, Going back for resolution adoption at a future meeting.
Misc			Notify Me: Sign up for Notify Me on the City's Website for notification of Council, Boards and Commissions information. Notify Me can be accessed from a link on the City's Homepage. Let Us Know: The City has added a new feature to the website, Let Us Know, which is replacing the Citizen E-Request link on the City's Homepage. With Let Us Know, citizens can submit a compliment, request, or report a concern to the City for predetermined issues without the need to phone the City during business hours (for example: reporting a pothole). Staff can also add requests to Let Us Know for someone over the phone or in the office if they do not have access to a computer. Each category in Let Us Know is assigned to the appropriate staff member to handle so citizens don't have to figure out what department to contact for an issue they need to report on.

* Please contact individual staff members prior to the meeting if possible for more detailed information.



AGENDA NO: B-1

MEETING DATE: February 19, 2015

Staff Report

TO: Public Works Advisory Board DATE: February 18, 2015

FROM: Rob Livick, PE/PLS - Public Services Director/City Engineer

SUBJECT: Water and Sewer Rate Study Revised Report

Attached is a revised water and sewer rate study with the prior and new alternative water rates. The new rates are very similar but with slightly higher Tier 1 and slightly lower Tier 2. During the 5-year phase in period the rates end up at the same place.

Prepared by: RL Dept. Review: RL

City Manager Review: _____

City Attorney's Review: _____

City of Morro Bay



Water & Sewer Rate Studies

Draft Tables 02/17/15



BARTLE WELLS ASSOCIATES
INDEPENDENT PUBLIC FINANCE ADVISORS



City of Morro Bay

Water & Sewer Rate Study Key Issues

BACKGROUND & OBJECTIVES

Background

- The City of Morro Bay is located on the Central California coast in San Luis Obispo County, about 12 miles northwest of the City of San Luis Obispo. The City has a population of approximately 10,300. The City was incorporated in 1964 and is governed by a 5-member City Council. Council Members are elected at-large from the community for 4-year terms on alternating even years.
- The City provides water and wastewater services to its residents. Both water and sewer utilities are facing major financial challenges in upcoming years that will require substantial rate increases.
 - Water rates have not been increased in almost 20 years and the water utility is operating in deficit mode with an anticipated budget deficit of over \$900,000 in the current fiscal year. Additionally, the City needs to fund a number of near-term water system capital improvements to address deficiencies and improve reliability, and faces long-term challenges regarding its water supply.
 - The biggest challenge facing the sewer enterprise is the requirement to build a new wastewater treatment plant at an estimated cost of almost \$75 million over the next four years. Additional funding is needed for repair and rehabilitation of various components of the City's aging sewer collection system.
- *The preliminary draft financial and rate projections attached are for discussion and input only at this stage. Final recommendations will be developed incorporating input received from the City's Public Works Advisory Board, City Council, staff and the public.*

Financial Plan & Rate Study Objectives

- In 2014, Bartle Wells Associates (BWA) was retained to develop water and sewer rate studies and update various water and sewer charges. Key objectives of the rate studies are to recommend water and sewer service charges that are adequate to fund future operating and capital needs of each utility. Key elements of the rate study include

1. Develop 10-year water and sewer enterprise financial projections to determine annual revenue requirements
 2. Incorporate the latest available financial information and estimates of future operating and capital funding needs
 3. Evaluate financing alternatives for the City's water and wastewater capital improvement programs including construction of a new Water Reclamation Plant.
 4. Develop water and sewer rates that:
 - a. Recover the City's costs of providing water and sewer service and support the long-term financial stability of the water and sewer utilities
 - b. Provide adequate funding for capital needs including long-term infrastructure repairs and replacements
 - c. Are fair, equitable, and politically acceptable
 - d. Comply with the legal requirements of Proposition 218
 5. Aim for gradual annual rate increases, to the extent possible, to help minimize the annual impact on customers
 6. Pursue low-cost financing alternatives for required debt financing
 7. Maintain a prudent level of fund reserves
-

WATER FINANCIAL PLAN & RATE STUDY

Water Finances & Rates



- The City's water utility is a financially self-supporting enterprise.
 - Water rates are the main source of revenues and currently account for approximately 98% of total revenues.
 - Water rates should be set at levels adequate to fund the cost of providing service, including long-term operating and capital needs, and support the enterprise's long-term financial stability.
- Water rates were last increased in 1995 and have not been adjusted in almost 20 years. Adjusted for inflation, water rates are about 36% lower than they were in 1995. With hypothetical 3% annual rate escalation since 1995, the City's water rates would now be approximately 75% higher than they currently are.

- The water enterprise is now operating in deficit mode with a projected budget deficit of over \$900,000 in the current fiscal year.
- The City is out of compliance with debt service coverage covenants related to its share of payments for the Central Coast Water Authority's Series 2006A Revenue Bonds. The City has legally covenanted to raise water rates and charges as needed to generate Net Revenues – revenues remaining after funding the City's water operating expenses -- adequate to fund 125% of the City's total state water contract payments, including the bond payments and other contractual funding requirements payable to the San Luis Obispo County Flood Control and Water Conservation District, the local State Water Contractor.
- The water enterprise had approximately \$2.6 million in reserves as of June 30, 2014. However, the City anticipates drawing down fund reserves during the current fiscal year, to levels slightly below prudent minimum targets.
- The monthly water bill for a typical single family home using 6 hundred cubic feet (hcf) of water per month, equal to a little under 150 gallons per day (gpd), is \$33.20 or slightly over \$1 per day. The City's typical residential water bills are in the lower-middle range compared to other regional agencies and were the fourth lowest of 12 agencies surveyed.
- The City's current water rates include both a fixed monthly charge of \$16.43 plus water quantity charges that gradually escalate from \$5.56 for the fourth unit of metered water use per month to \$13.68. The first three units of water are provided with the fixed charge, at no additional cost. All customer pays according to the same rate schedule.

Financial Challenges

The City's water enterprise faces a number of financial challenges in upcoming years that are putting upward pressure on rates. Key challenges include:

- **Eliminate Budget Deficits and Restore Financial Stability**
 - With almost 20 years of no rate increases, the water enterprise has been slowly starved of funds resulting in current budget deficits. The budget deficit for the current fiscal year is projected at over \$900,000. Rate increase are needed to restore financial stability and eliminate annual deficits.
- **Repair & Replacement of Aging Facilities**
 - The City's water system capital improvement program identifies approximately \$9 million (current \$) of funding needs over the next 10 years, including \$6 million (current \$) of capital needs over the upcoming five years. Accounting for 3%

construction cost inflation, capital improvements are projected to total approximately \$10 million over the next decade. Projects include adding storage for fire flow and reliability, repairing and improving the City's water desalination facility, and repairing/replacing aging and substandard water distribution pipelines. Many of the City's pipelines are over 50 years old and are approaching the end of their useful lives.

➤ **Long-Term Water Supply**

- A large portion the City's water supply comes from the State Water Project. The City's 2014/15 budget includes a little over \$2.2 million for costs related to the State Water Project. This equates to over 55% of annual operating expenses and roughly half of total annual expenditures.
- State Water Project costs are expected to increase substantially in future years due to implementation of the Bay Delta Conservation Plan, a 50-year plan to restore the Sacramento-San Joaquin Delta ecosystem and secure future water supply through the State Water Project and Central Valley Project. The plan includes construction of roughly 30-miles of water conveyance pipelines to enable source water to circumvent the Delta. Costs are estimated at roughly \$25 billion over the next 50 years with costs front-loaded over the next decade.
- Planned construction of a new "reclamation ready" wastewater treatment plant will enable the City to pursue a future recycled water project that could ultimately support the long-term reliability and sustainability of the City's water supply. Based on very preliminary engineering cost estimates, the recycled water system is projected to cost roughly \$25 million (future \$) starting in about six years in 2020/21. When constructed, the City would also need to pay additional operating costs for recycled water operations. However, recycled water may enable the City to reduce reliance the State Water Project and thus replace imported water with a potentially lower-cost local source of supply.
- The City will continue to evaluate water supply alternatives with the goals of securing a reliable and cost-effective source of water supply to meet the City's long-term supply needs.

➤ **Reduced Water Sales**

- Water sales have decreased in recent years. Average annual water sales from the past three fiscal years are about 7% lower than the average from the prior three years. Additional reductions in water sales are anticipated due to customer response to projected substantial rate increases.

- Reduced levels of water use result in a reduction of water sales revenues, which in turn puts upward pressure on water rates. However, customers who conserve will end up purchasing fewer units of water which helps mitigate the impact of higher unit charges.

➤ **Operating Cost Inflation**

- Annual rate increases are needed to keep revenues in line with ongoing operating cost inflation. Cost inflation for water & wastewater utilities (whose costs are largely related to labor and capital) has historically been higher than CPI, which is more of a measure of urban goods and services.

Financial Projections

- BWA developed 10-year financial projections to evaluate annual revenue requirements and project water rate increases. The projections were based on reasonable and slightly conservative assumptions including:
- Operating cost projections are based on the 2014/15 Budget
 - Operating cost inflation is projected at 4% per year for planning purposes
 - The projections assume a relatively low growth scenario of 10 new single family homes or equivalent units per year
 - To account for customer response to rate increases, water sales projections account for elasticity estimated at -0.15; each 10% increase in rates results in a 1.5% decrease in water sales.
 - Includes funding for the water system capital improvement program with 3% construction cost inflation. Due to the extent of near-term funding needs, the projections assumes the City issues debt to finance \$3.5 million of capital improvement projects in 2015/16. BWA recommends the City pursue a subsidized loan from the California Infrastructure and Economic Development Bank, commonly known as the “I-Bank”, for these funding needs.
 - Assumes the City funds a future \$25 million recycled water project using a Clean Water State Revolving Fund (SRF) loan. The SRF financing program currently offers 20 or 30-year loans with interest rates below 2%. For planning purposes, the projections assume a 30-year SRF loan with a 3% annual interest rate.
 - Includes new operating costs for the recycled water system projected at \$300,000 (escalated \$) starting 2022/23.
 - A minimum fund reserve target for planning purposes is recommended at 25% of annual operating expenses, plus \$1 million for emergency capital reserves. It is

acceptable for reserves to temporarily drop below these levels provided the City has taken action to achieve the targets over the longer run.

Draft Rate Projections

- Cash flow projections indicate the need for substantial water rate increases over the next five years. Due to the level of current budget deficits coupled with near-term financial needs, a larger initial rate increase is needed in 2015/16, with smaller increases in future years.
- Deferring or reducing necessary rate increases in the near-term would result in the need for higher rate increases in future years (and vice versa)
- With the proposed rate increases, the City's water rate are expected to end up in the middle to upper-middle range compared to other regional agencies. A number of other regional agencies are also anticipating water rate increases in upcoming years.
- For a typical single family home using 6 hcf of water per month, the maximum proposed rates for the next five years will equal the City's 1995 rate escalated at the annual rate of approximately 3.5% through 2019/20.

Water Rate Structure

- All water customers currently pay both a fixed monthly charge of \$16.43 plus water quantity charges that gradually escalate from \$5.56 starting with the fourth unit of metered water use per month to \$13.68. The first three units of water are provided with the fixed charge, at no additional cost. The fixed charge is roughly equal to the City's lowest rate per unit of water applied to the first three units of unbilled water.
- Under the current rate structure, low-use customers and second homes benefit from both a) fixed charges that are disproportionately low compared to fixed expenses, and b) no charges for the first three units of monthly water use. Over 35% of annual bills are for three units of water or less.
- BWA developed draft water rates with the following modifications to the rate structure:
 - Water quantity charges are phased in for the first three units of water.
 - Fixed monthly charges continue to recover approximately one-third of total rate revenues. While the fixed charges are disproportionately low compared to the City's fixed expenses, this level of fixed revenue recovery is in line with industry norms and conservation-oriented rates.

- Proposed draft water quantity rates transition to a four-tiered inclining rate structure. Under the draft proposed rate structure, customers would first purchase water in the lowest tier before purchasing water in successive higher tiers as use increases. Due to a transition in rate structure, billing impacts will vary based on water use.
- The financial projections indicate the need for additional gradual rate increases after the next five years to provide adequate repayment capacity for a future SRF loan anticipated for a future recycled water project. Small future annual rate adjustments are recommended keep revenues in line with operating cost inflation and help minimize the potential for future rate spikes.

Proposed Water Rates

Water Rate Alternative A

		Current	Projected Water Rates				
			2015/16	2016/17	2017/18	2018/19	2019/20
Fixed Monthly Charge		\$16.43	\$23.00	\$26.00	\$28.00	\$30.00	\$32.00
Water Quantity Charges (\$/hcf)							
Tier 1	0 - 3 hcf	\$0.00	\$2.00	\$3.00	\$4.00	\$5.00	\$6.00
Tier 2	4 - 10 hcf	5.56 - 5.74	7.00	7.75	8.00	8.25	8.50
Tier 3	11- 50 hcf	5.77 - 7.81	8.50	9.75	10.25	10.75	11.00
Tier 4	>50 hcf	7.85 - 13.68	12.00	12.50	13.00	13.50	14.00
<i>1 hcf = one hundred cubic feet = 748 gallons</i>							

Water Rate Alternative B

(With slightly modified Tier rate during phase-in period)

		Current	Projected Water Rates				
			2015/16	2016/17	2017/18	2018/19	2019/20
Fixed Monthly Charge		\$16.43	\$23.00	\$26.00	\$28.00	\$30.00	\$32.00
Water Quantity Charges (\$/hcf)							
Tier 1	0 - 3 hcf	\$0.00	\$3.00	\$4.00	\$5.00	\$5.50	\$6.00
Tier 2	4 - 10 hcf	5.56 - 5.74	6.00	7.00	7.50	8.00	8.50
Tier 3	11- 50 hcf	5.77 - 7.81	9.00	9.50	10.00	10.50	11.00
Tier 4	>50 hcf	7.85 - 13.68	12.00	12.50	13.00	13.50	14.00
<i>1 hcf = one hundred cubic feet = 748 gallons</i>							

Water Rate Impacts Alternative A

Monthly Use (hcf)	Current \$/Month	Projected Monthly Bills					5-Year Impact	
		2015/16	2016/17	2017/18	2018/19	2019/20	\$/month	\$/day
0	\$16.43	\$23.00	\$26.00	\$28.00	\$30.00	\$32.00	\$15.57	\$0.51
1	16.43	25.00	29.00	32.00	35.00	38.00	21.57	0.71
2	16.43	27.00	32.00	36.00	40.00	44.00	27.57	0.91
3	16.43	29.00	35.00	40.00	45.00	50.00	33.57	1.10
4	21.99	36.00	42.75	48.00	53.25	58.50	36.51	1.20
5	27.58	43.00	50.50	56.00	61.50	67.00	39.42	1.30
6	33.20	50.00	58.25	64.00	69.75	75.50	42.30	1.39
7	38.85	57.00	66.00	72.00	78.00	84.00	45.15	1.48
8	44.53	64.00	73.75	80.00	86.25	92.50	47.97	1.58
9	50.24	71.00	81.50	88.00	94.50	101.00	50.76	1.67
10	55.98	78.00	89.25	96.00	102.75	109.50	53.52	1.76
20	115.04	163.00	186.75	198.50	210.25	219.50	104.47	3.43
30	179.93	248.00	284.25	301.00	317.75	329.50	149.58	4.92
40	251.24	333.00	381.75	403.50	425.25	439.50	188.27	6.19
50	327.37	418.00	479.25	506.00	532.75	549.50	222.14	7.30
75	533.21	718.00	791.75	831.00	870.25	899.50	366.29	12.04
100	755.68	1,018.00	1,104.25	1,156.00	1,207.75	1,249.50	493.82	16.24
200	1,747.86	2,218.00	2,354.25	2,456.00	2,557.75	2,649.50	901.64	29.64

Water Rate Impacts Alternative B

(With slightly higher Tier 1 rate and slightly lower Tier 2 rate during phase-in period)

Monthly Use (hcf)	Current \$/Month	Projected Monthly Bills					5-Year Impact	
		2015/16	2016/17	2017/18	2018/19	2019/20	\$/month	\$/day
0	\$16.43	\$23.00	\$26.00	\$28.00	\$30.00	\$32.00	\$15.57	\$0.51
1	16.43	26.00	30.00	33.00	35.50	38.00	21.57	0.71
2	16.43	29.00	34.00	38.00	41.00	44.00	27.57	0.91
3	16.43	32.00	38.00	43.00	46.50	50.00	33.57	1.10
4	21.99	38.00	45.00	50.50	54.50	58.50	36.51	1.20
5	27.58	44.00	52.00	58.00	62.50	67.00	39.42	1.30
6	33.20	50.00	59.00	65.50	70.50	75.50	42.30	1.39
7	38.85	56.00	66.00	73.00	78.50	84.00	45.15	1.48
8	44.53	62.00	73.00	80.50	86.50	92.50	47.97	1.58
9	50.24	68.00	80.00	88.00	94.50	101.00	50.76	1.67
10	55.98	74.00	87.00	95.50	102.50	109.50	53.52	1.76
20	115.04	164.00	182.00	195.50	207.50	219.50	104.47	3.43
30	179.93	254.00	277.00	295.50	312.50	329.50	149.58	4.92
40	251.24	344.00	372.00	395.50	417.50	439.50	188.27	6.19
50	327.37	434.00	467.00	495.50	522.50	549.50	222.14	7.30
75	533.21	734.00	779.50	820.50	860.00	899.50	366.29	12.04
100	755.68	1,034.00	1,092.00	1,145.50	1,197.50	1,249.50	493.82	16.24
200	1,747.86	2,234.00	2,342.00	2,445.50	2,547.50	2,649.50	901.64	29.64

SEWER FINANCIAL PLAN & RATE STUDY

Sewer Finances & Rates



- The City's sewer utility is a financially self-supporting enterprise.
 - Sewer rates are the main source of revenues and currently account for approximately 98% of total revenues.
 - Sewer rates should be set at levels adequate to fund the cost of providing service, including long-term operating and capital needs, and support the enterprise's long-term financial stability.
- The City has gradually increased sewer rates every year since at least 1998. Since 2008, the City has adopted 5% annual rate adjustments each year. These rate increases have supported the financial stability of the sewer utility and put the enterprise in decent financial position to address its financial challenges with substantial, but gradual, rate increases.
- The sewer enterprise had approximately \$3.1 million in reserves as of June 30, 2014. However, the City anticipates drawing down over \$1 million of fund reserves during the current fiscal year on preliminary costs related to the new Water Reclamation Facility. The City anticipates that these costs will be reimbursed by future SRF financing.
- The monthly sewer bill for a typical single family home is \$45.59 or slightly over \$1.50 per day. The City's residential sewer bills are in the middle range compared to other regional agencies.

Financial Challenges

The City's sewer enterprise faces a number of financial challenges in upcoming years that are putting upward pressure on rates. Key challenges include:

- **Funding a New \$75 Million Water Reclamation Facility**
 - Based on engineering and financial evaluation of key alternatives, the City anticipates moving forward with design and construction of a new \$75 million wastewater treatment plant at the Rancho Colina site. This facility will replace the existing treatment plant jointly owned by the City and Cayucos Sanitary District. The new treatment plant will be a "reclamation ready" facility designed to meet current and future permit requirements.
 - A City anticipates pursuing a design-build process with a) \$10 million of design, environmental, and other preliminary costs needed through the end of fiscal year

2016/17, and b) almost \$65 million in funding needed during a 2-year construction phase starting 2017/18.

- The City anticipates fully funding the facility with a low-rate Clean Water State Revolving Fund Loan. Annual debt service is projected at a little under \$4 million per year starting 2019/20, the year after the project is complete. In order to provide interim funding for design and other preliminary costs leading up to construction, the City should pursue an SRF Planning Loan, which can subsequently be rolled into the long-term construction financing agreement.
- The City anticipates that Cayucos Sanitary District will fund 25% to 30% the costs of the new facility either as a partner or customer. For planning purposes, the financial projections assume Cayucos SD funds 25% of annual debt service for the new facility.

➤ **Repair & Replacement of Aging Facilities**

- The City's sewer system capital improvement program identifies approximately \$10 million (current \$) of funding needs over the next 10 years, including \$7.6 million (current \$) of sewer collection system rehabilitation and upgrades over the upcoming five years. Many of the City's sewer pipelines are over 50 years old and are approaching the end of their useful lives. The City anticipates funding these projects on a pay-as-you-go cash basis.
- In anticipation of a new wastewater treatment plant, the City has deferred a number of capital improvements needed at the existing treatment plant. Some of these projects can no longer be deferred and are needed to ensure continued safe and reliable operations and compliance with the City's waste discharge permit. The City anticipates funding about \$2.3 million of major maintenance and repair projects at the existing treatment plant over the current and subsequent three fiscal years. The City anticipates funding these projects on a pay-as-you-go cash basis with Cayucos SD contributing 25% of project costs.

➤ **Operating Cost Inflation**

- Annual rate increases are needed to keep revenues in line with ongoing operating cost inflation. Cost inflation for water and wastewater utilities (whose costs are largely related to labor and capital) has historically been higher than CPI, which is more of a measure of urban goods and services.

Financial Projections

- BWA developed 10-year financial projections to evaluate annual revenue requirements and project sewer rate increases. The projections were based on reasonable and slightly conservative assumptions including:
 - Operating cost projections are based on the 2014/15 Budget
 - Operating cost inflation is projected at 4% per year for planning purposes
 - The projections assume a relatively low growth scenario of 10 new single family homes or equivalent units per year
 - Sewer revenue projections account for a small decline in volumetric sewer sales in response to water and sewer rate increases.
 - Assumes the City funds the proposed new \$75 million Water Reclamation Facility via a Clean Water State Revolving Fund (SRF) loan. The SRF financing program currently offers 20 or 30-year loans with interest rates below 2%. For planning purposes, the projections assume a 30-year SRF loan with a 3% annual interest rate. The projections assume that Cayucos Sanitary District pays 25% of the debt service.
 - A minimum fund reserve target for planning purposes is recommended at 25% of annual operating expenses, plus \$1 million for emergency capital reserves. It is acceptable for reserves to temporarily drop below these levels provided the City has taken action to achieve the targets over the longer run.

Draft Rate Projections

- Cash flow projections indicate the need for substantial sewer rate increases over the next five years. Monthly single family residential sewer charges are projected to steadily increase from the current level of \$45.59 to \$83.00 over the next five fiscal years.
- Unlike water rates, which require a large up-front increase to restore water system financial stability, sewer rates can be more gradually phased in because a) the sewer enterprise is starting from a stronger financial position, and b) the City anticipates funding the new wastewater treatment plant with SRF loans and projects that debt service for the new plant will not start until 2019/20, one year after construction is complete.
- Deferring or reducing necessary rate increases in the near-term would result in the need for higher rate increases in future years (and vice versa)

- The financial projections indicate the need for small annual rate increases after the next five years. Small future annual rate adjustments are recommended keep revenues in line with operating cost inflation and help minimize the potential for future rate spikes.

Sewer Rate Structure

- The City's current residential sewer rate structure includes a fixed charge of \$45.59 per month per account, plus a volumetric charge of \$4.07 applied to metered water use over 10 hcf for single family homes and apartments, and over 3 hcf for condos. Non-residential accounts pay volumetric rates that vary based on customer type subject to a minimum monthly charge of \$51.77.
- BWA developed draft rate projections based on a cost-of-service approach. The draft rate projections include a number of relatively minor rate structure modifications including:
 - Residential rates are revised to include fixed monthly charges per dwelling unit only and eliminate the additional volumetric charges levied on water use over the monthly allowance. Only a small amount of revenues are currently generated by the volumetric charges, and they may be recovering charges for outdoor water use that does not get returned to the sewer system.
 - Under the proposed residential rates, multi-family residential units and condominiums would pay reduced charges equal to 80% of the single family charge based on analysis of water use data.
 - Although the City's non-residential rates list 18 customer classes, these customers are billed only five different sewer rates. The proposed rates continue to include five rate classes, with each class defined based on wastewater strength (Low, Domestic, Moderate, Mod-High, and High Strength).
 - Two commercial customer classes are reclassified based on wastewater strength:
 - Mobile home parks, which currently pay volumetric commercial sewer rates (not residential rates per dwelling unit), are reclassified from Class A – Low Strength to Class B – Domestic Strength.
 - The City's single retirement homes with dining is reclassified from Class D – Mod-High Strength to Class C – Moderate Strength.
 - New rates were developed based on updated cost allocations and wastewater strength estimates for each customer class. Rate adjustments from current rates to proposed maximum rates in 2019/20 were phased in over five years for each rate class. Under the

proposed draft rates, each non-residential rate category increases by roughly the same dollar amount (not the same percentage amount) over the next five years.

- The minimum non-residential sewer charge is revised from being higher than the current fixed residential charge, to the reduced flat monthly charge proposed for multi-family residential accounts, equal to 80% of the single family rate.

Proposed Sewer Rates

Proposed Sewer Rates

	Current	Proposed					5-Year Impact
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
RESIDENTIAL							
<i>Charge per residential dwelling unit</i>							
Single Family	\$45.59	\$55.00	\$62.50	\$70.00	\$77.00	\$83.00	\$37.41
Multi-Family/Condo	varies	44.00	50.00	56.00	61.60	66.40	varies
% of Single Family		80%	80%	80%	80%	80%	
NON-RESIDENTIAL							
<i>Rate per hcf of metered water use</i>							
Class A - Low Strength	\$4.63	\$6.72	\$8.34	\$9.93	\$11.27	\$12.18	\$7.55
Class B - Domestic Strength	5.82	8.08	9.83	11.55	13.00	13.98	8.16
Class C - Moderate Strength	8.03	10.18	11.84	13.47	14.85	15.79	7.76
Class D - Mod-High Strength	10.45	12.43	13.96	15.46	16.73	17.60	7.15
Class E - High Strength	13.38	15.55	17.23	18.88	20.27	21.21	7.83
Minimum Annual Charge	51.77	44.00	50.00	56.00	61.60	66.40	14.63

OTHER RECOMMENDATIONS

Debt Financing Recommendations



- BWA strongly recommends the City pursue funding from the Clean Water State Revolving Fund Financing Program to finance the new Water Reclamation Facility and subsequent recycled water project.
 - The SRF financing program offers low-rate loans with 20 to 30 year repayment terms and interest rates currently below 2%. Interest rates are based on approximately half the average interest rate of the most recent California state general obligation bond issuance.
 - Debt service on SRF loans is not due until one year following the project's certified completion date.
 - In recent years, the SRF program has been requiring agencies to establish a debt service reserve fund equal to annual debt service.
 - The SRF program also typically requires agencies to maintain annual net revenues (gross revenues less operating expenses) equal to at least 1.10x of annual debt service, although some agencies may be required to maintain a 1.20x debt service coverage ratio.
 - Prior to award of funding, the SRF program requires agencies to adopt rates adequate to support debt repayment and achieve the required debt service coverage ratio.
 - The SRF financing program does not provide a final funding commitment until after the project has been designed and bid out in compliance with SRF specifications. Agencies can subsequently seek reimbursement for preliminary design and other soft costs incurred prior to construction award.
 - Due to the need for approximately \$10 million of funding for preliminary engineering, design, and other soft costs leading up to construction of the proposed Water Reclamation Plant, BWA recommends the City pursue an SRF Planning Loan to help fund these costs. If awarded, repayment of SRF planning loans can be rolled into the long-term SRF project loan.
 - During construction, agencies fund ongoing construction invoices and can subsequently seek monthly reimbursement from SRF. However, the City needs to be prepared to fund a few months of project expenditures due to the lag in reimbursements. BWA has assisted agencies in obtaining a competitively-bid line of credit in cases where agencies have not had adequate fund reserves to meet the cash flow needs of their SRF projects.

- BWA also recommends the City submit an inquiry form to the California Financing Coordinating Committee to identify if the City is eligible for subsidized funding from other various state and federal financing programs, such as the California Infrastructure and Economic Development Bank (I-Bank), for its debt financing needs.

Proposition 218 Rate Increase Process

- In order to increase rates, the City must comply with the procedural requirements of Article 13D, Section 6 of the California Constitution, which was established by Proposition 218. These requirements require the City to:
 - Mail a notice of to all affected property-owners informing them of a) the proposed rate increases, b) the basis for increases, and c) the date, time, and location of a Public Hearing at which the proposed rates will be considered for adoption.
 - There are differing legal opinions regarding who agencies must mail the required notice too. Many agencies mail notices to all affected property owners only, some mail to both property owners and tenant ratepayers responsible for paying the bill, and a few agencies only send the notice to ratepayers. However, in case of delinquency, agencies are only allowed to place a lien on the property if the notice was mailed to the property owner.
 - BWA recommends the notice go beyond the minimum legal requirements and present a clear and concise explanation why the proposed rate increases are needed. Ratepayers are more accepting of rate increases when they understand why the increases are needed.
 - Hold a Public Hearing on the proposed rate increases not less than 45 days after the notice is mailed. Most agencies schedule the Public Hearing during a regularly-scheduled meeting of their governing body.
 - BWA recommends that the City establish a clear structure for the Board Meeting and Public Hearing in advance to help ensure the process is understandable to the Board and public and goes as smoothly as possible.
 - At the Public Hearing, the proposed rate increases are subject to “majority protest” and cannot be adopted if written protests are received from more than 50% of affected parcels, with one protest counted per parcel.
 - BWA generally recommends agencies take a lenient approach to counting written protests at the Public Hearing to demonstrate a good-faith effort to count every protest, even if some protests do not include all of the legally-required information.

Water Financial Plan & Rate Study

Working Draft Tables

Table 1
 City of Morro Bay
 Current Monthly Water Rates
 Effective Since 07/01/1995

Minimum Monthly Charge \$16.43

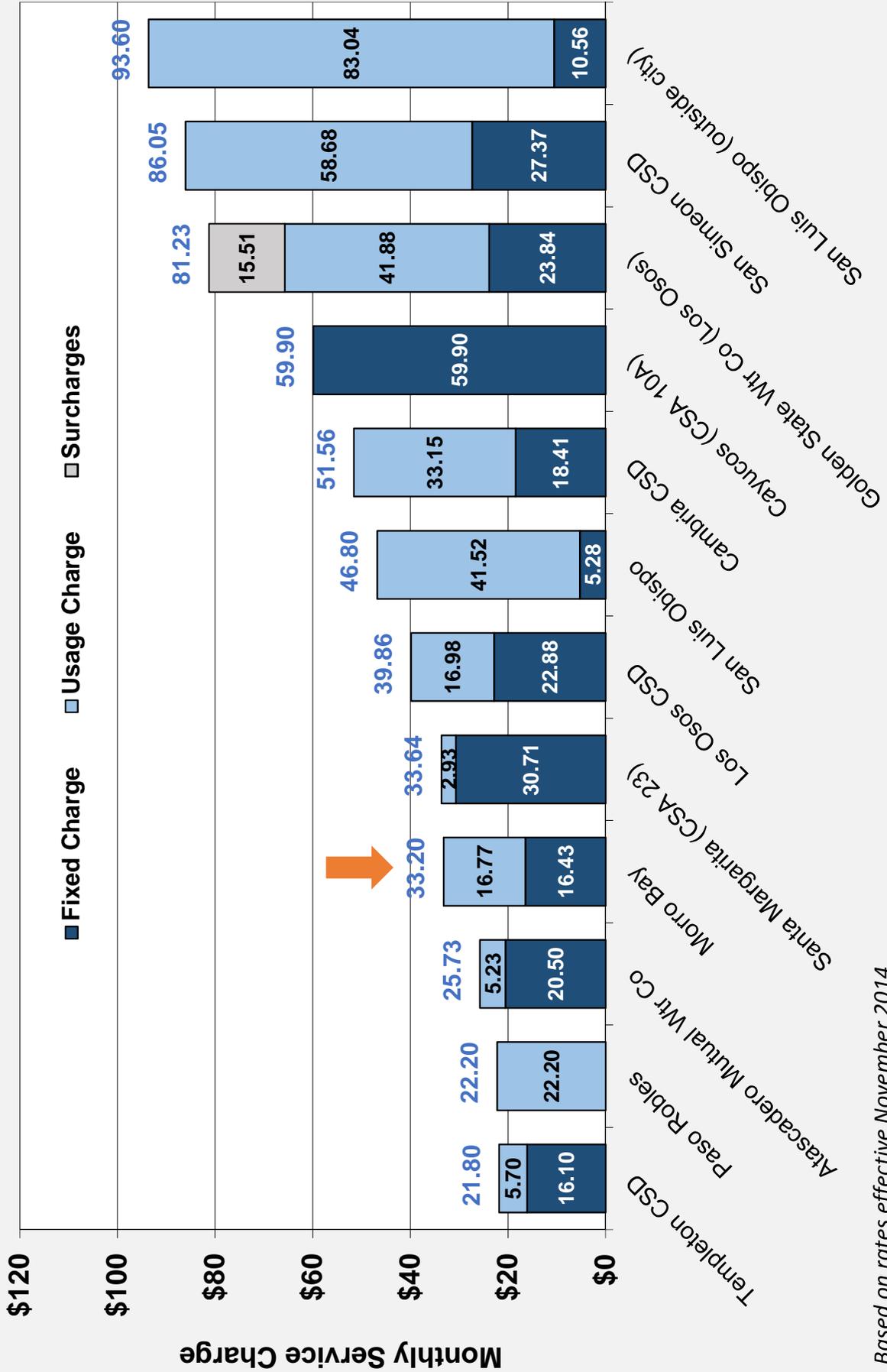
Water Quantity Charges

Water Use (hcf)*	Cost per Unit (\$/hcf)	Change in Cost per Unit	Total Monthly Charge	Water Use (hcf)*	Cost per Unit (\$/hcf)	Change in Cost per Unit	Total Monthly Charge
0	-	-	16.43	36	7.15	0.03	222.09
1	-	-	16.43	37	7.22	0.07	229.31
2	-	-	16.43	38	7.27	0.05	236.58
3	-	-	16.43	39	7.30	0.03	243.88
4	5.56	-	21.99	40	7.36	0.06	251.24
5	5.59	0.03	27.58	41	7.43	0.07	258.67
6	5.62	0.03	33.20	42	7.45	0.02	266.12
7	5.65	0.03	38.85	43	7.52	0.07	273.64
8	5.68	0.03	44.53	44	7.54	0.02	281.18
9	5.71	0.03	50.24	45	7.60	0.06	288.78
10	5.74	0.03	55.98	46	7.64	0.04	296.42
11	5.77	0.03	61.75	47	7.66	0.02	304.08
12	5.80	0.03	67.55	48	7.72	0.06	311.80
13	5.83	0.03	73.38	49	7.76	0.04	319.56
14	5.86	0.03	79.24	50	7.81	0.05	327.37
15	5.89	0.03	85.13	51	7.85	0.04	335.22
16	5.93	0.04	91.06	52	7.87	0.02	343.09
17	5.95	0.03	97.01	53	7.91	0.04	351.00
18	5.98	0.03	102.99	54	7.93	0.02	358.93
19	6.01	0.03	109.00	55	7.99	0.06	366.92
20	6.04	0.03	115.04	56	8.03	0.04	374.95
21	6.13	0.09	121.17	57	8.05	0.02	383.00
22	6.22	0.09	127.39	58	8.09	0.04	391.09
23	6.31	0.09	133.70	59	8.11	0.02	399.20
24	6.37	0.06	140.07	60	8.15	0.04	407.35
25	6.47	0.10	146.54	61	8.17	0.02	415.52
26	6.55	0.08	153.09	62	8.21	0.04	423.73
27	6.61	0.06	159.70	63	8.23	0.02	431.96
28	6.67	0.06	166.37	64	8.30	0.07	440.26
29	6.73	0.06	173.10	65	8.32	0.02	448.58
30	6.83	0.10	179.93	66	8.36	0.04	456.94
31	6.88	0.05	186.81	67	8.35	(0.01)	465.29
32	6.94	0.06	193.75	68	8.39	0.04	473.68
33	7.00	0.06	200.75	69	8.41	0.02	482.09
34	7.07	0.07	207.82	70	8.45	0.04	490.54
35	7.12	0.05	214.94	>70	rates continue escalating to a max of \$13.68		

* 1 hcf = 100 cubic feet = approximately 748 gallons.

Monthly Residential Water Rate Survey

With 6 hcf monthly water use



Based on rates effective November 2014

Table 2
City of Morro Bay
Historical Monthly Water Rates

	07/01/92	07/01/94	07/01/95	07/01/92	07/01/94	07/01/95
Minimum Charge	\$2.93	\$3.96	\$16.43			
Water Quantity Charges						
Water Use (hcf)*	Cost per Unit (\$/hcf)			Total Monthly Charges		
0	-	-	-	2.93	3.96	16.43
1	-	-	-	2.93	3.96	16.43
2	2.96	4.00	-	5.89	7.95	16.43
3	2.99	4.04	-	8.88	11.99	16.43
4	3.01	4.06	5.56	11.89	16.05	21.99
5	3.02	4.08	5.59	14.91	20.13	27.58
6	3.04	4.10	5.62	17.95	24.23	33.20
7	3.06	4.13	5.65	21.01	28.36	38.85
8	3.07	4.14	5.68	24.08	32.51	44.53
9	3.09	4.17	5.71	27.17	36.68	50.24
10	3.10	4.19	5.74	30.27	40.86	55.98
11	3.12	4.21	5.77	33.39	45.08	61.75
12	3.14	4.24	5.80	36.53	49.32	67.55
13	3.15	4.25	5.83	39.68	53.57	73.38
14	3.17	4.28	5.86	42.85	57.85	79.24
15	3.19	4.31	5.89	46.04	62.15	85.13
16	3.20	4.32	5.93	49.24	66.47	91.06
17	3.22	4.35	5.95	52.46	70.82	97.01
18	3.23	4.36	5.98	55.69	75.18	102.99
19	3.25	4.39	6.01	58.94	79.57	109.00
20	3.27	4.41	6.04	62.21	83.98	115.04
21	3.32	4.48	6.13	65.53	88.47	121.17
22	3.36	4.54	6.22	68.89	93.00	127.39
23	3.41	4.60	6.31	72.30	97.61	133.70
24	3.45	4.66	6.37	75.75	102.26	140.07
25	3.49	4.71	6.47	79.24	106.97	146.54
26	3.54	4.78	6.55	82.78	111.75	153.09
27	3.58	4.83	6.61	86.36	116.59	159.70
28	3.61	4.87	6.67	89.97	121.46	166.37
29	3.64	4.91	6.73	93.61	126.37	173.10
30	3.69	4.98	6.83	97.30	131.36	179.93
Max Rate	5.44	7.34	13.68			

Note: Total Charges can differ slightly from rate ordinance due to rounding.

Note: Rates continue to escalate per unit for use over 30 hcf.

City of Morro Bay Historical Monthly Water Bills (6 hcf monthly water use)

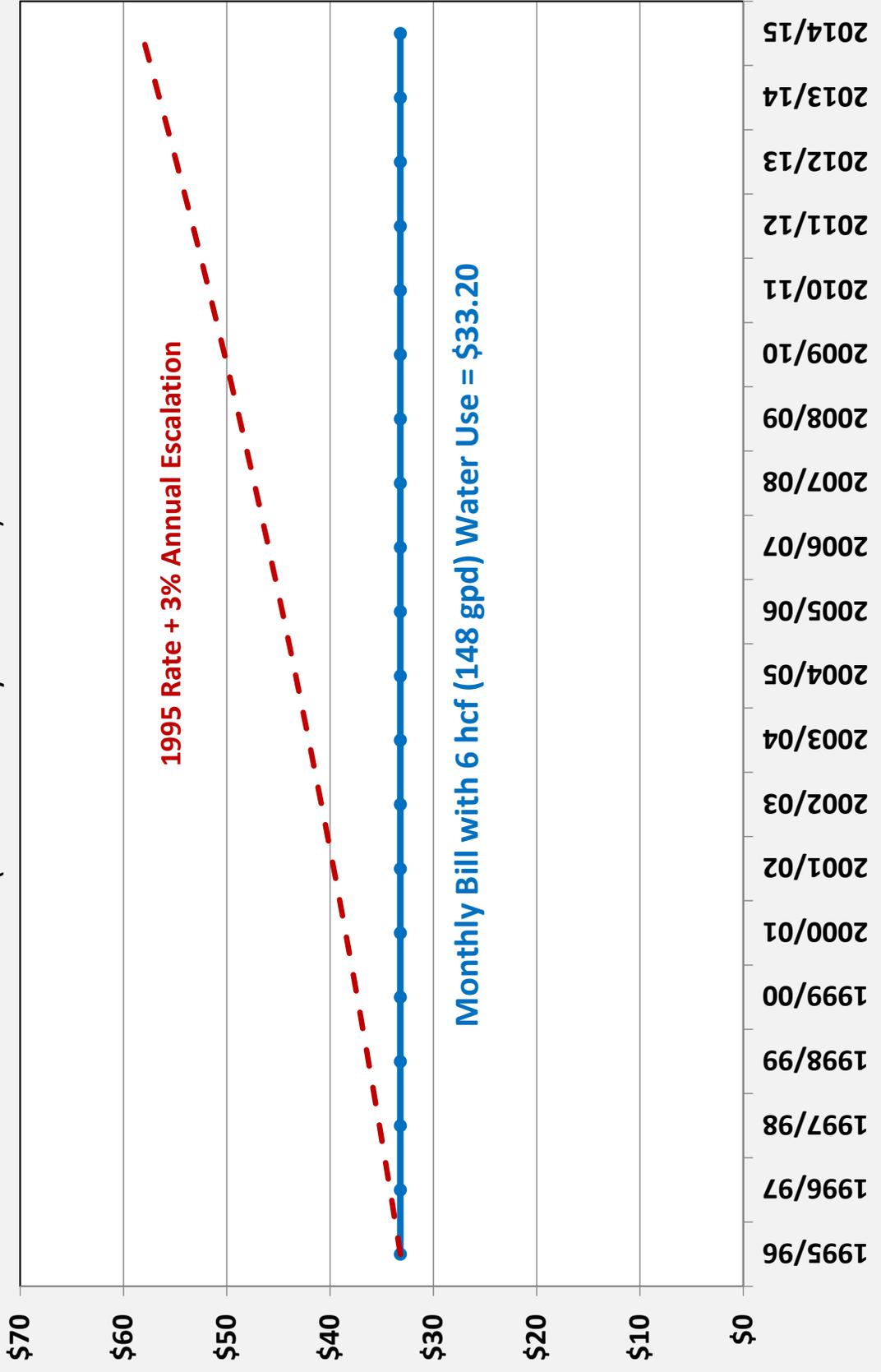


Table 3
City of Morro Bay
Historical Water Utility Finances & Budget

	Actual 2009/10	Actual 2010/11	Actual 2011/12	Budget 2012/13	Amended Budget 2013/14	Proposed Budget 2014/15
Beginning cash balance						
1. Equipment replacement fund	\$279,563	\$284,451	\$286,451	\$288,622	\$289,801	\$289,801
2. Operation fund	(38,519)	(455,458)	375,192	(114)	(236,113)	0
3. CIP fund	<u>5,166,472</u>	<u>4,994,374</u>	<u>4,852,454</u>	<u>4,360,525</u>	<u>4,135,073</u>	<u>2,290,947</u>
Total	5,407,516	4,823,367	5,514,097	4,649,033	4,188,761	2,580,748
Revenue and reserve transfers						
1. Equipment replacement fund:						
Interest/other income	<u>5,050</u>	<u>2,448</u>	<u>2,171</u>	<u>1,179</u>	<u>0</u>	<u>0</u>
Subtotal	5,050	2,448	2,171	1,179	0	0
2. Operation fund:						
Water sales	3,451,279	3,323,916	3,325,454	3,273,369	3,400,000	3,230,000
Service fees	111,950	103,643	100,040	105,628	65,000	62,750
Other revenues	791	5,135	1,552	1,371	0	500
Transfer from reserve fund	0	222,327	622,808	147,350	775,136	595,341
Others transfers	<u>54,612</u>	<u>342</u>	<u>14,408</u>	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal	3,618,632	3,655,363	4,064,262	3,527,718	4,240,136	3,888,591
3. CIP fund:						
Impact fees	10,315	16,566	6,920	42,408	30,000	25,000
Interest income	85,426	44,964	40,977	18,669	10,000	5,000
Other income	534	546	218	0	0	0
Transfers in	<u>0</u>	<u>0</u>	<u>135,864</u>	<u>191,829</u>	<u>0</u>	<u>0</u>
Subtotal	96,275	62,076	183,979	252,906	40,000	30,000
Total Revenues	3,665,345	3,497,218	3,477,332	3,442,624	3,505,000	3,323,250
Total Transfers In	<u>54,612</u>	<u>222,669</u>	<u>773,080</u>	<u>339,179</u>	<u>775,136</u>	<u>595,341</u>
Total	3,719,957	3,719,887	4,250,412	3,781,803	4,280,136	3,918,591
Expenses						
1. Equipment replacement fund:						
Equipment/Vehicles						
Subtotal	0	0	0	0	0	0
2. Operation fund:						
Personnel	(728,891)	(755,617)	(782,729)	(767,758)	(917,839)	(740,637)
Supplies	(255,591)	(228,166)	(182,847)	174,552	(126,750)	(136,050)
Services	(2,533,363)	(1,467,021)	(3,208,479)	(2,480,107)	(2,683,073)	(2,732,800)
Other (no depreciation)	(299,612)	(105,934)	(34,325)	(24,400)	0	0
Payment to General Fund for cost allocation	0	(267,975)	(271,188)	(271,188)	(276,341)	(279,104)
Transfer to Capital Improvement Fund	(218,114)	0	0	0	0	0
Transfer to Reserve fund	<u>0</u>	<u>0</u>	<u>0</u>	<u>(45,732)</u>	<u>0</u>	<u>0</u>
Subtotal	(4,035,571)	(2,824,713)	(4,479,568)	(3,414,633)	(4,004,003)	(3,888,591)
3. CIP fund:						
Capital Improvements	(278,151)	0	0	(331,008)	(1,108,990)	(1,660,000)
Transfer to Operation Fund	<u>0</u>	<u>(203,996)</u>	<u>(675,908)</u>	<u>(147,350)</u>	<u>(775,136)</u>	<u>(595,341)</u>
Subtotal	(278,151)	(203,996)	(675,908)	(478,358)	(1,884,126)	(2,255,341)
Total Expenses	(4,095,608)	(2,824,713)	(4,479,568)	(3,699,909)	(5,112,993)	(5,548,591)
Total Transfers Out (excl Gen Fund pymt)	<u>(218,114)</u>	<u>(203,996)</u>	<u>(675,908)</u>	<u>(193,082)</u>	<u>(775,136)</u>	<u>(595,341)</u>
Total	(4,313,722)	(3,028,709)	(5,155,476)	(3,892,991)	(5,888,129)	(6,143,932)
Revenues Less Expenses	(593,765)	691,178	(905,064)	(111,188)	(1,607,993)	(2,225,341)
Ending Cash Balance						
1. Equipment replacement fund	252,986	286,451	288,622	289,801	289,801	289,801
2. Operation fund	(455,458)	375,192	(114)	(236,133)	0	0
3. CIP fund	<u>4,984,596</u>	<u>4,852,454</u>	<u>4,360,525</u>	<u>4,135,073</u>	<u>2,290,947</u>	<u>65,606</u>
Total	4,782,124	5,514,097	4,649,033	4,188,741	2,580,748	355,407

Table 4
City of Morro Bay
Water Capital Improvement Program

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	Total	
UNESCALATED CAPITAL EXPENSES												
Vehicles												
2004 Chevrolet Silverado Pickup				05/20/04							35,000	35,000
2005 Chevrolet Silverado Pickup				05/21/04							35,000	35,000
Capital Improvements												
Nutmeg Tank construction											2,000,000	2,000,000
Chorro Valley Stream gauges											250,000	250,000
Desalination plant decanting facilities											500,000	500,000
Desalination plant capacity improvements											250,000	250,000
Desalination plant structural improvements											100,000	100,000
Various master plan improvements											350,000	350,000
Convert meter reading to AMR											150,000	150,000
Additional 750k gal storage tank at Kings											200,000	200,000
											500,000	500,000
											500,000	500,000
Placeholder for Future Water System Improvements											500,000	500,000
											500,000	500,000
											500,000	500,000
											500,000	500,000
											500,000	500,000
Recycled Water System, Phase 2 (escalated cost)											12,500,000	12,500,000
											12,500,000	12,500,000
Total Unescalated	350,000	3,635,000	585,000	600,000	850,000	1,000,000	13,000,000	13,000,000	500,000	500,000	34,020,000	34,020,000
CAPITAL EXPENSES WITH COST ESCALATION												
Annual Cost Escalation											3.0%	3.0%
Cost Escalator											1.000	1.030
											1.061	1.093
											1.126	1.159
											1.194	1.230
											1.267	1.305
Subtotal Water Capital Projects	350,000	3,744,000	621,000	656,000	957,000	1,159,000	597,000	615,000	633,000	652,000	9,984,000	9,984,000
Recycled Water System, Phase 2	0	0	0	0	0	0	12,500,000	12,500,000	0	0	25,000,000	25,000,000
Total with Cost Escalation	350,000	3,744,000	621,000	656,000	957,000	1,159,000	13,097,000	13,115,000	633,000	652,000	34,984,000	34,984,000

Table 5
 City of Morro Bay
 SRF Loan Debt Service Estimates

	Phase 2 Recycled Water System
Funding Target	\$25,000,000
SRF Loan Amount	
Eligible Project Costs ¹	25,000,000
Accrued Interest During Construction ²	<u>625,000</u>
Total Loan Amount	25,625,000
Loan Terms	
Term (years)	30
Interest Rate ³	3.00%
Annual Loan Payment⁴	1,307,000
Total Payments Over Loan Term	39,210,000
Reserve Fund Requirement⁵	1,307,000

1 Some costs may not be eligible for SRF Loan funding & would require another funding source

2 Assumes steady gradual drawdown of loan funds over two years.

3 Total net interest rate estimated for financial planning purposes; actual rate may vary.

4 First debt service payment due one year following completion of project.

5 Agencies must set aside funds to meet the SRF Reserve Requirement at least 90 days prior to project completion date.

Table 6
City of Morro Bay
Bank Loan & I-Bank Debt Estimates

	Bank Loan/Private Placement Estimates			I-Bank Loan Estimates		
	10-Year	15-Year	20-Year	20-Year	25-Year	30-Year
Draft Project Funding Target	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000
Loan Amount						
Project Funding	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000
Reserve Fund	tbd	tbd	tbd	tbd	tbd	tbd
Issuance Costs (est. for planning purposes)	<u>75,000</u>	<u>75,000</u>	<u>75,000</u>	<u>75,000</u>	<u>75,000</u>	<u>75,000</u>
Total Loan Amount	3,575,000	3,575,000	3,575,000	3,575,000	3,575,000	3,575,000
Loan Terms						
Term (years)	10	15	20	20	25	30
Interest Rate (estimated)	3.00%	3.75%	4.00%	3.25%	3.50%	3.75%
Annual Debt Service	\$419,000	\$316,000	\$263,000	\$246,000	\$217,000	\$201,000
Debt Service per \$1 Million of Project Funding	\$119,714	\$90,286	\$75,143	\$70,286	\$62,000	\$57,429
Total Payments Over Term of Loan	\$4,190,000	\$4,740,000	\$5,260,000	\$4,920,000	\$5,425,000	\$6,030,000
Present Value of Payments Discounted at 3%	3,574,000	3,772,000	3,913,000	3,660,000	3,779,000	3,940,000

Note: Bank Loans and I-Bank ISRF Loans may require the District to set aside funds for a debt service reserve fund equal to annual debt service.

Table 7 Morro Bay - Water Cash Flow Projections

Years 1-5

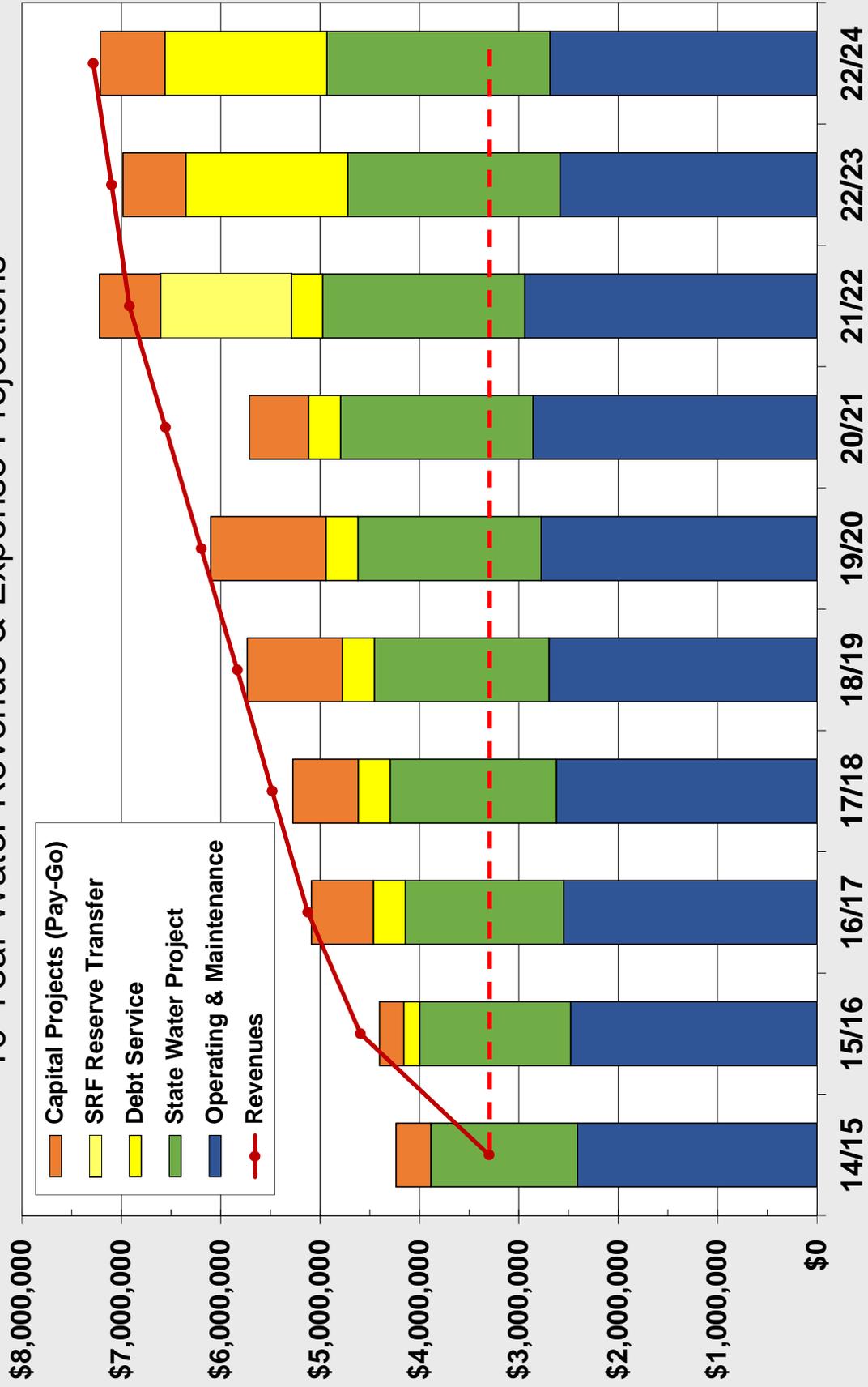
	Budget	Projected			
	2014/15	2015/16	2016/17	2017/18	2018/19
Effective Date of Rate Adjustment	07/01/14	07/01/15	07/01/16	07/01/17	07/01/18
Fixed Monthly Service Charge	\$16.43	\$23.00	\$26.00	\$28.00	\$30.00
Fixed Rate Recovery Net of Delinquencies	98%	98%	98%	98%	98%
Beginning Accounts	5,424	5,424	5,434	5,444	5,454
Growth: Single Family Homes or Equivalent	-	10	10	10	10
Future Water Sales Elasticity	-	(0.15)	(0.15)	(0.15)	(0.15)
Change in Annual Water Consumption		-7.5%	-2.0%	-1.2%	-1.1%
Water Development Impact Fee	\$2,900	\$2,960	\$3,020	\$3,080	\$3,140
Debt Svc per \$1M of Funding (15Yr, 4%)	-	\$92,000	\$92,000	\$92,000	\$92,000
Interest Earnings Rate	0.25%	0.25%	0.50%	1.0%	1.0%
State Water Project Cost Escalation	-	3.0%	5.0%	5.0%	5.0%
Operating Cost Escalation	-	4.0%	4.0%	4.0%	4.0%
Beginning Fund Reserves	\$2,580,000	\$1,644,000	\$1,836,000	\$1,873,000	\$2,082,000
REVENUES					
Fixed Service Charges	1,048,000	1,468,000	1,663,000	1,794,000	1,926,000
Water Consumption Charges	<u>2,182,000</u>	<u>3,028,000</u>	<u>3,356,000</u>	<u>3,572,000</u>	<u>3,786,000</u>
Subtotal Water Rate Revenues	3,230,000	4,496,000	5,019,000	5,366,000	5,712,000
Service Fees/Other	63,000	64,000	65,000	66,000	67,000
Development Impact Fees	0	30,000	30,000	31,000	31,000
Interest Earnings	<u>6,000</u>	<u>4,000</u>	<u>9,000</u>	<u>19,000</u>	<u>21,000</u>
Subtotal	3,299,000	4,594,000	5,123,000	5,482,000	5,831,000
Debt Proceeds: City CIP Projects	0	3,500,000	0	0	0
SRF Loan: Recycled Water, WRP Phase 2	0	0	0	0	0
EXPENSES					
Operating & Maintenance					
Water System Personnel	741,000	771,000	802,000	834,000	867,000
Supplies & Services	648,000	674,000	701,000	729,000	758,000
State Water Project Payments	1,473,000	1,517,000	1,593,000	1,673,000	1,757,000
Share of CCWA 2006 Bonds (Thru Oct-2021)	744,000	745,000	745,000	745,000	745,000
General Fund Cost Allocation	279,000	290,000	302,000	314,000	327,000
Recycled Water Operations	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal	3,885,000	3,997,000	4,143,000	4,295,000	4,454,000
City Debt Service					
Projected Loan for City CIP Projects	0	161,000	322,000	322,000	322,000
SRF Loan for Recycled Water Phase 2	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal	0	161,000	322,000	322,000	322,000
Capital Improvements					
Water CIP Projects: Cash Funded	350,000	244,000	621,000	656,000	957,000
Water CIP Projects: Debt Financed	0	3,500,000	0	0	0
Recycled Water System Phase 2 Est.	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal	350,000	3,744,000	621,000	656,000	957,000
Total Expenses	4,235,000	7,902,000	5,086,000	5,273,000	5,733,000
Revenues Less Expenses	(936,000)	192,000	37,000	209,000	98,000
Transfer for SRF Reserve Requirement	-	-	-	-	-
Ending Fund Reserves	1,644,000	1,836,000	1,873,000	2,082,000	2,180,000
Min Fund Rsrv Target (25% O&M + \$1M)	1,971,000	1,999,000	2,036,000	2,074,000	2,114,000
Debt Service Coverage on City Debt	-	3.71	3.04	3.69	4.28
Coverage on Contract Pymts (Min ≥1.25)	0.74	1.26	1.42	1.49	1.55

	Projected					Esc Factor
	2019/20	2020/21	2021/22	2022/23	2023/24	
Effective Date of Rate Adjustment	07/01/19	07/01/20	07/01/21	07/01/22	07/01/23	
Fixed Monthly Service Charge	\$32.00	\$34.00	\$36.00	\$37.00	\$38.00	
Fixed Rate Recovery Net of Delinquencies	98%	98%	98%	98%	98%	
Beginning Accounts	5,464	5,474	5,484	5,494	5,504	
Growth:Single Family Homes or Equivalent	10	10	10	10	10	
Future Water Sales Elasticity	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	
Change in Annual Water Consumption	-0.7%	-0.6%	-0.6%	-0.3%	-0.3%	
Water Service Connection Fee	\$3,200	\$3,260	\$3,330	\$3,400	\$3,470	2.0%
Debt Svc per \$1M of CIP Project Funding	\$92,000	\$92,000	\$92,000	\$92,000	\$92,000	
Interest Rate	1.0%	1.0%	1.0%	1.0%	1.0%	
State Water Project Cost Escalation	5.0%	5.0%	5.0%	5.0%	5.0%	
Operating Cost Escalation	4.0%	4.0%	4.0%	4.0%	4.0%	
Beginning Fund Reserves	\$2,180,000	\$2,273,000	\$3,114,000	\$2,813,000	\$2,928,000	
REVENUES						
Fixed Service Charges	2,058,000	2,191,000	2,324,000	2,393,000	2,462,000	
Water Consumption Charges	<u>4,011,000</u>	<u>4,235,000</u>	<u>4,458,000</u>	<u>4,569,000</u>	<u>4,680,000</u>	
Subtotal Water Rate Revenues	6,069,000	6,426,000	6,782,000	6,962,000	7,142,000	
Service Fees/Other	68,000	69,000	70,000	71,000	72,000	2.0%
Development Impact Fees	32,000	33,000	33,000	34,000	35,000	
Interest Earnings	<u>25,000</u>	<u>26,000</u>	<u>34,000</u>	<u>31,000</u>	<u>32,000</u>	
Subtotal	6,194,000	6,554,000	6,919,000	7,098,000	7,281,000	
Debt Proceeds: City CIP Projects	0	0	0	0	0	
SRF Loan: Recycled Water, WRP Phase 2	0	12,500,000	12,500,000	0	0	
EXPENSES						
Operating & Maintenance						
Water System Personnel	902,000	938,000	976,000	1,015,000	1,056,000	
Supplies & Services	788,000	820,000	853,000	887,000	922,000	
State Water Project Payments	1,845,000	1,937,000	2,034,000	2,136,000	2,243,000	
Share of CCWA 2006 Bonds (Thru Oct-2021)	745,000	745,000	745,000	0	0	
General Fund Cost Allocation	340,000	354,000	368,000	383,000	398,000	
Recycled Water Operations	<u>0</u>	<u>0</u>	<u>0</u>	<u>300,000</u>	<u>312,000</u>	
Subtotal	4,620,000	4,794,000	4,976,000	4,721,000	4,931,000	
Debt Service						
Projected Loan for City CIP Projects	322,000	322,000	322,000	322,000	322,000	
SRF Loan for Recycled Water Phase 2	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,307,000</u>	<u>1,307,000</u>	
Subtotal	322,000	322,000	322,000	1,629,000	1,629,000	
Capital Improvements						
Water CIP Projects: Cash Funded	1,159,000	597,000	615,000	633,000	652,000	
Water CIP Projects: Debt Financed	0	0	0	0	0	
Recycled Water System Phase 2 Est.	<u>0</u>	<u>12,500,000</u>	<u>12,500,000</u>	<u>0</u>	<u>0</u>	
Subtotal	1,159,000	13,097,000	13,115,000	633,000	652,000	
Total Expenses	6,101,000	18,213,000	18,413,000	6,983,000	7,212,000	
Revenues Less Expenses	93,000	841,000	1,006,000	115,000	69,000	
Transfer for SRF Reserve Requirement	-	-	(1,307,000)	-	-	
Ending Fund Reserves	2,273,000	3,114,000	2,813,000	2,928,000	2,997,000	
Min Fund Rsv Target (25% O&M + \$1M)	2,155,000	2,199,000	2,244,000	2,180,000	2,233,000	
Debt Service Coverage on City Debt	4.89	5.47	6.03	1.46	1.44	
Debt Coverage on Contract Pymts (≥1.25)	1.61	1.66	1.70	2.11	2.05	

City of Morro Bay
Summary of Water Cash Flow Projections (\$ millions)

Fiscal Year	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Rate Increase Target Effective July 1	-	40%	13%	7.7%	7.1%	7%	6%	6%	3%	3%
Beginning Fund Reserves	\$2.6	\$1.6	\$1.8	\$1.9	\$2.1	\$2.2	\$2.3	\$3.1	\$2.8	\$2.9
REVENUES										
Water Rate Revenues	3.2	4.5	5.0	5.4	5.7	6.1	6.4	6.8	7.0	7.1
Other Revenues	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Debt Proceeds	-	3.5	-	-	-	-	12.5	12.5	-	-
Total	3.3	8.1	5.1	5.5	5.8	6.2	19.1	19.4	7.1	7.3
EXPENSES										
Operating Expenses	3.9	4.0	4.1	4.3	4.5	4.6	4.8	5.0	4.7	4.9
Debt Service	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	1.6	1.6
Capital Expenditures	0.4	3.7	0.6	0.7	1.0	1.2	13.1	13.1	0.6	0.7
Total	4.2	7.9	5.1	5.3	5.7	6.1	18.2	18.4	7.0	7.2
Revenues Less Expenses	(0.9)	0.2	0.0	0.2	0.1	0.1	0.8	1.0	0.1	0.1
Transfer to SRF Rsrv	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(1.3)	0.0	0.0
Ending Fund Reserves	1.6	1.8	1.9	2.1	2.2	2.3	3.1	2.8	2.9	3.0
Min Fund Reserve Target	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.2
Debt Service Coverage	-	3.71	3.04	3.69	4.28	4.89	5.47	6.03	1.46	1.44
CCWA Contract Coverage	0.74	1.26	1.42	1.49	1.55	1.61	1.66	1.70	2.11	2.05

City of Morro Bay 10-Year Water Revenue & Expense Projections



Excludes capital projects funded by debt; but includes projected debt service.

Table 8
 City of Morro Bay
 Estimated Water Use by Tier

		Water Sales 2012/13	Water Sales 2013/14	2-Year Average	2014/15 Use % of 2-Yr Avg	Water Sales 2014/15 Est	% of Total
Projected Water Sales by Tier					<u>Estimated</u>		
Tier 1	0 - 3 hcf	162,551	163,765	163,158	98%	159,895	31.8%
Tier 2	4 - 10 hcf	162,836	164,020	163,428	98%	160,159	31.8%
Tier 3	11- 50 hcf	95,039	96,696	95,868	98%	93,950	18.7%
Tier 4	>50 hcf	<u>85,687</u>	<u>97,113</u>	<u>91,400</u>	98%	<u>89,572</u>	<u>17.8%</u>
Total		506,113	521,594	513,854		503,576	100.0%

Table 9
 City of Morro Bay
 Water Sales by Tier

Water Sales by Tier			
	Bi-Monthly Use	Projected Water User in Tier 2014/15	% of Total
Tier 1	0 - 3 hcf	159,895	31.8%
Tier 2	4 - 10 hcf	160,159	31.8%
Tier 3	11- 50 hcf	93,950	18.7%
Tier 4	>50 hcf	89,572	17.8%

Note: Based on billing data from FY 2012/13 with adjustments.

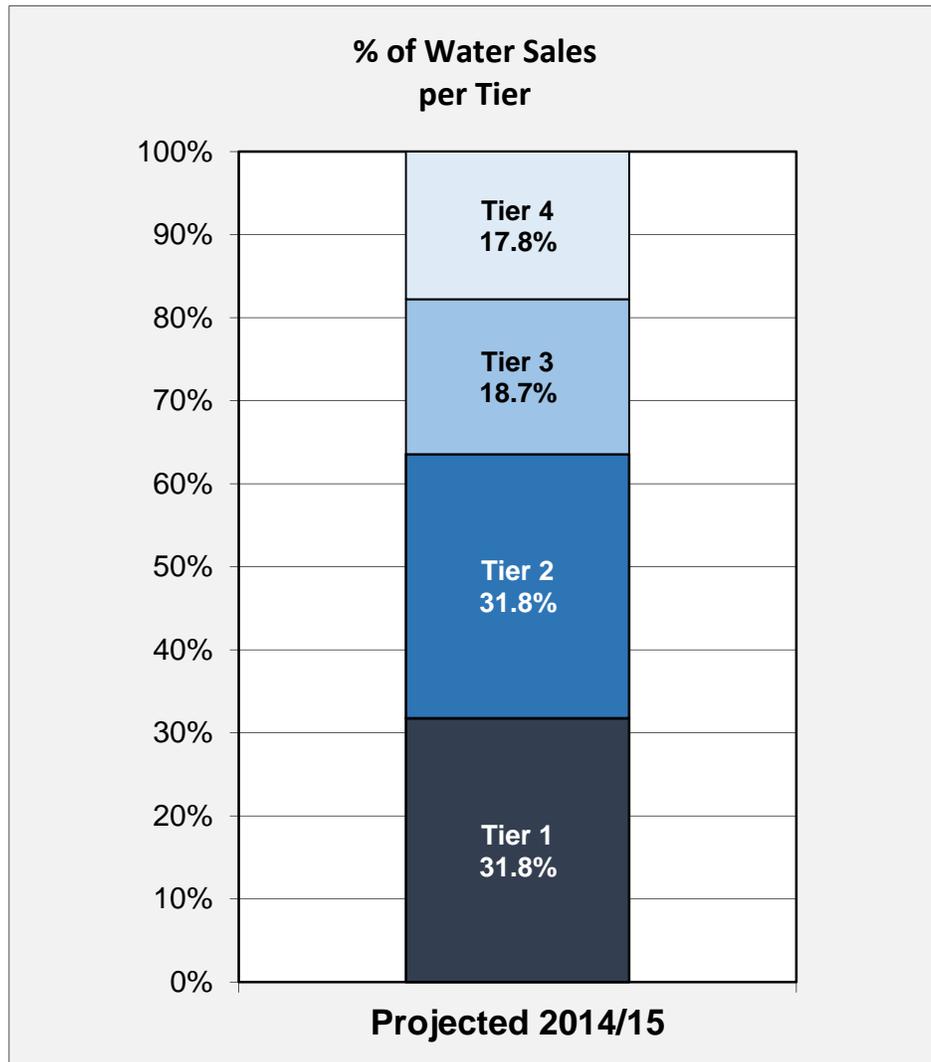


Table 10
City of Morro Bay
Projected Water Use by Tier

Tier Adjustment			Projected Water Sales by Tier					
Factor*			2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Projected Change in Demand				-7.50%	-1.96%	-1.15%	-1.07%	-0.67%
Projected Change in Sales by Tier								
Tier 1	0 - 3 hcf	60%		-4.50%	-1.17%	-0.69%	-0.64%	-0.40%
Tier 2	4 - 10 hcf	100%		-7.50%	-1.96%	-1.15%	-1.07%	-0.67%
Tier 3	11- 50 hcf	125%		-9.38%	-2.45%	-1.44%	-1.34%	-0.83%
Tier 4	>50 hcf	150%		<u>-11.25%</u>	<u>-2.93%</u>	<u>-1.73%</u>	<u>-1.61%</u>	<u>-1.00%</u>
Total				-7.56%	-1.96%	-1.15%	-1.07%	-0.66%
Projected Water Sales by Tier								
Tier 1	0 - 3 hcf		159,895	152,700	150,907	149,862	148,899	148,303
Tier 2	4 - 10 hcf		160,159	148,147	145,248	143,572	142,034	141,087
Tier 3	11- 50 hcf		93,950	85,142	83,060	81,862	80,766	80,093
Tier 4	>50 hcf		<u>89,572</u>	<u>79,495</u>	<u>77,162</u>	<u>75,827</u>	<u>74,608</u>	<u>73,862</u>
Total			503,576	465,484	456,377	451,123	446,307	443,345
% of Water Use by Tier								
Tier 1	0 - 3 hcf		31.75%	32.80%	33.07%	33.22%	33.36%	33.45%
Tier 2	4 - 10 hcf		31.80%	31.83%	31.83%	31.83%	31.82%	31.82%
Tier 3	11- 50 hcf		18.66%	18.29%	18.20%	18.15%	18.10%	18.07%
Tier 4	>50 hcf		<u>17.79%</u>	<u>17.08%</u>	<u>16.91%</u>	<u>16.81%</u>	<u>16.72%</u>	<u>16.66%</u>
Total			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

* Represents the percentage of the total overall projected change in demand applied to each tier; assumes a lower % reduction in lower tier water use and a higher % reduction in higher tier water use.

Table 11
City of Morro Bay
Projected Water Rates

	Projected Water Rates					
	07/01/15	07/01/16	07/01/17	07/01/18	07/01/19	
FIXED MONTHLY SERVICE CHARGES						
Fixed Monthly Service Charge	\$23.00	\$26.00	\$28.00	\$30.00	\$32.00	
Accounts Billed	<u>5,429</u>	<u>5,439</u>	<u>5,449</u>	<u>5,459</u>	<u>5,469</u>	
Total Fixed Charges	\$1,498,404	\$1,696,968	\$1,830,864	\$1,965,240	\$2,100,096	
Collection Rate	<u>98%</u>	<u>98%</u>	<u>98%</u>	<u>98%</u>	<u>98%</u>	
Estimated Revenues	\$1,468,436	\$1,663,029	\$1,794,247	\$1,925,935	\$2,058,094	
WATER QUANTITY CHARGES						
Projected Revenue Target	\$3,028,000	\$3,356,000	\$3,572,000	\$3,786,000	\$4,011,000	
Water Sales per Tier (hcf)						
Tier 1	0 - 3 hcf	152,700	150,907	149,862	148,899	148,303
Tier 2	4 - 10 hcf	148,147	145,248	143,572	142,034	141,087
Tier 3	11- 50 hcf	85,142	83,060	81,862	80,766	80,093
Tier 4	>50 hcf	<u>79,495</u>	<u>77,162</u>	<u>75,827</u>	<u>74,608</u>	<u>73,862</u>
Total (hcf)		465,484	456,377	451,123	446,307	443,345
Water Quantity Charges (\$/hcf)						
Tier 1	0 - 3 hcf	\$2.00	\$3.00	\$4.00	\$5.00	\$6.00
Tier 2	4 - 10 hcf	7.00	7.75	8.00	8.25	8.50
Tier 3	11- 50 hcf	8.50	9.75	10.25	10.75	11.00
Tier 4	>50 hcf	12.00	12.50	13.00	13.50	14.00
Revenues by Tier						
Tier 1	0 - 3 hcf	\$305,400	\$452,721	\$599,448	\$744,495	\$889,818
Tier 2	4 - 10 hcf	1,037,029	1,125,672	1,148,576	1,171,781	1,199,240
Tier 3	11- 50 hcf	723,707	809,835	839,086	868,235	881,023
Tier 4	>50 hcf	<u>953,940</u>	<u>964,525</u>	<u>985,751</u>	<u>1,007,208</u>	<u>1,034,068</u>
Total		3,020,076	3,352,753	3,572,861	3,791,718	4,004,149
Difference \$ (Rev Est - Target)		(7,924)	(3,247)	861	5,718	(6,852)
Difference % of Target		-0.3%	-0.1%	0.0%	0.2%	-0.2%

Table 12
 City of Morro Bay
 Projected Water Rates

Working Draft for Discussion

		Current	Projected Water Rates				
			07/01/15	07/01/16	07/01/17	07/01/18	07/01/19
Fixed Monthly Service Charge		\$16.43	\$23.00	\$26.00	\$28.00	\$30.00	\$32.00
Water Quantity Charges (\$/hcf)							
Tier 1	0 - 3 hcf	\$0.00	\$2.00	\$3.00	\$4.00	\$5.00	\$6.00
Tier 2	4 - 10 hcf	5.56 - 5.74	7.00	7.75	8.00	8.25	8.50
Tier 3	11- 50 hcf	5.77 - 7.81	8.50	9.75	10.25	10.75	11.00
Tier 4	>50 hcf	7.85 - 13.68	12.00	12.50	13.00	13.50	14.00

1 hcf = one hundred cubic feet = 748 gallons

<u>Water Quantity Charges (\$ per 100 gallons)</u>			<i>For informational purposes only</i>				
Tier 1	0 - 3 hcf	\$0.00	\$0.27	\$0.40	\$0.53	\$0.67	\$0.80
Tier 2	4 - 10 hcf	0.74 - 0.77	0.94	1.04	1.07	1.10	1.14
Tier 3	11- 50 hcf	0.77 - 1.04	1.14	1.30	1.37	1.44	1.47
Tier 4	>50 hcf	1.05 - 1.83	1.60	1.67	1.74	1.80	1.87

Table 13
City of Morro Bay
Projected Monthly Water Bill Impacts

Monthly Use (hcf)	Current \$/Month	Projected Monthly Bills					5-Year Impact	
		2015/16	2016/17	2017/18	2018/19	2019/20	\$/month	\$/day
0	\$16.43	\$23.00	\$26.00	\$28.00	\$30.00	\$32.00	\$15.57	\$0.51
1	16.43	25.00	29.00	32.00	35.00	38.00	21.57	0.71
2	16.43	27.00	32.00	36.00	40.00	44.00	27.57	0.91
3	16.43	29.00	35.00	40.00	45.00	50.00	33.57	1.10
4	21.99	36.00	42.75	48.00	53.25	58.50	36.51	1.20
5	27.58	43.00	50.50	56.00	61.50	67.00	39.42	1.30
6	33.20	50.00	58.25	64.00	69.75	75.50	42.30	1.39
7	38.85	57.00	66.00	72.00	78.00	84.00	45.15	1.48
8	44.53	64.00	73.75	80.00	86.25	92.50	47.97	1.58
9	50.24	71.00	81.50	88.00	94.50	101.00	50.76	1.67
10	55.98	78.00	89.25	96.00	102.75	109.50	53.52	1.76
11	61.75	86.50	99.00	106.25	113.50	120.50	58.75	1.93
12	67.55	95.00	108.75	116.50	124.25	131.50	63.95	2.10
13	73.38	103.50	118.50	126.75	135.00	142.50	69.12	2.27
14	79.24	112.00	128.25	137.00	145.75	153.50	74.26	2.44
15	85.13	120.50	138.00	147.25	156.50	164.50	79.37	2.61
16	91.06	129.00	147.75	157.50	167.25	175.50	84.45	2.78
17	97.01	137.50	157.50	167.75	178.00	186.50	89.50	2.94
18	102.99	146.00	167.25	178.00	188.75	197.50	94.52	3.11
19	109.00	154.50	177.00	188.25	199.50	208.50	99.51	3.27
20	115.04	163.00	186.75	198.50	210.25	219.50	104.47	3.43
21	121.17	171.50	196.50	208.75	221.00	230.50	109.34	3.59
22	127.39	180.00	206.25	219.00	231.75	241.50	114.12	3.75
23	133.70	188.50	216.00	229.25	242.50	252.50	118.81	3.91
24	140.07	197.00	225.75	239.50	253.25	263.50	123.44	4.06
25	146.54	205.50	235.50	249.75	264.00	274.50	127.97	4.21
26	153.09	214.00	245.25	260.00	274.75	285.50	132.42	4.35
27	159.70	222.50	255.00	270.25	285.50	296.50	136.81	4.50
28	166.37	231.00	264.75	280.50	296.25	307.50	141.14	4.64
29	173.10	239.50	274.50	290.75	307.00	318.50	145.41	4.78
30	179.93	248.00	284.25	301.00	317.75	329.50	149.58	4.92
31	186.81	256.50	294.00	311.25	328.50	340.50	153.70	5.05
32	193.75	265.00	303.75	321.50	339.25	351.50	157.76	5.19
33	200.75	273.50	313.50	331.75	350.00	362.50	161.76	5.32
34	207.82	282.00	323.25	342.00	360.75	373.50	165.69	5.45
35	214.94	290.50	333.00	352.25	371.50	384.50	169.57	5.57
36	222.09	299.00	342.75	362.50	382.25	395.50	173.42	5.70
37	229.31	307.50	352.50	372.75	393.00	406.50	177.20	5.83
38	236.58	316.00	362.25	383.00	403.75	417.50	180.93	5.95
39	243.88	324.50	372.00	393.25	414.50	428.50	184.63	6.07
40	251.24	333.00	381.75	403.50	425.25	439.50	188.27	6.19
50	327.37	418.00	479.25	506.00	532.75	549.50	222.14	7.30
75	533.21	718.00	791.75	831.00	870.25	899.50	366.29	12.04
100	755.68	1,018.00	1,104.25	1,156.00	1,207.75	1,249.50	493.82	16.24
200	1,747.86	2,218.00	2,354.25	2,456.00	2,557.75	2,649.50	901.64	29.64

Table 11B
City of Morro Bay
Projected Water Rates

	Projected Water Rates					
	07/01/15	07/01/16	07/01/17	07/01/18	07/01/19	
FIXED MONTHLY SERVICE CHARGES						
Fixed Monthly Service Charge	\$23.00	\$26.00	\$28.00	\$30.00	\$32.00	
Accounts Billed	<u>5,429</u>	<u>5,439</u>	<u>5,449</u>	<u>5,459</u>	<u>5,469</u>	
Total Fixed Charges	\$1,498,404	\$1,696,968	\$1,830,864	\$1,965,240	\$2,100,096	
Collection Rate	<u>98%</u>	<u>98%</u>	<u>98%</u>	<u>98%</u>	<u>98%</u>	
Estimated Revenues	\$1,468,436	\$1,663,029	\$1,794,247	\$1,925,935	\$2,058,094	
	40.1%	13.3%	7.9%	7.3%	6.9%	
	32.7%	33.1%	33.4%	33.7%	33.9%	
WATER QUANTITY CHARGES						
Projected Revenue Target	\$3,028,000	\$3,356,000	\$3,572,000	\$3,786,000	\$4,011,000	
Water Sales per Tier (hcf)						
Tier 1	0 - 3 hcf	152,700	150,907	149,862	148,899	148,303
Tier 2	4 - 10 hcf	148,147	145,248	143,572	142,034	141,087
Tier 3	11- 50 hcf	85,142	83,060	81,862	80,766	80,093
Tier 4	>50 hcf	<u>79,495</u>	<u>77,162</u>	<u>75,827</u>	<u>74,608</u>	<u>73,862</u>
Total (hcf)		465,484	456,377	451,123	446,307	443,345
Water Quantity Charges (\$/hcf)						
Tier 1	0 - 3 hcf	\$3.00	\$4.00	\$5.00	\$5.50	\$6.00
Tier 2	4 - 10 hcf	6.00	\$7.00	\$7.50	\$8.00	\$8.50
Tier 3	11- 50 hcf	9.00	\$9.50	\$10.00	\$10.50	\$11.00
Tier 4	>50 hcf	12.00	\$12.50	\$13.00	\$13.50	\$14.00
Revenues by Tier						
Tier 1	0 - 3 hcf	\$458,100	\$603,628	\$749,310	\$818,945	\$889,818
Tier 2	4 - 10 hcf	888,882	1,016,736	1,076,790	1,136,272	1,199,240
Tier 3	11- 50 hcf	766,278	789,070	818,620	848,043	881,023
Tier 4	>50 hcf	<u>953,940</u>	<u>964,525</u>	<u>985,751</u>	<u>1,007,208</u>	<u>1,034,068</u>
Total		3,067,200	3,373,959	3,630,471	3,810,468	4,004,149
Difference \$ (Rev Est - Target)		39,200	17,959	58,471	24,468	(6,852)
Difference % of Target		1.3%	0.5%	1.6%	0.6%	-0.2%

Table 12B
 City of Morro Bay
 Projected Water Rates

Working Draft for Discussion

		Current	Projected Water Rates				
			07/01/15	07/01/16	07/01/17	07/01/18	07/01/19
Fixed Monthly Service Charge		\$16.43	\$23.00	\$26.00	\$28.00	\$30.00	\$32.00
Water Quantity Charges (\$/hcf)							
Tier 1	0 - 3 hcf	\$0.00	\$3.00	\$4.00	\$5.00	\$5.50	\$6.00
Tier 2	4 - 10 hcf	5.56 - 5.74	6.00	7.00	7.50	8.00	8.50
Tier 3	11- 50 hcf	5.77 - 7.81	9.00	9.50	10.00	10.50	11.00
Tier 4	>50 hcf	7.85 - 13.68	12.00	12.50	13.00	13.50	14.00

1 hcf = one hundred cubic feet = 748 gallons

<u>Water Quantity Charges (\$ per 100 gallons)</u>		<i>For informational purposes only</i>					
Tier 1	0 - 3 hcf	\$0.00	\$0.40	\$0.53	\$0.67	\$0.74	\$0.80
Tier 2	4 - 10 hcf	0.74 - 0.77	0.80	0.94	1.00	1.07	1.14
Tier 3	11- 50 hcf	0.77 - 1.04	1.20	1.27	1.34	1.40	1.47
Tier 4	>50 hcf	1.05 - 1.83	1.60	1.67	1.74	1.80	1.87

Table 13B
City of Morro Bay
Projected Monthly Water Bill Impacts

Monthly Use (hcf)	Current \$/Month	Projected Monthly Bills					5-Year Impact	
		2015/16	2016/17	2017/18	2018/19	2019/20	\$/month	\$/day
0	\$16.43	\$23.00	\$26.00	\$28.00	\$30.00	\$32.00	\$15.57	\$0.51
1	16.43	26.00	30.00	33.00	35.50	38.00	21.57	0.71
2	16.43	29.00	34.00	38.00	41.00	44.00	27.57	0.91
3	16.43	32.00	38.00	43.00	46.50	50.00	33.57	1.10
4	21.99	38.00	45.00	50.50	54.50	58.50	36.51	1.20
5	27.58	44.00	52.00	58.00	62.50	67.00	39.42	1.30
6	33.20	50.00	59.00	65.50	70.50	75.50	42.30	1.39
7	38.85	56.00	66.00	73.00	78.50	84.00	45.15	1.48
8	44.53	62.00	73.00	80.50	86.50	92.50	47.97	1.58
9	50.24	68.00	80.00	88.00	94.50	101.00	50.76	1.67
10	55.98	74.00	87.00	95.50	102.50	109.50	53.52	1.76
11	61.75	83.00	96.50	105.50	113.00	120.50	58.75	1.93
12	67.55	92.00	106.00	115.50	123.50	131.50	63.95	2.10
13	73.38	101.00	115.50	125.50	134.00	142.50	69.12	2.27
14	79.24	110.00	125.00	135.50	144.50	153.50	74.26	2.44
15	85.13	119.00	134.50	145.50	155.00	164.50	79.37	2.61
16	91.06	128.00	144.00	155.50	165.50	175.50	84.45	2.78
17	97.01	137.00	153.50	165.50	176.00	186.50	89.50	2.94
18	102.99	146.00	163.00	175.50	186.50	197.50	94.52	3.11
19	109.00	155.00	172.50	185.50	197.00	208.50	99.51	3.27
20	115.04	164.00	182.00	195.50	207.50	219.50	104.47	3.43
21	121.17	173.00	191.50	205.50	218.00	230.50	109.34	3.59
22	127.39	182.00	201.00	215.50	228.50	241.50	114.12	3.75
23	133.70	191.00	210.50	225.50	239.00	252.50	118.81	3.91
24	140.07	200.00	220.00	235.50	249.50	263.50	123.44	4.06
25	146.54	209.00	229.50	245.50	260.00	274.50	127.97	4.21
26	153.09	218.00	239.00	255.50	270.50	285.50	132.42	4.35
27	159.70	227.00	248.50	265.50	281.00	296.50	136.81	4.50
28	166.37	236.00	258.00	275.50	291.50	307.50	141.14	4.64
29	173.10	245.00	267.50	285.50	302.00	318.50	145.41	4.78
30	179.93	254.00	277.00	295.50	312.50	329.50	149.58	4.92
31	186.81	263.00	286.50	305.50	323.00	340.50	153.70	5.05
32	193.75	272.00	296.00	315.50	333.50	351.50	157.76	5.19
33	200.75	281.00	305.50	325.50	344.00	362.50	161.76	5.32
34	207.82	290.00	315.00	335.50	354.50	373.50	165.69	5.45
35	214.94	299.00	324.50	345.50	365.00	384.50	169.57	5.57
36	222.09	308.00	334.00	355.50	375.50	395.50	173.42	5.70
37	229.31	317.00	343.50	365.50	386.00	406.50	177.20	5.83
38	236.58	326.00	353.00	375.50	396.50	417.50	180.93	5.95
39	243.88	335.00	362.50	385.50	407.00	428.50	184.63	6.07
40	251.24	344.00	372.00	395.50	417.50	439.50	188.27	6.19
50	327.37	434.00	467.00	495.50	522.50	549.50	222.14	7.30
75	533.21	734.00	779.50	820.50	860.00	899.50	366.29	12.04
100	755.68	1,034.00	1,092.00	1,145.50	1,197.50	1,249.50	493.82	16.24
200	1,747.86	2,234.00	2,342.00	2,445.50	2,547.50	2,649.50	901.64	29.64

Sewer Financial Plan & Rate Study

Working Draft Tables

Table 1
City of Morro Bay
Historical Monthly Sewer Rates

		07/01/10	07/01/11	07/01/12	07/01/13	07/01/14
RESIDENTIAL						
Fixed Charge per Dwelling Unit	<u>Allowance</u>					
Single Family Residential	10 ccf	\$37.51	\$39.38	\$41.35	\$43.42	\$45.59
Single Family Condos	3 ccf	37.51	39.38	41.35	43.42	45.59
Multiple Family Residential	10 ccf	37.51	39.38	41.35	43.42	45.59
Charge per hcf in Excess of Allowance		3.35	3.52	3.69	3.88	4.07
NON-RESIDENTIAL						
Charge per hcf of Metered Water Use						
Mobile Home Parks		3.50	3.75	4.02	4.31	4.63
Laundromat		3.50	3.75	4.02	4.31	4.63
Car Wash		3.50	3.75	4.02	4.31	4.63
Water Softners		3.50	3.75	4.02	4.31	4.63
Schools		3.50	3.75	4.02	4.31	4.63
Other Public Facilities		3.50	3.75	4.02	4.31	4.63
City Facilities/on Sewer		3.50	3.75	4.02	4.31	4.63
Commercial/Domestic Strength		4.40	4.72	5.06	5.43	5.82
Commercial Laundry		4.40	4.72	5.06	5.43	5.82
Condo - Common Area (with sewer)		4.40	4.72	5.06	5.43	5.82
Motels		6.07	6.51	6.98	7.49	8.03
Mortuaries		6.59	7.07	7.59	8.14	8.73
Retirement Home/Hospital		7.90	8.47	9.09	9.74	10.45
Hotels with Dining Room		7.90	8.47	9.09	9.74	10.45
Restaurants		10.11	10.84	11.63	12.47	13.38
Bakeries		10.11	10.84	11.63	12.47	13.38
Seafood Processors		10.11	10.84	11.63	12.47	13.38
Power Plant		449.76	482.37	517.34	554.85	595.07
Minimum Charge		39.13	41.97	45.01	48.27	51.77

City of Morro Bay Historical Monthly Residential Sewer Bills

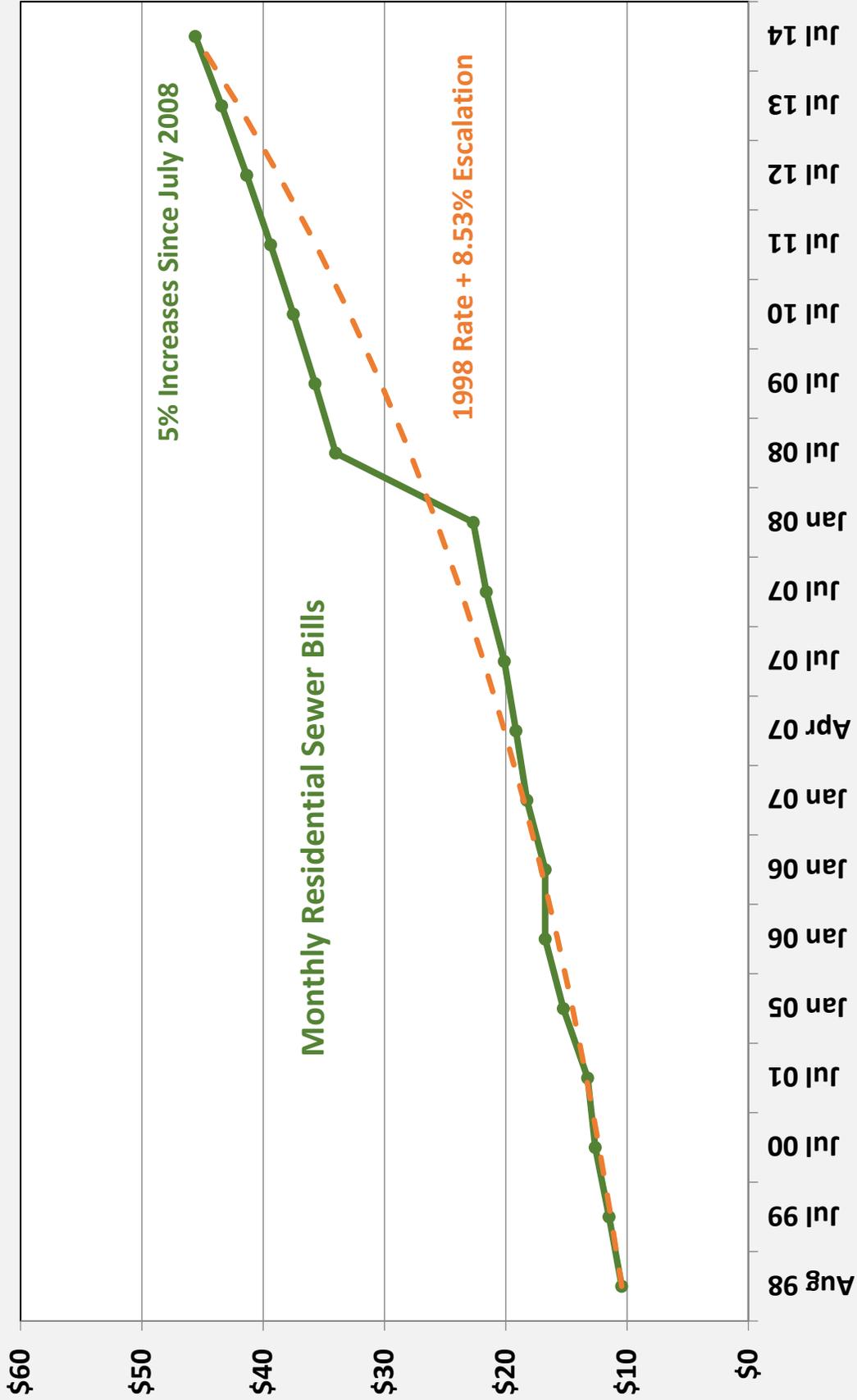


Table 2
City of Morro Bay
Historical Sewer Utility Finances & Budget

	Actual 2009/10	Actual 2010/11	Actual 2011/12	Budget 2012/13	Amended Budget 2013/14	Proposed Budget 2014/15
BEGINNING CASH BALANCES						
1. Equipment replacement fund	\$76,564	\$77,621	\$78,340	\$79,017	\$124,532	\$239,532
2. Operation fund	590,827	1,320,424	2,096,060	100	0	0
3. CIP fund	<u>2,658,118</u>	<u>2,952,936</u>	<u>2,972,051</u>	<u>3,844,505</u>	<u>3,689,625</u>	<u>2,898,812</u>
Total	3,325,509	4,350,981	5,146,451	3,923,622	3,814,157	3,138,344
REVENUES & RESERVE TRANSFERS						
1. Equipment replacement fund:						
Interest/other income	1,429	719	677	515	0	0
Transfers in	0	0	0	<u>45,000</u>	<u>115,000</u>	<u>115,000</u>
<i>Subtotal</i>	1,429	719	677	45,515	115,000	115,000
2. Operation fund:						
Sewer user fees	3,296,452	3,445,189	3,610,534	3,767,815	3,675,000	3,428,067
Intergovernmental	143,193	214,930	24,688	42,534	0	0
Rental income	19,582	19,582	19,665	20,078	19,000	20,000
Other revenues	2,528	30,283	29,931	25,368	25,000	25,000
Transfer from Reserve fund	58,348	54,321	1,170,112	0	595,813	2,191,358
Other	0	7	0	0	0	0
<i>Subtotal</i>	3,520,103	3,764,312	4,854,930	3,855,795	4,314,813	5,664,425
3. CIP fund:						
Impact fees	21,197	32,563	12,703	66,533	0	0
Interest income	66,248	40,305	33,523	16,851	20,000	0
Transfer from Capital Improvement Fund	389,349	630	0	0	0	0
Transfer from Revenue Fund	0	0	<u>2,027,213</u>	<u>1,818,651</u>	0	0
<i>Subtotal</i>	476,794	73,498	2,073,439	1,902,035	20,000	0
Total revenues & transfers in	3,998,326	3,838,529	6,929,046	5,803,345	4,449,813	5,779,425
EXPENSES						
1. Equipment replacement fund:						
Equipment/Vehicles						(70,000)
<i>Subtotal</i>						(70,000)
2. Operation fund:						
Personnel	(452,449)	(515,655)	(527,364)	(507,484)	(748,307)	(686,097)
Supplies	(103,511)	(60,457)	(54,824)	(112,000)	(91,500)	(155,500)
Services	(288,626)	(307,088)	(188,275)	(210,312)	(446,855)	(425,155)
Other (no depreciation)	(271,073)	(21,004)	(91,448)	(15,746)	0	0
MB/CSD wastewater treatment plant	(1,568,081)	(1,924,757)	(1,853,768)	1,611,817	(2,863,450)	(4,231,325)
General fund cost allocation	(147,434)	(159,715)	(161,630)	(161,630)	(164,701)	(166,348)
Transfer to Reserve Fund	0	0	<u>(4,073,581)</u>	<u>(1,236,542)</u>	0	0
<i>Subtotal</i>	(2,831,174)	(2,988,676)	(6,950,890)	(631,897)	(4,314,813)	(5,664,425)
3. CIP fund:						
Capital Improvements	(156,707)	0	(1,200,895)	(2,031,915)	(100,000)	(482,994)
Transfer to Sewer Equipment Repl Fund	0	(53,708)	0	(25,000)	(115,000)	(115,000)
Transfer to Sewer Revenue Fund	0	<u>(675)</u>	0	0	0	0
<i>Subtotal</i>	(156,707)	(54,383)	(1,200,895)	(2,056,915)	(215,000)	(597,994)
Total expenses & transfers out	(2,987,881)	(3,043,059)	(8,151,785)	(2,688,812)	(4,529,813)	(6,332,419)
NET REVENUES	1,010,445	795,470	(1,222,739)	3,114,533	(80,000)	(552,994)
ENDING CASH BALANCES						
1. Equipment replacement fund	77,993	78,340	79,017	124,532	239,532	284,532
2. Operation fund	1,279,756	2,096,060	100	0	0	0
3. CIP fund	<u>2,978,205</u>	<u>2,972,051</u>	<u>3,844,505</u>	<u>3,689,625</u>	<u>2,898,812</u>	<u>109,460</u>
Total	4,335,954	5,146,451	3,923,622	3,814,157	3,138,344	393,992

Table 3
City of Morro Bay
Sewer Capital Improvement Program

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	Total
SEWER COLLECTION SYSTEM CIP											
Vehicles & Equipment											
GMC 1500 pickup truck				70,000							70,000
GMC 2500 service truck	70,000										70,000
Sterling 17501 Vac-con truck		350,000									350,000
Holcomb Portable generator		35,000									35,000
Capital Improvements/Buildings/Infrastructure											
Lift station #1	200,000										200,000
Section 3 rehabilitation	150,000										150,000
Section 4 rehabilitation		400,000									400,000
Section 5 rehabilitation		200,000									200,000
Section 7 rehabilitation			200,000								200,000
Section 8 rehabilitation			200,000								200,000
Section 9 rehabilitation				200,000							200,000
Section 2 rehabilitation			750,000								750,000
Main Street rehabilitation				3,500,000							3,500,000
Embarcadero rehabilitation		500,000									500,000
Laurel Easement rehabilitation		200,000									200,000
SCADA system					300,000						300,000
782 manholes	60,000	60,000	60,000	60,000	60,000						300,000
Placeholder for Future Sewer System Improvements						500,000	500,000	500,000	500,000	500,000	2,500,000
Subtotal	480,000	1,360,000	1,595,000	3,830,000	360,000	500,000	500,000	500,000	500,000	500,000	10,125,000
WASTEWATER TREATMENT PLANT MMRP											
Morro Bay	878,000	540,000	180,000	72,000							1,670,000
Cayucos	342,000	210,000	70,000	28,000							650,000
CAPITAL EXPENSES WITH COST ESCALATION											
Annual Cost Escalation		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Cost Escalator	1.000	1.030	1.061	1.093	1.126	1.159	1.194	1.230	1.267	1.305	
Sewer Collection System CIP	480,000	1,401,000	1,692,000	4,185,000	405,000	580,000	597,000	615,000	633,000	652,000	11,240,000
Wastewater Treatment Plant MMRP	1,220,000	750,000	250,000	100,000	0	0	0	0	0	0	2,320,000
<i>Not Escalated</i>											
Morro Bay	878,000	540,000	180,000	72,000	0	0	0	0	0	0	1,670,000
Cayucos	342,000	210,000	70,000	28,000	0	0	0	0	0	0	650,000

Table 4
 City of Morro Bay
 Water Reclamation Plant Cost Projections
 With Cost Escalation to Construction Mid-Point

	2014/15	2015/16	2016/17	2017/18	2018/19	Total
Phase 1: Water Reclamation Facility & Conveyance Facilities						
Property Acquisition (placeholder estimate)				500,000		500,000
Construction				19,000,000	11,800,000	30,800,000
Contingency 30%				5,700,000	3,500,000	9,200,000
Contractor Overhead/Profit/Risk 18%				4,400,000	2,800,000	7,200,000
Cost Escalation to Construction Mid-Point				3,600,000	2,300,000	5,900,000
Engineering/Legal/Admin/Tax	1,000,000	3,000,000	6,000,000	6,800,000	4,300,000	21,100,000
Subtotal	1,000,000	3,000,000	6,000,000	40,000,000	24,700,000	74,700,000
Estimated Cost Share						
Morro Bay	750,000	2,250,000	4,500,000	30,000,000	18,525,000	56,025,000
Cayucos	250,000	750,000	1,500,000	10,000,000	6,175,000	18,675,000

Source: Based on cost estimates for Rancho Colina Option A from Table 6 of the New Water Reclamation Facility Project Comparative Site Analysis; December 9, 2014, by John F. Rickenbach Consulting in association with Michael K. Nunley & Associates.

Table 5
 City of Morro Bay
 SRF Loan Debt Service Estimates

		SRF Loan for Phase 1 Water Reclamation Plant
Funding Target		\$74,700,000
<i>Water Reclamation Plant Phase 1</i>		
SRF Loan Amount		
Eligible Project Costs ¹		74,700,000
Accrued Interest During Construction ²		<u>2,770,000</u>
Total Loan Amount		77,470,000
Loan Terms		
Term (years)		30
Interest Rate ³		3.00%
Annual Loan Payment⁴		3,952,000
Morro Bay	75%	2,964,000
Cayucos	25%	988,000
Total Payments over Loan Term		118,560,000
Reserve Fund Requirement⁵		3,952,000
Morro Bay	75%	2,964,000
Cayucos	25%	988,000

1 Some costs may not be eligible for SRF Loan funding & would require another funding source.

2 Assumes steady gradual drawdown of loan funds over two years.

3 Total net interest rate estimated for financial planning purposes; actual rate may vary.

4 First debt service payment due one year following completion of project.

5 Agencies must set aside funds to meet the SRF Reserve Requirement at least 90 days prior to project completion date.

Table 6
 City of Morro Bay
 Bond Debt Service Estimates

For Comparison with SRF

Assumptions		30-Year Bonds
Funding Target		\$74,700,000
<i>Water Reclamation Plant Phase 1</i>		
Total Debt Issue		\$81,600,000
Proceeds		\$74,699,500
Issuance Costs & Reserve Requirement		
Underwriter Discount	0.70%	\$571,200
Issuance Costs		200,000
Debt Service Reserve Fund		5,615,000
Bond Insurance	tbd	500,000
Reserve Surety Bond	tbd	0
Contingency/Rounding		<u>14,300</u>
Total		6,900,500
Financing Terms		
Term (Years)		30
Est. Future Interest Rate		5.50%
Debt Service		
Annual Debt Service		5,615,000
Less Interest on Reserve Fund	2.50%	<u>(140,000)</u>
Net Annual Debt Service		5,475,000
Total Payments over Bond Term		162,835,000

Table 7 Morro Bay - Sewer Cash Flow Projections **Years 1-5**

Years 1 - 5	Budget	Projected			
	2014/15	2015/16	2016/17	2017/18	2018/19
Effective Date of Rate Adjustment	07/01/14	07/01/15	07/01/16	07/01/17	07/01/18
Base Monthly Residential Sewer Charge	\$45.59	\$55.00	\$62.50	\$70.00	\$77.00
Beginning Sewer Accounts	5,346	5,346	5,356	5,366	5,376
Growth: Single Family Homes or Equivalents	-	10	10	10	10
Change in Billed Sewer Use (-0.15x27%xinc)	-	-2.0%	-0.6%	-0.5%	-0.4%
Sewer Development Impact Fee	\$4,570	\$4,660	\$4,750	\$4,850	\$4,950
Interest Earnings Rate	0.25%	0.25%	0.50%	1.0%	1.0%
Annual Cost Escalator	-	4.0%	4.0%	4.0%	4.0%
Beginning Fund Reserves	\$3,138,000	\$1,902,000	\$2,782,000	\$3,269,000	\$1,902,000
REVENUES					
Sewer Service Charges	4,164,000	4,921,000	5,561,000	6,198,000	6,790,000
Service Fees/Other	45,000	46,000	47,000	48,000	49,000
Development Impact Fees	0	47,000	48,000	49,000	50,000
Interest Earnings	4,000	5,000	14,000	33,000	19,000
Subtotal	4,213,000	5,019,000	5,670,000	6,328,000	6,908,000
SRF Financing: WRP Phase 1		4,000,000	6,000,000	40,000,000	24,700,000
Other Debt Financing: Wastewater CIP Projects				0	
EXPENSES					
Operating & Maintenance					
Sewer Personnel	686,000	713,000	742,000	772,000	803,000
Supplies & Services	559,000	581,000	604,000	628,000	653,000
General Fund Cost Allocation	167,000	174,000	181,000	188,000	196,000
Wastewater Treatment Personnel	840,000	874,000	909,000	945,000	983,000
Wastewater Treatment Operations	1,350,000	1,404,000	1,460,000	1,518,000	1,579,000
Less Cayucos SD Share (Est. 25%)	(548,000)	(570,000)	(592,000)	(616,000)	(641,000)
Subtotal	3,054,000	3,176,000	3,304,000	3,435,000	3,573,000
Debt Service					
SRF Financing: WRP Phase 1	0	0	0	0	0
Less Cayucos SD Share (Est. 25%)	0	0	0	0	0
Debt Financing: Wastewater CIP Projects	0	0	0	0	0
Subtotal	0	0	0	0	0
Capital Improvements					
Sewer CIP Projects: Cash Funded	480,000	1,401,000	1,692,000	4,185,000	405,000
Sewer CIP Projects: Debt Financed	0	0	0	0	0
Wastewater Treatment Plant MMRP	1,220,000	750,000	250,000	100,000	0
Less Cayucos SD Share (Est. 25%)	(305,000)	(188,000)	(63,000)	(25,000)	0
New Water Reclamation Plant Phase 1	1,000,000	3,000,000	6,000,000	40,000,000	24,700,000
Subtotal	2,395,000	4,963,000	7,879,000	44,260,000	25,105,000
Total Expenses	5,449,000	8,139,000	11,183,000	47,695,000	28,678,000
Revenues Less Expenses	(1,236,000)	880,000	487,000	(1,367,000)	2,930,000
Transfer for SRF Rsrv Req't, MB Share	-	-	-	-	(2,964,000)
Ending Fund Reserves	1,902,000	2,782,000	3,269,000	1,902,000	1,868,000
Ending SRF Reserve Requirement	-	-	-	-	2,964,000
Min Fund Rsrv Target (25% O&M + \$1M)	1,764,000	1,794,000	1,826,000	1,859,000	1,893,000
Debt Service Coverage (on MB Share)	-	-	-	-	-

Table 7 Morro Bay - Sewer Cash Flow Projections

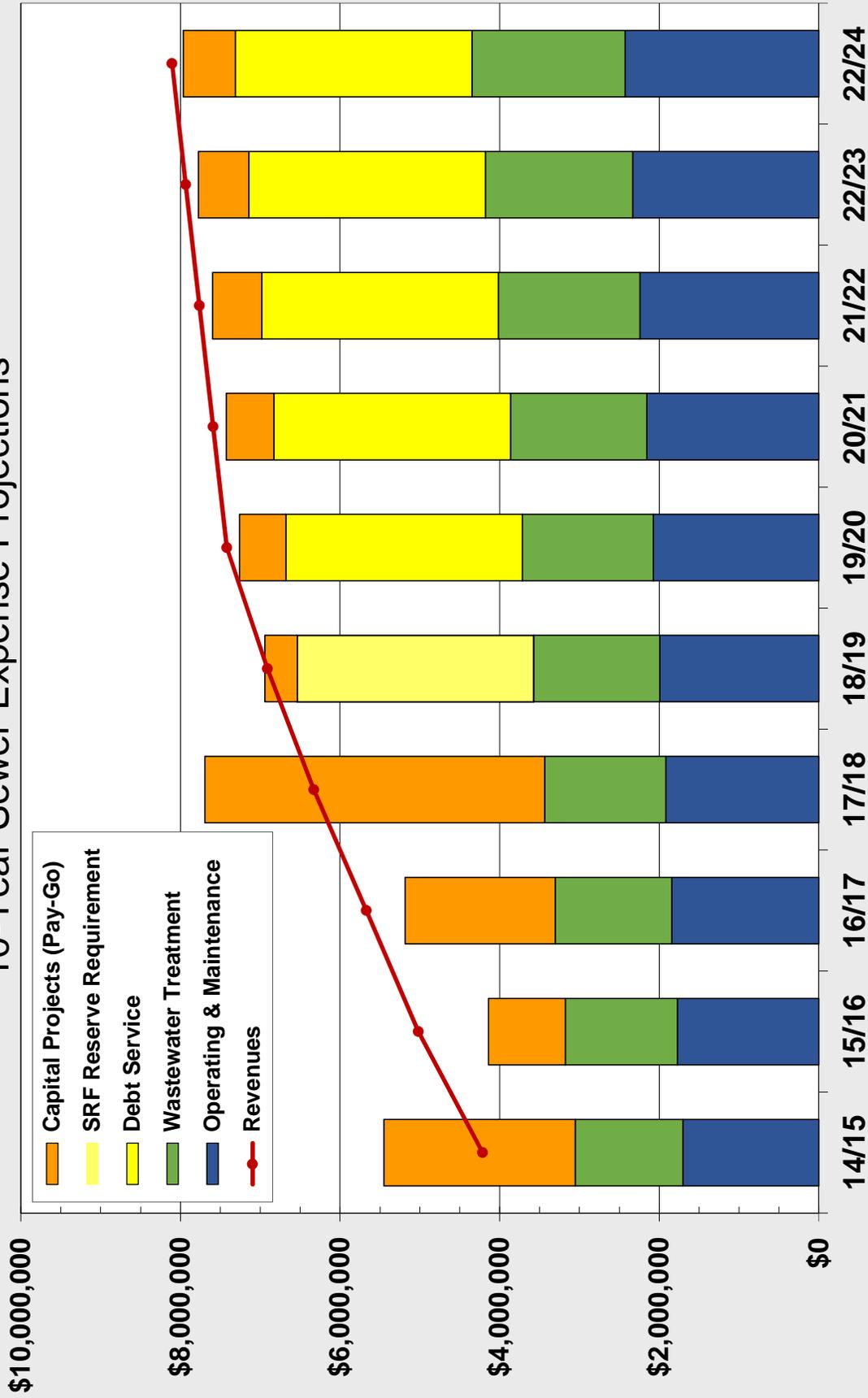
Years 6-10

Years 6 - 10	Projected					Esc Factor
	2019/20	2020/21	2021/22	2022/23	2023/24	
Effective Date of Rate Adjustment	07/01/19	07/01/20	07/01/21	07/01/22	07/01/23	
Base Monthly Residential Charge	\$83.00	\$85.00	\$87.00	\$89.00	\$91.00	
Beginning Accounts	5,386	5,396	5,406	5,416	5,426	
Growth: Single Family Homes or Equivalents	10	10	10	10	10	
Change in Billed Sewer Use	-0.3%	-0.1%	-0.1%	-0.1%	-0.1%	
Water Service Connection Fee	\$5,050	\$5,150	\$5,250	\$5,360	\$5,470	2.0%
Interest Rate	1.0%	1.0%	1.0%	1.0%	1.0%	
Annual Cost Escalator	4.0%	4.0%	4.0%	4.0%	4.0%	
Beginning Fund Reserves	\$1,868,000	\$2,026,000	\$2,191,000	\$2,356,000	\$2,513,000	
REVENUES						
Sewer Service Charges	7,296,000	7,464,000	7,632,000	7,800,000	7,968,000	
Service Fees/Other	50,000	51,000	52,000	53,000	54,000	2.0%
Development Impact Fees	51,000	52,000	53,000	54,000	55,000	
Interest Earnings	21,000	23,000	25,000	26,000	28,000	
Subtotal	7,418,000	7,590,000	7,762,000	7,933,000	8,105,000	
SRF Financing: WRP Phase 1						
Debt Financing: Wastewater CIP Projects						
EXPENSES						
Operating & Maintenance						
Sewer Personnel	835,000	868,000	903,000	939,000	977,000	
Supplies & Services	679,000	706,000	734,000	763,000	794,000	
General Fund Cost Allocation	204,000	212,000	220,000	229,000	238,000	
Wastewater Treatment Personnel	1,022,000	1,063,000	1,106,000	1,150,000	1,196,000	
Wastewater Treatment Operations	1,642,000	1,708,000	1,776,000	1,847,000	1,921,000	
Less Cayucos SD Share (Est. 25%)	(666,000)	(693,000)	(721,000)	(749,000)	(779,000)	
Subtotal	3,716,000	3,864,000	4,018,000	4,179,000	4,347,000	
Debt Service						
SRF Financing: WRP Phase 1	\$3,952,000	3,952,000	3,952,000	3,952,000	3,952,000	
Less Cayucos SD Share (Est. 25%)	(988,000)	(988,000)	(988,000)	(988,000)	(988,000)	
Debt Financing: Wastewater CIP Projects	0	0	0	0	0	
Subtotal	2,964,000	2,964,000	2,964,000	2,964,000	2,964,000	
Capital Improvements						
Sewer CIP Projects: Cash Funded	580,000	597,000	615,000	633,000	652,000	
Sewer CIP Projects: Debt Financed	0	0	0	0	0	
Wastewater Treatment Plant MMRP	0	0	0	0	0	
Less Cayucos SD Share (Est. 25%)	0	0	0	0	0	
New Water Reclamation Plant Phase 1	0	0	0	0	0	
Subtotal	580,000	597,000	615,000	633,000	652,000	
Total Expenses	7,260,000	7,425,000	7,597,000	7,776,000	7,963,000	
Revenues Less Expenses	158,000	165,000	165,000	157,000	142,000	
Transfer for SRF Reserve Requirement	-	-	-	-	-	
Ending Fund Reserves	2,026,000	2,191,000	2,356,000	2,513,000	2,655,000	
Ending SRF Reserve Requirement	2,964,000	2,964,000	2,964,000	2,964,000	2,964,000	
Min Fund Rsrv Target (25% O&M + \$1M)	1,929,000	1,966,000	2,005,000	2,045,000	2,087,000	
Debt Service Coverage (on MB Share)	1.25	1.26	1.26	1.27	1.27	

City of Morro Bay
Summary of Sewer Cash Flow Projections (\$ millions)

Fiscal Year	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Rate Increase Target Effective July 1	5.5%	21%	14%	12.0%	10.0%	8%	2%	2%	2%	2%
Beginning Fund Reserves	\$3.1	\$1.9	\$2.8	\$3.3	\$1.9	\$1.9	\$2.0	\$2.2	\$2.4	\$2.5
REVENUES										
Water Rate Revenues	4.2	4.9	5.6	6.2	6.8	7.3	7.5	7.6	7.8	8.0
Other Revenues	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Debt Proceeds	-	4.0	6.0	40.0	24.7	-	-	-	-	-
Total	4.2	9.0	11.7	46.3	31.6	7.4	7.6	7.8	7.9	8.1
EXPENSES										
Operating Expenses	3.1	3.2	3.3	3.4	3.6	3.7	3.9	4.0	4.2	4.3
Debt Service	0.0	0.0	0.0	0.0	0.0	3.0	3.0	3.0	3.0	3.0
Capital Expenditures	2.4	5.0	7.9	44.3	25.1	0.6	0.6	0.6	0.6	0.7
Total	5.4	8.1	11.2	47.7	28.7	7.3	7.4	7.6	7.8	8.0
Revenues Less Expenses	(1.2)	0.9	0.5	(1.4)	2.9	0.2	0.2	0.2	0.2	0.1
Transfer to SRF Reserve	-	-	-	-	(3.0)	-	-	-	-	-
Ending Fund Reserves	1.9	2.8	3.3	1.9	1.9	2.0	2.2	2.4	2.5	2.7
Min Fund Reserve Target	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.1
Debt Service Coverage	-	-	-	-	-	1.25	1.26	1.26	1.27	1.27

City of Morro Bay 10-Year Sewer Expense Projections



Excludes capital projects funded by debt; but includes projected debt service.

Table 8
City of Morro Bay
Cost Recovery Allocation

	Expenses 2019/20	Allocation %			Allocation \$		
		Flow	BOD	SS	Flow	BOD	SS
Operating & Maintenance							
City Operating Expenses	1,718,000	100%	0%	0%	1,718,000	0	0
WWTP Operating Expenses (net)	1,998,000	60%	20%	20%	1,198,800	399,600	399,600
Subtotal	3,716,000	78.5%	10.8%	10.8%	2,916,800	399,600	399,600
Debt Service							
SRF Financing: WRP Phase 1 (net)	2,964,000	60%	20%	20%	1,778,400	592,800	592,800
Debt Financing: Sewer CIP Projects	0	100%	0%	0%	0	0	0
Subtotal	2,964,000	60.0%	20.0%	20.0%	1,778,400	592,800	592,800
Capital & Other Non-Operating							
City Capital Projects, Cash-Funded	580,000	100%	0%	0%	580,000	0	0
WWTP MMRP Projects, Cash-Funded	0	60%	20%	20%	0	0	0
Subtotal	580,000	100.0%	0.0%	0.0%	580,000	0	0
Total	7,260,000	72.7%	13.7%	13.7%	5,275,200	992,400	992,400

Table 10
 City of Morro Bay
 Wastewater Loadings for Cost Recovery

	Accounts	Dwelling Units	Estimated Wastewater Flow			Strength (mg/l)		Loadings (lbs)	
			hcf	mg	gpd	BOD	SS	BOD	SS
RESIDENTIAL									
Single Family	4,200	<u>Est.</u> 4,200	252,000	188.51	516,462	200	200	314,432	314,432
Condos	308	308	14,784	11.06	30,299	200	200	18,447	18,447
Multi-Family	345	960	46,080	34.47	94,439	200	200	57,496	57,496
NON-RESIDENTIAL									
Class A - Low Strength	56								
Class B - Domestic Strength	343								
Class C - Moderate Strength	45								
Class D - Mod-High Strength	1								
Class E - High Strength	49								
			2019/20 Wtr Use						
			29,144	18.53	50,770	100	100	15,455	15,455
			55,682	35.40	97,000	200	200	59,056	59,056
			38,013	24.17	66,220	300	300	60,474	60,474
			4,293	2.73	7,479	400	400	9,106	9,106
			16,017	10.18	27,902	600	600	50,962	50,962
TOTAL	5,346		434,541	325.06	890,570	216	216	585,428	585,428

Table 11
 City of Morro Bay
 Wastewater Loadings for Cost Recovery

	Flow	BOD	SS
2019/20 Sewer Rate Revenue Target			\$7,296,000
Less estimated additional revenues from minimum charge			<u>0</u>
Net Revenue Requirement from Sewer Loadings			7,296,000
<i>Excludes Revenues from Cayucos Sanitary District</i>			
SEWER RATE RECOVERY			
Cost Allocation %	72.7%	13.7%	13.7%
Cost Allocation \$	\$5,301,358	\$997,321	\$997,321
Total Loadings	434,541 hcf	585,428 lbs	585,428 lbs
Unit Rate	\$12.200 per hcf	\$1.704 per lb	\$1.704 per lb

Table 12
City of Morro Bay
Sewer Rate Calculations

	Wastewater Flow		Wastewater Strength (mg/l)		Flow	Unit Costs		Total Sewer Charge
	hcf	mg	BOD	SS		BOD	SS	
RESIDENTIAL								
<i>Charge per residential dwelling unit</i>								
Single Family	5.0	0.003740	200	200	61.00	10.63	10.63	82.26
Multi-Family/Condo	4.0	0.002992	200	200	48.80	8.50	8.50	65.80
NON-RESIDENTIAL								
<i>Rate per hcf of metered water use</i>								
Class A - Low Strength	1.0	0.000636	100	100	10.37	0.90	0.90	12.18
Class B - Domestic Strength	1.0	0.000636	200	200	10.37	1.81	1.81	13.98
Class C - Moderate Strength	1.0	0.000636	300	300	10.37	2.71	2.71	15.79
Class D - Mod-High Strength	1.0	0.000636	400	400	10.37	3.61	3.61	17.60
Class E - High Strength	1.0	0.000636	600	600	10.37	5.42	5.42	21.21
	<u>Wtr Use</u>	<u>Sewer %</u>	<u>Swr Flow</u>					<u>Per hcf of Water Use</u>

Table 13
City of Morro Bay
Proposed Sewer Rates

	Current	Proposed					5-Year Impact
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
PROJECTED SEWER RATES							
RESIDENTIAL							
<i>Charge per residential dwelling unit</i>							
Single Family	\$45.59	\$55.00	\$62.50	\$70.00	\$77.00	\$83.00	\$37.41
Multi-Family/Condo	varies	44.00	50.00	56.00	61.60	66.40	varies
% of Single Family		80%	80%	80%	80%	80%	
NON-RESIDENTIAL							
<i>Rate per hcf of metered water use</i>							
Class A - Low Strength	\$4.63	\$6.72	\$8.34	\$9.93	\$11.27	\$12.18	\$7.55
Class B - Domestic Strength	5.82	8.08	9.83	11.55	13.00	13.98	8.16
Class C - Moderate Strength	8.03	10.18	11.84	13.47	14.85	15.79	7.76
Class D - Mod-High Strength	10.45	12.43	13.96	15.46	16.73	17.60	7.15
Class E - High Strength	13.38	15.55	17.23	18.88	20.27	21.21	7.83
Minimum Annual Charge	51.77	44.00	50.00	56.00	61.60	66.40	14.63
SEWER ACCOUNTS & USE							
RESIDENTIAL							
<i>Number of Dwelling Units</i>							
<i>Projected Growth</i>		10	10	10	10	10	
Single Family	4,200	4,210	4,220	4,230	4,240	4,250	
Multi-Family/Condo	1,268	1,268	1,268	1,268	1,268	1,268	
NON-RESIDENTIAL							
<i>Metered Water Use</i>							
Class A - Low Strength	33,081	30,601	30,002	29,656	29,339	29,144	
Class B - Domestic Strength	63,208	58,467	57,324	56,662	56,055	55,682	
Class C - Moderate Strength	43,152	39,916	39,135	38,683	38,268	38,013	
Class D - Mod-High Strength	4,874	4,508	4,420	4,369	4,322	4,293	
Class E - High Strength	18,183	16,820	16,490	16,300	16,125	16,017	
SEWER RATE REVENUES							
RESIDENTIAL							
Single Family	2,315,000	2,778,600	3,165,000	3,553,200	3,917,760	4,233,000	
Multi-Family/Condo	<u>700,000</u>	<u>669,504</u>	<u>760,800</u>	<u>852,096</u>	<u>937,306</u>	<u>1,010,342</u>	
Subtotal	3,015,000	3,448,104	3,925,800	4,405,296	4,855,066	5,243,342	
NON-RESIDENTIAL							
Class A - Low Strength	153,165	205,639	250,217	294,484	330,651	354,878	
Class B - Domestic Strength	367,873	472,413	563,495	654,446	728,715	778,629	
Class C - Moderate Strength	346,512	406,345	463,358	521,060	568,280	600,236	
Class D - Mod-High Strength	50,928	56,034	61,703	67,545	72,307	75,544	
Class E - High Strength	<u>243,289</u>	<u>261,551</u>	<u>284,123</u>	<u>307,744</u>	<u>326,854</u>	<u>339,731</u>	
Subtotal	1,161,766	1,401,982	1,622,896	1,845,279	2,026,806	2,149,019	
Total	4,176,766	4,850,086	5,548,696	6,250,575	6,881,872	7,392,361	
Target from Cash Flow Projections	4,164,000	4,921,000	5,561,000	6,198,000	6,790,000	7,296,000	
Difference \$	12,766	(70,914)	(12,304)	52,575	91,872	96,361	
Difference %	0.3%	-1.4%	-0.2%	0.8%	1.4%	1.3%	

Appendix

Additional Utility Billing & Usage Analysis

Table A-1
City of Morro Bay
Consumption Block Analysis FY2014
All Consumption

Average Use 8.0
Average Use (excluding zeros) 8.6
Median Use 5.0

Monthly Use (hcf)	Number of Bills				Water Use (hcf)		Use Through Break	
	In Block	% of Total	Cumulative	Cumulative %	In Block	% of Ttl	Use (hcf)	% of Ttl
0	4,459	6.8%	4,459	6.8%	0	0.0%	0	0.0%
1	5,830	8.9%	10,289	15.8%	5,830	1.1%	60,738	11.6%
2	6,789	10.4%	17,078	26.2%	13,578	2.6%	115,646	22.2%
3	7,333	11.2%	24,411	37.4%	21,999	4.2%	163,765	31.4%
4	7,315	11.2%	31,726	48.7%	29,260	5.6%	204,551	39.2%
5	6,474	9.9%	38,200	58.6%	32,370	6.2%	238,022	45.6%
6	5,647	8.7%	43,847	67.3%	33,882	6.5%	265,019	50.8%
7	4,413	6.8%	48,260	74.0%	30,891	5.9%	286,369	54.9%
8	3,378	5.2%	51,638	79.2%	27,024	5.2%	303,306	58.1%
9	2,639	4.0%	54,277	83.3%	23,751	4.6%	316,865	60.7%
10	1,982	3.0%	56,259	86.3%	19,820	3.8%	327,785	62.8%
11	1,508	2.3%	57,767	88.6%	16,588	3.2%	336,723	64.6%
12	1,201	1.8%	58,968	90.4%	14,412	2.8%	344,153	66.0%
13	907	1.4%	59,875	91.8%	11,791	2.3%	350,382	67.2%
14	665	1.0%	60,540	92.9%	9,310	1.8%	355,704	68.2%
15	515	0.8%	61,055	93.6%	7,725	1.5%	360,361	69.1%
16	426	0.7%	61,481	94.3%	6,816	1.3%	364,503	69.9%
17	350	0.5%	61,831	94.8%	5,950	1.1%	368,219	70.6%
18	300	0.5%	62,131	95.3%	5,400	1.0%	371,585	71.2%
19	224	0.3%	62,355	95.6%	4,256	0.8%	374,651	71.8%
20	173	0.3%	62,528	95.9%	3,460	0.7%	377,493	72.4%
21	150	0.2%	62,678	96.1%	3,150	0.6%	380,162	72.9%
22	166	0.3%	62,844	96.4%	3,652	0.7%	382,681	73.4%
23	133	0.2%	62,977	96.6%	3,059	0.6%	385,034	73.8%
24	112	0.2%	63,089	96.8%	2,688	0.5%	387,254	74.2%
25	96	0.1%	63,185	96.9%	2,400	0.5%	389,362	74.6%
26	78	0.1%	63,263	97.0%	2,028	0.4%	391,374	75.0%
27	72	0.1%	63,335	97.1%	1,944	0.4%	393,308	75.4%
28	75	0.1%	63,410	97.3%	2,100	0.4%	395,170	75.8%
29	54	0.1%	63,464	97.3%	1,566	0.3%	396,957	76.1%
30	70	0.1%	63,534	97.4%	2,100	0.4%	398,690	76.4%
31	54	0.1%	63,588	97.5%	1,674	0.3%	400,353	76.8%
32	50	0.1%	63,638	97.6%	1,600	0.3%	401,962	77.1%
33	42	0.1%	63,680	97.7%	1,386	0.3%	403,521	77.4%
34	39	0.1%	63,719	97.7%	1,326	0.3%	405,038	77.7%
35	33	0.1%	63,752	97.8%	1,155	0.2%	406,516	77.9%
36	48	0.1%	63,800	97.9%	1,728	0.3%	407,961	78.2%
37	39	0.1%	63,839	97.9%	1,443	0.3%	409,358	78.5%
38	40	0.1%	63,879	98.0%	1,520	0.3%	410,716	78.7%
39	39	0.1%	63,918	98.0%	1,521	0.3%	412,034	79.0%
40	38	0.1%	63,956	98.1%	1,520	0.3%	413,313	79.2%
41	37	0.1%	63,993	98.2%	1,517	0.3%	414,554	79.5%
42	32	0.0%	64,025	98.2%	1,344	0.3%	415,758	79.7%
43	26	0.0%	64,051	98.2%	1,118	0.2%	416,930	79.9%
44	23	0.0%	64,074	98.3%	1,012	0.2%	418,076	80.2%
45	17	0.0%	64,091	98.3%	765	0.1%	419,199	80.4%
46	23	0.0%	64,114	98.3%	1,058	0.2%	420,305	80.6%
47	30	0.0%	64,144	98.4%	1,410	0.3%	421,388	80.8%
48	19	0.0%	64,163	98.4%	912	0.2%	422,441	81.0%
49	28	0.0%	64,191	98.5%	1,372	0.3%	423,475	81.2%
50	38	0.1%	64,229	98.5%	1,900	0.4%	424,481	81.4%
51-75	295	0.5%	64,524	99.0%	18,095	3.5%	444,651	85.2%
76-100	202	0.3%	64,726	99.3%	17,370	3.3%	458,646	87.9%
101-200	317	0.5%	65,043	99.8%	43,214	8.3%	485,560	93.1%
201+	154	0.2%	65,197	100.0%	66,834	12.8%	521,594	100.0%
Total	65,197	100.0%			521,594	100.0%		

City of Morro Bay
 Distribution of Monthly Water Bills 2013/14

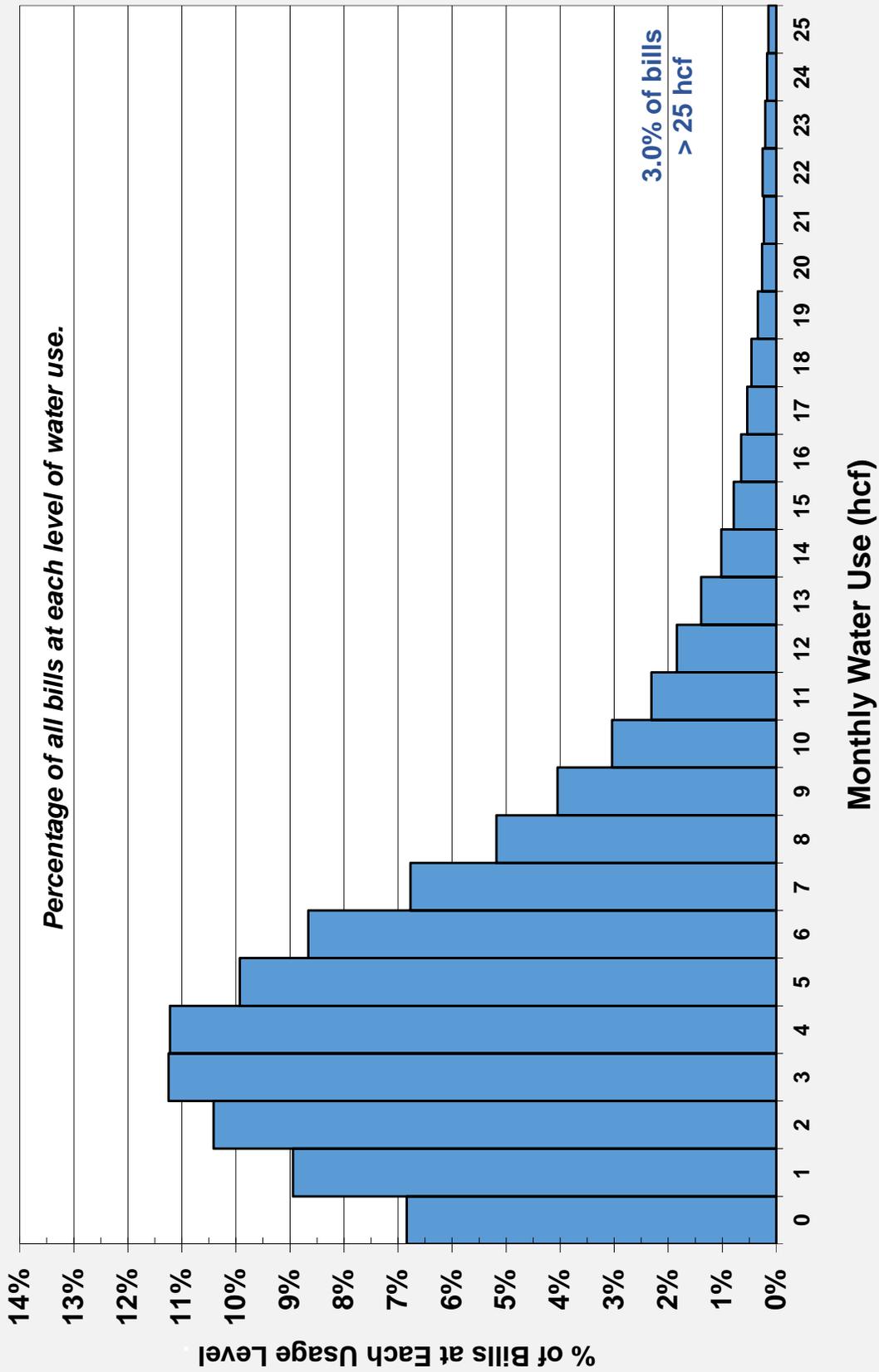


Table A-2
City of Morro Bay
Consumption Block Analysis FY2014
All Consumption

Average Use 7.8
Average Use (excluding zeros) 8.4
Median Use 5.0

Monthly Use (hcf)	Number of Bills				Water Use (hcf)		Use Through Break	
	In Block	% of Total	Cumulative	Cumulative %	In Block	% of Ttl	Use (hcf)	% of Ttl
0	4,738	7.3%	4,738	7.3%	0	0.0%	0	0.0%
1	5,904	9.1%	10,642	16.3%	5,904	1.2%	60,356	11.9%
2	6,709	10.3%	17,351	26.7%	13,418	2.7%	114,808	22.7%
3	7,305	11.2%	24,656	37.9%	21,915	4.3%	162,551	32.1%
4	7,162	11.0%	31,818	48.9%	28,648	5.7%	202,989	40.1%
5	6,553	10.1%	38,371	58.9%	32,765	6.5%	236,265	46.7%
6	5,534	8.5%	43,905	67.4%	33,204	6.6%	262,988	52.0%
7	4,325	6.6%	48,230	74.1%	30,275	6.0%	284,177	56.1%
8	3,386	5.2%	51,616	79.3%	27,088	5.4%	301,041	59.5%
9	2,610	4.0%	54,226	83.3%	23,490	4.6%	314,519	62.1%
10	2,016	3.1%	56,242	86.4%	20,160	4.0%	325,387	64.3%
11	1,520	2.3%	57,762	88.7%	16,720	3.3%	334,239	66.0%
12	1,150	1.8%	58,912	90.5%	13,800	2.7%	341,571	67.5%
13	851	1.3%	59,763	91.8%	11,063	2.2%	347,753	68.7%
14	662	1.0%	60,425	92.8%	9,268	1.8%	353,084	69.8%
15	532	0.8%	60,957	93.6%	7,980	1.6%	357,753	70.7%
16	439	0.7%	61,396	94.3%	7,024	1.4%	361,890	71.5%
17	319	0.5%	61,715	94.8%	5,423	1.1%	365,588	72.2%
18	296	0.5%	62,011	95.3%	5,328	1.1%	368,967	72.9%
19	238	0.4%	62,249	95.6%	4,522	0.9%	372,050	73.5%
20	199	0.3%	62,448	95.9%	3,980	0.8%	374,895	74.1%
21	162	0.2%	62,610	96.2%	3,402	0.7%	377,541	74.6%
22	176	0.3%	62,786	96.5%	3,872	0.8%	380,025	75.1%
23	121	0.2%	62,907	96.6%	2,783	0.5%	382,333	75.5%
24	118	0.2%	63,025	96.8%	2,832	0.6%	384,520	76.0%
25	89	0.1%	63,114	97.0%	2,225	0.4%	386,589	76.4%
26	84	0.1%	63,198	97.1%	2,184	0.4%	388,569	76.8%
27	84	0.1%	63,282	97.2%	2,268	0.4%	390,465	77.1%
28	73	0.1%	63,355	97.3%	2,044	0.4%	392,277	77.5%
29	73	0.1%	63,428	97.4%	2,117	0.4%	394,016	77.9%
30	65	0.1%	63,493	97.5%	1,950	0.4%	395,682	78.2%
31	52	0.1%	63,545	97.6%	1,612	0.3%	397,283	78.5%
32	38	0.1%	63,583	97.7%	1,216	0.2%	398,832	78.8%
33	54	0.1%	63,637	97.8%	1,782	0.4%	400,343	79.1%
34	48	0.1%	63,685	97.8%	1,632	0.3%	401,800	79.4%
35	33	0.1%	63,718	97.9%	1,155	0.2%	403,209	79.7%
36	31	0.0%	63,749	97.9%	1,116	0.2%	404,585	79.9%
37	40	0.1%	63,789	98.0%	1,480	0.3%	405,930	80.2%
38	33	0.1%	63,822	98.0%	1,254	0.2%	407,235	80.5%
39	46	0.1%	63,868	98.1%	1,794	0.4%	408,507	80.7%
40	30	0.0%	63,898	98.2%	1,200	0.2%	409,733	81.0%
41	33	0.1%	63,931	98.2%	1,353	0.3%	410,929	81.2%
42	37	0.1%	63,968	98.3%	1,554	0.3%	412,092	81.4%
43	23	0.0%	63,991	98.3%	989	0.2%	413,218	81.6%
44	26	0.0%	64,017	98.3%	1,144	0.2%	414,321	81.9%
45	24	0.0%	64,041	98.4%	1,080	0.2%	415,398	82.1%
46	17	0.0%	64,058	98.4%	782	0.2%	416,451	82.3%
47	33	0.1%	64,091	98.5%	1,551	0.3%	417,487	82.5%
48	22	0.0%	64,113	98.5%	1,056	0.2%	418,490	82.7%
49	26	0.0%	64,139	98.5%	1,274	0.3%	419,471	82.9%
50	19	0.0%	64,158	98.6%	950	0.2%	420,426	83.1%
51-75	316	0.5%	64,474	99.0%	19,523	3.9%	439,649	86.9%
76-100	181	0.3%	64,655	99.3%	15,947	3.2%	452,996	89.5%
101-200	305	0.5%	64,960	99.8%	40,622	8.0%	476,518	94.2%
201+	134	0.2%	65,094	100.0%	56,395	11.1%	506,113	100.0%
Total	65,094	100.0%			506,113	100.0%		

City of Morro Bay

Distribution of Monthly Water Bills 2012/13

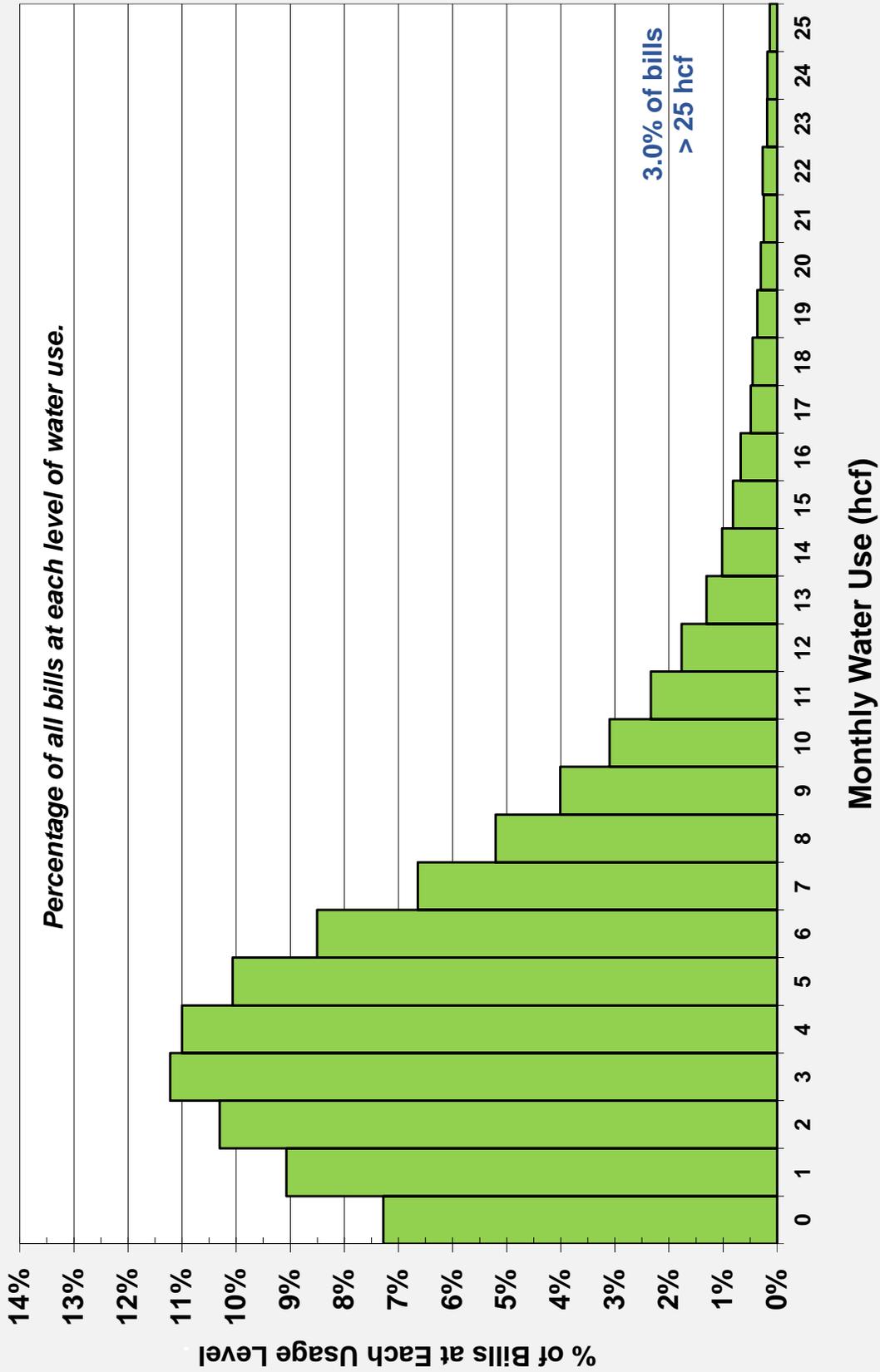


Table A-3
City of Morro Bay
Consumption Block Analysis FY2014
Residential Bills Only (Single Family & Condos)

Average Use 5.2
Average Use (excluding zeros) 5.6
Median Use 4.0

Monthly Use (hcf)	Number of Bills				Water Use (hcf)		Use Through Break	
	In Block	% of Total	Cumulative	Cumulative %	In Block	% of Ttl	Use (hcf)	% of Ttl
0	3,401	6.3%	3,401	6.3%	0	0.0%	0	0.0%
1	4,873	9.0%	8,274	15.4%	4,873	1.7%	50,452	18.0%
2	6,077	11.3%	14,351	26.6%	12,154	4.3%	96,031	34.2%
3	6,589	12.2%	20,940	38.9%	19,767	7.0%	135,533	48.2%
4	6,657	12.4%	27,597	51.2%	26,628	9.5%	168,446	60.0%
5	5,820	10.8%	33,417	62.1%	29,100	10.4%	194,702	69.3%
6	5,035	9.3%	38,452	71.4%	30,210	10.8%	215,138	76.6%
7	3,840	7.1%	42,292	78.5%	26,880	9.6%	230,539	82.1%
8	2,873	5.3%	45,165	83.9%	22,984	8.2%	242,100	86.2%
9	2,180	4.0%	47,345	87.9%	19,620	7.0%	250,788	89.3%
10	1,605	3.0%	48,950	90.9%	16,050	5.7%	257,296	91.6%
11	1,185	2.2%	50,135	93.1%	13,035	4.6%	262,199	93.3%
12	916	1.7%	51,051	94.8%	10,992	3.9%	265,917	94.7%
13	672	1.2%	51,723	96.0%	8,736	3.1%	268,719	95.7%
14	493	0.9%	52,216	97.0%	6,902	2.5%	270,849	96.4%
15	350	0.6%	52,566	97.6%	5,250	1.9%	272,486	97.0%
16	267	0.5%	52,833	98.1%	4,272	1.5%	273,773	97.4%
17	211	0.4%	53,044	98.5%	3,587	1.3%	274,793	97.8%
18	172	0.3%	53,216	98.8%	3,096	1.1%	275,602	98.1%
19	115	0.2%	53,331	99.0%	2,185	0.8%	276,239	98.3%
20	80	0.1%	53,411	99.2%	1,600	0.6%	276,761	98.5%
21	59	0.1%	53,470	99.3%	1,239	0.4%	277,203	98.7%
22	68	0.1%	53,538	99.4%	1,496	0.5%	277,586	98.8%
23	55	0.1%	53,593	99.5%	1,265	0.5%	277,901	98.9%
24	46	0.1%	53,639	99.6%	1,104	0.4%	278,161	99.0%
25	33	0.1%	53,672	99.7%	825	0.3%	278,375	99.1%
26	20	0.0%	53,692	99.7%	520	0.2%	278,556	99.2%
27	20	0.0%	53,712	99.7%	540	0.2%	278,717	99.2%
28	18	0.0%	53,730	99.8%	504	0.2%	278,858	99.3%
29	12	0.0%	53,742	99.8%	348	0.1%	278,981	99.3%
30	10	0.0%	53,752	99.8%	300	0.1%	279,092	99.3%
31	13	0.0%	53,765	99.8%	403	0.1%	279,193	99.4%
32	12	0.0%	53,777	99.9%	384	0.1%	279,281	99.4%
33	6	0.0%	53,783	99.9%	198	0.1%	279,357	99.4%
34	10	0.0%	53,793	99.9%	340	0.1%	279,427	99.5%
35	1	0.0%	53,794	99.9%	35	0.0%	279,487	99.5%
36	6	0.0%	53,800	99.9%	216	0.1%	279,546	99.5%
37	4	0.0%	53,804	99.9%	148	0.1%	279,599	99.5%
38	6	0.0%	53,810	99.9%	228	0.1%	279,648	99.5%
39	2	0.0%	53,812	99.9%	78	0.0%	279,691	99.6%
40	1	0.0%	53,813	99.9%	40	0.0%	279,732	99.6%
41	2	0.0%	53,815	99.9%	82	0.0%	279,772	99.6%
42	1	0.0%	53,816	99.9%	42	0.0%	279,810	99.6%
43	2	0.0%	53,818	99.9%	86	0.0%	279,847	99.6%
44	2	0.0%	53,820	99.9%	88	0.0%	279,882	99.6%
45	2	0.0%	53,822	99.9%	90	0.0%	279,915	99.6%
46	0	0.0%	53,822	99.9%	0	0.0%	279,946	99.6%
47	1	0.0%	53,823	99.9%	47	0.0%	279,977	99.7%
48	2	0.0%	53,825	99.9%	96	0.0%	280,007	99.7%
49	1	0.0%	53,826	99.9%	49	0.0%	280,035	99.7%
50	1	0.0%	53,827	100.0%	50	0.0%	280,062	99.7%
51-75	15	0.0%	53,842	100.0%	889	0.3%	280,476	99.8%
76-100	6	0.0%	53,848	100.0%	511	0.2%	280,662	99.9%
101-200	4	0.0%	53,852	100.0%	574	0.2%	280,936	100.0%
201+	1	0.0%	53,853	100.0%	203	0.1%	280,939	100.0%
Total	53,853	100.0%			280,939	100.0%		

City of Morro Bay

Distribution of Monthly Residential Water Bills 2013/14

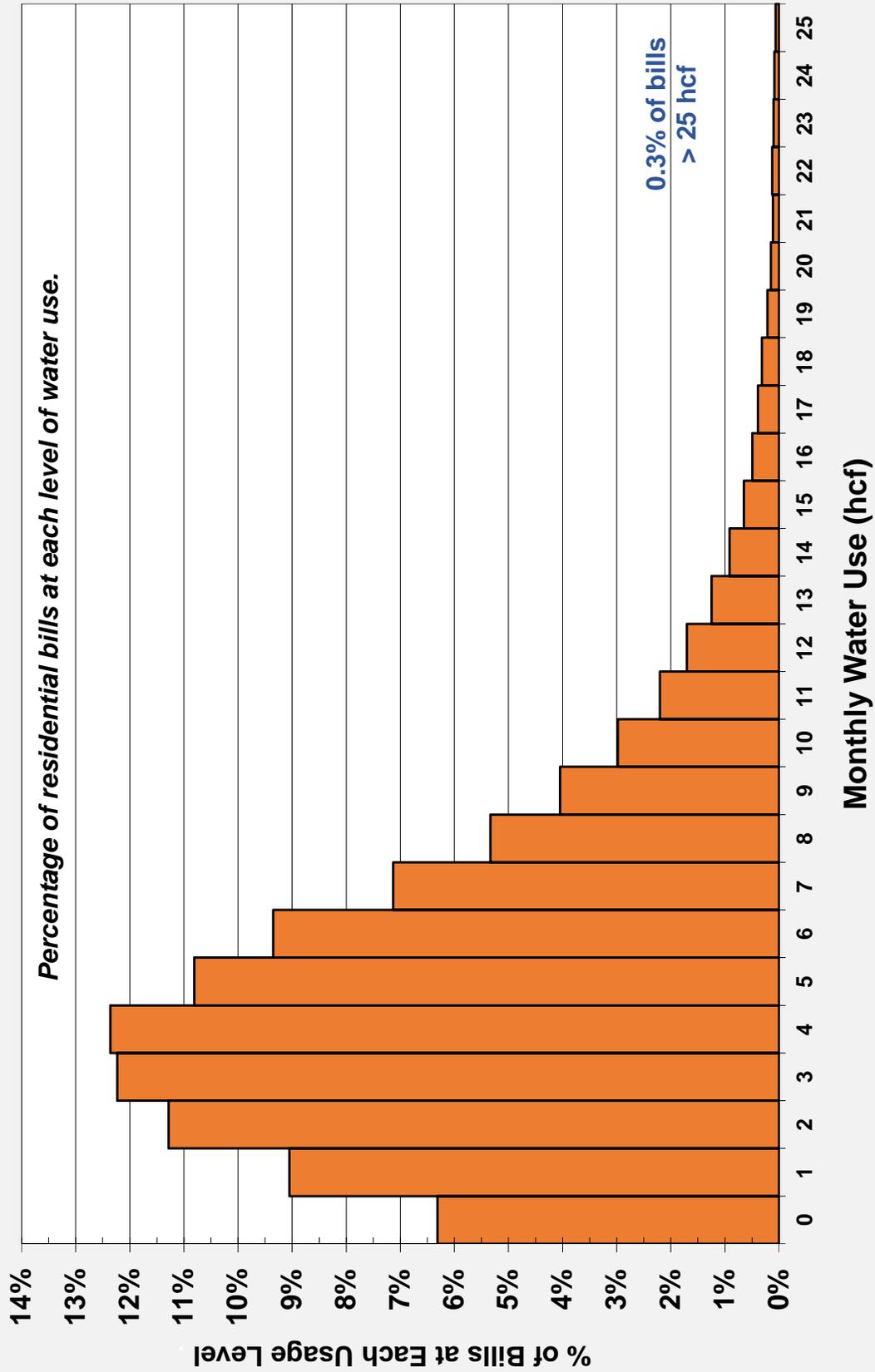


Table A-4
City of Morro Bay
Consumption Block Analysis FY2013
Residential Bills Only (Single Family & Condos)

Average Use 5.2
Average Use (excluding zeros) 5.6
Median Use 4.0

Monthly Use (hcf)	Number of Bills				Water Use (hcf)		Use Through Break	
	In Block	% of Total	Cumulative	Cumulative %	In Block	% of Ttl	Use (hcf)	% of Ttl
0	3,624	6.7%	3,624	6.7%	0	0.0%	0	0.0%
1	4,883	9.1%	8,507	15.8%	4,883	1.7%	50,109	17.9%
2	6,000	11.2%	14,507	27.0%	12,000	4.3%	95,335	34.1%
3	6,620	12.3%	21,127	39.3%	19,860	7.1%	134,561	48.2%
4	6,462	12.0%	27,589	51.3%	25,848	9.3%	167,167	59.9%
5	5,847	10.9%	33,436	62.2%	29,235	10.5%	193,311	69.2%
6	4,924	9.2%	38,360	71.4%	29,544	10.6%	213,608	76.5%
7	3,807	7.1%	42,167	78.5%	26,649	9.5%	228,981	82.0%
8	2,878	5.4%	45,045	83.8%	23,024	8.2%	240,547	86.1%
9	2,186	4.1%	47,231	87.9%	19,674	7.0%	249,235	89.3%
10	1,639	3.1%	48,870	90.9%	16,390	5.9%	255,737	91.6%
11	1,203	2.2%	50,073	93.2%	13,233	4.7%	260,600	93.3%
12	918	1.7%	50,991	94.9%	11,016	3.9%	264,260	94.6%
13	634	1.2%	51,625	96.1%	8,242	3.0%	267,002	95.6%
14	466	0.9%	52,091	96.9%	6,524	2.3%	269,110	96.4%
15	341	0.6%	52,432	97.6%	5,115	1.8%	270,752	97.0%
16	267	0.5%	52,699	98.1%	4,272	1.5%	272,053	97.4%
17	203	0.4%	52,902	98.5%	3,451	1.2%	273,087	97.8%
18	155	0.3%	53,057	98.7%	2,790	1.0%	273,918	98.1%
19	128	0.2%	53,185	99.0%	2,432	0.9%	274,594	98.3%
20	96	0.2%	53,281	99.2%	1,920	0.7%	275,142	98.5%
21	74	0.1%	53,355	99.3%	1,554	0.6%	275,594	98.7%
22	75	0.1%	53,430	99.4%	1,650	0.6%	275,972	98.8%
23	49	0.1%	53,479	99.5%	1,127	0.4%	276,275	98.9%
24	36	0.1%	53,515	99.6%	864	0.3%	276,529	99.0%
25	31	0.1%	53,546	99.7%	775	0.3%	276,747	99.1%
26	32	0.1%	53,578	99.7%	832	0.3%	276,934	99.2%
27	23	0.0%	53,601	99.8%	621	0.2%	277,089	99.2%
28	15	0.0%	53,616	99.8%	420	0.2%	277,221	99.3%
29	15	0.0%	53,631	99.8%	435	0.2%	277,338	99.3%
30	18	0.0%	53,649	99.8%	540	0.2%	277,440	99.4%
31	7	0.0%	53,656	99.9%	217	0.1%	277,524	99.4%
32	4	0.0%	53,660	99.9%	128	0.0%	277,601	99.4%
33	8	0.0%	53,668	99.9%	264	0.1%	277,674	99.4%
34	4	0.0%	53,672	99.9%	136	0.0%	277,739	99.5%
35	3	0.0%	53,675	99.9%	105	0.0%	277,800	99.5%
36	2	0.0%	53,677	99.9%	72	0.0%	277,858	99.5%
37	6	0.0%	53,683	99.9%	222	0.1%	277,914	99.5%
38	1	0.0%	53,684	99.9%	38	0.0%	277,964	99.5%
39	7	0.0%	53,691	99.9%	273	0.1%	278,013	99.6%
40	2	0.0%	53,693	99.9%	80	0.0%	278,055	99.6%
41	4	0.0%	53,697	99.9%	164	0.1%	278,095	99.6%
42	3	0.0%	53,700	99.9%	126	0.0%	278,131	99.6%
43	1	0.0%	53,701	99.9%	43	0.0%	278,164	99.6%
44	0	0.0%	53,701	99.9%	0	0.0%	278,196	99.6%
45	2	0.0%	53,703	99.9%	90	0.0%	278,228	99.6%
46	0	0.0%	53,703	99.9%	0	0.0%	278,258	99.7%
47	1	0.0%	53,704	99.9%	47	0.0%	278,288	99.7%
48	0	0.0%	53,704	99.9%	0	0.0%	278,317	99.7%
49	2	0.0%	53,706	99.9%	98	0.0%	278,346	99.7%
50	3	0.0%	53,709	100.0%	150	0.1%	278,373	99.7%
51-75	16	0.0%	53,725	100.0%	939	0.3%	278,712	99.8%
76-100	3	0.0%	53,728	100.0%	260	0.1%	278,872	99.9%
101-200	3	0.0%	53,731	100.0%	429	0.2%	279,201	100.0%
201+	2	0.0%	53,733	100.0%	434	0.2%	279,235	100.0%
Total	53,733	100.0%			279,235	100.0%		

City of Morro Bay
 Distribution of Monthly Residential Water Bills 2012/13

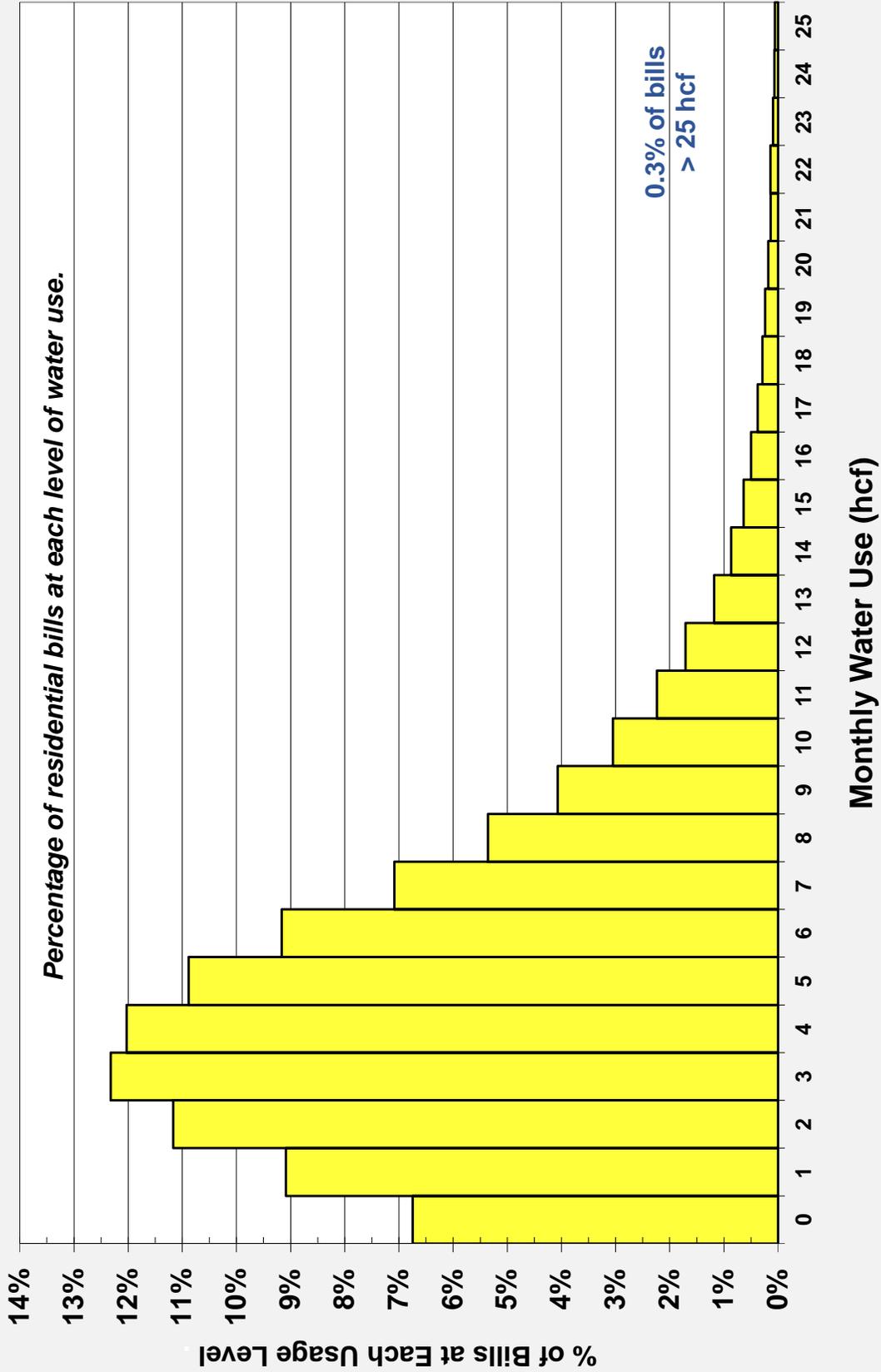


Table A-5
City of Morro Bay
Historical Accounts

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
RESIDENTIAL																					
Average Annual Accounts																					
Single Family Residential	3,613	3,627	3,682	3,738	3,802	3,883	3,960	4,013	4,051	4,125	4,171	4,198	4,237	4,242	4,118	4,155	4,168	4,170	4,180	4,191	
Single Family Condo	288	287	290	290	291	293	293	293	292	292	289	296	297	296	290	305	305	305	306	308	
Multi - Family Residential	343	339	336	334	331	329	331	329	331	331	330	339	337	363	359	355	350	350	348	341	
Single Family - Outside City	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	8	9	9	
Subtotal	4,249	4,258	4,314	4,368	4,430	4,511	4,590	4,641	4,679	4,753	4,795	4,839	4,877	4,907	4,773	4,821	4,828	4,832	4,842	4,848	
Annual Change		9	56	54	62	81	79	51	38	74	42	43	38	30	-134	48	7	5	10	6	
NON-RESIDENTIAL																					
Average Annual Accounts																					
Yard Meter	37	40	46	51	52	54	53	53	57	52	51	53	51	51	47	47	47	47	50	52	
Vacant Land	8	7	10	10	10	10	10	10	9	11	9	9	9	9	4	4	4	4	2	2	
Mobile Home Parks	25	25	26	25	25	25	25	25	24	23	24	24	24	25	22	22	22	22	22	22	
Commercial/Domestic Strength	303	298	321	324	323	323	323	322	324	326	328	329	331	335	318	317	315	316	322	321	
Restaurants	41	40	41	42	42	43	43	43	43	42	44	46	46	47	44	44	44	45	45	45	
Bakeries	1	1	1	1	1	2	2	2	2	3	3	3	3	3	3	2	2	2	2	2	
Retirement Home/Hospital	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	
Motels	47	46	49	50	50	50	50	49	50	50	50	51	50	50	44	43	43	43	43	43	
Mortuaries	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Hotels with Dining	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Seafood Processors	5	4	5	5	5	5	5	5	5	5	5	5	4	4	3	3	3	3	2	2	
Water Softeners	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Schools	5	6	6	6	6	6	6	6	6	6	6	7	8	8	7	7	7	7	7	7	
Other Public Facilities	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	
City Facilities on Sewer	31	32	32	33	34	34	34	34	35	37	36	35	37	38	34	33	33	33	35	35	
City Facilities Not on Sewer	20	21	23	24	24	26	25	24	22	30	33	33	34	34	31	31	32	30	29	29	
Power Plant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Subtotal	539	539	578	589	590	596	594	590	595	603	607	612	614	622	575	570	569	568	575	575	
Annual Change		-1	39	11	2	5	-2	-4	5	8	4	5	2	7	-47	-6	-1	0	7	0	
TOTAL	4,788	4,797	4,892	4,957	5,020	5,106	5,184	5,231	5,275	5,356	5,403	5,451	5,491	5,529	5,348	5,390	5,396	5,401	5,417	5,424	
Annual Change		8	95	65	63	86	77	47	44	82	46	48	40	38	-180	42	6	4	17	6	

Table A-6
City of Morro Bay
Historical Water Use

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Jan-Aug only
RESIDENTIAL																					
Annual Water Use (hcf)																					
Single Family Residential	241,983	246,276	264,445	247,987	257,248	263,947	272,819	282,173	287,449	285,703	275,676	279,339	289,765	290,839	268,232	254,008	262,949	268,056	272,106	278,597	
Single Family Condo	10,715	10,366	10,448	10,258	9,875	9,664	10,067	9,604	9,467	9,712	8,934	9,402	9,563	9,480	8,590	9,507	9,837	9,954	9,956	6,309	
Multi - Family Residential	56,570	51,842	55,955	51,024	49,743	47,674	48,400	47,532	46,434	45,719	45,837	45,415	45,411	47,025	45,419	43,271	43,763	44,836	44,287	28,870	
Single Family - Outside City	406	653	806	542	329	501	296	306	356	277	278	376	417	430	326	262	176	731	645	376	
Subtotal	309,674	309,137	331,654	309,811	317,195	321,786	331,582	339,615	343,706	341,411	330,725	334,532	345,156	347,774	322,567	307,048	316,725	323,577	326,994	214,152	
% of Total	60.6%	61.7%	61.0%	62.9%	61.5%	60.9%	60.9%	61.6%	62.3%	62.2%	62.5%	63.0%	62.1%	62.2%	59.1%	56.2%	62.3%	63.9%	63.3%	62.7%	
NON-RESIDENTIAL																					
Annual Water Use (hcf)																					
Yard Meter	5,804	5,339	8,282	8,735	10,012	11,228	11,025	11,313	11,292	8,865	8,379	9,036	9,186	7,954	7,127	5,993	6,335	7,250	9,017	5,156	
Vacant Land	27	32	37	37	35	44	75	122	77	91	59	54	48	24	7	5	7	21	18	5	
Mobile Home Parks	23,676	22,943	26,819	22,346	23,984	23,820	24,877	26,054	25,619	22,747	22,487	21,339	21,997	22,471	22,749	20,678	19,911	20,702	20,961	14,582	
Comm//Domestic Strength	41,895	40,159	46,777	43,556	44,229	44,812	43,941	43,836	44,398	44,995	45,946	45,781	45,091	45,818	43,837	41,537	41,966	41,331	44,754	29,920	
Restaurants	18,623	16,608	18,582	18,920	19,271	19,525	21,903	20,480	19,216	18,226	17,707	18,457	17,355	18,172	16,872	15,981	16,765	16,859	16,165	10,878	
Bakeries	78	108	135	119	100	145	141	112	160	178	240	293	358	364	336	289	315	293	323	218	
Retirement Home/Hospital	12,120	9,155	10,401	9,098	11,075	10,826	8,360	10,563	10,179	10,258	10,275	9,792	9,410	10,654	10,486	9,835	9,160	9,136	9,191	6,323	
Motels	33,538	31,612	34,059	32,029	34,657	36,677	36,447	34,145	35,421	34,431	32,494	32,784	33,780	32,265	32,450	31,589	33,474	33,528	34,780	24,032	
Mortuaries	49	123	81	62	53	47	47	33	32	80	75	64	70	143	60	81	174	78	47	27	
Hotels with Dining	7,290	6,346	7,065	4,954	6,594	9,748	9,637	9,368	9,602	9,869	10,202	10,139	9,747	7,472	8,088	7,554	7,061	4,801	4,946	3,000	
Seafood Processors	2,478	1,239	1,357	1,432	1,242	1,286	1,011	1,009	1,069	954	1,018	1,039	929	1,115	1,333	1,358	1,416	1,711	1,015	668	
Water Softeners	3,149	3,745	1,431	1,307	1,622	1,437	1,554	1,416	1,394	1,625	1,785	1,801	2,078	2,256	4,248	2,184	1,972	2,289	2,075	1,670	
Schools	20,687	21,033	19,557	15,090	20,615	22,123	25,341	25,383	25,237	25,867	22,545	21,168	29,961	29,200	46,938	74,645	22,906	19,251	20,167	14,562	
Other Public Facilities	8,010	7,025	7,356	5,944	6,618	7,434	9,063	6,882	6,882	6,443	5,887	5,325	5,459	6,274	5,092	11,580	8,956	5,460	6,137	3,583	
City Facilities on Sewer	10,874	9,499	8,797	8,422	7,171	7,712	8,137	8,158	8,551	5,112	4,757	5,173	5,639	5,043	4,932	5,069	5,859	5,565	5,358	2,945	
City Facilities Not on Sewer	13,027	16,957	20,923	10,879	11,563	9,870	11,185	10,647	9,037	17,526	14,381	14,225	19,361	21,807	18,603	11,321	15,745	14,851	14,700	9,613	
Power Plant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Subtotal	201,325	191,923	211,659	182,930	198,841	206,734	212,744	211,921	207,966	207,267	198,237	196,470	210,469	211,032	223,158	239,699	192,022	183,126	189,654	127,182	
% of Total	39.4%	38.3%	39.0%	37.1%	38.5%	39.1%	39.1%	38.4%	37.7%	37.8%	37.5%	37.0%	37.9%	37.8%	40.9%	43.8%	37.7%	36.1%	36.7%	37.3%	
TOTAL	510,999	501,060	543,313	492,741	516,036	528,520	544,326	551,536	551,672	548,678	528,962	531,002	555,625	558,806	545,725	546,747	508,747	506,703	516,648	341,334	

Table A-7
City of Morro Bay
Average Monthly Water Use (hcf)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		
RESIDENTIAL																						
Average Monthly Use per Account (hcf)																						Jan-Aug only
Single Family Residential	5.6	5.7	6.0	5.5	5.6	5.7	5.7	5.9	5.9	5.8	5.5	5.5	5.7	5.7	5.4	5.1	5.3	5.4	5.4	5.4	5.3	
Single Family Condo	3.1	3.0	3.0	2.9	2.8	2.7	2.9	2.7	2.7	2.8	2.6	2.6	2.7	2.7	2.5	2.6	2.7	2.7	2.7	2.7	2.6	
Multi - Family Residential	13.8	12.7	13.9	12.7	12.5	12.1	12.2	12.0	11.7	11.5	11.6	11.2	11.2	10.8	10.6	10.2	10.4	10.7	10.6	10.6	10.6	
Single Family - Outside City	6.5	9.3	11.2	7.5	4.5	7.0	4.2	4.2	5.2	3.8	3.9	5.2	5.7	6.0	4.7	3.9	2.9	7.3	5.9	5.9	5.2	
Subtotal	6.1	6.0	6.4	5.9	6.0	5.9	6.0	6.1	6.1	6.0	5.7	5.8	5.9	5.9	5.6	5.3	5.5	5.6	5.6	5.6	5.5	
Rolling 3-Year Average			6.2	6.1	6.1	5.9	6.0	6.0	6.1	6.1	6.0	5.8	5.8	5.9	5.8	5.6	5.5	5.5	5.5	5.6	5.6	5.6

NON-RESIDENTIAL ACCOUNTS

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		
Average Monthly Use per Account (hcf)																						
Yard Meter	13.0	11.1	14.9	14.3	16.0	17.4	17.3	17.7	16.5	14.2	13.8	14.2	15.0	13.0	12.5	10.6	11.3	12.9	15.1	12.5		
Vacant Land	0.3	0.4	0.3	0.3	0.3	0.4	0.6	1.0	0.7	0.7	0.5	0.5	0.4	0.2	0.1	0.1	0.1	0.5	0.8	0.3		
Mobile Home Parks	78.9	76.2	87.6	74.5	79.9	79.4	82.9	87.1	87.4	81.8	78.1	74.1	76.4	76.4	84.6	78.3	75.4	78.4	78.8	82.9		
Commercial/Domestic Strength	11.5	11.2	12.1	11.2	11.4	11.6	11.3	11.4	11.4	11.5	11.7	11.6	11.4	11.4	11.5	10.9	11.1	10.9	11.6	11.7		
Restaurants	38.3	34.6	37.5	37.5	37.9	37.8	42.4	39.8	37.7	35.8	33.9	33.4	31.3	32.4	31.9	30.4	31.6	31.3	30.2	30.5		
Bakeries	6.0	9.0	11.3	9.9	8.3	6.0	6.1	4.7	6.7	5.2	6.7	8.9	9.9	10.1	9.3	10.7	13.1	12.2	13.5	13.6		
Retirement Home/Hospital	505.0	381.5	433.4	379.1	461.5	451.1	348.3	440.1	424.1	427.4	428.1	408.0	392.1	443.9	806.6	819.6	763.3	761.3	765.9	790.4		
Motels	59.9	57.1	58.1	53.8	57.8	61.0	61.2	58.2	59.4	57.2	53.9	53.7	56.9	53.8	61.6	61.3	65.0	65.4	67.5	70.5		
Mortuaries	4.1	10.3	6.8	5.2	4.4	3.9	3.9	2.8	2.7	6.7	6.3	5.3	5.8	11.9	5.0	6.8	14.5	6.5	3.9	3.4		
Hotels with Dining	607.5	528.8	588.8	412.8	549.5	812.3	803.1	780.7	800.2	822.4	850.2	844.9	812.3	622.7	674.0	686.7	588.4	400.1	412.2	375.0		
Seafood Processors	41.3	24.3	21.9	23.9	20.7	21.4	16.9	17.1	17.8	15.9	16.4	17.6	19.4	23.2	36.0	37.7	39.3	47.5	42.3	41.8		
Water Softeners	262.4	249.7	119.3	108.9	135.2	119.8	129.5	118.0	116.2	135.4	127.5	150.1	122.2	188.0	354.0	182.0	164.3	190.8	172.9	208.8		
Schools	339.1	292.1	271.6	209.6	286.3	307.3	352.0	352.5	350.5	359.3	317.5	264.6	312.1	304.2	558.8	888.6	276.0	229.2	240.1	260.0		
Other Public Facilities	55.6	45.6	47.2	38.1	42.4	47.7	58.1	59.5	42.0	41.3	38.0	34.6	35.2	40.2	32.6	74.2	57.4	35.0	39.3	34.5		
City Facilities on Sewer	29.0	24.7	22.8	21.3	17.7	18.9	19.9	20.2	20.6	11.4	10.9	12.2	12.8	11.1	12.2	12.8	14.8	14.1	12.8	10.6		
City Facilities Not on Sewer	55.7	67.3	76.9	37.8	40.1	31.9	36.8	37.0	33.7	48.8	36.7	36.1	47.7	53.4	49.9	30.5	41.7	40.8	42.2	41.4		
Power Plant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal	31.1	29.7	30.5	25.9	28.1	28.9	29.9	29.9	29.1	28.6	27.2	26.7	28.5	28.3	32.3	35.1	28.1	26.8	27.5	27.6		
Rolling 3-Year Average			30.5	28.7	28.2	27.6	28.9	29.6	29.6	29.2	28.3	27.5	27.5	27.9	29.7	31.9	31.8	30.0	27.5	27.3		
TOTAL	8.9	8.7	9.3	8.3	8.6	8.6	8.8	8.8	8.7	8.5	8.2	8.1	8.4	8.4	8.5	8.5	7.9	7.8	7.9	7.9		

Table A-8
City of Morro Bay
Water Revenues

	2010	2011	2012	2013	2014
RESIDENTIAL					Jan-Aug only
Annual Water Revenues					
Single Family Residential	\$1,589,220	\$1,590,605	\$1,493,657	\$1,619,651	\$1,056,777
Single Family Condo	78,356	80,002	72,792	78,880	50,633
Multi - Family Residential	256,672	259,192	247,299	262,196	168,389
Single Family - Outside City	2,306	1,845	4,038	4,152	2,465
Subtotal	1,926,554	1,931,644	1,817,785	1,964,879	1,278,263
<i>% of Total</i>	56.8%	57.9%	59.7%	59.1%	59.0%
NON-RESIDENTIAL					
Annual Water Revenues					
Yard Meter	40,848	43,748	46,837	68,665	33,867
Vacant Land	789	789	724	403	263
Mobile Home Parks	160,961	152,311	149,519	158,080	112,266
Comm'l/Domestic Strength	319,648	320,767	291,500	343,304	228,793
Restaurants	108,111	103,246	105,132	103,858	70,081
Bakeries	1,843	1,799	1,537	1,879	1,246
Retirement Home/Hospital	98,865	91,077	84,090	92,575	62,584
Motels	232,036	248,057	234,401	255,786	178,183
Mortuaries	518	1,224	442	284	159
Hotels with Dining	83,939	76,940	45,384	49,265	28,285
Seafood Processors	9,607	10,196	11,106	7,052	4,654
Water Softeners	18,846	16,566	18,537	17,890	14,504
Schools	134,816	72,754	73,955	75,520	42,626
Other Public Facilities	124,258	89,924	43,752	48,108	29,448
City Facilities on Sewer	33,229	38,812	35,257	37,308	18,897
City Facilities Not on Sewer	96,194	135,778	86,195	100,004	64,166
Power Plant	0	0	0	0	0
Subtotal	1,464,508	1,403,988	1,228,367	1,359,977	890,022
<i>% of Total</i>	43.2%	42.1%	40.3%	40.9%	41.0%
TOTAL	3,391,062	3,335,632	3,046,152	3,324,856	2,168,285

Table A-9
City of Morro Bay
Average Monthly Water Revenues per Account

	2010	2011	2012	2013	2014
RESIDENTIAL					Jan-Aug only
Average Monthly Water Revenues per Account					
Single Family Residential	\$31.87	\$31.80	\$29.85	\$32.29	\$31.52
Single Family Condo	21.39	21.89	19.91	21.49	20.58
Multi - Family Residential	60.31	61.68	58.91	62.83	61.70
Single Family - Outside City	34.42	30.75	40.38	38.09	34.23
NON-RESIDENTIAL					
Average Monthly Water Revenues per Account					
Yard Meter	72.42	77.70	83.19	115.02	82.20
Vacant Land	16.43	16.43	16.45	16.78	16.43
Mobile Home Parks	609.70	576.94	566.36	594.28	637.87
Comm'l/Domestic Strength	84.07	84.75	76.89	88.94	89.20
Restaurants	205.92	194.80	195.41	193.76	196.31
Bakeries	68.27	74.97	64.02	78.28	77.90
Retirement Home/Hospital	8,238.71	7,589.75	7,007.49	7,714.56	7,822.94
Motels	450.56	481.66	456.92	496.67	522.53
Mortuaries	43.17	102.04	36.82	23.64	19.93
Hotels with Dining	7,630.83	6,411.64	3,781.97	4,105.38	3,535.68
Seafood Processors	266.86	283.23	308.50	293.83	290.87
Water Softeners	1,570.54	1,380.46	1,544.71	1,490.83	1,813.04
Schools	1,604.95	876.56	880.42	899.04	761.17
Other Public Facilities	796.53	576.43	280.46	308.38	283.15
City Facilities on Sewer	84.12	98.01	89.03	89.25	67.73
City Facilities Not on Sewer	259.28	359.20	236.80	287.37	276.58
Power Plant	-	-	-	-	-

Table A-10
 City of Morro Bay
 Water Revenues by Fiscal Year

	2010/11	2011/12	2012/13	2013/14
RESIDENTIAL				
Jul-Dec	1,018,057	1,022,212	1,042,638	1,018,891
Jan-Jun	<u>907,587</u>	<u>934,194</u>	<u>941,837</u>	<u>930,071</u>
Subtotal	1,925,645	1,956,406	1,984,475	1,948,962
<i>% of Total</i>	57.4%	58.0%	60.3%	58.9%
NON-RESIDENTIAL				
Jul-Dec	859,944	836,872	759,128	743,861
Jan-Jun	<u>567,116</u>	<u>579,916</u>	<u>547,049</u>	<u>617,469</u>
Subtotal	1,427,061	1,416,788	1,306,177	1,361,330
<i>% of Total</i>	42.6%	42.0%	39.7%	41.1%
TOTAL				
Jul-Dec	1,878,001	1,859,084	1,801,765	1,762,752
Jan-Jun	<u>1,474,704</u>	<u>1,514,110</u>	<u>1,488,886</u>	<u>1,547,541</u>
Total	3,352,705	3,373,194	3,290,651	3,310,292

Table A-11
City of Morro Bay
Sewer Revenues

	2010	2011	2012	2013	2014
RESIDENTIAL					Jan-Aug only
Annual Sewer Revenues					
Single Family Residential	\$1,878,423	\$1,976,545	\$2,078,450	\$2,204,573	\$1,521,445
Single Family Condo	143,124	150,699	158,283	167,511	114,657
Multi - Family Residential	437,105	454,896	479,749	499,861	337,165
Single Family - Outside City	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal	2,458,653	2,582,139	2,716,483	2,871,946	1,973,267
<i>% of Total</i>	74.1%	74.1%	74.1%	73.4%	73.1%
NON-RESIDENTIAL					
Annual Sewer Revenues					
Yard Meter	2,782	2,587	2,551	0	210
Vacant Land	0	0	0	0	0
Mobile Home Parks	70,091	72,405	75,232	87,937	63,161
Comm'l/Domestic Strength	247,895	265,823	260,389	325,052	224,473
Restaurants	158,540	162,141	159,492	191,919	133,832
Bakeries	1,975	2,035	1,857	2,365	1,684
Retirement Home/Hospital	41,071	41,005	40,633	48,034	34,033
Motels	185,543	210,554	210,959	253,426	181,493
Mortuaries	729	1,388	660	650	402
Hotels with Dining	57,424	57,461	38,016	45,520	28,597
Seafood Processors	13,046	14,555	17,672	12,351	8,386
Water Softeners	7,363	7,094	8,207	8,660	7,249
Schools	9,772	8,563	6,620	7,831	8,903
Other Public Facilities	37,334	31,911	18,819	25,361	15,177
City Facilities on Sewer	24,246	26,742	26,726	31,625	19,408
City Facilities Not on Sewer	0	0	0	0	0
Power Plant	0	0	0	0	0
Comm'l Adjust for Dec 2012	<u>-</u>	<u>-</u>	<u>81,541</u>	<u>-</u>	<u>-</u>
Subtotal	857,811	904,261	949,373	1,040,730	727,008
<i>% of Total</i>	25.9%	25.9%	25.9%	26.6%	26.9%
TOTAL	3,316,463	3,486,400	3,665,855	3,912,676	2,700,275

Includes estimated revenues from Dec-2012 since data was missing.

Table A-12
City of Morro Bay
Average Monthly Sewer Revenues per Account

	2010	2011	2012	2013	2014
RESIDENTIAL					Jan-Aug only
Average Monthly Sewer Revenues per Account					
Single Family Residential	\$37.67	\$39.52	\$41.54	\$43.95	\$45.38
Single Family Condo	39.06	41.24	43.29	45.64	46.61
Multi - Family Residential	102.70	108.26	114.28	119.78	123.55
Single Family - Outside City	0	0	0	0	0
NON-RESIDENTIAL					
Average Monthly Sewer Revenues per Account					
Yard Meter	4.93	4.59	4.53	0.00	0.51
Vacant Land	-	-	-	-	-
Mobile Home Parks	265.50	274.26	284.97	330.59	358.87
Comm'l/Domestic Strength	65.20	70.23	68.69	84.21	87.51
Restaurants	301.98	305.93	296.45	358.06	374.88
Bakeries	73.14	84.78	77.36	98.52	105.28
Retirement Home/Hospital	3,422.61	3,417.11	3,386.10	4,002.87	4,254.10
Motels	360.28	408.84	411.23	492.09	532.24
Mortuaries	60.72	115.65	55.03	54.13	50.23
Hotels with Dining	5,220.39	4,788.38	3,167.99	3,793.31	3,574.61
Seafood Processors	362.39	404.30	490.90	514.61	524.15
Water Softeners	613.58	591.17	683.88	721.64	906.18
Schools	116.33	103.16	78.81	93.23	158.98
Other Public Facilities	239.32	204.56	120.64	162.57	145.93
City Facilities on Sewer	61.38	67.53	67.49	75.66	69.56
City Facilities Not on Sewer	-	-	-	-	-
Power Plant	-	-	-	-	-

Table A-13
 City of Morro Bay
 Sewer Revenues by Fiscal Year

	2010/11	2011/12	2012/13	2013/14
RESIDENTIAL				
Jul-Dec	1,264,793	1,325,860	1,395,696	1,477,025
Jan-Jun	<u>1,256,279</u>	<u>1,323,804</u>	<u>1,394,921</u>	<u>1,456,702</u>
Subtotal	2,521,072	2,649,664	2,790,618	2,933,727
<i>% of Total</i>	73.9%	74.0%	73.7%	72.8%
NON-RESIDENTIAL				
Jul-Dec	492,038	512,027	538,391	591,024
Jan-Jun	<u>397,794</u>	<u>418,949</u>	<u>456,139</u>	<u>502,776</u>
Subtotal	889,832	930,976	994,530	1,093,799
<i>% of Total</i>	26.1%	26.0%	26.3%	27.2%
TOTAL				
Jul-Dec	1,756,831	1,837,887	1,934,088	2,068,048
Jan-Jun	<u>1,654,073</u>	<u>1,742,752</u>	<u>1,851,060</u>	<u>1,959,477</u>
Total	3,410,905	3,580,640	3,785,148	4,027,526



AGENDA NO: C-1

MEETING DATE: February 19, 2015

Staff Report

TO: Public Works Advisory Board DATE: February 18, 2015

FROM: Rob Livick, PE/PLS - Public Services Director/City Engineer

SUBJECT: Review of Stop Sign Request for the Intersection of Main and Pacific Streets

RECOMMENDATION

Review the particulars of the stop sign analysis for Main and Pacific Streets and provide any comments to staff that will be forwarded to the City Council for their consideration regarding any traffic control modifications to this intersection.

SUMMARY

Installation of Traffic Control Devices is governed by three separate regulations: the City of Morro Bay Municipal Code Chapter 10, The California Vehicle Code (CVC) and the California Manual of Uniform Traffic Control Devices (CMUTCD).

In general, the installation of a stop sign or any traffic control device requires engineering analysis to determine whether it is “warranted” or can be justified. As an alternative to installing a stop sign based on warrants, the City Council may, at its discretion, cause the installation of a stop sign via Council Resolution.

Based on the analysis of traffic conditions at the intersection of Pacific and Main Streets, the installation of additional stop signs is not warranted by the engineering analysis performed.

Morro Bay has adopted policies allowing citizen petitions for the installation of stop signs on **local** residential streets where they may not meet the engineering criteria for their installation; but the residents feel they are necessary to relieve certain neighborhood traffic management issues. Since this is an intersection between an arterial and collector streets the petition process is not applicable and will require City Council authorization to install additional stop signs

BACKGROUND/DISCUSSION

The City receives approximately 10-15 requests for the installation of Stop Signs at uncontrolled or partially controlled intersections per year. Earlier this year the City received a petition for the installation of additional stop signs specifically at the subject intersection. Based on that request, the City Council requested that the Public Works Advisory Board (PWAB) review that intersection and provide their input.

Prepared by: RL Dept. Review: RL

City Manager Review: _____

City Attorney's Review: _____

Installation of Traffic Control Devices is governed by three separate regulations: the City of Morro Bay Municipal Code Chapter 10, The California Vehicle Code (CVC) and the California Manual of Uniform Traffic Control Devices (CMUTCD).

The City of Morro Bay performs an analysis of the intersection to determine whether installation of a Stop Sign is “warranted”. This “warrant” criterion for installation of Stop Signs is summarized below:

1. The CVC establishes the right-of-way rule at intersections having no regulatory traffic control signs such that the driver of a vehicle approaching an intersection must yield the right-of-way to any vehicle or pedestrian already in the intersection. When two vehicles approach an intersection from different streets or highways at approximately the same time, the right-of-way rule requires the driver of the vehicle on the left to yield the right-of-way to the vehicle on the right. The right-of-way can be modified at through streets or highways by placing YIELD signs or STOP signs on one or more approaches.
2. Engineering judgment should be used to establish intersection control. The following factors should be considered:
 - A. Vehicular, bicycle, and pedestrian traffic volumes on all approaches;
 - B. Number and angle of approaches;
 - C. Approach speeds;
 - D. Sight distance available on each approach; and
 - E. Reported crash experience.
3. YIELD or STOP signs should be used at an intersection if one or more of the following conditions exist:
 - A. An intersection of a less important road with a main road where application of the normal right-of-way rule would not be expected to provide reasonable compliance with the law;
 - B. A street entering a designated through highway or street; and/or
 - C. An unsignalized intersection in a signalized area.
4. In addition, the use of YIELD or STOP signs should be considered at the intersection of two minor streets or local roads where the intersection has more than three approaches and where one or more of the following conditions exist:
 - A. The combined vehicular, bicycle, and pedestrian volume entering the intersection from all approaches averages more than 2,000 units per day;
 - B. The ability to see conflicting traffic on an approach is not sufficient to allow a road user to stop or yield in compliance with the normal right-of-way rule if such stopping or yielding is necessary; and/or
 - C. Crash records indicate that five or more crashes that involve the failure to yield the right-of-way at the intersection under the normal right-of-way rule have been reported within a 3-year period, or that three or more such crashes have been reported within a 2-year period.

5. Yield or stop signs should not be used for speed control.

Based upon the above criterion Morro Bay has relatively few intersections where standard warrants are not met but where managing traffic continues to be a public concern, including Marina Street and Fresno Avenue.

There is a provision in Chapter 10 of the Morro Bay Municipal Code that allows the City Council to place traffic control devices: *10.08.080 - Placement by council: Notwithstanding the above sections (in Chapter 10 of the MBMC), the city council shall have the power to place and maintain or cause to be placed or maintained official traffic-control devices when and as required under this chapter to make effective the provisions of this chapter and may place and maintain such additional traffic-control devices as it deems necessary to regulate traffic under this chapter or under the state law, or to guide or warn traffic.* This provision allows the placement of a traffic control device without the engineering analysis normally required for the City Engineer to place such a device.

If the City Council chooses to cause an unwarranted traffic control device, staff is under the opinion that the Council should adopt a policy and procedure for the requests to come forward to Council from the public in order to minimize any arbitrary installation of said devices. Such a policy is included as attachment 2 for the City Council’s consideration.

Main/Pacific Streets Engineering Analysis

Based on the engineering evaluation of the Main and Pacific intersection certified February 14, 2012 (Attachment 1), it was found that all eight of the warrants are not met at the intersection of Main and Pacific Streets. The vehicular and pedestrian volumes in the area are high for Morro Bay they are too low to meet the requirements given in the MUTCD for the first four warrants. In addition, with the low crash experience and absence of local schools and traffic control signals, the warrants for those issues are not met. Additionally, the warrant for roadway network coordination is not applicable either, due to low volumes. Since none of the warrants are met, it seems unnecessary, by the standards brought forth in the MUTCD, to install additional stop signs at Main and Pacific Streets. *(Note: Since the publication of the report there have been five additional accidents reported, but still does not meet the accident threshold of five accidents per year.)*

Date	Time	Street	Cross Street
3/21/2012	9:20	Main Street	Pacific Street
9/15/2012	18:00	Main Street	Pacific Street
6/11/2014	17:25	Main Street	Pacific St
12/5/2014	15:35	Main	Pacific
12/25/2014	13:51	Main	Pacific

In addition to collecting data on vehicular volumes, the traffic count also collected data on vehicle speed. The average speed on Main Street was 24 mph; therefore, it does not appear that speeding is the cause of unsafe driver behavior. There are also adequate stopping sight distances at the intersection. The report states that the Public Works (Services) Department

will periodically evaluate this intersection's accident history to determine if a change in conditions warrants a traffic control device installation.

ATTACHMENTS

1. Stop Sign Warrant Analysis – Main and Pacific Streets, February 14, 2012
2. Citizen Petition

Stop Sign Warrant Analysis

Main Street and Pacific Street



January – February 2012

Prepared by:

**Department of Public Services
955 Shasta Avenue
Morro Bay, CA 93442**

Purpose

The City of Morro Bay received a request for an installation of stop signs along Main Street at its intersection with Pacific Street. Currently, there are stop signs on Pacific Street and no stop controls along the Main Street approaches. The first step in the stop sign petition process is for the Traffic Engineer to evaluate whether or not this location meets specific traffic warrants. If some or all of these warrants are met, the Traffic Engineer may approve the installation of traffic control devices at this intersection. However, if these warrants are not met, residents in the area may sign a petition and submit it to the Department of Public Services. The objective of this report is to evaluate the traffic conditions at the intersection of Main Street and Pacific Street. If the warrants are met, then the installation of stop signs in this area will be justified. It is expected with Morro Bay's low vehicular traffic and population that most, if not all, of the warrants will not be met. If this is the case, other options will be explored.

Background

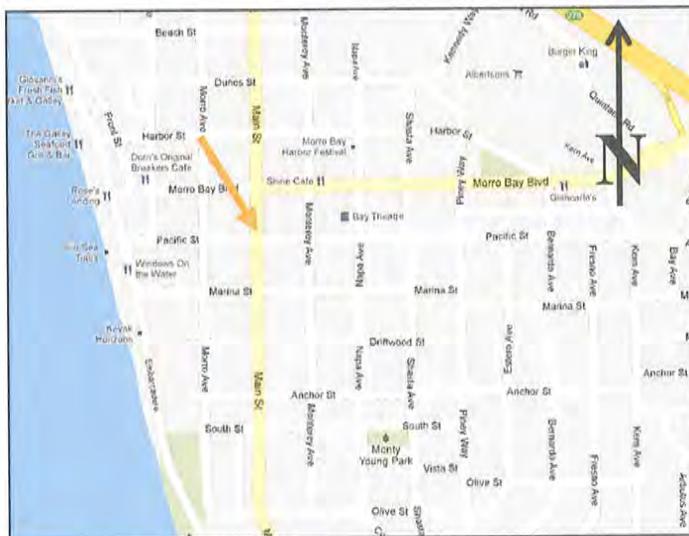


Figure 1: Study Location

The study area is located in the southern part of Morro Bay, relatively close to the waterfront, as can be seen in Figure 1. Main Street is one of the major arterials within Morro Bay. It is the only street, other than Highway 1, that connects north and south Morro Bay. Its intersection with Pacific Street is one block south of Morro Bay Boulevard. The area directly surrounding the intersection is mostly residential, with a few small businesses and the Morro Crest Inn. This intersection is located just south of the downtown commercial district. The Embarcadero is also only a few blocks away. Although the

intersection is located in a primarily residential area, shops, businesses, and other attractions are nearby. Currently, the only traffic control devices at this intersection are two stop signs on Pacific Street—one on the northbound approach and one on the southbound approach. The approaches from Main Street are currently uncontrolled.

Compared to most of Morro Bay, this area has a relatively high amount of traffic, since it is in the downtown area. However, the volumes are still fairly low; therefore, the intersection has not needed stop signs thus far. However, the City of Morro Bay has received complaints that the intersection is dangerous. Throughout the years, there have been a few crashes at this intersection. Due to the safety concerns of a few citizens, a traffic study was conducted between January 25th and February 8th of 2012.

Method of Study

The California Manual on Uniform Traffic Control Devices (MUTCD) details eight different warrants for the installation of traffic signals. It is not necessary that all eight of these be met for the signals to be approved. The warrants are listed below:

- Warrant 1: Eight-Hour Vehicular Volume
- Warrant 2: Four-Hour Vehicular Volume
- Warrant 3: Peak Hour
- Warrant 4: Pedestrian Volume
- Warrant 5: School Crossing
- Warrant 6: Coordinated Signal System
- Warrant 7: Crash Experience
- Warrant 8: Roadway Network

Each warrant has specific conditions and standards that must be met, and these are discussed thoroughly in the California MUTCD. Therefore; this report will contain only relevantly specific details.

The first four warrants are concerned primarily with volumes. For the first warrant to be met, conditions for volume must be met for at least eight hours. There are two conditions—

Condition A is for minimum vehicular volume, and Condition B is for the interruption of continuous traffic—both of these conditions need inputs of the number of lanes of the intersecting streets and the volume, in vehicles per hour, of both

Condition A—Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1.....	1.....	500	400	350	280	150	120	105	84
2 or more...	1.....	600	480	420	336	150	120	105	84
2 or more...	2 or more ...	600	480	420	336	200	160	140	112
1.....	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1.....	1.....	750	600	525	420	75	60	53	42
2 or more...	1.....	900	720	630	504	75	60	53	42
2 or more...	2 or more ...	900	720	630	504	100	80	70	56
1.....	2 or more	750	600	525	420	100	80	70	56

Figure 2: Warrant 1, Eight-Hour Vehicular Volume

the major and minor street. Either Condition A or Condition B must be satisfied at 100%, or both must be satisfied at 80%, and these specific volumes are given in the MUTCD and are shown in Figure 2.

Warrant 2 is similar to the first one, but it only requires four hours of volume to meet certain standards. The data needed for this warrant are the same as for Warrant 1: the number of lanes of the two streets and the volumes (veh/hr) of both the major and minor streets. This warrant is met if for any four hours of an average day, their volumes plot above the applicable curve given in the MUTCD and shown in Figure 3.

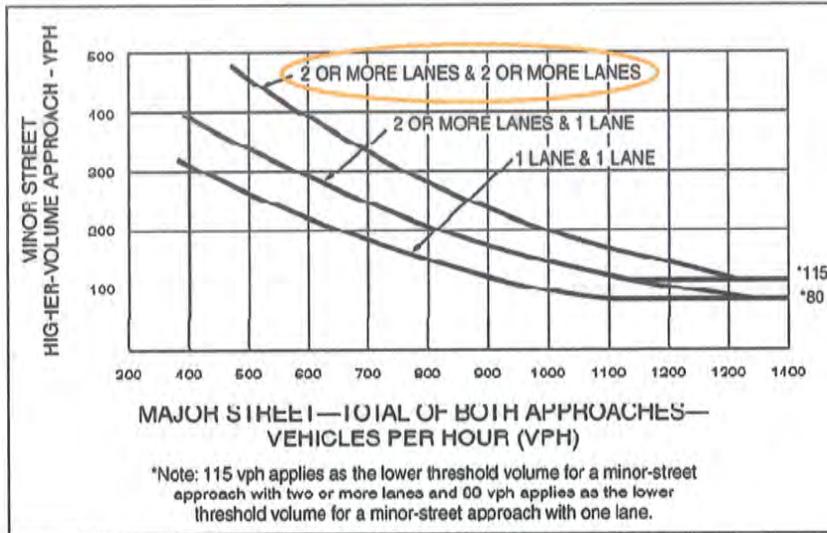


Figure 3: Warrant 2, Four-Hour Vehicular Volume

The third warrant is similar to the first two, except it focuses on the study area for a specific hour. This warrant is typically used when traffic conditions peak at a specific hour, causing excess delay to the minor street vehicles. Similar to Warrant 2, the Peak Hour Warrant requires at least one hour to plot above the given curve. The variables are the same, but the standard is higher for one hour than it was

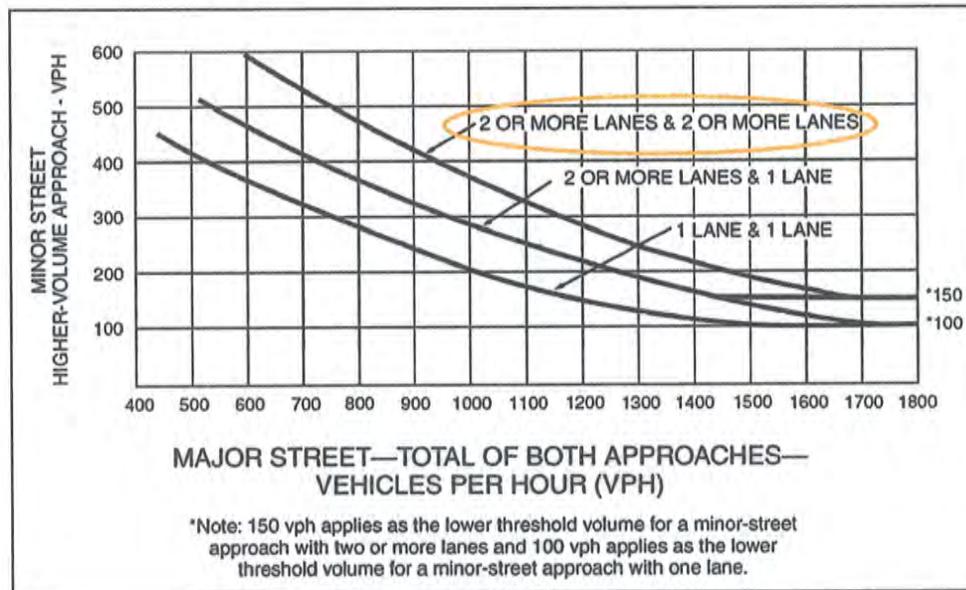


Figure 4: Warrant 3, Peak Hour

for four or eight. The peak hour curve can be seen in Figure 4.

Warrant 4 is the Pedestrian Volume Warrant. This warrant is typically considered when the volume on the major street prevents pedestrians from crossing the street comfortably. This warrant is met if

both of the following conditions from the MUTCD are met. First, *the pedestrian volume crossing the major street at an intersection or midblock location during an average day is 100 or more for each of any*

4 hours or 190 or more during any 1 hour. The second condition is met if *there are fewer than 60 gaps per hour in the traffic stream of adequate length to allow pedestrians to cross during the same period when the pedestrian volume criterion is satisfied.* In addition to these specific conditions, unless it does not interfere with progressive traffic flow, this warrant should not be applied if there is a traffic control signal located within 300 ft of the proposed location. Another important piece to note is that the MUTCD states that *the criterion for the pedestrian volume crossing the major roadway may be reduced as much as 50 percent if the average crossing speed of pedestrians is less than 1.2 m/sec (4 ft/sec).* This exception is most likely applicable in Morro Bay, since the city has a high population of elderly citizens.

Warrant 5 is for School Crossings, and is applied in cases where there are a significant number of school children crossing the street. For this warrant to be applied, there must be a minimum of 20 students crossing at the highest crossing hour, and there must be an insufficiency in crossing gaps. In addition to these, unless it does not interfere with progressive traffic flow, this warrant should not be applied if there is a traffic control signal located within 300 ft of the proposed location. Also, if this warrant is met, other options should be explored first: warning signs, school speed zones, and school crossing guards.

The sixth warrant is for a Coordinated Signal System. This warrant is applied when there are other traffic signals nearby, and an additional signal is needed to maintain proper platooning of vehicles and facilitate progressive traffic flow. This warrant should not be applied when the resultant spacing of signals would be less than 1,000 feet.

Warrant 7 deals with Crash Experience at the location of interest. There must be records of crashes at the intersection, and other alternatives must have been tested before the installation of a signal is to be considered. In a 12 month period, there must have been at least 5 recorded injury-related or property-damaging crashes at the intersection that could have been avoided with a traffic signal. Also, certain conditions from Warrant 1 and 4 must also be met—relating vehicular and pedestrian volume to crash experience.

Warrant 8 is called the Roadway Network Warrant, and this warrant would be used in conditions that would encourage drivers to use particular routes—channeling vehicles onto main routes, rather than causing congestion on local, minor roads. This warrant can be used with current or projected vehicular volumes, if there are plans for new development.

Results of Study

From Wednesday, January 25th through Wednesday, February 8th, a traffic study was conducted at the intersection of Pacific Street and Main Street. Vehicular volume data was collected; pedestrian behavior was observed; and crash history was researched. With this information, an analysis was completed on whether or not the signal warrants could be met for this area.

The first three warrants, as described earlier, are related to hourly vehicular volume. Volume counts were done on Main Street, just north of its intersection with Pacific Street. These data can be seen in Table 1. Throughout the time that the traffic counter was on Main Street, it measured an AM Peak volume of 385 vehicles during the eleven o'clock hour and a PM Peak volume of 425 vehicles during the one o'clock hour. This means that the highest volume of vehicles travelling along Main Street during any given hour was 425 vehicles.

For Warrant 1 to be met, it is necessary to have a major street hourly volume of at least 480 veh/hr to be considered, and this volume would have to be present for at least eight hours of an average day. Similarly, to meet Warrant 2, four points would have to plot above the given curve. The lowest major

Table 1: Hourly Volume

Start Time	01-Feb-12 NB-SB	02-Feb-12 NB-SB	03-Feb-12 NB-SB	04-Feb-12 NB-SB	05-Feb-12 NB-SB	06-Feb-12 NB-SB	07-Feb-12 NB-SB
12:00 AM	*	5	10	18	20	8	10
01:00	*	1	5	12	12	2	3
02:00	*	0	0	2	4	0	0
03:00	*	4	3	10	1	1	1
04:00	*	9	5	7	1	8	8
05:00	*	19	19	14	14	14	13
06:00	*	79	65	45	44	44	61
07:00	*	155	176	107	87	154	162
08:00	*	288	262	219	173	238	234
09:00	*	309	330	276	244	360	261
10:00	325	279	353	322	255	314	279
11:00	335	309	337	385	312	325	342
12:00 PM	361	365	383	401	357	346	317
01:00	318	342	377	425	319	323	317
02:00	349	333	381	247	310	335	319
03:00	403	360	372	243	240	325	334
04:00	332	332	368	191	202	341	308
05:00	341	302	356	214	155	289	264
06:00	212	219	274	263	116	185	192
07:00	131	164	191	200	126	135	115
08:00	86	97	148	112	64	68	87
09:00	63	74	103	89	51	45	66
10:00	31	23	53	66	22	21	33
11:00	9	16	21	31	9	14	12
Total	3296	4084	4592	3899	3138	3895	3738
AM Peak	11:00	09:00	10:00	11:00	11:00	09:00	11:00
Vol.	335	309	353	385	312	360	342
PM Peak	15:00	12:00	12:00	13:00	12:00	12:00	15:00
Vol.	403	365	383	425	357	346	334

street volume shown on the graph is 300 veh/hr, and for that to be met, the minor street would have to exhibit an hourly volume of well over 500 veh/hr. Warrant 3 is the Peak Hour Warrant, and the standards are even higher. As can be seen in Figure 4, the minimum major street volume displayed is 400 veh/hr. On Main Street, the highest hourly volume recorded was only 425 veh/hr; therefore, the first three warrants on vehicular volume fail to be met by a significant margin.

The intersection of Main Street and Pacific Street exhibits a low pedestrian activity; therefore, the hourly volume does not reach 100 ped/hr. For Warrant 4 to be met, the pedestrian volume must be at least 100 ped/hr for at least 4 hours or over 190 ped/hr for at least one hour during an average day. Clearly, this warrant is not met for this area.

Warrant 5 and 6 are not applicable for this study location, as there are no schools or traffic signals located in close proximity.

Warrant 7 has to do with Crash Experience in the area. After looking at records for the past five years (2007-2011), it was found that there have been seven reported crashes within the past five years: one in 2011, one in 2010, three in 2009, one in 2008, and one in 2007. The first requirement with respect to this warrant calls for *five or more crashes reported within a 12 month period susceptible to correction by a traffic signal, and involving injury or damage exceeding the requirements for a reportable crash*. Since there were only a max of three crashes within a 12 month period, and not all of them were injury-related, this requirement is not satisfied. There *is* a second requirement for this warrant; however, *both* requirements must be met to meet the warrant. Furthermore, this second requirement states that one condition of either warrant 1 or 4 must be satisfied at 80%. The intersection of Main and Pacific does not meet these conditions either. Therefore, Warrant 7 is not satisfied.

Warrant 8 states that the intersection must have *a total existing or immediately projected entering volume of at least 1,000 vehicles per hour* during the peak hour or during 5 weekend hours. It is not evident that the intersection of Main Street and Pacific Street has such a volume, nor are there any projections for such an increase.

Conclusions and Recommendations

Through this warrant analysis, it was found that all eight of the warrants are not met at Main Street and Pacific Street, as expected. The vehicular and pedestrian volumes in the area are too low to meet the requirements given in the MUTCD for the first four warrants. In addition, with the relatively low crash experience, and absence of local schools and traffic control signals, warrants 5, 6, and 7 are not met. Warrant 8 is not applicable either, due to low volumes. Since none of the warrants are met, it seems



Figure 5: Northbound Main Approach

unnecessary, by the standards brought forth in the MUTCD, to install stop signs along Morro Avenue at its intersection with Marina Street.

In addition to collecting data on vehicular volumes, the traffic count also collected data on vehicle speeds on Main Street. The average speed was 24 mph; therefore, it does not seem like speeding is the cause of unsafe driver behavior. In addition, sight distances at the intersection are fairly good with very few obstructions, as can be seen in Figure 5.

As has been shown through this report, stop signs are not warranted in this area. However, if it is still the desire of the community, they may petition City Council for the installation of these stop signs. For more information, see the Municipal Code 10.16.010, Subsection C.

Appendix

City of Morro Bay

Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

955 Shasta Avenue
 Morro Bay, CA 93442
 (805) 772-6200

Date Start: 01-Feb-12
 Date End: 08-Feb-12

Closest Cross Street: Morro Bay Blvd.

Start Time	01-Feb-12 NB-SB	02-Feb-12 NB-SB	03-Feb-12 NB-SB	04-Feb-12 NB-SB	05-Feb-12 NB-SB	06-Feb-12 NB-SB	07-Feb-12 NB-SB
12:00 AM	*	5	10	18	20	8	10
01:00	*	1	5	12	12	2	3
02:00	*	0	0	2	4	0	0
03:00	*	4	3	10	1	1	1
04:00	*	9	5	7	1	8	8
05:00	*	19	19	14	14	14	13
06:00	*	79	65	45	44	44	61
07:00	*	155	176	107	87	154	162
08:00	*	288	262	219	173	238	234
09:00	*	309	330	276	244	360	261
10:00	325	279	353	322	255	314	279
11:00	335	309	337	385	312	325	342
12:00 PM	361	365	383	401	357	346	317
01:00	318	342	377	425	319	323	317
02:00	349	333	381	247	310	335	319
03:00	403	360	372	243	240	325	334
04:00	332	332	368	191	202	341	308
05:00	341	302	356	214	155	289	264
06:00	212	219	274	263	116	185	192
07:00	131	164	191	200	126	135	115
08:00	86	97	148	112	64	68	87
09:00	63	74	103	89	51	45	66
10:00	31	23	53	66	22	21	33
11:00	9	16	21	31	9	14	12
Total	3296	4084	4592	3899	3138	3895	3738
AM Peak	11:00	09:00	10:00	11:00	11:00	09:00	11:00
Vol.	335	309	353	385	312	360	342
PM Peak	15:00	12:00	12:00	13:00	12:00	12:00	15:00
Vol.	403	365	383	425	357	346	334

City of Morro Bay

955 Shasta Avenue
 Morro Bay, CA 93442
 (805) 772-6200

Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Date Start: 01-Feb-12
 Date End: 08-Feb-12

Closest Cross Street: Morro Bay Blvd.

Start Time	08-Feb-12 NB-SB	09-Feb-12 NB-SB	10-Feb-12 NB-SB	11-Feb-12 NB-SB	12-Feb-12 NB-SB	13-Feb-12 NB-SB	14-Feb-12 NB-SB
12:00 AM	5	*	*	*	*	*	*
01:00	2	*	*	*	*	*	*
02:00	3	*	*	*	*	*	*
03:00	1	*	*	*	*	*	*
04:00	6	*	*	*	*	*	*
05:00	13	*	*	*	*	*	*
06:00	67	*	*	*	*	*	*
07:00	169	*	*	*	*	*	*
08:00	315	*	*	*	*	*	*
09:00	295	*	*	*	*	*	*
10:00	299	*	*	*	*	*	*
11:00	239	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*
Total	1414	0	0	0	0	0	0
AM Peak	08:00						
Vol.	315						
PM Peak							
Vol.							



Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Morro Bay Blvd.

COMBINED

Report for 2/1/2012 9:14:00 AM to Midnight

Vehicles	Peak Periods			
	AM		PM	
2.789	Time	11:15	Time	03:00
	Count	289	Count	316
	PHF	0.860	PHF	0.823

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	Buses	2 Axle Long	2 Axle Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	219	1295	5	671	368	46	0	8	2	0	0	1	0	174
Percent	7.9	46.4	0.2	24.1	13.2	1.6	0.0	0.3	0.1	0.0	0.0	0.0	0.0	6.2

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	300	381	322	242	183	182	133	144	110	72	80	68	61	511
Percent	10.8	13.7	11.5	8.7	6.6	6.5	4.8	5.2	3.9	2.6	2.9	2.4	2.2	18.3

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	382	300	612	782	431	189	74	18	0	1	0	0	0	0
Percent	13.7	10.8	21.9	28.0	15.5	6.8	2.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	2407	2107	1495	713	282	93	19	1	1	0	0	0	0	0
Percent	86.3	75.5	53.6	25.6	10.1	3.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%
Speed	13	14	16	25	26	27	33	36	39

Average (Mean) 26

Pace Speed 22-31
 Number in Pace 1433
 Percent in Pace 51.4

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	118.5	127.4	172.4	406.0	930.0	0	0	0	0	0	0

Axles Per Vehicle 2.14



Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Morro Bay Blvd.

COMBINED

Report for Thursday, February 02, 2012

Vehicles	Peak Periods	
	AM	PM
3,347	Time 11:30 Count 293 PHF 0.852	Time 03:00 Count 317 PHF 0.871

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	218	1866	725	10	214	50	1	14	1	0	1	0	0	247
Percent	6.5	55.8	21.7	0.3	6.4	1.5	0.0	0.4	0.0	0.0	0.0	0.0	0.0	7.4

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	293	427	386	295	235	199	162	150	128	114	110	95	87	659
Percent	8.8	12.8	11.6	8.8	7.0	6.0	4.9	4.5	3.8	3.4	3.3	2.8	2.6	19.7

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	480	388	899	1025	405	110	30	8	2	0	0	0	0	0
Percent	14.3	11.6	26.9	30.6	12.1	3.3	0.9	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	2867	2479	1580	555	150	40	10	2	0	0	0	0	0	0
Percent	85.7	74.1	47.2	16.6	4.5	1.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Percentile	5%	10%	15%	45%	55%	85%	90%	95%						
Speed	13	14	16	24	26	31	32	35						

Average (Mean) 24

Pace Speed 22-31
 Number in Pace 1963
 Percent in Pace 58.6

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	113.6	125.2	177.3	375.7	316.3	0	437.0	0	0	0	0
Axles Per Vehicle	2.17										

Closest Cross Street: Morro Bay Blvd.



Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

955 Shasta Avenue
 Morro Bay, CA 93442
 (805) 772-6200

COMBINED

Report for Friday, February 03, 2012

Vehicles	Peak Periods	
	AM	PM
3,763	Time 11:30 Count 304 PHF 0.854	Time 02:00 Count 334 PHF 0.908

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	Buses	2 Axle Long	2 Axle Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	156	2307	7	728	156	48	1	16	1	0	0	0	0	343
Percent	4.1	61.3	0.2	19.3	4.1	1.3	0.0	0.4	0.0	0.0	0.0	0.0	0.0	9.1

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	411	491	438	349	292	207	186	184	144	109	125	70	96	655
Percent	10.9	13.1	11.7	9.3	7.8	5.5	5.0	4.9	3.8	2.9	3.3	1.9	2.6	17.4

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	533	540	1074	1215	361	34	6	0	0	0	0	0	0	0
Percent	14.2	14.4	28.5	32.3	9.6	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	3230	2690	1616	401	40	6	0	0	0	0	0	0	0	0
Percent	85.8	71.5	42.9	10.7	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%
Speed	13	14	16	24	25	25	30	31	32

Average (Mean) 24

Pace Speed 22-31
 Number in Pace 2291
 Percent in Pace 60.9

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	114.3	123.7	149.7	478.0	400.5	0	0	0	0	0	0

Axles Per Vehicle 2.18



Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Morro Bay Blvd.

COMBINED

Report for Saturday, February 04, 2012

Vehicles	Peak Periods	
	AM	PM
3,319	Time 10:45 Count 348 PHF 0.935	Time 12:45 Count 375 PHF 0.938

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	Buses	2 Axle Long	2 Axle Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	183	2024	2	607	140	35	1	7	0	1	0	0	0	319
Percent	5.5	61.0	0.1	18.3	4.2	1.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	9.6

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	301	402	379	274	253	191	164	147	122	118	89	81	73	721
Percent	9.1	12.1	11.4	8.3	7.6	5.8	4.9	4.4	3.7	3.6	2.7	2.4	2.2	21.7

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	535	514	985	968	277	36	3	0	1	0	0	0	0	0
Percent	16.1	15.5	29.7	29.2	8.3	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	2784	2270	1285	317	40	4	1	1	0	0	0	0	0	0
Percent	83.9	68.4	38.7	9.6	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%
Speed	12	14	15	23	24	25	29	30	32

Average (Mean) 23

Pace Speed 21-30
 Number in Pace 1953
 Percent in Pace 58.8

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	113.2	119.2	149.2	233.3	371.7	0	0	0	0	0	0

Axles Per Vehicle 2.17



Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Morro Bay Blvd.

COMBINED
Report for Sunday, February 05, 2012

Vehicles	Peak Periods			
	AM	PM	AM	PM
2,752	11:30 Count 319 PHF 0.938	12:00 Count 330 PHF 0.948		

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	161	1801	435	0	80	43	0	3	0	0	0	0	0	229
Percent	5.9	65.4	15.8	0.0	2.9	1.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	8.3

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	259	308	245	208	196	156	150	115	101	82	89	87	59	690
Percent	9.4	11.2	8.9	7.6	7.1	5.7	5.5	4.2	3.7	3.0	3.2	3.2	2.1	25.1

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	360	322	737	1003	299	27	2	2	0	0	0	0	0	0
Percent	13.1	11.7	26.8	36.4	10.9	1.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	2392	2070	1333	330	31	4	2	0	0	0	0	0	0	0
Percent	86.9	75.2	48.4	12.0	1.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%
Speed	13	14	16	25	25	26	30	31	33

Average (Mean) 24

Pace Speed 22-31
 Number in Pace 1745
 Percent in Pace 63.4

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	111.5	120.3	154.4	1108.0	199.0	0	0	0	0	0	0

Axles Per Vehicle 2.17



Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Morro Bay Blvd.

COMBINED

Report for Monday, February 06, 2012

Vehicles	Peak Periods			
	AM		PM	
3,234	Time	09:00	Time	04:30
	Count	304	Count	292
	PHF	0.905	PHF	0.849

CLASS STATISTICS - Modified Scheme F

Class	Bikes		Cars & Trailers		Buses		2 Axle Long		3 Axle Single		4 Axle Single		<5 Axl Double		5 Axle Double		>6 Axl Double		<6 Axl Multi		6 Axle Multi		>6 Axl Multi		No Class	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
	144	4.5	1943	60.1	6	0.2	670	20.7	50	1.5	0	0.0	12	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	1943	60.1	6	0.2	670	20.7	50	1.5	0	0.0	0	0.0	12	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2		4		6		8		10		12		14		16		18		20		22		24		26		28	
	Count	Percent																										
	360	11.1	375	11.6	351	10.9	259	8.0	258	8.0	181	5.6	168	5.2	157	4.9	127	3.9	101	3.1	87	2.7	79	2.4	65	2.0	662	20.5
	360	11.1	375	11.6	351	10.9	259	8.0	258	8.0	181	5.6	168	5.2	157	4.9	127	3.9	101	3.1	87	2.7	79	2.4	65	2.0	662	20.5

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15		16 - 20		21 - 25		26 - 30		31 - 35		36 - 40		41 - 45		46 - 50		51 - 55		56 - 60		61 - 65		66 - 70		71 - 75		76 - 999	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
	456	14.1	395	12.2	945	29.2	1081	33.4	316	9.8	39	1.2	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	456	14.1	395	12.2	945	29.2	1081	33.4	316	9.8	39	1.2	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	2778	85.9	2383	73.7	1438	44.5	357	11.0	41	1.3	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	2778	85.9	2383	73.7	1438	44.5	357	11.0	41	1.3	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%									
	13	14	16	16	24	24	25	25	25	25	30	30	31	31	32	32	32	32	32									

Average (Mean) 24

Pace Speed 21-30
 Number in Pace 2026
 Percent in Pace 62.6

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	115.5	128.7	165.1	208.0	625.0	0	0	0	0	0	0
Axles Per Vehicle	2.18										



Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Morro Bay Blvd.

COMBINED

Report for Tuesday, February 07, 2012

Vehicles	Peak Periods			
	AM		PM	
3,067	Time	11:00	Time	03:00
	Count	277	Count	289
	PHF	0.923	PHF	0.903

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	152	1913	580	4	123	53	1	4	2	0	0	0	0	235
Percent	5.0	62.4	18.9	0.1	4.0	1.7	0.0	0.1	0.1	0.0	0.0	0.0	0.0	7.7

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	267	324	335	229	238	182	169	149	91	117	103	90	65	702
Percent	8.7	10.6	10.9	7.5	7.8	5.9	5.5	4.9	3.0	3.8	3.4	2.9	2.1	22.9

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	478	374	915	1001	275	20	3	1	0	0	0	0	0	0
Percent	15.6	12.2	29.8	32.6	9.0	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	2589	2215	1300	299	24	4	1	0	0	0	0	0	0	0
Percent	84.4	72.2	42.4	9.7	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%
Speed	12	14	15	15	24	25	25	25	29	29	30	30	32	32	32	32	32	32	32

Average (Mean) 23

Pace Speed 21-30
 Number in Pace 1916
 Percent in Pace 62.5

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	112.9	119.0	137.2	443.3	447.5	0	0	0	0	0	0

Axles Per Vehicle 2.16



Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

955 Shasta Avenue
 Morro Bay, CA 93442
 (805) 772-6200

Closest Cross Street: Morro Bay Blvd.

COMBINED
Report for Wednesday, February 08, 2012, Midnight to 11:46 AM

Vehicles	Peak Periods	
	AM	PM
1,163	Time 08:15 Count 264 PHF 0.904	Time 12:00 Count 3 PHF 0.250

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	57	683	265	1	63	12	0	7	0	1	0	0	0	74
Percent	4.9	58.7	22.8	0.1	5.4	1.0	0.0	0.6	0.0	0.1	0.0	0.0	0.0	6.4

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	84	146	114	105	80	96	55	58	40	36	46	30	22	245
Percent	7.3	12.6	9.9	9.1	6.9	8.3	4.8	5.0	3.5	3.1	4.0	2.6	1.9	21.2

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	153	133	310	414	127	25	1	0	0	0	0	0	0	0
Percent	13.2	11.4	26.7	35.6	10.9	2.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	1010	877	567	153	26	1	0	0	0	0	0	0	0	0
Percent	86.8	75.4	48.8	13.2	2.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%
Speed	13	15	16	25	25	26	30	31	33

Average (Mean) 24

Pace Speed 22-31
 Number in Pace 731
 Percent in Pace 62.9

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	116.6	137.2	168.4	0	530.0	0	0	0	0	0	0

Axles Per Vehicle 2.15



Main at Pacific, North Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

955 Shasta Avenue
 Morro Bay, CA 93442
 (805) 772-6200

Closest Cross Street: Morro Bay Blvd.

COMBINED

Report for Report From 2/1/2012 9:14:00 AM to 2/8/2012 11:46:04 AM

CLASS STATISTICS - Modified Scheme F

Class	Count	Percent	Trailers	Cars & Bikes	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	1290		13832	4681	1268	35	1268	337	4	71	6	2	1	1	0	1906
Percent	5.5		59.0	20.0	5.4	0.1	5.4	1.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	8.1

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	Count	Percent	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	2275		2854	2570	1961	1735	1394	1187	1104	863	749	729	600	528	4845
Percent	9.7		12.2	11.0	8.4	7.4	6.0	5.1	4.7	3.7	3.2	3.1	2.6	2.3	20.7

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	Count	Percent	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	3377		2966	2966	6477	7489	2491	480	121	29	3	1	0	0	0	0
Percent	14.4		12.7	12.7	27.6	32.0	10.6	2.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0

Over Speed	Count	Percent	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	20057		17091	10614	634	3125	634	154	33	4	1	0	0	0	0	0
Percent	85.6		72.9	45.3	2.7	13.3	2.7	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	Speed	10%	15%	45%	50%	55%	85%	90%	95%
Speed	12	14	16	24	24	26	30	31	34

Average (Mean) 24

Pace Speed 22-31
 Number in Pace 14001
 Percent in Pace 59.7

MISC. STATISTICS

Number of Axles	Count	Percent	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	114.3		124.1	157.6	407.5	431.7	437.0	0	0	0	0	0	0

Axles Per Vehicle 2.17

City of Morro Bay

Pacific at Main St., East Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

955 Shasta Avenue
 Morro Bay, CA 93442
 (805) 772-6200

Date Start: 25-Jan-12
 Date End: 01-Feb-12

Closest Cross Street: Monterey Ave.

Start Time	25-Jan-12 WB-EB	26-Jan-12 WB-EB	27-Jan-12 WB-EB	28-Jan-12 WB-EB	29-Jan-12 WB-EB	30-Jan-12 WB-EB	31-Jan-12 WB-EB
12:00 AM	*	2	3	12	8	6	5
01:00	*	0	2	2	5	2	1
02:00	*	0	1	3	0	1	0
03:00	*	0	0	1	5	1	0
04:00	*	5	1	0	0	2	2
05:00	*	10	11	10	6	4	9
06:00	*	34	21	17	21	26	40
07:00	*	72	50	46	63	65	65
08:00	*	102	90	80	81	93	111
09:00	*	91	122	121	107	127	105
10:00	*	115	134	137	119	136	131
11:00	*	145	142	148	97	152	154
12:00 PM	132	138	152	156	148	138	143
01:00	150	147	166	165	128	143	166
02:00	129	158	171	198	127	158	138
03:00	138	181	153	203	103	160	121
04:00	134	134	165	179	116	146	162
05:00	140	128	130	147	103	92	120
06:00	84	94	93	104	70	77	96
07:00	43	53	53	56	53	37	52
08:00	36	40	40	35	38	37	40
09:00	22	25	57	29	31	21	29
10:00	13	12	28	32	7	9	11
11:00	6	11	11	15	9	6	7
Total	1027	1697	1796	1896	1445	1639	1708
AM Peak		11:00	11:00	11:00	10:00	11:00	11:00
Vol.		145	142	148	119	152	154
PM Peak	13:00	15:00	14:00	15:00	12:00	15:00	13:00
Vol.	150	181	171	203	148	160	166

City of Morro Bay

955 Shasta Avenue
Morro Bay, CA 93442
(805) 772-6200

Pacific at Main St., East Side
Wednesday - Wednesday
Installed by: Damaris & Sarah

Date Start: 25-Jan-12
Date End: 01-Feb-12

Closest Cross Street: Monterey Ave.

Start Time	01-Feb-12 WB-EB	02-Feb-12 WB-EB	03-Feb-12 WB-EB	04-Feb-12 WB-EB	05-Feb-12 WB-EB	06-Feb-12 WB-EB	07-Feb-12 WB-EB
12:00 AM	3	*	*	*	*	*	*
01:00	4	*	*	*	*	*	*
02:00	1	*	*	*	*	*	*
03:00	0	*	*	*	*	*	*
04:00	2	*	*	*	*	*	*
05:00	6	*	*	*	*	*	*
06:00	32	*	*	*	*	*	*
07:00	65	*	*	*	*	*	*
08:00	79	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*
Total	192	0	0	0	0	0	0
AM Peak	08:00						
Vol.	79						
PM Peak							
Vol.							



955 Shasta Avenue
Morro Bay, CA 93442
(805) 772-6200

Pacific at Main St., East Side
Wednesday - Wednesday
Installed by: Damaris & Sarah

Closest Cross Street: Monterey Ave.

COMBINED

Report for 1/25/2012 11:48:00 AM to Midnight

Vehicles	Peak Periods	
	AM	PM
1,021	Time 11:30 Count 99 PHF 0.576	Time 01:30 Count 152 PHF 0.905

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	18	695	253	2	45	0	0	4	0	0	0	0	0	4
Percent	1.8	68.1	24.8	0.2	4.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	Count	Percent
2	4	0.4
4	74	7.3
6	59	5.8
8	69	6.8
10	57	5.6
12	35	3.4
14	38	3.7
16	41	4.0
18	36	3.5
20	36	3.5
22	33	3.2
24	29	2.8
26	26	2.6
28	22	2.2
30	20	2.0
32	18	1.8
34	16	1.6
36	14	1.4
38	12	1.2
40	10	1.0
42	8	0.8
44	6	0.6
46	4	0.4
48	3	0.3
50	2	0.2
52	1	0.1
54	1	0.1
56	0	0.0
58	0	0.0
60	0	0.0
62	0	0.0
64	0	0.0
66	0	0.0
68	0	0.0
70	0	0.0
72	0	0.0
74	0	0.0
76	0	0.0
78	0	0.0
80	0	0.0
82	0	0.0
84	0	0.0
86	0	0.0
88	0	0.0
90	0	0.0
92	0	0.0
94	0	0.0
96	0	0.0
98	0	0.0
100	0	0.0

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	Count	Percent
1 - 15	291	28.5
16 - 20	499	48.9
21 - 25	159	15.6
26 - 30	7	0.7
31 - 35	35	3.4
36 - 40	40	3.9
41 - 45	45	4.4
46 - 50	50	4.9
51 - 55	55	5.4
56 - 60	60	5.9
61 - 65	65	6.4
66 - 70	70	6.9
71 - 75	75	7.4
76 - 999	999	97.8

Over Speed	Count	Percent
15	20	2.0
20	665	65.1
25	166	16.3
30	7	0.7
35	0	0.0
40	0	0.0
45	0	0.0
50	0	0.0
55	0	0.0
60	0	0.0
65	0	0.0
70	0	0.0
75	0	0.0
80	0	0.0
85	0	0.0
90	0	0.0
95	0	0.0
100	0	0.0

Average (Mean) 22

Pace Speed 18-27
Number in Pace 836
Percent in Pace 81.9

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	114.4	200.1	350.4	0	0	0	0	0	0	0	0
Axles Per Vehicle	2.02										



Pacific at Main St., East Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Monterey Ave.

COMBINED
Report for Thursday, January 26, 2012

Vehicles	Peak Periods	
	AM	PM
1,652	Time 11:00	Time 03:15
	Count 141	Count 171
	PHF 0.953	PHF 0.872

CLASS STATISTICS - Modified Scheme F

Class	Bikes		Cars & Trailers		2 Axle Long		Buses		2 Axle 6 Tire		3 Axle Single		4 Axle Single		<5 Axl Double		5 Axle Double		>6 Axl Double		<6 Axl Multi		6 Axle Multi		>6 Axl Multi		No Class			
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent		
	23	1.4	1184	71.7	363	22.0	0	0.0	65	3.9	6	0.4	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8	0.5

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	79	108	86	91	82	90	69	55	56	65	45	54	47	721
Percent	4.8	6.6	5.2	5.5	5.0	5.5	4.2	3.3	3.4	3.9	2.7	3.3	2.9	43.8

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-999
Count	88	422	889	249	4	0	0	0	0	0	0	0	0	0
Percent	5.3	25.5	53.8	15.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	1564	1142	253	4	0	0	0	0	0	0	0	0	0	0
Percent	94.7	69.1	15.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile	5%	10%	15%	45%	55%	85%	90%	95%						
Speed	15	17	18	22	22	23	26	26	27					

Average (Mean) 22

Pace Speed 18-27
 Number in Pace 1378
 Percent in Pace 83.4

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	113.3	206.6	380.0	0	0	0	0	0	0	0	0
Axles Per Vehicle	2.01										

COMBINED

Report for Friday, January 27, 2012

Vehicles	Peak Periods	
	AM	PM
1,773	Time 11:30 Count 153 PHF 0.981	Time 02:30 Count 173 PHF 0.901

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	21	1283	369	0	78	7	0	9	0	0	1	1	0	4
Percent	1.2	72.4	20.8	0.0	4.4	0.4	0.0	0.5	0.0	0.0	0.1	0.1	0.0	0.2

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	90	136	123	102	76	81	88	68	64	76	50	51	41	721
Percent	5.1	7.7	7.0	5.8	4.3	4.6	5.0	3.8	3.6	4.3	2.8	2.9	2.3	40.8

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	124	521	870	252	6	0	0	0	0	0	0	0	0	0
Percent	7.0	29.4	49.1	14.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	1649	1128	258	6	0	0	0	0	0	0	0	0	0	0
Percent	93.0	63.6	14.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%					
Speed	15	17	18	21	22	22	25	26	27					

Average (Mean) 22

Pace Speed 18-27
Number in Pace 1449
Percent in Pace 81.7

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	114.2	218.3	503.0	1154.0	1056.0	0	0	0	0	0	0
Axles Per Vehicle	2.02										



Pacific at Main St., East Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Monterey Ave.

COMBINED

Report for Saturday, January 28, 2012

Vehicles	Peak Periods	
	AM	PM
1,861	Time 11:30	Time 02:00
	Count 154	Count 216
	PHF 0.963	PHF 0.900

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	Buses	2 Axle Long	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	33	1336	2	389	87	0	0	9	0	0	0	0	0	5
Percent	1.8	71.8	0.1	20.9	4.7	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.3

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	95	149	146	118	95	94	75	75	73	62	65	43	56	710
Percent	5.1	8.0	7.9	6.4	5.1	5.1	4.0	4.0	3.9	3.3	3.5	2.3	3.0	38.3

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-999
Count	106	582	930	233	10	0	0	0	0	0	0	0	0	0
Percent	5.7	31.3	50.0	12.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	1755	1173	243	10	0	0	0	0	0	0	0	0	0	0
Percent	94.3	63.0	13.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile	5%	10%	15%	50%	55%	85%	90%	95%						
Speed	15	17	18	22	22	25	26	27						

Average (Mean) 21

Pace Speed 17-26
 Number in Pace 1555
 Percent in Pace 83.6

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	114.8	248.8	373.9	0	0	0	0	0	0	0	0

Axles Per Vehicle 2.02



Pacific at Main St., East Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Monterey Ave.

COMBINED

Report for Sunday, January 29, 2012

Vehicles	Peak Periods			
	AM		PM	
1,416	Time	10:15	Time	12:30
	Count	123	Count	145
	PHF	0.904	PHF	0.806

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	28	1022	301	1	48	2	0	9	1	0	0	0	0	4
Percent	2.0	72.2	21.3	0.1	3.4	0.1	0.0	0.6	0.1	0.0	0.0	0.0	0.0	0.3

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	68	103	63	62	84	58	41	37	54	45	40	47	36	672
Percent	4.8	7.3	4.5	4.4	6.0	4.1	2.9	2.6	3.8	3.2	2.8	3.3	2.6	47.7

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	64	420	737	184	10	1	0	0	0	0	0	0	0	0
Percent	4.5	29.7	52.0	13.0	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	1352	932	195	11	1	0	0	0	0	0	0	0	0	0
Percent	95.5	65.8	13.8	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%
Speed	16	17	18	22	22	22	25	26	27

Average (Mean) 22

Pace Speed 17-26
 Number in Pace 1198
 Percent in Pace 84.6

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	113.2	252.1	446.6	553.0	0	0	0	0	0	0	0

Axles Per Vehicle 2.02



Closest Cross Street: Monterey Ave.

Pacific at Main St., East Side
Wednesday - Wednesday
Installed by: Damaris & Sarah

COMBINED

Report for Monday, January 30, 2012

Vehicles	Peak Periods			
	AM		PM	
1,578	Time	11:15	Time	01:45
	Count	150	Count	156
	PHF	0.872	PHF	0.907

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	26	1109	351	0	71	4	0	11	0	0	0	0	0	6
Percent	1.6	70.3	22.2	0.0	4.5	0.3	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.4

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	87	111	90	106	69	70	70	71	49	44	42	36	35	686
Percent	5.6	7.1	5.7	6.8	4.4	4.5	4.5	4.5	3.1	2.8	2.7	2.3	2.2	43.8

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	128	487	775	182	6	0	0	0	0	0	0	0	0	0
Percent	8.1	30.9	49.1	11.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	1450	963	188	6	0	0	0	0	0	0	0	0	0	0
Percent	91.9	61.0	11.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%
Speed	14	16	17	21	21	22	25	26	27

Average (Mean) 21

Pace Speed 17-26
Number in Pace 1286
Percent in Pace 81.5

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	115.2	259.6	383.0	0	0	0	0	0	0	0	0

Axles Per Vehicle 2.02



Pacific at Main St., East Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Monterey Ave.

COMBINED

Report for Tuesday, January 31, 2012

Vehicles	Peak Periods			
	AM		PM	
1,649	Time	11:15	Time	01:15
	Count	154	Count	162
	PHF	0.895	PHF	0.942

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	23	872	614	2	120	4	0	9	0	0	0	0	0	5
Percent	1.4	52.9	37.2	0.1	7.3	0.2	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.3

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	80	96	99	102	79	77	68	70	56	38	59	48	38	733
Percent	4.9	5.8	6.0	6.2	4.8	4.7	4.1	4.3	3.4	2.3	3.6	2.9	2.3	44.6

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-999
Count	77	386	798	340	47	1	0	0	0	0	0	0	0	0
Percent	4.7	23.4	48.4	20.6	2.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	1572	1186	388	48	1	0	0	0	0	0	0	0	0	0
Percent	95.3	71.9	23.5	2.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%
Speed	16	17	18	22	23	23	27	28	29

Average (Mean) 23

Pace Speed 18-27
 Number in Pace 1290
 Percent in Pace 78.2

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	119.1	232.8	342.7	0	0	0	0	0	0	0	0

Axles Per Vehicle 2.02



Pacific at Main St., East Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

Closest Cross Street: Monterey Ave.

COMBINED
Report for Wednesday, February 01, 2012, Midnight to 08:50 AM

Vehicles	Peak Periods	
	AM	PM
181	07:45	-
	Count 88	-
	PHF 0.917	-

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	1	57	83	0	36	1	0	2	0	0	0	0	0	1
Percent	0.6	31.5	45.9	0.0	19.9	0.6	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.6

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	9	6	5	7	7	5	4	9	5	3	2	1	1	111
Percent	5.1	3.4	2.9	4.0	4.0	2.9	2.3	5.1	2.9	1.7	1.1	0.6	0.6	63.4

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	4	29	67	50	28	3	0	0	0	0	0	0	0	0
Percent	2.2	16.0	37.0	27.6	15.5	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	177	148	81	31	3	0	0	0	0	0	0	0	0	0
Percent	97.8	81.8	44.8	17.1	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentile	5%	10%	15%	45%	55%	85%	90%	95%						
Speed	17	19	20	24	25	25	31	32	34					

Average (Mean) 25

Pace Speed 20-29
 Number in Pace 120
 Percent in Pace 66.3

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	130.7	360.5	499.0	368.0	0	0	0	0	0	0	0

Axles Per Vehicle 2.04



Pacific at Main St., East Side
 Wednesday - Wednesday
 Installed by: Damaris & Sarah

955 Shasta Avenue
 Morro Bay, CA 93442
 (805) 772-6200

Closest Cross Street: Monterey Ave.

COMBINED

Report for Report From 1/25/2012 11:48:00 AM to 2/1/2012 8:50:54 AM

CLASS STATISTICS - Modified Scheme F

Class	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	No Class
Count	173	7558	2723	7	550	24	0	56	1	0	1	1	0	37
Percent	1.6	67.9	24.5	0.1	4.9	0.2	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.3

COMBINED GAP STATISTICS - 2 To 26+ by 2 Seconds

Seconds	2	4	6	8	10	12	14	16	18	20	22	24	26	28
Count	549	783	671	657	549	510	453	426	393	369	336	309	285	4795
Percent	5.0	7.1	6.1	5.9	5.0	4.6	4.1	3.8	3.5	3.3	3.0	2.8	2.6	43.3

SPEED STATISTICS - 15 to 70+ by 5 MPH

Speed in MPH	1 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50	51 - 55	56 - 60	61 - 65	66 - 70	71 - 75	76 - 999
Count	656	3138	5565	1649	118	5	0	0	0	0	0	0	0	0
Percent	5.9	28.2	50.0	14.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Over Speed	15	20	25	30	35	40	45	50	55	60	65	70	75	999
Count	10475	7337	1772	123	5	0	0	0	0	0	0	0	0	0
Percent	94.1	65.9	15.9	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile	5%	10%	15%	45%	50%	55%	85%	90%	95%
Speed	15	17	18	22	22	22	26	26	28

Average (Mean) 22

Pace Speed 18-27
 Number in Pace 9076
 Percent in Pace 81.5

MISC. STATISTICS

Number of Axles	2	3	4	5	6	7	8	9	10	11	12
Avg. Wheelbase	115.2	237.0	402.5	691.7	1056.0	0	0	0	0	0	0

Axles Per Vehicle 2.02

RECEIVED
City of Morro Bay

JAN 13 2015

PETITION

January, 2015
ATTACHMENT 2

160 signatures

TO ADD A STOP SIGN ON MAIN ST. AT THE CORNER OF PACIFIC AND MAIN

Sponsored by resident Cruz Reyes and the citizens for a safer Morro Bay

This petition is requesting the City of Morro Bay to add a stop sign on Main St. at the corner of Main and Pacific.

- This is an extremely busy corner during the work week and on weekends when the city has their activities. Also, this corner is continually busy during the summer and holiday months. It is a hard intersection to cross, whether by vehicle or on foot.
- There are many accidents at this intersection every year. It is a danger to pedestrians as well, as there are no crosswalks on Main at this corner which is used to access the Embarcadero and the shops on Morro Bay Blvd. Pacific Street is used by trucks with boat trailers as access to the marina and Main Street is used by RVs to access Morro Bay State Park. Also large delivery trucks use Pacific every day.

We, the undersigned, would like to bring your attention to this issue.

<u>NAME</u>	<u>ADDRESS</u>	<u>COMMENTS (optional)</u>
Cruz & Linda Reyes	271 Pacific St. M.B.	Please pass this petition
Jamie Taylor	685 Main St Ste C	
Abbie Duffy	670 Main St (Morro Crest Inn Mgr.)	
Tia & Mike	670 Main St.	Please pass this petition
Tara Austin	665 Main St	
Sanna Mynick	685 Main St	
Jessy Arthurs	685 Main St	
Eric Smith	645 Main St	
Kilu Wilver	785 Marina St.	
Haluk Shaban	665 Main St	
Shannon Dorscy	665 Main St.	
Kerry Thompson	775 Marina St	
Ashley Fox	275 Marina St	
Meghan Lass	525 1/2 Piney Way	
Arina Pavlar	691 Morro Ave	
Hannah Sobel	691 Morro Ave	
Jan Fur	691 Morro Ave	
Liliana Guata	691 Morro Ave	
Christina	1675 Las Vir	
Christina	1539 9th St	
Ryan DeBalle	218 PACIFIC ST	SAFETY FOR MY KIDS
Chloe P. Reuter	238 PACIFIC ST	
John Egan	220 Atascadero Rd	
Christina	898 Wagon	
Vanessa Barber	2435 Elm Avenue	
Brenda Sue	248 Morro Bay Blvd.	

NAME

ADDRESS

ATTACHMENT 2

Linda Hamilton 260 Morro Bay Blvd.
 Jon Elliott 240 Morro Bay Blvd
 Claudia Restmandana 1501 Morro Bay
 Kaela 121 Main St
 Gemi Cowan 787 Main St. Morro Bay
 DAVID ANDERSON 699 EMBARECERO #11 MORRO BAY
 Melissa Scroggins 1232 12th St. LOS OSOS CA 93402
 Kelli Blue 1837 8th St. LOS OSOS CA - work @ 300 Morro Bay Blvd.
 Dixie L. Jara 4610th St CAUCUCOS, CA work @ PCB
 Michele Jacques 250 Pacific Str. Morro Bay, CA 93442
 Dulce Vasquez 4316 Arizona Ave Atascadero CA
 Manolas Yelkin 9634 11th St LOS OSOS, CA 93402
 Anna DeLeon 775 Morro Rd Atascadero, Ca 93422
 Antonia Mora 1861 Main St Morro Bay CA 93422
 Luis F Rangel Zamudio 250 Pacific St Morro Bay CA 93442
 Garrett Haworth 250 Pacific St MB CA 93442
 Amish Patel 730 Morro Ave. Morro Bay CA 93442
 Mike Covineas 264 Pacific St. Morro Bay, CA 93442
 Whitney Busch 535 FRESHO AVE Morro Bay, Ca 93442
 Justin Busch " " " " " " " "
 Amy Lin 640 Main St Morro Bay CA 93442
 Claudie Foster 305 MAIN ST " " " 93442
 Alex 598 Main St. Morro Bay CA 93442
 Rich RAY/A 321 Pacific St " " " 93442
 Curran Ray 321 Pacific St., Morro Bay, CA 93442
 Shari Plencford 975 SAN BELVARD'S CREEK RD MORRO BAY, CA 93442
 Leslie O'Leary 857 Main St. MB 93442
 Tabitha Ozaki 859 Main St
 Troy Brewer 1246 SANTA YNEZ AVE 93442
 Julie Booth 355 Tulare Ave. Morro Bay. 93442
 Kay Crocker 2470 Ironwood Ave. M.B. Ca 93442
 Jim Jim 1625 C St 55 50 70 CAUCUCOS
 Mandi Bijan 898 Main St. MB 93442
 Jason Cardero 898 Main St. Morro Bay, 93442
 OSVALDO J. CAMILO 3025 SANDALWOOD MB 93442
 Katy Belcher (work here) 9329 Bocina Ln Apt C Atascadero 93422
 KEVIN TALENTINO (work here) 9329 Bocina Ln Apt C Atascadero 93422
 J. Becerra 800 Main St MB 93442
 Sarah Smith 81172 1st
 Richard Kudruch 2075 Ironwood Ave MB 93442
 June Tremble 2075 Ironwood Ave 93442
 Bethany Campos 432 257 MORRO BAY BLVD (REVOLVE)
 Janice Hollman 312 Yerba Buena, Morro Bay, CA

NAME

ADDRESS

ATTACHMENT 2

NAME	ADDRESS	ATTACHMENT 2
JAYANTI PATEL	545 MORRO AV	
Danielle Bennett	780 Morro Bay Blvd + Market	
REN C. Scott	515 MORRO AVE MB	
Low Manschiello	585 MAIN ST #4	
Karen manschiello	"	
Virginia E. Gunther Junck	595 MORRO AVE	
Judith Junck	1110 12th St LOS OSOS, CA 93402	
Stacey Johnson	1110 12th St. L.O. I WORK @ 250 Pacific St.	
Kyle Buller	767 Main St. Save a life!	
Dan M.	785 Quinlan Rd PIZZA PORT	
Heather Mavety	475 18th St 785 Main St PIZZA PORT	
J.W. HERSHBERGER	1200 MORRO 9340	Mutteralberg
Taylor Mansy	261 Pacific St	
Samantha Hoffman	261 Pacific St	
GARY WINCH	767 MORRO AVE	Damp Enrico
C. HAD SARI	244 WALLER LEAVE	
HOLLY KNEPPE	1615 17th St. LOS OSOS, CA	
JOE WANN	780 EL RETIRO ST. ATASCADERO	
GEORGE OWEN	21 HUTTON AVE. TORONTO CANADA	Visitor.
Helen Buntor	645 Morro Ave. MB CA	snowbird
Gayle Buntor		
MARTHA A ENRIQUEZ	260 PACIFIC ST. MORRO BAY, CA 93442	
Sandpiper inn	540 main st morro bay, CA 93442	
Margaret Lindt	545 Main St slab-1 Morro Bay CA 93442	
Betty Gong	1010 Quintanilla Morro Bay CA 93442	
April Ambrose	1230 morro Ave Morro Bay CA 93442	
Ryan Garcia	545 Main #B2 Morro Bay CA 93442	
Victor Flores	3185 Wood DR Cambridge	
Christopher Kesso	2732 Houston Dr Los Osos	
Cheryll Schuette	698 Monterey Av Morro Bay CA 93442	
R. Wade Schuette	698 Monterey Ave Morro Bay CA 93442	
Bayn McCarly	721 Pacific st Morro Bay CA 93442	
Sara Robertson	550 Bonita Pl Morro Bay CA 93442	
Kath Cervantes	390 morro bay Blvd Morro Bay CA 93442	
Hannah Gordon	330 Morro Bay Blvd Morro Bay CA 93442	
Monica Sandt	330 Morro Bay Blvd Morro Bay CA 93442	
Elva Mejorado	330 morro Bay Blvd morro Bay CA 93442	
Pamela Woodruff	325 Morro Bay Blvd Morro Bay CA 93442	
JEWELL L. Haywood	317 MB. BLVD MORRO BAY 93442	
MARE WINTER	785 QUINTANA RD #170, MORRO BAY, 93442 CA	
Efrain Hdez.	620 Monterey AVE, MORRO BAY, 93442 CA Distalio	
William Austin	259 M.B. BLVD MORRO BAY 93442 CA	
Jonathan Aysall	416 Monterey Ave Morro Bay 93442 CA	
Margo Camilleri	370 Zanibar St Morro Bay 93442 CA	

NAME	ADDRESS
Brendan Lanner	439 Rennell St
Jason Brodson	275 Morro Bay Ct
Bill Fritch	P.O. Box 331 Morro Bay
Jerry Day	2965 BIRCH AVE MORRO BAY
Salvador	805 Main St Morro Bay
Kate McWhitten	805 Main Street
William Ramage	2646 Koa ^{MB} MORRO BAY ART ASSOC.
Ann J. Brown	2265 Del Norte Los Osos
Park Merrill	2471 TIERRA DR, LOS OSOS
JACKIE 'JADE' HERRERA	2331 CREST AVE., LOS OSOS
Peggy Stanfill	1595 LOS OSOS VALLEY RD #31A LOS OSOS
Charles Adams	785 QUINTANA RD MORRO BAY.
Key Street	2DA. Orosa Valley Rd. Los Osos.
Carlynn Brown	1511 VIA ROSA, Pismo Robles, CA
Sharon Vestray	789 Highland Dr L.O.
Janne Hand	1160 Las Tunas Morro Bay
Catherine Kincaid	1335 13th St Los Osos, CA 93402
Maria Hernandez	956 Las Tunas Morro Bay CA 93447
Gwen A Soderer	1342 Clara Belle Dr. MORRO BAY CA
Anit Patel	1095 main st, MR CA 93442
RICHARD WIMMER	899 PINEY WAY, MD 93442
Lindsey Wimmer	1189 Santa Ynez AVE, Los Osos 93402
Jackie Setz	595 Morro Bay Blvd, Morro Bay
Carol Reis	2091 Tapiden Ave, LOS OSOS Ca 93402
Juan Eduardo	529 Morro Bay Blvd, Morro Bay
John	Same
Russ 'Sandra Corina'	507 Morro Bay Blvd Morro Bay
Daniel Salas	505 MORRO BAY BLVD M.B.
Cynthia Smith	501 MORRO BAY BLVD. M.B. CA.
Christy Young	501 MORRO BAY BLVD M.B. CA
Walter	495 MB Blvd MB
Walter	499 MB Blvd. MB
Mary van Zee	475 MB Blvd, M.B. CA
JUSTINA VICTORINO	1290 Scott St. Apt #2, M.B. CA 93442
Mary Louie	1301 San Luis Ave L.O. CA
David Miller	431 MORRO BAY BLVD M.B.
Carol O'Mara	1226 14th Street L.O. 93402
	395 MORRO BAY BLVD M.B 93442
	385 MORRO BAY BLVD M.B 93447
EDDIE FRAWLEY	365 Morro Bay Blvd, MB 93442
C.F. Consoar	355 MORRO BAY BL
Susan Stewart	498 Fresno Avenue and 333 Morro Bay Blvd
Tim Cowan	787 MAIN ST MB

PETITION

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NAME

ADDRESS

COMMENTS (optional)

Cruz + Laida Reyes	271 Pacific St. M.B.	Please pass this Petition
Sara East	220 Atascadero Rd, M.B.	

NAME

ADDRESS

Eddie Paret	2464 Creston Rd (PASO)	WORK IN (M.B.)
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