

November 21, 2012

Attention: Board of Directors

Adopt resolution approving:

- **The Water Purchase Agreement with Poseidon Resources (Channelside LP);**
- **The Design-Build Agreement for Pipeline Improvements with Poseidon Resources (Channelside LP);**
- **Agreements necessary to accomplish tax exempt project financing through the California Pollution Control Financing Authority;**
- **Adjustments to the Capital Improvement Program Budget;**
- **Supporting contracts and contract amendments;**
- **The Second Addendum to the City of Carlsbad Precise Development Plan and Desalination Project Environmental Impact Report (State Clearinghouse no. 2004041081) and a mitigation monitoring and reporting program; and**
- **Other actions necessary for implementation of the Carlsbad Desalination Project (Action)**

Purpose

This action makes findings and takes actions necessary for approval of the contracts necessary to implement the Carlsbad Desalination Project.

Staff recommendation

Adopt Resolution No. 2012-__ a resolution of the Board of Directors of the San Diego County Water Authority approving a Water Purchase Agreement and a Design-Build Agreement for pipeline improvements with Poseidon Resources, Channelside LP; approving an installment sale and assignment agreement with the San Diego County Water Authority Financing Agency and other agreements necessary to accomplish tax exempt project financing through the California Pollution Control Financing Authority; approving adjustments to the Capital Improvement Program Budget; approving supporting contracts and contract amendments; approving the Second Addendum to the City of Carlsbad Precise Development Plan and Desalination Project Environmental Impact Report (State Clearing House no. 2004041081); adopting a mitigation monitoring and reporting program; authorizing the filing of a Notice of Determination; and authorizing the General Manager and General Counsel to execute agreements and take other actions necessary for implementation of the Carlsbad Desalination Project.

Alternative

Do not approve the project and related actions.

Fiscal impact

Annual payments for water produced at the desalination plant and delivered to the Water Authority's Second Aqueduct will range between \$109.8 Million and \$114.2 Million (2012 dollars) based upon deliveries of 48,000 acre-feet or 56,000 acre-feet, respectively. Annual payments for desalinated water will increase annually by an estimated 2.5% to account for inflation and debt service payments for the term of the contract. Desalinated water would replace current purchases of MWD Tier 1 Treated water in the same amounts which will avoid the expenditure of \$40.7 million to \$47.4 Million (CY 2013 rates). MWD rates are subject to adjustment annually based upon the action of the MWD Board of Directors. Improvements to Pipelines 3 and 4 and at the Twin Oaks Valley Water Treatment Plant and other associated improvements to integrate the desalinated water into the Water Authority's system are estimated at \$80 million. Upon completion of the product water pipeline, the Water Authority will assume operating expenses for the product water pipeline that will be incorporated into the biennial budget. Annual Water Authority costs for administration of the Water Purchase Agreement are estimated at \$672,000, subject to the biennial budget review and approval process.

The Water Authority's capital costs associated with the project will increase the CIP lifetime budget by \$80 million from \$3.53 billion to \$3.61 billion. The Fiscal Years 2012 and 2013 Capital Improvement Program appropriation will not need to be increased because existing savings will be reallocated to fund this action (\$4.0 million) in estimated project costs for the remainder of FY 2013; the appropriations for future fiscal years (\$76.0 million) will be dependent upon Board approval of the Fiscal Years 2014 and 2015 budget.

The San Diego Integrated Regional Water Management (IRWM) Program, through a State of California Department of Water Resources Proposition 50 grant, will provide \$2,126,133 to reimburse the Water Authority for expenses incurred in the design and construction of improvements related to the Carlsbad Desalination Project.

Background

In its 2000 Urban Water Management Plan, the Water Authority identified seawater desalination as a potential new local water supply source and identified property in the City of Carlsbad as a likely location for a new seawater desalination facility, in addition to increased reliance on enhanced water conservation and increased water recycling, as an important component of the Water Authority's diversified water supply portfolio. On November 20, 2003, the Water Authority Board of Directors certified the Final Program Environmental Impact Report for the Water Authority's Regional Water Facilities Master Plan Project, which evaluated, among other things, potential growth-inducing impacts associated with new water supplies to the region including, but not limited to, up to 150 million gallons per day ("MGD") of new supplies from seawater desalination. This certification included a 50 MGD plant located in the City of Carlsbad, and also approved for planning purposes the list of projects, including desalination, identified as the "Supply from the West" alternative. In its 2005 Urban Water Management Plan (updated in 2007), the Water Authority again identified seawater desalination as an important

new source of water providing diversification and water supply reliability benefits as a new drought-proof, treated water supply, and established a local seawater desalination goal of 56,000 acre-feet annually. The Water Authority's 2010 Urban Water Management Plan reiterated desalination as an important element of the Water Authority's diversified water supply portfolio, acknowledging the permitted status of the Carlsbad Seawater Desalination Project, and referencing the July 2010 approval by the Board of a Term Sheet for the preparation of a water purchase agreement between Poseidon and the Water Authority. The 2010 Urban Water Management Plan also thoroughly discussed other local water supplies, including increased conservation in response to Senate Bill 7 of the 2009 Seventh Extraordinary Session (SBX7-7), increased water recycling, the potential for indirect potable reuse (including the City of San Diego's Water Purification Demonstration Project), and potential for receiving water from desalination projects located in the Republic of Mexico.

Because this project involves actions within the scope of different standing committees and has been previously discussed at numerous special board meetings, the Chair, pursuant to the Administrative Code and after consultation with the Board Officers and chairs of the Water Planning, Administrative and Finance, and Engineering and Operations Committee has determined that the matter will be considered as a whole and in its entirety by the board. In accordance with the Brown Act, a special meeting has been noticed at 1:00 p.m. on November 29, 2012 to consider and take final action regarding the desalination project.

Discussion

This board memorandum is divided into the following sections: Project Overview; CEQA Compliance; Water Purchase Agreement; Pipeline Design-Build Agreement; Project Financing; CIP Program Budget Adjustment; Supporting Contracts and Contract Amendments; and Conclusion.

PROJECT OVERVIEW

The Carlsbad Desalination Project (Project) is a fully-permitted seawater desalination plant and conveyance pipeline designed to provide a highly reliable local supply of up to 56,000 acre-feet (AF) per year for the region. In 2020, the Project would account for approximately 8% of the total projected regional supply and 30% of all locally generated water in San Diego County. If the project becomes operational in 2016, it will more than double the amount of local supplies developed in the region since 1991. Although most aspects of the Project are the responsibility of Poseidon, there are several facility components that are under the control of the Water Authority. The desalination plant itself will be fully financed, built, and operated by Poseidon. The Water Authority will purchase water from the plant under a water purchase agreement. The new pipeline connecting the desalination plant with the Water Authority's Second Aqueduct will be owned and operated by the Water Authority, but responsibility for design and construction will reside with Poseidon through a separate Design-Build Agreement. The Water Authority will be responsible for aqueduct improvements, including the relining and rehabilitation of Pipeline 3 to accept desalinated

water under higher operating pressures, modifications to the San Marcos Vent that allows the flow of water between Pipelines 3 and 4, and improvements at the Twin Oaks Valley Water Treatment Plant necessary to integrate desalinated water into the Water Authority's system for optimal distribution to member agencies.

On July 22, 2010, the Board approved a Term Sheet between the Water Authority and Poseidon Resources that outlined the key terms and conditions that would be detailed and incorporated in a comprehensive Water Purchase Agreement (WPA).

Before entering into negotiations for the for the WPA several requirements had to be satisfied including: Poseidon obtaining a definitive executed commitment from equity investors sufficient to meet requirements to fully finance the project; the termination of all existing confidentiality agreements between the Water Authority and Poseidon and a waiver and release from any claims related to those agreements; and execution of an acknowledgement by Poseidon and the nine Desal Partner member agencies requesting the Water Authority enter into negotiations and a waiver of all claims related to their existing agreements. All conditions precedent to negotiation of a WPA were satisfied by September 2011.

Beginning in October 2011 and under the direction of the Board's Carlsbad Desalination Project Advisory Group, staff began developing and negotiating with Poseidon a WPA consistent with the July 22, 2010 Board approved Term Sheet. The July 2010 Term Sheet also identified specific conditions precedent to Board consideration of the WPA. These included: finalization of the sales price of the water and all project related costs under Poseidon's responsibility, with the exception of those costs related to the interest rate on debt. Specifically, all project related capital and operating agreements need to be finalized and all draft financial documents need to be reviewed and accepted by the Water Authority. At this time, all of the above noted conditions precedent to Board consideration have been satisfied and staff has completed its due diligence review of the pricing and financial terms contained in the WPA and has reviewed and accepted the financing documents.

Prior to release of the WPA the Board had held 26 public meetings to discuss various aspects of the WPA as it was developed and the project as a whole. Additionally, the Board's Desalination Project Advisory Group held numerous meetings since the adoption of the Term Sheet in July 2010, to provide direction, oversight and advise staff throughout the negotiations with Poseidon and development of the proposed WPA. At the September 27, 2012 Board meeting staff provided the proposed WPA to the Board and released it to the general public. Since the release of the proposed WPA the Board has held 6 public meetings or workshops to discuss the specifics of the agreement and to address questions and comments from the Board and the public.

Although most aspects of the Project are the responsibility of Poseidon, there are several facility components that are under the control of the Water Authority and must be completed in time for the operational testing of the desalination plant. These include the relining and rehabilitation of Pipeline 3 to accept desalinated water under higher operating pressures, replacement of the San Marcos Vent on Pipeline 4 that will allow the flow of water between Pipelines 4 and 3, and improvements at the Twin Oaks Valley Water Treatment Plant necessary to integrate desalinated water into the Water

Authority's system for distribution to member agencies. Although the new pipeline connecting the Desalination Plant in Carlsbad with the Water Authority's Second Aqueduct in San Marcos is to be owned and operated by the Water Authority, Poseidon is responsible for pipeline design, construction, and completion as provided in the recommended Design-Build Agreement.

CEQA COMPLIANCE

The Water Authority, as a Responsible Agency under CEQA, has prepared a Second Addendum to the Carlsbad Precise Development Plan and Desalination Plant Final EIR and First Addendum that evaluates the environmental impacts of several proposed facility modifications that are necessary to allow for operational flexibility and efficiency in receiving and delivering desalination product water. These modifications include: a realignment of a portion of the approved desalination pipeline, the addition of chemical injection facilities at the approved San Marcos Aqueduct Connection site, the relining of a portion of Pipeline 3, the addition of a pipeline and expanded flow control facility at Twin Oaks Valley Water Treatment Plant, and a replacement of the San Marcos Vent on Pipeline 4. Impacts associated with the proposed modifications would not result in a new significant impact or substantial increase in the severity of impacts previously evaluated in the Carlsbad FEIR or the First Addendum. There are no substantial changes to the circumstances under which the project will be undertaken, and no new information of substantial importance that was not known and could not have been known when the FEIR was certified and the First Addendum was approved, and that have since been identified. Therefore, the Second Addendum satisfies the CEQA requirements for the proposed project modifications.

All the environmental review documents relating to aspects of this project were previously provided to the Board, including: the 2006 Precise Development Plan and Desalination Plant Project Final Environmental Impact Report, 2009 First Addendum, and 2012 Second Addendum (SCH 2004041081); the 2010 San Diego County Water Authority Subregional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) Final Environmental Impact Report/Environmental Impact Statement (SCH 2003121012); the 2005 Twin Oaks Valley Water Treatment Plant Final Environmental Impact Report and 2005 Addendum (SCH 20040071034); and the 2003 Regional Water Facilities Master Plan Final Environmental Impact Report (SCH 2003021052). The Board received a full briefing regarding environmental compliance at its meeting of November 15, 2012.

The environmental documents and permits are found at the following links previously transmitted to the Board:

Natural Community Conservation Plan / Habitat Conservation Plan
<http://www.sdcwa.org/nccp-hcp>
2010 Urban Water Management Plan
<http://www.sdcwa.org/2010-urban-water-management-plan>
Regional Water Facilities Master Plan EIR

<http://www.sdcwa.org/rwfmp-peir>

Carlsbad Desalination Project EIR and First Addendum

<http://www.carlsbad-desal.com/EIR.asp>

Project Permits

<http://www.sdcwa.org/carlsbad-desalination-project-approved-permits-and-plans>

Twin Oaks Valley Water Treatment Plant EIR

<http://www.sdcwa.org/twin-oaks-valley-water-treatment-plant-final-eir>

WATER PURCHASE AGREEMENT

The WPA sets out the commercial and financial terms between the Water Authority and Poseidon for the production and delivery of desalinated water to the Water Authority's facilities. The WPA represents a transfer of risk to the private sector for the design, construction and operation of the Desalination Plant, and the design and construction of the new conveyance pipeline from the Plant to the Second Aqueduct. Because the Water Authority has no experience building and operating a seawater desalination plant and the use and value of the conveyance pipeline is directly tied to the successful operation of the Desalination Plant, a risk transfer through a water purchase agreement is deemed the most appropriate method of project execution.

The following is a summary of the key terms and conditions contained in the WPA.

Term of the Agreement

The term of the agreement will be for 30 years, once commercial operation begins, subject to early buyout provisions discussed below. The term can be extended up to three additional years due to force majeure events.

General Risk Allocation

The most essential element of risk assignment in the agreement is that the Water Authority would simply purchase water from the project at a pre-defined price and have no responsibility or liability for the design, permitting, financing, construction or operation of the Project. If Poseidon fails to perform its responsibilities to finance, construct and operate the Project within certain timeframes, the Water Authority would have no obligation to pay Project costs and Poseidon would be subject to liquidated damages or other remedies for default. The Water Authority would not have to begin paying for water until the Project passed the Water Authority's acceptance test requirements and, once operating, the Water Authority could reject water that did not meet specific water quality requirements as identified in the agreement. In such an instance, Poseidon would be subject to liquidated damages and other contract remedies. Also, if Poseidon was not capable of producing the required amount of water during a Stage 2 Drought Alert under the *Water Authority's Water Shortage and Drought Response Plan*, it would be subject to additional liquidated damages and other contract remedies in recognition that the Water Authority's supply reliability is damaged during such an occurrence. However, the Water Authority commits to purchase at least 48,000 AF of desalinated water per year if it meets the quality requirements of the WPA; this commitment is essential to the financial viability of the Project. Under the WPA, if Poseidon is able to deliver water

to the Water Authority, meeting the stated water quality requirements, and the Water Authority does not accept delivery of the water, Poseidon will be paid a price equal to the fixed costs of the project.

Water Purchase Price

The cost of desalinated water delivered by Poseidon to the Water Authority’s existing facilities is contractually set in the first year and then can only increase consistent with provisions in the WPA. Because the final interest rate on debt is not known, staff has proposed setting a cap on the interest rate for the debt portion of project financing at 6.1%. With that as a cap, the first year water unit price would be \$2,165/AF if the annual minimum of 48,000 AF is purchased, or \$1,935/AF if the maximum amount of 56,000 AF is purchased. **Table 1** provides the water unit price at the maximum 6.1% interest rate and at a 5.6% rate which is the midpoint between the expected interest rate under current market conditions of 5.1% and the interest rate cap of 6.1%. As discussed later in this memorandum, additional costs related to the Carlsbad Desalination Project will be incurred by the Water Authority outside the terms and conditions of the draft WPA.

Table 1: Water Unit Price Comparison

	6.10% Bond Rate		5.60% Bond Rate	
	48,000 AFY	56,000 AFY	48,000 AFY	56,000 AFY
Water Unit Price	\$2,165/AF	\$1,935/AF	\$2,095/AF	\$1,875/AF

Water purchase payments will be made monthly, based on actual acre-foot deliveries and at the then-current Water Unit Price. In each Contract Year, the first 48,000 AF of Product Water will be purchased at a price that amortizes both the fixed costs of the Project and the variable costs of water production. Water in excess of 48,000 AF will be purchased at a unit price reflecting only the variable costs of incremental water production.

Table 2 below identifies the various fixed and variable charges that make up the unit price of water under both the maximum interest rate of 6.1% and the 5.6% midpoint from the expected market rate of 5.1%. The fixed portion of the Water Unit Price includes the capital charge (debt and equity components) and the fixed portions of the operating charge and electricity charge. The variable portion of the Water Unit Price will include the variable operating charge and the variable electricity charge. Poseidon will be paid an annual management fee of between \$5 and \$10 per AF, with the amount determined by the Water Authority based on Poseidon’s performance as supplier. If the Water Authority fails to purchase at least 48,000 AF of desalinated water meeting the requirements of the WPA in a Contract Year, it will pay for the shortfall at a unit price reflecting the fixed costs of the Project, unless the Water Authority’s failure results from an excused event such as force majeure.

Table 2: Water Unit Price Components

Unit Price Component		6.10% Bond Rate		5.60% Bond Rate	
		48,000 AF/Year	56,000 AF/Year	48,000 AF/Year	56,000 AF/Year
Fixed Charges					
1.	Debt Service Charge	\$612	\$525	\$551	\$472
2.	Equity Return Charge	\$262	\$224	\$280	\$240
3.	Pipeline Installment Payments	\$265	\$227	\$238	\$204
4.	Fixed Operating Charge	\$400	\$343	\$400	\$343
5.	Fixed Electricity Charge	\$73	\$63	\$73	\$63
Subtotal – Fixed Charges		\$1,612	\$1,382	\$1,542	\$1,322
Variable Charges					
6.	Variable Operating Charge	\$101	\$101	\$101	\$101
7.	Variable Electricity Charge	\$442	\$442	\$442	\$442
8.	Poseidon Management Fee	\$10	\$10	\$10	\$10
Subtotal – Variable Charges		\$553	\$553	\$553	\$553
WATER UNIT PRICE		\$2,165	\$1,935	\$2,095	\$1,875
9.	Other Water Authority Costs	\$193	\$165	\$193	\$165
ALL-IN COST OF WATER		\$2,358	\$2,100	\$2,288	\$2,040

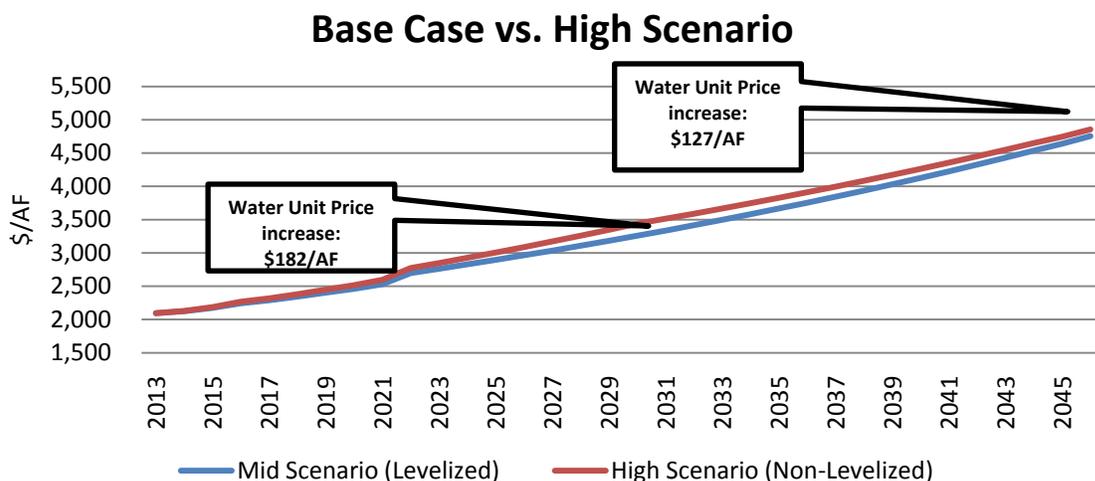
The Product Water Pipeline connects the Carlsbad Desalination plant with the Water Authority’s Second Aqueduct in the vicinity of the Vallecitos 9 Flow Control Facility. Under the terms of the WPA, the Water Authority will own the Product Water Pipeline from project inception. The Water Authority will obtain lower tax exempt debt through Alternative Minimum Tax (AMT) exempt municipal purpose bonds while maintaining the risk transfer to Poseidon if the Desalination Plant fails to operate as contractually required. Additionally, as a public agency, the Water Authority is not subject to franchise fees or possessory interest taxes that Poseidon, as a private entity, must pay. It is estimated that Water Authority ownership will save ratepayers \$27 million on a present value basis. Further discussion of the debt financing for the Plant and the Pipeline is contained in the Project Financing section of this memorandum.

Electricity Pricing and Assignment of Risk

Poseidon bears electricity consumption risk, meaning that Poseidon will not receive additional compensation if actual energy consumption exceeds the energy consumption formulas set forth in Appendix 9. Additionally, the WPA provides for an energy consumption “true-up” to be performed following the third year of commercial operation. This “true-up” may result in a decrease in the energy consumption allowance, if the plant has in fact operated with lower energy consumption in its early years of operation than the energy consumption levels specified in the WPA. The electricity true-up is “one-way,” meaning that the contractual electricity consumption allowances may be adjusted downwards but not upwards.

The Water Authority bears electricity price risk, meaning that the electricity price element of the Fixed Electricity Charge is a direct pass-through cost to the Water Authority through the Water Unit Price. The electricity price is not linked to a published index, such as CPI, but instead is based on the specific electricity tariff that best fits the electricity consumption characteristics of the plant (see *Table 3* on page 13). Currently, the best-fit tariff is SDG&E’s Industrial ALT-TOU tariff, which allows Poseidon to maximize efficiencies and optimize the price because of the 24-7, year-round operation of the desalination plant. The Water Authority mitigates its exposure to future SDG&E electricity prices through its rights to designate the electricity supplier for the project. These rights are set forth in Section 8.4(C) (Alternative Electricity Suppliers) of the WPA. At the Board’s request sensitivity analyses were performed related to the effect more volatile electricity prices would have on the unit price of water. Although the long term average increase in SDG&E rates is 1.2% over the previous 30 years price sensitivity was analyzed under a high case that resulted in increase twice the historical rate and another mid-scenario case that assumed an annual increase of 2%, 80% higher than the long term average (Base Case). The high case had a moderate effect on the unit price of water as shown in Figure 1. In Figure 1 the maximum increase in the unit price of water due to electricity prices still remains approximately 25% of the total price of desalinated water resulting in a modest increase in the total unit price of water.

Figure 1: Effect of Electricity Price

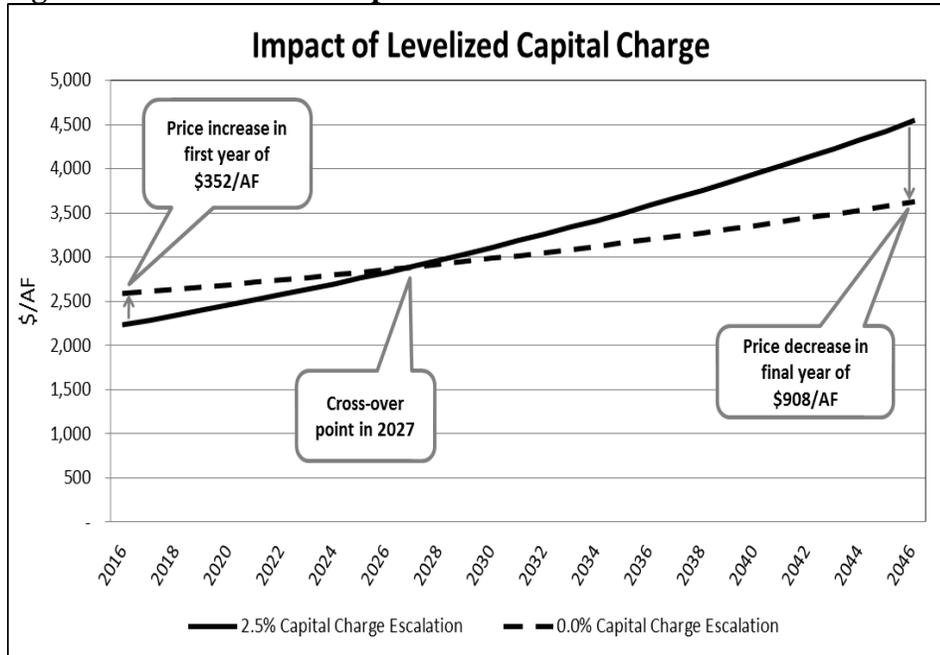


Development of the Debt Service Charge and Equity Return Charge

The WPA incorporates an upward-sloping Capital Charge, meaning that the sum of the Debt Service Charge, Equity Return Charge, and Pipeline Installment Payments grow at an annual escalation rate of 2.5%. This is proposed as a means to phase-in the cost of the desalination project over time and ensures that both current and future users pay their fair share. Shaping debt has been a standard practice of the Water Authority for the financing of capital projects and reflects both an effort to smooth the rate impact associated with implementation of capital projects and provide intergenerational equity for assets that have long service lives. The pipeline has a useful life of approximately 75 years and the plant is required to be in good operating condition at the end of term. The residual value and assets would accrue to the Water Authority at the end of the 30-year term, if the Water Authority exercises its purchase option. Repair and rehabilitation would occur as needed after 30 years similar to any other long-term capital asset of the Water Authority.

The Board had asked staff to present the impact of this upward-sloping Capital Charge versus a level Capital Charge and this was presented and discussed at the November 8, 2012 Special Meeting of the Board of Directors. The upward sloping debt service has the same interest rate and principal amount as a level debt service over the same 30-year period. The two approaches differ in the amount of principal that is paid in the later years. In the proposed upward sloping debt shaping, less principal is paid in the early years and more in the later years. This results in higher interest payments over the term of the debt. Because much of the payment is in the later years, the present value difference in payments is approximately \$36 million over the 30-year term of the debt or an annual average of \$1.2 million. Although, a level debt service would result in a lower total of interest payments over the 30-year period, it would result in higher payments over the first 10 years of project operation. It would require an additional \$17 million in revenue collection in the initial years decreasing to the same amount as the upward sloping debt service. This would have an additional rate impact over what has currently been estimated and would increase the revenue requirement associated with the WPA by 17% in the first year of operation. For comparison purposes, on a present value basis, the decrease of \$908/AF in 2046 under the level debt service is equivalent to a savings of \$147/AF in 2012 dollars. However the additional cost of a level debt service would increase the 2016 unit price by \$304/AF expressed in 2012 dollars. Figure 2 illustrates those differences.

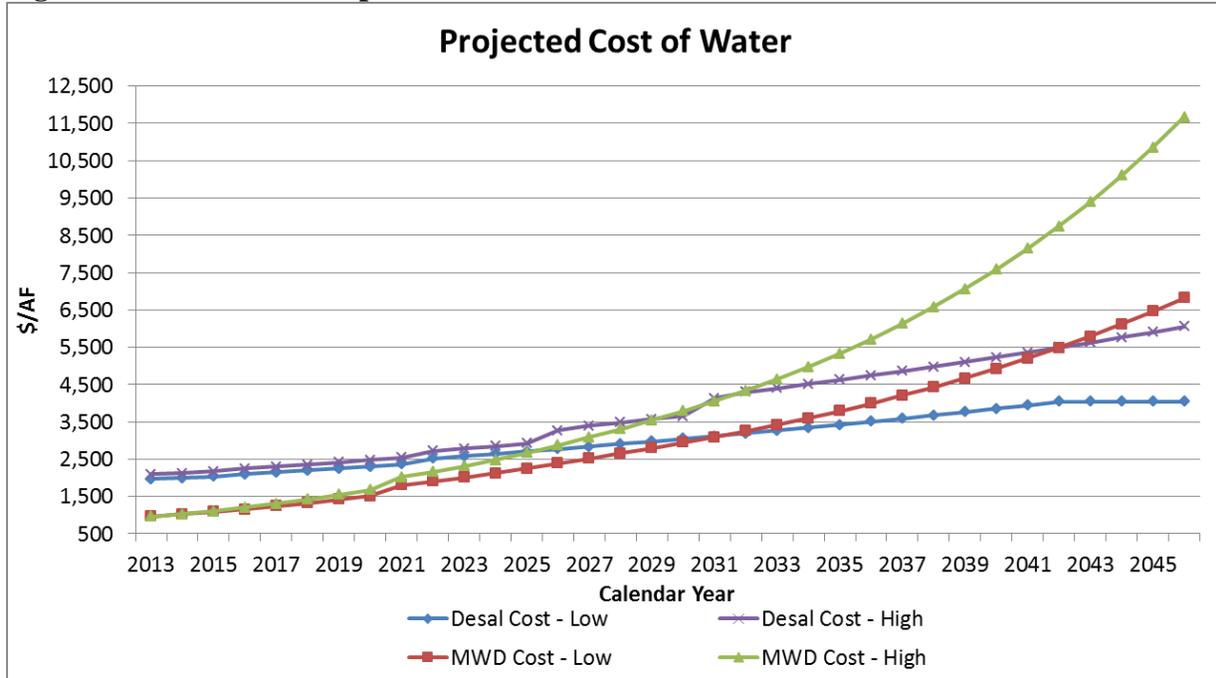
Figure 2 Debt Service Comparison



The proposed 2.5% slope to the Capital Charge has an additional advantage. A main driver in the rate impacts associated with the desalination project is the differential between the unit price of water for Carlsbad Desalination and the cost of imported water from MWD. As MWD rates increase over time, the price differential between imported water and desalinated water will narrow and the rate impact from desalination will lessen. The deferral of a portion of principal to those later years allows for the impacts to future customers to be less because MWD rates are increasing faster than the percentage increase for desalinated water under the WPA, and outpacing expected inflation. Figure 3 provides a high and low projection of MWD rates. The high projection reflects an annual growth rate based upon the most recent 10 years (2004-2014) of 7.85%. The low projection of MWD rate uses the long-term, 30-year (1984-2014) annual growth rate of 5.63%. Both projections of MWD rates include increases of \$250/AF for capital and operations attributable to MWD’s proportional share of Bay-Delta improvements occurring in 2021.

A high and low unit price case was established for desalinated water. The low case assumes the increase in the water unit price is within the 2.5% estimate. The high case assumes that the 30% cap on price adjustments due to uncontrollable circumstances (uninsured force majeure events or changes in law) is reached within the first 15 years of the project and that energy prices increase according to the high energy pricing scenario presented to the Board and discussed earlier in this memorandum. Staff believes this is a worst case scenario. As noted in Figure 3, the low cost of desalinated water intersects with MWD rates between 2027 and 2042, depending on the case. Deferral of a portion of principal to years when the differential between MWD rates and the unit price of desalination narrows or crosses-over lessens the impact to existing customers and to future customers.

Figure 3: Water Cost Comparison



Note: The Projected Desal Cost –High includes improvements to upgrade the Encina ocean water intake when the Plant is in stand-alone operating mode (see changes in law section below) and a two capital events of \$200 million or \$230 million over the following 10 years.

The Equity Return Charge is “shaped” in each year so that the total capital charge (Equity Return Charge plus Debt Service Charge plus Pipeline Installment Payments) escalates at a fixed annual rate of 2.5%. The WPA has targeted a 9.45% internal rate of return (IRR) for the Equity Return Charge. Poseidon’s actual return on investment may be higher or lower. If the project is completed on time and budget, if it consistently meets the Water Authority’s demand for desalinated water, and if it is operated efficiently, staff estimates that Poseidon and its equity investor Stonepeak could achieve an actual equity return between 10% and 13%. This range is on the low end of a market range for comparable infrastructure equity investment. If these construction and operating conditions are not met, the equity return could be substantially lower.

The Equity Return Charge amounts, and the target IRR, will be finally established at financial closing. It is expected to vary within a narrow range, based on the bond interest rates established when the Plant and Pipeline Bonds are issued. For example, assuming an interest rate of 5.60% for the Plant Bonds, the resulting target IRR would be 9.38%.

Annual Adjustments to the Unit Price of Water

Under the WPA, the price of water from Poseidon can only be adjusted under defined circumstances and for the most part is only subject to inflation as determined in the San Diego

Consumer Price Index (CPI). Table 3 provides a list of the escalation rates contractually applied for the various fixed and variable charges. As noted above, electricity price is subject to SDG&E tariffs and is the responsibility of the Water Authority. Adjustments to the Unit Price of Water for uncontrollable circumstances are discussed in the following section.

Table 3: Price Escalation

	Unit Price Component	WPA Contractual Provision	Staff Modeling Assumption
	Fixed Charges:		
1.	Debt Service Charge	A fixed annual "slope" of 2.5% has been used to establish this charge	2.5% Fixed Slope
2.	Equity Return Charge	A fixed annual "slope" of 2.5% has been used to establish this charge	2.5% Fixed Slope
3.	Pipeline Installment Payments	A fixed annual "slope" of 2.5% has been used to establish this charge	2.5% Fixed Slope
4.	Fixed Operating Charge	Indexed to San Diego CPI	Assumed to escalate at 2.5%
5.	Fixed Electricity Charge	Linked to SDG&E Rates	Assumed to escalate at 2.0%
	Variable Charges:		
6.	Variable Operating Charge	Indexed to San Diego CPI	Assumed to escalate at 2.5%
7.	Variable Electricity Charge	Linked to SDG&E Rates	Assumed to escalate at 2.0%
8.	Poseidon Management Fee	Indexed to San Diego CPI	Assumed to escalate at 2.5%

Uncontrollable Circumstances

Although Poseidon will carry comprehensive builders risk and other insurance typical for projects of this nature, events that affect either the delivery of water by Poseidon or the acceptance of that water by the Water Authority and are not reasonably under the control of either party are subject to relief from obligations under the agreement. Under these circumstances, Poseidon is relieved of its obligation to meet its requirement to deliver water for the duration of the event. The Water Authority will not pay Poseidon for any water that could not be delivered because of the uncontrollable circumstance. For its part, if the Water Authority was unable to operate the Aqueduct system to take delivery of desalinated water from Poseidon due to an emergency declared by the Board, the Water Authority would not be required to pay for any water during such an event affecting the Water Authority's ability to perform.

Changes in Law

The cost associated with unanticipated changes in law or regulation is typically passed on as a price adjustment to the purchaser of a commodity. In the WPA, changes in law or regulation that generally apply industry-wide to water treatment facilities and wastewater dischargers would be an included change in law that would allow Poseidon to increase its price of water. However, that

increase is capped, such that the cumulative increase in the water unit price from all such “uncontrollable events” cannot exceed 10% in a single year or a maximum of 30% over the 30-year term of the agreement. Requirements for the Encina Power Station to upgrade its intake or additional requirements placed on Poseidon to operate on a standalone basis once the Power Plant is no longer using seawater for cooling purposes are examples of excluded changes in law. Changes in law that are excluded will not result in price increases to the Water Authority.

When the Encina Power Station is no longer using seawater for cooling purposes, Poseidon is required to upgrade the existing intake under its coastal permit and continue lagoon dredging operations. The Water Authority’s financial obligation for intake improvements and additional operating costs is contractually capped at \$20 million in capital costs in 2010 dollars (index-linked) and \$2.5 million index linked to CPI in annual operating expenses. The capped costs associated with the intake improvements are in the project budget and the projected annual future water unit price. Anything above those amounts is entirely Poseidon’s cost responsibility.

Water Authority Plant Purchase Option

In order to provide maximum financial flexibility to the Water Authority, ensure the Project is operated appropriately, and to protect the ratepayers’ interests, there will be an early option, but not an obligation, to buy the Plant beginning 10 years after the date of commercial operation. The price would be equal to the amount of outstanding debt, the present value of the remaining equity return and other remaining contractor costs and breakage costs. In the event of a Poseidon default, the Water Authority will have the option, but not the obligation, to purchase the project for the outstanding bond debt only, with no payments to the equity investor.

At the end of the term, the Water Authority will have the right to purchase the Plant for \$1. Poseidon will be required to demonstrate that the Plant is in good operating condition and capable of continuing to produce water that meets contract standards. This will provide for public ownership of the plant, intake and discharge facilities as well as the right to the long-term lease with the power plant owner, NRG. Public ownership of the plant at the end of contract term will ensure continued price certainty for the production of water and will eliminate the risk of potential monopolistic pricing by the private owner when the contract expires. The ratepayers will have paid off the capital cost through the purchase of water over the contract term, and there is minimal risk to operating the plant. In that way, the ratepayers would benefit in the long term from their past investment in the construction and operation of the plant.

Construction of the Plant and Pipeline and acceptance by the Water Authority

Although the Desalination Plant will be owned and financed by Poseidon, the Water Authority has a vested interest in ensuring it is built to industry standards and the quality reflects the price being paid by the Water Authority for water. The Plant must be capable of producing drinking water that meets all state and federal standards and do so in a safe and reliable manner that the Water Authority and the region can depend upon for almost 8% of its water supply. In addition, because the Water Authority has the option to take over ownership at the end of the contract term or after 10 years of commercial operation, there is a need to ensure that the facilities are designed and built to expected quality standards. The WPA provides the Water Authority the right to

review and comment during the design and construction of the Desalination Plant and Product Water Pump Station to ensure that it is being built to the required contractual standards.

Since the Water Authority will be owner of the desalination project pipeline from the plant to the Second Aqueduct, the construction and the Water authority rights during design and construction is addressed through the Design-Build Agreement between the Water Authority and Poseidon discussed elsewhere in this report.

A key feature of the WPA is that the Water Authority makes no payments to Poseidon until water is delivered. If water is never delivered and the project is unable to pass acceptance testing, then the Water Authority has no cost responsibility to Poseidon or its contractors. The Water Authority will not begin making payments until the parties agree that the plant is performing to contract standards and all of the performance tests are satisfactorily met. The WPA identifies Acceptance Testing as a two-step process. Mechanical Completion occurs first, whereby each piece of key equipment must meet specific performance standards before the 30-day acceptance testing can begin. Once Mechanical Completion has been achieved, the second step requires the Plant to operate continuously for 30 days at near full capacity, including a lengthy period at full capacity, meeting all water quality and quantity requirements. During the same time period, the pipeline, the interconnection with Water Authority facilities, the relined Pipeline 3 and the TOVWTP improvements will be tested to ensure that the entire system operates as expected and water quality requirements are met for delivery to member agencies. The Water Authority will be involved throughout the testing period and will review and approve the final test results. The Water Authority will not begin payment for water until the acceptance test is met.

Plant Operation, Management and Maintenance

Because the Plant will be an essential component of the region's drinking water supply, the Water Authority will have certain contractual rights to ensure that the Plant is operated in a safe and efficient manner in accordance with industry standards. This includes setting employment standards for key operating personnel, reporting and record keeping requirements, and documentation of security and emergency plans to be reviewed by the Water Authority annually. The Water Authority will also have access to the Plant upon reasonable notice to conduct inspections and to observe and provide input into remedying operational and water quality issues. The Water Authority also has contractual rights to arrange educational tours for the public and others of the facility. Poseidon is required to provide administrative space at the Plant for Water Authority staff or a designated representative to observe plant operation and review data and technical reports. Under extreme circumstances of non-performance, the Water Authority has the right to step-in and resolve operational issues effecting delivery of water or meeting water quality requirements.

The day-to-day coordination activities between the plant operations staff and the Water Authority operations staff are key to successful integration of the Desalination Plant supply into the Water Authority's aqueduct system. If the relationship between the plant's Chief Operator and Water Authority operations staff is unworkable and communications are non-responsive, the draft WPA provides a process whereby the Water Authority can have the Chief Operator replaced. Although

this is an extreme remedy and not anticipated to be utilized, a collaborative working relationship between Water Authority staff and the plant operators is critical to the success of the project.

Because the Desalination Plant is a source of municipal drinking water and it is an asset that the Water Authority may acquire in the future, the WPA requires Poseidon to maintain the plant in an appropriate manner and in conformance with industry standards. This means Poseidon must repair and replace equipment according to a detailed maintenance plan and keep the plant in good working order at no additional cost to the Water Authority. The Water Authority has the right to conduct annual inspections as needed, which includes biennial inspections to ensure the plant is being maintained and operated as required.

Capital Modifications

Under the terms of the WPA, Poseidon may make capital modifications to the Plant of up to \$10 million after review and comment by the Water Authority. Capital modifications greater than \$10 million that materially alter the original design of the plant require Water Authority approval. These capital improvements to the plant do not affect the price of water paid by the Water Authority, and are typically done to replace or upgrade equipment to newer or more efficient technology. The Water Authority has the right under the WPA to direct Poseidon to make a capital modification. The Water Authority may want to make physical improvements at the Plant that it deems necessary or more efficient. Water Authority directed modifications are subject to an adjustment in the price of water and may be financed by the Water Authority at its option.

Events of Default

The WPA specifies conditions where Poseidon will be considered to be in default of its contractual obligations and the Water Authority has the option to terminate the agreement. These include: failure to pass acceptance testing by the agreed upon Commercial Operations Date; Poseidon bankruptcy or abandonment of the project; repeated violations of primary drinking water standards; multiple notices of violation or special orders issued by a regulatory agency; deliveries of less than 75% of the contract year amounts over a rolling 3-year period; and failure to make Contracted Shortfall Payments for the conveyance pipeline debt service.

The Water Authority is considered in default if it does not pay any undisputed amount owed Poseidon within 45 days of the due date for payment.

The Water Purchase Agreement was distributed to the Board on September 27, 2012. A redline version showing minor amendments since that version will be distributed under separate cover. None of the changes affect the major deal points reported in this memorandum.

PIPELINE DESIGN-BUILD AGREEMENT

The Design-Build Agreement between the Water Authority and Poseidon establishes the commercial and technical terms for implementation of the Product Water Pipeline Improvements. These improvements consist of an approximate 10-mile long, 54-inch diameter

conveyance pipeline connecting the Desalination Plant to the Water Authority's Second Aqueduct. The pipeline will generally be constructed within improved streets in commercial and residential areas in the cities of Carlsbad, Vista, and San Marcos. The Design-Build Agreement places responsibility on Poseidon for all permitting, environmental compliance, design, construction, startup and commissioning of the conveyance pipeline. The Water Authority will own the Project Water Pipeline Improvements upon execution of the Design-Build Agreement, and upon completion and acceptance of construction, the Water Authority will assume operational control of all pipeline improvements. The term of the Design-Build Agreement covers the period for design, construction, commissioning, and warranty of the Product Water Pipeline. Poseidon will sub-contract the design and construction work to Kiewit-Shea Desal, a joint venture.

The Design-Build Agreement was drafted by Special Counsel Eric Petersen, who also prepared the Design-Build-Operate Agreement for the Twin Oaks Valley Water Treatment Plant and the Design-Build Agreement for the Lake Hodges to Olivenhain Reservoir Pipeline. Development of the technical appendices that provide further definition of the project design requirements, permitting responsibility, quality assurance and quality control responsibility, procedures for testing, startup and acceptance, public outreach, and compliance with the Water Authority's Small Contractor Outreach and Opportunities Program was provided by SAIC, with significant input from Engineering and O&M staff.

Payment of the Product Water Pipeline Improvements will be non-recourse to the Water Authority and made solely from Pipeline Bond proceeds. The Water Authority will have the right to review and comment on progress payment amounts made to Poseidon related to achievement of project completion milestones and work performed in accordance with the design requirements. Commercial operation of the desalination plant is contingent on Water Authority acceptance of the pipeline work.

The Design-Build Agreement will ensure the pipeline is designed and built to applicable industry and Water Authority standards and performance requirements and will also provide essentially the same review, comment and inspection oversight the Water Authority has under prior design build agreements, with the design, construction, schedule and desalinated water delivery risks transferred to Poseidon.

Water Authority responsibilities under the Design-Build Agreement include administration of the agreement, the ability to access all elements of the project and provide design comments, construction inspection, and oversight. Although most of the project will be constructed in public streets or other public easements, the Water Authority is required to secure the certain additional rights of way necessary to construct the pipeline. The cost to the Water Authority related to these responsibilities is included in the request to increase the CIP Budget.

The recommended Design-Build Agreement can be found at the following link: [Desal BoardMemo docs.pdf](#). and a copy is on file with the Clerk of the Board.

PROJECT FINANCING

The project is being financed through tax-exempt bonds issued by the California Pollution Control Financing Authority (CPCFA). Proceeds of the Plant Bonds will be loaned to Poseidon for the construction of the desalination plant. Debt service on the Plant Bonds is the responsibility of Poseidon and is a major component of the cost of water under the WPA. Proceeds of the Pipeline Bonds will be loaned to the San Diego County Water Authority Financing Agency pursuant to a Loan Agreement. The Financing Agency will make these funds available to the Water Authority for the construction of the product water pipeline pursuant to the Installment Sale and Assignment Agreement. Under the financing agreements, the Water Authority is required to make payments for debt service on the Pipeline Bonds only if water is produced and delivered as required by the WPA. These payments are made directly to the bond trustee. These bonds have a higher interest rate than conventional Water Authority bonds, but contractually insulate the Water Authority from financial responsibility for debt service payments in the event Poseidon is unable to perform and deliver desalinated water that meets contract standards. Should that occur, Poseidon is obligated to make the debt service payments on the pipeline bonds, and there is no recourse for the bond holders to the Water Authority. Water Authority ownership will result in an interest rate savings on the bonds of 0.5% to 1.0%. Additionally, as a public agency, the Water Authority is not subject to franchise fees or possessory interest taxes that Poseidon, as a private entity, would have to pay. Water Authority ownership of the conveyance pipeline will save \$27 million on a present value basis.

The pipeline is financed through tax exempt government purpose bonds issued for the Water Authority by the CPCFA; however, the risk of design and construction is transferred to Poseidon, as is the cost responsibility for the conveyance pipeline in the event Poseidon fails to deliver desalinated water. The mechanism for this risk transfer to Poseidon is through Contracted Shortfall Payments. Pipeline debt service will be paid initially by capitalized interest, after Poseidon completes the Plant and deliveries of desalinated water commence, payments are made directly by the Water Authority as water is delivered. However, the amount the Water Authority is obligated to pay in each year is reduced by Contracted Shortfall Payments, if any, due from Poseidon. Contracted Shortfall Payments result from any failure by Poseidon to meet its supply obligations, and are proportionate to Poseidon's underperformance. In the event that Poseidon is unable to deliver water or the water does not meet contractual specifications, Poseidon will be responsible for making the debt service payment through a Contracted Shortfall Payment. Each Contracted Shortfall Payment is ultimately assigned to the Pipeline Trustee to offset the Water Authority's payment obligations.

If Poseidon is unable to make a Contracted Shortfall Payment, it runs the risk of entering into default. Because of the Contracted Shortfall Payments in connection with the Pipeline Bonds, there is no financial responsibility of the Water Authority to pay the bond holders if the plant is not producing water – this risk lies with Poseidon and its equity investors. The only instance where the Water Authority is responsible for the debt service payment for the new pipeline is in the event of a force majeure event, such as an earthquake that damages the pipeline while the Desalination Plant is

still capable of delivering water. Staff believes that is a remote risk, and the significant cost savings realized by Water Authority ownership of the desalination project pipeline far outweigh the risks.

After five years following close of financing, when the Plant has established a record of successful operations, the Water Authority would have the option to refund the Pipeline Bonds with even lower cost capital through conventional Water Authority financing while maintaining the Contracted Shortfall Payment structure as part of the Water Authority's risk management.

The WPA and the Design-Build Agreement obligate Poseidon to make Contracted Shortfall Payments sufficient to cover the Water Authority's payment obligations on the Pipeline Bonds if Poseidon either: delays or fails to complete the pipeline in accordance with the Design-Build Agreement (construction period shortfall payments); or fails to deliver desalinated water (operation period shortfall payments). The Water Authority's obligation to make payments for the Pipeline Bonds is relieved to the extent Poseidon is obligated to make any Contracted Shortfall Payments, regardless whether Poseidon actually makes those payments. Final completion of the Plant and the Pipeline is a precondition to the Water Authority making any payments for either purchase of desalinated water or for debt service on the Pipeline Bonds. Neither the Water Authority nor Poseidon anticipates any Contracted Shortfall Payments to be required. Any such payments are in the nature of warranty payments or payments of damages. The Water Authority is not obligated to repay any Contracted Shortfall Payments. Poseidon does not obtain any right to use the pipeline by way of making any Contracted Shortfall Payments. The Water Authority will own, operate, and maintain the Project as part of its water system.

Actions of the Board related to the financing include approval of the:

- Preliminary Limited Offering Memorandum;
- Tax Certificate;
- Installment Sale and Assignment Agreement;
- Pipeline Bond Purchase Agreement;
- Plant Bond Purchase Agreement; and
- Collateral Trustee Remedies Agreement.

The Preliminary Limited Offering Memorandum (PLOM) is the basis for the primary disclosure document for the bond transaction. The PLOM contains information necessary for investors to make informed investment decisions regarding the Pipeline Bonds. Critical information provided includes details of the debt issue, Water Authority Disclosures, project scope, project construction and operation details, project participants and financial statements and disclosures.

The Tax Certificate is a summary description of the project and the financing, as well as representations of the Water Authority and is used by bond counsel for purposes of its opinion regarding the tax exempt status of the bonds.

The Pipeline Trust Indenture between CPCFA and Union Bank, N.A. (Trustee) authorizes the issuance of the bonds, redemptions, payments of principal and interest, application of bond proceeds and discusses the trustee responsibilities. This is the agreement whereby the Issuer will assign all loan payments and contracted shortfall payments to the Trustee.

The Installment Sale and Assignment Agreement is the agreement between the SDCWA and the Financing Agency in which the Water Authority will act as the agent of the Financing Agency for the purposes of developing, designing, engineering, acquiring and constructing the Pipeline by entering into a Design-Build Agreement for the Product Water Pipeline Improvements. The Water Authority has determined to pay the purchase price of the Pipeline through the making of installments sale payments and assigning contracted shortfall payments to the Financing Agency. The Financing Agency will assign these installment and contracted shortfall payments to the Issuer through the Pipeline Loan Agreement (discussed below), and the Issuer assigns these payments to the Trustee through the Pipeline Trust Indenture (also discussed below).

The Pipeline and Plant Bond Purchase Agreements each set forth the terms of the bond sale, interest rates, sales prices, indemnity covenants, and representations of the parties to the financing transaction.

The Collateral Trustee Remedies Agreement is an agreement that pledges, assigns, and grants a security interest in, all right, title and interests of the Project Company in, to and under the Project Agreements. It also provides certain assurances to the bond holders that they will be able to use the product water pipeline in the event of a default by Poseidon if the Water Authority does not exercise its rights to acquire the Plant.

The Collateral Trust Agreement is the agreement pursuant to which bond proceeds are administered and payments are made. The agreement establishes the bond funds, application of proceeds, deposits and disbursements from funds, events of default and remedies to take in case of default for the Plant Bonds only. The Collateral Agent is responsible for accepting and protecting all financial interest in the project.

The Loan Agreement between the Financing Agency and the CPCFA specifies the terms, payments, representations, project description, and prepayment of the bond proceeds for the Pipeline Bonds. The funds the Financing Agency receives under this Loan Agreement are provided to the Pipeline Bond Trustee and are used to pay for the construction of the pipeline. Pursuant the Installment Sale and Assignment Agreement, the Water Authority obtains the loan proceeds for the purpose of making payments under the Design-Build Agreement. The Installment Sale and Assignment Agreement obligates the Water Authority to make debt service payments for the Pipeline Bonds, except when Poseidon is obligated to make Contracted Shortfall Payments.

The principal financing agreements and documents to which the Water Authority or the Water Authority Financing Agency is a party can be found at the following link:

[Desal BoardMemo docs.pdf](#)

Copies are on file with the Clerk of the Board. The Bond Purchase Agreements and the PLOM will be distributed under separate cover.

CIP PROGRAM BUDGET ADJUSTMENT

In accordance with the terms of the Water Purchase and Design-Build Agreements, the Water Authority is also obligated to perform additional work prior to accepting product water into its system, including work to oversee the implementation of the Project through plan checks, construction monitoring, and inspections and improvements that must be made to existing Water Authority infrastructure to allow safe incorporation of product water from the Project into the Water Authority system as described in this section.

The staff recommendation to increase the CIP budget for the Carlsbad Desalination Project by \$80 million is comprised of the following work:

Water Authority Oversight of Project Design and Construction (\$12.5 million)

The Water Authority is responsible for performing a defined level of design review, construction oversight, project startup and commissioning activities for the Project. In addition, the Water Authority is responsible for acquiring new rights of way and easements for the Product Water Pipeline Improvements. Water Authority involvement assures the work is completed in accordance with the design requirements with minimal impact on Water Authority operations. The work will generally be performed by Water Authority staff, with technical support services provided by consultant contractors on an as-needed basis. The majority of the effort for design review and construction oversight is directed towards the Product Water Pipeline Improvements, which will be owned, operated, and maintained by the Water Authority, but also includes design review and comment, and construction monitoring for the desalination plant.

Water Authority Improvements (\$67.5 million)

In order to accept product water from the Project, improvements must be made to the Water Authority's existing infrastructure. The Water Authority is responsible for the design, financing, and implementation of these improvements. The work includes relining Pipeline 3 between San Marcos and Twin Oaks, replacement of the San Marcos Vent on Pipeline 4, and improvements at the Twin Oaks Valley Water Treatment Plant (TOVWTP).

- Pipeline 3 Reline / San Marcos Vent Replacement (\$49 million)

Approximately 27,000 feet of Pipeline 3 must be relined between San Marcos and Twin Oaks to operate Pipeline 3 under the pressures contemplated under proposed desalination operating conditions. In addition, the existing San Marcos Vent structure on Pipeline 4 must be replaced to allow for the flow of water between Pipelines 4 and 3 downstream of the desalination pipeline connection to the aqueduct. This proposed budget increase includes Water Authority staff costs, third party professional services costs and construction costs.

- TOVWTP Improvements (\$18.5 million)

The TOVWTP Improvements work generally includes the construction of a new isolation valve and vault structure on Pipeline 3 to divert water from Pipeline 3 to the TOVWTP clear wells, approximately 1100-feet of 54-inch steel pipe from the Pipeline 3 turnout to the TOVWTP clear wells, chemical feed line from the existing chemical storage facilities at the TOVWTP to a new chemical feed facility at the desalination influent pipeline for boosting of disinfection residual, and upsizing the capacity of the existing treated water flow control facility to operate at the combined capacity of the TOVWTP effluent and the Project. This proposed budget increase includes Water Authority staff costs, third party professional services as well as the specific cost of the service contract amendment with CH2MHill Engineers (discussed below).

The staff recommendation will increase the CIP lifetime budget by \$80 million to fund Water Authority obligated work supporting the Carlsbad Desalination Project. Existing savings in the Fiscal Years 2012 and 2013 Capital Improvement Program Budget will be reallocated and reappropriated as determined by the General Manager for the approximately \$4.0 million in estimated project costs for the remainder of FY 2013. The staff recommendation also includes the transfer of unspent desalination-related funds into the Carlsbad Desalination Project K0301 project budget. Staff recommends moving all unspent funds (\$1,212,056) from R0105 (P3 Condition Assessment for Carlsbad Desalination) to K0301.

SUPPORTING CONTRACTS AND CONTRACT AMENDMENTS

Twin Oaks Valley Water Treatment Plant service contract amendment.

The Carlsbad Desalination Project (Project) includes conveying the desalinated water to the San Diego County Water Authority's Second Aqueduct, and north to the Twin Oaks Valley Water Treatment Plant (Plant) clearwells for blending, chemical addition as needed, and further distribution via the Water Authority's aqueduct system. Conveyance of desalinated water north to the Plant provides the Water Authority the greatest flexibility for distribution throughout San Diego County. As a result, modifications to the Twin Oaks Valley Water Treatment Plant are required to integrate Carlsbad desalinated water into the Water Authority's system. In order to accomplish the work at the Twin Oaks Valley Water Treatment Plant, an amendment is proposed to the service contract with CH2M Hill Engineers, Inc., to design, construct, and test improvements to the Twin Oaks Valley Water Treatment Plant. The Plant design-build-operate service contract was approved by the Board in September 2005. Design and substantial completion were performed by December 2007, and the Plant began operations in June 2008. The service contract requires CH2M Hill to operate the Plant until 2023, and also allows modifications to be implemented during the course of operations under amendments to the service contract using the design-build procurement method. The treatment plant was designed and constructed to accept treated water from an offsite source. The clearwells were sized for, and provided with influent connections and valves to accept additional treated water. Effluent piping from the clearwells and the connection to the Second Aqueduct Pipeline 4 were also sized for conveying combined maximum flows from the Plant and the Project.

The TOVWTP Improvements related to the Carlsbad Desalination Project include a 54-inch connection to Pipeline 3 and associated valves, approximately 1,100 feet of 54-inch diameter piping including a flow meter, connection to clearwell piping, clearwell blending improvements, chemical feed system modifications, and replacement of a flow control facility train. Other TOVWTP Improvements include a flow regulatory structure for the membrane facility that will increase the reliability of the plant when operating at the low range of its production capacity. Related security upgrades include relocating the TOVWTP entry gate and security cameras, additional fencing and gate to improve site security. The scope of services will be provided over a 13 month period commencing in January 2013. CH2M Hill will return in 2015 to assist with the testing of the integrated desalinated water conveyance system operation.

CH2M Hill has specific knowledge of the Treatment Plant and the adjacent aqueduct. This knowledge and experience will be critical for prompt design, construction, testing and resolution of issues during administration of the Water Purchase Agreement. These special circumstances justify staff's recommendation to amend CH2M Hill's service contract to design and construct the Plant improvements for the Project. CH2M Hill prepared a preliminary design and solicited proposals from qualified contractors to perform this work. After receipt of proposals, CH2M Hill provided the Water Authority a guaranteed lump sum price of \$16,276,170 to design and construct the improvements. Staff has reviewed CH2M Hill's solicitation documents and costs and determined all costs are appropriate. Staff is also negotiating the cost impacts to the annual operations and maintenance fee for additional chemical addition, equipment repair and replacement, and energy use with CH2M Hill.

Staff recommendation is to approve an amendment to the service contract with CH2M Hill Engineers, Inc. to design, construct, and test improvements to the Twin Oaks Valley Water Treatment Plant in the amount not to exceed \$16,276,170. This amount is included within the proposed CIP Budget increase.

Plant Owner Representative Services-Twin Oaks Valley Water Treatment Plant

Carollo Engineers, Inc., has provided owner's representative services to the Water Authority during the entire development phase of the Water Authority's Twin Oaks Valley Water Treatment Plant improvements. The development phase services included development of the procurement strategy, preparation of design requirements, preparation of Service Contract amendment for preliminary design, design review of the Plant improvements, evaluation of design-build qualifications, proposal and pricing, and preparation of final executable Service Contract Amendment with CH2M Hill to complete the Plant improvements.

Based on the prior work performed, Carollo has specific knowledge of the desalination project and Service Contract terms that are required during the administration of the executed service contract amendment. Early in the process of amending the service contracts, it became apparent that Carollo had a very detailed understanding of this extremely large and complicated contract. This knowledge will be critical for prompt resolution of issues during administration of the Service Contract amendment. These special circumstances justify staff's recommendation to retain Carollo for owner's representation services consisting of contract administration and

compliance services during the design, construction, and preliminary operation of the Plant improvements. Carollo has experience as a contract administration representative on several design-build and design-build-operate projects. Total fee for this portion of Carollo's work is not to exceed \$400,000.

Staff recommendation is to retain Carollo Engineers, Inc. for owner's representation services related to the TOVWTP Improvements in an amount not to exceed \$400,000. This amount is included within the proposed CIP Budget increase.

Engineering Support Services-Product Water Pipeline

Carollo has also been providing engineering support to the Water Authority during the planning and preliminary design development of the Product Water Pipeline by Poseidon. Carollo has been instrumental in analyzing key technical issues that are included in the Design-Build Agreement to ensure the safe and reliable operation of the desalinated water pipeline. The unique features of the Product Water Pipeline require specialized technical expertise in high-pressure pipelines, which can reach pressures as high as 500 psi under normal operating conditions. The design of the pipeline is unique and will continue to progress during the design-build process. Carollo possesses critical knowledge of the high pressure pipeline design. These special circumstances justify staff's recommendation to retain Carollo for technical reviews during the design and construction phases.

Due to the special circumstances outlined above for both the Plant Owner Representative Services for the Twin Oaks Valley Water Treatment Plant and the Engineering Support Services for the Product Water Pipeline, staff is requesting a waiver of competition and for the Board to authorize the General Manager to award a Professional Services Contract to Carollo Engineers, Inc. The scope of work for Carollo for this aspect of the work includes project management duties, design and constructability reviews of the high pressure pipelines and appurtenances, review of construction submittals and shop drawings, technical support for construction oversight, start-up, and acceptance testing, and related contract administration and compliance tasks. The scope of these services will be provided over 36-months.

Staff recommendation is to retain Carollo Engineers, Inc. for Product Water Pipeline engineering support services in an amount not to exceed \$1,600,000. This amount is included within the proposed CIP Budget increase.

On-Site Technical Services

Under an amendment to the On-Site contract, consultant staff will augment Water Authority staff and provide in-plant fabrication oversight of large diameter pipe, valves and valve actuators, and instrumentation equipment for the desalinated water conveyance pipeline and related Pipeline 3 relining projects. Additional work items include quality assurance oversight during pipeline installation.

Staff recommendation is to amend the contract with On-Site Technical Services to support the work associated with the Carlsbad Desalination Project in an amount not to exceed \$3,200,000. This amount is included within the proposed CIP Budget increase.

WPA and Design-Build Agreement Technical Support

Because of the complex and technical nature of the Project, staff has utilized specialized expertise to conduct Project due diligence and to assist staff in the preparation and negotiation of a final Water Purchase Agreement. Staff used SAIC Energy, Environment and Infrastructure (SAIC) to support the development of the technical aspects of the Water Purchase Agreement and the Design-Build Agreement. With approval of the project, there will be a number of immediate contract administration and design and construction review requirements. Due to SAIC's involvement in the development of the Water Purchase and Design-Build Agreements, staff believes that SAIC is best suited to support the Water Authority's initial, short-term tasks and responsibilities related to project implementation. Over the long term, Staff plans to competitively procure consultant services to assist the Water Authority in carrying out its contractual responsibilities over the course of the three-year anticipated design and construction period for the Project

Staff recommendation is to amend the contract with SAIC Energy, Environment and Infrastructure to support initial implementation of the WPA and the Project in an amount not to exceed \$310,000. This amount is included within the proposed CIP Budget increase.

The contracts discussed in this section constitute the immediate services required to support the timely execution of the design, construction and start-up of the desalination facilities and are included within the proposed increase to the CIP budget. They are on file with the Clerk of the Board. Other contracts, also included within the proposed CIP budget increase, will be necessary to complete the Pipeline 3 Improvements and the San Marcos Vent replacement and the Water Authority's review and oversight responsibilities. There also may be a need for specialty services dictated by the project schedule or the means and methods of the Product Water Pipeline Design-Builder. Staff anticipates bringing these contracts to the Board over the next several months as the Project design and construction activities ramp up.

CONCLUSION

The staff recommendation will implement the Water Authority's 2010 Urban Water Management Plan goal of providing 50 MDG of local supply and is consistent with the supply from the West alternative evaluated in the 2003 Final Program Environmental Impact Report for the Water Authority's Regional Water Facilities Master Plan Project, as well as the Term Sheet approved by the Board in July 2010.

Prepared by: Ken Weinberg, Director of Water Resources
Tracy McCraner, Director of Finance /Treasurer
Reviewed by: Sandra L. Kerl, Deputy General Manager
Approved by: Maureen A. Stapleton, General Manager
Daniel S. Hentschke, General Counsel

Attachments:

Resolution No. 2012-____
Second Addendum to the Carlsbad Precise Development Plan and Desalination Plant Final EIR
Project Modification Mitigation Monitoring and Reporting Program

RESOLUTION NO. 2012- ____

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN DIEGO COUNTY WATER AUTHORITY APPROVING A WATER PURCHASE AGREEMENT AND A DESIGN-BUILD AGREEMENT FOR PIPELINE IMPROVEMENTS WITH POSEIDON RESOURCES, CHANNELSIDE LP; APPROVING AN INSTALLMENT SALE AND ASSIGNMENT AGREEMENT WITH THE SAN DIEGO COUNTY WATER AUTHORITY FINANCING AGENCY AND OTHER AGREEMENTS NECESSARY TO ACCOMPLISH TAX EXEMPT PROJECT FINANCING THROUGH THE CALIFORNIA POLLUTION CONTROL FINANCING AUTHORITY; APPROVING ADJUSTMENTS TO THE CAPITAL IMPROVEMENT PROGRAM BUDGET; APPROVING SUPPORTING CONTRACTS AND CONTRACT AMENDMENTS; APPROVING THE SECOND ADDENDUM TO THE CITY OF CARLSBAD PRECISE DEVELOPMENT PLAN AND DESALINATION PROJECT ENVIRONMENTAL IMPACT REPORT (STATE CLEARING HOUSE NO. 2004041081); ADOPTING A MITIGATION MONITORING AND REPORTING PROGRAM; AUTHORIZING THE FILING OF A NOTICE OF DETERMINATION; AND AUTHORIZING THE GENERAL MANAGER AND GENERAL COUNSEL TO EXECUTE AGREEMENTS AND TAKE OTHER ACTIONS NECESSARY FOR IMPLEMENTATION OF THE CARLSBAD DESALINATION PROJECT

WHEREAS, in its 2000 Urban Water Management Plan, the Water Authority identified seawater desalination as a potential new local water supply source and identified property in the City of Carlsbad as a likely location for a new seawater desalination facility, in addition to increased reliance on enhanced water conservation and increased water recycling, as an important component of the Water Authority's diversified water supply portfolio; and

WHEREAS, on November 20, 2003, the Water Authority Board of Directors adopted Resolution No. 2003-34 certifying the Final Program Environmental Impact Report (State Clearinghouse No. 2003021052) for the Water Authority's Regional Water Facilities Master Plan Project (the "Master Plan EIR"), which evaluated, among other things, potential growth inducing impacts associated with new water supplies to the region including, but not limited to, up to 150 million gallons per day ("MGD") of new supplies from seawater desalination. This certification included a 50 MGD plant located in the City of Carlsbad, and also approved for planning purposes the list of projects, including desalination, identified in the Master Plan EIR's "Supply from the West" alternative; and

WHEREAS, on September 8, 2005, the Board adopted Resolution No. 2005-31 certifying a Final Environmental Impact Report for the Twin Oaks Valley Water Treatment Plant Project (State Clearinghouse No. 20040071034) (the "Twin Oaks EIR"), which project was constructed as a 100 MGD submerged membrane water treatment facility, including treated water holding

tanks and distribution pipelines and other facilities, consistent with the conditions and mitigation measures included in the Twin Oaks EIR; and

WHEREAS, in its 2005 Urban Water Management Plan (updated in 2007), the Water Authority again identified seawater desalination as an important new source of water providing diversification and water supply reliability benefits as a new drought-proof, treated water supply, and established a local seawater desalination goal of 56,000 acre feet annually (AF/YR); and

WHEREAS, in its 2010 Urban Water Management Plan, the Water Authority again described desalination as an important element of its water supply portfolio, and further refined its discussion of desalination to recognize the permitted status of the Carlsbad Seawater Desalination Project of Poseidon Resources (Channelside) LP (“Poseidon”) as well as the July 2010 approval by the Board of a Term Sheet for the preparation of a water purchase agreement between Poseidon and the Water Authority; and

WHEREAS, the 2010 Urban Water Management Plan includes a thorough discussion of other local water supplies, including increased conservation in response to Senate Bill 7 of the 2009 Seventh Extraordinary Session (SBX7-7), increased water recycling, the potential for indirect potable reuse (including the City of San Diego’s Water Purification Demonstration Project), and potential for receiving water from desalination projects located in the Republic of Mexico; and

WHEREAS, on December 8, 2010, the Board adopted Resolution No. 2010-18 certifying a Final Environmental Impact Report/Environmental Impact Statement for the San Diego County Water Authority Subregional Natural Community Conservation Plan/Habitat Conservation Plan (State Clearinghouse No. 2003121012) (the “Habitat Conservation Plan EIR/EIS”), which Plan was implemented on December 28, 2011; and

WHEREAS, the City of Carlsbad, acting as lead agency for Carlsbad Seawater Desalination Plant and appurtenant facilities proposed by Poseidon (the “Project”) prepared an Environmental Impact Report for the Project in compliance with the California Environmental Quality Act (“CEQA”), which the City of Carlsbad certified on June 13, 2006 (“Carlsbad EIR”); and

WHEREAS, the City of Carlsbad prepared an Addendum to the Carlsbad EIR (“Addendum”) which was adopted on September 15, 2009, and reflects minor and immaterial design modifications to the Project site plan, appurtenant facilities, and water delivery pipeline network; and

WHEREAS, the Project is fully permitted, with the California Coastal Commission issuing the following permits: Coastal Development Permit No. E-06-013, Energy Minimization and Greenhouse Gas Reduction Plan (December 2008), Marine Life Mitigation Plan (December 2008), Erosion Control Plan (November 2009), Landscaping Plan (September 2009), Lighting Plan (August 2009), Construction Plan (September 2009), and Water Pollution Control Plan (September 2009); the California Department of Public Health issuing Conceptual Approval Letter dated October 19, 2006; the California Regional Water Quality Control Board issuing

NPDES Permit No. CA0109223 and Notice of Intent to Discharge for Storm Water Associated with Construction Activities (WDID #9 37C361181); the City of Carlsbad issuing Redevelopment Permit RP 05-12(A), Specific Plan 144 with Amendment 144(J) SP 144(J), Habitat Management Plan Permit Amendment HMP 05-08(A), Precise Development Plan PDP 00-02(B), Mitigation Monitoring and Reporting Program for EIR 03-05(A), Development Agreement DA 05-01(A), Standard Urban Storm Water Mitigation Program (September 2009), and Coastal Development Permit 04-41; the State of California State Lands Commission issuing an Amendment of Lease PRC 8727.1 (August 2008); and

WHEREAS, minor and immaterial design modifications have been made to the pipeline for the Project, including: (1) a pipeline alignment modification and associated pumping well in Macario Canyon near Cannon Road and Faraday Avenue in Carlsbad; and (2) a new chemical injection facility and associated piping at the San Marcos connection point for potential treatment of water ; and

WHEREAS, changes to the originally-approved distribution system require minor and immaterial modifications to existing Water Authority Facilities in order to accept the new desalinated water from the Project, including: (1) the relining of a 5.5 mile long segment of the existing Pipeline 3 to allow for desalinated water to flow from the desalination plant to the Twin Oaks Valley Water Treatment Plant; (2) installation of valves, a flow meter, and appurtenant piping on Pipelines 3 and 4 to enable the reversed water flow; (3) a replacement vent along Pipeline 4 in San Marcos to allow for the flow of water between Pipelines 4; and (4) modifications to the Twin Oaks Valley Water Treatment Plant including the construction of a new pipeline segment connecting Pipeline 3 to the existing pipeline inlets of two treated water storage tanks, the installation of a chemical injection and monitoring station, and pump well associated with the pipeline segment, and the installation of a third flow control facility that would be located adjacent to the two existing treated water flow control facilities (collectively, along with the Project pipeline modifications described above, hereinafter referred to as the “Project Modifications); and

WHEREAS, the Project Modifications are desirable to the Water Authority because they will: 1) allow desalinated water to be stored and blended with potable water at the Twin Oaks Valley Water Treatment Plant, thus providing enhanced reliability of water supply at the Plant; and 2) allow for greater operational flexibility and efficiency in receiving and delivering the Product Water; and

WHEREAS, the Habitat Conservation Plan EIR/EIS is relevant to the Project Modifications because it addresses potential impacts of Water Authority activities, on sensitive biological resources not already covered by the permits issued to Poseidon, such as installation, operation, maintenance, and repair of aqueduct and water conveyance, treatment, and storage systems as well as the ongoing operations and maintenance activities associated with the Project Modifications; and

WHEREAS, the Second Addendum to the Carlsbad EIR was prepared on behalf of the Water Authority by firms or persons having expertise in the analysis of environmental effects of projects and in the preparation of environmental documentation, to determine if the preparation

of a subsequent or supplemental EIR was required for the Project Modifications (“Carlsbad Second Addendum”); and

WHEREAS, the Water Authority is acting as a responsible agency under CEQA in connection with the approval of the Carlsbad Second Addendum, the Agreements, and the Project Modifications described above; and

WHEREAS, before it takes action on the Project Modifications above, CEQA requires a responsible agency to review the lead agency’s EIR, and, if the Project Modifications result in any significant new environmental effects, make findings for each new significant effect of a project, and adopt a Statement of Overriding Considerations and Mitigation Monitoring and Reporting Program if necessary; and

WHEREAS, in connection with the consideration of the Project, the Board held public meetings in compliance with applicable law on the following dates: July 23, 2009 (Water Planning Committee/Formal Board), December 17, 2009 (Water Planning Committee/Formal Board), May 27, 2010 (Water Planning Committee), June 10, 2010 (Joint Meeting – Special Board & Water Planning Committee), June 24, 2010 (Water Planning Committee/Formal Board), July 22, 2010 (Water Planning Committee/Formal Board), September 23, 2010 (Water Planning Committee/Formal Board), October 28, 2010 (Water Planning Committee), December 9, 2010 (Water Planning Committee/Formal Board), June 23, 2011 (Water Planning Committee/Formal Board), August 25, 2011 (Water Planning Committee/Formal Board), October 27, 2011 (Water Planning Committee/Formal Board), December 8, 2011 (Water Planning Committee), January 26, 2012 (Water Planning Committee/Formal Board), February 23, 2012 (Water Planning Committee), March 22, 2012 (Water Planning Committee), April 19, 2012 (Special Water Planning Committee), April 26, 2012 (Water Planning Committee), May 24, 2012 (Water Planning Committee/Engineering & Ops Committee/Formal Board), June 14, 2012 (Special Board Workshop), June 28, 2012 (Water Planning Committee/Engineering & Ops Committee/Formal Board), July 12, 2012 (Special Board Workshop), July 26, 2012 (Water Planning Committee), August 9, 2012 (Special Board Workshop), August 23, 2012 (Water Planning Committee/Administrative & Finance Committee), September 20, 2012 (Special Board Workshop), September 27, 2012 (Water Planning Committee/Administrative & Finance Committee), October 2, 2012 (Special Water Planning Committee – Public Workshop), October 10, 2012 (Special Water Planning Committee – Public Workshop), October 11, 2012 (Special Board – Workshop), October 25, 2012 (Water Planning Committee/Formal Board); and

WHEREAS, on November 8, 2012, the Carlsbad EIR and the Carlsbad Addendum were presented to the Board and the Board reviewed and considered the information found in these environmental documents, including the Findings of Fact, the Statements of Overriding Considerations, and the Mitigation Monitoring and Reporting Programs; and

WHEREAS, the Habitat Conservation Plan EIR/EIS was previously reviewed and certified by the Board, is listed by the clearinghouse number above and is available for review at the Water Authority headquarters, located at 4677 Overland Avenue, San Diego, California; and

WHEREAS, the Carlsbad Second Addendum was presented to the Board and the Board reviewed and considered the information found in the Carlsbad Second Addendum prior to making a decision on the Agreements and the Project Modifications; and

WHEREAS, the Water Authority staff has presented and the Board has considered the following agreements necessary for implementation of the Project:

- the Carlsbad Seawater Desalination Project Water Purchase Agreement between the San Diego County Water Authority and Poseidon Resources (Channelside) LP (“Water Purchase Agreement”), which sets forth the terms under which the Water Authority will purchase Product Water from Poseidon and the criteria for the production, conveyance, exchange, and delivery of Product Water from the Project to the Water Authority;
- the Design-Build Agreement for the Product Water Pipeline Improvements Relating to the Carlsbad Seawater Desalination Project between the San Diego County Water Authority and Poseidon Resources (Channelside) LP (“Pipeline DBA”) which sets forth the terms for the design and construction of the Product Water Pipeline;
- the Loan Agreement between the California Pollution Control Financing Authority and the San Diego County Water Authority Financing Agency;
- the Pipeline Installment Sale and Assignment Agreement between the San Diego County Water Authority and the San Diego County Water Authority Financing Agency (“Installment Sale Agreement”);
- the Bond Purchase Agreement for the California Pollution Control Financing Authority Water Furnishing Revenue Bonds (Poseidon Resources (Channelside) LP Desalination Project) Series 2012 (“Plant Bonds Purchase Agreement”);
- the Bond Purchase Agreement for the California Pollution Control Financing Authority Water Furnishing Revenue Bonds (San Diego County Water Authority Desalination Project Pipeline) Series 2012 (“Pipeline Bonds Purchase Agreement”);
- The Collateral Trust Agreement between Poseidon Resources (Channelside) LP, Union Bank, as Collateral Agent, and Union Bank, as trustee for the Plant and Pipeline Indentures;
- the Pipeline Bond Indenture; and
- the Collateral Agent’s Remedies Agreement between the San Diego County Water Authority and Union Bank, as Collateral Agent; and

WHEREAS, the Water Authority and the San Diego County Water Authority Financing Agency (“Financing Agency”) have requested the California Pollution Control Financing Authority (“Issuer”) issue its revenue bonds in an amount not to exceed \$270,000,000 to assist in the financing of the Pipeline; and

WHEREAS, the proceeds of such revenue bonds will be loaned to the Financing Agency under the Pipeline Loan Agreement between the Financing Agency and the Issuer; and

WHEREAS, the Financing Agency will provide the loan proceeds to the Water Authority for the purposes of and pursuant to the Installment Sale Agreement; and

WHEREAS, loan repayments under the Pipeline Loan Agreement solely from, and the Financing Agency's obligation to make such loan repayments will be secured solely by, installment sale payments to be made by the Water Authority under the Installment Sale Agreement; and

WHEREAS, under certain circumstances, Poseidon Resources (Channelside) LP ("Poseidon") will be obligated to make contracted shortfall payments as described in the Water Purchase Agreement and the Design Build Agreement, which contracted shortfall payments have been assigned pursuant to the Installment Sale Agreement, the Pipeline Loan Agreement, and the Pipeline Indenture as additional security for the Pipeline Bonds, and the Financing Agency's and Water Authority's obligations to make loan or installment payments will be deemed satisfied to the extent Poseidon is obliged to make contracted shortfall payments (whether or not such contracted shortfall payments are made); and

WHEREAS, the Board has also considered the Preliminary Limited Offering Memorandum and the Tax Certificate on file with the Clerk of the Board; and

WHEREAS, having heard and considered the evidence, and being fully advised regarding the environmental consequences of approving the Agreements and the Project Modifications, it is in the interest of the Water Authority and the people it serves to approve the Carlsbad Second Addendum, the Agreements, and the Project Modifications and to make findings regarding the environmental effects of these actions;

NOW THEREFORE, the Board of Directors of the San Diego County Water Authority resolves as follows:

1. The foregoing recitals are adopted as findings and determinations of the Board.

RESPONSIBLE AGENCY CEQA FINDINGS AND DETERMINATIONS

2. Pursuant to CEQA Guidelines Section 15050(b), the Board has reviewed, analyzed, and considered the Carlsbad Second Addendum along with the Carlsbad EIR and Carlsbad Addendum, and finds that the Carlsbad Second Addendum reflects the independent judgment of the Board.

3. The Board, acting as a responsible agency under CEQA, has determined that the Carlsbad EIR and Carlsbad Addendum, are adequate, comply with the mandates of CEQA (Public Resources Code Sections 21000, *et seq.*) and the CEQA Guidelines (Title 14 California Code of Regulations, Section 15000, *et seq.*), and fully disclose and analyze the environmental impacts of the Project.

4. The Project Modifications described herein were analyzed in the Carlsbad Second Addendum. The Carlsbad Second Addendum provides comprehensive environmental analysis of all of the Project Modifications and is incorporated by reference. The Carlsbad Second Addendum concludes and the Board concurs that the proposed Project Modifications are minor and are not anticipated to create any new significant environmental impacts or substantially worsen or increase the severity of impacts already identified in the Carlsbad EIR and Carlsbad Addendum.

5. The Board, acting as a responsible agency under CEQA, has determined that the information contained in the Second Addendum adequately discloses the environmental effects that would result from the Project Modifications and approval of the Agreements, that the Carlsbad Second Addendum has been presented to the Board and that the Board has reviewed and considered the information contained therein prior to approving the Agreements and the Project Modifications.

6. The Board finds that preparation of the Carlsbad Second Addendum was appropriate and in conformance with CEQA because some changes or additions to the Carlsbad EIR and Carlsbad Addendum were necessary, but none of the conditions described in CEQA Section 21166 or Sections 15162 and 15163 of the CEQA Guidelines calling for preparation of a subsequent or supplemental EIR have occurred, in that:

- a. The Project Modifications do not involve substantial changes to the Project which would require major revisions of the Carlsbad EIR or Carlsbad Addendum; there are no new significant environmental effects and no substantial increase in the severity of previously identified significant effects. As detailed in the Carlsbad Second Addendum, the analysis and mitigation contained in the Carlsbad EIR and Carlsbad Addendum remain adequate to address the potential environmental impacts of the Project. Although the Project Modifications were not considered in the Carlsbad EIR or the Carlsbad Addendum, the Carlsbad EIR and Addendum did analyze the impacts of connecting to a distribution system to move the water created by the Project through the region. For the reasons set forth in the Carlsbad Second Addendum, the relining of existing Pipeline 3, the installation of valves, a flow meter, and appurtenant piping on Pipelines 3 and 4, the vent replacement along Pipeline 4, the Macario Canyon Pipeline alignment modification and associated pumping well, the modifications to the second aqueduct connection point in San Marcos, and the modifications to the Twin Oaks Valley Water Treatment Plant do not present any potential new environmental impacts or any increase in severity in environmental impacts not already considered in the Carlsbad EIR or Carlsbad Addendum or addressed as necessary by existing mitigation measures detailed in the HCP EIR/EIS.
- b. There have been no substantial changes with respect to the circumstances under which the Project is being undertaken which would require major revisions to the Carlsbad EIR.
- c. There is no new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the Carlsbad Addendum was adopted in September 2009.
- d. The Project will not have any significant effects not discussed in the Carlsbad EIR or Carlsbad Addendum.
- e. There are no new or additional mitigation measures that would avoid or substantially reduce one or more significant effects that the Project would have on the environment.

- f. The Board has determined that the Carlsbad Second Addendum is adequate, and fully analyzes the environmental impacts of the Project Modifications and Agreement approvals.

7. The Carlsbad EIR and Carlsbad Addendum found that any potential environmental impacts of the Project in the following environmental categories are less than significant and therefore do not require mitigation measures: (1) Construction-Related Aesthetics Impacts; (2) Operational Air Quality Impacts; (3) Operational and Construction-Related Biological Resources Impacts; (4) Cultural Resources Impacts; (5) Geology and Soils Impacts; (6) Hazards and Hazardous Materials Impacts; (7) Hydrology and Water Quality Impacts; (8) Land Use and Planning Impacts; (9) Operational and Construction-Related Noise and Vibration Impacts; (10) Operational and Construction-Related Transportation and Traffic Impacts; (11) Public Utilities and Service System Impacts; (12) Cumulative Aesthetics Impacts; (13) Cumulative Biological Resources Impacts; (14) Cumulative Cultural Resources Impacts; (15) Cumulative Geology and Soils Impacts; (16) Cumulative Hazards and Hazardous Materials Impacts; (17) Cumulative Hydrology and Water Quality Impacts; (18) Cumulative Land Use and Planning Impacts; (19) Cumulative Noise and Vibration Impacts; (20) Cumulative Transportation and Traffic Impacts; and (21) Cumulative Public Utilities and Service System Impacts. The Carlsbad Second Addendum illustrates that the minor changes that encompass the Project Modifications do not change any of the prior findings of insignificant environmental impacts in these categories, and the Board agrees that there are no significant environmental impacts created by the Project Modifications in these categories.

8. The Carlsbad EIR and Carlsbad Addendum found, pursuant to CEQA Section 21081(a)(1), (2) and CEQA Guidelines Section 15091 (a)(1), (2), that changes or alterations have been required in, or incorporated into, the Project, which would avoid or substantially lessen any potentially significant effects, or, such changes or alterations are within the responsibility and jurisdiction of another Public Agency and have been, or can and should be, adopted by that other agency, in the following environmental categories: (1) Aesthetics; (2) Biological Resources; (3) Cultural Resources; (4) Geology and Soils; (5) Hazards and Hazardous Materials; (6) Hydrology and Water Quality; (7) Land Use and Planning; (8) Transportation and Traffic; and (9) Public Utilities and Service Systems. The Carlsbad EIR and Carlsbad Addendum further found that any potentially significant effects in the environmental categories specified above have been mitigated to a level that is less than significant after implementation of mitigation measures identified in the Carlsbad EIR and incorporated into the Mitigation Monitoring and Reporting Program. The Carlsbad Second Addendum found and the Board agrees that the Project Modifications create no new potentially significant effects in these categories after implementation of mitigation measures identified in the Carlsbad EIR and mitigation measures incorporated into the Mitigation Monitoring and Reporting Program.

9. All mitigation measures identified in the Carlsbad EIR, the Carlsbad Addendum and the Carlsbad Second Addendum applicable to the Project Modifications are hereby made conditions of approval of the Project, the Board approves the Project Modification Mitigation Monitoring and Reporting Plan previously provided to the Board and incorporated by reference herein and the General Manager or her designated representative is assigned the task of implementing the Project Modification Mitigation Monitoring and Reporting Program.

10. Some of the Project Modifications that will be made in furtherance of the Project will result in modifications to the Twin Oaks Valley Water Treatment Plant and existing Water Authority conveyance facilities. Because CEQA requires an analysis of the “whole of an action” which has the potential to cause a physical change in the environment, (CEQA Guidelines § 15378(a)), the modifications to the Twin Oaks Valley Water Treatment Plant and existing Water Authority conveyance facilities could be viewed as an indirect effect of the Project, and are analyzed in the Carlsbad Second Addendum to ensure that all potential effects of the Project Modifications are fully addressed. However, as described herein and in the Carlsbad Second Addendum, none of the Project Modifications rises to the level of significance after implementation of mitigation measures identified in the Carlsbad EIR and incorporated into the Project Modification Mitigation Monitoring and Reporting Program.

11. The Carlsbad EIR and Carlsbad Addendum found that significant unavoidable environmental impacts would occur in the following environmental categories: (1) Cumulative Air Quality; and (2) Indirect Growth Inducement. The Water Authority, acting as a responsible agency, finds that since the certification of the Carlsbad EIR and adoption of the Carlsbad Addendum, minor additional cumulative development may have been proposed and/or constructed. However, the analysis contained in the Carlsbad Addendum occurred during a severe economic downturn, which has resulted in a virtual curtailment of development activities within the Project area. The minor amount of land development projects that have been proposed and/or developed in the intervening time since the preparation of the Carlsbad Addendum is not considered to be substantial. Further, pursuant to CEQA Guidelines Section 15096(g), the Board as a responsible agency is responsible for mitigating and avoiding only the direct or indirect environmental effects of those parts of the Project which it decides to carry out, finance, or approve.

- a. Cumulative Air Quality: The Carlsbad EIR found that because of their long-term nature, emissions from operations of the Project for pollutants for which the San Diego air basin is not in attainment with state and federal standards are considered cumulatively significant. As a Responsible Agency under CEQA, the Board finds that the Project Modifications (minor changes to the distribution system with no proposed changes to the plant itself) will not result in any additional contribution to temporary regional air quality impacts not already considered by the Carlsbad EIR and Carlsbad Addendum. Specifically, because the construction of the Project Modifications will occupy a relatively small area at any given time, it is not anticipated that any significant localized cumulative impacts will result. Further, while the Carlsbad EIR had assumed that seven segments of 1,000 feet of pipeline would be constructed at any given time, under the new construction schedule there would be no more than two segments of 1,000 feet of pipeline constructed simultaneously. As a result, the disclosed construction emissions in the Carlsbad EIR associated with the off-site pipelines are substantially overestimated when the revised construction scenario is considered, and the Carlsbad Second Addendum determined that the construction activities associated with the proposed Project Modifications, in combination with the construction activities associated with pipeline construction, would not exceed the emissions previously disclosed in the Carlsbad EIR for any criteria pollutant. Similar to the findings of the Carlsbad EIR and

Addendum, the construction-related air pollution emissions from the proposed Project Modifications would be temporary and would not be expected to have a permanent significant impact on ambient air quality.

- b. Indirect Growth Inducement: The Carlsbad EIR and Addendum analyzed the growth-inducing impacts of the supply of fresh water that would be created by the Project. The proposed Project Modifications consist of minor modifications to the distribution system of the Project, and necessary modifications to existing Water Authority facilities in order to accept, store and distribute the Project water. No additional water supplies will be created by these Project Modifications. The operation of the facility and its potable water-producing capacity will not change from what was evaluated in the Carlsbad EIR for the approved Project. Therefore, no changes relative to the analysis or conclusions related to growth inducement would occur with the proposed Project Modifications. Likewise, no changes relative to the analysis or conclusions related to growth inducement would occur with the approval of the Agreements necessary to implement the Project Modifications. In analyzing Indirect Growth Inducement, the Carlsbad EIR assumed that member agencies would purchase Product Water directly from Poseidon. The Water Purchase Agreement contemplates that the Water Authority will now purchase Product Water from Poseidon before distributing Product Water to the member agencies. The Water Authority previously analyzed growth inducing impacts resulting from implementation of the projects reviewed in the Final Program Environmental Impact Report (State Clearinghouse No. 2003021052) for the Water Authority's Regional Water Facilities Master Plan Project (the "Master Plan EIR"). The Water Authority relies on its prior certified Master Plan EIR in the approval of this action. However, additionally, the Board agrees with the City of Carlsbad that the affected member agencies' purchase of water from a different supplier (from the Water Authority rather than directly from Poseidon) is not anticipated to:
 - i. Have any effect on planned growth within the service area of the Project. The Project contributes to the new supplies identified in the RWFMP and constitutes a portion of the new water supplies that have been considered and analyzed on a regional level, therefore the Project is not anticipated to provide additional supplies over and above what is already contemplated for the San Diego region; or
 - ii. Result in any changes to existing land use plans, growth projections, or growth management policies of the local land use authorities within the respective service areas of the districts because member agencies purchase and deliver water to retail customers, and do not have direct authority over land use, and cannot approve or disapprove any changes in land use that would directly affect population projections. The agencies with local land use authority within the Project's service area are the cities of Carlsbad, Oceanside, Vista, Encinitas, Solana Beach, Del Mar, San Diego, and San Marcos. These communities are nearing or close to build out, and the availability of developable land is the primary factor in future growth potential. Desalinated seawater is already considered in regional growth analyses conducted by SANDAG, as contained in its 2004 Regional Comprehensive Plan and in demand projections by the Water Authority as contained in its 2003

RWFMP. The Project will not supply water in excess of what is already anticipated to meet future projected needs.

Further, the Water Authority finds that its decision to purchase the Product Water will not result in any physical change to the operation of the Project, and instead simply concerns the entity purchasing the desalinated water that will be produced and distributed in the same manner previously analyzed in the Carlsbad EIR and Carlsbad Addendum, with the exception of the Project Modifications addressed in the Carlsbad Second Addendum, which will not cause a new significant environmental impact or an increase in the severity of a previously identified impact.

Accordingly, the Board finds that there are no direct or indirect environmental effects of the Water Purchase Agreement or other ancillary agreements which have not been previously addressed by the Master Plan EIR, Carlsbad EIR, Carlsbad Addendum, and Carlsbad Second Addendum.

12. In the issuance of the permits pursuant to which the Plant and Pipeline will be constructed the City of Carlsbad made the following determinations or imposed the following conditions, compliance with which are obligations of Poseidon in accordance with the Water Purchase Agreement and the Design-Build Agreement: The complete Findings of Fact and Statement of Overriding Considerations, as modified by the Additional Responses to Comments, adopted by the City of Carlsbad in June 2006; The Mitigation Monitoring and Reporting Program adopted by the City of Carlsbad in June 2006; The Carlsbad Addendum adopted by the City of Carlsbad as findings in September 2009; and The Carlsbad Second Addendum adopted by the Water Authority as findings in November 2012.

13. With the exception of those mitigation measures set forth in the adopted Mitigation Monitoring and Reporting Plan which are within the responsibility and jurisdiction of other public agencies and have been, or can and should be, adopted by those other agencies, the Board finds that there are no feasible alternatives or feasible mitigation measures within its power to adopt that would substantially lessen or avoid any significant effect the Project would have on the environment.

WATER PURCHASE AGREEMENT

14. The Water Purchase Agreement in substantially the form of the draft dated November 20, 2012 on file with the Clerk of the Board is approved. The General Manager, with the concurrence of the General Counsel is authorized to finally approve and execute the agreement, with such minor insertions, deletions, or changes therein as approved by the General Manager with the concurrence of the General Counsel, with such final approval to be conclusively evidenced by execution and delivery thereof.

DESIGN-BUILD AGREEMENT

15. The Design-Build Agreement in substantially the form of the draft dated November 20, 2012 on file with the Clerk of the Board is approved. The General Manager, with the concurrence of the General Counsel is authorized to finally approve and execute the agreement, with such minor

insertions, deletions, or changes therein as approved by the General Manager with the concurrence of the General Counsel, with such final approval to be conclusively evidenced by execution and delivery thereof.

FINANCE DOCUMENTS

16. The Chair of the Board, the General Manager, and the Director of Finance/Treasurer (each, and “Authorized Officer”) are each acting individually, authorized and directed, on behalf of the Water Authority, to execute and deliver each or any of the financing documents listed in the following paragraph, substantially in the approved form, with such changes as the Authorized Officer executing such document may, with the concurrence of the General Counsel, require or approve, such approval to be conclusively evidenced by the execution and delivery thereof.

17. The following agreements on file with the Clerk of the Board are approved and may be executed on behalf of the Water Authority as provided in paragraph 16 of this resolution:

- Pipeline Installment Sale and Assignment Agreement between the San Diego County Water Authority and the San Diego County Water Authority Financing Agency (“Installment Sale Agreement”);
- Bond Purchase Agreement for the California Pollution Control Financing Authority Water Furnishing Revenue Bonds (Poseidon Resources (Channelside) LP Desalination Project) Series 2012 (“Plant Bonds Purchase Agreement”);
- Bond Purchase Agreement for the California Pollution Control Financing Authority Water Furnishing Revenue Bonds (San Diego County Water Authority Desalination Project Pipeline) Series 2012 (“Pipeline Bonds Purchase Agreement”);
- Collateral Agent’s Remedies Agreement between the San Diego County Water Authority and Union Bank, as collateral agent.

18. The form of the Limited Offering Memorandum is hereby approved. The Authorized Officers are each, acting individually, hereby authorized and directed, on behalf of the Water Authority, and with the concurrence of the General Counsel of the Water Authority, to approve the distribution of a Preliminary Limited Offering Memorandum in substantially such form and to certify that such Preliminary Limited Offering Memorandum is, as of its date, “deemed final” by the Water Authority for purposes of Rule 15c2-12 of the Securities and Exchange Commission. The Authorized Officers are hereby authorized and directed, on behalf of the Water Authority, to cause to be prepared and to execute and deliver to the purchasers of the Bonds a Limited Offering Memorandum in substantially the form of the Preliminary Limited Offering Memorandum, with such changes as such officers may, with the concurrence of the General Counsel of the Water Authority, require or approve, such approval to be conclusively evidenced by the execution and delivery thereof, to authorize the distribution of said Limited Offering Memorandum and to certify that said Limited Offering Memorandum is, as of its date, “final and complete” for purposes of Rule 15c2-12 of the Securities and Exchange Commission.

19. The Tax Certificate substantially in the form on file with the Clerk of the Board is approved.

CAPITAL IMPROVEMENT PROGRAM BUDGET ADJUSTMENT

20. The CIP lifetime budget is increased by \$80 million from \$3.53 billion to \$3.61 billion for the capital costs associated with the Carlsbad Desalination Project. Existing savings in the Fiscal Years 2012 and 2013 Capital Improvement Program Budget are reallocated and reappropriated as determined by the General Manager for the approximately \$4.0 million in estimated project costs for the remainder of FY 2013. Expenditures in future years are dependent upon appropriations by the Board approval of future biennial budgets.

SUPPORTING CONTRACTS AND CONTRACT AMENDMENTS

21. The General Manager, with the concurrence of the General Counsel, is authorized to execute the supporting contracts and contract amendments referenced in the Board memorandum dated November, 20, 2012 relating to the Carlsbad Desalination Project.

NOTICE OF DETERMINATION

22. The General Manager is directed to file a Notice of Determination as provided in Sections 15094 and 15096(i) of the State CEQA Guidelines.

ADDITIONAL DELEGATION

23. The Authorized Officers are hereby authorized and directed, jointly and severally, with the concurrence of the General Counsel, to do any and all things and to execute and deliver any and all contracts and documents which they may deem necessary or advisable in order to consummate transactions contemplated or authorized by this resolution. The authority of the Authorized Officers and the General Counsel under this resolution may be delegated as provided in the Water Authority's Administrative Code.

PASSED, APPROVED AND ADOPTED THIS ____ DAY OF _____ 2012.

AYES:

NOES:

ABSTAIN:

ABSENT:

Thomas V. Wornham, Chair

ATTEST:

Michael T. Hogan, Secretary

I, Doria F. Lore, Clerk of the Board of Directors of the San Diego County Water Authority, certify that the vote shown above is correct and this Resolution No. 2012-_____ was duly adopted at the meeting of the Board of Directors on the date stated above.

Doria F. Lore
Clerk of the Board

**SECOND ADDENDUM
PRECISE DEVELOPMENT PLAN AND DESALINATION PLANT PROJECT
FINAL ENVIRONMENTAL IMPACT REPORT (EIR 03-05)
CITY OF CARLSBAD, CALIFORNIA**

*State Clearinghouse No. 2004041081
EIR Certified June 13, 2006*

Prepared for:

San Diego County Water Authority
4677 Overland Avenue
San Diego, California 92123

Prepared by:

Dudek
605 Third Street
Encinitas, California 92024

November 2012

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AMSL	above mean sea level
BSRA	Biologically Significant Resource Areas
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
dB	decibel
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPS	Encina Power Station
ERP	Emergency Response Plan
FEIR	Final Environmental Impact Report
gal/day	Gallons per day
GHG	greenhouse gas
GHG Plan	Energy Minimization and Greenhouse Gas Reduction Plan
HCP	Habitat Conservation Plan
HMA	Habitat Management Area
MBTA	Migratory Bird Treaty Act
mgd	million gallon per day
MWD	Metropolitan Water District of Southern California
NCCP	Natural Community Conservation Plan
PDP	Precise Development Plan
REC	Renewable Energy Credit
ROW	right-of-way
SDG&E	San Diego Gas and Electric
SWPPP	Stormwater Pollution Prevention Plan
TOVWTP	Twin Oaks Valley Water Treatment Plant
VWD	Vallecitos Water District
USFWS	U.S. Fish and Wildlife Service
Water Authority	San Diego County Water Authority

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1.0 INTRODUCTION/PROJECT BACKGROUND

The City of Carlsbad prepared and certified the Carlsbad Precise Development Plan and Desalination Plant Final Environmental Impact Report (FEIR) (City of Carlsbad 2006) and First Addendum (City of Carlsbad 2009) for the Carlsbad Desalination Project (Project). The FEIR analyzed all components of the Project, including a 50 million gallon per day (mgd) seawater desalination plant and off-site water conveyance facilities located within the cities of Carlsbad, Oceanside, and Vista. The First Addendum documented changes to the footprint of the desalination plant and off-site water conveyance facilities. Pursuant to Section 15367 of the California Environmental Quality Act (CEQA), the City of Carlsbad was the lead agency for the preparation of the FEIR. The FEIR documented that agencies other than the City of Carlsbad will use the FEIR when making a decision on aspects of the Project that require their approval. As noted in Section 3.4.2 of the FEIR, the product water created at the seawater desalination plant would be transmitted to local and/or regional storage and distribution systems. The delivery area for the product water was expected to include a number of local water agencies, municipalities, and the San Diego County Water Authority (Water Authority) and its member agencies. The Project described in the FEIR included the construction of new off-site pipelines that would need to be constructed to convey the product water to the City of Carlsbad, neighboring water agencies, and/or the Water Authority. Although multiple alternative pipeline alignments were analyzed by the City of Carlsbad in the FEIR, the analysis did not include potential impacts associated with modifying the Water Authority's facilities that would convey product water to the Water Authority distribution facilities (City of Carlsbad 2006).

In support of its mission, the Water Authority has determined that purchasing product water from the Project would improve long-term water supply reliability for the San Diego region. The Water Authority has been working closely with several of its member agencies and the Project proponent, Poseidon Resources, regarding a water purchase agreement for potential Water Authority-owned local supply (of product water) from the Project.

The Water Authority has determined that minor changes to the previously approved off-site distribution system are necessary to allow for greater operational flexibility and efficiency in receiving and delivering the product water from the Project. Pursuant to Section 15381 of CEQA, the Water Authority is a responsible agency for the preparation of this Second Addendum to the Project's FEIR. The purpose of this Second Addendum is to evaluate the potential for environmental effects of the Water Authority's proposed minor modifications to the approved off-site water conveyance facilities and to determine if these modifications would result in any new significant impacts or any substantial increase in the severity of impacts addressed under the certified FEIR, as amended by the First Addendum.

To enhance the safety and reliability of deliveries from the Project to the Water Authority's aqueduct system, the Water Authority is proposing minor modifications to the Project scope

previously approved in the FEIR. Specifically, these include modifications at the Twin Oaks Valley Water Treatment Plant (TOVWTP), Pipeline 3 relining between San Marcos and the TOVWTP, modifications to the pipeline interconnection facilities at San Marcos, modifications to the Pipeline 4 San Marcos Vent Structure, and an alternative pipeline alignment near Cannon Road and Faraday Avenue. These improvements are under consideration to ensure the desalinated product water can be safely and reliably integrated into the Water Authority's existing regional distribution system. A description and purpose for each of these modifications is further discussed in Section 5.0.

On June 13, 2006, the City of Carlsbad approved the FEIR for the land use approvals to construct and operate the approximately 50 mgd Carlsbad Seawater Desalination Plant (desalination plant) adjacent to the Encina Power Station (EPS). The FEIR also analyzed 17.4 miles of off-site conveyance pipelines, as well as ancillary facilities to carry and store product water from the desalination plant (City of Carlsbad 2006). The FEIR included analysis of multiple options for the water conveyance pipelines, to allow for flexibility in the final design. To ensure that all impacts associated with the ultimate pipeline alignment were addressed, the FEIR considered at an equal level of detail the impacts associated with two primary pipeline alignment options, as well as several sub-alignments, though only one alignment was actually going to be built.

On September 15, 2009, the City of Carlsbad approved an Addendum to the FEIR (First Addendum), which documented changes to the footprint of the desalination plant and off-site water conveyance facilities. The pipeline alignment considered under the First Addendum consisted of approximately 16.2 miles of pipeline (a 7% reduction from the pipeline length analyzed in the FEIR). Additionally, with the pipeline alignment addressed under the First Addendum, environmental impacts associated with several segments of pipeline that were evaluated and mitigated for in the FEIR were avoided. Thus, the proposed project under the First Addendum represented reduced environmental impacts as compared to the impacts covered under the FEIR (City of Carlsbad 2009).

In addition to the FEIR and the First Addendum, one other approved CEQA document is relevant to the currently proposed Project changes. The Water Authority prepared a Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for the San Diego County Water Authority Subregional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) in October 2010 (Water Authority 2010a). This document is relevant in that it addresses potential impacts of Water Authority covered activities on sensitive biological resources and results in issuance of a federal incidental take permit pursuant to Section 10(a)(1)(B) of the Endangered Species Act and State take permit pursuant to Section 2835 of the California Fish and Game Code. The federal and State permits require, and the associated NCCP/HCP implementing agreement contractually binds, the Water Authority to implement applicable project design features and mitigation measures on a project by project basis when conducting covered

activities in or adjacent to covered species habitats. Covered activities include new construction and typical expansion of existing infrastructure, as well as ongoing installation, use maintenance, and repair of aqueduct and water conveyance, treatment, and storage systems. Activities associated with the proposed Project modifications are subject to the biological requirements and mitigation measures in the aforementioned Carlsbad FEIR and the First Addendum, with the exception of the application of biological mitigation to the proposed Twin Oaks Valley Water Treatment Plant Modifications, Pipeline 3 Relining, and Pipeline 4 Vent Replacement and Pipeline Interconnect components. The Water Authority is substituting its NCCP/HCP mitigation measures to address biological impacts for these proposed Project components, because it is contractually obligated to apply NCCP/HCP requirements and mitigation measures where there is the potential to impact biological resources associated with its covered activities. Where such requirements apply and are relevant, they are noted in the discussion below.

2.0 CEQA REQUIREMENTS

California Code of Regulations (CCR), Title 14 (CEQA Guidelines), Sections 15162 through 15164 discuss a lead or responsible agency's responsibilities in handling new information that was not included in a Project's FEIR. The provisions of Section 15164 apply to the Water Authority as the responsible agency under CEQA because the proposed modifications to the Project involve actions that are under the purview of the Water Authority.

Section 15162 of the CEQA Guidelines provides:

- (a) When an EIR has been certified...for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
 - 1. Substantial changes are proposed in the project which will require major revisions of the previous EIR...due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
 - 2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR ... due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
 - 3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete...shows any of the following:
 - (A) The project will have one or more significant effects not discussed in the previous EIR;

- (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
- (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
- (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Alternatively, where some changes or additions are necessary to the previously approved FEIR, but none of the changes or additions meet the standards as provided for, a subsequent EIR pursuant to CEQA Guidelines, Section 15162, then the lead or responsible agency is directed to prepare an addendum to the FEIR. (CEQA Guidelines, Section 15164). Further, the addendum should include a “brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162,” and that “explanation must be supported by substantial evidence.” (CEQA Guidelines, Section 15164(e)). The addendum need not be circulated for public review, but may simply be attached to the FEIR (CEQA Guidelines, Section 15164(c)).

This Second Addendum to the FEIR fulfills and conforms to the provisions of CEQA (California Public Resources Code, Section 21000 et seq.) and the CEQA Guidelines, Section 15164, providing for the preparation of an addendum. The CEQA Guidelines allow the preparation of an addendum to an EIR under the following circumstances (14 CCR 15000 et seq.):

1. Only minor technical changes or additions are necessary to make the EIR under consideration adequate;
2. The changes and additions to the EIR do not raise important new issues about significant effects on the environment;
3. None of the conditions described in Section 15162, CEQA Guidelines, calling for the preparation of a subsequent EIR have occurred.

3.0 PROJECT LOCATION AND REGIONAL SETTING

The majority of the proposed Project changes are generally located north of the City of San Marcos in the Twin Oaks Valley area in northern San Diego County, California (see Figure 1, Regional Map). Twin Oaks Valley lies between two local coastal mountain ranges: the San Marcos Mountains to the west and the Merriam Mountains to the east. In addition, and as

shown on Figures 1 and 2, several other Project components are located further south in the City of San Marcos, as well as within the City of Carlsbad.

The TOVWTP is located in an unincorporated area of San Diego County at the northern extent of Twin Oaks Valley. The approximately 35-acre site has elevations ranging from 1,050 feet above mean sea level (AMSL) at the northern and eastern boundaries to 1,240 feet AMSL along the western boundary. The San Marcos Mountains are located immediately west of the treatment plant. Residential and agricultural uses are to the north, east, and south.

Pipeline 3 of the Second San Diego Aqueduct is immediately adjacent to the TOVWTP and traverses agricultural, undeveloped land and residential uses, as well as roadways through Twin Oaks Valley for the first approximately 3.5 miles from the treatment plant south. The remaining 2 miles of pipeline are located within developed areas in the City of San Marcos.

The proposed Aqueduct Connection Point Modifications would be installed at an existing approximately 1-acre site located at the northwest corner of the intersection of Pawnee and Cherokee Streets in the City of San Marcos, just southwest of Highway 78. The site is at an elevation of approximately 575 feet AMSL and slopes gently to the south. Surrounding land uses include a shopping plaza and vacant land to the south; an auto parts store to the west; a shopping plaza, some restaurants, and an auto mechanic to the north; and office buildings to the east.

The Pipeline 4 Vent Replacement and Pipeline Interconnect would be located along Water Authority Pipeline 4 in an open space area just north of the San Elijo community within the City of San Marcos.

The Macario Canyon Pipeline Alignment Modification and Pumping Well would be installed in an open space area in Macario Canyon near the intersection of Cannon Road and Faraday Avenue in the City of Carlsbad.

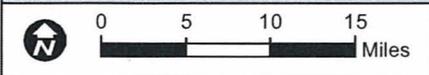
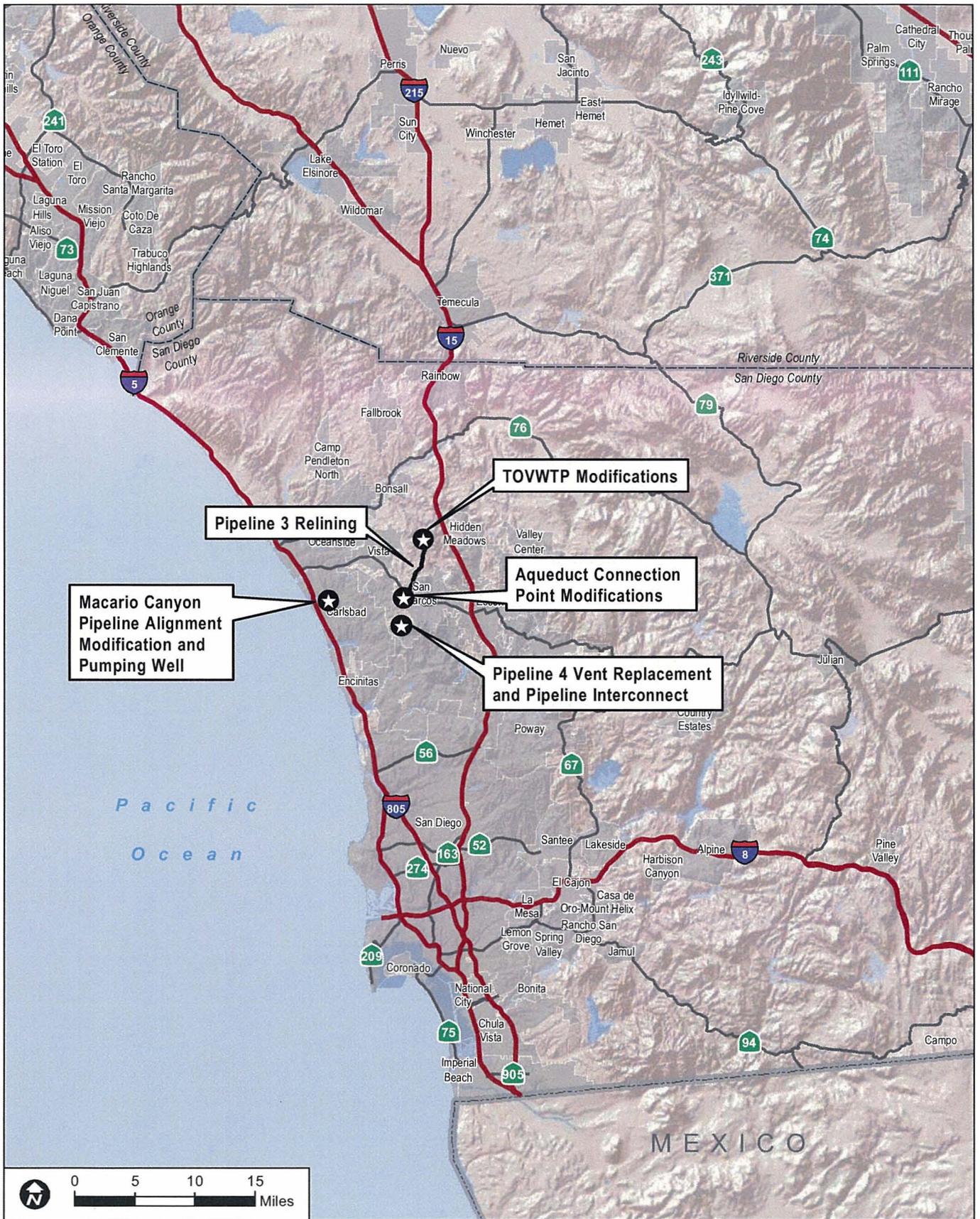
4.0 DESCRIPTION OF APPROVED PROJECT

In 2006, the City of Carlsbad approved an amendment to the Precise Development Plan (PDP) for the EPS to obtain land use approvals to construct and operate an approximately 50 mgd desalination plant and other appurtenant and ancillary water and support facilities to produce potable water. The Carlsbad Desalination Plant is to be located on the EPS site, adjacent to the existing power plant, located immediately south of the Agua Hedionda Lagoon, within the City of Carlsbad, in northern San Diego County. As approved in 2006, several pipeline routes would distribute product water from the Carlsbad Desalination Plant to the City of Carlsbad and various local and regional water agencies, including the Water Authority.

The FEIR analyzed multiple off-site pipeline alignments through portions of Carlsbad, Oceanside, and Vista. In 2009, Carlsbad approved the First Addendum to document minor modifications to the desalination plant site layout and the off-site product water pipeline routes. Per the currently

approved project, product water will be delivered into existing Vallecitos Water District (VWD) pipelines, regulated and metered through an approved Project flow-control facility to be constructed in the vicinity of Pawnee and Cherokee Streets in the City of San Marcos. The pipeline crossing Macario Canyon was analyzed as two options in the FEIR: one using trenchless construction methods north of Cannon Road, and one laying the pipelines within the existing roadway/bridge. The Coastal Development Permit for the Project went further to indicate that the pipelines would hang underneath the Cannon Road Bridge in the event that the trenchless option was not selected.

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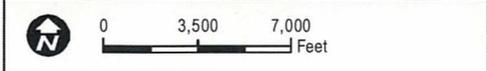
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FIGURE 1
Regional Map

Second Addendum to the Carlsbad Desalination Plant Project FEIR

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AERIAL SOURCE: BING Mapping Service

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Second Addendum to the Carlsbad Desalination Plant Project FEIR

FIGURE 2
Vicinity Map

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5.0 DESCRIPTION OF PROPOSED CHANGES TO THE PROJECT

The goal of the proposed Project changes is to enhance access to the desalination conveyance pipeline for operations and maintenance crews, enhance the pipelines' functional survivability and reliability, allow product water to be stored and blended with potable water at the TOVWTP before distribution, and to allow for greater operational flexibility and efficiency in delivering product water to the Water Authority's member agencies. Under these Project modifications, water from the desalination plant would flow north in Pipeline 3 from the Aqueduct Connection Point to be constructed at Pawnee and Cherokee Streets. At the TOVWTP, new facilities will divert flow from Pipeline 3 to existing treated water storage tanks for blending. In addition, the proposed Project changes include the Pipeline 4 Vent Replacement and Pipeline Interconnect in San Marcos, and the Macario Canyon Pipeline Alignment Modification and Pumping Well for a segment of the pipeline along Cannon Road in Carlsbad. Any vegetated areas disturbed during construction of these proposed Project modifications would be hydroseeded and restored following disturbance.

The location of all proposed Project modifications is shown on Figures 1 and 2. More specifically, the proposed Project changes entail the following improvements:

- ***Twin Oaks Valley Water Treatment Plant (TOVWTP) Modifications:*** Minor modifications to the treatment plant would include:
 - A new valve vault structure on Pipeline 3 to divert flows to the TOVWTP storage tanks
 - A new approximately 1,000-foot-long, 54-inch-diameter pipeline that would connect Pipeline 3 to the existing pipeline inlets of two treated water storage tanks
 - A chemical injection and monitoring station and pump well associated with the new 54-inch-diameter pipeline
 - A third flow-control facility with a 42-inch-diameter pipeline that would be located adjacent to the two existing treated water-flow control facilities (see Figure 3, TOVWTP Modifications).

All construction associated with the proposed 54-inch pipeline connection from Pipeline 3 to the treated water tanks would occur entirely within a Water Authority right-of-way (ROW) and the Water Authority-owned TOVWTP site. Specifically, 700 feet of the proposed pipeline is located on the treatment plant site, and the remaining 300 feet is within ROW that includes an existing road that connects from El Paso Alto Road to the treatment plant. Construction at the TOVWTP would be phased over a period of approximately 7 months, and is anticipated to begin in August 2013. The first phase of construction would consist of establishing connections to the existing pipeline and plant piping at a time when water treatment plant production is low. Construction during this

phase would include excavation, grading and filling, and welding. The second phase of construction would consist of installing the new 54-inch pipeline and installing a third flow-control facility (and associated pipeline) parallel to the existing two flow-control facilities. Construction during this phase would include excavation, grading, filling and welding, and pouring concrete, and would use the following equipment: two excavators, a backhoe, articulated trucks, a dozer, two loaders, a water truck, a compactor, an air compressor, pick-up trucks, a boom truck, a hydro crane, hand compactors, welding machines, and a job trailer. Construction equipment would access the TOVWTP via Twin Oaks Valley Road and local roads previously used for construction of TOVWTP. Construction staging would occur within the grounds of the treatment plant.

- **Pipeline 3 Relining:** Pipeline 3 currently operates as a gravity-flow system from north to south. Under the proposed operating scenario, the pipeline would be operated as a pressurized pipeline with flow from south to north. To safely and reliably operate the pipeline in this scenario, the existing 5.5-mile-long Pipeline 3 segment between the Aqueduct Connection Point and the TOVWTP will be relined. This segment of Pipeline 3 is in need of relining even without the proposed Project modifications, and would need to be relined within the next 12 years to remain in service. It is assumed for the purposes of this analysis that approximately 500 linear feet of Pipeline 3 will need replacing rather than relining. Pipeline 3 would be accessed via 15 portals located approximately 2,000 feet apart along the pipeline (see Figure 4, Pipeline Relining Portal Locations). The 85-foot by 20-foot excavated portals would be used to pull the pipe liner from high points along the pipeline that are generally associated with air vacuum/blow-off locations. Staging areas are anticipated to be approximately 300 feet by 100 feet, or approximately 0.69 acre in size.

Construction activities associated with the relining of Pipeline 3 would include the following phases:

- Portal Development
 - Duration and activities: 2 days at each portal to install fencing, as well as to install piles for shoring
 - Equipment used: two excavators, crane, loader/forklift
- Portal Excavation
 - Duration and activities: 3 days at each portal to install steel shoring plates and excavate portal
 - Equipment used: Excavator, loader, dump truck, water truck
- Existing Pipe Demolition
 - Duration and activities: 3 days at each portal to cut and remove existing pipeline

- Equipment used: Excavator, loader, air compressor, two welding rigs, dump truck
 - Steel Liner Installation
 - Duration and activities: 24 days at each portal to place and weld steel liners
 - Equipment used: Crane, two welding rigs, excavator
 - Grouting
 - Duration and activities: 10 days at each portal to grout annular spacing between new steel liner and existing concrete pipe
 - Equipment used: Grouting pump
 - Interior Mortar Lining
 - Duration and activities: 10 days to install mortar lining
 - Equipment used: Spin lining machine, blower/fan
 - Portal Closure
 - Duration and activities: 14 days at each portal to install new welded steel pipe, install reinforcing steel, pour concrete, and backfill
 - Equipment used: Crane, two welding rigs, excavator, concrete, truck, water truck
 - Site Restoration.
- ***Aqueduct Connection Point Modifications:*** The proposed modifications to the Water Authority's Aqueduct Connection Point in San Marcos to enable northward flow would include installation of valves in Pipelines 3 and 4, a flow meter, and appurtenant piping (see Figure 5, Aqueduct Connection Point Modifications). Construction would take place within the approved construction footprint for the VWD Flow-Control Facility, involving the same area of disturbance, construction time frame, and similar construction techniques to those previously evaluated in the First Addendum (City of Carlsbad 2009). As indicated in the First Addendum, the structures at this location were previously considered with the construction of the off-site product water pipelines in the FEIR (City of Carlsbad 2009).

In very rare circumstances, water from the Carlsbad Desalination Project may be directly delivered south in the Water Authority's aqueduct. If needed in these instances to assure acceptable water quality, a chemical injection facility will be installed at the San Marcos connection point to treat the product water prior to introduction into the Water Authority's aqueduct. These facilities would only be used when the water is routed to the south rather than north to the TOVWTP. This is not a normal operation mode and would only be required in rare circumstances where Pipeline 3 or Pipeline 4 are out of service upstream of the desalination connection facilities. This chemical injection facility would

consist of two 5,000 gallon tanker trucks temporarily parked within secondary containment structures. One truck would contain sodium hypochlorite (11%–14% solution) and one truck would contain aqueous ammonia (17%–20% solution). The sodium hypochlorite would be injected into the product water at a rate of 700 gal/day. The ammonia would be injected at a rate of 350 gal/day. Approximately one sodium hypochlorite truck delivery per week and one aqueous ammonia truck delivery every 2 weeks would be required during periods when chemical injection is in use.

- **Pipeline 4 Vent Replacement and Pipeline Interconnect:** The existing vent along Pipeline 4 in San Marcos would be removed and replaced with a new vent structure to allow for an increase in the upstream pressure (hydraulic gradient) in Pipeline 4, which is required to divert water from Pipeline 4 to Pipeline 3 downstream of the San Marcos connection facilities. A new 40-foot-long, 54-inch-diameter, above grade pipeline to connect Pipeline 3 to Pipeline 4 would be located directly upstream and adjacent to the proposed new vent. The new vent would be located on the same site of the existing vent that is located approximately 250 feet west of Schoolhouse Way, and approximately 0.85 mile north of the center of the Community of San Elijo Hills within the City of San Marcos, California (Figure 2). Construction of the new vent would utilize an approximately 1.4-acre temporary work area. A smaller 0.06-acre temporary work area would also be needed (see Figure 6a, Pipeline 4 Vent Replacement and Pipeline Interconnect). A concrete weir vent would be constructed that would extend above grade by approximately 20 feet and cover an approximately 12- by 25-foot area. The top of the weir vent would include a ventilation screen and hatches. The remaining vent mechanisms would either be located inside the weir vent or would be below grade (see Figure 6b, Pipeline 4 Vent Replacement and Pipeline Interconnect Plan and Cross-Section). The existing 19-foot tall vent stack would be removed and capped near ground level.

Construction of the Pipeline 4 Vent Replacement would take place over an approximately 7-month period and consist of two phases: excavation and construction. Activities in the work area would include access improvements for construction equipment; blasting (the new vent is located in an area where there is exposed hard rock); excavation, hauling, and stocking of excavated materials; pipe demolition; concrete cutting; material and equipment delivery and storage; reinforced concrete placement; pipe installation; grading; fence installation; and hydroseeding. Access to the site would be via existing Water Authority dirt roads in the Project area that are accessed via Schoolhouse Way to the south or from La Plaza Drive to the north. The first phase of construction would consist of excavation, would take approximately 3 months to complete and would include use of the following equipment: one hydraulic drill rig, one excavator, one dozer, dump trucks, a water truck, and a blower. The second phase would include construction of the new vent, would take approximately 4 months to complete, and would involve use of the following construction equipment: one concrete pump truck, concrete delivery trucks, flatbed delivery trucks, one

30-ton rubber tire crane, one excavator, one loader, and a blower. Construction staging would occur within areas shown on Figure 6a.

- **Macario Canyon Pipeline Alignment Modification and Pumping Well:** The Macario Canyon Pipeline Alignment Modification involves 1,640 feet of trenchless pipe installation crossing Macario Canyon. The FEIR analyzed this segment of pipeline under two scenarios: open trenching within Cannon Road and trenchless construction just north of Cannon Road across Macario Canyon. Since the installation of this portion of the Faraday Avenue pipeline route was included in the FEIR using trenchless construction, no further analysis of the underground pipeline installation beneath Macario Canyon is required under CEQA. The minor change in alignment (shifted to south of Cannon Road between Cannon and Faraday – see Figures 7a and 7b) and similar construction techniques across sensitive wetland areas would not represent a substantial change in the Project or its effects. The modifications shift the location of the pipeline in this area approximately 1,000 feet to the south and add a pumping well to be installed along the pipeline alignment to allow for maintenance of the pipeline. Construction of this realigned portion of the pipeline would use traditional directional drilling techniques. Due to the topography, which creates a low point in the pipeline, the pipeline in this area would include a pumping well and a drain line (above the pipeline) that connects to a storm drain on Faraday Avenue (Figures 7a and 7b) to allow for drainage of the pipe. The pumping well would be installed approximately mid-way along the pipeline alignment between Cannon Road and Faraday Avenue. The pumping well would be consistent with other Water Authority pumping wells and would be used during infrequent events when the pipeline may need to be taken off-line for maintenance and/or repair. The aboveground physical dimensions of the pumping well are anticipated to consist of an approximately 48-inch-diameter manhole that would be raised approximately 6 inches above ground level.

Construction of the pipeline and pumping well would occur within portions of Cannon Road and Faraday Avenue, as well as within an open space area in Macario Canyon. During construction, the Water Authority would establish an 80-foot-wide temporary work easement in Macario Canyon. The pipeline would be installed in two segments via directional drilling from a construction site located approximately 1,200 feet south of the intersection of Cannon Road and Faraday Avenue and shown on Figure 7a. There would be two receiving pits—one in Cannon Road and one in Faraday Avenue. Impacts to sensitive habitats would be avoided. Access to the site would be via Cannon Road, Faraday Avenue, and existing dirt access roads that extend from Cannon Road to the construction area and pumping well site as shown on Figure 7a. Construction of the pipeline would take approximately 9 months, is anticipated to begin in May 2014, and would require the use of an excavator, mobile crane, front end loader, water truck,

boring machine, and bull dozer. During boring, work trucks would enter the site daily to haul away spoils and deliver pipe.

6.0 SAN DIEGO COUNTY WATER AUTHORITY ACTIONS

To process the proposed changes, the following Water Authority actions are required:

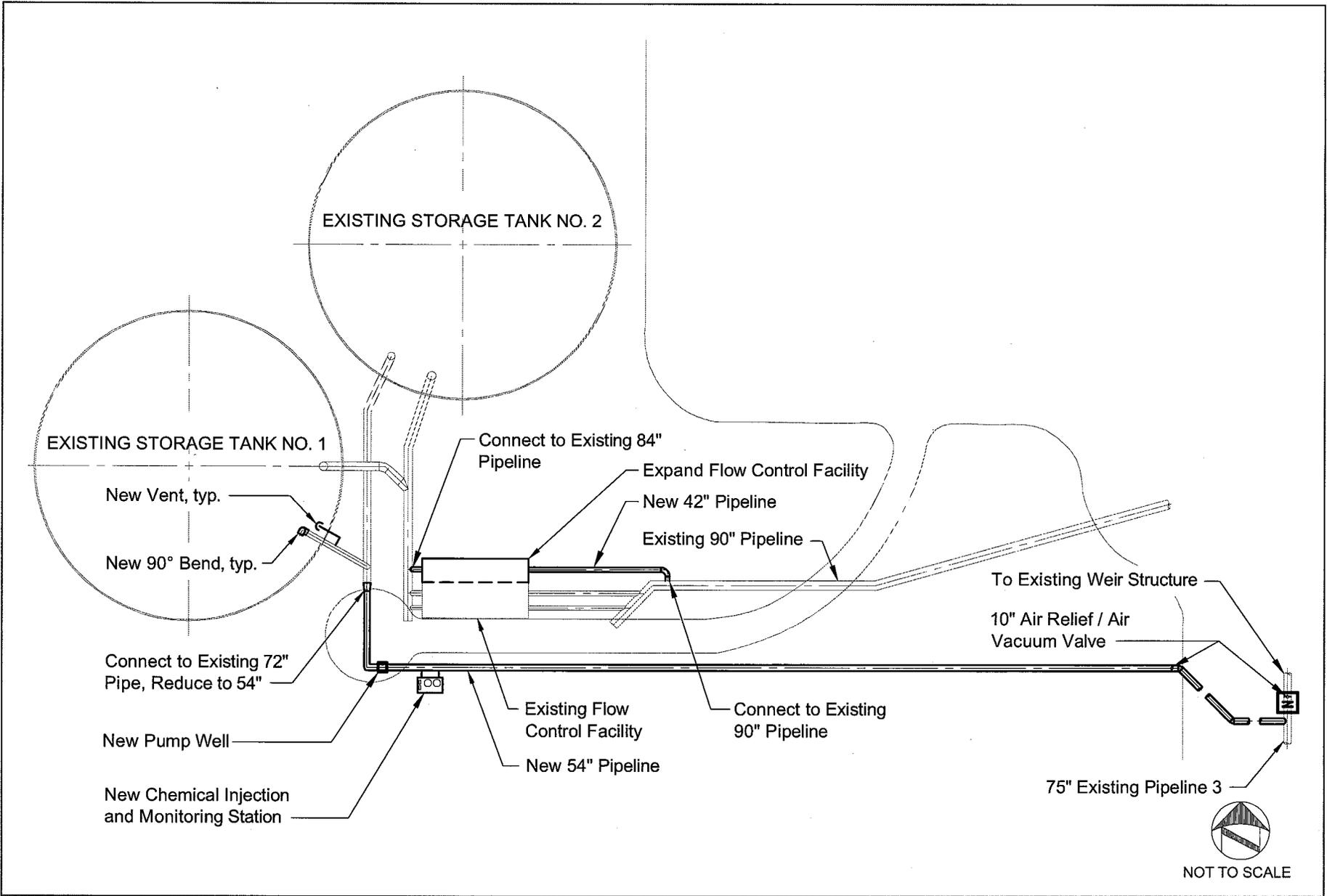
1. EIR 03-05(B) – Second Addendum to the Project’s certified EIR; as a responsible agency under CEQA, the Water Authority will be accepting the City of Carlsbad’s previously approved FEIR and First Addendum, as well as approving this document, the Second Addendum
2. Approval of various agreements to purchase water and construct facilities.

7.0 IDENTIFICATION OF ENVIRONMENTAL EFFECTS

Documents containing the environmental analysis supporting the City of Carlsbad’s action in approving the Project include the FEIR, First Addendum, Mitigation Monitoring and Reporting Program, CEQA Findings, and additional responses provided for comments submitted after publication of the FEIR.

The Second Addendum analyzes all 11 environmental issue areas that were included in the FEIR and First Addendum, and discusses whether the proposed Project modifications described in Section 5.0 would trigger significance criteria identified in the CEQA Guidelines, Section 15162, in each of these areas. For each environmental issue area, a comparative analysis of the impacts presented in the FEIR and First Addendum to the FEIR is provided. The analysis includes a determination regarding the occurrence of any new significant impacts or an increase in the severity of previously identified impacts. Finally, an analysis is presented to determine whether there are any changed circumstances or new information relative to the revised Project.

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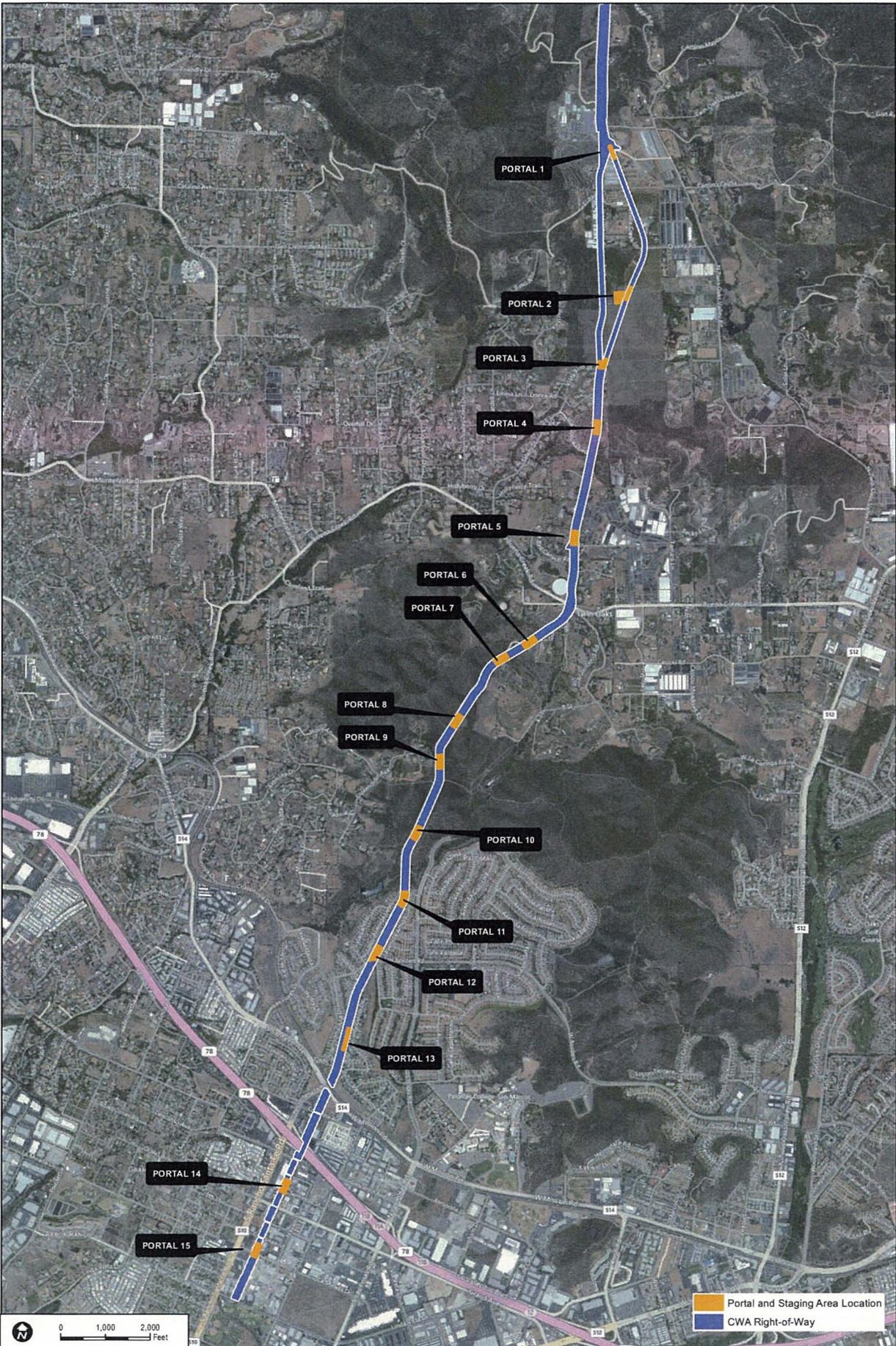
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SOURCE: GHD 2010

Second Addendum to the Carlsbad Desalination Plant Project FEIR

**FIGURE 3
TOVWTP Modifications**

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AERIAL SOURCE: BING MAPPING SERVICE

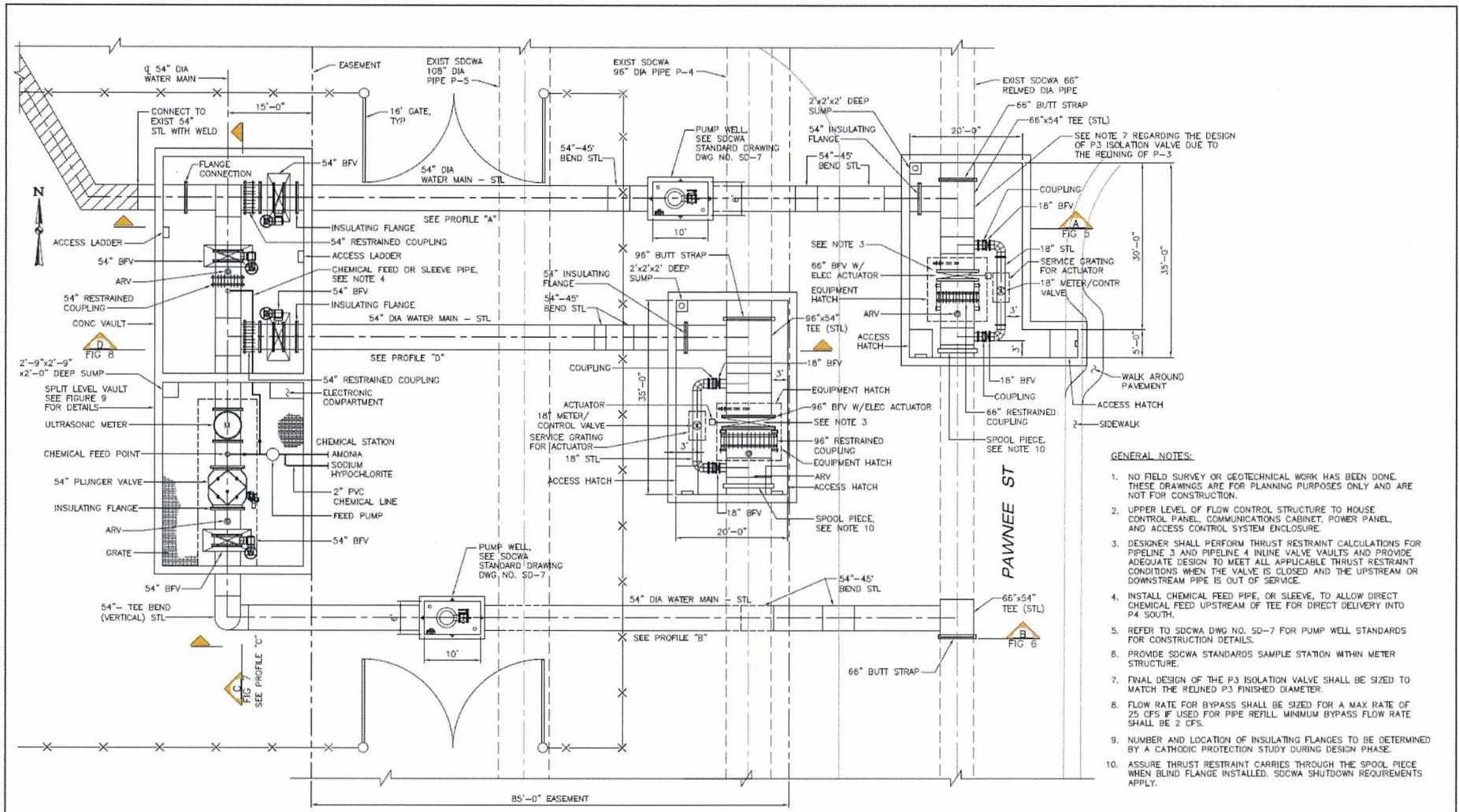
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Second Addendum to the Carlsbad Desalination Plant Project FEIR

FIGURE 4
Pipeline 3 Relining Portal Locations

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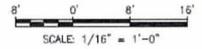
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- GENERAL NOTES:**
1. NO FIELD SURVEY OR GEOTECHNICAL WORK HAS BEEN DONE. THESE DRAWINGS ARE FOR PLANNING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION.
 2. UPPER LEVEL OF FLOW CONTROL STRUCTURE TO HOUSE CONTROL PANEL, COMMUNICATIONS CABINET, POWER PANEL, AND ACCESS CONTROL SYSTEM ENCLOSURE.
 3. DESIGNER SHALL PERFORM THRUST RESTRAINT CALCULATIONS FOR PIPELINE 3 AND PIPELINE 4 INLINE VALVE VAULTS AND PROVIDE ADEQUATE DESIGN TO MEET ALL APPLICABLE THRUST RESTRAINT CONDITIONS WHEN THE VALVE IS CLOSED AND THE UPSTREAM OR DOWNSTREAM PIPE IS OUT OF SERVICE.
 4. INSTALL CHEMICAL FEED PIPE, OR SLEEVE, TO ALLOW DIRECT CHEMICAL FEED UPSTREAM OF TEE FOR DIRECT DELIVERY INTO P4 SOUTH.
 5. REFER TO SDCWA DWG NO. SD-7 FOR PUMP WELL STANDARDS FOR CONSTRUCTION DETAILS.
 6. PROVIDE SDCWA STANDARDS SAMPLE STATION WITHIN METER STRUCTURE.
 7. FINAL DESIGN OF THE P3 ISOLATION VALVE SHALL BE SIZED TO MATCH THE RELINED P3 FINISHED DIAMETER.
 8. FLOW RATE FOR BYPASS SHALL BE SIZED FOR A MAX RATE OF 25 CFS IF USED FOR PIPE REILL. MINIMUM BYPASS FLOW RATE SHALL BE 2 CFS.
 9. NUMBER AND LOCATION OF INSULATING FLANGES TO BE DETERMINED BY A CATHODIC PROTECTION STUDY DURING DESIGN PHASE.
 10. ASSURE THRUST RESTRAINT CARRIES THROUGH THE SPOOL PIECE WHEN BLIND FLANGE INSTALLED. SDCWA SHUTDOWN REQUIREMENTS APPLY.

PARTIAL PLAN
SCALE: 1/16" = 1'-0"

NOTE: SEE FIGURE 3 FOR ALTERNATE LOCATION OF CONNECTION FACILITIES TO BE CONSIDERED PENDING NEGOTIATIONS WITH PROPERTY OWNER. FINAL LOCATION OF CONNECTION FACILITIES TO BE DETERMINED DURING DESIGN PHASE.



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SOURCE: JACOBS 2012

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Second Addendum to the Carlsbad Desalination Plant Project FEIR

FIGURE 5
Aqueduct Connection Point Modifications

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- Pipeline 4 Vent Replacement
- Existing Pipeline 4 Alignment
- Temporary Work Area
- CWA Right-of-Way



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AERIAL SOURCE: BING MAPPING SERVICES

FIGURE 6a

Pipeline 4 Vent Replacement and Pipeline Interconnect

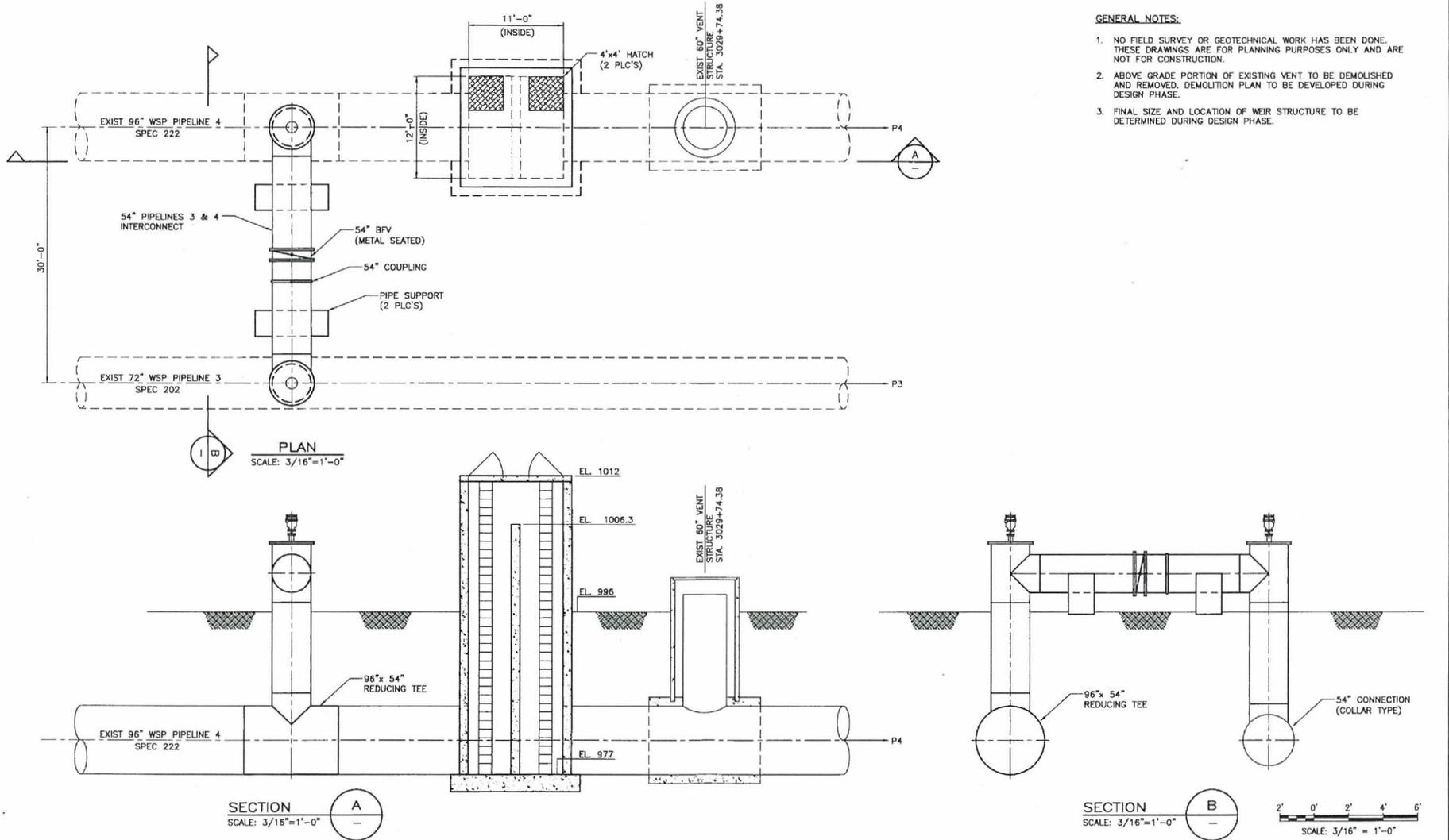
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Second Addendum to the Carlsbad Desalination Plant Project FEIR

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Pipeline 4 Vent Replacement and Pipeline Interconnect Plan and Cross Section

FIGURE 6b

Second Addendum to the Carlsbad Desalination Plant Project FEIR

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- Directional Drilling for Waterline Alignment
- Macario Canyon Pumping Well
- ⬭ Temporary Work Area
- Receiving Pit Location

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AERIAL SOURCE: BING MAPPING SERVICE

FIGURE 7a

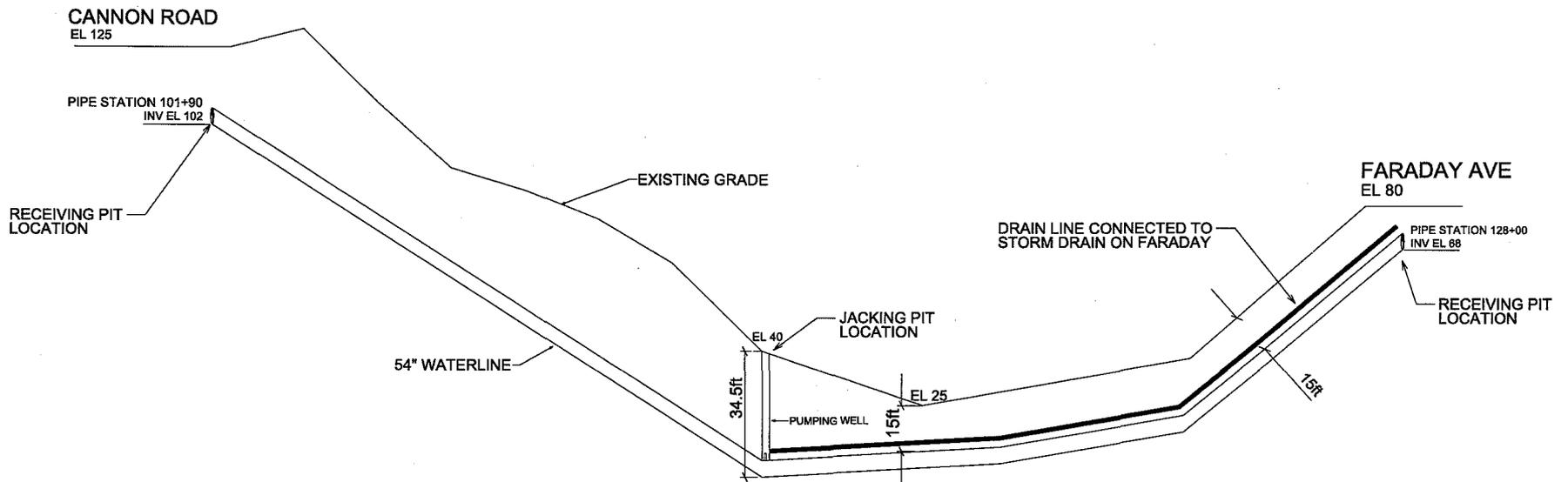
Macario Canyon Pipeline Alignment Modification and Pumping Well

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Macario Canyon Pipeline Alignment Modification and Pumping Well Cross Section

FIGURE 7b

Second Addendum to the Carlsbad Desalination Plant Project FEIR

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8.0 ANALYSIS

The following environmental analysis supports the Water Authority's determination that approval and implementation of the proposed Project modifications would not result in any new significant environmental impacts or a substantial increase in the severity of previously disclosed impacts covered under the FEIR and First Addendum. This environmental analysis is subject to all applicable mitigation measures outlined in the FEIR and Mitigation Monitoring and Reporting Program. In addition, the Water Authority's *General Conditions and Standard Specifications* (2005 edition) have been considered in this environmental analysis, and will also be incorporated into the construction plans and specifications, as appropriate. The Water Authority updates the *General Conditions and Standard Specifications* periodically to reflect changes in law, advancement of construction methods, materials, and standards, and other issues as deemed appropriate for the Water Authority to achieve its mission.

As stated in Section 1.0, activities associated with the proposed modifications are subject to the requirements and mitigation measures identified in the FEIR, and First Addendum, and the NCCP/HCP EIR/EIS and associated NCCP/HCP and implementing agreement. Where such requirements apply and are relevant, they are noted in the discussion below.

The FEIR and First Addendum, the NCCP/HCP EIR/EIS, and the Water Authority's *General Conditions and Standard Specifications* are on file at the Water Authority's office, 4677 Overland Avenue, San Diego, California, 92123,

The following presents the environmental analysis of impacts associated with the proposed Project modifications. In instances where the impacts resulting from several Project components would be similar, their corresponding analyses have been grouped together. In instances where impacts differ by Project component, they are discussed separately.

Aesthetics

Analysis of aesthetic impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 4.1, pages 4.1-3 through 4.1-12. See also CEQA Findings, pages 10 and 11.

The Carlsbad Desalination FEIR and First Addendum concluded that because aesthetic impacts from construction activities would be short-term and within limited areas, construction-related impacts to visual resources would be considered less than significant. Similarly, the construction activities associated with the proposed Project modifications would also be temporary and within limited areas and, therefore, would also result in less-than-significant impacts to aesthetics/visual resources.

Analysis of the Revised Project

TOVWTP Modifications

The proposed modifications to the TOVWTP are evaluated utilizing the same criteria discussed in the Carlsbad FEIR (Section 4.1). Specifically, construction of the TOVWTP modifications will cause short-term, temporary aesthetic impacts, including equipment storage, materials, soil stockpiling and debris exposed to public views. Because these impacts are short-term in nature, and because they affect a limited area already containing similar structures, they are not considered to have a substantial adverse effect on a scenic vista, nor would they substantially damage scenic resources. Likewise, the long-term impacts of these additional facilities are less than significant because the new facilities will be designed with the same aesthetic character as the existing on-site water control and treatment facilities. All new pipelines would either be buried or screened. The third flow-control facility would be located directly adjacent to the existing flow-control facility, and would be designed with the same aesthetic character as the existing facility. These minor modifications to the TOVWTP would not substantially alter the views of the treatment plant facilities. Therefore, the inclusion of these facilities would not result in new impacts or increase the severity of impacts identified in the Carlsbad FEIR, and therefore would not change the FEIR conclusions that the impacts are less than significant.

Pipeline 3 Relining

As discussed in the Carlsbad FEIR and First Addendum, since pipelines are underground, no long-term impacts to aesthetics would occur from pipeline installation. Therefore, the inclusion of the Pipeline 3 Relining effort would not result in new significant impacts or increase the severity of impacts identified in the FEIR, and therefore would not change the FEIR conclusion.

Aqueduct Connection Point Modifications

Similar to the conclusion reached in the Carlsbad FEIR regarding the temporary nature of construction activities for the pipelines and adjunct facilities, temporarily parking two 5,000-gallon chemical tanker trucks at the aqueduct connection point, an existing disturbed/developed area, would not result in new aesthetic impacts, nor increase the severity of impacts identified in the FEIR. They would not constitute a permanent visual impact, and would only be present in very rare circumstances when water from the Carlsbad Desalination Project needs to be delivered directly south, such as when Pipeline 3 or Pipeline 4 are out of service. Additionally, the tanker trucks would be parked in an industrial area, and would be consistent with the surrounding land uses. The inclusion of these chemical tanker trucks in rare circumstances would not result in new impacts or increase the severity of impacts identified in the FEIR, and therefore would not change the FEIR conclusion.

Pipeline 4 Vent Replacement and Pipeline Interconnect

As mentioned earlier, the Pipeline 4 Vent Replacement and Pipeline Interconnect would include a 12-foot by 25-foot weir vent that would extend approximately 20 feet above grade, and a 40-foot length of 54-inch diameter pipeline to interconnect Pipelines 3 and 4. The interconnect pipeline would be approximately six feet above grade. The existing vent is at approximately 1,020 feet AMSL and extends approximately 19 feet above grade. Due to the natural topography of the area, the existing and proposed vent location, and proposed interconnection pipeline location is visible from a limited number of homes located on nearby ridgelines approximately 1/3 of a mile south and southwest of the site in the San Elijo Hills community. Considering low profile of the interconnect pipeline and that the existing vent is similarly visible from existing vantage points of the vent location, the inclusion of the vent replacement and pipeline interconnect would not result in new significant impacts or increase the severity of impacts identified in the FEIR, and therefore would not change the FEIR conclusion.

Macario Canyon Pipeline Alignment Modification and Pumping Well

Other than the temporary nature of construction-related visual impacts discussed above, and a manhole cover, no other visual impacts will occur as a result of the Macario Canyon Pipeline Alignment Modification and Pumping Well changes. The pumping well would impact a limited area and would not consist of any above-grade structures other than a manhole. The manhole would be visible from a very limited number of vantage points due to its size and the natural topography of the area. Therefore, the inclusion of the pumping well would not result in new impacts or increase the severity of impacts identified in the FEIR, and therefore would not change the FEIR conclusion.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

There are no changes with respect to circumstances under which the Project would be undertaken, and there is no new information of substantial importance that has become available relative to visual or aesthetic resources. No substantial changes in the aesthetic or visual environment have occurred since certification of the FEIR, and no substantial new sensitive receptors or scenic resources have been identified within the vicinity of the proposed Project modifications.

Conclusion

Based on the above, no new significant aesthetic impacts or a substantial increase in previously identified aesthetic impacts would occur as a result of the proposed modifications. All mitigation measures previously adopted for the approved Project will apply to the proposed Project described herein, as applicable. Therefore, the impacts to aesthetic resources and the proposed Project modifications do not meet the standards for a subsequent or supplemental EIR as provided pursuant to CEQA Guidelines, Section 15162.

Air Quality

Analysis of air quality impacts of the approved Project are contained in the FEIR, Section 4.2, pages 4.2-10 through 4.2-21. See also CEQA Findings, page 11.

The Carlsbad Desalination FEIR and First Addendum concluded that impacts to air quality as a result of construction and operation of the approved Project were less than significant. The FEIR had originally assumed that seven segments of 1,000 feet of pipeline would be constructed simultaneously. Emission calculations were based on two crews placing base material, four crews laying the pipeline in the trench, and three crews backfilling the trench at any given time.

Analysis of the Revised Project

Construction of the proposed Project modifications would result in temporary increases in criteria pollutant emissions associated with construction equipment. While the FEIR had assumed that seven segments of 1,000 feet of pipeline would be constructed at any given time, under the new construction schedule there would be no more than two segments of 1,000 feet of pipeline constructed simultaneously. As a result, the disclosed construction emissions in the FEIR associated with the off-site pipelines are substantially overestimated when the revised construction scenario is considered, and it has been determined that the construction activities associated with the proposed Project modifications—in combination with the construction activities associated with pipeline construction—would not exceed the emissions previously disclosed in the FEIR for any criteria pollutant. Similar to the findings of the FEIR and First Addendum, the construction-related air pollution emissions from the proposed Project modifications would be temporary and would not be expected to have a permanent significant impact on ambient air quality.

The Project modifications do not propose any changes to the operational characteristics of the desalination plant; therefore, there are no potential increased direct or indirect emissions associated with operation of the desalination plant that were not discussed in the Carlsbad FEIR.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

As discussed in the First Addendum to the FEIR, Assembly Bill 32 (AB 32) requires the California Air Resources Board (CARB), the state agency charged with regulating statewide air quality, to adopt rules and regulations that would achieve greenhouse gas (GHG) emissions equivalent to statewide levels in 1990 by 2020. GHG emissions were addressed in the First Addendum in 2009 through the California Coastal Commission's conditional approval of the Project's Energy Minimization and Greenhouse Gas Reduction Plan (GHG Plan). The GHG Plan provides for the assessment, reduction, and mitigation of GHG emissions, and establishes

a protocol for identifying, securing, monitoring, and updating measures to eliminate the Project's net carbon footprint. Once the Project is operational and all measures to reduce energy use at the site have been taken, the protocol involves the following steps, completed each year:

1. Determine the energy consumed by the Project for the previous year
2. Determine San Diego Gas and Electric (SDG&E) emission factor for delivered electricity from its most recently published Annual Emissions Report
3. Calculate the Project's gross indirect GHG emissions resulting from Project operations by multiplying its electricity use by the emission factor
4. Calculate the Project's net indirect GHG emissions by subtracting emissions avoided as a result of the Project (Avoided Emissions) and any existing offset projects and/or Renewable Energy Credits (RECs)
5. If necessary, purchase carbon offsets or RECs (or pay an in-lieu fee) to zero-out the Project's net indirect GHG emissions.

The following are elements of the plan, based on a draft "Greenhouse Gas Emissions Template" provided by the California Coastal Commission:

- A. Increased Energy Efficiency (such as use of a pressure-exchanger energy recovery system that captures energy from the discharge stream and high-energy efficiency pumps)
- B. GHG Emission Reduction by Green Building Design
- C. On-Site Solar Power Generation
- D. Recovery of CO₂ (carbon dioxide in a gaseous form will be added to the reverse osmosis permeate in combination with calcium hydroxide or calcium carbonate in order to form soluble calcium bicarbonate which adds hardness and alkalinity to the drinking water for distribution system corrosion protection)
- E. Avoided Emissions from Reducing Energy Needs for Water Reclamation (reduced salinity of source water would reduce the need to remove salts from wastewater to meet recycled water requirements)
- F. Avoided Emissions from Displaced Imported Water
- G. Avoided Emissions through Coastal Wetlands (carbon sequestration).

All energy use required to deliver product water would be incurred by pumps at the Carlsbad Desalination Plant, and this energy use was previously analyzed in the FEIR for the Carlsbad Desalination Plant Project. GHG emissions from construction activities associated with the proposed Project modifications would not exceed those identified in the FEIR, and 25,000 tons of carbon offsets as mitigation for construction-related emissions from the construction of the desalination plant will be purchased, which far exceeds the offsets that would actually be needed for construction-related impacts, even with the addition of these modifications.

The proposed Project modifications would not result in an increase in overall GHG emissions. The Project's GHG Plan was approved by the California Coastal Commission in August 2008. With implementation of the GHG Plan, the Project will demonstrate a "net zero" impact on GHG emissions from indirect sources (electrical energy consumption). The Project as revised would, therefore, not increase the severity of previously identified air quality impacts, nor would it result in any new significant effects related to air pollutant emissions that were not previously identified.

Conclusion

The proposed Project modifications are consistent with the GHG Plan requirement demonstrating a "net zero" impact on GHG emissions from indirect sources (electrical energy consumption). The proposed Project as revised would not increase the severity of previously identified air quality impacts, nor would it result in any new significant effects related to air emissions that were not previously identified in the FEIR. Additionally, in light of the wide range of global warming activity prior to the certification of the FEIR in June 2006, there are no substantial changes to the circumstances under which the Project will be undertaken, and no new information of substantial importance which was not known and could not have been known when the FEIR was certified has since been identified. Therefore, the impacts to air quality and the proposed Project modifications do not meet the standards for a subsequent or supplemental EIR as provided pursuant to CEQA Guidelines, Section 15162.

Biological Resources

Analysis of biological resources impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 4.3, pages 4.3-18 through 4.3-54. See also CEQA Findings, pages 12 through 14. The proposed Project modifications are considered to be covered under this analysis with the exception of the TOVWTP Modifications and Aqueduct Connection Modifications, Pipeline 3 Relining, and Pipeline 4 Vent Replacement and Pipeline Interconnect.

In addition to the analysis provided in the Carlsbad EIR and First Addendum, the Water Authority also has the benefit of the approved NCCP/HCP, its implementing agreement, and existing federal Endangered Species Act Section 10(a)(1)(B) incidental take permit and California Fish and Game Code Section 2835 take permit. The NCCP/HCP Final EIR/EIS

(Section 4 and appendices) contains a thorough analysis of biological resources impacts and associated project design features and mitigation measures associated with Covered Activities including minor modifications to existing Water Authority facilities. This analysis and the associated mitigation measures described therein will apply to the proposed modifications associated with the TOVWTP modifications, Pipeline 3 Relining, and the Pipeline 4 Vent Replacement and Pipeline Interconnect.

Analysis of the Revised Project

TOVWTP Modifications and Aqueduct Connection Point Modifications

The modifications to the TOVWTP associated with the proposed Project will not result in new significant impacts to Biological Resources. Proposed modifications to the TOVWTP and at the connection point to Pipeline 3 would be within previously developed areas. No direct biological impacts would occur at these sites. Indirect impacts from construction and operation of the proposed treatment plant modifications may include noise, fugitive dust, erosion and sedimentation. Disturbed areas will be restored per Section 6.6.2 of the NCCP/HCP. Additionally, mitigation for indirect impacts will occur pursuant to the NCCP/HCP. Lastly, impacts would also be reduced through incorporation of the Water Authority's *General Conditions and Standard Specifications/Project Design Features* discussed *Biological Resources Technical Report for the Pipeline 3 Relining and Associated Improvements Project* (Dudek 2012). Therefore, the TOVWTP modifications would not result in new impacts or increase the severity of impacts identified in the NCCP/HCP EIR/EIS, and therefore would not change the NCCP/HCP EIR/EIS conclusion. Therefore, no new significant impacts or substantially more severe impacts would occur during construction at the treatment plant with the proposed modifications.

Pipeline 3 Relining

In 2010, the Water Authority approved the Final EIR/EIS for the Water Authority Subregional NCCP/HCP (Water Authority 2010a, 2010b). The NCCP/HCP addresses the potential impacts of Water Authority activities on special-status biological resources. These activities include new construction and typical expansion of existing infrastructure, and ongoing installation, use maintenance, and repair of aqueduct and water conveyance, treatment, and storage systems. Impacts to 63 special-status species are covered under the NCCP/HCP through avoidance and minimization requirements, as well as approximately 704 acres of Water Authority mitigation credits (Water Authority et. al. 2010). Relining of Pipeline 3 is a covered activity in the NCCP/HCP. No new impacts would occur due to the proposed Project modifications that were not previously considered in the NCCP/HCP EIR/EIS. As covered activities under the NCCP/HCP, the biological impacts from these activities have been addressed and will be mitigated with implementation of the applicable mitigation measures in the NCCP/HCP Section 6 and Appendix B (Water Authority. 2010b).

The Biological Resources Technical Report for the Pipeline 3 Relining and Associated Improvements Project (Dudek 2012) contains a Project-level analysis of biological impacts resulting from the proposed Project modifications. The findings of that analysis are included below.

Implementation of the Pipeline 3 Relining would result in direct impacts to 3.71 acres of native vegetation that would require mitigation pursuant to the NCCP/HCP, including 3.66 acres of vegetation within the Water Authority ROW and 0.05 acre of vegetation outside the ROW and inside of Biologically Significant Resource Areas (BSRA). The mitigation program for impacts would include using 0.325 acre of mitigation credits within the Crestridge Habitat Management Area (HMA) or San Miguel Conservation Bank, and restoration of impacts per NCCP/HCP Section 6.6.2. Both mitigation sites are identified as BSRAs under the NCCP/HCP.

Although two sensitive plants and four sensitive wildlife species were observed in the Study Area and others have a moderate potential to occur, the Project has been designed to avoid direct impacts to these species and will apply the Special Conditions for avoidance and minimization pursuant to the NCCP/HCP to reduce potential impacts to a level below significant. No significant direct impacts are proposed or anticipated to any sensitive plant or wildlife species or U.S. Fish and Wildlife Service (USFWS)-designated critical habitat for any special-status species. Portal 13 is located adjacent to critical habitat designated for thread-leaved brodiaea (*Brodiaea filifolia*); however, this area consists of ornamental vegetation and a paved access path located between rows of a residential subdivision and supports no primary constituent habitat elements required for the species. Further, focused surveys for rare plants were negative in this area and the Portal 13 impact area has been designed to avoid the thread-leaved brodiaea critical habitat mapped at this location.

Disturbance of vegetation communities could affect native nesting birds if Project activities occur during the nesting season. Pursuant to the NCCP/HCP, the nesting season is defined as January 15 to July 31 for raptor species, March 15 to September 15 for riparian species, and February 15 to August 15 for upland species. Compliance with the federal Migratory Bird Treaty Act (MBTA) and Fish and Game Code Sections 3503.5 and 3513 will be ensured either by removing/modifying potential nesting habitat outside the nesting season, or by having a qualified Environmental Surveyor conduct pre-activity nest surveys to determine the status of nesting birds within and around the impact areas if any vegetation disturbance occurs during the nesting season. If an active nest is detected and construction must proceed, the Environmental Surveyor will establish buffer guidelines (typically 100-foot buffer zone) and nest activity will be monitored to ensure compliance with the MBTA and Fish and Game Code.

The Project also has been designed to ensure that potential indirect impacts associated with drainage/water quality, lighting, increased human activities during Project construction, and invasive species would be less than significant. Potentially significant indirect impacts to

nesting/breeding least Bell's vireo (*Vireo bellii pusillus*) (if present) due to construction noise could result from implementation of the proposed Project. Implementation of species-specific NCCP/HCP special conditions would ensure that these impacts remain less than significant.

In addition to the incorporation of mitigation measures from the NCCP/HCP, impacts to biological resources resulting from the Pipeline 3 Relining effort would also be reduced through incorporation of the Water Authority's *General Conditions and Standard Specifications*, as outlined in the Biological Resources Technical Report (Dudek 2012). Therefore, the Pipeline 3 relining would not result in new impacts or increase the severity of impacts identified in the NCCP/HCP EIR/EIS, and therefore would not change the NCCP/HCP EIR/EIS conclusion.

Pipeline 4 Vent Replacement and Pipeline Interconnect

Similar to the Pipeline 3 relining, the Pipeline 4 vent replacement and pipeline interconnect would be a covered activity under the NCCP/HCP. Construction activities at this site would result in approximately 0.62 acre of impact to coastal sage scrub. Mitigation requirements for permanent impacts will be fulfilled using the Crestridge HMA or San Miguel Conservation Bank in accordance with the NCCP/HCP, as well as restoration on site. Disturbed areas will be restored per Section 6.6.2 of the NCCP/HCP. Additionally, mitigation for indirect impacts will occur pursuant to the NCCP/HCP. Lastly, impacts would also be reduced through incorporation of the Water Authority's *General Conditions and Standard Specifications*. Therefore, the Pipeline 4 Vent Replacement and Pipeline Interconnect would not result in new impacts or increase the severity of impacts identified in the NCCP/HCP EIR/EIS, and therefore would not change the NCCP/HCP EIR/EIS conclusion.

Macario Canyon Pipeline Alignment Modification and Pumping Well

Implementation of the proposed Project modifications would result in temporary impacts to 0.14 acre of non-native annual grassland at the proposed drilling portal location and construction staging area, which are within the temporary work area shown on Figure 7a. The project would also result in 13 square feet of permanent impacts resulting from the placement of the 48-inch-diameter manhole within the non-native annual grassland habitat. Impacts were calculated by overlaying the portal, staging area, and blow-off valve structure locations over a vegetation map. All work will be contained within this temporary work area footprint, which also includes approximately 0.04 acre of developed area. Impacts on developed land are regarded as less than significant. No impacts to wetlands or jurisdictional waters would occur, and all construction activities would occur at least 100 feet away from wetland habitats. The direct impacts to annual grassland are within the scope of the impacts analyzed in the FEIR and the First Addendum. As noted previously, the FEIR addressed a broad scope of impacts on sensitive biological resources to provide for flexibility in final design and alignment of the conveyance pipelines. As a result, impacts reported in the FEIR are greater than what would occur with the proposed Project modifications. Specifically, previously addressed impacts from the Final EIR were

avoided with the alignment and design changes addressed in the First Addendum, as described in more detail below. Thus, the approved Project under the First Addendum would have resulted in reduced impacts to sensitive communities as compared to the impacts that were identified in the FEIR.

Among these impacts addressed in the FEIR were 3.71 acres of impact to annual grassland. The 3.71 acres of impact to annual grassland were mapped along the potential pipeline segments located just north of Palomar Airport and in the Shadowridge area. Since the impacts to annual grassland that would occur as a result of the currently proposed Project modifications in Macario Canyon would be less than the total acres anticipated to be impacted under the FEIR, the impacts associated with the Project modification in Macario Canyon are within the scope of the analysis of the FEIR. With implementation of FEIR Mitigation Measure 4.3-1, impacts to 0.14 acre of annual grassland in Macario Canyon are considered less than significant.

Construction activities in Macario Canyon would also result in indirect impacts to adjacent sensitive habitats and wildlife, including potential impacts from construction-generated dust, siltation, and noise. Implementation of FEIR Mitigation Measures 4.3-3, 4.3-4, and 4.3-5 would ensure that impacts remain below a level of significance. Consistent with the FEIR, with implementation of mitigation, indirect impacts from construction activities would be considered less than significant.

Based on the above analysis, the modifications to the pipeline in Macario Canyon would not result in impacts that were not previously identified and mitigated per the FEIR. With mitigation, impacts to biological resources would be similar to those discussed in the FEIR and would remain less than significant with the proposed Project modifications.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

There are no changes with respect to circumstances under which the Project will be undertaken, and there is no new information of substantial importance that has become available relative to biological resources. The additional mitigation imposed by the California Coastal Commission and the Regional Water Quality Control Board does not constitute a changed circumstance or new information of substantial importance, as indicated in the First Addendum. The mitigation acreage required by these two agencies was imposed pursuant to their respective responsibilities under separate regulatory schemes, i.e., the Coastal Act and the California Water Code, both of which employ different standards of review than CEQA's "significant impact" threshold. Thus, the additional mitigation acreage did not involve new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

Conclusion

None of the proposed Project changes or additions regarding biological resources involve new significant impacts or a substantial increase in previously identified impacts. Additionally, there are no substantial changes to the circumstances under which the Project will be undertaken, and no new information of substantial importance regarding biological resources which was not known and could not have been known when the FEIR was certified has since been identified. Therefore, the biological resources impacts and the proposed Project modifications do not meet the standards for a subsequent or supplemental EIR as provided pursuant to CEQA Guidelines, Section 15162.

Cultural Resources

Analysis of cultural impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 4.4, pages 4.4-14 through 4.4-27. See also CEQA Findings, pages 14 and 15.

The FEIR and First Addendum concluded that cultural resource impacts were less than significant with mitigation implemented in previously undisturbed areas near known archaeological and paleontological resources sites.

Analysis of the Revised Project

With the exception of the Macario Canyon Pumping Well, the proposed Project modifications would occur entirely within existing pipeline ROWs or in areas that have been previously disturbed. Therefore, no new impacts to cultural or paleontological resources would result from the proposed Project modifications in the areas of existing infrastructure, and no cultural resources mitigation beyond that identified in the FEIR would be required for these proposed Project modifications. The Macario Canyon Pumping Well construction area was surveyed and no cultural resources were identified. As a result, implementation of project work at this location would not have an effect on cultural resources. Any work conducted at this site would also be subject to the mitigation in Section 4.4.4 of the FEIR, as applicable. Implementation of these mitigation measures would ensure that impacts remain less than significant. Therefore, the proposed Project modifications would not result in new significant impacts or increase the severity of impacts identified in the FEIR, and therefore would not change the FEIR conclusion.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

The potential for significant impacts on cultural or paleontological resources within the area of potential effect of the Project has not changed since the time of certification of the FEIR. Therefore, no changes in circumstances and no new information of substantial importance relative to cultural or paleontological resources have been identified.

Conclusion

None of the proposed Project modifications involve new significant impacts or a substantial increase in previously identified impacts regarding cultural/paleontological resources. Additionally, there are no substantial changes to the circumstances under which the Project will be undertaken, and no new information of substantial importance regarding cultural/paleontological resources which was not known and could not have been known when the FEIR was certified has since been identified. Therefore, the impacts to cultural/paleontological resources as a result of the proposed Project modifications do not meet the standards for a subsequent or supplemental EIR as provided pursuant to CEQA Guidelines, Section 15162.

Geology and Soils

Analysis of geology/soils impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 4.5, pages 4.5-10 through 4.5-17. See also CEQA Findings, pages 15 and 16.

The FEIR and First Addendum found that long-term impacts due to unstable soil types and seismic-related geologic hazards would be less than significant with mitigation measures incorporated. The FEIR and First Addendum also found that during construction activities, erosion could be accelerated, which could undermine slopes, cause siltation of surface waters, and expose and damage underground facilities. This impact was found to be less than significant with implementation of mitigation measures. Additionally, the FEIR and First Addendum found that impacts to mineral resources would be less than significant.

Analysis of the Revised Project

Geologic impacts of the proposed Project modifications would be mitigated to a less-than-significant level with the implementation of Mitigation Measure 4.5-2, which requires that a pre-construction geotechnical investigation be prepared to address geotechnical considerations. All recommendations of the geotechnical investigation will be implemented.

The erosion potential for the proposed Project modifications would be similar to the approved Project. Impacts would remain less-than-significant with the implementation of Mitigation Measures 4.7-1 and 4.7-2, which require that the Project prepare a SWPPP and a Stormwater Management Plan, respectively.

The footprints for the proposed Project modifications are within developed areas, adjacent to a biological preserve area, or within the existing TOVWTP. These areas are not suitable for mineral extraction. Therefore, the proposed Project modifications would not result in impacts to geology and soils beyond what was originally evaluated in the FEIR and the First Addendum.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

There is no potential for significant changes in geological, seismic, soils, or mineral resource conditions within the area of potential effect of the Project since the time of certification of the FEIR, because such resources are relatively static. Additionally, no new information regarding unknown geologic hazards, conditions, or resources has become available. Therefore, no changes in circumstances and no new information of substantial importance relative to geology have been identified.

Conclusion

None of the changes or additions to the proposed Project modifications involve new significant impacts or a substantial increase in previously identified impacts to geology, soils, or mineral resources. In addition, there are no substantial changes to the circumstances under which the Project will be undertaken and no new information regarding geological resources which was not known and could not have been known when the FEIR was certified has since been identified. Therefore, the geology/soils impacts and the proposed Project modifications do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Hazards and Hazardous Materials

Analysis of hazards impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 4.6, pages 4.6-9 through 4.6-17. See also CEQA Findings, pages 16 and 17.

The FEIR determined that Project construction would require grading and trenching that could potentially disturb and release hazardous materials into the environment from sites located in proximity to the construction areas. Potential for release or exposure of existing subsurface contamination could result during construction. The FEIR included measures to mitigate this potential for exposure to existing contamination sites during construction. Specifically, FEIR Mitigation Measure 4.6-1 would mitigate the potential for exposure of existing contamination by requiring construction monitoring in areas identified as having potential risks, and appropriate actions to be taken if contamination is encountered.

Analysis of the Revised Project

During construction, ground-disturbing activities such as grading or excavation associated with the proposed Project modifications are not anticipated to encounter contaminated soils. The proposed Project modifications would occur at an existing water treatment facility, along an existing water distribution pipeline, or along a previously approved pipeline alignment adjacent to a biological

preserve. However, to ensure that impacts would remain less than significant, the proposed Project modifications would be subject to FEIR Mitigation Measure 4.6-1 mentioned above.

During construction, gasoline, diesel fuel, lubricating oil, grease, solvents, paint, and welding gases would be used at all proposed Project locations. The Project would implement FEIR Mitigation Measure 4.7-1, which requires that the Project prepare and implement an SWPPP that will include both construction and post-construction pollution prevention and pollution control measures. Additionally, as part of the Water Authority's water treatment and distribution facilities, the proposed facilities that would be owned and operated by the Water Authority would be subject to the Water Authority's Emergency Response Plan (ERP), which requires that the Water Authority, in conjunction with the local fire department, take appropriate response actions in the case of an accidental release of hazardous materials during transportation, use, or disposal of hazardous materials (Water Authority 2003). With the implementation of the Water Authority's ERP and FEIR Mitigation Measure 4.7-1, potential impacts related to hazards and hazardous materials during construction would be similar to the approved Project and would remain less than significant with the proposed Project modifications.

Impacts related to hazards and hazardous materials for each Project modification are discussed below.

TOVWTP Modifications

The FEIR and First Addendum concluded that with appropriate handling and mitigation for chemicals proposed to be used for treating the product water, potential long-term impacts related to a risk of exposure, including fire or hazardous vapor releases during operations, will be less than significant. The proposed Project modifications at the TOVWTP include a chemical injection and monitoring station, which would inject aqueous ammonia and sodium hypochlorite into the product water to provide disinfection. These chemicals are currently stored and used on site. The proposed additional chemical volumes would be subject to compliance with all applicable hazardous materials storage and handling laws and regulations, and Fire Code requirements, which the current treatment plant is subject to and in compliance with. With the proposed Project modifications, the Water Authority will update all applicable documentation at the site, such as the treatment plant's Hazardous Materials Business Plan. The treatment facility with the proposed Project modifications would also be subject to the Water Authority's ERP, as discussed previously. With compliance with all applicable laws and implementation of the Water Authority's ERP, long-term impacts from hazards and hazardous materials at the treatment plant site would remain less than significant.

Aqueduct Connection Point Modifications

As mentioned previously, in very rare circumstances, product water from the Carlsbad Desalination Project may be directly delivered south in the Water Authority's aqueduct. If needed in certain instances a chemical injection facility will be installed to assure acceptable

water quality at the San Marcos connection point to treat the product water prior to introduction into the Water Authority's aqueduct. These facilities would only be used when the water is routed to the south rather than north to the TOVWTP. This is not a normal operation mode and would only be required in rare circumstances where Pipeline 3 or Pipeline 4 are out of service upstream of the desalination connection facilities. This chemical injection facility would consist of two 5,000-gallon tanker trucks temporarily parked within secondary containment structures. One truck would contain sodium hypochlorite (11%–14% solution) and one truck would contain aqueous ammonia (17%–20% solution). The sodium hypochlorite would be injected into the product water at a rate of 700 gal/day. The ammonia would be injected at a rate of 350 gal/day. Approximately one sodium hypochlorite truck delivery a week and one aqueous ammonia truck delivery every 2 weeks would be required during periods when chemical injection is in use.

As discussed in the FEIR, chlorine does not pose a public health hazard when stored in the form of liquid bleach (sodium hypochlorite), and aqueous ammonia presents a significantly lower risk of toxic plume release when stored in quantities below the Clean Air Regulations threshold of 20,000 gallons at concentrations above 20% (40 CFR 68, Section 130). The proposed additional chemical volumes would be subject to compliance with all applicable hazardous materials storage and handling laws and regulations, as well as Fire Code requirements, per Mitigation Measure 4.6-3 in the FEIR. The proposed Project modifications would not result in new impacts or increased severity of impacts beyond those previously identified in the FEIR.

Pipeline 3 Relining, Pipeline 4 Vent Replacement and Pipeline Interconnect, and Macario Canyon Pipeline Alignment Modification and Pumping Well

As concluded in the FEIR, the use of pipelines to distribute potable water would not pose a hazardous risk to the public or the environment. Long-term hazardous risks associated with the Pipeline 3 Relining, the Pipeline 4 Vent Replacement and Pipeline Interconnect, and the Macario Canyon Pipeline Alignment Modification and Pumping Well would be similar to the impacts associated with the off-site pipeline impacts under the approved Project and, therefore, impacts would remain less than significant.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

There are no substantial changes to the circumstances under which the Project will be undertaken, and there is no new information of substantial importance relative to hazards or hazardous materials that has become available since the certification of the FEIR.

Conclusion

With consideration of the above discussion, the hazards and hazardous materials impacts and the proposed Project modifications do not meet the standards for a subsequent or supplemental EIR as provided pursuant to CEQA Guidelines, Section 15162.

Hydrology and Water Quality

Analysis of hydrology/water quality impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 4.7, pages 4.7-10 through 4.7-25. See also CEQA Findings, pages 17 through 20.

The FEIR and First Addendum concluded that construction of the approved Project could result in significant short-term surface water quality impacts associated with exposed soils, fuels, lubricants, and solid and liquid wastes that would be used and stored within active construction areas. Mitigation Measures 4.7-1 and 4.7-2, which require that the Project prepare an SWPPP and, if appropriate, a Stormwater Management Plan (if grading or building permits are determined to be necessary) were found to reduce water quality impacts to less than significant.

Analysis of the Revised Project

TOVWTP Modifications

Regional groundwater within the area of the TOVWTP site occurs at depths of approximately 90 feet below the surface. Additionally, localized perched groundwater aquifers are considered possible within the Project site and typically vary in volume and extent based on seasonal precipitation and/or irrigation levels (Water Authority 2005). Groundwater is not anticipated to occur at the relatively shallow depths of disturbance necessary for the proposed Project modifications. As such, impacts to groundwater would be less than significant.

Pipeline 3 Relining, Aqueduct Connection Point Modifications, Pipeline 4 Vent Replacement and Pipeline Interconnect, and Macario Canyon Pipeline Alignment Modification and Pumping Well

Both the FEIR and First Addendum concluded that impacts to hydrology and water quality due to installation of the off-site pipelines and associated infrastructure would be less than significant. The majority of the proposed Project modifications would be installed or repaired underground and, therefore, similar to the approved Project, would not cause increases in impervious surfaces or runoff. Long-term impacts to hydrology and water quality from the proposed Project modifications would therefore also be less than significant.

Similar to the approved Project, the proposed changes could also result in short-term construction-related surface water impacts that would be reduced to less-than-significant levels with implementation of FEIR Mitigation Measures 4.7-1 and 4.7-2.

The proposed Project modifications located within the City of San Marcos are not located in a flood zone (FEMA 1997, 1999). Portions of the Macario Canyon pipeline modifications are within the flood zone that is a tributary to Aqua Hedionda Creek (FEMA 2012). The FEIR determined that impacts may occur along certain pipeline alignments that are located within a 100-year flood zone. In these areas, implementation of Mitigation Measure 4.7-3, which requires that construction activities occur during the dry months between May 1 and September 30, ensures that impacts would remain below a level of significance. Consistent with the FEIR, the Project with the proposed modifications would also implement Mitigation Measure 4.7-3 and would not result in impacts associated with flood zones.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

There are no substantial changes to the circumstances under which the Project will be undertaken, and there is no new information of substantial importance relative to hydrology or water quality that has become available since the certification of the FEIR.

Conclusion

The proposed Project modifications would not result in any new significant hydrologic/water quality impacts, and no substantial increase in previously identified hydrologic/water quality impacts would occur with implementation of applicable laws, regulation, and mitigation as discussed above. Therefore, the impacts from the proposed Project modifications regarding hydrology and water quality do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Land Use/Planning

Analysis of land use impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 4.8, pages 4.8-10 through 4.8-20. See also CEQA Findings, page 20.

The FEIR and First Addendum concluded that land use impacts would be less than significant.

Analysis of the Revised Project

The evaluation and findings from the FEIR and First Addendum do not change with the proposed Project modifications. Modifications at the existing TOVWTP site would involve a new connection from Pipeline 3 to the treated water storage tanks, and would occur entirely within Water Authority's water treatment plant site or existing ROW. A portion of this new connection would occur on the treatment plant site, while a 300-foot-long pipeline segment would be located within an existing road (terminus of El Paso Alto Road). Relining Pipeline 3 and modifications at the Pipeline 4 Vent Replacement and Pipeline Interconnect site would also occur within an existing Water Authority ROW. Construction would result in short-term impacts to surrounding land uses.

Short-term impacts would include traffic delays, noise, visual effects, and dust, all of which are within the scope of the analysis contained in the FEIR, as noted in the appropriate sections of this Addendum. Land use impacts associated with the proposed Project modifications would be similar to the approved Project; these impacts were found to be less than significant.

It is important to note that zoning ordinances do not apply to the location or construction of facilities used for the production, generation, storage, or transmission of water (California Government Code Section 53091). The policies and goals in both the Land Use Element and the Public Facility Element of the County's General Plan promote the efforts of the Water Authority and water districts to provide for storage, treatment, and transmission facilities to meet demand (County of San Diego 2010). Lastly, construction within existing roadways would not preclude future use of roads following construction, as all of these project components would be located underground.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

There are no substantial changes to the circumstances under which the Project will be undertaken, because there are no new land uses or substantial changes in land use policies or requirements that would affect the Project. No new information of substantial importance relative to land use has become available since the certification of the FEIR.

Conclusion

Based on the above, no new significant land use impacts or a substantial increase in previously identified land use impacts would occur as a result of the proposed Project modifications. Therefore, the impacts to land use and the proposed Project modifications do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Noise and Vibration

An analysis of noise impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 4.9, pages 4.9-5 through 4.9-14. See also CEQA Findings, pages 20 and 21. The FEIR analysis indicated that all Project-related construction activities would comply with the local jurisdictions' noise ordinance for allowable construction hours. Due to compliance with construction noise restrictions, it is not anticipated that excavation and installation of the pipelines using open trench installation methods would result in a significant noise impact based on the applicable significance criteria. It was estimated in the FEIR that maximum noise levels would range up to approximately 85 decibels (dB), while the average sound level for an 8-hour work day was expected to range up to approximately 75 dB.

Further, the FEIR indicates that trenchless methods would be used at several areas. Noise impacts associated with trenchless operations are similar to open trench pipeline construction.

However, rather than the construction noise progressing linearly, the noise would be confined to the excavated pits. Thus, noise impacts could last for several weeks rather than a few days at the areas adjacent to the pits. Trenchless equipment would most likely include a microtunneling machine, auger/drill, a crane, front-end loader, ventilation fans, air compressor, pumps, and dump trucks. Excavating the pits would generally be the most intense noise source. Thereafter, the noise impact would be less intense but a persistent noise source. Noise would be generated primarily during the excavation of the launch and receiving pits. The construction specifications will require the contractor to comply with the applicable noise ordinance. Construction noise would not exceed established standards. Therefore, the noise impact is not anticipated to be significant.

Analysis of the Revised Project

TOVWTP Modifications

Noise levels resulting from construction activities associated with the proposed modifications at the TOVWTP would be similar to those addressed in the Carlsbad FEIR. The County of San Diego noise ordinance prohibits construction noise that exceeds an average sound level of 75 decibels for an eight-hour period, between 7 a.m. and 7 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received. The proposed plant modifications would not result in more severe noise impacts than those previously analyzed in the Carlsbad FEIR. Consistent with the Water Authority's typical construction practices, temporary noise walls would be incorporated into the Project as project design features to reduce construction noise levels at nearby residences. With incorporation of this design feature, noise levels at sensitive receptors are not expected to exceed the 85 dB disclosed in the FEIR, and average sound levels for an 8-hour workday would remain below 75 dB due to the intermittent nature of construction activities on a day-to-day basis.

Once construction activities are complete, the proposed modifications to the treatment plant would include the expansion of the flow control facility, the noise from which would be attenuated with expansion of the noise attenuation features of the existing flow-control facility. The proposed modifications at the treatment plant (pipelines, chemical injection, monitoring station, and pump well) would be subject to the existing TOVWTP operational noise standards that require all facilities on the TOVWTP site to not exceed a 1-hour average noise level of 45 dB at or beyond the property lines. Therefore, the proposed modifications at the TOVWTP would not result in more severe operational noise impacts than those considered in the FEIR, and would not exceed existing TOVWTP operational standards.

Pipeline 3 Relining and Pipeline 4 Vent Replacement and Pipeline Interconnect

As indicated previously, the FEIR determined that compliance with construction noise restrictions would ensure that temporary noise impacts remain less than significant. Portions of the Pipeline 3 relining would occur in developed areas near sensitive noise receptors, such as

residences, in certain locations along the pipeline alignment. The Pipeline 3 portals located in the County of San Diego would not be located in close proximity to existing noise-sensitive receptors. However, the portals located in the City of San Marcos would be located immediately adjacent to existing residences, specifically at portals 11, 12, and 13 (see Figure 8, Pipeline 3 Relining – Portals Adjacent to Single-Family Homes).

Construction noise in the City of San Marcos is governed by Noise Ordinance Section 10.24.020 (City of San Marcos 2004). As indicated in the Noise Ordinance, construction activity would be in violation of the ordinance if it were to occur at any time other than on weekdays Monday through Friday between the hours of 7:00 a.m. and 6:00 p.m. and on Saturday 8:00 a.m. to 5:00 p.m. The City of San Marcos does not have a numeric threshold for construction-generated noise.

The closest residences would be located adjacent to portals 11, 12, and 13. All construction activity will be limited to the City of San Marcos' permitted hours of construction. Consistent with the Water Authority's typical construction practices for relining projects, temporary noise walls would be incorporated into the Project as project design features to reduce construction noise levels at nearby residences. With incorporation of this design feature, noise levels at sensitive receptors are not expected to exceed the 85 dB disclosed in the FEIR, and average sound levels for an 8-hour workday would remain below 75 dB due to the intermittent nature of construction activities on a day-to-day basis. Lastly, it should be noted that with the forward progression of construction activities, construction would only occur for a limited duration (approximately 2 to 3 months) at any given portal. Therefore, the Pipeline 3 relining would not result in new significant impacts or increase the severity of impacts identified in the FEIR, and would not change the FEIR conclusion that no significant noise impacts would occur.

Ground-borne vibration is typically attenuated over short distances. The closest home to the portal locations would be approximately 25 feet or more from the construction area. The heavier pieces of construction equipment utilized at the portals would have peak particle velocities of approximately 0.089 or less at a distance of 25 feet (FTA 2006). At these distances and with the anticipated construction equipment, the peak particle velocity would be below 0.1 inches/second at the adjacent homes, which is the point at which continuous vibration begins to annoy people (Caltrans 2004). In addition, it would be well below 0.2 inches/second, which is the magnitude typically used for protection of "fragile buildings" (ASCE 1974). As such, even older homes that may exist adjacent to the portal locations would not be impacted by construction. Construction is not anticipated to result in continuous vibration, nor is it expected to exceed the magnitudes listed above. As such, the vibration impact would be less than significant.

Construction associated with the Pipeline 4 Vent Replacement and Pipeline Interconnect would also be limited to the City of San Marcos' permitted hours of construction. In addition, there are no sensitive receptors in the immediate vicinity of the site. Therefore, the Pipeline 4 vent

replacement and pipeline interconnect would not result in new significant impacts or increase the severity of impacts identified in the FEIR, and would not change the FEIR conclusion.

Once construction is complete, no operational noise is anticipated along the pipeline route as a result of the relining or the vent replacement.

Macario Canyon Pipeline Alignment Modification and Pumping Well

As discussed in the FEIR, trenchless construction activities generate maximum noise levels of 85 dBA at approximately 50 feet. The actual sound level for an eight-hour work day would be substantially less due to the intermittent nature of construction work and would range up to approximately 75 dB at 50 feet. The FEIR concluded that due to the intermittent nature of construction noise and the requirement in the construction specification to comply with all applicable local noise ordinances, impacts to sensitive receptors during construction of the pipelines using trenchless construction methods would be less than significant. The nearest noise sensitive receptor to the proposed Macario Canyon modifications consist of apartments located approximately 1,200 feet to the north, across from Faraday Avenue. At this distance construction noise impacts would be substantially less than those previously analyzed in the FEIR. Therefore, the proposed modifications along the pipeline route would not result in any new significant noise impacts or more severe construction noise impacts than those originally considered in the FEIR.

Additionally, consistent with the FEIR, implementation of Mitigation Measures 4.3-3, 4.3-4, and 4.3-5, would ensure that indirect noise impacts to sensitive habitats and species remain below a level of significance. Therefore, the Macario Canyon pipeline alignment modification and pumping well would not result in new significant indirect noise impacts or increase the severity of impacts identified in the FEIR, and would not change the FEIR conclusion.

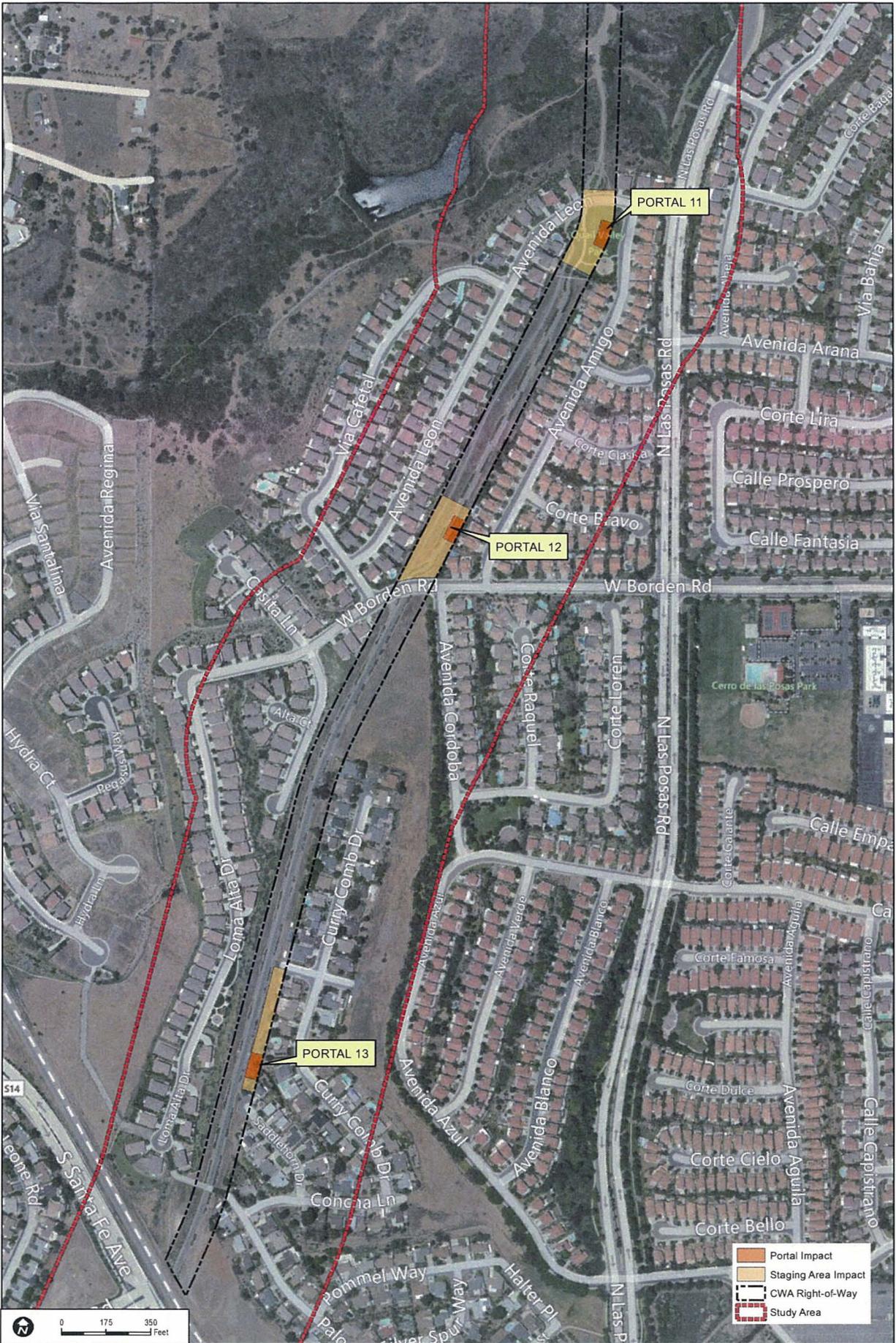
Once construction is complete the pumping well would only be used in infrequent circumstances, for limited periods of time and would not generate a substantial amount of noise, and impacts would not be beyond the scope of those addressed in the FEIR. Similar to the approved Project, operational noise impacts of the proposed Project modifications would be less than significant.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

There are no substantial changes to the circumstances under which the proposed Project modifications will be undertaken, because there are no new substantial changes in noise or vibration policies or requirements that would affect the Project. No new substantial sources of noise or vibration would be introduced within the area, and no new information of substantial importance relative to noise and vibration has become available since the certification of the FEIR.

Conclusion

Based on the above, no new significant noise or vibration impacts or a substantial increase in previously identified noise impacts would occur as a result of the proposed Project modifications. Therefore, noise and vibration impacts and the proposed Project modifications do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.



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Second Addendum to the Carlsbad Desalination Plant Project FEIR

FIGURE 8
Pipeline 3 Relining - Portals Adjacent to Single Family Homes

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Transportation and Traffic

Analysis of traffic impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 4.10, pages 4.10-4 through 4.10-13. See also CEQA Findings, pages 21 and 22.

The FEIR and First Addendum concluded that the approved Project would result in short-term construction traffic impacts associated with the portions of the off-site pipeline that is to be located within existing roadways. Temporary construction traffic trips include crew vehicles and deliveries of pipeline and other materials. The FEIR and First Addendum included Mitigation Measures 4.10-1 and 4.10-2 that require that construction will not result in unacceptable levels of service during peak hour periods on any affected roadways, and that specific traffic control measures as set forth within an approved traffic control plan are implemented. With implementation of these mitigation measures, traffic impacts were considered less than significant.

The FEIR and First Addendum also concluded that long-term traffic impacts from inspection and monitoring activities would be less than significant.

Analysis of the Revised Project

The proposed Project modifications would have similar short-term construction related impacts as those disclosed in the FEIR and First Addendum. Since the proposed Project modifications would add a connecting pipeline to an existing treatment plant, reline an existing pipeline, replace an existing vent and add an interconnection pipeline, and add a pumping well to an approved pipeline, trips associated with inspection of these facilities are considered previously approved and are not considered new traffic trips. Following construction, the proposed Project modifications at the TOVWTP would not result in an increase in staffing at the facility and no additional trips would occur. As discussed above, during periods when the water is sent south from the Aqueduct Connection Point, approximately one or two truck deliveries a week would be required to supply the chemical injection tankers. The proposed Project modifications would not result in a substantial increase in traffic on local roadways. Therefore, long-term impacts to transportation and traffic would be similar to the approved Project and impacts would remain less than significant.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

There are no substantial changes under which the Project will be undertaken, because there are no substantial changes in traffic characteristics or requirements from what was in place at the time that the FEIR was certified. No new information of substantial importance relative to traffic has become available since the certification of the FEIR.

Conclusion

Based on the above, no new significant traffic impacts or a substantial increase in previously identified traffic impacts would occur as a result of the proposed Project modifications. Therefore, the traffic impacts and the proposed Project modifications do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Public Utilities and Service Systems

Analysis of public utilities and service impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 4.11, pages 4.11-6 through 4.11-22. See also CEQA Findings, pages 23 through 25.

The analysis of public services and utilities in the Carlsbad Desalination FEIR and First Addendum concluded that the water treatment plant and associated infrastructure would not result in significant impacts to fire protection services, schools, wastewater treatment facilities, landfills, stormwater drainage facilities, or electric power services.

Analysis of the Revised Project

The proposed Project modifications would not result in residential, commercial, or industrial growth, and therefore, similar to the approved Project, would not require additional services or utilities. The revised Project would not result in an increase in the maximum energy use that was contemplated in the FEIR. All energy use required to deliver product water to the components of the proposed Project modifications would be incurred by pumps at the Carlsbad Desalination Plant, and this energy use was previously analyzed in the FEIR.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

There are no substantial changes under which the Project will be undertaken, because there are no substantial changes in public utilities or services, or to the requirements of agencies that provide such services, from what was in place at the time that the FEIR was certified. No new information of substantial importance relative to public utilities or services has become available since the certification of the FEIR.

Conclusion

Based on the above, no new significant public utilities and service system impacts or a substantial increase in previously identified public utilities and service system impacts would occur as a result of the proposed Project modifications. Therefore, the public utilities and service system impacts and proposed Project modifications do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

9.0 CUMULATIVE IMPACTS

Analysis of cumulative impacts and EIR-identified mitigation measures of the approved Project are contained in the FEIR, Section 5.0, pages 5-1 through 5-13. See also CEQA Findings, pages 25 through 27.

Analysis of the Revised Project

The type and extent of construction activities and the operational characteristics of the proposed Project modifications would not be substantially different from what was evaluated in the FEIR for the approved Project. Therefore, no changes relative to the analysis or conclusions regarding cumulative impacts would occur with the proposed Project modifications, and the findings of the FEIR and First Addendum remain the same for the revised Project.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

Since certification of the FEIR and adoption of the First Addendum, minor additional cumulative development may have been proposed and/or constructed. However, the analysis contained in the First Addendum occurred during a severe economic downturn, which has resulted in a virtual curtailment of development activities within the Project area. The minor amount of land development projects that have been proposed and/or developed in the intervening time since the preparation of the First Addendum is not considered to be substantial. The following provides a cumulative analysis of the proposed Project modifications.

Aesthetics

Because the proposed Project modifications are minor and they have been designed to have minimal visual impacts, the incremental effect of the proposed Project modifications on any potential significant cumulative impact would not be cumulatively considerable.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative aesthetic impacts which was not known and could not have been known when the FEIR was certified and First Addendum adopted that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative aesthetic impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Air Quality

The Project's contribution to temporary regional air quality impacts is not considered to be significant. In addition, because Project construction occupies a relatively small area at any

given time, it is not anticipated that any significant localized cumulative impacts will result. This is primarily due to the short-term nature of cumulative effects within any given location along the Project construction route. Any additional cumulative development would not change these conclusions because the scope of the cumulative development is relatively small within the context of the air basin, and because as noted in the FEIR, construction-related emissions would be short-term in nature. There would be no new operational air pollutant emissions not already considered in the FEIR or First Addendum.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative air quality impacts which was not known and could not have been known when the FEIR was certified that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative air quality impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Biological Resources

As noted in this Addendum, the proposed Project modifications do not involve new significant impacts or a substantial increase in previously identified impacts. This conclusion would not be changed with additional cumulative development due to the limited scope of cumulative development.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative biological impacts which was not known and could not have been known when the FEIR was certified that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative biological impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Cultural Resources

The FEIR cumulative impacts analysis for cultural resources concluded that impacts on cultural resources related to cumulative development could be significant if important cultural resources are destroyed as a result of development. The mitigation measures required for the proposed Project provides for avoidance, documentation, and/or recovery of important cultural resources, and as a result, all impacts related to cultural resources are reduced to less-than-significant levels. These same measures would apply to any additional cumulative development, and therefore the level of cumulative impact and required mitigation measures would not change.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative cultural

resource impacts which was not known and could not have been known when the FEIR was certified that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative cultural resource impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Geology and Soils

The FEIR concluded that the desalination plant site and off-site facilities will require relatively minor site preparation and excavation of soils. Project mitigation to control and address erosion and seismic and soils hazards, in conjunction with similar standard measures required of cumulative development, would reduce cumulative impacts to less-than-significant levels. Any additional cumulative development would have similar levels of impact on geology and soils and would be subject to similar requirements and mitigation measures.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative geology/soils impacts which were not known and could not have been known when the FEIR was certified that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative geology/soils impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Hazards and Hazardous Materials

The Project, as well as other cumulative development, would be subject to regulatory controls that would result in minimization of hazards, and therefore the FEIR concluded that the Project would not contribute to cumulative considerable increases in hazards or hazardous materials. Any additional cumulative development would have similar regulatory controls.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative hazard impacts which was not known and could not have been known when the FEIR was certified that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative hazards impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Hydrology and Water Quality

The FEIR concluded that water quality and hydrology issues would be temporary (construction-related) in nature and would not contribute to cumulatively significant impacts. Impacts of any additional cumulative development would be similar, and in fact would be subject to newer more stringent regulatory control measures.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative hydrology/water quality impacts which was not known and could not have been known when the FEIR was certified that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative hydrology/water quality impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Land Use and Planning

The FEIR concluded that the Project would not contribute to significant impacts resulting from cumulative development that may have the effect of dividing an established community or conflicting with land use or environmental policies. Therefore, the incremental effect of the Project on any potential significant cumulative impact would not be cumulatively considerable. This conclusion would also apply to any additional cumulative development.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative land use impacts which was not known and could not have been known when the FEIR was certified that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative land use impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Noise and Vibration

The FEIR identified cumulative noise and vibration impacts to be primarily related to construction noise. However, within the time frame of Project construction, it is not anticipated that those cumulative effects would reach a level of significance because of noise restrictions required for construction projects, and because the time frame for construction of the proposed Project is relatively short. Any additional cumulative development would not change these conclusions because of the short duration for construction of the proposed Project modifications.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative noise and vibration impacts which was not known and could not have been known when the FEIR was certified that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative noise and vibration impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Transportation and Traffic

The cumulative impacts analysis for transportation and traffic considered the intersections and road segments to which the desalination plant and off-site facilities could contribute to a cumulative impact. Similar to noise impacts, Project traffic impacts are primarily associated with construction. Since the time frame for construction is relatively short and traffic control plans to minimize traffic impacts are required, it is not anticipated that a substantial increase in current traffic levels resulting from cumulative development will occur prior to completion of Project construction. Therefore, temporary traffic impacts associated with the Project will cease prior to any substantial cumulative traffic impacts being realized on local roadways. Any additional cumulative development would not change these conclusions because the construction travel routes for the additional projects are not anticipated to substantially conflict with cumulative construction traffic of the proposed Project.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative traffic impacts which was not known and could not have been known when the FEIR was certified that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative traffic impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

Public Utilities and Service Systems

The cumulative impacts analysis for energy and wastewater were considered to be less than significant, primarily based on capacity and reliability features built into existing systems. The additional cumulative development would not change the analysis or conclusions of the FEIR because they would not result in substantial additional demand on such systems.

There are no substantial changes to the circumstances under which the Project will be undertaken and no new information of substantial importance relative to cumulative utilities/services impacts which were not known and could not have been known when the FEIR was certified that has since been identified. Therefore, the effects of additional cumulative development regarding cumulative utilities/services impacts do not meet the standards for a subsequent or supplemental EIR pursuant to CEQA Guidelines, Section 15162.

10.0 GROWTH-INDUCING IMPACTS

Analysis of growth-inducing impacts of the approved Project are contained in the FEIR, Section 9.0, pages 9-1 through 9-7. See also CEQA Findings, pages 54 and 55.

Analysis of the Revised Project

The proposed Project changes consist of minor modifications to the distribution system of the Project, and necessary modifications to existing Water Authority facilities in order to accept, store and distribute the Project water. The operation of the facility and its potable water-producing capacity will not change from what was evaluated in the FEIR for the approved Project. Therefore, no changes relative to the analysis or conclusions related to growth inducement would occur with the proposed Project revisions.

Substantial Changes With Respect to the Circumstances Under Which the Project is Undertaken/New Information of Substantial Importance

There are no substantial changes under which the Project will be undertaken, because there are no substantial changes in growth potential or growth planning that would affect the analysis contained in the FEIR. No new information of substantial importance relative to growth inducement has become available since the certification of the FEIR.

11.0 CONCLUSION

Impacts associated with the proposed Project modifications would not result in a new significant impact or substantial increase in the severity of previously identified impacts per the Carlsbad Desalination Plant 2006 FEIR or the First Addendum. Additionally, where applicable (as indicated in this Addendum), the proposed Project modifications would also not result in an increase in the severity of previously identified impacts per the NCCP/HCP EIR/EIS. There are no substantial changes to the circumstances under which the Project will be undertaken, and no new information of substantial importance which was not known and could not have been known when the FEIR was certified and the First Addendum was approved, and that have since been identified. Therefore, the proposed Project modifications do not meet the standards for a subsequent or supplemental EIR as provided pursuant to CEQA Guidelines, Section 15162. As such, this Second Addendum to the FEIR satisfies CEQA requirements for the proposed Project modifications.

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**PROJECT MODIFICATION
MITIGATION MONITORING AND REPORTING PROGRAM**

**SECOND ADDENDUM TO EIR
PRECISE DEVELOPMENT PLAN
AND DESALINATION PLANT PROJECT**

State Clearinghouse Number 2004041081

San Diego County Water Authority

4677 Overland Avenue
San Diego, California 92123
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NOVEMBER 2012

**Project Modification MMRP - Second Addendum to EIR
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SECTION 1.0 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that public agencies approving projects take affirmative steps to ensure that adopted mitigation measures are implemented. The lead or responsible agency must adopt a monitoring and reporting program for all mitigation measures incorporated into a project or included as conditions of approval that avoid, minimize or mitigate significant environmental effects on the environment. The program must be designed to ensure compliance during project implementation (Public Resources Code, Section 21081.6(a)(1)).

This Mitigation Monitoring and Reporting Program (MMRP) will be used by the San Diego County Water Authority (Water Authority), as Responsible Agency pursuant to State CEQA Guidelines, to ensure compliance with adopted mitigation measures associated with the Second Addendum to the Precise Development Plan and Desalination Plant Project EIR (project). References throughout Table 2.1 to the City, and specific departments and personnel will apply to the Water Authority, and its equivalent departments and personnel, as appropriate.

Implementation of the project design features and mitigation measures would reduce impacts described in the Second Addendum to below a level of significance for aesthetics, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, noise and vibration, and transportation and traffic.

This MMRP consists of two tabular checklists that identify the project design features and mitigation measures, by resource, for each project component. The tables identify the source document, including appropriate numeric or section references for the project design feature or mitigation measure, as well as a description of the mitigation monitoring and reporting requirements, including the party(ies) responsible for verifying implementation of the design feature or mitigation measure, timing of verification (prior to, during, or after construction) and agency responsible for ensuring compliance. Space is provided for sign-off following completion/implementation of the design feature or mitigation measure. The source documents are the Precise Development Plan and Desalination Plant Project Final EIR MMRP (FEIR MMRP), and the Water Authority's Natural Community Conservation Plan/Habitat Conservation Plan and appendices (PLAN).

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SECTION 2.0 PROJECT DESIGN FEATURES AND MMRP CHECKLISTS

Table 2-1

TOVWTP, Pipeline 3 Relining and Pipeline 4 Vent and Pipeline Replacement and Pipeline Interconnect Modifications

Project Design Features and MMRP Checklist

Design Feature/ Mitigation Measure No.	Mitigation Measures/Design Features	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Const.		Initials	Date	
BIOLOGICAL RESOURCES									
<i>Project Design Features</i>									
2.1 (PLAN-APPX-B)	<p>Conditions for Coverage</p> <p>The following general measures will apply to all Covered Species:</p> <ol style="list-style-type: none"> 1. Conduct pre-activity surveys within suitable habitat to ensure that Covered Species are adequately addressed by impact avoidance, minimization, and mitigation (see Appendix F of the Plan). Surveys must be conducted by an Environmental Surveyor during the appropriate field conditions for detection prior to any proposed impacts in the Plan Area. 2. Avoid and minimize impacts to occupied Covered Species habitat or potential migration and/or dispersal corridors for all new facilities and O&M Activities of existing facilities through project design considerations. 3. Establish a habitat buffer when appropriate and feasible around covered plant species populations to support the natural suite of pollinators unless a biologically appropriate mitigation approach is agreed to with the Wildlife Agencies at the time of project-specific environmental review. 4. Fence and/or flag Covered Species populations and sensitive habitat in or adjacent to work areas. Where necessary, install signage to prohibit access and/or flag areas being restored or protected for their biological value. 	Project Engineer and Environmental Surveyor	X	X		Water Authority			

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	<p>5. Avoid driving or parking on sensitive and/or occupied habitat by keeping vehicles on roads and in designated staging areas.</p> <p>6. Deter unauthorized activities (such as trampling and off-road vehicle use) and perform litter abatement, including proper disposal of illegally dumped materials, as part of routine patrol of access roads.</p> <p>7. Monitor encroachment of non-native and invasive species into Covered Species populations and perform weed abatement as needed to improve the habitat.</p> <p>8. Stabilize work areas to control erosion or sedimentation problems when working near Covered Species populations within the Plan Area. Populations within or adjacent to work areas would be protected from vehicular traffic, excessive foot traffic, or other activities that result in soil surface disturbance.</p> <p>9. Control dust when working near Covered Species populations and/or habitat in accordance with applicable regulations.</p> <p>10. All identified populations of Covered Species within rights-of-ways must be managed to control edge effects to the maximum extent possible (see Sections 6.4 and 6.5 of the Plan).</p> <p>11. Any restoration and monitoring program prepared as a component of the mitigation plan for impacts to a Covered Species shall include, but not be limited to, species propagation ratios, restoration site selection and assessment, site preparation, implementation strategies, weed control procedures, required management and monitoring in perpetuity, funding commitment, and reporting procedures. The program would be prepared in advance of project impacts and approved by the Wildlife Agencies.</p>								

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	<p>12. Any planting stock used shall be inspected by an Environmental Surveyor to ensure that it is free of pest species that may invade natural areas, including, but not limited to, Argentine ants (<i>Iridomyrmex humii</i>), fire ants (<i>Solenopsis invicta</i>), and other pests. Any planting stock that is infested would not be allowed within restoration areas or within 300 feet of native areas unless documentation is provided to the Wildlife Agencies that these pests already occur in the native areas around the project site. The stock would be quarantined, treated, or disposed of according to best management principles by qualified experts in a manner that precludes invasions into native habitat. Runoff from mitigation sites in native habitat would be minimized and managed.</p> <p>13. To the maximum extent possible, conduct Covered Activities occurring within wetland habitats during the dry season when flows are at their lowest or nonexistent to minimize impacts to aquatic species and/or habitats.</p> <p>14. Reseed temporary impact areas with an appropriate native seed mix (as discussed in Section 6.5.1.4.2, Permanent and Temporary Impacts, of the Plan) and allow for natural recolonization of the area by adjacent populations.</p> <p>15. For new facilities adjacent to native habitat, minimize ornamental landscaping or irrigation not associated with native habitat restoration.</p> <p>16. Collection of covered plant and wildlife species by Water Authority personnel and contractors is prohibited.</p> <p>17. Maintain and manage dispersal/movement corridors within the Plan Area that contribute to long-term population viability (see Section</p>								

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	4.5, Habitat Linkages and Wildlife Corridors and Figure 4-3, Conceptual Habitat Linkages in NCCP/HCP Plan Area, of the Plan). 18. The use of outdoor lighting within or adjacent to potential Covered Species habitat will be discouraged. If lighting must be used for reasons of safety and security, light sources would be shielded away from habitat and only low pressure sodium lighting would be used. In addition to the general Conditions for Coverage above, species-specific conditions are listed for all species that the Water Authority is requesting coverage for under the Plan. Where a general or species-specific condition requires concurrence from the Wildlife Agencies, the Wildlife Agencies will make their best efforts to provide their concurrence or comments within 60 days or as soon as possible based on their respective staffing and work priorities. In the event that the Wildlife Agencies issue a statement of nonconcurrence, the Water Authority will be provided with specific recommendations on how concurrence can be achieved.								

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			Pre Const.	During Const.	Post Const.		Initials	Date	
2.2 (PLAN-APPX-B)	Narrow Endemic Policy and Vernal Pool Protection Policy Habitat-based protection and mitigation measures are also applicable in accordance with Sections 6.5.1.6 for narrow endemics and 6.7.3 for vernal pools in the Plan. In addition, the Water Authority will attempt to use tunneling and facility location and design planning to avoid vernal pools/vernal pool habitat to the maximum extent feasible. If off-site mitigation is required, then the Water Authority will attempt to acquire property that has suitable potential vernal pool enhancement/restoration (or creation) habitat, preferably property that is near existing vernal pools.	Project Engineer and Environmental Surveyor	X	X		Water Authority			
2.3 (PLAN-APPX-B)	Avian Breeding Season Policy Breeding season dates may be modified to reflect the species known or expected to occur on the specific site. For the purposes of Plan implementation, the following general breeding season dates shall be used: January 15 to July 31 for raptor species; March 15 to September 15 for riparian species; and February 15 to August 15 for upland species (Section 6.4.2.1 of the Plan).	Environmental Surveyor	X	X		Water Authority			
2.4 (PLAN-APPX-B)	Buffers Species-specific buffer requirements are identified as needed for Covered Species (including three Major Amendment Species) in Sections 3.0 Covered Plants, 4.0 Covered Invertebrates, 5.0 Covered Amphibians, 6.0 Covered Reptiles, 7.0 Covered Birds, and 8.0 Covered Mammals. Species-specific buffer requirements are identified as needed for non-Covered Species in Sections 9.0 Non-Covered Plants, 10.0 Non-Covered Reptiles, and 11.0 Non-Covered Birds. In the event that the buffer criteria for a species cannot be	Project Engineer and Environmental Surveyor	X	X		Water Authority			

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	<p>achieved at a particular project site, the Water Authority would design and implement alternative compensatory measures during project development to achieve the same or superior level of protection. Any deviations from management actions would be performed in consultation with the Wildlife Agencies and described in the annual report.</p> <p>In addition, specific buffer requirements may be reduced on a project-by-project basis as appropriate, in consultation with the Wildlife Agencies, based on site considerations such as, but not limited to: extant decibel conditions, topography, vegetative structure, or presence of physical barriers.</p>								
6.4.1.1- 6.4.1.3 (PLAN)	<p>Environmental Surveyor</p> <p>The Water Authority provides an Environmental Surveyor to monitor construction activities, and advise the project managers to assure implementation and compliance with design features, mitigation measures, and permit conditions; and document project implementation relative to covered species, any other sensitive biological resources, and design features, mitigation measures, and permit conditions (NCCP/HCP Section 6.4.1.1 thru 6.4.1.3). The Environmental Surveyors' qualifications and duties are identified in the NCCP/HCP, including conducting and documenting the results of a Pre-Activity Survey to verify biological baseline conditions at the actual start of construction, and conducting field personnel education training. These design features reduce the likelihood of unauthorized impacts to covered species and sensitive biological resources.</p>	Project Engineer and Environmental Surveyor	X	X		Water Authority			

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			Pre Const.	During Const.	Post Const.		Initials	Date	
6.4.1.4 (PLAN)	<p>Field/Contractor Personnel Responsibilities</p> <p>1. Contractors or other project personnel will not collect plants or wildlife, unless specifically authorized and directed by the Environmental Surveyor. Only qualified and appropriately authorized personnel will handle or collect plants or wildlife as required by species-specific measures (see Appendix B).</p> <p>2. Field personnel will not intentionally harm or harass wildlife or damage nests, burrows, rock outcrops, or other habitat components.</p> <p>3. Drivers on unpaved roads in native habitats will not exceed a speed of 20 miles per hour in order to avoid injury to animals and minimize dust generation.</p> <p>4. Impacts to adjacent native vegetation that would be significantly affected by excessive fugitive dust will be avoided and minimized through watering of access roads (except in areas with vernal pools) or other appropriate measures, such as reducing the number or speed of vehicles or adding inert materials that reduce dust. Projects with the potential for excessive dust generation include those that involve more than occasional use of roads in dust-prone soils (i.e., more than three to five vehicle roundtrips per day) or require multiple vehicles to transport heavy equipment and supplies.</p> <p>5. Vehicles will not park in areas where catalytic converters may ignite vegetation. Construction vehicles will be equipped with shovels and fire extinguishers in order to reduce the risk of wildfires.</p> <p>6. Littering will be strictly prohibited. All trash will be deposited in secured, closed containers or hauled out daily by field personnel.</p> <p>7. No pets will be allowed on any construction site.</p>	Project Engineer and Environmental Surveyor		X		Water Authority			

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	<p>8. No firearms or other weapons will be allowed on any construction site except as carried by governmental law enforcement, or as authorized in writing by Water Authority staff.</p> <p>9. Field personnel will be prohibited from pushing or dumping soil and brush into sensitive habitats.</p> <p>10. All vehicles, tools, and machinery will be restricted to access roads, approved staging areas, or within designated construction zones.</p> <p>11. If any field personnel identify a previously unnoticed Covered Species on a construction site, work activities will cease in order to immediately notify the Water Authority's construction manager, project engineer, and the Environmental Surveyor. In conjunction with Water Authority environmental staff, the Environmental Surveyor will determine what actions would be taken to avoid or minimize impacts to the species according to the species-specific conditions outlined in Appendix B.</p> <p>12. Field personnel will notify the project engineer/environmental staff of any sick, injured, or dead wildlife found on site.</p> <p>13. Parking or driving underneath oak trees, except in established traffic areas, will not be allowed in order to protect root structures.</p>								
6.4.2.4 (PLAN)	<p>Existing Pipeline Relining Design Features</p> <p>NCCP/HCP Plan Minimization Measures specific to pipeline relining (NCCP/HCP Section 6.4.2.4) are listed below:</p> <p>1. Where habitat for Covered Species occurs, pre-activity surveys and appropriate USFWS protocol surveys (for listed species for which protocols have been written) will be conducted in accordance with</p>	Project Engineer and Environmental Surveyor	X	X		Water Authority			

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	<p>species specific measures outlined in [NCCP/HCP] Appendix B.</p> <p>2. Portals will be located within disturbed or developed areas, and away from habitat occupied by Covered Species to the extent feasible.</p> <p>3. Project construction will be initiated outside the Covered Species breeding seasons (as explained in [NCCP/HCP] Section 6.4.2.1), including vegetation removal or other habitat modifications. If construction must occur during the breeding season (e.g., due to water system operational constraints, amount of pipeline to be relined, and pipeline condition), a pre-construction nesting survey will be conducted to assess the potential for direct impacts to nests/breeding sites and/or indirect noise effects. Conditions that may be imposed on the activity are described in [NCCP/HCP] Section 6.4.2.1 and in the species-specific Conditions for Coverage (see [NCCP/HCP] Appendix B).</p> <p>4. If Covered Activities need to occur during the breeding season, an Environmental Surveyor will evaluate the need for noise walls or other feasible noise reduction measures to reduce construction noise levels.</p> <p>5. The project's biotechnical report will specify the appropriate noise minimization requirements. If least Bell's vireo nesting sites are effected by noise, noise levels at the nest will be restricted to less than 60 dB(A) Leq(1) or the ambient noise level plus three decibels (perceptible change threshold), whichever is greater. If noise cannot be kept below 60 dB(A) Leq(1), construction will cease until nests have fledged or failed (as determined by the Environmental Surveyor).</p> <p>6. The project's biological technical report will specify the appropriate sound minimization techniques, possibly including activity</p>								

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	setbacks/buffers, temporary noise barriers, limited hours of work, etc.								
6.11.1 (PLAN)	<p>Fire Management</p> <p>1. Prepare site-specific fire management plans. Include local fire department contacts and guidelines for pre-fire prevention activities, fire suppression, and post-fire restoration.</p> <p>3. When available, fuel management zones should take advantage of existing roads and disturbed or developed habitats, thus avoiding sensitive habitats.</p> <p>8. All post-fire actions, such as restoration, invasive species removal, erosion control, or trail stabilization, will be planned in consultation with the Wildlife Agencies prior to project initiation.</p>	Construction Contractor and Environmental Surveyor	X	X		Water Authority			
6.11.3 (PLAN)	<p>Fencing</p> <p>2. Maintain or install fencing when necessary to:</p> <ul style="list-style-type: none"> a. limit road kills; b. direct wildlife through wildlife movement corridors, including undercrossings e. protect erosion control or revegetation efforts; f. protect native vegetation during construction; g. protect particularly sensitive resources (e.g., vernal pools, small populations of sensitive plants, etc.); and h. provide public safety or security. <p>3. Select fencing that best accomplishes access control with minimal wildlife interference.</p> <p>4. Maintain fence lines in a way that minimizes impacts to sensitive species and habitats.</p>	Construction Contractor and Environmental Surveyor	X	X	X	Water Authority			

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			Pre Const.	During Const.	Post Cost.		Initials	Date	
6.11.6 (PLAN)	<p>Lighting and Noise</p> <p>1. Eliminate lighting in or adjacent to conserved habitat (or Biological Significant Resource Areas (BSRA)) except where essential for roadway use, facility use, safety, or security purposes.</p> <p>2. Use low-pressure sodium illumination sources. Do not use low voltage outdoor or trail lighting, spotlights, or bug lights. Shield light sources adjacent to conserved habitat (or BSRA) so that the lighting is focused downward.</p> <p>3. Incorporate a 100-foot buffer zone between the edges of lighted areas and conserved habitat (or BSRA). Fuel management zones that may be required could be considered part of the buffer zone. Buffer zone width could vary with lighting intensity, lighting type, use of shields, and topography.</p> <p>5. Address potential indirect effects of noise at the nest location of least Bell's vireo by keeping noise levels at or below 60 dB(A) Leq(1) or an increase of three decibels above ambient noise levels, whichever is greater, during the breeding season. For other avian species, follow guidance for the Covered Species (PLAN, Appendix B).</p>	Construction Contractor and Environmental Surveyor		X	X	Water Authority			
6.11.9 (PLAN)	<p>Invasive Exotic Species Control</p> <p>1. Prioritize areas for exotic species control based on aggressiveness of invasive species and degree of threat to the native vegetation. Monitor those species of high priority for eradication as determined by the <i>California Invasive Plant Inventory</i></p>	Construction Contractor and Environmental Surveyor		X	X	Water Authority			

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	<p>(Cal-IPC 2006). Species with a Cal-IPC rating of "high" will be a priority for eradication, with the objective to control and remove it as soon as possible after discovery. Examples of high priority plant species include giant reed (<i>Arundo donax</i>), salt cedar (<i>Tamarix spp.</i>), castor bean (<i>Ricinus communis</i>), fennel (<i>Foeniculum vulgare</i>), tree tobacco (<i>Nicotiana glauca</i>), artichoke (<i>Cynara cardunculus</i>), and pampas grass (<i>Cortaderia spp.</i>). "Moderate" or "Limited" rated species may be allowed at low population levels following initial eradication efforts.</p> <p>2. Where feasible, use an integrated pest management (IPM) approach to eradicate undesirable species; i.e., use the least biologically intrusive control methods, at the most appropriate period of the growth cycle, to achieve the desired goals.</p> <p>3. Consider both mechanical and chemical methods of control. Only herbicides compatible with biological goals and consistent with reservoir management goals will be used. Licensed pest control advisors qualified under the Department of Pesticide Regulations will be used to make specific pest control recommendations.</p> <p>4. Dispose of all exotic plant materials that are removed from or adjacent to a Preserve Areas (or BSRA) at a landfill or on-site at a secure, designated location to avoid the spread of nonnative plant species through seeds or propagules. Exotic vegetation shall be chipped and staged in a designated mulch site. All exotic plant materials will be covered during transport and the compost pile will be periodically spot-treated with herbicide to kill any resprouting plants. Exotic plant material will be removed off-site to a green waste</p>								

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	recycling facility, or otherwise legally disposed of, as necessary. 5. Revegetate invasive plant and exotic weed removal areas with native species appropriate to biological goals for the area and/or adjacent native habitat. 6. Control the spread of invasive ant species by following the guidelines below: a. Ensure that all ornamental landscaping and native habitat restoration materials do not contain invasive ant or other species by inspecting all container stock before it enters Preserve Areas (or BSRA). b. Control landscaping irrigation adjacent to Preserve Areas (or BSRA) to avoid any overflow, which may attract non-native ants by increasing soil moisture. c. Empty trash receptacles located along trails and/or associated with edges of the Preserve Area (or BSRA) on a regular basis, as determined by the manager's monitoring of actual needs.								
Mitigation Measures									
6.5.1.4.2 (PLAN)	Permanent and Temporary Impacts Permanent Impacts. Permanent impacts result from Covered Activities that cause the removal of habitat (e.g., sensitive vegetation community or Covered Species) that cannot be mitigated on-site through revegetation and other restoration efforts. Mitigation for permanent impacts requires the acquisition of credits at a Water Authority upland or wetland HMA, other Wildlife Agency-approved bank, or through the	Project Engineer, Environmental Surveyor, Wildlife Agencies	X		X	Water Authority			

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Table 2-1

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	<p>acquisition/protection of a qualifying habitat area that augments the Plan's Preserve Areas or reserves in another approved conservation plan, at the ratios specified in this Plan (Tables 6-6 and 6-7). If the mitigation ratio is greater than 1:1, the Water Authority may choose to provide the portion of the mitigation that is over the 1:1 component by restoring disturbed lands within this Plan's Preserve Areas or other protected habitat areas if those areas have no required restoration requirement imposed by this Plan or another plan, and no other legal/regulatory obligation or other requirement for habitat enhancement and/or restoration. If the Water Authority determines, based on project monitoring and performance criteria, that enhancement or restoration efforts are not likely to be successful, equivalent credits of the appropriate habitat type will be deducted from the appropriate Water Authority HMA or purchased from an existing bank. Project monitoring methods and performance criteria will be developed in consultation with the Wildlife Agencies, who will also review and provide concurrence that the criteria have been met or are not likely to be met. See Section 6.6 for a discussion of restoration approaches and specifics.</p> <p>Temporary Impacts. Temporary impacts to sensitive (mitigation-requiring) vegetation communities are impacts resulting from Covered Activities that do not disturb or remove vegetation root stock or that can be mitigated on-site through revegetation and other restoration efforts. Revegetation and restoration of temporary impacts will occur on-site in the area of initial disturbance. Effective implementation and</p>								

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	<p>monitoring of the mitigation and invasive species control ensures that habitat and plant species are re-established or recover to the original condition or a biologically superior condition. See Section 6.5 for a discussion of restoration approaches and specifics.</p> <p>The Water Authority identifies two types of temporary impacts: (1) the impacts are considered to be a one-time disturbance, or (2) the impacts are considered to be repeated (known or expected to occur more frequently than the time period in which the restored area is scheduled to return to fully-restored status) within the duration of the Plan's permit. The Water Authority will use different approaches when dealing with these two types of temporary impacts, as described below.</p> <p>For projects or portions of projects with one-time temporary impacts, restoration and revegetation of the impacted area will be implemented at a 1:1 ratio. The specific habitat enhancement (restoration and revegetation) measures will be selected to address site specific needs. Performance (success) criteria will be defined for each project and will generally conform to the Water Authority's revegetation guidelines (Section 02940 in the General Conditions and Standard Specifications, 2005 edition, Appendix D). Success criteria will be reviewed and concurred with by the Wildlife Agencies before restoration projects may commence. Restoration measures will be developed to restore the site's previous biological resources and minimize establishment of invasive non-native plant species.</p>								

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	<p>Habitat enhancement and restoration activities will occur under the supervision and direction of an Environmental Surveyor who has experience developing and implementing native restoration plans in southern California. Within a project site, any disturbed areas that do not require regular maintenance or future disturbance, whether inside or outside of preserves, will be improved either through enhancement, restoration, or a combination of the two. No off-site mitigation will be required for one-time temporary impacts unless the restoration is determined unsuccessful by the Wildlife Agencies. The Water Authority must receive concurrence from the Wildlife Agencies that each restoration effort is successful, as discussed in Section 6.6.</p> <p>For project or portions of projects for which the Water Authority believes there will be a need for repeated temporary impacts to an area, the Water Authority will treat the initial disturbance as permanent and mitigate off-site at the appropriate mitigation ratio prior to initiating work at the site. Mitigation for initial disturbance will be performed off-site using the same approach as described above for permanent impacts (e.g., using credit from a Water Authority HMA or other Wildlife Agency-approved bank, acquiring/protecting habitat that augments the Plan's Preserve Areas or other reserve lands). Also, the disturbed area would be reseeded with a native seed mixture appropriate to the site. No performance criteria will be associated with the restoration efforts in this case.</p>								

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	<p>Subsequent disturbances in the same area would only require that the affected area be revegetated to its original condition, and no additional off-site mitigation would be required.</p> <p>The Water Authority will be responsible for ensuring that the temporary disturbance areas are properly reseeded/revegetated. During the construction warranty period (varies with projects, but is generally 24 months), the project contractor(s) will be responsible for reseeded/revegetating. The Water Authority, through the requirements of this Plan and using the Environmental Surveyor, will ensure that these areas will be monitored and managed for a three-to-five year period, based on the site-specific process. Additional project-specific design features and mitigation measures implemented through the environmental process would be reviewed during the CEQA process. If other revegetation techniques not presented in this Plan are considered, they will be submitted to the Wildlife Agencies for concurrence performance conditions.</p> <p>If the restoration has not met the restoration plan's success criteria within two years of reseeded, the Water Authority may initiate a second round of reseeded efforts to meet the mitigation requirements. The Water Authority may install container plants and irrigation to aid revegetation efforts. This decision would be based on weather, site conditions, and the value of the habitat in the area. If success criteria have not been met during the restoration process, and the Water Authority determines that subsequent effort will not</p>								

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	<p>achieve the success standards, the Water Authority will consider impacts to be permanent and mitigate off-site at one of the HMAs or a Wildlife-Agency approved bank.</p> <p>Restoration techniques utilized by the Water Authority are described in more detail in Section 6.6. For activities affecting riparian/wetland areas, enhancement and mitigation measures are outlined in the Wetlands Protection and Mitigation Program (see Section 6.7). Habitat restoration guidelines are set forth in Section 02940 of the Water Authority General Conditions and Standard Specifications, which were updated in 2005 (see Appendix D). Updates to the guidelines (e.g., site-specific seed mixes) will be submitted for Wildlife Agency review and comment as part of the annual reporting process. Additional project-specific design features and mitigation measures implemented through the environmental process would be reviewed during the CEQA process. If other revegetation techniques not presented in this Plan are considered, they will be submitted to the Wildlife Agencies for concurrence.</p>								
6.6.2 (PLAN)	<p>Restoration Areas Potentially Subject to Future Disturbance Restoration for temporarily impacted areas subject to future, repeat disturbance will conform to the following protocols for seeding/planting, weed control, erosion control, species relocation, and soil and plant salvage. For individual restoration/enhancement areas larger than five acres, a restoration plan (described in Section 6.6.1) will be required and must be approved by the Wildlife Agencies, who will make their best efforts to review and provide</p>	Project Engineer, Environmental Surveyor, Wildlife Agencies			X	Water Authority			

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	<p>concurrence (or objection, with recommendations to make the plan acceptable) to the Water Authority within 60 days of receipt of the plan, or the plan will be considered acceptable.</p> <p>Seeding/Planting</p> <p>1. Seeding will generally be performed within 30 days after topsoil replacement (see Section 6.6.4), but each project will specify the topsoil replacement timing to correspond with the appropriate season for application. The seed mix to be used will consist of local native vegetation species that are suitable for restoration as dictated by the terrain, soils, and surrounding native habitat. As conditions allow, native plant species that are a typical component of the pre-existing or surrounding vegetation community will be used in the seed mix. If justified and feasible, plant materials will be derived from local seed and/or cutting sources to maintain genetic integrity. Species lists and sources and quantities of seeds to be applied will be based on local conditions, as determined by the Water Authority. The Wildlife Agencies will be notified of seeding efforts within the regular annual reports (see Section 6.12).</p> <p>2. Hydroseeding will consist of a slurry mix of native seed, soil stabilizer (100 pounds per acre), fiber mulch (2,000 pounds per acre), water, and other additives to be hydraulically sprayed on the ground as specified in the Water Authority standard specifications or restoration plan. The slurry (but not the seed mix) may be altered by the project engineer to meet any site-specific needs. After application, this will allow absorption of moisture and rainfall to percolate to the</p>								

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	<p>underlying soil.</p> <p>3. Hand-seeding may be used to spread seed by hand and rake it into the topsoil.</p> <p>4. Drill-seeding may be used in restoration efforts to reduce soil disturbance.</p> <p>5. Established preserves within the Plan Area will be reseeded only with appropriate native species for the site and surrounding area.</p> <p>6. Areas requiring erosion control will be reseeded with an erosion control native seed mix as determined in Section 02940 of the Water Authority standards (see Appendix G). Such seed mixes may include a selection of native grasses, low-growing forbs, and shrubs, consistent with the surrounding area and the ultimate disposition of the reseeded site.</p> <p>7. Hydroseeded areas will be periodically inspected by the Environmental Surveyor. Inspections generally will be conducted on a quarterly basis but could be more or less frequent depending on site specific conditions. Areas failing to show acceptable germination and growth of native species, as determined by the Environmental Surveyor, will be scheduled for reseeded. Acceptability will be determined by uniformity of germination and native plant growth. Any supplemental seeding should take place from September through November, prior to winter rains. The need for supplemental seeding will be evaluated upon whether seedling establishment provides a reasonable expectation that it will develop into self-sustaining native habitat over time with consideration for annual rainfall and other underlying abiotic factors (e.g., slope, aspect, soils).</p>								

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	8. Areas of approximately 4,360 square feet (0.1 acre) or larger that have not achieved 20-percent cover of native plants at the end of the first summer following seeding may require reseeding. Factors such as overall percent cover, health, and vigor will be considered in determination of satisfactory establishment. If supplemental seeding is required, seed mixes may be altered upon direction of the Water Authority to achieve more successful germination based on habitat conditions; however, seed mixes must contain only native species. Exceptions to use non-native, non-invasive species may be made by the Environmental Surveyor in disturbed areas that have been landscaped with non-native species, or elsewhere with concurrence from the Wildlife Areas.								
6.6.3 (PLAN)	<p>Weed Control</p> <p>1. Weeds will be controlled in all areas planted and/or seeded throughout the plant establishment and maintenance period. Weed eradication will be performed within 10 days prior to initiating seeding and planting operations.</p> <p>2. All planted areas will be weeded prior to the weeds reaching 12 inches in height and/or before ripening of seed, unless otherwise directed by the Environmental Surveyor. Weed control methods may include herbicide application, hand weeding, or mechanical removal as approved for the site by the Environmental Surveyor. Herbicides will be applied in conformance with all applicable laws and regulations.</p> <p>3. All high-rated invasive weeds on the most current California Invasive Plant Council (Cal-IPC) list (Appendix H) will be prioritized</p>	Contractor and Environmental Surveyor		X	X	Water Authority			

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	and targeted for control at restoration sites, although additional weeds may be controlled based on recommendations by the Environmental Surveyor.								
6.6.4 (PLAN)	<p>Soil and Plant Salvage As a means of enhancing revegetation success, the Water Authority will salvage soil, seed, and plant material on a project-by-project basis, where appropriate and feasible.</p> <p>Project review and CEQA analysis will identify appropriate salvage opportunities. Mitigation measures and conditions of project approval will specify the soils, seed, and plant material to be salvaged, identify the procedures for salvage, and specify locations and time frames for use of material, as appropriate.</p> <ol style="list-style-type: none"> 1. Where feasible, the project will reuse topsoil that supported native plant species for revegetation and restoration purposes. 2. Where feasible, the project will collect representative cactus joints and/or other rooted materials within impact areas for subsequent planting in restoration sites or areas that will not be impacted. 3. During construction in areas of native habitat, topsoil consisting of the top four to six inches of earthen material will be salvaged and stockpiled separately from other excavated materials. Topsoil piles will be stored within a fenced or a flagged and posted enclosure. These piles will be kept relatively weed free without the use of a pre-emergent herbicide. Weeds will be removed and disposed of off-site 	Environmental Surveyor	X	X		Water Authority			

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	<p>before weeds produce mature seed heads. Prior to topsoil salvage, existing native vegetation will be salvaged, removed and mulched, or crushed into the topsoil. If mulched, vegetative material will be no larger than six inches long by one inch wide. Mulched native vegetation may be incorporated and stored with salvaged topsoil at the discretion of the Water Authority. If stockpiles are projected to remain for more than one year, then the Water Authority will provide a maintenance plan.</p> <p>4. Once construction has been completed, the stockpiled topsoil/mulched plant material will be applied in a layer over all portions of the construction corridor that previously contained native habitat. Both the topsoil and the mulched material contain native propagules beneficial to the growth of native plant species. Additionally, the mulch will reduce erosion potential for the area. This method is suited for temporary roads and staging areas (once ripped), as well as for other areas of prior intensive activities.</p> <p>5. Topsoil compaction during placement will be avoided. The topsoil will be tilled prior to seeding to increase water infiltration and root growth. Disking or ripping to a depth of 12 inches will also reduce topsoil slippage on steep slopes. Tilling after initial seed germination may promote weed growth and will only be utilized when an influx of pest species would not adversely damage or diminish adjacent native plant populations as determined by the environmental Surveyor.</p> <p>6. When available and determined acceptable by the Environmental Surveyor, salvaged species may be used in restoration areas to allow the introduction of mature and diversely-aged plants that have</p>								

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	developed root systems with symbiotic fungal associations. Plant salvage will begin at least one month prior to clearing and grubbing of the site to allow sufficient salvage time. Salvageable individual plants will be removed from the ground using hand tools or mechanized equipment to remove the root ball and surrounding soil. Plants will then be transplanted and stored in soil per standard horticultural practices for native species until the restoration areas are prepared for planting (e.g., cool season weather arrives or water is available) and until all signs of transplant shock have subsided. When possible, individuals will be removed from a designated grading area and replanted without delay in a prepared revegetation site.								
CULTURAL RESOURCES									
<i>Mitigation Measures</i>									
CULT-1 (FEIR MMRP)	Where project construction will impact cultural resources that have been determined to be significant, mitigation shall include either avoidance, or if avoidance is not feasible, then a data recovery program shall be completed to recover a large enough sample of cultural material so that information of importance in addressing regional research questions will not be irretrievably lost. The data recovery program shall be developed by a qualified archaeologist and approved by the City of Carlsbad.	Project Archeologist	X	X		Water Authority			
CULT-2 (FEIR MMRP)	In cases where the precise alignment of the pipeline is not available, and therefore the potential to affect cultural resources cannot be specifically determined, the applicant shall be required to retain a qualified archaeological monitor during construction so that buried cultural resources can be identified in the field. The archaeological	Project Archeologist	X	X	X	Water Authority			

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	<p>monitor shall meet the minimum qualifications as required by the City of Carlsbad. If significant resources are identified within the areas that could be affected by construction, the resources shall be tested (pursuant to the mitigation measure CULT-1, above) to determine significance with appropriate mitigation measures employed as necessary.</p> <p>Monitoring Program Requirements The evaluation and monitoring program will be used for cultural resources within the project study area that are located within developed areas where surface evaluation is precluded and specific mitigation cannot be determined at this time. For these sites, a monitoring program is required if construction is to occur within or adjacent to the cultural resource site. Components of such a monitoring program would include, but not be limited to the following:</p> <p>Prior to Preconstruction (Precon) Meeting Planning Department (PD) Plan Check: Prior to the first Precon Meeting, the Planning Director of the appropriate jurisdiction or his designee / shall verify that the requirements for Archaeological Monitoring and Native American monitoring, if applicable, have been noted on the appropriate construction documents.</p> <p>Submit Letter of Qualification to ERM: Prior to the first Precon Meeting, the applicant shall provide a letter of verification to the Planning Director or his designee stating that a qualified</p>								

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	<p>Archaeologist has been retained to implement the monitoring program.</p> <p>Records Search Prior to Precon Meeting: At least thirty days prior to the Precon Meeting the qualified Archaeologist shall verify that a records search has been completed and updated as necessary and be prepared to introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities. Verification includes, but is not limited to, a copy of a confirmation letter from South Coast Information Center or, if the search was in-house, a letter of verification from the Archaeologist stating that the search was completed.</p> <p>Precon Meeting Monitor Shall Attend Precon Meetings: Prior to beginning any work that requires monitoring, the Applicant shall arrange a Precon Meeting that shall include the Archaeologist, Construction Manager and/or Grading Contractor. The qualified Archaeologist shall attend any grading related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.</p> <p>Identify Areas to be Monitored: At the Precon Meeting, the Archaeologist shall submit to the Planning Director or his designee a copy of the site/grading plan (reduced to 11x17) that identifies areas to be monitored as well as areas that may require delineation of</p>								

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	<p>grading limits.</p> <p>During Construction Monitor Shall be Present During Grading/Excavation: The qualified Archaeologist shall be present full-time during grading/excavation of native soils and shall document activity via the Consultant Monitor Record. This record shall be sent to the Planning Director or his designee, as appropriate, each month.</p> <p>Monitoring of Trenches Will Include Mainline, Laterals, and all Appurtenances: Monitoring of trenches is required for the mainline, laterals, services and all other appurtenances that impact native soils one foot deeper than existing as detailed on the plans or in the contract documents identified by drawing number or plan file number. It is the Construction Manager's responsibility to keep the monitor(s) up-to-date with current plans.</p> <p>Discoveries: In the event of a discovery, and when requested by the Archaeologist, or the Principal Investigator (PI) if the Monitor is not qualified as a PI, the Construction Manager (CM), as appropriate, shall be contacted and shall divert, direct or temporarily halt ground disturbing activities in the area of discovery to allow for preliminary evaluation of potentially significant archaeological resources. The PI shall also immediately notify the Planning Director or his designee of such findings at the time of discovery.</p>								

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	<p>Determination of Significance: The significance of the discovered resources shall be determined by the PI. For significant archaeological resources, a Research Design and Data Recovery Program shall be prepared, approved by the agency and carried out to mitigate impacts before ground-disturbing activities in the area of discovery will be allowed to resume.</p> <p>Minor Discovery Process for Pipeline Projects: For all projects: The following is a summary of the criteria and procedures related to the evaluation of small cultural resource deposits during excavation for pipelines.</p> <p>Coordination and Notification: Archaeological Monitor shall notify PI, CM and the Planning Director or his designee, as appropriate.</p> <p>Criteria Used to Determine if it is a Small Cultural Resource Deposit</p> <ol style="list-style-type: none"> a. The deposit is limited in size both in length and depth; and, b. The information value is limited and is not associated with any other resources; and, c. There are no unique features/artifacts associated with the deposit. d. A preliminary description and photographs, if available, shall be transmitted to the Planning Director or his designee. <p>The information will be forwarded to the Planning Department for</p>								

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	<p>consultation and verification that it is a small historic deposit.</p> <p>Procedures for documentation, curation and reporting: The following constitutes adequate mitigation of a small historic deposit to reduce impacts due to excavation activities to below a level of significance.</p> <p>a. 100% of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of sidewalls, recovered, photographed after cleaning and analyzed and curated.</p> <p>b. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.</p> <p>c. The Final Results Report shall include a requirement for monitoring of any future work in the vicinity.</p> <p>Human Remains: If human remains are discovered, work shall halt in that area and procedures set forth in the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) as follows:</p> <p>a. Notification</p> <p>(1) Archaeological Monitor shall notify the PI, CM and the Planning Director or his designee.</p> <p>(2) The PI shall notify the County Coroner after consultation.</p> <p>b. Stop work and isolate discovery site</p>								

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	<p>(1) CM/ the Planning Director or his designee, as appropriate, shall stop work immediately and overlay adjacent human remains until a determination can be made by the County Coroner in consultation with the PI concerning the origin of the remains and the cause of death.</p> <p>(2) The County Coroner, in consultation with the PI, shall determine the need for a field investigation to examine the remains and establish a cause of death.</p> <p>(3) If a field investigation is not warranted, the PI, in consultation with the County Coroner, shall determine if the remains are of Native American origin.</p> <p>c. If Human Remains are Native American</p> <p>(1) The Coroner shall notify the Native American Historic Commission (NAHC). (By law, ONLY the Coroner can make this call.)</p> <p>(2) NAHC will identify the person or persons it believes to be the Most Likely Descendent (MLD).</p> <p>(3) The MLD may make recommendations to the landowner or PI responsible for the excavation work to determine the treatment, with appropriate dignity, of the human remains and any associated grave goods (PRC 5097.98).</p> <p>d. If Human Remains are not Native American</p> <p>(1) The PI shall contact the NAHC and notify them of the historical context of the burial.</p>								

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	<p>(2) NAHC will identify the person or persons it believes to be the MLD.</p> <p>(3) The MLD may make recommendations to the landowner or PI responsible for the excavation work to determine the treatment of the human remains (PRC 5097.98).</p> <p>(4) If the remains are of historic origin, they shall be appropriately removed and conveyed to the Museum of Man for analysis. The decision for reinterment of the human remains shall be made in consultation with the or his designee, the landowner, the NAHC and the Museum of Man.</p> <p>e. Disposition of Human Remains The landowner, or his authorized representative, shall reinter the Native American human remains and any associated grave goods, with appropriate dignity, on the property in a location not subject to further subsurface disturbance, IF:</p> <p>(1) The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 24 hours after being notified by the Commission; OR;</p> <p>(2) The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner.</p>								

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**Table 2-1
TOVWTP, Pipeline 3 Relining and Pipeline 4 Vent and Pipeline Replacement and Pipeline Interconnect Modifications
Project Design Features and MMRP Checklist**

Design Feature/ Mitigation Measure No.	Mitigation Measures/Design Features	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Const.		Initials	Date	
	<p>Notification of Completion: The Archaeologist shall notify the or his designee, in writing of the end date of monitoring.</p> <p>Post Construction Handling and Curation of Artifacts and Letter of Acceptance</p> <p>a. The Archaeologist shall be responsible for ensuring that all cultural remains collected are cleaned, catalogued, and permanently curated with an appropriate institution; that a letter of acceptance from the curation institution has been submitted to the; that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.</p> <p>b. Curation of artifacts associated with the survey, testing and/or data recovery for this project shall be completed in consultation with the or his designee and the Native American representative, as applicable.</p> <p>Final Results Reports (Monitoring and Research Design and Data Recovery Program)</p> <p>a. Within three months following the completion of monitoring, two copies of the Final Results Report (even if negative) and/or evaluation report, if applicable, which describes the results, analysis, and conclusions of the Archaeological Monitoring</p>								

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	<p>Program (with appropriate graphics) shall be submitted to the or his designee for approval.</p> <p>b. For significant archaeological resources encountered during monitoring, the Research Design and Data Recovery Program shall be included as part of the Final Results Report.</p> <p>Recording Sites with State of California Department of Park and Recreation.</p> <p>The Archaeologist shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Results Report.</p>								
CULT-3 (FEIR MMRP)	A qualified paleontological monitor shall be present at a pre-grading meeting with the construction contractor and environmental review coordinator. The purpose of the meeting would be to consult and coordinate the role of the paleontologist during construction. The paleontological monitor shall have adequate knowledge and experience with fossilized remains likely to be present to identify them in the field. The paleontological monitor shall be adequately experienced to remove paleontological resources for further study.	Project Paleontologist	X	X		Water Authority			
CULT-4 (FEIR MMRP)	The paleontological monitor shall be present during the applicable stages of grading and construction (including trenching) as determined at the pre-grading meeting. The paleontological monitor	Project Paleontologist	X	X		Water Authority			

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	shall have the authority to temporarily direct, divert, or halt grading in the area of an exposed fossil to facilitate evaluation and, if necessary, salvage. At the discretion of the monitor, recovery may include washing and picking of soil samples for microvertebrate bone and teeth. The contractor shall be aware of the random nature of fossil occurrences and the possibility of a discovery of such scientific and/or educational importance which might warrant a long-term salvage operation or preservation. All fossils collected shall be donated to a museum with a systematic paleontological collection, such as the San Diego Natural History Museum. The shall ensure the grading contractor is aware of this provision. Conflicts regarding the role and authority of the monitor shall be resolved by the or his designee.								
CULT-5 (FEIR MMRP)	A paleontological monitoring report shall be submitted to the City of Carlsbad. The report shall describe the materials recovered by the monitoring program.	Project Paleontologist			X	Water Authority			
GEOLOGY AND SOILS									
Mitigation Measures									
4.5-2 (FEIR MMRP)	A pre-construction geotechnical investigation shall be prepared to address geotechnical considerations related to constructing and operating all of the offsite project components including water delivery pipelines, the pump station, and surge control facilities. The report shall contain all necessary requirements to address any adverse soils conditions that may be encountered in final design of the facilities. The project will be required to adhere to all such requirements. The report shall include a discussion of site-specific	Construction Contractor	X			Water Authority			

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	geology, soils and foundational issues, a seismic hazards analysis to determine the potential for strong ground acceleration and ground shaking, potential groundwater issues, and structural design recommendations. The soil engineer and engineering geologist shall review the grading plans prior to finalization to verify the plans' compliance with the recommendations of the report. A third party review of the geotechnical report and final grading plans shall be conducted by the of the appropriate local jurisdiction (e.g., the City of Carlsbad) prior to issuance of grading permits and encroachment permits. Compliance with this measure shall be verified by the local jurisdiction.								
HAZARDS AND HAZARDOUS MATERIALS									
<i>Mitigation Measures</i>									
HAZ-1 (FEIR MMRP)	To mitigate the potential for exposure of existing contamination during construction of offsite pipelines, construction monitoring will be provided in areas identified as having the potential for such risks, and appropriate actions, as determined by the construction inspector shall be taken if such materials are encountered. Such actions may include avoidance or removal of contaminated materials, or special handling measures to avoid exposure to materials.	Construction Contractor		X		Water Authority			
HYDROLOGY AND WATER QUALITY									
<i>Mitigation Measures</i>									
HYDRO-1 (FEIR MMRP)	Prior to issuance of grading permits or other permits, the project applicant shall demonstrate compliance with all applicable regulations established by the United States Environmental	Construction Contractor	X	X	X	Water Authority			

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			Pre Const.	During Const.	Post Cost.		Initials	Date	
	<p>Protection Agency (USEPA) as set forth in the National Pollutant Discharge Elimination System (NPDES) permit requirements for urban runoff and storm water discharge and any regulations adopted by the city within which construction will take place, pursuant to the NPDES regulations or requirements of that city (Carlsbad, Oceanside and Vista). Further, the applicant shall file a Notice of Intent (NOI) with the State Water Resources Control Board to obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity and shall implement a Storm Water Pollution Prevention Plan (SWPPP) concurrent with the commencement of grading activities. The SWPPP shall include both construction and post-construction pollution prevention and pollution control measures and shall identify funding mechanisms for post-construction control measures.</p> <p>The following best management practices shall be adhered to during construction:</p> <ul style="list-style-type: none"> • Gravel bags, silt fences, etc. shall be placed along the edge of all work areas as determined appropriate by the City's construction inspector in order to contain particulates prior to contact with receiving waters. • All concrete washing and spoils dumping will occur in a designated location. • Construction stockpiles will be covered in order to prevent blow- 								

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			Pre Const.	During Const.	Post Const.		Initials	Date	
	<p>off or runoff during weather events.</p> <ul style="list-style-type: none"> • A pollution control education plan shall be developed by the General Contractor and implemented throughout all phases of development and construction. • Severe weather event erosion control materials and devices shall be stored onsite for use as needed. <p>Other best management practices as determined necessary by the</p>								
HYDRO -2 (FEIR MMRP)	Prior to issuance of grading or building permits, whichever occurs first, the applicant shall submit for a Storm Water Management Plan (SWMP). The SWMP shall demonstrate compliance with the city of Carlsbad Standard Urban Storm water Mitigation Plan (SUSMP), Order 2001-01, issued by the San Diego Region of the California Regional Water Quality Control Board and City of Carlsbad Municipal Code.	Construction Contractor	X			Water Authority			
HYDRO-3 (FEIR MMRP)	Construction within any area the identifies as a 100-year flood hazard shall occur only during dry months (May 1 – September 30). The may waive this restriction if the applicant satisfactorily demonstrates, as determined by the, that construction would not impede or redirect flood flows and would not expose people or structures to flooding. Such demonstration shall occur before the issues grading or other permits to permit construction in the flood hazard area in the wet months and may require the applicant to submit plans and details regarding the type, location, quantities and duration of construction equipment and materials as well as any other information that the may require.	Construction Contractor	X	X		Water Authority			

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Table 2-1

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Design Feature/ Mitigation Measure No.	Mitigation Measures/Design Features	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Const.		Initials	Date	
LAND USE/PLANNING									
<i>Mitigation Measures</i>									
LAND USE-1 (FEIR MMRP)	The applicant shall coordinate with and receive approval from the McClellan-Palomar Airport Operations Manager before constructing within the Airport Influence Area and particularly within any Flight Activity Zone and Runway Protection Zone or on airport property.	Construction Contractor	X			Water Authority			
NOISE AND VIBRATION									
<i>Project Design Features</i>									
Project Design Feature NOI-1	Consistent with the Water Authority's typical construction practices, temporary noise walls would be incorporated into the Project as project design features to reduce construction noise levels at nearby residences.			X		Water Authority			
TRANSPORTATION/TRAFFIC									
TRAFFIC-1 (FEIR MMRP)	Prior to issuance of grading permits and/or encroachment permits for work within public rights-of-way, the Applicant shall provide the ultimate location of soil disposal sites to the appropriate (if they are different from the disposal site identified in this analysis), and shall further demonstrate transport of soil and materials to and from the proposed sites will not result in Levels of Service during peak hour periods on affected roadways and intersections falling below acceptable standards established by the affected cities.	City Engineer(s), Construction Contractor	X			Water Authority			

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**Table 2-1
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Project Design Features and MMRP Checklist**

Design Feature/ Mitigation Measure No.	Mitigation Measures/Design Features	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Cost.		Initials	Date	
TRAFFIC-2 (FEIR MMRP)	<p>Prior to improvement plan approval, a traffic control plan will be prepared for approval by each jurisdiction within which the project is proposed to be located. The traffic control plan will show all signage, striping, delineate detours, flagging operations and any other devices which will be used during construction to guide motorists safely through the construction zone and allow for adequate access and circulation, to the satisfaction of the city with applicable jurisdiction. The traffic control plan will also include provisions for coordinating with local emergency service providers regarding construction times and locations of lane closures as well as specifications for bicycle lane safety. The construction contractors will coordinate traffic diversions, street and lane closures, and obstruction of intersections with each jurisdiction's engineering department prior to commencing construction activities through the development of routing and detour plans.</p> <p>This Traffic Control Plan will be prepared in accordance with each jurisdiction's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties and businesses, and that emergency access will not be restricted. Additionally, the Plan will ensure that congestion and delay of traffic resulting from project construction are not substantially increased and will be of a short-term nature.</p> <p>The limits of construction work area(s) and suggested alternate traffic routes for through traffic will be published in a local newspaper</p>	City Engineer(s), Construction Contractor	X	X		Water Authority			

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			Pre Const.	During Const.	Post Cost.		Initials	Date	
	<p>periodically throughout the construction period. In addition, the construction contractor shall provide not less than a 2-week written notice prior to the start of construction by mailing to owners/occupants along streets to be impacted during construction.</p> <p>During construction, the contractor will ensure that continuous, unobstructed, safe and adequate pedestrian and vehicular access to and from public facilities such as schools, parks, post offices and fire stations. If normal access to these facilities is blocked by construction for more than four hours in any given workday, alternative access will be provided. The contractor will coordinate with each facility's administrators in preparing a plan for alternative access.</p> <p>During construction, the contractor will ensure that continuous, unobstructed, safe and adequate pedestrian and vehicular access remains to commercial/ industrial establishments during regular business hours. If normal access to business establishments is blocked by construction for more than four hours in any given workday, alternative access will be provided. The contractor, and possibly the, will coordinate with the businesses in preparing a plan for alternative access.</p> <p>During construction, the contractor will maintain continuous vehicular and pedestrian access to residential driveways from the public street to the private property line, except where necessary construction</p>								

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			Pre Const.	During Const.	Post Cost.		Initials	Date	
	<p>precludes such continuous access for reasonable periods of time. For example, when the pipeline is initially being excavated, access to individual driveways may be closed during the course of a workday. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the construction contractor shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure.</p> <p>Methods to maintain safe, vehicular and pedestrian access includes the installation of temporary bridge or steel plates to cross over unfilled excavations. Whenever sidewalks or roadways are removed for construction, the contractor will place temporary sidewalks or roadways promptly after backfilling until the final restoration has been made.</p> <p>The traffic control plan will include provisions to ensure that the construction contractor's work in any public street does not interfere unnecessarily with the work of other agencies such as emergency service providers, mail delivery, school busses and waste services.</p>								

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**Table 2-2
Macario Canyon Pipeline Alignment Modification and Pumping Well
and Aqueduct Connection Point Modification MMRP Checklist**

Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Const.		Initials	Date	
AESTHETICS									
AES-4 (FEIR MMRP)	Construction staging areas within the PDP area shall be screened from public view or located in an area away from direct public view. Plans showing the staging area locations and screening shall be submitted to the Planning director or his/her designee for review and approval.	City Planner	X			City of Carlsbad			
BIOLOGICAL RESOURCES									
BIO-1 (FEIR MMRP)	Proposed mitigation for impacts to non-native grasslands shall be mitigated per the mitigation measure identified in the FEIR, FEIR MMRP, and consistent with City of Carlsbad Habitat Management Conservation Plan (HMP) by the payment of the in lieu impact fee in effect at the time HMP permit is issued for the proposed Macario Canyon Pipeline modification and pumping well.	Project Biologist, City Planner	X			City of Carlsbad			
BIO-3 (FEIR MMRP)	Indirect impacts including dust, soil erosion, pollution, siltation, and runoff shall be reduced through implementation of construction BMPs and implementation of an approved SWPPP. At a minimum, implementation of these practices shall include the following. <ul style="list-style-type: none"> • Placement of stockpiles of soils and materials such that they cause minimal interference with onsite drainage patterns. • Hay bale barriers or gravel bags shall be placed along areas of exposed soil to help reduce sedimentation during grading operations. • Placement of a silt curtain or other drainage control device 	Project Biologist, City Planner		X		City of Carlsbad			

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Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Const.		Initials	Date	
	<p>around construction areas shall be required to protect natural drainage channels from sedimentation.</p> <ul style="list-style-type: none"> • Any dewatering that is needed shall be conducted in accordance with the standard regulations of the RWQCB. A permit to discharge water from dewatering activities will be required. • Use of paved roadways or designated staging areas (existing developed areas) for all equipment and vehicle refueling and maintenance. • Implementation of dust control measures such as watering. • Temporary fencing of the limits of the construction area with clearly visible orange construction fencing. • Temporary fencing of the Nuttall's scrub oak population located adjacent to the work area and northeast of the intersection of El Camino Real and Palomar Airport Road to avoid impacts. <p>In order to assure that these measures are adequately protecting adjacent biological resources, construction activity shall be monitored by a qualified biologist familiar with the sensitive flora and fauna of the area. Biological monitoring shall be of a frequency and duration necessary to reasonably assure that indirect impacts are minimized. This shall include implementation of a contractor education program, verification of proper construction and maintenance of staking/fencing, full-time monitoring of vegetation removal, periodic monitoring of construction activity adjacent to sensitive resource areas, and reporting of contractor compliance and impact minimization measures on a monthly basis. These measures shall ensure that indirect impacts on vegetation communities, including dust, erosion,</p>								

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Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Const.		Initials	Date	
	sedimentation, pollution, siltation, and runoff are reduced to level below significant.								
BIO-4 (FEIR MMRP)	The potential for direct impacts on coastal California gnatcatcher individuals shall be mitigated by restricting the clearing of coastal sage scrub within the project alignment to outside of the gnatcatcher breeding season (August 16 through February 14).	Project Biologist, City Planner		X		City of Carlsbad			
4.3-5 (FEIR MMRP)	Impacts to sensitive habitat areas would be less than significant. To avoid potential adverse effects from hydro-fracturing that could occur as a result of horizontal directional drilling or micro-tunneling, the applicant shall provide evidence to the local jurisdiction that demonstrates that the design of the drilling operation provides sufficient horizontal distance and depth from sensitive habitat areas. Information provided shall provide appropriate engineering calculations to demonstrate to the local jurisdiction's satisfaction that surface rupture will not occur within sensitive habitat areas.	Project Biologist, Project Acoustician, City Planner		X		City of Carlsbad			
CULTURAL RESOURCES									
CULT-1 (FEIR MMRP)	Refer to Table 2-1.	Project Archeologist		X		City of Carlsbad			
CULT-2 (FEIR MMRP)	Refer to Table 2-1.	Project Archeologist		X		City of Carlsbad			

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Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Const.		Initials	Date	
CULT-3 (FEIR MMRP)	Refer to Table 2-1.	Project Paleontologist		X		City of Carlsbad			
CULT-4 (FEIR MMRP)	Refer to Table 2-1.	Project Paleontologist		X		City of Carlsbad			
CULT-5 (FEIR MMRP)	Refer to Table 2-1.	Project Paleontologist		X		City of Carlsbad			
GEOLOGY AND SOILS									
GEO-2 (FEIR MMRP)	Refer to Table 2-1.	City Engineer		X		City of Carlsbad			

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Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Const.		Initials	Date	
HAZARDS AND HAZARDOUS MATERIALS									
HAZ-1 (FEIR MMRP)	Refer to Table 2-1.	City Engineer		x		City of Carlsbad			
HAZ-3 (FEIR MMRP)	<p>All hazardous materials shall be handled and stored in accordance with all applicable federal, state and local codes and regulations. Specific requirements of the California Fire Code that reduce the risk of fire or the potential for a release of hazardous materials that could affect public health or environment include:</p> <ul style="list-style-type: none"> • Provision of an automatic sprinkler system for indoor hazardous material storage areas; • Provision of an exhaust system for indoor hazardous material storage areas; • Separation of incompatible materials by isolating them from each other with noncombustible partition. • Location of incompatible materials as far away from each other as practical. • Spill control in all storage, handling and dispensing areas; • Separate secondary containment for each liquid chemical storage system. The secondary containment shall be designed to hold 110 % of the entire contents of the tank. The secondary containment for the cleaning chemicals located inside the RO building shall have an extra volume to hold the water for the fire suppression system that could be used for fire protection for a period of 20 minutes in the event of a catastrophic spill. The secondary 	County of San Diego Dept. of Public Health and City's Fire Inspector		X	X	City of Carlsbad			

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Mitigation Measure No.	Mitigation Measures	Method of Verification	Timing of Verification			Responsible Party	Completed		Comments
			Pre Const.	During Const.	Post Const.		Initials	Date	
	<p>containment of the chemical storage tanks located outside the RO building shall have extra storage capacity to hold precipitation from a 25-year, 24-hour event.</p> <ul style="list-style-type: none"> • Use of chlorine in liquid form (sodium hypochlorite) to mitigate concerns associated with accidental toxic gas plume releases and potential odor emissions from the chlorine storage facility; • Use of aqua ammonia of concentration below the regulatory threshold limit of 20 % and amount below the regulatory threshold of 20,000 gallons to mitigate concerns associated with accidental release of significant toxic ammonia gas plume releases. <p>All liquid chemical storage tanks shall be equipped with a pressure relief valve, vapor equalization, a carbon filter vent, and vacuum breaker. Any potential vapor fume releases from the storage tanks shall be absorbed by the carbon filter vent, thereby providing an effective odor control for volatile chemicals, such as ammonia and chlorine.</p>								
HYDROLOGY AND WATER QUALITY									
HYDRO -1 (FEIR MMRP)	Refer to Table 2-1.	City Planner/Engi neer		X		City of Carlsbad			
HYDRO-2 (FEIR MMRP)	Refer to Table 2-1.	City Planner/Engi neer		X		City of Carlsbad			

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			Pre Const.	During Const.	Post Cost.		Initials	Date	
HYDRO-3 (FEIR MMRP)	Refer to Table 2-1.	City Planner/Engineer		X		City of Carlsbad			
LAND USE/PLANNING									
LAND USE-1 (FEIR MMRP)	Refer to Table 2-1.	City Planner		X		City of Carlsbad			
TRANSPORTATION/TRAFFIC									
TRAFFIC-1 (FEIR MMRP)	Refer to Table 2-1.	City Engineer	X	X		City of Carlsbad			
TRAFFIC-2 (FEIR MMRP)	Refer to Table 2-1.	City Engineer	X	X		City of Carlsbad			