

ATTACHMENT A  
SEASIDE BASIN WATERMASTER  
REQUEST FOR SERVICE

DATE: 2/7/08

RFS NO. 2008-01

(To be filled in by WATERMASTER)

TO: Derrick Williams

FROM: Robert Jaques

Services Needed and Purpose: See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2008, and shall be performed in accordance with the Schedule contained in Attachment 2.

Method of Compensation: Time and ~~Materials~~ <sup>EXPENSE PAYMENT METHOD p 5</sup> (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: \$ 145,530.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 3 for Detailed Breakdown of Estimated Costs).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: Robert S. Jaques Date: 2/7/08  
WATERMASTER Technical Program Manager

Authorized by: [Signature] Date: \_\_\_\_\_  
2/7/08 WATERMASTER Chief Executive Officer

Agreed to by: Derrick Williams Date: \_\_\_\_\_  
Feb 4 2008

PROFESSIONAL

Note: Regardless of the use of the term "Estimated Cost" in this RFS, if the work of this RFS is to be compensated for using Lump Sum Payment method, it is understood and agreed to by PROFESSIONAL that the Total Price listed on page A-1 of this RFS is binding and limiting as defined in Section V of the Agreement.

# ATTACHMENT 1

## SCOPE OF WORK

The Scope of Work will yield three distinct documents with discreet and limited purposes:

- **Basin Management Action Plan (BMAP):** Develops a generalized outline for both short-term and long-term basin management which can be implemented over the coming years. The purpose of the BMAP will be to optimize the Natural Safe Yield of the Basin and to balance the recharge and extractions from the Basin.
- **Seawater Intrusion Response Plan (SIRP):** Protects the Seaside Groundwater Basin in the event of incipient seawater intrusion. The purpose of the SIRP will be to have a plan in place, ready to be implemented in the event seawater intrusion is detected within the Basin.
- **Seawater Intrusion Analysis Report (SIAR):** Reports on current water quality conditions in the Seaside Basin

The specific tasks to develop the BMAP, the SIRP, and the SIAR are presented below.

### Task 1: Develop Basin Management Action Plan

The Basin Management Action Plan (BMAP) constitutes the basic plan for managing the Seaside Groundwater Basin. The BMAP identifies both short-term actions and long-term plans intended to protect the groundwater resource while maximizing the beneficial use of groundwater in the basin. It provides the WATERMASTER a logical set of actions that can be undertaken to manage the basin for its maximum yield. Subtasks that HydroMetrics LLC will undertake to develop and produce the BMAP are detailed below.

**Subtask 1.1: Update Basin Geology and Water Budget.** The Basin geology and water budget provide the conceptual basis for our understanding of the state of the basin. Components of the water budget include estimates of Natural Safe Yield, the recent Operating Yield, estimates of Primary and Secondary Recharge, and the Total Usable Storage Space. All of these concepts will be updated based on recent data. In particular, the following will be analyzed:

- **Geologic Framework.** The geologic framework of the Basin will be updated based on the information collected in the recent sentinel well drilling program. This update fulfills one of the recommendations in the report on the sentinel wells project (Feeney, 2007). The sentinel well data will be integrated into a comprehensive subsurface geologic framework.
- **Storage Capacity and Recharge.** Estimates of the estimated usable storage space (sometimes referred to in the *Adjudication Decision* as “Total Usable Storage Space”) and natural recharge will be updated. A conceptual model of groundwater storage capacity, describing the physical mechanisms by which water is stored in the Basin and addressing important spatial and temporal aspects of storing and withdrawing

water will be provided. Quantitative estimates of total and usable storage capacity in the Seaside Basin, and updated estimates of primary and secondary recharge based on the most recent data, will be documented. A discussion of techniques for estimating “efficiencies of Storage” in the Basin, as described in the *Adjudication Decision*, will be provided.

- **Groundwater Extractions.** The natural safe yield and the operating yield of the Basin will be updated. The hydrogeologic information obtained from construction of the new sentinel wells, as well as from other existing wells and previously prepared reports, will be taken into account in performing this work, as will the monitoring data from all of these wells. The WATERMASTER will provide the PROFESSIONAL access to the WATERMASTER’s comprehensive database of well construction, monitoring, and production data for the PROFESSIONAL’s use in performing this work.
- **Material Injury.** Based on the water level and water quality data, PROFESSIONAL will make a determination of whether or not any “Material Injury” is occurring, or is likely to occur, to the Basin, as defined on page 12 of the *Adjudication Decision*. If Material Injury is occurring, or is likely to occur, then a modified Operating Yield shall be determined to mitigate such injury.

The results of this subtask will be incorporated as Chapter 2 of the BMAP.

***Subtask 1.2: Update Analysis of Long-Term Water Supply Solutions.***

Using information available from project proponents, including but not limited to projects proposed by California American Water, Monterey Regional Water Pollution Control Agency, Monterey Peninsula Water Management District, the City of Sand City, and the California Public Utilities Commission, the status of proposed non-potable replenishment or out-of-basin import supplies will be reviewed. The updated analysis of long-term water supply solutions will include:

- Summarizing these projects’ costs and environmental documentation as available
- Providing an overview of distribution and delivery system improvements required for implementation
- Reviewing mandatory conservation efforts being implemented by the MPWMD and California American Water
- Assessing non-potable water resources
- Assessing out-of-Basin imports
- Assessing the timing and feasibility of these projects as potential replenishment sources, taking into account issues pertaining to environmental constraints, costs, regulatory acceptance, and public acceptance

The results of this subtask will be incorporated as Chapter 3 of the BMAP

***Subtask 1.3: Develop Local Groundwater Management Actions.*** Both before and after the supplemental water supplies become available, a number of management actions can extend the life of the Seaside Groundwater Basin and maximize the use of groundwater

stored in the basin. Local groundwater management actions are those that the WATERMASTER could undertake to optimize the storage capacity of the Seaside Basin. Each groundwater management action will be analyzed in terms of how it meets various basin management objectives including:

- Minimizing local drawdown
- Reducing the threat of seawater intrusion
- Optimizing the usable storage of the Seaside Basin

A preliminary list of groundwater management actions that will be considered include:

- Reallocating pumping among existing wells
- Installing new municipal wells
- Transferring groundwater between users or sub-basins
- Initiating voluntary or mandatory cutbacks
- Inter-basin transfers

These actions will be developed by the PROFESSIONAL in coordination with staff from the WATERMASTER and the WATERMASTER's TAC. The actions will cover groundwater management throughout the Seaside Basin, including the Ryan Ranch area. Each action will be accompanied by a plan for how the action might be implemented.

The results of this subtask will be incorporated as Chapter 4 of the BMAP

***Subtask 1.4: Rank Actions and Develop the Basin Management Action Plan.*** After developing the local groundwater management actions, the PROFESSIONAL will meet with staff from the WATERMASTER to rank the various actions. This meeting will allow the WATERMASTER to understand the proposed actions and modify the implementation plans before they are drafted into the BMAP. Additionally, the PROFESSIONAL will identify which of the supplemental supply projects should be pursued, and the likely schedule for implementation of each of these projects. It is anticipated that the WATERMASTER may initially need to pursue multiple supplemental supply options to ensure that an adequate water supply is available.

The various components of a BMAP will be developed under this task, in coordination with the WATERMASTER's staff. The detailed BMAP will summarize the work described above, and will present conclusions and recommendations for management of the Basin. The BMAP will include development of concrete steps for implementation of these recommendations over specific time-periods, including near-term and long-term actions. Components that will be developed include:

- Ranking the management actions.
- Identifying the superior supplemental supply solutions.
- Developing techniques for estimating efficiencies of storage.
- Recommending tools and techniques for Basin management. This will include discussions on the status of the database and utility and need for using the

Groundwater Model developed by Tim Durbin as a basin management tool. This section updates the *Groundwater Model Report* prepared by Hydrometrics in 2007

- Recommendations and suggestions for continued monitoring. This section will support, and build on (as necessary) the recommendations contained in Attachment 9 of the WATERMASTER's 2007 *Annual Report*.

A schedule will be developed that outlines steps the WATERMASTER can take to manage the Seaside Groundwater Basin. The schedule will include both short-term actions, as well as actions that lead to securing a supplemental supply.

The results of this subtask will be incorporated as Chapters 5 and 6 of the BMAP.

***Subtask 1.5: Draft and Finalize the Basin Management Action Plan.*** The following is an outline of the BMAP. The Draft BMAP will be provided to the WATERMASTER for review. The WATERMASTER will provide its review comments and those of its TAC members, consolidated into a single document, and the PROFESSIONAL will address all of these comments in a Final BMAP. The PROFESSIONAL will provide the WATERMASTER two CDs containing an electronic version of the entire Draft and Final BMAPs, along with 15 printed and bound copies of both the Draft and Final BMAPs.

### **Outline of BMAP**

***Section 1 – Background and Purpose.*** This is a short section that sets out the necessary background for the BMAP. This section will serve to show how the WATERMASTER is taking the necessary and logical steps in managing the Seaside Basin by developing the BMAP. The relevant parts of the *Adjudication Decision* will be cited to provide justification for the report. Other documents, such as the Monitoring and Management Program will be further cited to demonstrate that the BMAP is part of a logical basin management strategy.

***Section 2 – Conceptual Model of the Seaside Basin.***

***Section 2.1 – Geologic Structure.*** This section will update the geologic framework of the Seaside Basin, incorporating results from the 2007 sentinel well drilling program.

***Section 2.2 – Groundwater Recharge.*** This section will update the Basin's estimated Natural Yield. Updated estimates of primary and secondary recharge will be detailed in this section

***Section 2.3 – Groundwater Extractions.*** This section will update the Basin's current operating yield. Groundwater Production data included in the WATERMASTER's 2007 *Annual Report* will be compared with data from previous years to demonstrate the evolution of the operating yield. Carryover credits will be discussed in this Section.

***Section 2.4 – Subsurface Inflows and Outflows.*** Subsurface inflows and outflows will be identified, and quantified to the extent possible. These quantifications may have substantial margins of error, which will be noted.

**Section 2.5 – Groundwater in Storage.** The amount of total groundwater in storage, usable groundwater in storage, and changes from the previous year will be detailed. These estimates will provide the WATERMASTER with the Total Usable Storage Space of the Basin.

**Section 2.6 – State of the Basin.** This final section is a concluding narrative that summarizes the status of the groundwater resources in the Seaside Basin, and identifies whether material injury has occurred as defined by the *Adjudication Decision*.

**Section 3 – Long-Term Water Supply Solutions.** The long-term water supply solutions comprise the supplemental water supply options available to the WATERMASTER. A sub-section will be included for each potential supplemental supply project.

**Section 4 – Local Groundwater Management Actions.** The actions identified in this section will be groundwater management activities that are independent of a new source of water. These actions may have a number of objectives including:

- Extending the life of the Seaside basin prior to developing the supplemental supplies.
- Optimizing the existing natural recharge and basin storage capacity
- Managing and reducing the near-term threat of seawater intrusion

As with the long-term water supply solutions, a sub-section will be included for each potential groundwater management action. Each action will be analyzed by its potential to meet one or more of the objectives listed above, and each action will be accompanied by a plan for how the action might be implemented. The actions will include at a minimum:

- Installing new wells
- Mandatory pumping reductions due to overdraft
- Ryan Ranch system production capacity issues and a range of options to resolve this problem.

**Section 5 – Recommended Management Strategy.** Based on the information presented in Sections 2, 3, and 4, as well as meetings with the WATERMASTER, a generalized management strategy will be developed. The management strategy will include the following elements:

- Recommending management actions.
- Recommending supplemental supply strategies.
- Recommending techniques for estimating efficiencies of storage.
- Recommending tools and techniques for Basin management.
- Recommendations and suggestions for continued monitoring.

- Reiterating the requirement for annual reporting.

**Section 6 – Implementation Plan and Schedule.** A time line will show when the WATERMASTER should implement the recommended management actions, and when the supplemental water supply projects are anticipated to become operational. The schedule will serve to demonstrate how the WATERMASTER will bring the Seaside Basin into hydrologic balance. The schedule will acknowledge the technical and financial uncertainties inherent in the Basin’s management.

## Task 2: Develop Seawater Intrusion Response Plan

The Seawater Intrusion Response Plan (SIRP) details actions that will be set in motion in the event of incipient seawater intrusion. The purpose of the plan is to reduce and prevent further degradation of the Seaside Basin by curtailing and redistributing groundwater pumping. The purpose of the SIRP is not to identify supplemental water supplies that can be used in event of seawater intrusion, since those are discussed in the BMAP. The SIRP will be designed to be used in conjunction with the BMAP. While the SIRP will require reductions in pumping, the BMAP will identify supplemental water supplies and basin management actions that may curtail seawater intrusion. The SIRP will likely include implementing the measures detailed in Exhibit A of the *Adjudicated Decision*.

The SIRP will build on the *Contingency Plan for Seawater Intrusion, Seaside Basin*, developed by Dr. Steve Bachman (2005a), and the subsequent *Seaside Basin – Principles of Settlement* (Bachman, 2005b). Additionally, the SIRP will explicitly acknowledge and be consistent with the Monterey Peninsula Water Management District’s (MPWMD) *Expanded Water Conservation and Standby Rationing Plan*.

The SIRP will be designed to protect the Seaside Groundwater Basin in a way that is practical and realistic. Subtasks that the PROFESSIONAL will undertake to develop and produce the SIRP are detailed below.

**Subtask 2.1: Review and Compare Relevant Documents.** The SIRP must be consistent with a number of existing documents. The following five documents in particular will be reviewed and compared to ensure that the plan is consistent with all of them::

- *Adjudication Decision*
- *Expanded Water Conservation and Standby Rationing Plan*
- *Contingency Plan for Seawater Intrusion, Seaside Basin*
- *Seaside Basin – Principles of Settlement*
- *Seawater Intrusion Analysis Report, Seaside Basin*

If it is found that the existing documents are not consistent with each other, the PROFESSIONAL will first ensure consistency with the *Adjudication Decision*. The PROFESSIONAL will then ensure consistency with existing policies, and finally ensure consistency with principles and unpublished plans. The results of this review will be

incorporated into Section 1 of the SIRP.

**Subtask 2.2: Develop Contingency Plan.** The contingency plan constitutes the bulk of the SIRP. Under this subtask, the PROFESSIONAL will develop both the triggers that indicate seawater intrusion, and the actions that will ensue if seawater intrusion is detected. The contingency plan will include the following:

- A detailed discussion of seawater intrusion indicators.
- General seawater intrusion triggers that can be applied to all wells. These may be water level triggers or water quality triggers.
- Specific numerical seawater intrusion triggers at specific wells, where applicable.
- Necessary pumping reductions should seawater intrusion be identified. As with the *Contingency Plan for Seawater Intrusion*, the pumping reductions will be focused in the area of the seawater intrusion. This section will address the issue of salinity detection and mandatory pumping reductions highlighted in the Adjudication Decision.
- Discussions of additional pumping redistribution strategies to avoid adverse impacts within the Basin. These strategies will include at a minimum:
  - Reduced groundwater delivery, along with a discussion of impacts and solutions
  - Substitution of alternative supplies for Basin groundwater, including in lieu recharge and voluntary pumping reductions
  - Water banking
  - Development of a salinity barrier system
  - Pumping variability
  - Direct aquifer replenishment of pumping in excess of Basin Natural Safe Yield

The results of this subtask will be incorporated into Sections 1 and 2 of the SIRP.

**Subtask 2.3: Draft and Finalize SIRP.** The following is an outline of the SIRP. The Draft SIRP will be provided to the WATERMASTER for review. The WATERMASTER will provide its review comments and those of its TAC members, consolidated into a single document, and the PROFESSIONAL will address all of these comments in a Final SIRP. The PROFESSIONAL will provide the WATERMASTER two CDs containing an electronic version of the entire Draft and Final SIRPs, along with 15 printed and bound copies of both the Draft and Final SIRPs.

### **Outline of the SIRP**

**Section 1 – Background and Purpose.** This is a short section that sets out the necessary background for the plan. This section will serve to show how the WATERMASTER is taking the necessary and logical steps in managing the Seaside Basin by developing the SIRP. This section will identify and review the relevant documents that form the basis of the SIRP.

**Section 2 – Indicators of Seawater Intrusion.** Seawater intrusion must be identified before the response plan can be implemented. This section presents general indicators of seawater intrusion, and discusses how to identify incipient seawater



intrusion. Indicators that are relevant to the Seaside Basin will be highlighted. If possible, specific numerical targets suggesting seawater intrusion will be presented.

**Section 3 – Contingency Plan.** This section outlines the specific actions that should be implemented, should seawater intrusion be detected. The actions will generally follow those outlined in the *Contingency Plan for Seawater Intrusion* (Bachman, 2005a). As with the *Contingency Plan for Seawater Intrusion*, the actions will be grouped by severity of intrusion and location of intrusion.

### Task 3: Update the 2007 Seawater Intrusion Analysis Report

As an initial step the PROFESSIONAL will first elicit feedback on the 2007 Seawater Intrusion Analysis Report (SIAR) from the WATERMASTER. Feedback on the SIAR format, scope, and clarity will all be requested. The intention of obtaining feedback is to ensure that the SIAR acquires a simple and acceptable format that can easily be updated each year.

To promote efficiency, much of the text and graphics from the 2007 SIAR will be incorporated directly into the updated report. Notable changes that will be incorporated into the updated report will include:

- Updating charts, graphs, and maps to reflect the most recent sampling and water level data.
- Analyzing the quarterly electric induction logs from the newly installed sentinel wells to look for evidence of seawater intrusion.
- Incorporating data from new well locations which may be added to the WATERMASTER's enhanced monitoring well network.

Updating the 2007 SIAR will involve reanalyzing all water quality data at the end of Water Year 2007-2008 (October 1, 2007 to September 30, 2008) and producing semi-annual chloride concentration maps for each aquifer in the Basin. Time series graphs, trilinear graphs, and stiff diagram comparisons will be updated with new data. The annual EM logs will be analyzed to identify changes in seawater wedge locations. Potential seawater intrusion will be highlighted in the updated report, and recommendations will be included as warranted. Annual chloride concentration contour maps will be produced, including data from the new sentinel wells and analyses of the water quality data from these wells, to determine whether or not seawater intrusion is occurring at the locations of these wells.

The Draft 2008 Updated SIAR will be provided to the WATERMASTER for review. The WATERMASTER will provide its review comments and those of its TAC members, consolidated into a single document, and the PROFESSIONAL will address all of these comments in a Final 2008 Updated SIAR. The PROFESSIONAL will provide the WATERMASTER two CDs containing an electronic version of the entire Draft and Final 2008 Updated SIARs, along with 15 printed and bound copies of both the Draft and Final 2008 Updated SIARs.

#### Task 4: Meetings and Presentations

As the work described in Tasks 1, 2, and 3 is being performed there will be periodic meetings and presentations with the WATERMASTER. These meetings will help keep the project on schedule and on budget by obtaining buy-in from the WATERMASTER and its TAC and Board at key junctures. These meetings may include:

- Meeting with the WATERMASTER's TAC to review the local groundwater management actions for technical feasibility
- Meeting with the WATERMASTER's Board to present and develop consensus on the local groundwater management actions developed under subtask 1.3.
- Meetings with the WATERMASTER's TAC to review the various Draft reports.
- Meetings with the WATERMASTER Board to present the various reports

The key meetings are included in the Schedule contained in Attachment 2 of this RFS.

#### Task 5: Ongoing Hydrogeologic Support

The BMAP, SIRP, and Updated SIAR are three key documents that the WATERMASTER must produce in 2008. However, there may be additional hydrogeologic work that the WATERMASTER will wish to have the PROFESSIONAL perform during 2008. Examples may include work such as:

- Database upkeep and data entry
- Overseeing quarterly electric induction logging of the new sentinel wells
- Preparing information for WATERMASTER TAC and Board meetings
- Installing additional monitoring wells
- Assisting with public information dissemination
- Implementing suggestions included in the BMAP

An allowance for the possible performance of such additional work has been included in the Detailed Breakdown of Estimated Costs contained in Attachment 3 to this RFS. However, no charges to the cost allowance for this Task 5 are to be made by the PROFESSIONAL unless and until a specific written authorization to do so has first been issued to the PROFESSIONAL by the WATERMASTER.

ATTACHMENT 2  
SCHEDULE

## Seaside Basin WaterMaster Monitoring and Management Program 2008 Work Schedule

ID	Task Name	2008															
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	<b>CRITICAL PROJECT MILESTONES ASSOCIATED WITH TAC, BOARD, AND/OR CONSULTANT WORK</b>																
2	2008 Administration, Operations and Replenishment Budgets Due																
3	Respond to November 26, 2007 Court Order																
4	TAC Develops Specific Action Plan to Cure Deficiencies																
5	TAC Prepares Draft Notice to Well Owners																
6	TAC Prepare Draft Specific Action Plan																
7	Board Approves Specific Action Plan to Cure Deficiencies																
8	Supplemental Water Level and Water Quality Data Collected and Compiled																
9	Preparation of Draft Response to Court Including Supplemental Water Level and Water Quality Information and Final Specific Action Plan																
10	Board Approves Draft Response to Court																
11	Watermaster Submits Final Response to Court																
12	Watermaster Submits Quarterly Water Production, Water Level, and Water Quality Reports to Judge																
17	Replenishment Assessments for Water Year 2009																

## Seaside Basin WaterMaster Monitoring and Management Program 2008 Work Schedule

ID	Task Name	2008															
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
18	TAC Develops Replenishment Assessment Unit Cost for 2009 Water Year																
19	TAC Approves 2009 Water Year Replenishment Assessment Unit Cost																
20	Board Declares 2009 Water Year Replenishment Assessment Unit Cost																
21	<b>Replenishment Assessments for Water Year 2008</b>																
22	Watermaster Prepares Replenishment Assessments for Water Year 2008																
23	Watermaster Board Approves Replenishment Assessments for Water Year 2009																
24	Watermaster Levies Standard Replenishment Assessment for 2008																
25	<b>2008 Annual Report</b>																
26	Watermaster Prepares Draft 2008 Annual Report																
27	TAC Provides Input on Draft 2008 Annual Report																
28	Watermaster Prepares Revised Draft 2008 Annual Report (Incorporating TAC Input)																
29	Board Provides Input on Revised Draft 2008 Annual Report																
30	Watermaster Prepares Final 2008 Annual Report (Incorporating Board Input)																
31	Watermaster Submits Final 2008 Annual Report to Judge																

## Seaside Basin WaterMaster Monitoring and Management Program 2008 Work Schedule

ID	Task Name	2008															
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	<b>MANAGEMENT</b>																
33	<b>M.1 PROGRAM ADMINISTRATION (All Work Performed by Watermaster Staff)</b>																
34	<b>IMPLEMENTATION</b>																
35	<b>I.1 CONSTRUCT MONITORING WELLS (CAW ASR MONITORING WELLS)</b>																
36	Resolve ASR Monitoring Well Permitting/Approval Issues																
37	ASR MW Construction (by CWP)																
38	<b>I.2 COMPREHENSIVE BASIN PRODUCTION, WATER LEVEL, AND WATER QUALITY MONITORING PROGRAM</b>																
39	<b>I.2.a Conduct Ongoing Data Entry/Database Maintenance (Data Entry by MPWMD &amp; Watermaster; Database Maint. By RBF; QA/QC by MPWMD with Assistance from MCWRA)</b>																
40	<b>I.2.b Data Collection Program Enhancements</b>																
41	<i>I.2.b.1 Site Representation &amp; Selection (MPWMD)</i>																
42	<i>I.2.b.2 Collect Monthly Water Levels for 2008 (MPWMD)</i>																
43	<i>I.2.b.3 Collect and Analyze Quarterly Water Quality Samples for 2008 (MPWMD)</i>																
48	<i>I.2.b.4 Update Program Schedule and Standard Operating Procedures (MPWMD &amp; MCWRA)</i>																

## Seaside Basin WaterMaster Monitoring and Management Program 2008 Work Schedule

ID	Task Name	2008															
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
51	TAC Provides Input on Updating Schedule and SOPs							◆				◆					
54	<b>I.2.c Reports</b>																
55	Water Quality & Water Level Quarterly Reports for 2008 (MPWMD Prepares Reports; MCWRA Provides Review Comments)		□			□				□		□					
60	Annual Water Quality & Water Level Summary Report (MPWMD Prepares Report; MCWRA Provides Review Comments)												□				
61	<b>I.3 BASIN MANAGEMENT</b>																
62	<b>I.3.a Enhanced Seaside Groundwater Basin Model (No Action Required in 2008)</b>																
63	<b>I.3.b Prepare Basin Management and Action Plan</b>																
64	Watermaster Staff Prepares Draft Request for Proposals (RFP), and List of Potential Consultants from Whom Proposals will be Solicited, for Consultant Services for Preparation of Basin Management Action Plan and Sea Water Intrusion Contingency Plan			Completed													
65	TAC Reviews Draft RFP and List of Potential Consultants from Whom Proposals will be Solicited for Consultant Services for Preparation of Basin Management Action Plan and Sea Water Intrusion Contingency Plan			Completed													
66	TAC Approves RFP and Consultant List			Completed													
67	Watermaster Staff Sends Out RFPs (Revised with TAC Input)			Completed													

## Seaside Basin WaterMaster Monitoring and Management Program 2008 Work Schedule

ID	Task Name	2008															
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
68	Pre-Proposal Telephone Conference				Completed												
69	Proposals Due & Distributed to TAC Review Subcommittee Members (Subcommittee appointed at 1/9/08 TAC meeting)				Completed												
70	TAC Subcommittee Reviews Proposals				Completed												
71	TAC Review Subcommittee Decides if Interviews are Necessary				Completed												
72	Consultants Notified to Attend Interviews (if Necessary)				Interviews Not Necessary												
73	Subcommittee Holds Consultant Interviews (if Necessary)				Interviews Not Necessary												
74	TAC Approves Subcommittee's Consultant Selection Recommendation (by email)					1/18											
75	Initial Contract Negotiations with Selected Consultant(s)																
76	Board Authorizes Award of Contract(s) to Selected Consultant(s) for Not-to-Exceed Amounts						2/6										
77	Final Contract Negotiations with Selected Consultant(s) and Execution of Contract(s)																
78	<i>1.3.b.1 Supplemental Water Supplies</i>																
79	Consultant Updates Phase 1 Supplemental Water Supplies Analysis																
80	TAC Approves Updated Water Supplies Analysis																
81	<i>1.3.b.2 Pumping Redistribution Strategies</i>																



## Seaside Basin WaterMaster Monitoring and Management Program 2008 Work Schedule

ID	Task Name	2008															
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
82	Consultant Prepares Pumping Redistribution Strategies Report																
83	TAC Approves Pumping Redistribution Strategies Report																
84	<i>I.3.b.3 Basin Storage Capacity &amp; Natural Safe Yield</i>																
85	Consultant Performs Analyses to Determine Basin Storage Capacity and Natural Safe Yield																
86	TAC Approves Basin Storage Capacity and Natural Safe Yield																
87	<b>I.3.c Preparation of Basin Management Action Plan</b>																
88	Consultant Prepares Basin Management Action Plan																
89	TAC Approves Basin Management Action Plan																
90	Board Approves Basin Management Action Plan																
91	<b>I.4 SEAWATER INTRUSION CONTINGENCY PLAN</b>																
92	<b>I.4.a Consultant Provides Oversight of Seawater Intrusion Detection and Tracking</b>																
93	<b>I.4.b Consultant Analyzes and Maps Water Quality from Coastal Monitoring Wells</b>																
94	<b>I.4.c Consultant Prepares Annual Seawater Intrusion Analysis Report</b>																
95	TAC Approves Annual Seawater Intrusion Analysis Report																

## Seaside Basin WaterMaster Monitoring and Management Program 2008 Work Schedule

ID	Task Name	2008															
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
96	Board Approves Annual Seawater Intrusion Analysis Report																◆ 10/1
97	<b>I.4.d Seawater Intrusion Response Plan</b>					◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
98	MPWMD Prepares Interim Seawater Intrusion Response Plan					◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
99	TAC Approves Interim Seawater Intrusion Response Plan						◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
100	Board Approves Interim Seawater Intrusion Response Plan						◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
101	Consultant Prepares Longterm Seawater Intrusion Response Plan																◆ 2/13
102	TAC Approves Longterm Response Plan																◆ 3/5
103	Board Approves Longterm Response Plan																◆ 9/10
																	◆ 10/1

DETAILED BREAKDOWN OF ESTIMATED COSTS

ATTACHMENT 3

Table 1. Labor by Task (hours)

	HydroMetrics LLC		Gus Yates	Martin Feeney	Lew Rosenberg	RMC Consulting	
	Derrick Williams	Cameron Tana				Stephanie Hughes	Ryan Alameda
<b>Task 1: Develop Basin Management Action Plan</b>							
Subtask 1.1: Update Basin Conceptual Model	12		40	40	20		
Subtask 1.2: Update Analysis of Long-Term Water Supply Solutions	16		4			12	50
Subtask 1.3: Develop Local Groundwater Management Actions	40	16	8	16			8
Subtask 1.4: Draft the Basin Management Action Plan	70	20	16	16		8	24
Subtask 1.5: Finalize the Basin Management Action Plan	20	8	4	4		4	8
<b>Task 1 Total</b>	<b>158</b>	<b>44</b>	<b>72</b>	<b>76</b>	<b>20</b>	<b>24</b>	<b>90</b>
<b>Task 2: Develop SIRP</b>							
Subtask 2.1: Review and Compare Relevant Documents	16	4	4				
Subtask 2.2: Develop Contingency Plan	60	20	20	8		4	12
Subtask 2.3: Draft and Finalize SIRP	40	20	12	8			4
<b>Task 2 Total</b>	<b>116</b>	<b>44</b>	<b>36</b>	<b>16</b>	<b>0</b>	<b>4</b>	<b>16</b>
<b>Task 3: Update the 2007 Seawater Intrusion Analysis Report</b>	<b>40</b>	<b>32</b>	<b>16</b>				<b>16</b>
<b>Task 4: Meetings and Presentations</b>	<b>64</b>	<b>18</b>		<b>8</b>		<b>8</b>	<b>8</b>
<b>Task 5: Ongoing Hydrogeologic Support</b>	<b>12</b>		<b>4</b>	<b>4</b>			
<b>Totals</b>	<b>390</b>	<b>138</b>	<b>128</b>	<b>104</b>	<b>20</b>	<b>36</b>	<b>130</b>

Table 2. Cost by Task

	HydroMetrics LLC		Gas Yates	Martin Feeney	Lew Rosenberg	RMC Consulting		Direct Costs	Total Costs
	Derrick Williams	Cameron Tana				Stephanie Hughes	Ryan Alameda		
<b>Task 1: Develop Basin Management Action Plan</b>									
Subtask 1.1: Update Basin Conceptual Model	\$1,740	\$0	\$5,600	\$6,000	\$3,200	\$0	\$0	\$0	\$16,540
Subtask 1.2: Update Analysis of Long-Term Water Supply Solutions	\$2,320	\$0	\$560	\$0	\$0	\$2,520	\$8,250	\$0	\$13,650
Subtask 1.3: Develop Local Groundwater Management Actions	\$5,800	\$2,000	\$1,120	\$2,400	\$0	\$0	\$1,320	\$0	\$12,640
Subtask 1.4: Develop the Basin Management Action Plan	\$10,150	\$2,500	\$2,240	\$2,400	\$0	\$1,680	\$3,960	\$0	\$22,930
Subtask 1.5: Finalize the Basin Management Action Plan	\$2,900	\$1,000	\$560	\$600	\$0	\$840	\$1,320	\$2,000	\$9,220
<b>Task 1 Total</b>	<b>\$22,910</b>	<b>\$5,500</b>	<b>\$10,080</b>	<b>\$11,400</b>	<b>\$3,200</b>	<b>\$5,040</b>	<b>\$14,850</b>	<b>\$2,000</b>	<b>\$74,980</b>
<b>Task 2: Reporting</b>									
Subtask 2.1: Review and Compare Relevant Documents	\$2,320	\$500	\$560	\$0	\$0	\$0	\$0	\$0	\$3,380
Subtask 2.2: Develop Contingency Plan	\$8,700	\$2,500	\$2,800	\$1,200	\$0	\$840	\$1,980	\$0	\$18,020
Subtask 2.3: Draft and Finalize SIRP	\$5,800	\$2,500	\$1,680	\$1,200	\$0	\$0	\$660	\$2,000	\$13,840
<b>Task 2 Total</b>	<b>\$16,820</b>	<b>\$5,500</b>	<b>\$5,040</b>	<b>\$2,400</b>	<b>\$0</b>	<b>\$840</b>	<b>\$2,640</b>	<b>\$2,000</b>	<b>\$35,240</b>
<b>Task 3: Update the 2007 Seawater Intrusion Analysis Report</b>	<b>\$5,800</b>	<b>\$4,000</b>	<b>\$2,240</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,640</b>	<b>\$2,000</b>	<b>\$16,680</b>
<b>Task 4: Meetings and Presentations</b>	<b>\$9,280</b>	<b>\$2,250</b>	<b>\$0</b>	<b>\$1,200</b>	<b>\$0</b>	<b>\$1,680</b>	<b>\$1,320</b>	<b>\$0</b>	<b>\$15,730</b>
<b>Task 5: Ongoing Hydrogeologic Support</b>	<b>\$1,740</b>	<b>\$0</b>	<b>\$560</b>	<b>\$600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,900</b>
<b>Totals</b>	<b>\$56,550</b>	<b>\$17,250</b>	<b>\$17,920</b>	<b>\$15,600</b>	<b>\$3,200</b>	<b>\$7,560</b>	<b>\$21,450</b>	<b>\$6,000</b>	<b>\$145,530</b>

