

# Water and Sewer Rate Review and Recommendations

Report of the Water & Sewer Rate Task Force

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Contributing Task Force Members Beauregard Burgess, Ken Castner, Barbara Howard, Terry Yager, Bob Howard, Sharon Minsch, Lloyd Moore, Beth Wythe

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## **INTRODUCTION:**

The Water & Sewer Rate Task Force (the Task Force) was established in accordance with the provisions of Resolution 12-027(A), consisting of five City of Homer residents (Ken Castner, Bob Howard, Sharon Minsch, Lloyd Moore and Terry Yager) and two City Council members (Barbara Howard and Beth Wythe), appointed by Mayor James Hornaday through Memorandum 12-056. Subsequent to the original appointments, community member Terry Yager submitted his resignation from the Task Force and the seat remained unfilled for the duration of the review process. Also, following the October elections, Beth Wythe was authorized to continue on the Task Force through Resolution 12-094 following her election as Mayor. Barbara Howard resigned from the Task Force in November and was replaced by Council Member Beau Burgess through Memorandum 12-161(A). Copies of all Resolutions and Memoranda are included in Appendix # of this report as supporting documentation.

The City Council approved the creation of a Task Force after numerous public comments and complaints about the 2012 increase in Water & Sewer Rates and fees.

From the beginning, the Task Force resolved to reach decisions that were not colored by sentiment or popularity. The Task Force began its work of developing a recommendation for the City Council by considering who the benefactors were of the water and sewer systems. In addition to the residential and business customers there are large commercial users such as South Peninsula Hospital and the Port & Harbor. There are also incidental benefits that the system was designed to provide including providing both fire hydrants and sufficient water for buildings that house sprinkler fire suppression equipment. While the City Council will make the final decision regarding any rate changes, the Task Force has included recommendations for allocating the additional expenses related to these specifically identifiable cost centers in an equitable manner.

## **CURRENT RATE STRUCTURE:**

Currently water and sewer rates differentiate between various water usage and sewage returns based on whether they are delivered to or derived from residential customers, or small or large commercial customers. The Task Force believes that a gallon of water or a gallon of waste should be of an equal base cost to all users, and when a class or location of users is found to be more costly, a surcharge should be added.

Public Works states that the size of the City's water system is primarily designed to handle the delivery volume required for the fire protection needs of the City. The current City contribution to the annual water budget does not fully reflect the attributed costs that should be recovered through "hydrant rents".

## **FAIR AND EQUITABLE RATES:**

The Task Force believes the basic service charge for water and sewer customers should accurately reflect the cost of customer billing, banking and accounting expenses. Other system maintenance and treatment expenses should be billed in accordance with the customers' actual usage. There is an inherent fairness in charging all customers hooked into the system(s) the same rate for an indistinct commodity. A gallon of water is the same no matter what its use. A uniform rate lends itself to easy rate adjustments using calculations that are simple and transparent.

The Task Force identified costs associated with the water and sewer system that are derived from the population in general (fire protection, City owned buildings, public rest rooms, fish cleaning stations and support of other community facilities that use water in their day-to-day activities). These costs should be borne by the City as general fund expenses using the same tariff basis as any other user.

Fairness also requires that users that require services beyond the normal, or create additional costs, be charged for those expectations and/or costs. Two examples of the former would be those buildings with un-metered fire protection service lines and multi-unit complexes using a single meter. Two examples of the latter would be the additional cost of treating "hot" (high BOD) sewage, and the costs of maintaining and powering the sewer lift stations. In order to address these non-standard users a small surcharge has been recommended.

### **SYSTEM REQUIREMENTS:**

The water and sewer system in Homer has some unique characteristics that increase the cost of operations and maintenance. The first is the location of our water source and another is the elevation of many users relative to the sewer treatment plant.

Having water come from the top of the hill may at first appear to be a great asset since many water systems are challenged with pumping water to higher elevation customers. However, reducing the pressure in the delivery system as a result of the gravity fed nature of Homer's system presents its own costly challenges. The construction and maintenance of the pressure reducing valves that are required to safely deliver water into the system and then into the residents and businesses receiving services is a substantial contributor to the cost of Homer's water system over other similarly sized systems across the state.

In addition to these challenges, having a surface source of water increases the volume of treatment required to make the water potable. As a result, Homer has been required to maintain a state-of-the-art water treatment facility for years and has recently built a new treatment facility with the capacity to meet current and anticipated water quality standards for years to come.

The water delivery system has also been sized to provide adequate pressure and flows for a variety of special services including fire sprinkler systems and hydrants. Hydrants benefit all City property owners whether they are connected to the delivery system or not. Therefore the Task Force believes that a portion of the additional system costs related to system size should be shared by property owners independently from the rates charged to water and sewer customers.

There are many service locations on the sewer system that pass through elevations that will not allow for gravity to deliver sewage all the way to the sewer treatment plant. In order to provide service to these areas lift stations are required to pump sewage to a higher elevation in the system so it can continue to the treatment plant by gravity delivery. Just as the pressure reducing valves required on the water system create an additional maintenance expense, these lift stations create an additional maintenance expense for the sewer system. Unlike the pressure reducing stations that benefit all customers, the lift stations only provide benefit to those that are in areas where they are required. For this reason, the Task Force has included a nominal monthly fee to the billing for customers that live in areas served by lift stations.

## **DISPROPORTIONATE IMPACTS:**

In addition to the above expenses specific to Homer's water delivery and sewer collection systems, other costs of operating the systems which the Task Force determined to be identifiable to specific users included:

High BOD waste; and  
Water required for flushing dead-end lines.

A nominal fee is recommended for the purposes of identifying the existence of high BOD waste contributors and to marginally off-set additional expenses related to treatment.

The water loss related to dead-end lines is considered a cost of the system in general and no fee was recommended in association with this impact.

Another potentially disproportionate impact that was identified but not quantifiable was the presence of facilities that have water delivered, but return sewage through the sewer without being billed.

## **OPTIONS FOR DISTRIBUTING COSTS TO CAUSERS:**

The proposed rate model provides a spreadsheet for the calculation of water rates independent of the spreadsheet for calculating sewer rates, although the proposed structure continues the practice of billing sewage based on water usage. The singular acceptance to this was in reducing the volume of projected sewage from the Spit due to the large volume of water used at the Port that is not returned as sewage.

When reviewing the proposed water model you will observe first that the model begins with the required revenue in mind. The required revenue is then reduced by a variety of alternative revenue sources including:

- Service fees (finance fees/number of customers);
- Hydrant Rents (10% of required revenues);
- Sprinkler Differential (\$5/month/identified user);
- Surplus (Bulk) Water sales (estimated sales X \$0.004);

This identifies the amount of revenues that need to be collected through the commodity (usage) rates. In the projection provided, consideration is also given for the potential reduction in water use that may result from the commodity based fee schedule (conservation).

Using this model, rate reductions are as easy as updating the "Total Water Revenue Requirements", the "Metered Sales Projections"; the "Number of Meters"; and the "Finance Department O/H" cells. Updating these cells will generate the "Water Rate" which is the commodity fee, and the "Metered Service Fee" which is rounded up to the next highest dollar amount and becomes the monthly base rate for water services.

The use and maintenance of the proposed sewer rates is very similar. Beginning with the projected annual revenue assumption reduced by:

Lift Station Charge (lift station maintenance costs/users);  
High BOD fees (\$10/month/identified user);  
Multi-residential facility & Kachemak City fees (\$5/month/identified facility);  
Kachemak City Fees (less pumping);  
Dumping Station Fees; and  
Water Only Meters (no septic returned).

Resulting in the total revenue required through rates. Rates are allocated based on historic usage allocated to those meters that are in sewer return areas that require a lift station and those that are not to generate two rates; Non-lift zone customers – sewer rate/gal, and Lift Station Zones – Sewer Rate/gal.

Again, with the adjustment of the key cells, new rate projections become simple.

### **CRITERIA FOR EVALUATING THE SOLUTIONS:**

Because the primary complaint regarding the current rate structure has consistently been the perception of unfairly allocating costs, the Task Force was assigned the responsibility of reviewing the current rate model and recommending new rates for the 2013 rates review process. Through reviewing not only the current rate model, but also the components of the water and sewer system and identifying not only the billed users, but also others that benefit from the system, the Task Force believes that the proposed commodity based, uniform rate structure provides the most fair distribution of the expenses for operations and maintenance of the water and sewer system.

In addition to the current rate model that is “class” based, with a large base rate, the Task Force considered rate structures designed to encourage conservation (increasing rates when usage increased); structures that encouraged usage (reduced rates as usage increased); and rates that were fully commodity based (a flat fee per gallon, regardless of base expenses and extraordinary expenses). Ultimately, it was determined that the proposed rate model would best meet the test of “fairness”.

By distributing the administrative costs of billing between all customers and then charging the same rate per delivered gallon of water, water users can take control of their bill and no customer is subsidizing the use of another customer. By separating expenses related to making water available for non-standard uses such as fire protection and bulk water sales the model removes subsidies. Customers are merely being charged for the service they are receiving.

Similarly, on the sewer side subsidies are being removed by allocating extraordinary expenses related to lift stations and high BOD waste to the users that benefit from them, and multi-family dwellings are contributing proportionally to the cost of maintaining a larger system to accommodate sewage generated by more than one customer using the same metering system.

### **OTHER CONSIDERATIONS:**

In developing the proposed rate structure, the Task Force accepted the costs that had been promulgated by the City Administration and approved by the City Council.

Eighty percent of the combined budgets are costs necessary for the treatment and delivery of water for the City and its customers, together with the cost of collection and treatment of the produced effluent. The remainder is the allocated cost of administrative service. The decision as to the size and appropriateness of that allocation, and the decision to use City employees to provide those services, rests with the City Council.

The Task Force does not believe that the proposed rate model will resolve all of the complaints regarding fairness in the allocation of the expenses for maintenance and operation of the water and sewer program, but we do feel that the concerns identified and those brought before us through public comment have been appropriately addressed through this model. Additionally, the model provides an ease of administration and future rate setting that if properly applied will help the City continue to adequately fund the program for years to come.

**CONCLUSIONS:**

In conclusion the Task Force is pleased to provide the City Council with the following recommendations with the anticipation of improved rate stability in the water and sewer program.

- Replacing the current rate model with the proposed commodity based model found on page A-1 and A-2.
- Continue to periodically review the allocation of administrative and other overhead expenses to ensure they properly reflect the actual expenses being charged to W & S.
- Clearly delineate water and sewer rates, by location, in future budget documents (i.e., revenue from City facilities and related expense lines in Port & Harbor, Water & Sewer, and other administrative budgets.)
- Confirm that ALL City of Homer facilities receiving water and sewer services are being properly metered and billed.
- Consider alternatives for refreshing the water in deadened lines that does not result in the waste of large volumes of treated water.
- Renew the contract with Kachemak City and ensure that the rates adequately reflect the cost of this area on the system as a whole, including any added administrative expenses.
- Conduct rate-setting in a manner that will not allow political influences to result in the under collection of rates in the future.
- Establish a periodic meter inspection program to ensure that all meters are properly installed and reading.
- Consider hiring a qualified consulting firm to review the rate structure and/or establish a Water & Sewer Board that is advisory to the Council.

## REFERENCES AND RESOURCES

Rate Setting for Small Water Systems, Texas Cooperative Extension Service, Texas A & M University System  
Excerpt from Basic Guide to Water Rates, [www.lwua.gov.ph/water\\_rates\\_08/rates\\_two.html](http://www.lwua.gov.ph/water_rates_08/rates_two.html)  
Chart Table 2-1 Annual Funds Required – Unknown Source  
Anchorage Water & Sewer Rates 2012 [www.awwu.biz/website/Service/water\\_tariff13-2.htm](http://www.awwu.biz/website/Service/water_tariff13-2.htm)  
Intergovernmental Agreement for Kachemak /Homer Wastewater System Between Kachemak City and City of Homer, dated August 10, 1988  
KPMG Peat Marwick, Water and Wastewater Utilities Rate Study, February 11, 1991  
Montgomery Watson, Utility Rate Study, August 11, 1997  
City of Homer 2000 Rate Model Matrix – Water & Sewer 2008 Rates Analysis Water & Sewer Enterprise Fund  
City of Kenai Water & Sewer Rate Study Prepared by Kurt Playstead, CH2M HILL, February 7, 2011  
M54: Developing Rates for Small Systems, The American Water Works Association, Copyright 2004  
City of Soldotna Water & Sewer Rate Study Prepared by HDR Engineering (No date)

## APPENDIX

Resolution 12-027(A), Establishing a Water & Sewer Rate Task Force  
Resolution 11-094(S), Maintaining the City of Homer Fee Schedule at the Current Rates and Amending Customer Classifications in the Water & Sewer Rate Schedules  
Ordinance 11-43, Amending HCC 14.08.037, Water Meters Regarding Number of Meters Per Lot  
Resolution 11-062(A) Maintaining the City of Homer Fee Schedule Under Water and Sewer Fees.  
Resolution 04-94(S)(A), Amending Homer Fee Schedule Regarding Water Rates  
Resolution 04-95, Amending Homer Fee Schedule Regarding Sewer Rates  
Excerpt from City Council Minutes regarding Resolution 04-94(S) & Resolution 04-95  
Resolution 05-121(A), Amending the City of Homer Fee Schedule Regarding Water Rates  
Resolution 05-122, Amending the City of Homer Fee Schedule Regarding Sewer Rates

Information Provided by Finance Department  
City of Homer Year End 2011 Utility Special Revenue Fund  
2011 Balance Sheet  
Classifications & Average Monthly Usage for 2011  
Actual Random Sample Invoices depicting various gallonage used for comparison  
Depreciation Reserves Requirements  
2012 Operating Budget Water & Sewer  
Staff time to produce Invoice  
How Budget Numbers are calculated  
Year to Date figures Water & Sewer June 2012  
Year to Date figures Water & Sewer August 2012  
City of Homer 2012 Operating Budget Fund 200 – Water & Sewer Special Revenue Fund  
Fund 400 - Water Fund Administration, Fund 400 Water & Fund 500 Sewer Fund Revenues

Information Provided by Public Works  
How Fire Protection Affects the Water System – Public Works  
Spit Water Overhead & Maintenance Costs  
Flushing Fire Hydrants & Water Mains  
2011 Average Water Usage By Classification  
Water Treatment Plant Flows in Millions of Gallons  
Maps Indicating Lift Station Locations and Areas Served  
Number of Gallons of Water delivered to the spit Annually  
Approximate Amounts returned to Water Treatment Plant  
Meter Sizes & Number of Each Size  
Gallonage in the Harbor