

CHAPTER 4 PROJECTS AND MANAGEMENT ACTIONS

4.0 PROJECTS AND MANAGEMENT ACTIONS TO ACHIEVE SUSTAINABILITY GOAL

The projects and management actions listed in this Chapter document the potential actions that the West San Jacinto GSA could undertake in the event that the current understanding of the hydrogeologic conceptual model of the Plan Area, and the numerical groundwater modeling based on that conceptual model, have not sufficiently captured the long-term groundwater conditions in the Plan Area. Projects and management actions are not necessary to achieve sustainability in the Plan Area, which has experienced rising groundwater levels and increased groundwater in storage over the past 30 years (see Sections 2.4.1 Groundwater Elevation Data and 2.4.2 Estimated Change in Storage). However, projects and management actions may be necessary to respond to changing conditions in the Plan Area. These projects and management actions are the ones discussed in this Chapter.

In order to maintain sustainable use of the groundwater resources in the Plan Area for current and future stakeholders, EMWD has planned and implemented several projects designed to improve groundwater quality. These projects include the Perris South Desalination Project, the Perris II Reverse Osmosis Treatment Facility Project, which expands on the Perris South Desalination Project, and the Perris North Basin Groundwater Contamination Prevention and Remediation Project (EMWD 2019a, EMWD 2019b). Additionally, DWR has planned the Lake Perris Seepage Recovery Project, which is designed to recover 6,000 to 8,000 AFY of deep seepage, via a series of extraction wells downgradient from the Lake Perris Dam. The recovered seepage will be directed to the Colorado River Aqueduct. Some, but not all, of this seepage is currently recovered by a toe drain. The impacts on groundwater elevations and storage from these projects are incorporated in the future baseline scenarios (see Section 2.5.6.3 Projected Water Budget). The future baseline scenarios incorporate all known existing and currently planned groundwater production in the Plan Area.

In the event that changing conditions in the Plan Area necessitate implementation of the projects and management actions listed below, additional groundwater modeling may be needed to evaluate their effectiveness. . The results of the future baseline scenarios suggest that groundwater elevations in the Plan Area will remain above both the measurable objective and minimum threshold at every RMP throughout the 50-year planning and implementation horizon.

4.1 MANAGEMENT ACTION #1 – ADJUST GROUNDWATER PRODUCTION AS-NEEDED TO MEET WATER LEVEL AND/OR WATER QUALITY OBJECTIVES

EMWD’s existing and planned groundwater desalter facilities include production wells that are located in two of the five groundwater production areas. This allows EMWD to adjust the volume of groundwater produced in different geographic areas while maintaining the overall flow needed to meet target salt removal goals and anticipated consumer demand. If the concentrations of TDS in the groundwater begin to approach the minimum threshold at three of the five groundwater quality RMPs, EMWD may need to increase groundwater production south and west of the RMPs to reverse the groundwater flow direction and maintain hydraulic control of the TDS plume in the Lakeview GMZ. If groundwater elevations decline at a rate that exceeds the projected rate of decline and water levels begin to approach the minimum thresholds for groundwater elevation at one or more of the RMPs, EMWD can shift production from one groundwater production area to another in order to allow groundwater elevations to recover in the impacted production area. Additionally, if groundwater levels in multiple groundwater production zones are approaching the minimum thresholds at the relevant RMPs, EMWD could reduce its overall groundwater production from the Plan Area, in order to allow groundwater elevations to recover.

4.1.1 Measurable Objective Expected to Benefit

The measurable objectives for groundwater quality, chronic declines in groundwater levels, and groundwater in storage would benefit from implementation of this management action if implementation becomes necessary. Groundwater conditions in the Plan Area are currently above the measurable objectives, and the Plan Area is not currently experiencing undesirable results related to any of the sustainability indicators.

4.1.2 Expected Benefits and Evaluation

Groundwater quality can be maintained or improved by stopping or reversing the northeastward migration of high-TDS groundwater from the Perris South GMZ into the Lakeview GMZ. TDS concentrations at the groundwater quality RMPs would be used to measure the expected benefit to groundwater quality. If TDS concentrations stabilize or decrease at the groundwater quality RMPs, the management action will have adequately prevented further northeastward migration of the high-TDS groundwater.

Groundwater in storage would increase and chronic declines in groundwater elevation would cease or reverse with reduced groundwater production. Groundwater in storage will be measured using groundwater elevations as a proxy. If groundwater elevations stabilize, or rise at the groundwater level RMPs, the management action will have succeeded in increasing the volume of groundwater in storage and preventing chronic declines in groundwater.

4.1.3 Circumstances for Implementation

This management action would be implemented if groundwater levels approach the minimum threshold groundwater elevation at one or more groundwater level RMPs.

4.1.4 Public Noticing

Public noticing is not required for this management action, which would be undertaken under EMWD's authority to operate its groundwater production wells and desalter facilities. Stakeholders would not be impacted by this management action, because it does not impose restrictions on private groundwater producers in the Plan Area.

4.1.5 Permitting and Regulatory Process

No additional permitting or regulatory oversight is necessary to implement this management action, which would be undertaken under EMWD's authority to operate its groundwater production wells and desalter facilities.

4.1.6 Implementation Schedule

There is no specific implementation schedule for this management action as future groundwater level projections suggest this management action will not be required. EMWD has the ability to implement this management action within six months of determining that one of the criteria for implementation described in Section 4.1.3 has been met.

4.1.7 Legal Authority

EMWD, as a water purveyor, already has the legal authority necessary to operate groundwater production and desalting facilities in the Plan Area. No additional legal authority is required.

4.1.8 Estimated Costs

This management action could be incurred at no cost to EMWD, or to its customers, if groundwater production is increased or shifted, but the total volume produced remains the same. In the event that groundwater production is reduced overall, additional cost may be incurred if groundwater is replaced by imported water.

4.2 MANAGEMENT ACTION #2 – IMPOSE REPLENISHMENT OR IMPORTED WATER PURCHASE/ PUMPING OFFSET FEE

EMWD is currently the largest groundwater producer in the Plan Area. Since 1985, the combined groundwater extractions from EMWD wells and private wells have not exceeded the sustainable

yield of the Plan Area (see Section 2.5.6 Projected Water Budget). Projected groundwater extractions from both EMWD and private pumpers were incorporated into the future scenarios. These projected extractions are not anticipated to cause undesirable results in the Plan Area. Projected groundwater extractions are, however, anticipated to approximately equal the sustainable yield of the Plan Area. Therefore, new projects that rely on groundwater production, or that increase groundwater production rates from existing wells, would exceed the production rates modeled in the future baseline scenarios and this may result in overdraft of the Plan Area. This increased extraction above the projected extractions in the future baseline scenarios could lead to undesirable results.

In the event that groundwater conditions within the Plan Area warrant additional management by the West San Jacinto GSA, the GSA may impose a replenishment fee, or a water purchase / pumping offset fee for groundwater users in the Plan Area. In the case of the replenishment fee, the fees would be used to develop and support projects that would increase recharge, and therefore increase the sustainable yield in the Plan Area. Alternatively, purchase / pumping offset fees would be used to purchase additional imported water to meet EMWD customer demands, while offsetting EMWD groundwater use. It should be noted that the majority of EMWD groundwater extraction wells are linked to regional efforts to improve groundwater quality and restore beneficial uses of groundwater in the Plan Area. Therefore, while purchasing imported water may be an option to offset some EMWD production, such a program could interfere with EMWD's strategic goals to improve water quality in the Plan Area if groundwater elevations in the Perris South production area increase and poorer quality groundwater migrates into the Lakeview GMZ (see Section 3.2.3).

Both of the potential projects that could be supported by a fee imposed on groundwater production require additional feasibility studies before they could be implemented. Groundwater recharge projects have been successful within the Hemet-San Jacinto Management Area but have not been studied as extensively within the Plan Area. Recharge projects require suitable hydrogeologic conditions, as well as available water, to succeed. Before imposing a replenishment fee, EMWD would undertake the necessary hydrogeologic studies to assess the feasibility of recharge within the Plan Area. EMWD may choose to fund the necessary feasibility studies or it may impose a fee on groundwater extractions to fund the effort.

The feasibility of purchasing imported water in order to offset groundwater production is likely to be impacted by additional demands on imported water from groundwater basins across the State of California. While many GSAs, including the West San Jacinto GSA, are increasing groundwater production in order to develop a more drought-resistant water supply portfolio, several GSAs managing critically over-drafted basins are looking to increase purchases of imported water. The increased demand from these basins is likely to exceed the reduced demand from basins that have not been critically over-drafted. Therefore, EMWD will have to investigate the volume of water

that may be available for purchase, and whether that volume is sufficient to offset the overdraft conditions, before developing a fee structure to support purchase of additional imported water.

4.2.1 Measurable Objective Expected to Benefit

The measurable objectives for chronic declines in groundwater levels and groundwater in storage would benefit from implementation of this management action if implementation becomes necessary. Groundwater conditions in the Plan Area are currently above the measurable objectives, and the Plan Area is not currently experiencing undesirable results related to any of the sustainability indicators.

4.2.2 Expected Benefits and Evaluation

Groundwater in storage would increase and chronic declines in groundwater elevation would cease or reverse with groundwater recharge projects in the Plan Area or purchasing imported water to offset groundwater production. Groundwater in storage will be measured using groundwater elevations as a proxy. If groundwater elevations stabilize or rise at the groundwater level RMPs, the management action will have succeeded in increasing the volume of groundwater in storage and preventing chronic declines in groundwater. Additionally, as long as a groundwater gradient that prevents migration of brackish water into areas of fresh water is maintained, this project has the potential to improve groundwater quality as imported water is used to recharge the Plan Area.

4.2.3 Circumstances for Implementation

This management action would be implemented if groundwater elevations fall below the measurable objective and approach the minimum threshold at three or more groundwater level RMPs as a result of increased production in non-EMWD wells that were not included in the future baseline scenarios. For example, if a new project that relies on groundwater production in excess of the projected extractions for the future baseline scenarios is implemented in the Plan Area, and that project will result in undesirable results in the Plan Area, this management action may be implemented. Similarly, if changes in agricultural cropping, or groundwater use for other non-agricultural purposes result in increased production from the Plan Area beyond those incorporated into the future baseline scenarios, thereby causing overdraft of the Plan Area, this management action may be implemented.

4.2.4 Public Noticing

Imposing a fee for groundwater recharge activities, or for the purchase of additional imported water, would require substantial public input and noticing. The West San Jacinto GSA would need public input to understand the potential impacts of imposing a fee on groundwater extractions, and the West San Jacinto GSA anticipates gathering public input using multiple methods, over multiple

public meetings. Per subdivision (a) of Section 6 of Article XIII D of the California Constitution, the West San Jacinto GSA will conduct a public hearing on the proposed fee no less than 45 days after mailing a notice of the proposed fee to the owners of each parcel upon which the fee is proposed. Published and written notice of the public hearing will be provided as required by the provisions of the Municipal Water District Law of 1911, specifically Sections 71632, 71638, 71638.4 and 71674 of the California Water Code (CWC).

4.2.5 Permitting and Regulatory Process

Imposing a fee for groundwater recharge activities, or for the purchase of additional imported water, would not require any permitting or regulatory oversight, although a replenishment project that stems from this fee would require coordination with the RWQCB. This fee would have to comply with all applicable sections of the CWC and the California Constitution.

4.2.6 Implementation Schedule

There is no specific implementation schedule for this management action because it is only anticipated to be implemented in the event that groundwater production volumes exceeding those accounted for in the future baseline scenarios result in undesirable results in the Plan Area. If this management action is determined to be needed and an implementation schedule developed, then changes or updates to the implementation schedule would be reported to DWR as part of the 5-year GSP evaluation process (CWC § 10733.8).

4.2.7 Legal Authority

The West San Jacinto GSA has the authority to impose fees on the extraction of groundwater in order to fund costs of groundwater management in the Plan Area after it adopts this GSP (CWC §10730.2 (a)). The fees that would be imposed under this management action must be adopted by resolution by the GSA Board of Directors in accordance with subdivisions (a) and (b) of Section 6 of Article XIII D of the California Constitution (CWC §10730.2 (c)).

4.2.8 Estimated Costs

The costs associated with this management action have not yet been estimated. The cost to conduct the initial study and public outreach may be funded by EMWD or require a one-time assessment on groundwater users in the Plan Area. Ongoing administrative costs of this management action would be incorporated into the groundwater fee structure so that the program would be self-supporting.

4.3 MANAGEMENT ACTION #3 – DEVELOP A GROUNDWATER ALLOCATION FOR THE PLAN AREA

Current groundwater production rates are below the anticipated sustainable yield of the Plan Area (see Section 2.5.6 Projected Water Budget). Projected groundwater extractions from both EMWD and private pumpers, however, are anticipated to approximately equal the sustainable yield of the Plan Area. Although these projected extractions are not anticipated to cause undesirable results, new projects that rely on groundwater production, or that increase groundwater production rates from existing wells, would exceed the production rates modeled in the future baseline scenarios. Production at rates higher than those modeled in the future simulations may lead to undesirable results.

In the event that groundwater production rates approximately equal or exceed the estimated sustainable yield of the Plan Area, the Board of Directors for the West San Jacinto GSA may develop a groundwater allocation for the Plan Area. Any groundwater allocation would be developed in conjunction with the stakeholders in the Plan Area, and would be anticipated to incorporate historical groundwater production from existing stakeholders and EMWD. After development of the groundwater allocation, the West San Jacinto GSA would work to develop a fee structure for groundwater production in excess of the allocated amounts. This management action would be developed with stakeholder input after the GSP is adopted.

4.3.1 Measurable Objective Expected to Benefit

The measurable objectives for chronic declines in groundwater levels and groundwater in storage would benefit from implementation of this management action if implementation becomes necessary. Groundwater conditions in the Plan Area are currently above the measurable objectives, and the Plan Area is not currently experiencing undesirable results related to any of the sustainability indicators.

4.3.2 Expected Benefits and Evaluation

Groundwater in storage would increase and chronic declines in groundwater elevation would cease or reverse with reduced groundwater production resulting from implementing a groundwater allocation because there would be a financial disincentive to produce groundwater in excess of the sustainable yield of the basin. Additionally, fees collected for groundwater produced in excess of the sustainable yield could be used to develop and implement groundwater replenishment or using imported water to offset groundwater production. Groundwater in storage will be measured using groundwater elevations as a proxy. If groundwater elevations stabilize or rise at the groundwater level RMPs, the management action will have succeeded in maintaining or increasing the volume of groundwater in storage and preventing chronic declines in groundwater.

4.3.3 Circumstances for Implementation

This management action would be implemented if groundwater production that exceeds the estimated sustainable yield of the Plan Area may cause undesirable results.

4.3.4 Public Noticing

Developing a groundwater allocation would require substantial public input and noticing. The West San Jacinto GSA would require public input to understand the potential impacts of the allocation and the most appropriate method for developing the allocation. The West San Jacinto GSA anticipates gathering public input using multiple methods, over multiple public meetings. Published and written notice of the public hearing will be provided as required by the provisions of the Municipal Water District Law of 1911, specifically Sections 71632, 71638, 71638.4 and 71674 of the California Water Code (CWC).

4.3.5 Permitting and Regulatory Process

Developing a groundwater allocation would not require any permitting or regulatory oversight.

4.3.6 Implementation Schedule

There is no specific implementation schedule for this management action because it would only be developed if groundwater production exceeds the estimated sustainable yield in the Plan Area. If this management action is determined to be needed and an implementation schedule developed, then changes or updates to the implementation schedule will be reported to DWR as part of the 5-year GSP evaluation process (CWC § 10733.8).

4.3.7 Legal Authority

The West San Jacinto GSA has the authority, through action by the Board of Directors, to develop a groundwater allocation after it adopts this GSP (CWC §10726.4 (a)(2)).

4.3.8 Estimated Costs

The costs associated with this management action have not yet been estimated. Ongoing administrative costs of this management action could be incorporated into the groundwater fee structure so that the program would be self-supporting.

4.4 PROJECT #1 – ASSESS FEASIBILITY OF RECYCLED WATER DELIVERY TO PRIVATE PRODUCERS IN THE MENIFEE PRODUCTION AREA

Private wells extract the largest volume of groundwater in the Meniffee Production Area. As a result, EMWD has less influence over groundwater elevations in the Meniffee Production Area, where it does not have a desalter well, than it does in the other four production areas. If groundwater elevations begin to approach the groundwater level minimum threshold at well EMWD 74, EMWD will assess the feasibility of delivering recycled water to private groundwater producers in the Meniffee Production Area, in order to offset their groundwater pumping, and to allow groundwater levels in the aquifer to recover. EMWD has recycled water infrastructure that may allow for recycled water deliveries to private producers but, because groundwater elevations in the Meniffee Production Area have been stable or rising over the last 30 years, a feasibility analysis that includes a comprehensive analysis of the engineering required to complete the delivery system, and a cost per acre foot of water has not yet been conducted.

4.4.1 Measurable Objective Expected to Benefit

The measurable objectives for chronic declines in groundwater levels and groundwater in storage may benefit from implementation of this project if implementation becomes necessary. Groundwater conditions in the Plan Area are currently above the measurable objectives, and the Plan Area is not currently experiencing undesirable results related to any of the sustainability indicators.

4.4.2 Expected Benefits and Evaluation

Substituting recycled water for groundwater extractions that have historically been used to support agricultural activities in the Meniffee Production Area would allow groundwater levels to recover and groundwater in storage to increase. If recycled water delivery is found to be feasible and an in-lieu delivery system is implemented, increases in groundwater in storage will be measured using groundwater elevations at well EMWD 74 as a proxy. If groundwater elevations stabilize or rise at well EMWD 74, the recycled water delivery project that stemmed from this project will have succeeded in increasing the volume of groundwater in storage and preventing chronic declines in groundwater. Furthermore, recycled water quality has lower concentrations of TDS and nitrate than the groundwater in the Meniffee Production Area. Therefore, this project may improve the groundwater quality of the Meniffee Production Area.

4.4.3 Circumstances for Implementation

This project would be implemented if groundwater levels approach the minimum threshold groundwater elevation at well EMWD 74.

4.4.4 Public Noticing

Public noticing is not required for this project, which would be undertaken under EMWD’s authority to assess projects that may be needed to optimize use of the overall water available to the Plan Area. Stakeholders would not be impacted by this project, because it only authorizes the initiation of a feasibility study. In the event that recycled water delivery is found to be feasible, and is approved by the EMWD Board of Directors, EMWD would comply with all CEQA and public noticing requirements prior to and during project implementation.

4.4.5 Permitting and Regulatory Process

Authorizing a feasibility study to assess the viability of using recycled water to offset groundwater extractions from private production wells in the Menifee Production Area would not require permitting or regulatory oversight. EMWD regularly conducts engineering feasibility studies prior to funding and implementing projects.

4.4.6 Implementation Schedule

There is no tentative implementation schedule for this project because it is not anticipated to be necessary for sustainable management of the groundwater resources in the Plan Area. If declining groundwater elevations in the vicinity of well EMWD 74 necessitate the implementation of this project, then EMWD would endeavor to undertake the feasibility study within one year of identifying the need to evaluate the viability of recycled water deliveries to private groundwater producers in the Menifee Production Area.

4.4.7 Legal Authority

EMWD has the authority to conduct feasibility studies for projects within its service area.

4.4.8 Estimated Costs

The estimated cost to implement the feasibility study and preliminary design for delivery of recycled water to private producers in the Menifee Production Area is approximately \$500,000. This estimate does not include construction costs, which would be estimated as part of the feasibility study and preliminary design work.

4.5 PROJECT #2 – CONDUCT ADDITIONAL INVESTIGATIONS AND/ OR TECHNICAL STUDIES

Projected groundwater elevations in the Plan Area are not expected to approach either the measurable objectives, or the minimum thresholds at any of the groundwater level RMPs during the 50-year planning and implementation horizon under the future baseline scenarios (see Section

2.5.6.3 Projected Water Budget). Implementation of the Perris II Reverse Osmosis Treatment Facility Project is expected to prevent the northeastward migration of high concentrations of TDS into the Lakeview GMZ, and TDS concentrations outside of the 1,000 mg/L iso-contour are anticipated to remain below 1,000 mg/L for the 50-year planning and implementation horizon for this GMZ.

As a component of the Perris II Reverse Osmosis Treatment Facility Project, EMWD is also updating SJFM-2014. The update will include aligning the model boundaries with the updated boundaries of the SJGB, revising the bedrock elevation in the model, refining the boundary conditions in the Lake Perris portion of the Plan Area, adjusting the model layer thicknesses in the Perris South GMZ, and recalibrating the SJFM once the model adjustments have been made. The intent of this project is to estimate the long-term groundwater supply available in the Perris South GMZ. Refinements to SJFM-2014 and the resulting updated understanding of water availability will be incorporated into future estimates of the sustainable yield of the Plan Area. These refinements may also indicate that the groundwater quality and groundwater in storage measurable objectives and minimum thresholds included in this GSP need revision in future GSP evaluations.

The projected Plan Area conditions in this GSP are based on the results from the San Jacinto Flow Model, which incorporates the current hydrogeological conceptual understanding of the Plan Area, projects that are known to be under development, or in the beginning stages of implementation, and an assessment of potential future climate conditions in the Plan Area. There is, however, uncertainty inherent in any numerical model projection, because models, by definition, are simplified representations of the physical world. Each input to the numerical model has an associated uncertainty commensurate with the ability of the model to represent the influence of that input on groundwater conditions within the model domain as well as with the accuracy and understanding of the data used to represent that input in the model (see Section 2.5.8 Characterization of Model Sensitivity and Predictive Uncertainty).

Because there is uncertainty in both the projected conditions in the Plan Area generated by the SJFM-2014 and the actual project operations that will occur in the Plan Area, actual future groundwater conditions may differ from the predicted conditions. Future measured groundwater level declines that exceed the projected groundwater declines may indicate that the current understanding of the hydrogeologic conceptual model or the current representation of the influences on groundwater conditions in the numerical groundwater model need to be refined. Similarly, future measured TDS concentrations that approach the minimum thresholds may indicate that the source of water contributing to higher TDS concentrations, or the ability of EMWD to use hydraulic containment to control the northeastward spread of the brackish water plume is poorly constrained. If the management actions listed above fail to control groundwater level declines, or the increases in TDS concentration, EMWD will conduct additional

investigations and/or technical studies to fill in data gaps and improve the understanding of the primary controls on groundwater conditions in the Plan Area.

Groundwater quality can be maintained or improved by stopping or reversing the northeastward migration of the high TDS groundwater into the Lakeview GMZ. EMWD intends to prevent further northeastward migration of the TDS plume using the network of desalter wells to maintain hydraulic control of the brackish groundwater plume. If extractions from the desalter wells are not adequate to maintain hydraulic control, which is defined by TDS concentrations that are approaching or exceed 1,000 mg/L at the groundwater quality RMPs, EMWD will investigate potential modifications, or additions to the engineering infrastructure. Additionally, EMWD will investigate the potential influence of induced groundwater flow from the Mystic Lake area that may contribute to increasing TDS concentrations at the groundwater quality RMPs.

If groundwater elevations fall below the measurable objectives and begin to approach the minimum thresholds at the groundwater level RMPs during the 50-year planning and implementation horizon, EMWD will conduct additional investigations and/or technical studies to fill in data gaps and identify effective measures to prevent undesirable results in the Plan Area.

4.5.1 Measurable Objective Expected to Benefit

The measurable objectives for groundwater quality, chronic declines in groundwater levels, and/or groundwater in storage will benefit from this project if implementation becomes necessary. Groundwater conditions in the Plan Area are currently above the measurable objectives, and the Plan Area is not currently experiencing undesirable results related to any of the sustainability indicators.

4.5.2 Expected Benefits and Evaluation

Identifying the source or sources of groundwater contributing to unanticipated increases in TDS concentrations at the groundwater quality RMPs and evaluating both the need for and effectiveness of additional hydraulic control measured in the Lakeview GMZ, would benefit water quality management in the Plan Area. Additionally, filling in data gaps and identifying new projects and management actions that would improve control of groundwater elevations within the Plan Area would benefit groundwater storage management in the Plan Area.

Evaluation of the effectiveness of this project would be measured after additional infrastructure is constructed or additional management actions are implemented. If TDS concentrations stabilize, or decrease at the groundwater quality RMPs, the newly implemented projects or management actions that were identified as part of this project will have adequately prevented further northeastward migration of the 1,000 mg/L TDS iso-contour. If groundwater elevations, which would be used as a proxy for groundwater in storage, stabilize or rise at the groundwater level

RMPs as a result of additional management actions or infrastructure identified as part of this project, this project will have been successful.

4.5.3 Circumstances for Implementation

This project would be implemented if groundwater levels approach the minimum threshold groundwater elevation at three or more groundwater elevation RMPs, or the concentration of TDS in three or more groundwater quality RMPs approaches 1,000 mg/L, and other projects and management actions have failed to improve the groundwater conditions in the Plan Area.

4.5.4 Public Noticing

Public noticing is not required for this project, which would be undertaken under EMWD's authority to assess projects that may be needed to optimize use of the overall water available to the Plan Area. Stakeholders would not be impacted by this project, because it only authorizes the initiation of additional investigations and/or technical studies. In the event that the investigations and/or technical studies identify projects that are approved by the EMWD Board of Directors, EMWD would comply with all CEQA and public noticing requirements prior to and during project implementation.

4.5.5 Permitting and Regulatory Process

Additional investigations and/or technical studies may require permitting or regulatory oversight, depending on the nature of the investigation or technical study. EMWD will comply with any permitting or regulatory requirements associated with the proposed investigation or technical study.

4.5.6 Implementation Schedule

There is no tentative implementation schedule for this project because it is not anticipated to be necessary for sustainable management of the groundwater resources in the Plan Area. An implementation schedule will be developed in the event that groundwater conditions suggest this project may be necessary. If an implementation schedule is developed, then changes or updates to the implementation schedule will be reported to DWR as part of the 5-year GSP evaluation process.

4.5.7 Legal Authority

EMWD has the authority to conduct investigations and technical studies within its service area.

4.5.8 Estimated Costs

The estimated cost of this project will depend on the type of investigation or technical study required. Cost estimates will be developed in the event that groundwater conditions suggest this

project may be necessary. Changes or updates to the cost estimates and methods for funding will be reported to DWR as part of the 5-year GSP evaluation process.

4.6 PROJECT #3 – CONSTRUCT ADDITIONAL DEDICATED MONITORING WELLS

The current groundwater monitoring network in the Plan Area consists of long-screen groundwater production wells and agricultural wells, as well as dedicated monitoring wells. While it is adequate to characterize the groundwater conditions in the Plan Area, the monitoring network could be improved by installation of additional dedicated monitoring wells. These wells will be designed to capture the groundwater elevations adjacent to existing and planned groundwater production wells and can be placed in areas with less dense spatial coverage to better capture the lateral extent of impacts to the aquifer from groundwater production. Characterization of the water quality in the various hydrostratigraphic units of the groundwater aquifer system can be accomplished using dedicated monitoring wells with targeted well screen intervals. Installation of dedicated monitoring wells is consistent with DWR’s monitoring network guidance, which states “wells that are part of the monitoring program should be dedicated groundwater monitoring wells with known construction information” (DWR 2016).

4.6.1 Measurable Objective Expected to Benefit

Although installation of dedicated monitoring wells will not directly benefit any single measurable objective, data from dedicated monitoring wells will provide a clearer understanding of the groundwater conditions in the Plan Area both laterally and vertically. This will allow for improved management which will, in-turn, benefit the measurable objectives for groundwater quality, chronic declines in groundwater levels, and/or groundwater in storage.

4.6.2 Expected Benefits and Evaluation

Filling in data gaps and identifying new projects and management actions that would improve control of groundwater elevations within the Plan Area would benefit groundwater storage management in the Plan Area. Evaluation of the effectiveness of this project would be measured after additional monitoring wells are constructed. If TDS concentrations stabilize, or decrease at the groundwater quality RMPs, the newly implemented projects or management actions that were identified as part of this project will have adequately prevented further northeastward migration of the 1,000 mg/L TDS iso-contour. If groundwater elevations, which would be used as a proxy for groundwater in storage, stabilize or rise at the groundwater level RMPs as a result of additional management actions or infrastructure identified as part of this project, this project will have been successful.

4.6.3 Circumstances for Implementation

This project will be implemented as funding becomes available to construct dedicated monitoring wells.

4.6.4 Public Noticing

Public noticing is not required for this project. Stakeholders would not be impacted by this project because it only authorizes installation of additional monitoring wells.

4.6.5 Permitting and Regulatory Process

Well installation within the Plan Area requires a permit from Riverside County DEH. EMWD will continue to comply with any Riverside County permitting requirements associated with installing dedicated monitoring wells as part of this project.

4.6.6 Implementation Schedule

This project will be implemented as funding becomes available for monitoring well installation. Documentation of the monitoring wells that have been installed under this project will be reported to DWR as part of the annual monitoring reports and / or the 5-year GSP evaluation process.

4.6.7 Legal Authority

EMWD has the authority to install monitoring wells to better understand groundwater conditions within its service area.

4.6.8 Estimated Costs

The estimated cost to install an individual monitoring well in the Plan Area will depend on the thickness of the aquifer and depth of the constructed well. These wells are anticipated to cost between \$700,000 and \$1,000,000 each to design, permit, and construct.

4.7 PROJECT #4 – DETERMINE THE LOCATION AND STATUS OF DOMESTIC WELLS IN THE PLAN AREA

Although the entirety of the Plan Area lies within the service areas of EMWD, WMWD, Nuevo Water Company, the City of Perris, or Box Springs Mutual Water Company (see Section 2.1.1.2 Water Agencies Relevant to the Plan Area), several domestic wells were identified in DWR’s well completion report database (DWR 2021). Groundwater wells that produce 25 AFY or more are included in the current groundwater monitoring network for the Plan Area. As part of this GSP, groundwater wells that produce 2 AFY or more will be added to the groundwater monitoring network. Typical domestic wells use less than 2 AFY and are classified as *de minimis* wells under

SGMA. However, in order to assess whether groundwater elevation declines may impact domestic well users, the location and status of these wells need to be determined. Furthermore, as part of the assessment of the status of any identified domestic wells, groundwater quality sampling will be conducted to assess whether the groundwater produced from the domestic well meets drinking water standards.

4.7.1 Measurable Objective Expected to Benefit

Assessing the location and status of domestic wells within the Plan Area will not directly benefit any single measurable objective. However, understanding the groundwater conditions in the Plan Area and their potential impact to domestic well users will improve overall management of the Plan Area for all beneficial uses and users.

4.7.2 Expected Benefits and Evaluation

Domestic users of groundwater in the Plan Area will benefit from this project because existing domestic well users with potable groundwater supplies will be given the option to connect to their respective water supplier if groundwater conditions in the Plan Area impact the ability of these users to continue to produce potable water. Additionally, domestic well users that are currently consuming water that does not meet drinking water standards will be notified and will also have the option to connect to their local water purveyor. Currently, the number of domestic wells, the groundwater quality produced from those wells, and the status of those wells is not well understood.

4.7.3 Circumstances for Implementation

This project will be implemented as part of the overall implementation of the GSP.

4.7.4 Public Noticing

Public noticing is not required for this project. Stakeholders with domestic wells will benefit from this project, which simply identifies the location, status, and water quality at each of the domestic wells identified in the DWR database.

4.7.5 Permitting and Regulatory Process

This project does not require permitting or regulatory oversight. EMWD will obtain permission from any individual land owner or domestic well user before sampling a well.

4.7.6 Implementation Schedule

This project will be implemented in the first two years after the GSP has been adopted.

4.7.7 Legal Authority

EMWD has the authority to conduct investigations and technical studies within its service area.

4.7.8 Estimated Costs

The estimated costs of this project are not well defined, however the total project cost including desktop investigations of well sites, visits to individual wells, obtaining permission from well-owners, and collecting groundwater samples is likely to be \$100,000 to \$200,000.

4.8 ADAPTIVE MANAGEMENT

The projects and management actions included in this Chapter are part of a broad portfolio of management strategies that EMWD has successfully employed over its 70-year history to maintain and improve groundwater conditions in the Plan Area and throughout its service area. EMWD has adopted an adaptive management strategy for the Plan Area. Because groundwater levels have been rising, and projects have been implemented to improve water quality in the Plan Area, the decision to pursue or implement the projects and management actions in this Chapter will be based on an evaluation of future groundwater conditions in the Plan Area. This allows for additional data to be collected, which will help reduce uncertainty and inform future decision-making.

Consistent with SGMA, the projects and management actions suggested in this GSP will be evaluated every five years, at a minimum. New projects or management actions may be proposed, and the current projects and management actions may be modified or eliminated during the 5-year evaluation process.

4.9 REFERENCES CITED

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