

EXHIBIT 4-E-4

California American Water, Monterey District

Coastal Water Project

Capital Cost Estimate Basis Summary

Introduction

This summary presents an overview and subsequent tables that support a preliminary capital cost estimate for various components of the Coastal Water Project, as proposed by California American Water. The original basis of the estimated capital costs is derived from a report prepared by JR Conkey & Associates, entitled "Estimate of Probable Construction Costs - California American Water - Coastal Water Project – Regional Project - 2004". This report is identified hereinafter as the "Conkey Report".

It is important to recognize the Conkey Report's capital cost estimates were originally developed based on a Regional, or Alternative, Project concept. At the time the Conkey report was prepared, it was assumed California American Water, Monterey County and other public entities would be involved in some sort of public-private partnership to develop a larger capacity facility. However, for purposes of the Proponents' Environmental Assessment (PEA) being included as a supplement to California American Water's Coastal Water Project application, these estimated capital costs were adjusted accordingly (size and capacity-wise) to now reflect the Proposed Project being presented by California American Water to the California Public Utilities Commission. While California American Water continues to work toward an ultimate implementation of a Regional Alternative project, there is recognition that the many political and legal issues reflecting participation in, governance and financing of a larger regional facility just cannot be addressed with certainty in a reasonable time frame. Therefore, the estimated capital costs in this testimony reflect the Proposed Project, which assumes California American Water will finance and construct the Proposed Project as a stand-alone facility. The capital cost reduction ratio that was applied to reflect an adjustment in size and capacity from the Regional Alternative to the Proposed Project is about 33 percent. This ratio was generally applied "across the board" to the various components of the Proposed Project.

The Conkey Report also reflects an increase to the estimated capital cost of all components by a factor of 18.5 percent to accommodate a general conditions percentage of 3 percent, and a construction overhead and profit percentage of about 15.5 percent. The general conditions percentage includes such items (but not limited to) insurance, bonding, equipment moves, supervision, project management, temporary facilities, general safety equipment, etc.).

Diversion at Disengagement Basin:

The diversion at the disengagement basin construction cost estimate contains costs associated with construction equipment, labor, and materials (pipe, valves, etc.) related to installation, and testing. Reference should be made to **Table 1** for a complete cost breakdown for each component of construction. Both construction equipment and labor costs were obtained from the Conkey Report, specifically page 1 of 38 in the Cost Estimate section. It is also noted that construction equipment was sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. It has been assumed that all conveyance and onsite transmission piping is concrete cylinder pipe (or mortar lined and coated steel pipe), as estimated by Ameron International. The Conkey Report's estimated pipe material costs were substituted with updated costs obtained from Ameron International to reflect the Proposed Project.

Raw Water Pipeline:

The raw water pipeline construction cost estimate contains costs associated with construction equipment, labor, and materials (RCP, valves, etc.) related to right-of-way preparation, installation, and testing. Reference should be made to **Table 2** for a complete cost breakdown for each component of the pipeline installation. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 2-3 of 38 in the Cost Estimate section. It is also noted that construction equipment was sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. It is assumed that reinforced concrete pipe (RCP), as estimated by Ameron International, will be used for the raw water pipeline. The Conkey Report's estimated pipe material costs were substituted with updated costs obtained from Ameron International to reflect the Proposed Project.

Equalization Basin:

The equalization basin construction cost estimate contains costs associated with construction equipment, labor, electrical equipment (SCADA, I&C, etc.), and materials (concrete, rebar, pipe, valves, etc.) related to excavation, construction, and installation. Reference should be made to **Table 3** for a complete cost breakdown for each component of construction. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 4-5 of 38 in the Cost Estimate section. It is also noted that construction equipment and building materials (concrete, aggregate, form material, rebar, etc.) were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The Conkey Report's estimated pipe material costs were substituted with updated costs obtained from Ameron International to reflect the Proposed Project.

Plant Inlet Screens and Pumping Pit:

The plant inlet screens and pumping pit construction cost estimate contains costs associated with construction equipment, labor, electrical equipment (SCADA, I&C, etc.), and materials (concrete, rebar, pipe, pumps, screens, etc.) related to excavation, construction, and installation. Reference should be made to **Table 4** for a complete cost breakdown for each component of construction. Both construction equipment and labor costs were obtained from the Conkey Report, specifically page 8 of 38 in the Cost Estimate section. It is noted that construction equipment and building materials (aggregate, concrete, form material, rebar, etc.) were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The Conkey Report's estimate of pump costs was substituted with updated costs obtained from local pump suppliers to reflect the Proposed Project. The cost estimate for two (2) Link-Belt®

through flow traveling water screens (300 micron openings) was obtained from USFilter (Envirex Products Division).

Return Flow (Brine) Pipeline:

The return flow (brine) pipeline construction cost estimate contains costs associated with construction equipment, labor, and materials (pipe, valves, etc.) related to right-of-way preparation, installation, and testing. Reference should be made to **Table 5** for a complete cost breakdown for each component of the pipeline installation. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 14-15 of 38 in the Cost Estimate section. It should be noted that construction equipment was sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. It is assumed that all conveyance and onsite transmission piping is concrete cylinder pipe (or mortar lined and coated steel pipe), as estimated by Ameron International. The Conkey Report's estimated pipe material costs were substituted with updated costs obtained from Ameron International to reflect the Proposed Project.

Wash Water Treatment/Recovery:

American Water Pridesa (AW Pridesa) generated the mechanical equipment costs for the Wash Water Treatment Recovery process at the desalination plant. AW Pridesa's cost estimate was based on a regional size project in 2004 dollars (see Pridesa Estimate). In order to estimate the construction costs for the Proposed Project in 2005 dollars, the 2004 estimates were decreased by 33 percent to accommodate for the size and capacity reduction. The 2004 capital cost estimate was then inflated by 4 percent to obtain the current 2005-dollars. It should be noted that an additional \$50,000 was added to the overall cost estimate to accommodate for infrastructure to house the equipment. Reference should be made to **Table 6** for a complete cost breakdown for each component of construction.

Solids Dewatering/Handling:

AW Pridesa generated the mechanical equipment costs for the Solids Dewatering process at the desalination plant. AW Pridesa's cost estimate was based on a regional size project in 2004 dollars (see Pridesa Estimate). In order to estimate the construction costs for the Proposed Project in 2005 dollars, the 2004 estimates were decreased by 33 percent to accommodate for the size and capacity reduction. The 2004 capital cost estimate was then inflated by 4 percent to obtain the current 2005-dollars. Reference should be made to **Table 6** for a complete cost breakdown for each component of construction.

RO CIP Effluent Treatment:

AW Pridesa generated the mechanical equipment costs for the RO CIP Effluent Treatment process at the desalination plant. AW Pridesa's cost estimate was based on a regional size project in 2004 dollars (see Pridesa Estimate). In order to estimate the construction costs for the Proposed Project in 2005 dollars, the 2004 estimates were decreased by 33 percent to accommodate for the size and capacity reduction. The 2004 capital cost estimate was then inflated by 4 percent to obtain the current 2005-dollars. It should be noted that an additional \$40,000 was added to the overall cost estimate to accommodate for infrastructure to house the equipment. Reference should be made to **Table 6** for a complete cost breakdown for each component of construction.

Treated Wash Water Pump Station:

The Treated Wash Water Pump Station construction cost estimate contains costs associated with construction equipment, labor, electrical equipment (SCADA, I&C, etc.), and materials (concrete, rebar, pipe, pumps, etc.) related to construction, and installation. Reference should be made to **Table 7** for a complete cost breakdown for each component of construction. Both construction equipment and labor costs were obtained from the Conkey Report, specifically page 12 of 38 in the Cost Estimate section. It should be noted that the Conkey report cost estimate was revised assuming the pumps would be installed in “cans” located on a concrete pad, not in a pump building. Construction equipment and building materials (aggregate, concrete, form material, rebar, etc.) were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The Conkey Report’s estimated pump costs were substituted with updated costs obtained from local pump suppliers to reflect the Proposed Project.

Dried Solids Storage:

The Dried Solids Storage construction cost estimate contains costs associated construction equipment, labor, electrical equipment (SCADA, I&C, etc.), and materials (concrete, rebar, pipe, pumps, etc.) related to construction, and installation. Labor and material costs are included in these costs. Reference should be made to **Table 8** for a complete cost breakdown for each component of construction. ASR Systems (subconsultant to RBF) generated the construction costs for the ASR Wells. Construction equipment and building materials were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates.

Pretreatment Process:

AW Pridesa generated the mechanical equipment costs for the pretreatment process of the desalination plant. AW Pridesa’s cost estimate was based on a regional size project in 2004 dollars (see Pridesa Estimate). In order to estimate the construction costs for the Proposed Project in 2005 dollars, the 2004 estimates were decreased by 33 percent to accommodate for the size and capacity reduction. The 2004 capital cost estimate was then inflated by 4 percent to obtain the current 2005-dollars. The pretreatment building was assumed to be approximately 12,000 square feet (SF), which based on a square foot construction cost basis of \$150 per SF equals a total estimated building cost of \$1,800,000. Also, an additional \$1,500,000 was added to accommodate the remaining pretreatment structures.

Reverse Osmosis Process:

AW Pridesa generated the mechanical equipment costs for the reverse osmosis process of the desalination plant. AW Pridesa’s cost estimate was based on a regional size project in 2004 dollars (see Pridesa Estimate). In order to estimate the construction costs for the Proposed Project in 2005 dollars, the 2004 estimates were decreased by 33 percent to accommodate for the size and capacity reduction. The 2004 capital cost estimate was then inflated by 4 percent to obtain the current 2005-dollars. The reverse osmosis building is assumed to be approximately 12,000 SF, resulting in an estimated cost of \$1,800,000 (\$150 per SF). An additional \$1.5 million was added to accommodate for the reverse osmosis.

Post-Treatment Process:

AW Pridesa generated the mechanical equipment costs for the post-treatment process of the desalination plant. AW Pridesa’s cost estimate was based on a regional size

project in 2004 dollars (see Pridesa Estimate). In order to estimate the construction costs for the Proposed Project in 2005 dollars, the 2004 estimates were decreased by 33 percent to accommodate for the size and capacity reduction. The 2004 capital cost estimate was then inflated by 4 percent to obtain the current 2005-dollars.

Clearwell and Clearwell Pump Station:

The desalination plant clearwell and clearwell pump station construction cost estimate contains costs associated with construction equipment, labor, electrical equipment (SCADA, I&C, etc.), and materials (concrete, rebar, pipe, pumps, valves, etc.) related to excavation, construction, and installation. Reference should be made to **Table 9** for a complete cost breakdown for each component of construction. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 16-17 of 38 in the Cost Estimate section. It should be noted that construction equipment and building materials (concrete, aggregate, form material, rebar, etc.) were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The Conkey Report's estimated pump costs were substituted with updated costs obtained from local pump suppliers to reflect the Proposed Project. The clearwell tanks are planned for construction as prestressed concrete tanks provided by DYK Incorporated. The Conkey Report estimated a \$0.45 per gallon cost obtained, as provided by DYK Incorporated for one 5MG tank. It should be recognized that the cost per gallon increases as the size decreases. Therefore, the cost was adjusted as necessary (approximately \$0.70 per gallon) to reflect the Proposed Project's twin 1.5 MG tanks.

Desalinated Water Pump Station (DWPS):

The Desalinated Water Pump Station (DWPS) construction cost estimate contains costs associated with construction equipment, labor, electrical equipment (SCADA, I&C, etc.), and materials (concrete, rebar, pipe, pumps, etc.) related to construction, and installation. Reference should be made to **Table 10** for a complete cost breakdown for each component of construction. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 17-19 of 38 in the Cost Estimate section. It should be noted that construction equipment and building materials (aggregate, concrete, form material, rebar, etc.) were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The Conkey Report estimate provided pump station building costs based on dollar per square foot basis. The cost breakdown for a typical pump station building can be found in Appendix A of the Conkey Report. The Conkey Report's estimated pump costs were substituted with updated costs obtained from local pump suppliers to reflect the Proposed Project.

Electrical, Instrumentation, and Controls:

AW Pridesa generated the electrical equipment costs associated with electrical, instrumentation, and controls (I & C) for the desalination plant. AW Pridesa's cost estimate was based on a regional size project in 2004 dollars (see Pridesa Estimate). In order to estimate the construction costs for the Proposed Project in 2005 dollars, the 2004 estimates were decreased by 33 percent to accommodate for the size and capacity reduction. The 2004 capital cost estimate was then inflated by 4 percent to obtain the current 2005-dollars. The electrical and I & C cost estimate was calculated by taking 20% of the total desalination facility construction cost.

Plant Infrastructure:

AW Pridesa generated plant infrastructure mechanical equipment costs associated with a workshop and laboratory. AW Pridesa's cost estimate was based on a regional size project in 2004 dollars (see Pridesa Estimate). In order to estimate the construction costs for the Proposed Project in 2005 dollars, the 2004 estimates were decreased by 33 percent to accommodate for the size and capacity reduction. The 2004 capital cost estimate was then inflated by 4 percent to obtain the current 2005-dollars. The civil/site work for the desalination facility site was estimated to be approximately \$4.0 million, while the administration/operations building was assumed to cost approximately \$1.0 million.

Desalinated Water Conveyance Pipeline (DWCP) – Moss Landing Section:

The DWCP (Moss Landing) construction cost estimate contains costs associated with construction equipment, labor, jack and bore tunneling, and materials (pipe, valves, etc.) related to right-of-way preparation, installation, and testing. Reference should be made to **Table 11** for a complete cost breakdown for each component of the pipeline installation. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 20-24 of 38 in the Cost Estimate section. It should also be noted that construction equipment was sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. It is assumed that all conveyance and onsite transmission piping is concrete cylinder pipe (or mortar lined and coated steel pipe), as estimated by Ameron International. The Conkey Report's estimated pipe material costs were substituted with updated costs obtained from Ameron International to reflect the Proposed Project. Finally, the Conkey Report generated jack and bore costs by consulting with Walter C. Smith Boring Company. Further, the raw cost for jack and bore was increased by about \$50 per linear foot (LF) to accommodate for inflation and any unforeseen costs associated with tunneling.

Desalinated Water Conveyance Pipeline (DWCP) – TAMC Section:

The DWCP (TAMC Section) construction cost estimate contains costs associated with construction equipment, labor, jack and bore tunneling, and materials (pipe, valves, etc.) related to right-of-way preparation, installation, and testing. Reference should be made to **Table 12** for a complete cost breakdown for each component of the pipeline installation. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 20-24 of 38 in the Cost Estimate section. It should be noted that construction equipment was sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The Conkey Report's estimated pipe material costs were substituted with updated costs obtained from Ameron International to reflect the proposed project. The Conkey Report also generated jack and bore costs by consulting with Walter C. Smith Boring Company. The raw cost for jack and bore was increased by about \$50 per LF to accommodate for inflation and any unforeseen costs associated with tunneling.

Desalinated Water Conveyance Pipeline (DWCP) – Seaside Section:

The DWCP (Seaside) construction cost estimate contains costs associated with construction equipment, labor, jack and bore tunneling, and materials (pipe, valves, etc.) related to right-of-way preparation, installation, and testing. Reference should be made to **Table 13** for a complete cost breakdown for each component of the pipeline installation. Both construction equipment and labor costs were obtained from the Conkey Report on pages 20-24 of 38 in the Cost Estimate section. Construction equipment was sized and budgeted for local site conditions while labor rates reflect the

latest local prevailing wages rates. The Conkey Report's estimated pipe material costs were substituted with updated costs obtained from Ameron International to reflect the Proposed Project. The Conkey Report also generated jack and bore costs by consulting with Walter C. Smith Boring Company. The raw cost for jack and bore was increased by about \$50 per LF to accommodate for inflation and any unforeseen costs associated with tunneling.

Terminal Reservoir:

The terminal reservoir construction cost estimate contains costs associated with construction equipment, labor, electrical equipment (SCADA, I&C, etc.), and materials (concrete, rebar, pipe, valves, etc.) related to excavation, construction, and installation. Reference should be made to **Table 14** for a complete cost breakdown for each component of construction. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 24-26 of 38 in the Cost Estimate section. It should be noted that construction equipment were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The terminal reservoir tanks are to be built using prestressed concrete construction provided by DYK Incorporated. The Conkey Report had estimated \$0.45 per gallon, which was an estimate provided by DYK Incorporated for one 5MG tank. The cost per gallon increases as the size decreases, and therefore, the cost was adjusted as necessary (to \$0.65 per gallon) to reflect the proposed project of twin 3.0 MG tanks.

ASR Pump Station:

The ASR pump station construction cost estimate contains costs associated with construction equipment, labor, electrical equipment (SCADA, I&C, etc.), and materials (concrete, rebar, pipe, pumps, etc.) related to construction, and installation. Reference should be made to **Table 15** for a complete cost breakdown for each component of construction. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 25-26 of 38 in the Cost Estimate section. It should be noted that construction equipment and building materials (aggregate, concrete, form material, rebar, etc.) were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The ASR pump station will not require a complete building structure. It has been assumed the pumps will sit in "cans" and the motors will be installed on a concrete pad at grade. The Conkey Report's estimated pump costs, were substituted with updated costs obtained from local pump suppliers to reflect the Proposed Project.

Tarpy Flats Pump Station (TFPS):

The Tarpy Flats Pump Station (TFPS) construction cost estimate contains costs associated with construction equipment, labor, electrical equipment (SCADA, I&C, etc.), and materials (concrete, rebar, pipe, pumps, etc.) related to construction, and installation. Reference should be made to **Table 16** for a complete cost breakdown for each component of construction. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 25-26 of 38 in the Cost Estimate section. It should be noted that construction equipment and building materials (aggregate, concrete, form material, rebar, etc.) were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The Conkey Report provided a pump station building cost based on dollar per square footage basis. The cost breakdown for a typical pump station building can be found in Appendix A of the Conkey Report. The Conkey Report's estimated pump costs were substituted with updated costs obtained from local pump suppliers to reflect the Proposed Project.

Segunda Pump Station Expansion (SPS):

The Segunda Pump Station (SPS) construction cost estimate contains costs associated with construction equipment, labor, electrical equipment (SCADA, I&C, etc.), and materials (concrete, rebar, pipe, pumps, etc.) related to construction, and installation. Reference is made to **Table 17** for a complete cost breakdown for each component of construction. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 34-36 of 38 in the Cost Estimate section. It should be noted that construction equipment and building materials (aggregate, concrete, form material, rebar, etc.) were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The SPS will not require a complete pump station building structure. The pumps are assumed to sit in “cans”, and the motors will be installed on a concrete pad at grade. The Conkey Report’s estimated pump costs were substituted with updated costs obtained from local pump suppliers to reflect the Proposed Project.

Segunda to Crest Pipeline:

The Segunda to Crest pipeline construction cost estimate contains costs associated with construction equipment, labor, jack and bore tunneling, and materials (pipe, valves, etc.) related to right-of-way preparation, installation, and testing. Reference is made to **Table 18** for a complete cost breakdown for each component of the pipeline installation. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 20-24 of 38 in the Cost Estimate section. It should be noted that construction equipment was sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The Conkey Report’s estimated pipe costs were substituted with updated costs obtained from Ameron International to reflect the Proposed Project.

Crest to Terminal Reservoir Pipeline:

The Crest to Terminal Reservoir pipeline construction cost estimate contains costs associated with construction equipment, labor, and materials (pipe, valves, etc.) related to right-of-way preparation, installation, and testing. Reference is made to **Table 19** for a complete cost breakdown for each component of the pipeline installation. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 20-24 of 38 in the Cost Estimate section. It should be noted that construction equipment was sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The Conkey Report’s estimated pipe costs were substituted with updated costs obtained from Ameron International to reflect the Proposed Project.

ASR Pipeline:

The ASR pipeline construction cost estimate contains costs associated with construction equipment, labor, and materials (pipe, valves, etc.) related to right-of-way preparation, installation, and testing. Reference is made to **Table 20** for a complete cost breakdown for each component of the pipeline installation. Both construction equipment and labor costs were obtained from the Conkey Report, specifically pages 32-33 of 38 in the Cost Estimate section. It should be noted that construction equipment was sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates. The Conkey Report’s estimated pipe costs were substituted with updated costs obtained from Ameron International to reflect the Proposed Project.

ASR Well Site #1 – School Site:

The ASR Well – School Site construction cost estimate contains costs associated with well construction, well completion (pump installation, etc.), wellfield piping, electrical equipment (SCADA, I&C, etc.), a monitoring well, and land acquisition. Labor and material costs are included in the raw costs. Reference is made to **Table 21** for a complete cost breakdown for each component of construction. ASR Systems (subconsultant) generated the construction costs associated with the ASR Wells. Construction equipment and building materials were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates.

ASR Well Site #2 (With Settling Basin) - Golf Course Site:

The ASR Well with a settling basin – Golf Course Site construction cost estimate contains costs associated with well construction, well completion (pump installation, etc.), wellfield piping, electrical equipment (SCADA, I&C, etc.), a settling basin, and land acquisition. Labor and material costs are included in the raw costs. Reference is made to **Table 22** for a complete cost breakdown for each component of construction. ASR Systems (subconsultant) generated the construction costs associated with the ASR Wells. Construction equipment and building materials were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates.

ASR Well Site #3 - Santa Margarita Test Injection Well (SMTIW):

Since the Santa Margarita ASR Well is an existing ASR well, the construction cost estimate only contains costs associated with wellfield piping, and electrical equipment (SCADA, I&C, etc.). Labor and material costs are included in the raw costs. Reference is made to **Table 23** for a complete cost breakdown for each component of construction. ASR Systems (subconsultant) generated the construction costs associated with the ASR Wells. Construction equipment and building materials were sized and budgeted for local site conditions while labor rates reflect the latest local prevailing wages rates.