

## Appendix 1: Comparison of SBx7-7 with AWMC 1999 MOU Process

SBx7-7	AWMC 1999 MOU (Exhibit B)
N/A	Step 1: Coordinate with other agencies and the public
<b>10826.</b> An agricultural water management plan shall be adopted in accordance with this chapter. The plan shall do all of the following: (a) Describe the agricultural water supplier and the service area, including all of the following:	Step 2: Describe the water supplier
(1) Size of the service area.	A. History and size Gross acreage Present irrigated acreage
(2) Location of the service area and its water management facilities	B. Location and facilities Describe the water conveyance and delivery system within the service area by supplying the following information: Miles of unlined canals Miles of lined canals Miles of pipeline Miles of drains Reservoirs – number and capacity
(3) Terrain and soils	C. Terrain and soils Describe the topography of the water supplier's service area (i.e., hilly, flat, sloping to a water course). Indicate the impact of topography and soil conditions on water operations and management within the water supplier service area.
(4) Climate	D. Climate Describe the general climate of the water supplier. Include average precipitation, and maximum and minimum temperatures. If areas within the water supplier's service are known to have significantly different microclimates, describe how they affect water management decisions and operations.
(5) Operating rules and regulations	E. Operating rules and regulations Describe or attach a copy of the water supplier's operating rules and regulations, including water allocation policy, lead time necessary for water orders and water shut-off, any policies regarding return flows, and /or drainage leaving the water supplier's service area, as appropriate.
(6) Water delivery measurements or calculations	F. Water delivery measurement or calculations

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	<p>Describe how water deliveries to customers are currently measured or calculated. Describe the frequency and types of measurements (meters, calibrated weirs, meter gates, other), levels of accuracy, frequency of calibration, and frequency of maintenance.</p>
<p>(7) Water rate schedules and billing</p>	<p>G. Water rate schedules and billing Describe the basis for water charges for agricultural uses. A copy of the water supplier's written operating rules and regulations will suffice if they describe the basis for water charges (i.e., by quantity, acre, crop, land assessment, or other charges).</p> <p>If water use is billed by quantity, describe the rate structure (i.e., declining, uniform, or increasing block rate). Include the billing frequency (i.e., monthly, bimonthly, annually).</p>
<p>(8) Water shortage allocation policies</p>	<p>H. Water shortage allocation policies Does the water supplier have a Water Shortage Allocation Policy? (Yes/No)</p> <p>If yes, attach a copy of the policy.</p> <p>If no, describe how reduced water supplies, including hardship water, are allocated. Describe any water supplier policies that address wasteful use of agricultural water and describe enforcement methods.</p>
<p>(b) Describe the quantity and quality of water resources of the agricultural water supplier, including all of the following:</p>	<p>Step 3: Inventory water resources The intent of this section is to describe the quantity and quality of water resources (sources, uses, return flows, and drainage) of the water supplier in order to form a basis for evaluating improvements by and within the water supplier. Items for evaluation are quantity and quality descriptions of the water supplier's surface water supply, groundwater supply, other water supplies, source water quality monitoring programs, water uses within the water supplier's service area, drainage from the water supplier's service area, and a water budget. In certain circumstances, specific information may not be available. The</p>

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	WMP will describe a process and time table for obtaining relevant information.
(1) Surface water supply	A. Surface water supply Briefly describe the nature and amounts of each of the water supplier's source water supplies (i.e., pre-1914 water rights, CVP Class I water contract for agriculture, SWP water contract for agriculture, exchange contract). Describe any restrictions on the time of diversion. Describe any anticipated changes in the water supplier's surface water supplies during the next five years. Provide the amount of water received from each source for each of the last five years.
(2) Groundwater supply	B. Groundwater supply Describe the general characteristics of the groundwater basin(s) that under lies the water supplier. Provide a map locating water supplier's operated water wells and groundwater recharge areas, if applicable. If the water supplier operates a conjunctive use program, describe it. For managed groundwater basins, attach a copy of the management plan.
(3) Other water supplies	C. Other water supplies Identify any long-term water supplies not described above (i.e., drainage from upstream areas, transfer agreements and other entities).
(4) Source water quality monitoring practices	D. Source water quality monitoring practices Describe any source water quality monitoring practices currently conducted for surface water and groundwater to determine water quality problem(s) that limit(s) use of source water for water supplier purposes.
(5) Water uses within the agricultural water supplier's service area, including all of the following:	E. Water uses within the water supplier's service area Describe water uses within water supplier's service area supported by the water supplier's water supplies (agricultural, environmental, recreational, municipal and industrial, groundwater recharge, exchanges and transfers, and other uses).
(A) Agricultural	1. Agricultural Tabulate the type and acreage of crops grown in the water supplier's service area, evapotranspiration rates for each crop,

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	<p>cultural practices, and the leaching requirement to maintain salt balance in the soil profile. These data will be used in the Water Accounting section.</p>
(B) Environmental	<p>2. Environmental Describe any environmental resources supported by the water supplier's water supplies (i.e., wetlands, vernal pools, streams, wildlife refuges), and the amount of water supplied by the water supplier for these uses.</p>
(C) Recreational	<p>3. Recreational Describe any water-related recreational facilities within the water supplier's service area by type and the amount of water supplied to them.</p>
(D) Municipal and industrial	<p>4. Municipal and industrial Describe any municipal and industrial water use.</p>
(E) Groundwater recharge	<p>5. Groundwater recharge Describe any amount of water used for groundwater recharge, method of recharge.</p>
(F) Transfers and exchanges	<p>6. Transfers and exchanges Describe any amount of water that is transferred and/or exchanged into or out of the water supplier's service area, and identify the uses. Describe any other significant water transactions, such as trades, wheeling, etc.</p>
(G) Other water uses	<p>7. Other water uses Describe any other uses of water.</p>
(6) Drainage from the water supplier's service area	<p>F. Drainage from the water supplier service area Identify where surface and subsurface drainage goes (i.e., to wildlife refuge or other wildlife habitat, beneficial reuse within the service area, discharge to a river or other water course, another water service area, a groundwater aquifer, a saline since, or evaporation ponds). If drainage leaves the service area and is reused, identify the discharge location and quantity. Describe any water quality monitoring programs for surface or subsurface drainage water (frequency of measuring and analyses performed). Identify any measure constituents (i.e., selenium, boron, pesticides) that limit reuse of the drainage water. Describe any usage limitation resulting from the drainage water</p>

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	quality.
(7) Water accounting, including all of the following:	G. Water accounting Tabulate a water supply inventory for the water supplier based on a representative water supply year. Identify the basis used to develop the water supplier's representative water supply year.
(A) Quantifying the water supplier's water supplies	<ol style="list-style-type: none"> <li>1. Quantify water supplier's water supplies           <ol style="list-style-type: none"> <li>a. All surface water supplies, imported to or originating within the water supplier's service area, by month.</li> <li>b. Groundwater extracted by the water supplier, by month.</li> <li>c. Effective precipitation, annually.</li> <li>d. Estimated groundwater by non-water supplier parties within water supplier's boundaries (if records are not available, provide an estimate and basis for estimation).</li> <li>e. Recycled water.</li> <li>f. Other water supplies.</li> </ol> </li> </ol>
(B) Tabulating water uses	<ol style="list-style-type: none"> <li>2. Tabulate water uses           <ol style="list-style-type: none"> <li>a. Applied water.</li> <li>b. Consumptive used by crop evapotranspiration and riparian vegetation.</li> <li>c. Seepage, evaporation, and operational spills.</li> <li>d. Water used for leaching, cultural practices (i.e., frost protection, soil reclamation).</li> <li>e. Municipal and industrial water use, if any.</li> </ol> </li> </ol>

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	<ul style="list-style-type: none"> <li>f. Any water used for environmental purposes (including instream flows and wildlife habitat).</li> <li>g. Any water used for recreational purposes.</li> <li>h. Groundwater recharge/conjunctive use.</li> <li>i. Water exchanges or transfers.</li> <li>j. Estimated deep percolation.</li> <li>k. Any flows to saline sink or perched water table.</li> <li>l. Totaled recycled water, if any.</li> <li>m. Any water leaving the water supplier's service area.</li> <li>n. Other</li> </ul>
(C) Overall water budget	<p>3. Overall water budget Using the water supply and water use data tabulated above, prepare a water budget summary that quantifies to the best of your ability: 1) Water supply delivered into the service area (surface and groundwater), 2) Crop water use, 3) Environmental water use, 4) Other beneficial water uses (i.e., leaching, cultural practices, M&amp;I, recreation, etc.), 5) Evaporative and consumptive riparian vegetation losses, 6) Nonrecoverable percolation losses, 7) Recoverable and nonrecoverable surface and subsurface outflows.</p>
(8) Water supply reliability	<p>H. Supply reliability Discuss the need for firmness of supply based upon factors of importance to the water supplier.</p>
(c) Include an analysis, based on available information, of the effect of climate change on future water supplies	<b>N/A</b>
(d) Describe previous water management activities	<b>N/A</b>
(e) Include in the plan the water use efficiency information	Step 5: Identify efficient water management practices

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<p>required pursuant to Section 10608.48</p>	<p>EWMPs are categorized into three groups: (1) those that are generally applicable (Exhibit A, List A), (2) those that are conditionally applicable (Exhibit A, List B), and (3) other EWMPs (Exhibit A, List C). Generally applicable EWMPs are those that will be implemented by all signatory water suppliers unless extraordinary circumstances clearly demonstrate that a practice is inappropriate for a signatory. Conditionally applicable EWMPs will be implemented when they are technically feasible, economically feasible (benefits exceed costs) and financially affordable based upon local conditions, and not environmentally/socially unacceptable. The WMP will document the details on why implementation of any singular EWMP is not justified.</p>
<p><b>10608.48.</b> (a) On or before July 31, 2012, an agricultural water supplier shall implement efficient water management practices pursuant to subdivisions (b) and (c). (b) Agricultural water suppliers shall implement all of the following critical efficient management practices:</p>	<p>Step 8: Implement justified efficient water management practices Intent: to take EWMPs beyond the planning stage into implementation. Because the WMP will be part of the water supplier's operations plan, implementation of the justified EWMPs shall be an integral part of the water supplier's operations.</p>
<p><b>SBx7-7, Chapter 3, Article 1, 10820</b> (a) An agricultural water supplier shall prepare and adopt an agricultural water management plan in the manner set forth in this chapter on or before December 31, 2012, and shall update that plan on December 31, 2015, and on or before December 31 every five years thereafter.</p>	<p><b>Exhibit A, List A</b>  1. Prepare and adopt a Water Management Plan using as a guideline Exhibit B of this Memorandum of Understanding for Agricultural Water Suppliers</p>
<p>10608.48 (a)(1) Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section 531.10 and to implement paragraph (2)</p>	<p><b>Exhibit A, List C</b> 1. Water measurement and water use report.</p>
<p>(2) Adopt a pricing structure for water customers based at least in part on quantity delivered</p>	<p>2. Pricing or other incentives. a. A water supplier may implement a water rate structure which is volumetric, in whole or in part.</p>
<p>(c) Agricultural water suppliers shall implement additional efficient management practices, including, but not limited to, practices to accomplish all of the following, if the measures are locally cost effective and technically feasible:</p>	<p>(see below)</p>
<p>(1) Facilitate alternative land use for lands with exceptionally high</p>	<p><b>Exhibit A, List B</b></p>

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water duties or whose irrigation contributes to significant problems, including drainage	1. Facilitate alternative land use
(2) Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not harm crops or soils	2. Facilitate use of available recycled water that otherwise would not be used beneficially, meets all health and safety criteria, and does not cause harm to crops or soils.
(3) Facilitate the financing of capital improvements for on-farm irrigation systems	3. Facilitate the financing of capital improvements for on-farm irrigation systems.
<b>N/A</b>	4. Facilitate voluntary water transfers that do not unreasonably affect the water user, water supplier, the environment, or third parties.
(4) Implement an incentive pricing structure that promotes one or more of the following goals:	<b>Exhibit A, List C</b>
(A) More efficient water use at the farm level	2. Pricing or other incentives. b. A volumetric rate structure may be tiered, whereby the water supplier sets a higher price for that portion of water applied above crop evapotranspiration, leaching requirement, system evaporation, and other beneficial requirements. This practice penalizes growers who waste water. In areas of over draft, caution must be used to prevent substitution of groundwater pumping as a result of this practice, unless such substitution is a stated purpose of the practice.
(B) Conjunctive use of groundwater	c. A water supplier may implement a pricing arrangement or other financial incentives to improve the conjunctive use of surface and groundwater supplies. For example, in dry years the water suppliers may encourage, through higher prices for surface water, pumping more groundwater and leaving surface water for other beneficial uses such as environmental benefits. Conversely, in wet years pricing may be used to encourage greater use of surface water to facilitate recharge.
(C) Appropriate increase of groundwater recharge	(see above)
(D) Reduction in problem drainage	<b>N/A</b>
(E) Improved management of environmental resources	<b>N/A</b>
(F) Effective management of all water sources throughout the year by adjusting seasonal pricing structures based on current conditions	<b>N/A</b>
(5) Expand line or pipe distribution systems, and construct regulatory reservoirs to increase distribution system flexibility and	<b>Exhibit A, List B</b> 5. Line pipe ditches and canals. (in part)

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capacity, decrease maintenance, and reduce seepage	
(6) Increase flexibility in water ordering by, and delivery to, water customers within operational limits	<b>Exhibit A, List B</b> 6. Increase flexibility in water ordering by, and delivery to, the water users within operational limits.
(7) Construct and operate supplier spill and tailwater recovery systems	7. Construct and operate water supplier spill and tailwater recovery systems.
(8) Increase planned conjunctive use of surface water and groundwater within the supplier service area	8. Optimize conjunctive use of surface and groundwater.
(9) Automate canal control structures.	9. Automate canal structures.
(10) Facilitate or promote customer pump testing and evaluation	
(11) Designate a water conservation coordinator who will develop and implement the water management plan and prepare progress reports	<b>Exhibit A, List A</b> 2. Designate a Water Conservation Coordinator
(12) Provide for the availability of water management services to water users. These services may include, but are not limited to, all of the following:	(see below)
(A) On-farm irrigation and drainage system evaluations	<b>Exhibit A, List A</b> 3a. On-farm irrigation and drainage system evaluation (e.g., mobile labs to help optimize irrigation efficiency and distribution uniformity).
(B) Normal year and real-time irrigation scheduling and crop evapotranspiration information	3b. Normal year and real-time irrigation scheduling and crop evapotranspiration information (e.g., CIMIS data, crop coefficients).
(C) Surface water, groundwater, and drainage water quantity and quality data	3c. Surface water, groundwater, and drainage water quality data.
(D) Agricultural water management educational programs and materials for farmers, staff, and the public	3d. Educational programs and materials for famers, staff, and public (e.g., soil moisture and salinity monitoring, in-school awareness programs, Agwater software, efficient irrigation techniques, crop water budget and other approaches, program delivery via workshops, seminars, newsletters, field days and demonstrations, etc.).
<b>N/A</b>	4. Where appropriate, improve communication and cooperation among water suppliers, water users, and other agencies.
(13) Evaluate the policies of agencies that provide the supplier with water to identify the potential for institutional changes to allow more flexible water deliveries and storage	<b>Exhibit A, List A</b> 5. Evaluate the need, if any, for changes in policies of the institutions to which the water supplier is subject.

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<p>(14) Evaluate and improve the efficiencies of the supplier's pumps.</p>	<p><b>Exhibit A, List A</b>          3e. Water user pump testing and evaluation.          6. Evaluate and improve efficiencies of water suppliers' pumps.</p>
<p><b>N/A</b></p>	<p>Step 6: Develop schedules, budgets, and projected results          Intent: To identify a schedule for program implementation, the estimated budget needed for implementation, and the results from full implementation of the WMP.</p> <p>Items for evaluation include a description of how each practice will be carried out (proposed actions, timetables, budgets, staffing needs), and projected results from full implementation of the practice(s) (i.e., changes in water use, energy usage, chemical inputs, improved yields). Whenever possible, quantify the projected results. It is understood that projected results are estimates based on the best available data and are subject to change, and that the results of some EWMPs can never be quantified.</p>
<p><b>10841.</b> Prior to adopting a plan, the agricultural water supplier shall make the proposed plan available for public inspection, and shall hold a public hearing on the plan. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned agricultural water supplier pursuant to Section 6066 of the Government Code. A privately owned agricultural water supplier shall provide an equivalent notice within its service area and shall provide a reasonably equivalent opportunity that would otherwise be afforded through a public hearing process for interested parties to provide input on the plan. After the hearing, the plan shall be adopted as prepared or as modified during or after the hearing</p>	<p>Step 7: Review, evaluate, and adopt the water management plan          Intent: To identify the process whereby the WMP is developed, reviewed, and adopted by the water supplier's governing board.</p> <p>Signatory water suppliers will develop a WMP that provides the information necessary to implement justified EWMPs. The WMP and updates shall be formally adopted by the water supplier's governing board after public review and comment. The adopted WMP will be considered a business plan which identifies opportunities to improve water management. It is expected that justified EWMPs will be implemented as part of prudent resource management.</p>
<p><b>N/A</b></p>	<p>Step 9: Monitor, evaluate, and update the water management plan          Intent: To ensure implementation of the justified EWMPs, to monitor and evaluate the success of justified EWMPs, to allow for modification and/or revision to the scheduled implementation of the justified EWMPs, and to identify any constraints to EWMP</p>

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	<p>implantation.</p> <p>The status and implementation of each EWMP will be monitored, evaluated, and updated, as required, by the water supplier in the Progress Report (Exhibit C).</p>
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