ADDENDUM NO. 2

TO THE

OPTIMUM BASIN MANAGEMENT PROGRAM PROJECT (SCH#200041047)

Prepared for:

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TABLE OF CONTENTS

FIGURES

APPENDICES

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I. PROJECT INFORMATION

1. Project Title: Addendum No. 2 to the Optimum Basin Management Project

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5. Project Location:

The Chino Groundwater Basin (Chino Basin) is one of the largest groundwater basins in Southern California and has an estimated unused storage capacity of over 1,000,000 acre-feet. The Chino Basin covers approximately 235 square miles within the Upper Santa Ana River Watershed and underlies portions of San Bernardino, Riverside, and Los Angeles counties. Figure 1 shows the location of the Chino Basin within the Upper Santa Ana River Watershed. The Chino Basin is mapped within the United States Geological Survey (USGS) – Corona North, Cucamonga Peak, Devore, Fontana, Guasti, Mount Baldy, Ontario, Prado Dam, Riverside West and San Dimas Quadrangles, 7.5 Minute Series topographic maps. The center of the Basin is located near the intersection of Haven Avenue and Mission Boulevard in the City of Ontario at Longitude 34.038040N, and Latitude 117.575954W.

II. PROJECT DESCRIPTION

A. Introduction

This document is prepared as an Addendum to the Program Environmental Impact Report (PEIR) certified by Inland Empire Utilities Agency (IEUA or the Agency) in July 2000 (SCH#200041047), which analyzed the potential environmental impacts of the Optimum Basin Management Program (OBMP). This Addendum No. 2 addresses proposed modifications to the Safe Storage Capacity (as defined below) in the OBMP, which encompasses the Chino Basin.

To manage the Chino Basin for the long-term benefit of all producers in the area, the OBMP was developed pursuant to a Judgment entered in the Superior Court of the State of California on January 27, 1978 (the Court) and compelled by further order of the Court under its continuing

jurisdiction. The Chino Basin Watermaster (Watermaster) administers the decree under the direction of the Court. It was granted discretionary powers to develop and implement the OBMP. Although the Court's orders in compelling action by Watermaster and the parties to the Judgment is not subject to CEQA, the individual and collective discretionary decisions of the same parties in carrying out the OBMP may be, if not otherwise exempt.

Watermaster is governed by a nine-member Board drawn from parties from three groups: an Appropriative Pool, a Non-Agricultural Pool, and an Agricultural Pool, and three other public agencies (IEUA, Three Valleys Municipal Water District, and Western Municipal Water District), effectively the water producers and wholesalers in the Chino Basin. Please refer to Appendix 2 for a list of all Appropriative Pool, Non-Agricultural Pool, and Agricultural Pool participants. These member agencies are henceforth referred to as either "stakeholders" or "the Parties."

Watermaster serves at the pleasure of the Court and is not a public agency although many of the parties to the Judgment are. For a collective of participating entities, such as the Watermaster, any public agency member of the collective can serve as the lead agency on a project under the California Environmental Quality Act (CEQA). By mutual agreement, IEUA agreed to serve as the Lead Agency for the original OBMP under the Peace Agreement and was further ordered to do so by the Court in June of 2000. As the Lead Agency for the PEIR it has now further agreed to serve as the Lead Agency in support of Watermaster's preparation of this Addendum No. 2 to the 2000 PEIR.

The OBMP Implementation Plan includes the proposed OBMP measures to be undertaken, individually and collectively, by the parties to the Judgment under Court oversight and administration by Watermaster. It is an exhibit to the Peace Agreement, incorporated by reference and constitutes a binding commitment among those parties, which also contains the inter se assurances among the parties that allowed their agreement as to the OBMP Implementation Plan's activities. Further, the Court's order compels the parties to proceed in accordance with the OBMP Implementation Plan and for Watermaster to act in accordance therewith. The OBMP Implementation Plan contains a storage management plan that was developed to minimize the environmental impacts from groundwater storage programs. In short, the OBMP was characterized by the following:

1. Phase I
    a. Defined the state of the Chino Groundwater Basin;
    b. Established goals concerning major issues identified by stakeholders;
        i. Goal No. 1 – Enhance Basin Water Supplies;
        ii. Goal No. 2 – Protect and Enhance Water Quality;
        iii. Goal No. 3 – Enhance Management of the Basin;
        iv. Goal No. 4 – Equitably Finance the OBMP.
    c. Affirmed a management plan for the achievement of the established goals; and
    d. Provided a process that facilitates periodic reviews, public comments, and necessary updates.
2. Phase II
    a. Developed specific implementation plans to allow for the physical construction, operation, management, and monitoring of OBMP facilities.

According to the data compiled in the OBMP PEIR, the Chino Basin is one of the largest groundwater basins in southern California, and at that time, was understood to contain approximately 5,300,000 acre-feet (AF) of water in the Basin and an estimated unused storage capacity of about 1,000,000 AF. The "safe yield" of a groundwater basin approximates the

average annual recharge in the basin if the storage in the basin is large. The amount of water in storage in the Chino Basin is directly proportional to groundwater level. However, not all the water in storage is available for production. Groundwater levels need to be maintained at or above specific levels to ensure pumping sustainability and to avoid causing new land subsidence.

When the OBMP was developed it was expected that the Parties and other entities would use the storage space above 5,300,000 AF for conjunctive use and not exceed a storage volume of 5,800,000 AF. The Operational Storage Requirement—the storage or volume in the Chino Basin that is necessary to maintain safe yield—was estimated to be 5,300,000 AF in the OBMP. The OBMP also defined the term Safe Storage, which is an estimate of the maximum storage in the Basin that will not cause significant water-quality and high-groundwater related problems. Safe Storage was estimated to be about 5,800,000 AF in the 2000 OBMP. The Safe Storage Capacity, which is the difference between the Safe Storage (5,800,000 AF) and the Operational Storage Requirement (5,300,000 AF), was determined to be 500,000 AF in the OBMP. Water occupying the Safe Storage Capacity includes water in storage accounts (stored water), carryover water, and water that was anticipated to be stored in future groundwater Storage and Recovery Programs.

If groundwater storage exceeded 5,800,000 AF, the OBMP assumed that mitigation would be required to operate the Basin at those higher levels of storage. Since the 2000 OBMP, however, twenty years of additional hydrologic information, implementation experience of the OBMP through the Peace and Peace II Agreements, and related actions of the Watermaster and the Parties, have demonstrated that Safe Storage is greater than 5,800,000 AF and, although not precisely computed, the implied Safe Storage Capacity is 735,000 AF or larger.

In 2016, Watermaster identified the need to update the OBMP so that the storage management plan in the OBMP Implementation Plan could be changed to reflect an increase in managed storage accounts, which were projected to exceed the Safe Storage Capacity (SSC) limit of 500,000 AF defined in the 2000 OBMP. In 2017, IEUA adopted Addendum No. 1 to the PEIR to provide a "temporary increase in the Safe Storage Capacity from 500,000 AF to 600,000 AF for the period of July 1, 2017 through June 30, 2021 […] until a comprehensive re-evaluation of the Safe Storage Capacity value/concept can be completed before June 30, 2021."[1] Addendum No. 1 was supported with engineering work that demonstrated that this temporary increase in SSC would not cause material physical injury (MPI) to Watermaster stakeholders or loss of Hydraulic Control.[2] Addendum No. 1 was certified by IEUA in March 2017, and Safe Storage Capacity was reset to 600,000 AF through June 30, 2021.

Watermaster began the comprehensive re-evaluation of the Safe Storage Capacity concept through a stakeholder process during 2017 and 2018, which resulted in the 2018 Storage Framework Investigation Report (SFI). The SFI evaluated the Basin response, MPI and undesirable results from projections of the Parties' future storage management activities and potential future Storage and Recovery Programs that could store additional water in the Basin, concurrently with the Parties (cumulatively up to 1,000,000 AF). This work was based, in part, on

[1] Tom Dodson & Associates. (2017). Addendum No. 1 to the Optimum Basin Management Program Project. Page 2.
[2] MPI means material injury that is attributable to the recharge, transfer, storage and recovery, management, movement or production of water, or implementation of the OBMP, including, but not limited to, degradation of water quality, liquefaction, land subsidence, increases in pump lift (lower water levels), and adverse impacts associated with rising groundwater. MPI does not include "economic injury" that results from other than physical causes. Once fully mitigated, physical injury shall not be considered to be material. (From Peace Agreement Definitions, page 8) Further, loss of Hydraulic Control means the inability to eliminate groundwater discharge from the Chino-North Groundwater Management Zone to the Santa Ana River or its reduction to less than 1,000 afy.

groundwater modeling projections of the Basin using the 2017 Watermaster model that was last previously calibrated in 2011. The SFI developed a series of metrics to identify MPI and undesirable results for the use of storage space and introduced a new term called managed storage. Managed storage includes water stored by the Parties and other entities, which fluctuates over time based on the actions of the Parties and other entities.

During the period between 2018 and mid-2020, Watermaster revised its groundwater model and renamed it the 2020 Chino Valley Model (CVM). The 2020 CVM supersedes the model version used in the 2018 SFI. The CVM was used to update pumping and recharge projections to develop an updated estimate of Safe Yield for the period 2021 through 2030 (WEI, 2020). Based on this Safe Yield investigation, Safe Yield for the period was found to be 131,100 acre-feet per year.[3]

The Court subsequently accepted Watermaster's Safe Yield recommendation and ordered the Safe Yield changed in July 2020. In addition to the updated Safe Yield, three other conclusions were reached in the Safe Yield investigation using the 2020 CVM: (1) the storage in the saturated zone of the Chino Basin was estimated to be about 12,200,000 AF on July 1, 2018, of which 462,000 AF was in managed storage; (2) the projected managed storage by the Parties would reach about 612,000 AF in 2031; and, (3) no adverse impacts or MPI were projected to occur from managed storage reaching 612,000 AF by 2031 (WEI, 2020).

B. Project Description

This Addendum No. 2 to the PEIR will serve as the basis to amend the Safe Storage Capacity of the OBMP for the Chino Basin, based on the available new data (see Appendix 1).

Watermaster proposes a change in the Safe Storage Capacity to 700,000 AF through June 30, 2030, and to 620,000 AF from July 1, 2030 through June 30, 2035. After June 30, 2035, Safe Storage Capacity will revert to 500,000 AF unless the OBMP is amended again pursuant to a subsequent CEQA analysis.

No new physical improvements are required to implement the proposed increase in Safe Storage Capacity beyond those envisioned and previously analyzed in the PEIR. As such, no other changes to the approved OBMP are envisioned at this time.

Henceforth, the increase in Safe Storage Capacity proposed herein may be referred to as the modified project, while the OBMP analyzed in the 2000 PEIR may be referred to as the original project.

III. ENVIRONMENTAL SETTING

A. Environmental Setting

The Chino Basin covers approximately 235 square miles within the Upper Santa Ana River Watershed and lies within portions of San Bernardino, Riverside, and Los Angeles counties. Figure 1 shows the location of the Chino Basin within the Upper Santa Ana River Watershed. The Chino Basin consists of an alluvial valley that is relatively flat from east to west, sloping from north to south at a one to two percent grade. Basin elevation ranges from about 2,000 feet adjacent to

[3] As defined by the Judgment, Safe Yield means the long-term average annual quantity of ground water (excluding replenishment or stored water but including return flow to the Basin from use of replenishment or stored water) which can be produced from the Basin under cultural conditions of a particular year without causing an undesirable result.

the San Gabriel foothills to about 500 feet near Prado Dam. As shown in Figure 1, the Chino Basin is bounded:

- on the north by the San Gabriel Mountains and the Cucamonga Basin;
- on the east by the Rialto-Colton Basin, Jurupa Hills, and the Pedley Hills;
- on the south by the La Sierra Hills and the Temescal Basin; and
- on the west by the Chino Hills, Puente Hills, and the Spadra, Pomona, and Claremont Basins.

The 2000 OBMP focused on management actions within the Chino Basin as shown on the inset on Figure 2. Figure 2 illustrates the boundary of the Chino Basin as it is legally defined in the stipulated Judgment in the case of *Chino Basin Municipal Water District vs. the City of Chino et al.* Figure 2 also shows the Regional Board management zones as established in the Basin Plan.

The principal drainage course for the upper Santa Ana River watershed is the Santa Ana River. It flows 69 miles across the Santa Ana Watershed from its origin in the eastern San Bernardino Mountains to the Pacific Ocean. The Santa Ana River enters the Chino Basin at the Riverside Narrows and flows along the southern boundary to the Prado Flood Control Reservoir, where it is eventually discharged through the outlet at Prado Dam and flows the remainder of its course to the Pacific Ocean. The Basin is traversed by a series of ephemeral and perennial streams that include: San Antonio Creek, Chino Creek, Cucamonga Creek, Deer Creek, Day Creek, Etiwanda Creek and San Sevaine Creek. Please refer to Figure 2 for the location of drainages.

These creeks flow primarily north to south and carry significant natural flows only during, and for a short time after, the passage of Pacific storm fronts that typically occur from November through April. IEUA discharges year-round wastewater flows to Chino Creek and to Cucamonga Channel from its Regional Plants. The actual volume of wastewater discharges varies seasonally and is expected to be attenuated in the future by a combination of water conservation measures being implemented by water users and through diversion of flows for delivery as recycled water to future users that can utilize this source of water, including landscape irrigation, industrial operations, and recharge into the Chino Basin.

B. Project Planning Setting

The CEQA Guidelines Sections 15162 through 15164 set forth the criteria for determining the appropriate subsequent environmental documentation, if any, to be completed when there is a previously certified EIR covering the project for which a subsequent discretionary action is required. This Addendum document has been prepared in accordance with CEQA Guidelines Section 15164(e) to explain the rationale for determining whether any additional environmental documentation is needed for the subject discretionary action. As documented in this Addendum, none of the conditions set forth in CEQA Guidelines Section 15162 have occurred and no subsequent or supplemental EIR is required to analyze the modified project.

IV. PROJECT BACKGROUND

A. OBMP History

The OBMP serves as the foundation for the regional water resources and groundwater management program for the Chino Basin. The location of the Chino Basin is shown in Figure 1. On January 2, 1975, several Chino Basin groundwater producers filed suit in the California State

Superior Court for San Bernardino County (Court) to settle the problem of allocating water rights in the Chino Basin. On January 27, 1978, the Court entered a judgment in *Chino Basin Municipal Water District v. City of Chino et. al.* (Judgment). The Judgment adjudicated the groundwater rights of the Chino Basin, established the Watermaster—a Court created entity—to administer the Judgment, and contains a Physical Solution to meet the requirements of water users having rights in or dependent upon the Chino Basin. Figure 2 shows the adjudicated boundary as it is legally defined in the Judgment, the hydrologic boundary, the Chino Basin management zones, and the groundwater management zones defined by the Regional Board in the Basin Plan.

As stated above, Watermaster is composed of a Board that consists of member agencies from three groups: an Appropriative Pool, a Non-Appropriative Pool, and an Agricultural Pool, and four other public agencies (see below), effectively the water producers in the Chino Basin (refer to Appendix 2).

Watermaster, at the direction of the Court, began developing the OBMP in 1998 and completed it in July 2000. The OBMP was developed in a collaborative public process that identified the needs and wants of all stakeholders, described the physical state of the groundwater Basin, defined a set of management goals, characterized impediments to those goals, and developed a series of actions that could be taken to overcome the impediments and achieve the management goals. This work was documented in the *Optimum Basin Management Program – Phase I Report* (OBMP Phase 1 Report).[4]

The four goals of the 2000 OBMP included:

Goal 1 – Enhance Basin Water Supplies
Goal 2 – Protect and Enhance Water Quality
Goal 3 – Enhance Management of the Basin
Goal 4 – Equitably Finance the OBMP

The actions defined by the stakeholders to remove the impediments to the OBMP goals were logically grouped into sets of coordinated activities called Program Elements (PEs), each of which included a list of implementation actions and an implementation schedule. The PEs and their associated implementation actions (facilities and operations) were incorporated into a recommended management plan. The Parties used the management plan as the basis for developing the OBMP Implementation Plan (which identified specific projects for implementation under the OBMP) and an agreement between the Watermaster Parties and stakeholders (the Peace Agreement) to implement it. The Peace Agreement was reviewed in the 2000 OBMP PEIR. The Parties entered into the Peace Agreement in June 2000. Under Resolution 2000-05,[5] Watermaster adopted the goals and plans of the OBMP Phase 1 Report and agreed to proceed in accordance with the Peace Agreement and the OBMP Implementation Plan. Following a July 2000 hearing, the Court directed Watermaster to proceed in a manner consistent with the Peace Agreement in order to implement the OBMP and received and filed the PEIR.

The Parties developed the Peace II Agreement in 2007, which included provisions to expand the desalting capacity such that groundwater production to support the desalters would reach 40,000 acre feet per year (AFY). The Peace II Agreement introduced Re-operation[6] to achieve Hydraulic

[4] WEI. (1999). *Optimum Basin Management Program – Phase I Report*. Prepared for the Chino Basin Watermaster. August 19, 1999. http://www.cbwm.org/docs/engdocs/OBMP%20-%20Phase%20I%20(Revised%20DigDoc).pdf
[5] Chino Basin Watermaster. (2002). The Resolution approving the OBMP is provided on the Watermaster's website.
[6] Re-operation is the controlled overdraft of the Basin by the managed withdrawal of groundwater pumping for the Chino Basin Desalters and the potential increase in the cumulative un-replenished pumping from the 200,000 acre-feet

Control of the Chino Basin and maintain Safe Yield. Peace II included a supplement to the OBMP Implementation Plan to expand the Chino Basin Desalters to 40,000 AFY of groundwater pumping, to incorporate Re-operation and Hydraulic Control, and to resolve other issues. There were no changes to the storage management plan in the OBMP Implementation Plan as a result of Peace II. The IEUA Board certified a supplemental environmental impact report for the Peace II Agreement in 2010 (2010 SEIR).

As described above, in 2016, Watermaster identified the need to update the storage management plan in the OBMP Implementation Plan because the total amount of water in managed storage accounts was projected to exceed the Safe Storage Capacity (SSC) limit of 500,000 AF defined in the 2000 OBMP. In 2017, the IEUA adopted an Addendum to the SEIR to provide a "temporary increase in the Safe Storage Capacity from 500,000 AF to 600,000 AF for the period of July 1, 2017 through June 30, 2021 […] until a comprehensive re-evaluation of the Safe Storage Capacity value/concept can be completed before June 30, 2021." Addendum No. 1 to the OBMP PEIR was supported with engineering work that demonstrated that this temporary increase in SSC would not cause MPI, loss of Hydraulic Control, or other adverse impacts on the Basin.

B. Present and Projected State of the Basin

As described above, Watermaster has had a new report based on the CVM prepared regarding the use of Chino Basin storage space—the basis upon which this Addendum No. 2 is founded—to update the Safe Storage Capacity based on updated water use and Safe Yield projections.

The report prepared by West Yost (West Yost, 2021, previously Wildermuth Environmental, Inc.; Appendix 1) evaluates MPI and adverse impacts to the Basin due to the increased use of storage space by the Parties and the Dry Year Yield Program[7] (DYYP). The "Local Storage Limitation Solution" (LSLS) analyzed in West Yost's 2021 report includes the Parties' projected use of storage space through 2035 and the assumed operations of the DYYP through 2028. The DYYP can store up to 100,000 AF in addition to the 612,000 AF of storage projected to be used by the Parties. The DYYP will terminate in 2028, and as such, the LSLS includes the use of DYYP storage through 2028. The DYYP storage is projected to be depleted by the end of 2028, and the managed storage thereafter follows the projected managed storage that was identified in the planning scenario that was developed and evaluated in the 2020 Safe Yield Recalculation (WEI, 2020). Between the present and the termination of the DYYP in 2028, the West Yost's report indicates that the Judgment Parties and DYYP activities are projected to result in the planned managed storage peaking at 700,000 AF in 2025.

While the West Yost report analyzes the projected managed storage in the Basin, the results presented in the report can be used to estimate the Safe Storage Capacity of the Basin. Under the scenario modeled in West Yost's report, it can be deduced that the Safe Storage Capacity of the Basin through 2030 is 700,000 AF. With the depletion of the water in DYYP storage in 2028, managed storage increases slightly to about 612,000 AF in 2031, remains relatively steady through 2035, and declines thereafter.

The evaluation in this Addendum assesses the potential adverse impacts and MPI—using the CVM—related to increasing the Safe Storage Capacity value to 700,000 AF through June 30,

authorized by paragraph 3 of the Engineering Appendix Exhibit I to the Judgment, to 600,000 acre-feet for the express purpose of securing and maintaining Hydraulic Control as a component of the Physical Solution.

[7] The DYYP is a storage and recovery program that can store up to 100,000 AF that is in addition to storage by the Judgment Parties. The DYYP is set to terminate in 2028.

2030, declining to 620,000 AF from July 1, 2030 through June 30, 2035. This project definition balances the need to provide for the combined use of managed storage by the Parties and the DYYP through the end of the DYYP contract period (2028) and the Parties' maximum projected use of managed storage in the early 2030s against future uncertainty. This uncertainty includes the possible fluctuations in managed storage in the years immediately following the termination of the DYYP contract and uncertainty in the Parties' future groundwater pumping plans to recover their water in managed storage after 2035. This Addendum analyzes the Basin response in terms of adverse impacts and MPI using the most current groundwater pumping and other water management projections and Watermaster's most current modeling tools, specifically the CVM. The evaluation in this Addendum does not contemplate the Safe Storage Capacity beyond the year 2035. Watermaster believes these Safe Storage Capacity values to be accurate given the efficacy of the CVM utilized to determine the projected managed storage in the Basin in West Yost's report.

The baseline for Safe Storage Capacity used in this evaluation is the current condition of 600,000 AF (this temporary increase expires after June 30, 2021). However, the results of the analysis presented in this Addendum would be the same if the original Safe Storage Capacity of 500,000 AF in the OBMP was used. The evaluation in this document is based on the anticipated managed storage to be utilized by the Parties and by the DYYP as it relates to determining the Safe Storage Capacity value of 700,000 AF until June 30, 2030, and then declining to 620,000 AF from July 1, 2030 through June 30, 2035 for adverse impacts and MPI using the most current model: the CVM. Thus, based upon projections supplied by the Parties, and the existing and planned physical infrastructure, it is assumed that on a yearly basis, the amount of water within the Safe Storage Capacity will not substantially increase when compared to that which occurs at present. Instead, over a period of time, the cumulative volume of groundwater in managed storage will, relative to current values, gradually increase to the new Safe Storage Capacity values of 700,000 AF until June 30, 2030, and then decline to 620,000 AF from July 1, 2030 through June 30, 2035. Watermaster will monitor conditions in real time by reviewing and approving additions to the groundwater in storage within the Chino Basin pursuant to the Judgment. This enables Watermaster to keep a cumulative tabulation of the Basin's Safe Storage Capacity.

The conclusions of the West Yost report provided as Appendix 1 related to storage management include the following:

Table 1
SUMMARY OF POTENTIAL MPI AND ADVERSE IMPACTS[1]

Potential Adverse Impact/MPI Category	Will potential adverse impacts[1] or MPI in the LSLS scenario occur through 2035 such that a significant environmental impact would occur?	Comment
Net recharge and Safe Yield	No. (A) This is a minor economic impact to the Parties; (B) This economic impact is offset by the OBMP's prospective recalculation of the Safe Yield on a going-forward basis	The LSLS scenario will temporary reduce net recharge of 600 AFY from 2019 through 2032. This is not an environmental impact, but rather an adverse economic impact to the Parties that can be mitigated by the prospective recalculation of the Safe Yield under the OBMP. The reduction in net recharge through implementation of the LSLS scenario will diminish over time and is projected to be completely offset by 2050. By 2050, the net recharge in the LSLS scenario increases when compared to the baseline scenario by about 500 AFY.

Potential Adverse Impact/MPI Category	Will potential adverse impacts[1] or MPI in the LSLS scenario occur through 2035 such that a significant environmental impact would occur?	Comment
Pumping sustainability	No	No new pumping sustainability challenges are projected to occur
New land subsidence	No	No new land subsidence is projected to occur.
State of Hydraulic Control	No	Hydraulic Control is projected to be maintained through 2035.
Direction and speed of known plumes	No	The LSLS scenario results in a negligible impact on the direction and speed of known plumes.

Source: West Yost Evaluation of the Local Storage Limit Solution, Prepared for Chino Basin Watermaster
[1]Adverse impact here is as defined in Watermaster's 2020 SMP

Based on the Watermaster's findings, the Safe Storage Capacity in the Chino Basin can be increased to 700,000 AF through June 30, 2030, and then decreasing to 620,000 AF from July 1, 2030 through June 30, 2035, using existing facilities without causing unmitigable adverse impacts or MPI. Importantly, the proposed increase in Safe Storage Capacity can be accomplished without the development of any new facilities. Over time, cumulative use of the Basin for storage utilizing existing facilities at the same general existing rate of use can fully utilize managed storage space up to 700,000 AF through June 30, 2030, decreasing to 620,000 AF from July 1, 2030 through June 30, 2035. The utilization of storage at this level is not anticipated to occur immediately upon increasing the Safe Storage Capacity to 700,000 AF; instead full utilization of Safe Storage Capacity by the Parties is anticipated to occur gradually as additional water is stored and/or less groundwater is extracted.

In summary, based on the projected managed storage shown in Figure 2-2 of Appendix 1 (provided here as Figure 3) the LSLS is defined by the use of storage space up to 700,000 AF through June 30, 2030, decreasing to 620,000 AF from July 1, 2030 through June 30, 2035. This definition balances the need to provide for the combined use of managed storage by the Parties and the DYYP through the end of the DYYP contract period (2028) and the Parties' need to hedge against future uncertainty by maximizing projected use of managed storage in the early 2030s. This uncertainty includes the possible fluctuations in managed storage in the years immediately following the termination of the DYYP contract and the Parties' future groundwater pumping plans to recover their water in managed storage after 2035.

After considering the available options for complying with CEQA regarding the modified project, IEUA concluded that compiling a second Addendum to the 2000 PEIR would be the most appropriate way to comply with CEQA. The documentation in this Addendum, combined with the adopted 2000 PEIR will serve as the basis for this third-tier environmental review.

Pursuant to the provisions of CEQA and State and local CEQA Guidelines, IEUA will serve as the Lead Agency for the modified project. As part of its decision-making process, IEUA is required to review and consider all potential environmental effects that could result from modifying the original project. IEUA has compiled this Addendum as the basis for making a new CEQA determination for this modification to the originally approved OBMP.

V. ENVIRONMENTAL DETERMINATION

IEUA previously prepared a PEIR for the OBMP that was certified in July 2000.

Pursuant to Section 15164(a) of the California Environmental Quality Act (CEQA) Guidelines, the lead agency or a responsible agency shall prepare an Addendum to a previously certified EIR "if some changes or additions are necessary, but none of the conditions described in Sections 15162-15164 calling for preparation of a subsequent or supplemental EIR have occurred." Section 15162 of the CEQA Guidelines would require a Subsequent or Supplemental EIR if any of the following conditions apply:

- 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;
- 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
- 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:
    - The project will have one or more significant effects not discussed in the previous EIR;
    - Significant effects previously examined will be substantially more severe than shown in the previous EIR;
    - 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
    - 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

Based upon the review of the modified project as described in this document, none of the situations described in Section 15162 apply. No changes or circumstances have occurred that would result in a significant impact, and no new information of substantial importance has manifested, which would result in new significant or substantially increased adverse impacts as a result of the proposed project. Therefore, this Addendum has been prepared in accordance with Section 15164 of the CEQA Guidelines. No public review of this Addendum is required per CEQA.

The following environmental issues relevant to the modified project were previously analyzed in the 2000 PEIR. This discussion provides information to indicate that these issues would not result in a new significant impact.

Please make note that the analysis provided below addresses those topics evaluated in the 2000 OBMP PEIR first. Section VI provides an evaluation of new topics included in Appendix G of the CEQA Guidelines (Appendix G) since 2000.

A. Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion

Aesthetics and Visual Resources, now referred to as Aesthetics, issues are discussed in Chapter 4.15 of the 2000 OBMP PEIR. According to the PEIR, the main issue of concern to aesthetics and visual resources were related to the alterations in the existing visual character of the visual setting within the project area, or views to external areas that may be impacted from implementing the OBMP. New construction has the potential to alter any views of and from existing neighborhoods and structures. However, the modified project does not require the construction of new facilities to reach this level of storage in the Basin. Instead, existing facilities throughout the Basin will be utilized over time to store up to 700,000 AF, the implementation of which would not result in any MPI or other adverse impacts on the Basin. Given that the proposed modification to the OBMP would not result in the development of aboveground facilities to enable implementation of the increased Safe Storage Capacity of the Basin, the modified project would have no greater potential to result in adverse impacts to scenic vistas within the Chino Basin area, substantially damage scenic resources, conflict with the applicable zoning or other regulations governing scenic qualities, or result in an adverse impact related to light or glare than that which was projected in the 2000 OBMP PEIR. Thus, implementation of the modified project is not forecast to negatively alter any aesthetic or visual impacts and no cumulatively considerable aesthetics impacts will result from the modified project.

Ultimately, the modified project would not increase the level of any aesthetics impacts previously identified in the 2000 OBMP PEIR, and would not create any new potential impacts under Aesthetics. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in previously identified impacts under Aesthetics. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental discussion of this issue in an EIR pursuant to the CEQA Guidelines, Section 15162.

B. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact or Does Not Apply**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Discussion

Air Quality issues are discussed in Chapter 4.6 of the 2000 OBMP PEIR. The PEIR concluded that operation of the facilities identified in the OBMP have the potential to result in significant adverse air quality impacts at or near Buildout of the OBMP if operation of all of the systems was to occur at or near full capacity at the same time. However, mitigation was identified to minimize impacts to the greatest extent feasible. The modified project will utilize existing facilities to convey additional water for storage in the Basin at a level commensurate with the existing use. This is because Watermaster has indicated that the intent of the increase in Safe Storage Capacity is to enable incremental increase up to the proposed Safe Storage Capacity, and enable flexibility for the Parties to store or pump water depending on the circumstances occurring in the Basin in a given year. As such, no greater usage of existing facilities beyond that which is presently allowable by the Party's individual systems is anticipated to be required as a result of the proposed increase in Safe Storage Capacity, which therefore would ensure that no additional air quality emissions and pollutant concentrations beyond those addressed in the 2000 OBMP PEIR would occur. Given that the modified project would not result in the development of aboveground facilities to enable implementation of the increased Safe Storage Capacity of the Basin, the modified project would have no greater potential to conflict with or obstruct implementation of the applicable air quality plan, result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard, expose sensitive receptors to substantial pollutant concentrations, or result in other emissions (such as those leading to odors) adversely affecting a substantial number of people than that which was projected in the 2000 OBMP PEIR or that would be commensurate with the development proposed under the OBMP PEIR. Thus, implementation of the modified project is not forecast to result in significant air quality emissions and no cumulatively considerable air quality impacts will result from the modified project.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR or that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potential impacts under Air Quality. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in air quality emissions such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

C. Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

Discussion

The Biological Resources analysis is provided in Chapter 4.8 of the 2000 PEIR. No further biological studies have been conducted; thus, the analysis in the 2000 PEIR will be used as the baseline data for this analysis. Under the original project, as described in the 2000 PEIR, implementation of the OBMP had some potential to impact biological resources; however, the severity of the impacts were considered dependent on the site(s) selected and the amount of site disturbance required to install the infrastructure, wells, and facilities required to implement the OBMP. In order to assess these future projects, site-specific biological surveys were considered necessary to be completed upon further definition of individual projects. As previously stated, the modified project do not require any additional infrastructure to allow the increase in Safe Storage Capacity to occur, as the additional conveyance to the Basin will occur through existing facilities. Therefore, with implementation of mitigation identified in the PEIR—specifically the mitigation that limits the amount of water taken from the Santa Ana River in order to protect the habitat of the least Bell's vireo—no new significant adverse biological resource impacts will result from the modified project than that which was originally proposed in the 2000 OBMP PEIR.

Based on the data supporting the proposed increase in Safe Storage Capacity, the proposed modified project is not anticipated to have any adverse effect on biological resources identified within the scope of the original PEIR. The additional storage in the Basin will be conveyed through existing facilities—turn outs, recycled water deliveries, and stormwater capture, etc.—which will

not further disturb any biological resources. Therefore, any changes in biological resource issues since 2000 (such as new endangered species) will not experience any adverse impacts. Because the modified project will not have a greater effect on the physical environment than envisioned in the original environmental documentation (PEIR), and no further construction of new facilities is necessary to implement the proposed increase in the Safe Storage Capacity of the Basin, the modified project is not projected to have a substantial adverse effect on any listed or regulated species, have a substantial adverse effect on any riparian habitat or other sensitive natural community, have a substantial adverse effect on state or federally protected wetlands, interfere wildlife movement, conflict with any local policies or ordinances protecting biological resources, or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such the modified project is not anticipated to cause any further impacts to biological resources that were not envisioned or discussed as part of the original project.

Ultimately, none of the changes or additions proposed as part of the modified project would result in new significant impacts to biological resources such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

D. Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Discussion

The Cultural Resources evaluation in the 2000 OBMP PEIR is provided in Chapter 4.14. No further cultural studies have been deemed necessary because no new infrastructure (i.e. physical modifications to the environment) is proposed as part of the modified project. Under the original project, as described in the 2000 OBMP PEIR, any activities associated with the OBMP that required the excavation or movement of soil material at any location within the project area could have the potential to adversely affect cultural resources. As previously stated, the modified project will not require any additional infrastructure as the conveyance to the Basin will occur through existing facilities—turn outs, recycled water deliveries, and stormwater capture, etc. Several mitigation measures were included in the cultural resource evaluation in the 2000 OBMP PEIR to ensure that impacts to any cultural resources were less than significant; however, a majority of the mitigation measures under this issue pertained to ground disturbance, and no ground disturbing activities are proposed as part of the modified project. Thus, given that the modified project would not result in the development of aboveground facilities to enable implementation of the increased Safe Storage Capacity of the Basin, the modified project would have no greater potential to result in a substantial adverse change in the significance of a historical or archaeological resource, or disturb any human remains than that which was projected in the

2000 OBMP PEIR. As such the modified project is not anticipated to cause any further impacts to cultural resources that were not envisioned or discussed as part of the original project.

Ultimately, none of the changes or additions proposed as part of the modified project would result in new significant impacts to cultural resources. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

E. Energy

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Discussion

Energy issues are discussed in Chapter 4.9 of the 2000 OBMP PEIR. The topic of energy has evolved from being an issue discussed under Utilities and Service Systems and sometimes extrapolated within an EIR, to an issue topic in Appendix G that addresses not only energy consumption as the 2000 OBMP PEIR analyzed, but also addresses whether a project will conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The PEIR concluded that implementation of the OBMP would not create a substantial demand for electricity, natural gas, or petroleum products beyond the system capacities, and no mitigation was deemed to be required to minimize impacts thereof. The modified project would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations because no new facilities are proposed to be constructed and no operations outside of that which was envisioned in the OBMP PEIR are anticipated to occur as a result of the modified project. Furthermore, given that the modified project would not require new construction of any kind, no potential exists for the modified project to conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As such the modified project is not anticipated to cause any further energy impacts that were not envisioned or discussed as part of the original project.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR or that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potential impacts under Energy. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential energy impacts such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

F. Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
(ii) Strong seismic ground shaking?	☐	☐	☒	☐
(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
(iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite land-slide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Discussion

Geologic Resources / Constraints, now referred to as Geology and Soils, are discussed in Chapter 4.4 of the 2000 OBMP PEIR. The geologic and soil resource impact evaluation in the 2000 OBMP PEIR indicated that implementing the OBMP could cause or result in exposure of the Basin to significant geotechnical impacts or constraints, but with mitigation no unavoidable adverse geologic or soil resource impacts would occur. The modified project will use existing facilities—turn outs, recycled water deliveries, and stormwater capture, etc.—to convey additional water to be stored within the Basin at the discretion of Watermaster and the Parties. The West Yost report analyzing the impacts related to increasing the Safe Storage Capacity of the Basin to 700,000 AF indicates that this increase will not result in MPI, and thereby will not result in any new land subsidence. As such, the modified project would not result in soil instability resulting in a landslide, lateral spreading, subsidence, liquefaction or collapse. Furthermore, the modified project would not result in any visible above ground facilities that could result in risk of loss, injury, or death involving ground rupture, strong seismic ground shaking, seismic related ground failure, or landslides particularly given that operation of existing OBMP facilities requires mitigation to address water level and subsidence issues, liquefaction, earthquake damage. With this mitigation

in place, conveyance of additional water to the Basin as part of the modified project, any water level, subsidence, liquefaction, and earthquake related issues would remain below the significant impact threshold.

Similarly, the modified project would not result in direct or indirect impacts to paleontological resources because, as discussed under Cultural Resources above, the modification to allow an increase in the Safe Storage Capacity of the Basin will not require any additional infrastructure as the conveyance to the Basin will occur through existing facilities. Furthermore, several mitigation measures were required to minimize impacts to cultural resources under the 2000 OBMP PEIR, which then included the discussion of impacts to paleontological resources, though most were required to minimize impacts during ground disturbing activities, none of which are required to be implemented by the modifications proposed by this Addendum. No alternative wastewater disposal systems are proposed by the modified project, and none were proposed under the 2000 OBMP PEIR. Because the modified project would not result in any new facilities or construction thereof to enable the increase in Safe Storage Capacity, the modified project would not result in a potential to create substantial direct or indirect risks related to expansive soil, or result in substantial soil erosion or the loss of topsoil. As such, the modified project is not anticipated to cause any further or greater impacts to geology and soils than those that were identified under the 2000 OBMP PEIR.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR or that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potential impacts under Geology and Soils. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential risks related to geology and soils such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

G. Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Discussion

Hazards and Risk of Upset, now referred to as Hazards and Hazardous Materials, was discussed in Chapter 4.10 of the 2000 OBMP PEIR. The PEIR concluded that it was possible to control or avoid potential risks associated with hazards by implementing identified mitigation measures. The PEIR provided measures to mitigate the following issues: chemical treatment of water produced by desalters for direct domestic use; accidental release of hazardous materials; recharge of recycled water to the groundwater aquifer; and recharging stormwater that could mobilize existing contaminated plumes of groundwater. The modified project will not exacerbate any hazards and hazardous materials impact categories beyond those identified in the 2000 OBMP PEIR. The proposed increase in Safe Storage Capacity has been determined by the report prepared by West Yost to result in no MPI to the Basin, and therefore, none of the many groundwater contamination plumes located within the Basin would be mobilized such that a significant impact to groundwater quality resulting in a health hazard to the public would occur. As previously stated, conveyance will occur through existing infrastructure that is currently in operation—operating under the mitigation constraints put forth in the PEIR. Therefore, with implementation of mitigation measures designed to prevent hazards and risk of upset during the operation of OBMP facilities, the additional conveyance within the Basin attributed to the modified project will not result in significant adverse direct or indirect effect on humans or impacts to humans related to hazards will occur.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR or that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potential impacts under Hazards and Hazardous Materials. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential risks related to hazards and hazardous materials such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

H. Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?	☐	☐	☒	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?; or,	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Discussion

Water Resources/Water Quality, now referred to as Hydrology and Water Quality, was discussed in Chapter 4.5 of the 2000 OBMP PEIR. Implementation of the OBMP as a program ultimately was determined in the PEIR to have a less than significant impact on water resources and water quality. The OBMP envisioned a variety of facilities and activities that, when implemented as a whole, were intended to enhance the safe yield and water quality of the Basin. The facilities that were constructed as part of the OBMP generally required subsequent environmental evaluation through an Addendum, a Mitigated Negative Declaration, or further studies for a specific environmental issue in order to be implemented. Recharge Basins that recharge water (recycled water conveyed to specific recharge basins, stormwater runoff, etc.) to the Basin were a component of the OBMP otherwise identified by Watermaster as Material Physical Injury (MPI).

Extensive mitigation was identified to prevent recharging water to the Chino Basin from causing or contributing to any potential water resource/water quality related impacts. Through a combination of blending water sources, recharging at the correct locations, avoiding contaminated plumes and ensuring that recharge basin operations do not conflict with flood control operations and do not contribute to significant water quality degradation (both short- and long-term), this program element was not considered to cause significant unavoidable adverse water resource and water quality impacts. The modified project is considered a beneficial impact to water resources because it allows more water to be stored in the Basin for the agencies and Parties that are part of the Watermaster to store water for future use, particularly in times of drought.

In order to protect the water quality of the Basin, the modified project will comply with all mitigation measures identified in the PEIR to prevent an adverse impact from occurring. The additional water will be conveyed to the Basin through existing facilities as summarized in Table 2 in the Project Description of this Addendum. In summary, to reach the total storage balance of 100,000 AF above the Parties' baseline storage, the LSLS scenario assumes that puts (additions to the Basin storage) will occur over the first three years. The puts are assumed to total 19,540 AF each of these three years, which, when combined with the Balance in the DYYP storage accounts through 2018 of 41,380, adds up to 100,000 AF. The LSLS scenario conducts storage and recovery in one ten-year operating cycle, consisting of 3 put years followed by 4 hold years and 3 take (extractions from Basin storage) years. The modified project would result in a significant impact to the Basin if it would result in MPI or an adverse impact as defined by Watermaster in their 2020 OBMP Storage Management Plan (2020 SMP). MPI means material physical injury that is attributable to the Recharge, Transfer, storage and recovery, management, movement or Production of water, or implementation of the OBMP, including, but not limited to, degradation of water quality, liquefaction, land subsidence, or increases in pump lift (lower water levels). Adverse impacts, as defined by Watermaster in their 2020 SMP, could be triggered with an adverse change in net recharge[8] and Safe Yield and/or loss of Hydraulic Control[9].

Based on the data contained in the West Yost report (Appendix 1) and as shown below in Table 1 (repeated here from the Project Description), no significant impacts on the Basin would occur as a result of the modified project. Note that there is a change in net recharge equal to a reduction of an average of 600 AFY for the period of 2019 through 2032. Further, the cumulative reduction in net recharge for the LSLS scenario before 2032 is projected to be completely offset by 2050. This is because the exercise of the LSLS, when compared to the SYR1 scenario[10] (the baseline scenario upon which the LSLS is compared) results in 41,380 AF more water being pumped from the Basin as a result of takes assumed to occur in the 3 years prior to the termination of the DYYP in 2028. Ultimately, net recharge begins to balance after the termination of the DYYP when compared to the SYR1 scenario, and an increase in net recharge occurs after 2032 in the LSLS scenario when compared to the SYR1 scenario. By 2050, the net recharge in the LSLS scenario is greater than the SYR1 scenario by about 500 afy. In sum, while the proposed increase in Safe Storage Capacity would result in a temporary reduction in net recharge, in the context of the water available to the Parties within the Basin and the prospective calculation of the Safe Yield, this

[8] Net recharge, as used herein, is the exploitable inflow to a groundwater basin over a specified period, either under historical conditions or in a future projection under prescribed operating conditions, and it is a result of the hydrology, cultural conditions, and water management practices of the time period.
[9] Hydraulic Control is the elimination of groundwater discharge from the Chino-North Groundwater Management Zone to the Santa Ana River or its reduction to less than 1,000 afy.
[10] To evaluate the Basin response to the LSLS, a model scenario was developed by West Yost (refer to Appendix 1) to simulate the puts and takes of the Judgment Parties that implement the DYYP in addition to the baseline behavior modeled in the 2020 Safe Yield Recalculation Final Report prepared by Wildermuth Environmental, Inc "SYR1 scenario" (referenced herein as the SYR1 scenario) used in the 2020 Safe Yield recalculation.

change is approximately 0.3%. This miniscule change is not a physical adverse impact to the Basin. Therefore, because this impact is an economic impact to the Parties, the change does not trigger an adverse environmental impact. Moreover, it cannot be considered to be a substantial decrease to groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Basin. As far as other potential significant impacts to the Basin, no new pumping sustainability challenges are projected to occur, no new land subsidence is projected to occur, Hydraulic Control is projected to be maintained through 2035, and the LSLS scenario results in a negligible impact on the direction and speed of known plumes. Based on this information, the modified project does not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the modified project may impede sustainable groundwater management of the Basin.

Additionally, the reversion to 500,000 AF after 2035 is not projected to result in MPI or an adverse impact on the Basin as defined by Watermaster in their 2020 SMP. The modeling prepared as part of the West Yost report (Appendix 1) indicates that, because of Watermaster's continuous monitoring of the Basin, processes and procedures that require updating the Safe Yield at least every 10 years, and Watermaster's evaluation of the storage management plan and individual storage and recovery programs, no significant environmental impacts are projected to occur upon the reversion of Safe Storage Capacity to 500,000 AF in July of 2035 should no updates of the Safe Storage Capacity be completed in the interim period.

Table 1
SUMMARY OF POTENTIAL MPI AND ADVERSE IMPACTS[1]

Potential Adverse Impact/MPI Category	Will potential adverse impacts or MPI in the LSLS scenario occur through 2035 such that a significant environmental impact would occur?	Comment
Net recharge and Safe Yield	No. (A) This is a minor economic impact to the Parties; (B) This economic impact is offset by the OBMP's prospective recalculation of the Safe Yield on a going forward basis.	The LSLS scenario will temporary reduce net recharge of 600 AFY from 2019 through 2032. This is not an environmental impact, but rather an adverse economic impact to the Parties that can be mitigated by the prospective recalculation of the Safe Yield under the OBMP. The reduction in net recharge through implementation of the LSLS scenario will diminish over time and is projected to be completely offset by 2050. By 2050, the net recharge in the LSLS scenario increases when compared to the baseline scenario by about 500 AFY.
Pumping sustainability	No	No new pumping sustainability challenges are projected to occur
New land subsidence	No	No new land subsidence is projected to occur.
State of Hydraulic Control	No	Hydraulic Control is projected to be maintained through 2035.
Direction and speed of known plumes	No	The LSLS scenario results in a negligible impact on the direction and speed of known plumes.

Source: West Yost Evaluation of the Local Storage Limit Solution, Prepared for Chino Basin Watermaster
[1]Adverse impact here is as defined in Watermaster's 2020 SMP

The modified project would not result in any visible above ground impacts because it will only utilize existing facilities to convey additional water to the Basin. As such, it is not anticipated to substantially alter the existing drainage pattern of the Chino Basin, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation onsite or offsite, result in flooding onsite or offsite, exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff or impede or redirect flood flows. Furthermore, it is not anticipated that the modified project would result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

Watermaster and the IEUA are co-permittees for the Chino Basin maximum-benefit SNMP incorporated in the Basin Plan. The 2000 OBMP included PE 7—*Develop and Implement Salt Management Plan*—to characterize current and future salt and nutrient conditions in the basin and to subsequently develop and implement a plan to manage them. The salt management plan, as described in the 2000 OBMP PEIR, consisted of computing a salt budget for existing conditions as the baseline, developing alternatives to reflect the OBMP Implementation, and computing the salt budget for these alternatives to ensure that Watermaster reduced the salt loading then projected to occur in the Chino Basin. In 2002, Watermaster and the IEUA petitioned the Regional Board to establish a maximum benefit-based SNMP that defines the management actions that Watermaster and IEUA must take to manage total dissolved solids (TDS) and nitrate concentrations in Chino Basin groundwater and in the IEUA's recycled water and the TDS and nitrate concentration limitations for recycled water reuse activities. The maximum benefit SNMP was incorporated into the Basin Plan by the Regional Board in January 2004 and implementation of the maximum benefit SNMP is a regulatory requirement of the Basin Plan.

The modified project will ensure that the Basin is operated such that there is no conflict with or obstruction of the Basin Plan. The intent of the increase in Safe Storage Capacity is to enable the Watermaster parties and DYYP to utilize managed storage in a manner that promotes sustainable management of the Basin, thereby avoiding of MPI. Based on the preceding discussion, the modified project would comply with the Basin Plan and is therefore not anticipated to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Therefore, based on the available data regarding the current state of the Basin (West Yost's report, Appendix 1), by operating existing facilities as they are currently managed and by implementing all applicable mitigation to protect the water quality and management of the Basin, the cumulative impact findings would remain effectively unchanged as a result of implementing the modified project.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR or that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potential impacts under Hydrology and Water Quality. None of the changes or additions proposed as part of the modified project would result in new significant impacts related to hydrology and water quality such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

I. Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Discussion

Land use issues are discussed in Chapter 4.2 of the 2000 OBMP PEIR. The PEIR concluded that implementation of the OBMP will result in direct physical change to existing land uses within the Basin. The potential environmental impacts from implementing the OBMP were divided into two categories: specific projects requiring construction, and indirect responsibility for future growth that could be assigned to OBMP implementation. The modified project will not result, directly or indirectly, in future growth. The modified project will meet future, planned demand for water in the region and the additional storage in the Basin will provide storage for water during periods of drought. The modified project would provide the Parties the flexibility to store a greater amount of water during wet years, and pump water from the basin with a greater groundwater supply in dry years. The 2000 OBMP PEIR identified mitigation that provided guidance for where OBMP projects could be located and implemented. Thus, given that the modified project would not result in the development of aboveground facilities to enable implementation of the increased Safe Storage Capacity of the Basin, the modified project would have no greater potential to physically divide an established community or conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect than that which was projected in the 2000 OBMP PEIR. As such the modified project is not anticipated to cause any further land use and planning impacts that were not envisioned or discussed as part of the original project.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR or that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potential impacts under Land Use and Planning. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential land use and planning impacts such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

J. Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Noise is discussed in Chapter 4.11 of the 2000 OBMP PEIR. The evaluation of noise in the PEIR was based on the potential for future OBMP projects to generate noise in the short term through construction and in the long term through project operation of OBMP facilities resulting in changes in the noise environment surrounding the project area. Another issue of concern was the potential for the OBMP to contribute to the cumulative or general increase in noise that accompanies urban growth and development, however, based on the analysis in the PEIR, no potential existed for implementation of the OBMP to cause or contribute to significant adverse growth in the Basin or cause a different future noise environment than what each Agency or City planned for. The modified project does not require the construction of new facilities to reach this level of storage in the Basin. Instead, existing facilities throughout the Basin will be utilized over time to store up to 700,000 AF through June 30, 2030, decreasing to 620,000 AF from July 1, 2030 through June 30, 2035, the implementation of which would not result in any new or greater noise generation beyond the limits deemed allowable by the jurisdiction within which a facility is located. Furthermore, no new or greater noise generation beyond that which was analyzed and mitigated in the 2000 OBMP PEIR would occur under the modified project. Given that the modified project would not result in the development of aboveground facilities to enable implementation of the increased Safe Storage Capacity of the Basin, the modified project would have no greater potential to result in a significant potential for generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, generation of excessive groundborne vibration or groundborne noise levels, or exposure people residing or working in the project area to excessive noise levels as a result of proximity to a nearby airport than that which was projected in the 2000 OBMP PEIR. Thus, implementation of the modified project is not forecast to result in generation of or exposure of persons to excessive, and no cumulatively considerable impacts will result from the modified project.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR or that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potential impacts under Noise. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential noise generation/exposure impacts such that a significant adverse impact would occur. Therefore, the

modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

K. Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

Population and Housing are discussed in Chapter 4.3 of the 2000 OBMP PEIR. The PEIR concluded that water does not serve as a constraint to growth within the Basin. Generally, the provision of effective planning and management of the groundwater basin and water resources thereof is considered beneficial to the region, and enables jurisdictions utilizing Basin water to plan for future growth more effectively. As such, the modified project would not result in a new or greater potential to result in inducing population either directly or indirectly. The PEIR put forth one mitigation measure to ensure that if any specific projects displaced housing or persons, short- and long-term housing would be made available to any affected persons. The modified project does not require the construction of new facilities. Instead, existing facilities throughout the Basin will be utilized over time to store up to 700,000 AF at the maximum, as such, the modified project would have no potential to displace persons or housing. Therefore, because water does not serve as a constraint to growth in the Basin, and the proposed increase in the Safe Storage Capacity of the Basin will not represent a new supply of water, the modified project has no potential to result in impacts to population and housing or otherwise cumulatively effect population or housing within the project area.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR, and therefore, the modified project would not create any new potential impacts under Population and Housing. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential population and housing impacts such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

L. Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact or Does Not Apply**
a) Fire protection?	☐	☐	☐	☒
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Discussion

Public Services is discussed in Chapter 4.12 of the 2000 OBMP PEIR. Based on the analysis presented in the PEIR, implementation of the OBMP was not forecast to cause any direct or indirect significant adverse public service impacts. The 2000 OBMP PEIR offered one mitigation measure designed to prevent adverse impacts to police resources through requiring OBMP facilities to be constructed with fencing to prevent trespass. The modified project does not require the construction of new facilities. Instead, existing facilities throughout the Basin will be utilized over time to store up to 700,000 AF at a maximum, as such, the modified project would therefore have no impacts to demand for public services and would not require implementation of PEIR mitigation. The modified project would only have a potential to result in a significant impact under public services if it was to result in a greater demand for police protection, fire and emergency services, schools, parks, or other public facilities beyond their respective capacities. As such, given that the modified project would utilize existing facilities and systems to convey water to contribute to the additional storage capacity of the Basin, no greater demand on public services beyond that which was analyzed in the 2000 OBMP PEIR is anticipated to occur under the modified project.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR, and therefore, the modified project would not create any new potential impacts under Public Services. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential public services impacts such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

M. Transportation

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous inter-sections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

Discussion

Transportation and Circulation, now referred to as Transportation, is discussed in Chapter 4.7 of the 2000 OBMP PEIR. According to the data compiled in the PEIR, implementation of the OBMP was not forecast to substantially increase the traffic load or alter the carrying capacity of street systems in the Basin area. Installation and construction of pipelines and the proposed desalters were forecast to cause short-term construction impacts to the existing circulation system, and mitigation measures were identified in the PEIR to ensure that these construction activities would not create a significant adverse impact. Given that the modified project does not require the construction of new facilities to reach this level of storage in the Basin because existing facilities will be utilized, the modified project would therefore have no impacts under transportation and would not require implementation of PEIR mitigation. Furthermore, given that the modified project would not result in any further construction and would not result in any additional trips beyond those identified in the 2000 OBMP PEIR, the modified project would have no greater potential to conflict with a program, plan, ordinance or policy addressing the circulation system, conflict or be inconsistent with regulations pertaining to vehicle miles traveled, substantially increase hazards due to a geometric design feature or incompatible uses, or result in inadequate emergency access than that which was projected in the 2000 OBMP PEIR. As such the modified project is not anticipated to cause any further transportation impacts that were not envisioned or discussed as part of the original project.

Ultimately, the would therefore have no impacts under transportation would not increase the level of any transportation impacts previously identified in the 2000 OBMP PEIR or that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potential impacts under Transportation. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential transportation impacts such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

N. Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion

Utilities, now referred to as Utilities and Service Systems, are discussed in Chapter 4.13 of the 2000 OBMP PEIR. The PEIR concluded that implementation of the OBMP would not cause any direct or indirect significant adverse impacts with the implementation of several mitigation measures pertaining to the following issues: water supply, solid waste, wastewater, natural gas, and electricity. A significant majority of these mitigation measures addressed concerns with constructing new facilities as part of the OBMP, which is not applicable to the modified project because no new construction is proposed. As previously stated, the PEIR determined that the OBMP would not contribute to future growth because it replaces existing sources of water and water resources management, and provision of future water was determined to be growth accommodating, not growth inducing. The modified project would not result in greater demand for water, wastewater, stormwater, electricity, natural gas, or telecommunications systems located within the Basin. Furthermore, given that the modified project would not require new construction of any kind to facilitate the ability for the Parties' to utilize the increased storage capacity of the Basin, no potential exists for the modified project to require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects; result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments; generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or fail to comply with federal, state, and local management and reduction statutes and regulations related to solid waste. The additional water will be conveyed to the Basin through existing facilities. As such the modified project is not anticipated to cause any further utilities and service systems impacts that were not envisioned or discussed as part of the original project.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR or that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potential impacts under Utilities and Service Systems. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential utilities and service systems impacts such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

VI. ISSUES NOT ANALYZED IN THE 2000 EIR

The environmental significant impact thresholds discussed in this Section were not analyzed in the 2000 OBMP PEIR. This discussion provides information to show that although these issues were not analyzed in the PEIR, they do not qualify as new information that results in a new, significant impact. The issues, including Agriculture and Forestry Resources, Greenhouse Gas (GHG), Mineral Resources, Recreation, Tribal Cultural Resources, and Wildfire are discussed in greater detail below.

A. Agriculture and Forestry Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion

Agricultural and Forestry Resources has been added to Appendix G in the years since the OBMP PEIR was adopted, although Agricultural Resources are discussed under Land Use in Chapter 4.2 of the PEIR. The Chino Basin contains substantial agricultural resources, and the PEIR identified mitigation measures to ensure that much of the agricultural land within the Basin was protected from development as a result of OBMP projects. Implementation of the modified project will not adversely impact any agricultural resources. The increase in storage in the Chino Basin is not forecast to cause any adverse impact to important farmland either directly (such as removal from production) or indirectly through enhancing land values that could cause the transition of

important farmland to other uses. As previously stated, the modified project will use existing facilities to convey water to the Basin, so no agricultural resources or forestry resources located within or outside of the Chino Basin will be affected as a result of the modification put forth in this Addendum. Thus, implementation of the modified project is not forecast to result in any new or greater impacts to agriculture or forestry resources beyond those identified in the 2000 OBMP, and further, with no new facilities proposed, impacts related specifically to the modified project would not in and of itself result in any impacts to agriculture or forestry resources and no cumulatively considerable impacts will result from the modified project.

Ultimately, the modified project would not increase the level of any impacts previously identified in the 2000 OBMP PEIR, and would not create any new potential impacts under Agriculture and Forestry Resources. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in previously identified impacts to agricultural or forestry resources. Therefore, the proposed modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

B. Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

Greenhouse Gas Emissions has been added to Appendix G in the years since the OBMP PEIR was adopted. The 2000 PEIR did not evaluate potential impacts related to GHG emissions, although climate change was known as of the time of the PEIR, and as such, GHG emissions does not qualify as new information under CEQA Guidelines Section 15162. (See *Citizens for Responsible Equitable Environmental Development v. City of San Diego* (2011) 196 Cal.App.4th 515, 530-31 (quoting *Massachusetts v. E.P.A.* (2009) 549 U.S. 497, 507) [potential environmental impact of GHG emissions does not constitute new information].) The modified project will utilize existing facilities to convey additional water to store in the Basin at a level commensurate with the existing storage efforts. This is because Watermaster has indicated that the intent of the increase in Safe Storage Capacity is to enable incremental increase in Safe Storage Capacity over an extended period, and enable flexibility for the Parties to store or pump water depending on the circumstances occurring in the Basin in a given year. Without the implementation of the modified project, continuation of the OBMP "business as usual" scenario would result in the Parties' available managed storage to be reduced such that a greater reliance on imported water would occur. Utilization of imported water is energy intensive because it requires transportation from outside of the Basin. As such, the baseline scenario would result in greater energy utilization than that which would be utilized under the modified project as a result of energy savings that would accrue to all of the Parties that would not have to purchase imported water or would have to purchase less imported water in the future as a result of the increased Safe Storage Capacity.[11]

[11] Refer to Appendix 3, GHG Memo provided by West Yost and Tom Dodson & Associates.

As such, no greater usage of existing facilities beyond that which is presently allowable by the Party's individual systems is anticipated to be required as a result of the modified project, which therefore would ensure that no additional GHG emissions will occur beyond those that would have occurred under the conditions set forth in the OBMP PEIR. Given that the modified project would not result in the development of aboveground facilities to enable implementation of the increased Safe Storage Capacity of the Basin, the modified project would have no greater potential to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs than that would have occurred commensurate with the development proposed under the OBMP PEIR. Thus, implementation of the modified project is not forecast to result in significant GHG emissions and no cumulatively considerable impacts will result from the modified project.

Ultimately, the modified project would not increase the level of any GHG impacts that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potentially significant impacts under Greenhouse Gas. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in GHG emissions such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

C. Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

Mineral Resources has been added to Appendix G in the years since the OBMP PEIR was adopted. However, the topic of Geologic Resources / Constraints discussed mineral resources in the 2000 OBMP PEIR in Chapter 4.4. The potential impacts to mineral resources identified in the PEIR pertained to constructing new recharge basins or recharge wells in areas that would conflict with policies for retaining access to such mineral resources. No mitigation pertaining to mineral resources was identified in the PEIR, and no mitigation will be required as part of the modifications proposed as part of this Addendum. The modified project would not require the installation of new facilities. Instead, existing facilities throughout the Basin will be utilized over time to store up to 700,000 AF at a maximum, as such, the modified project would not have a potential to impact mineral resources resulting in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state or the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Thus, implementation of the modified project is not forecast to result in significant impacts to mineral resources and no cumulatively considerable impacts will result from the modified project.

Ultimately, the modified project would not increase the level of any mineral resource impacts that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potentially significant impacts under Mineral Resources. None of the changes or additions proposed as part of the modified project would result in new significant impacts to mineral resources such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

D. Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

Recreation has been added to Appendix G in the years since the OBMP PEIR was adopted, though Public Services is discussed in Chapter 4.12 of the 2000 OBMP PEIR. Based on the analysis presented in the PEIR, implementation of the OBMP was not forecast to cause any direct or indirect significant adverse public service impacts. The modified project does not require the construction of new facilities. Instead, existing facilities throughout the Basin will be utilized over time to store up to 700,000 AF at a maximum. The modified project would only have a potential to result in a significant impact under recreation if it was to result in a greater demand for neighborhood and regional parks such that construction of a recreational facility would be accelerated, or require construction of new recreational facilities that might result in a significant impact on the environment. As such, given that the modified project would utilize existing facilities and systems to convey water to contribute to the additional storage capacity of the Basin, no new recreation facilities would be required, and no demand on recreation facilities would increase such that a significant impact would occur.

Ultimately, the modified project would not increase the level of any recreational impacts previously identified in the 2000 OBMP PEIR, and therefore, the modified project would not create any new potential impacts under Recreation. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential recreation impacts such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

E. Tribal Cultural Resources

Would the project cause a substantial change in the significance of tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the California Native American tribe, and that is:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact or Does Not Apply**
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

Discussion

Tribal Cultural Resources has been added to Appendix G in the years since the OBMP PEIR was adopted, although the Cultural Resources evaluation in the 2000 OBMP PEIR is provided in Chapter 4.14. New CEQA Guidelines do not constitute new information under CEQA Guidelines Section 15162 where the underlying issue was known or could have been known at the time the original EIR was certified. (*Concerned Dublin Citizens v. City of Dublin* (2013) 214 Cal.App.4th 1301, 1320.) Here, issues related to Native American cultural resources were known at the time that the PEIR was certified. Under the original project, as described in the 2000 OBMP PEIR, any activities associated with the OBMP that required the excavation or movement of soil material at any location within the project area could have the potential to adversely affect cultural resources, including Native American cultural resources. As previously stated, the modified project will not require any additional infrastructure. The mitigation measures required to minimize impacts to cultural resources below significance thresholds addressed ground disturbance activities, and no ground disturbing activities are proposed as part of the modified project. Thus, given that the modified project would not result in the development of aboveground facilities to enable implementation of the increased Safe Storage Capacity of the Basin, the modified project would have no greater potential to result in a substantial adverse change in the significance of a tribal cultural resource than that which would have occurred commensurate with the development proposed under the OBMP PEIR. Thus, implementation of the modified project is not forecast to result in significant impacts to tribal cultural resources and no cumulatively considerable impacts will result from the modified project.

Ultimately, the modified project would not increase the level of any tribal cultural resource impacts that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, none of the changes or additions proposed as part of the modified project would result in new significant impacts to tribal cultural resources such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

F. Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Discussion

Wildfire has been added to Appendix G in the years since the OBMP PEIR was adopted. The PEIR analyzed the risk of Wildfire Hazards and Risk of Upset, Section 4.10. The 2000 OBMP PEIR concluded that the OBMP would enhance the existing water infrastructure systems in the Chino Basin, which would reduce wildfire risk, and therefore had no potential to increase wildfire hazards. The modified project is considered a beneficial impact to water resources because it allows more water to be stored in the Basin for the agencies and Parties that are stakeholders in the Watermaster programs to store water for future use, particularly in times of drought. The highly urbanized portion of the Chino Basin and the Prado Wetlands have been designated by the Cal Fire as less than high or very high fire hazard severity zones. Almost all “high” or “severe” wildland fire hazard areas are located on the edges of the Chino Basin, or adjacent to isolated hills (Jurupa Hills) that interrupt the slope of the Chino Basin alluvial fan. The infrastructure proposed by the OBMP are generally located in areas with at most moderate wildland fire hazards. Given that the modified project does not require the construction of new facilities to reach this level of storage in the Basin, and instead would utilize existing facilities throughout the Basin to store up to 700,000 AF at a maximum, the modified project would have no potential to exacerbate fire risks beyond those that would have occurred as OBMP facilities were developed or exist at present as a result of operation of OBMP facilities. Generally, the modified project would be a benefit to wildfire protection by providing greater storage capacity in the Basin for use in the event of wildfire. Thus, implementation of the increase in Safe Storage Capacity of the Basin is not forecast to result in significant impacts to wildfire and no cumulatively considerable impacts will result from the modified project.

Ultimately, the modified project would not increase the level of any wildfire impacts that could be reasonably forecast to occur under the significance thresholds identified under Appendix G, and therefore, the modified project would not create any new potentially significant impacts under Wildfire. None of the changes or additions proposed as part of the modified project would result in new significant impacts or a substantial increase in potential wildfire impacts such that a significant adverse impact would occur. Therefore, the modified project does not meet the standards requiring a subsequent or supplemental EIR pursuant to the CEQA Guidelines, Section 15162.

VII. MITIGATION, MONITORING, AND REPORTING PROGRAM

The modified project shall be required to comply with all mitigation measures identified within the OBMP PEIR. The following Mitigation Monitoring and Reporting Program (MMRP) identifies measures that specifically apply to the modified project.

4.4-6 ***If a conjunctive use program might be implemented that would bring water levels up to a level that significantly increases the risk of liquefaction, a more detailed monitoring and geologic study focused on this issue will be conducted to determine whether or not liquefaction poses a hazard to surface structures and to human safety. If such a study finds the impacts to be significant, the volume of water permitted to be stored in the basin will be decreased sufficiently until a water level is achieved that does not pose any significant hazard to surface structures or people.***

4.4-13 ***Continue to identify and study subsidence hazards and susceptible areas, and propose mitigation technology that is appropriate to the findings of the monitoring study. The implementation of OBMP facilities shall not in any way contribute to subsidence conditions in pre-existing subsidence zones (as shown in Figure 4.4-16). The OBMP will not cause or contribute to any new, significant subsidence impacts greater than a total of six inches in magnitude over the planning period. Impacts less than 6 inches in new areas are considered to be less than significant.***

4.5-4 ***In compiling local and in lieu groundwater storage balances, the Watermaster will include the estimated amount of water lost from the Basin due to rising water at the low end of the Basin and adjust storage salt balance accounts accordingly.***

4.5-6 ***For long-term mitigation of site disturbances at OBMP facility locations, all areas not covered by structures will be covered with hardscape (concrete, asphalt, gravel, etc.), native vegetation and/or man-made landscape areas (for example, grass). Revegetated or landscaped areas will provide sufficient cover to ensure that, after a two year period, erosion will not occur from concentrated flows (rills, gully, etc.) and sediment transport will be minimal as part of sheet flows. These measures and requirements will be applied to closure of abandoned well site disturbed areas.***

4.5-12 ***When recharge of State Project Water (SPW) or recycled water with TDS greater than the background groundwater TDS or the Basin Plan water quality objective is utilized at a recharge site, the entity conducting the recharge will conduct additional analysis including modeling to identify the volume and rate of recharge that can be conducted without causing the Basin Plan water quality objective for TDS to be exceeded. In addition, the amount of additional salt added to the Basin above the background groundwater quality condition will be calculated and the greater of the two amounts will be offset, either by blending with lower TDS water (storm water) provided that the assimilative capacity of the storm water has not already been allocated as more thoroughly described in mitigation measure 4.5-8. The program could utilize SWP water for recharge when such water is available and when such water is better in quality than recycled water (i.e. lowest TDS). Under no circumstance will discharge of SPW or recycled water cause or contribute to a cumulative violation of Basin Plan water quality objectives or interfere with a designated beneficial use for a water or groundwater body.***

4.5-14 ***When recharge of recycled water with TIN greater than the background groundwater TIN or the Basin Plan objective at a recharge site is utilized, the entity conducting the recharge will conduct modeling and/or additional studies to identify the volume and rate of recharge that can be conducted without causing the Basin Plan water quality objective for TIN to be exceeded. Under no circumstance will discharge of SPW or recycled water cause or contribute to a cumulative violation of Basin Plan water quality objectives or interfere with a designated beneficial use for a water or groundwater body.***

4.5-19 ***Among the alternatives available to reduce or control adverse effects caused by recharge is the use of injection of water of higher quality to resident poor quality groundwater to serve as a barrier against the migration of the poor quality groundwater.***

4.8-10 ***The amount of water taken from or added to the Santa Ana River will be coordinated where possible to maintain the water level below the 505' elevation mark but above the 498' mark. If weather and hydrologic forecasts and reservoir conditions indicate that the pool elevation may exceed 505' because of a projected disparity between inflow and outflow, the water control manager at the Reservoir Operation Center shall take all steps necessary (including immediate release of water at the maximum possible rate to prevent the pool elevation from exceeding 505', or to reduce the amount of time the pool is above 505' (if, in fact, the maximum possible release rate does not succeed in keeping the pool elevation below 505'). This mitigation measure will help to ensure the preservation of critical habitat for the least Bell's vireo, and preservation of associated riparian resources.***

4.10-11 ***All recycled water recharge operations shall be monitored, and if impacts that were not forecast to occur demonstrate that the recharge operations are causing a significant adverse impact on the groundwater aquifer, the recycled recharge operations shall be terminated or modified to eliminate the adverse impact.***

4.13-12 ***The conservation of water should be of significant concern to all citizens in Southern California, and some conservation proceedings are presently mandated by state legislation. As such, the following measures should be implemented for all Plan related construction projects when appropriate to comply with state legislation:***

- ***Plumbing fixtures that reduce water usage should be utilized (i.e., low-volume toilet tanks, flow-control devices for faucets and shower heads) in accordance with Title 24 of the California Administrative Code.***
- ***The use of drought-tolerant plant species and drip irrigation systems should be considered in order to reduce water usage.***
- ***Installation of ultra-low flush toilets in all new construction should occur.***
- ***Installation of low-flow showers and faucets in accordance with California Administrative Code, Title 24, Part 6, Article 1, T20-1406F should occur.***
- ***Recommendations to be implemented where applicable:***

<u>Interior</u>

- ***Supply line pressure: recommend water pressure greater than 50 psi be reduced to 50 psi or less by means of pressure-reducing valve.***
- ***Flush valve operated water closets: recommend three gallons per flush.***
- ***Drinking fountains: recommend installation of self-closing valves.***
- ***Pipe insulation: recommend all hot water lines in dwelling units be insulated to provide hot water quickly with less water and to prevent hot pipes from heating cold pipes.***

<u>Exterior</u>

- ***A Preserve and protect existing trees and shrubs. Established plants are often adapted to low water conditions and their use saves water needed to establish replacement vegetation.***
- ***Group plants of similar water use to reduce over-irrigation of low-water-using plants.***
- ***Provide information to occupants regarding benefits of low-water-using landscaping and sources of additional assistance.***
- ***Use pervious paving material whenever feasible to reduce surface water runoff and to aid in ground water recharge.***
- ***Grade slopes so that runoff of surface water is minimized.***

VIII. SIGNIFICANT UNMITIGATED IMPACTS

There are no new significant impacts resulting from the modified project and there would not be a substantial increase in the severity of previously identified environmental impacts in the 2000 OBMP PEIR.

IX. CONCLUSION

The information presented in the 2000 PEIR—prepared for Inland Empire Utilities Agency on behalf of the Watermaster—was used as a basis for the analysis in this Addendum No. 2, updated with current information from sources cited, referenced, and attached. Upon review of the 2000 PEIR, the information and findings in this Addendum and all supporting evidence, it is the conclusion of this Addendum that the potential adverse environmental impacts from implementing the modified project, as described in the Project Description of this document, will not cause any new or more significant impacts to the environment than described in the 2000 PEIR and summarized in this Addendum. There are no new significant impacts that result from the modified project, based on continuing to implement all of the mitigation measure commitments identified in the 2000 PEIR, when required. This Addendum provides an update to the Optimum Basin Management Program through the following modification to the original PEIR: an increase the Safe Storage Capacity of the Chino Basin to 700,000 AF through June 30, 2030, decreasing to 620,000 AF from July 1, 2030 through June 30, 2035.

This Addendum provides Inland Empire Utilities Agency, Watermaster, and stakeholders with new and updated information substantiating the conclusion that the modified project will not cause substantial physical changes to the environment that would require preparation and processing of a new negative declaration or a new environmental impact report. Such documentation would only be required due to the involvement of new significant environmental effects or substantial increase in the severity of previously identified significant effects from implementing the original project. The facts and findings cited above and provided in this Addendum allow IEUA to use an Addendum to analyze the potential environmental impacts of the modified project in accordance with Section 15164(b) of the State CEQA Guidelines.

Due to the lack of significant impacts identified, no new CEQA findings are required with the modified project. Therefore, in accordance with Public Resources Code Section 21166 and Section 15162 of the State CEQA Guidelines, no new EIR shall be prepared for the modified project. The modified project does not substantially alter the conclusions contained in the PEIR as adopted by IEUA in 2000 or any subsequent environmental documentation. The analysis presented above of the modification to the adopted project justifies the issuance of an Addendum to IEUA's original 2000 PEIR.

This Addendum No. 2 to the PEIR includes the changes or additions necessary to make the adopted environmental document adequate under CEQA for the modified project. This Addendum incorporates the adopted 2000 PEIR, this document, and all staff reports and information submitted to the decision-makers regarding environmental issues affected by the modified project. This Addendum No. 2 is intended as a document containing additional information to provide decision makers and others, as appropriate, with an objective assessment of the potential environmental impacts associated with the implementation of the modified project.

X. REVIEW AUTHORITY

IEUA serves as the CEQA lead agency for the modified project. It is recommended that Addendum No. 2 be certified as the appropriate CEQA environmental determination for the proposed modification of the Optimum Basin Management Program to increase the Safe Storage Capacity of the Chino Basin to 700,000 AF through June 30, 2030, decreasing to 620,000 AF from July 1, 2030 through June 30, 2035.

XI. CERTIFICATION

Sylvie Lee P.E., Manager of Strategic Planning and Resources
Inland Empire Utilities Agency

XII. REFERENCES

Previous Environmental Documents

Final Program Environmental Impact Report for the Optimum Basin Management Program (SCH#200041047), July 2000 prepared by Tom Dodson & Associates (2000 OBMP PEIR)

Final Subsequent Environmental Impact Report for Inland Empire Utilities Agency Peace II Project (SCH#2000041047), September 2010 prepared by Tom Dodson & Associates (2010 Peace II SEIR)

IEUA Addendum to 2000 OBMP PEIR, March 2017 prepared by Tom Dodson & Associates (2017 OBMP Addendum)

Referenced Documents

California, *2019 CEQA California Environmental Quality Act*. 2019

California Department of Forestry and Fire Protection, California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) Fire Hazard Severity Zone (FHSZ) Viewer, Available at: https://egis.fire.ca.gov/FHSZ/, Accessed January 11, 2021

California Air Resources Board, *California's 2017 Climate Change Scoping Plan*. https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017_es.pdf, Accessed January 11, 2021

South Coast Air Quality Management District, *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* http://www.aqmd.gov/hb/2008/December/081231a.htm, Accessed January 11, 2021

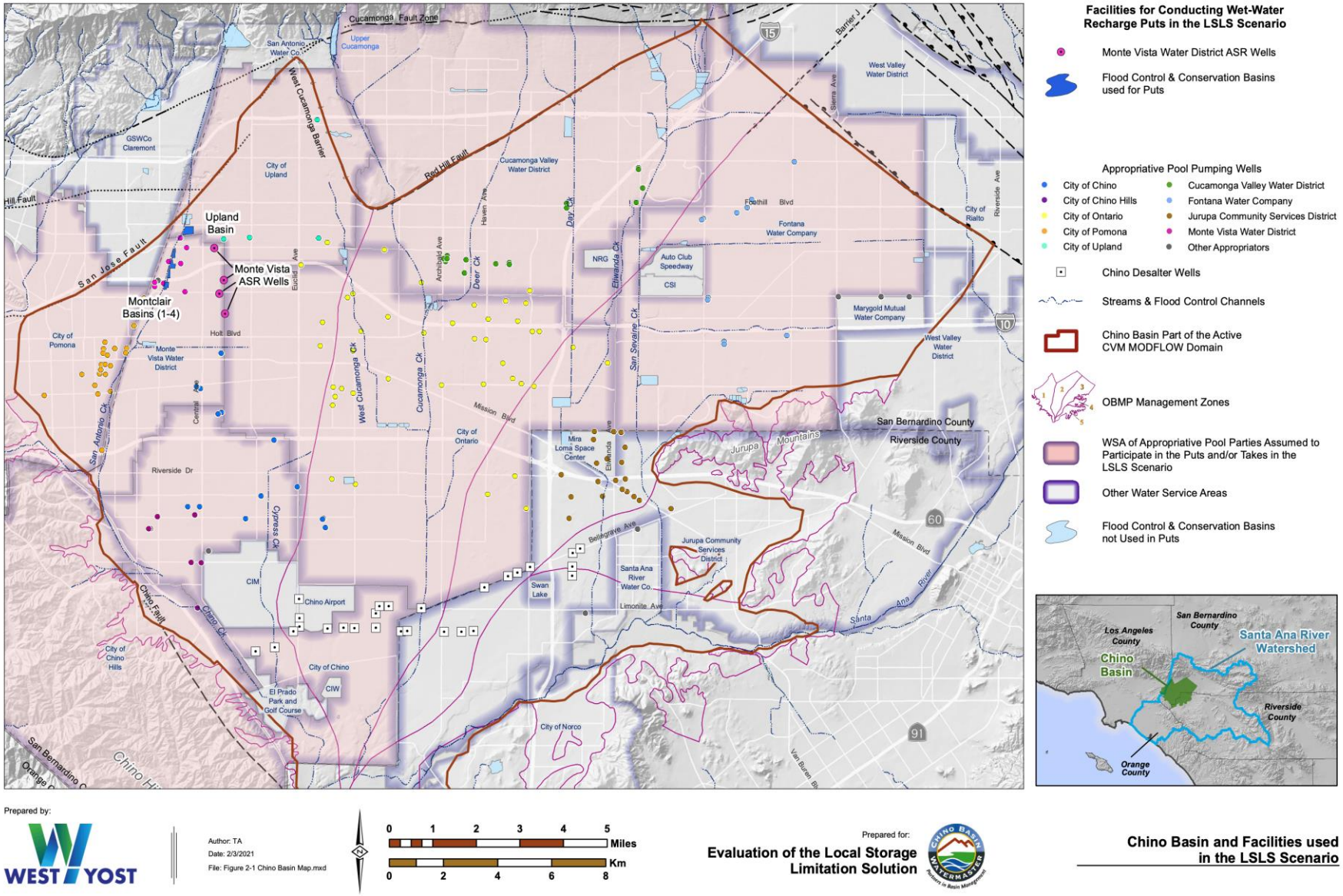
West Yost, *Evaluation of the Local Storage Limit Solution.* February 2021 (Appendix 1)

West Yost and Tom Dodson & Associates, *Memorandum: Energy Utilization under the Proposed Local Storage Limit Solution*. February 2021 (Appendix 3)

Appendices

- Appendix 1: Evaluation of the Local Storage Limit Solution prepared by West Yost dated January 2021
- Appendix 2: List of Pools
- Appendix 3: Memorandum: Energy Utilization under the Proposed Local Storage Limit Solution prepared by West Yost and Tom Dodson & Associates, dated February 2021

FIGURES

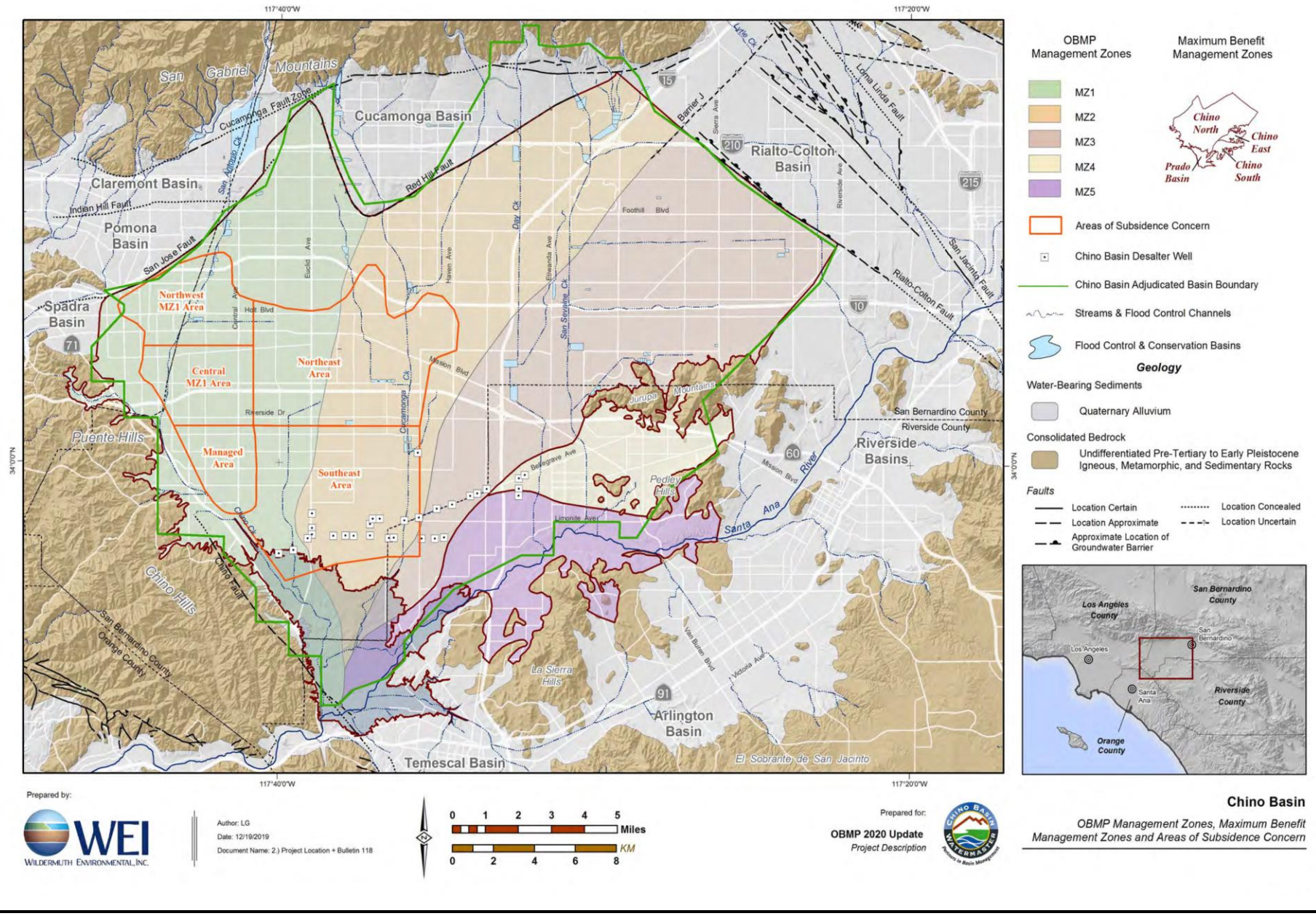


SOURCE: West Yost, "Evaluation of the Local Storage Limitation Solution, Final Report February 2021

FIGURE 1

Tom Dodson & Associates
Environmental Consultants

Chino Basin and Facilities Used in the LSLS Scenario

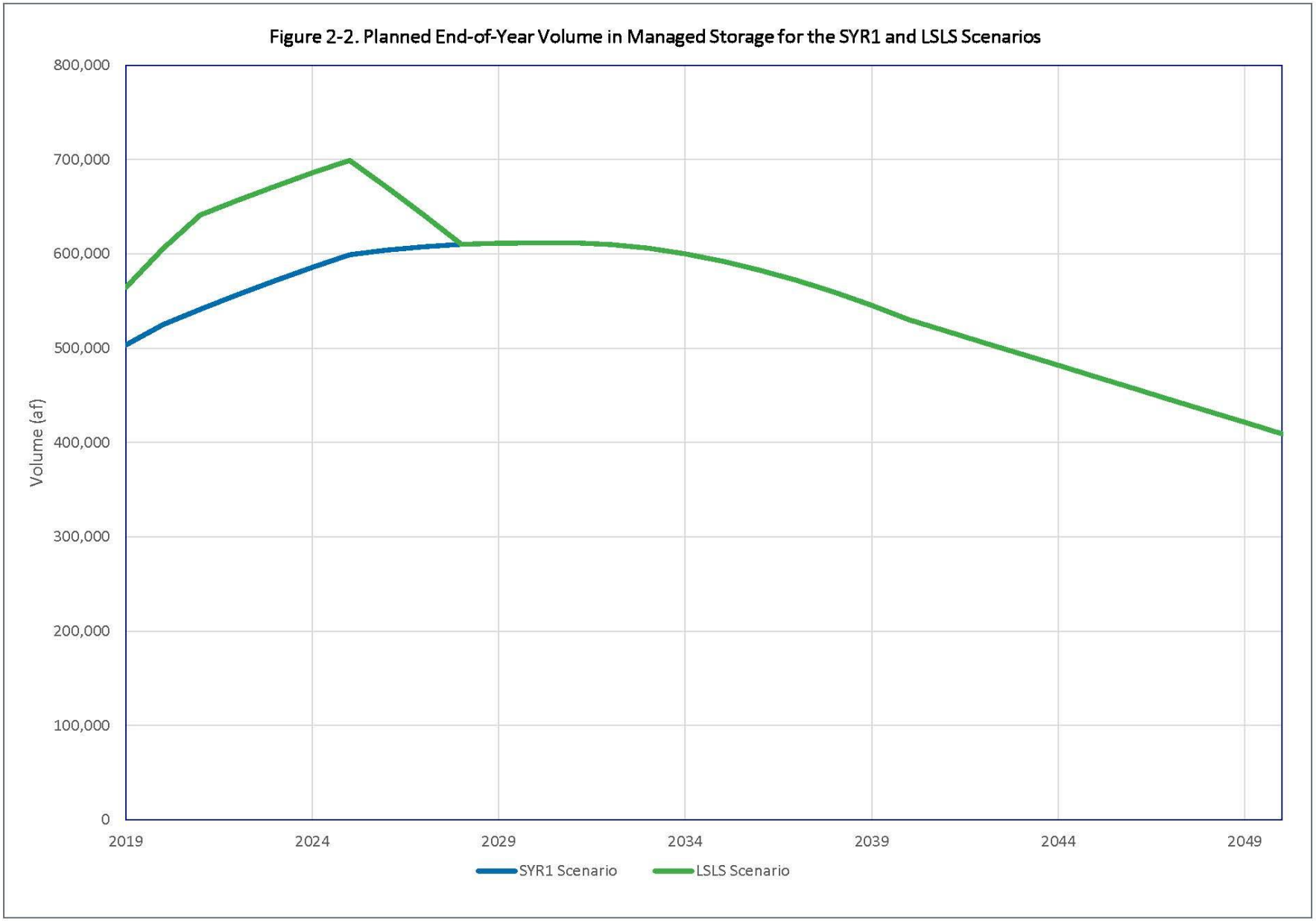


SOURCE: Final Subsequent EIR for the Chino Basin Watermaster OPMPU dated July 2020

FIGURE 2

Tom Dodson & Associates
Environmental Consultants

Chino Basin, OBMP Management Zones, Maximum Benefit Management Zones and the Areas of Subsidence Concerns



SOURCE: West Yost, "Evaluation of the Local Storage Limitation Solution, Final Report February 2021

FIGURE 3

Tom Dodson & Associates
Environmental Consultants

Projected Managed Storage

APPENDIX 1

FINAL REPORT FEBRUARY 2021

Evaluation of the Local Storage Limitation Solution

PREPARED FOR

Chino Basin Watermaster

PREPARED BY

WEST YOST
Water. Engineered.

Evaluation of the Local Storage Limitation Solution

Prepared for

Chino Basin Watermaster

Project No. 941-80-20-36

02-09-21

Project Manager: Garrett Rapp, PE

02-09-21

QA/QC Review: Mark Wildermuth, PE

WEST YOST
Water. Engineered.

FINAL REPORT | FEBRUARY 2021

Table of Contents

LIST OF TABLES

LIST OF FIGURES

Table of Contents

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

af	Acre-feet
afy	Acre-feet Per Year
CVM	Chino Valley Model
DYYP	Dry-Year Yield Program
IEUA	Inland Empire Utilities Agency
LSLS	Local Storage Limitation Solution
MPI	Material Physical Injury
MVWD	Monte Vista Water District
OBMP	2000 Optimum Basin Management Program
SYR1 Scenario	2020 SYR1 Scenario
Watermaster	Chino Basin Watermaster

1.0 INTRODUCTION

1.1 Background, Investigation, and Expected Use of this Report

In 2017, the Chino Basin Watermaster (Watermaster) began the process of updating the 2000 Optimum Basin Management Program (OBMP) by investigating how storage space in the Chino Basin would be used in the future. Watermaster conducted the Storage Framework Investigation to provide it the tools and technical information necessary to enable the development of a storage management plan. The goals of the Storage Framework Investigation were to describe how the basin will respond to the use of storage space, the potential material physical injury (MPI) and adverse impacts (if any) from the future use of storage space, and to develop descriptions of various approaches to mitigate MPI and adverse impacts. Watermaster completed the Storage Framework Investigation in October 2018 (WEI, 2018)[1]. Watermaster conducted a robust stakeholder process to facilitate development of the Storage Framework Investigation. A total of eight (8) stakeholder workshops were conducted over 15 months and offered multiple opportunities for the Chino Judgment parties and others to review interim products and provide input in the Storage Framework Investigation. Watermaster used the 2015 version of its Chino Basin groundwater model to evaluate the basin response from the use of increasing amounts of storage space. The amount of storage space to be used by the Judgment parties was projected to be about 700,000 acre-feet (af). The Storage Framework Investigation evaluated the basin response from the use of storage by the parties and others ranging from 700,000 af to 1,000,000 af.

Subsequently, Watermaster initiated stakeholder and technical processes to formally update the 2000 OBMP, completed that effort in 2020, and documented it in the 2020 OBMP Update report (WEI, 2020a)[2]. Included in the 2020 OBMP is a storage management plan that is based on the results of the 2018 Storage Framework Investigation. In October 2020, the Watermaster Board approved Resolution 20-06, whereby it adopted the 2020 OBMP report in its entirety. The Watermaster Board encouraged the Judgment parties to timely develop an implementation plan and an implementation agreement and support the necessary environmental review to commence the proposed activities in the 2020 OBMP.

In parallel with the development of the 2020 OBMP, Watermaster conducted an investigation to recalculate the Chino Basin *Safe Yield*[3], completed it in May 2020 (WEI, 2020b)[4], and obtained Court approval of the new Safe Yield in July 2020. The recalculation of the Safe Yield involved major updates to the Watermaster's groundwater model, including a recalibration. The updated groundwater model is called the 2020 Chino Valley Model (CVM). The storage space used by the Judgment parties was projected to be about 612,000 af or about 85,000 af less than projected in the 2018 Storage Framework Investigation.

During 2020, the Judgment parties recommended that Watermaster reevaluate the basin response to the use of storage space in the basin in a manner similar to that done in the 2018 Storage Framework Investigation with the new CVM. They requested that Watermaster evaluate the use of storage space for

[1] The 2018 Storage Framework Investigation Report

[2] The 2020 OBMP Update Report

[3] *Capitalized and Italicized* terms are defined terms in the Judgment and Peace Agreements. Their first use in this document is both capitalized and italicized and thereafter they are only capitalized. Please see those documents for their definitions.

[4] The 2020 Safe Yield Recalculation Report

the current storage and recovery program called the Dry-Year Yield Program (DYYP). The DYYP can store up 100,000 af in addition to storage by the Judgment parties. The DYYP is set to terminate in 2028. The Judgment parties have not provided Watermaster a plan to use storage space for any storage and recovery programs after the DYYP terminates. The Local Storage Limitation Solution (LSLS) comprises the parties' projected use of storage through 2035 and the assumed operations of the DYYP through 2028. The parties recommended that the evaluation of the basin response for the use of storage space in excess of this amount be deferred. Uncertainty in the projections exists due to the fluctuation of managed storage in the years immediately following the termination of the DYYP and the parties' future groundwater pumping plans to recover their water in managed storage. Accordingly, the LSLS project is defined as increasing the managed storage to 700,000 af until June 30, 2030, and then decreasing to 620,000 af from July 1, 2030 through June 30, 2035.

This report documents the evaluation of basin response from the combined use of storage space by the Judgment parties and the existing DYYP. This evaluation is based on the Judgment parties' best estimates of groundwater pumping and recharge that were used in the 2020 Safe Yield recalculation. This evaluation includes an assessment of potential MPI and adverse impacts. The information reported herein will be used by IEUA to prepare environmental documentation pursuant to the California Environmental Quality Act for the use of this storage space.

1.2 MPI, Adverse Impacts, and Performance Metrics

Pursuant to the Peace Agreement, MPI means material injury that is attributable to the Recharge, Transfer, storage and recovery, management, movement or Production of water, or implementation of the OBMP, including, but not limited to, degradation of water quality, liquefaction, land subsidence, increases in pump lift (lower water levels) and adverse impacts associated with rising groundwater. Material Physical Injury does not include "economic injury" that results from other than physical causes. Once fully mitigated, physical injury shall no longer be considered to be material. [Peace Agreement § 1.1(y).]

Adverse impacts as used the 2020 OBMP storage management plan include but are not limited to reductions in net recharge and Safe Yield and increases in the groundwater discharge from the Chino North Groundwater Management Zone to the Santa Ana River contributing to a loss of Hydraulic Control.

The term "managed storage" as used herein refers to water stored by the parties and other entities and includes Carryover, Local Storage and Supplemental Water held in storage accounts by the parties and Storage and Recovery Programs. Local Storage includes Excess Carryover for the Overlying Non-Agricultural Pool parties and Excess Carryover and Supplemental Waters for the Appropriative Pool and Overlying Non-Agricultural Pool Parties.

Since the Judgment came into effect, Watermaster developed rules and regulations, standard storage agreements and related forms, and it developed the OBMP and the Peace Agreements that implement the OBMP. In evaluating applications for storage agreements, Watermaster must conduct an investigation to determine if the water stored and recovered under a proposed storage agreement will cause MPI to a party or the basin. If Watermaster determines that implementation of the proposed storage agreement will cause MPI, then the applicant must revise its application so there is no MPI or Watermaster must impose conditions in the storage agreement to ensure there is no MPI. Watermaster cannot approve a storage agreement that will result in MPI. In addition to MPI assessment, the storage management plan in the 2020 OBMP requires Watermaster to identify the potential adverse impacts and that they be mitigated. Watermaster uses the following performance metrics to evaluate MPI and adverse impacts for the use of managed storage.

- Change in net recharge and Safe Yield – adverse impact
- Change in groundwater levels – MPI
- Change in pumping sustainability – MPI
- Change in new land subsidence – MPI
- Change in the state of Hydraulic Control (change in groundwater discharge from the Chino North GMZ to the Santa Ana River) – adverse impact
- Change in the direction and speed of known plumes – MPI

These performance metrics are described in detail in Section 2 of the 2018 Storage Framework Investigation (WEI, 2018) and they were reevaluated for the storage space used by the Judgment parties and reported in the 2020 Safe Yield Recalculation (WEI, 2020b).

1.3 Strategy to Evaluate MPI and Adverse Impacts

In 2020, Watermaster evaluated the performance metrics described above, except for change in direction and speed of known plumes, for the Judgment parties' projected use of storage space in the 2020 Safe Yield recalculation. The groundwater pumping and recharge projections used in the 2020 Safe Yield recalculation form the baseline planning scenario for this investigation and the CVM projection of the basin response is the assumed baseline condition for the Chino Basin. The amount of storage space used by the Judgement parties was projected to rise from the present estimate of 503,000 af in July 2019 to about 612,000 af in 2031 and to gradually decline for several decades thereafter. One conclusion of that effort was that no MPI was projected to occur through 2030 at a Safe Yield of 131,000 acre-feet per year (afy).

The present investigation is an evaluation of MPI and adverse impacts due to the use of storage space by the Judgment parties and the DYYP. The DYYP contract terminates in 2028. To evaluate the long-term impacts of conducting the DYYP, the effects of the use of storage space by the parties and the DYYP are evaluated through 2038, spanning a 20-year planning horizon. To determine if the implementation of the LSLS could cause MPI and adverse impacts, the basin response for the use of this space was estimated with the CVM and compared to the baseline basin response developed for the Safe Yield recalculation.

1.4 Report Organization

This report consists of four Chapters including Chapter 1 Introduction and the following:

- **Chapter 2 Description of the Local Storage Limitation Solution** – this chapter describes the assumptions used to put water into and take it from the 100,000 af DYYP in excess of the managed storage projected to be used by the parties.
- **Chapter 3 Basin Response and Evaluation of MPI and Adverse Impacts** – this chapter describes the basin response to the LSLS using the metrics summarized in Section 1.2 above using the same strategy used in the 2018 Storage Framework Investigation and summarized in Section 1.3 above.
- **Chapter 4 References** – this chapter contains a list of references cited in the prior chapters.
- **Appendix A Hydrographs of Projected Groundwater Elevations with Pumping and New Land Subsidence Sustainability Metrics**

2.0 BACKGROUND

The LSLS comprises the parties' projected use of storage through 2035 and the assumed operations of the DYYP through 2028. To evaluate the basin response to the LSLS, a model scenario was developed to simulate the puts and takes of the Judgment parties that implement the DYYP in addition to the baseline behavior modeled in the 2020 SYR1 scenario (referenced herein as the SYR1 scenario) used in the 2020 Safe Yield recalculation. The scenario used to model the LSLS is referenced herein as the LSLS scenario.

Table 2-1 summarizes the operational cycles and the associated puts and takes for the DYYP among the existing facilities for the LSLS scenario. As of June 30, 2018, the balance of DYYP water in storage is 41,380 af. This storage is already included in the SYR1 scenario and it was assumed that it remained in storage throughout the planning period. To reach the total storage balance of 100,000 af above the parties' baseline storage, the LSLS scenario assumes that puts will occur over the first three years. The puts are assumed to total 19,540 af each of these three years to add up to 100,000 af. The LSLS scenario conducts storage and recovery in one ten-year operating cycle, consisting of three (3) put years followed by four (4) hold years and three (3) take years, not including operations prior to FY2019. This operating pattern is similar to that used in the planning of the DYYP and the 2018 SFI. The operating assumptions for the puts and takes are described Sections 2.2 and 2.3. The LSLS scenario simulates the operating cycle beginning on July 1, 2018, the beginning of the model projection period of the SYR1 scenario, and concluding on June 30, 2028, coinciding with the termination of the DYYP contract.

Table 2-1. Summary of the LSLS Scenario Operating Cycle

Category	Amount
Operating Cycle	
Storage space used above the parties' planned use of storage, af	100,000
Balance in DYYP storage accounts through FY2018, af	41,380
Operating Cycle Length, yr	10
Number of Put Years in Operating Cycle (beginning in FY2019)	3
Number of Hold Years in Operating Cycle	4
Number of Take Years in Operating Cycle	3
Puts, afy	
Existing In-Lieu Capacity Used	9,770
Existing Spreading Basin Recharge Capacity Used	7,030
Existing Aquifer Storage and Recovery (ASR) Capacity Used	2,740
Total Existing Put Capacity Used	19,540
Take, afy	
Takes Through Existing Facilities	33,333

Figure 2-1 is a map of the Chino Basin that shows the water service area boundaries and facilities relevant to the evaluation of the LSLS scenario. This highlights water service area boundaries for the Appropriative Pool parties participating in the DYYP where in-lieu recharge and/or takes are assumed to occur, spreading basins where imported water is assumed to be recharged in put years, and Monte Vista Water District's (MVWD's) ASR wells where puts are assumed to occur.

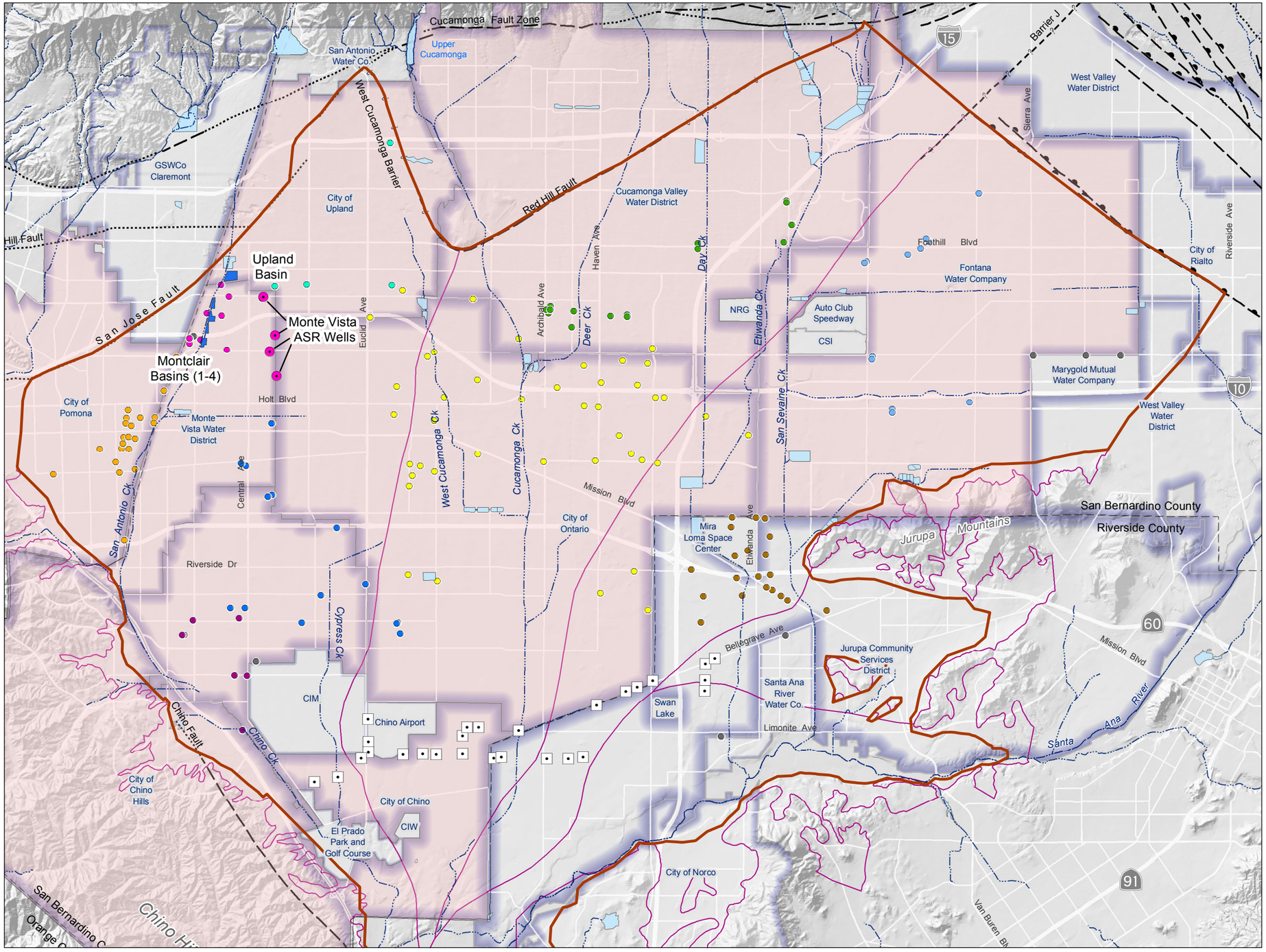
Figure 2-2 shows the planned end-of-year managed storage for the SYR1 scenario and the LSLS scenario. The maximum planned managed storage for the LSLS scenario is 700,000 af, projected to occur in 2025. The DYYP storage is depleted by the end of 2028, and the managed storage thereafter follows the projected managed storage that was projected in the baseline scenario.

2.1 Project Definition of the LSLS

Based on the projected managed storage shown in Figure 2-2, the LSLS is defined by the use of storage space up to 700,000 af through June 30, 2030 and then decreasing to 620,000 af from July 1, 2030 through June 30, 2035. This definition balances the need to provide for the combined use of managed storage by the parties and the DYYP through the end of the DYYP contract period (2028) and the parties' maximum projected use of managed storage in the early 2030s against future uncertainty. This uncertainty includes the possible fluctuations in managed storage in the years immediately following the termination of the DYYP contract and the parties' future groundwater pumping plans to recover their water in managed storage after 2035.

2.2 Operating Assumptions for Puts

The facility and operational assumptions for the LSLS scenario are based on the Inland Empire Utilities Agency's (IEUA's) and the Appropriative Pool parties' contractual obligations for the DYYP. These obligations do not prescribe methods for puts; therefore, the parties can conduct put operations through a combination of wet-water and in-lieu recharge methods. Puts for the LSLS scenario were assumed to be conducted half by wet-water recharge and half by in-lieu recharge which is identical to the assumption used in the 2018 SFI for the first 100,000 af of storage space used in excess of that projected to be used by the Judgment parties. Table 2-2 shows the assumed allocation of the puts. Each party's annual in-lieu recharge was the lesser of the following: 1) the party's put calculated proportionally to its take obligation and 2) the party's capacity for in-lieu recharge. Chino Hills is an exception in that it does not have in-lieu recharge capacity; MVWD's put obligation was raised by the share of puts originally allocated to Chino Hills. About 2,740 afy of puts were assumed to occur at the MVWD's ASR wells and about 7,030 afy of puts were assumed to be recharged in existing spreading basins (see Figure 2-1 for locations). Wet-water recharge in spreading basins was conducted using the following schedule: recharge occurs in MZ-1 first up to its spreading capacity, then in MZ-3 up to its spreading capacity, and finally in MZ-2. Sufficient capacity exists in MZ-1 for the planned 7,030 afy. This results in the distribution shown in Table 2-2.



Facilities for Conducting Wet-Water Recharge Puts in the LSLS Scenario

- Monte Vista Water District ASR Wells
- Flood Control & Conservation Basins used for Puts

Appropriative Pool Pumping Wells

- City of Chino
- City of Chino Hills
- City of Ontario
- City of Pomona
- City of Upland
- Cucamonga Valley Water District
- Fontana Water Company
- Jurupa Community Services District
- Monte Vista Water District
- Other Appropriators

- Chino Desalter Wells
- Streams & Flood Control Channels
- Chino Basin Part of the Active CVM MODFLOW Domain
- OBMP Management Zones
- WSA of Appropriative Pool Parties Assumed to Participate in the Puts and/or Takes in the LSLS Scenario
- Other Water Service Areas
- Flood Control & Conservation Basins not Used in Puts

Prepared by:

WEST YOST

Author: TA
Date: 2/3/2021
File: Figure 2-1 Chino Basin Map.mxd

0 1 2 3 4 5 Miles
0 2 4 6 8 Km

Prepared for:

Evaluation of the Local Storage Limitation Solution

CHINO BASIN WATERMASTER Partners in Basin Management

Chino Basin and Facilities used in the LSLS Scenario

Figure 2-1

Figure 2-2. Planned End-of-Year Volume in Managed Storage for the SYR1 and LSLS Scenarios

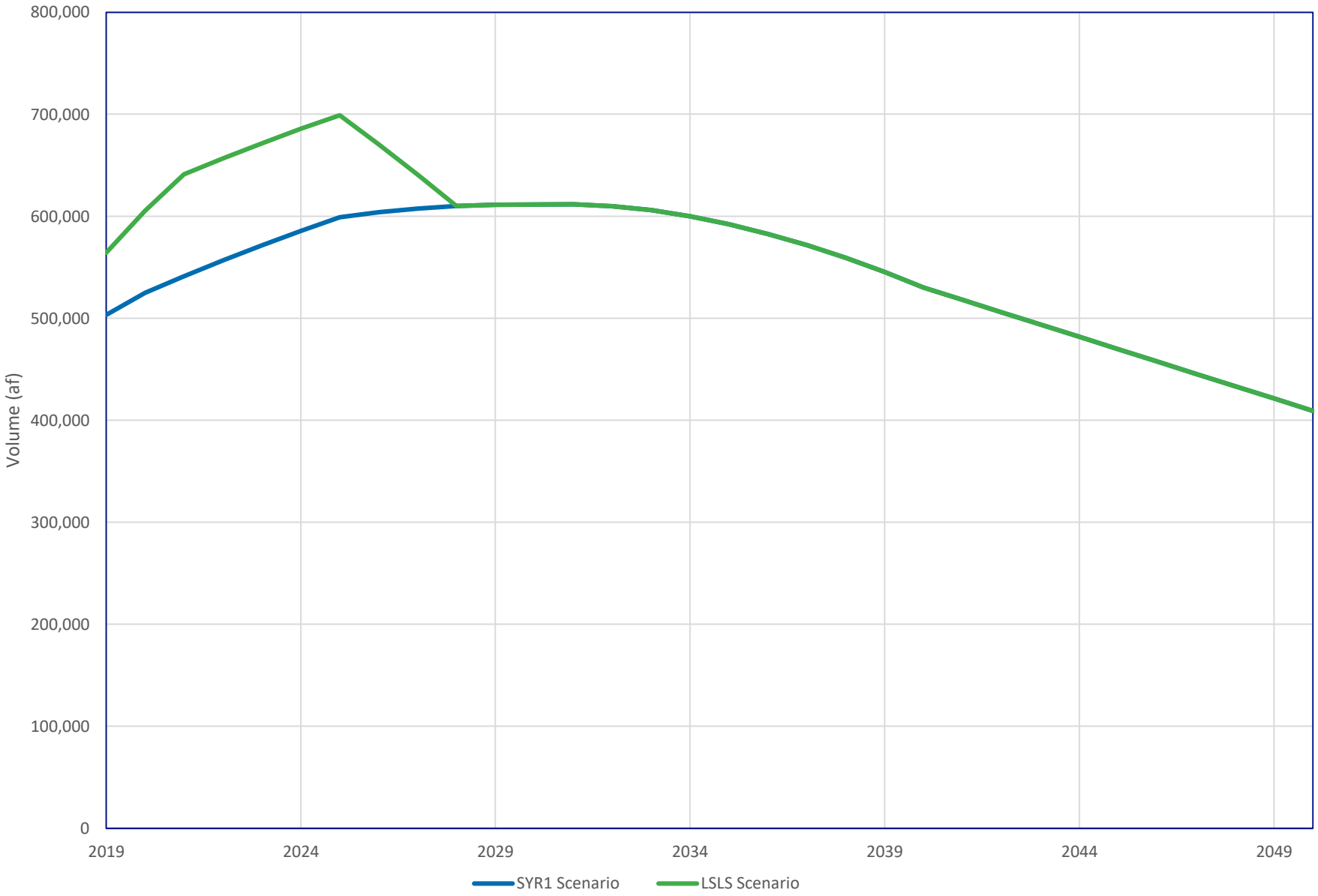


Table 2-2. Allocation of Puts for the LSLS Scenario	
Category	Amount, afy
In-Lieu Recharge	
City of Chino	343
City of Ontario	2,391
City of Pomona	592
City of Upland	889
Cucamonga Valley Water District	3,953
Monte Vista Water District	1,602
Total	**9,770**
Wet-Water Recharge	
Monte Vista Water District ASR Wells	2,740
Montclair Basins (1-4)	5,700
Upland Basin	1,330
Total	**9,770**

2.3 Operating Assumptions for Takes

All takes for the LSLS scenario are based on the IEUA's and the Appropriative Pool parties' contractual obligations for the DYYP. The LSLS scenario assumes maximum annual takes of 33,333 afy, consistent with the takes specified in the DYYP contract. Table 2-3 below shows the allocation of takes by Appropriative Pool party. All takes are assumed to occur through the respective parties' existing facilities.

Table 2-3. Allocation of Takes by Appropriative Pool Party for the LSLS scenario	
Appropriative Pool Party	Additional Pumping for Take, afy
City of Chino Hills	1,463
City of Ontario	8,158
City of Pomona	1,402
City of Upland	3,031
Cucamonga Valley Water District	11,468
Fontana Water Company	2,638
Monte Vista Water District	5,174
Total	**33,333**

This section describes the impacts to the basin and the parties from the implementation of the LSLS scenario. Evaluated impacts include changes in net recharge, managed storage, groundwater levels, pumping sustainability, new land subsidence, state of Hydraulic Control, and changes in the speed and direction of significant contaminant plumes.

3.0 RESULTS

3.1 Net Recharge and Managed Storage

Table 3-1 compares the changes in net recharge and managed storage for the LSLS scenario to the SYR1 scenario. These comparisons are described in the following sections.

Table 3-1. Comparison of Results between SYR1 and the LSLS scenario

Category	SYR1	LSLS	LSLS minus SYR1
Average Net Recharge, afy			
2021-2030	130,600	129,800	-800
2031-2040	138,200	138,500	300
2040-2050	143,100	143,600	500
End-of-Year Volume in Managed Storage, afy			
2028	610,000	604,000	-6,000
2038	559,000	554,000	-5,000
2048	433,000	440,000	7,000

3.1.1 Net Recharge

Net recharge, as used herein, is the exploitable inflow to a groundwater basin over a specified period, either under historical conditions or in a future projection under prescribed operating conditions, and it is a result of the hydrology, cultural conditions, and water management practices of the time period. Net recharge is equal to recharge minus uncontrolled discharge and excludes the recharge of supplemental water Algebraically:

$$Net\ recharge = \Delta S/\Delta t + O_p - I_{ar}$$

Where ΔS is change in storage over a base period, Δt is the duration of a base period and O_p and I_{ar} are the average groundwater pumping and average supplemental water recharge over the base period, respectively. Figure 3-1 shows the time series of net recharge for the SYR1 and the LSLS scenarios for the period 2019 through 2050. The net recharge for the LSLS scenario is less than the SYR1 scenario for 2019 through 2032 due to the temporary increase in managed storage in the LSLS. This reduction in net recharge averages about 800 afy for the period of 2021 through 2030 as shown in Table 3-1, and averages about 600 afy for the period of 2019 through 2032.

After the three years of DYYP takes prior to and ending in 2028, the balance in the DYYP storage accounts is zero. Since no activities related to storage and recovery programs were assumed to occur under the SYR1 scenario, the DYYP storage accounts remain at 41,380 af less than the baseline condition. Therefore, the exercise of the LSLS results in 41,380 af more water being pumped from the basin compared to the SYR1 scenario. This results in an increase in net recharge after 2032 in the LSLS scenario compared to the SYR1 scenario. The cumulative reduction in net recharge for the LSLS scenario before 2032 is projected to be completely offset by 2050. By 2050, the net recharge in the LSLS scenario is greater than the SYR1 scenario by about 500 afy.

The temporary reduction in net recharge through 2032 is an adverse economic impact. The Safe Yield, a prospective calculation, is based on projected estimates of net recharge that include the effects of managed storage on net recharge. The reduction in Safe Yield due to projected storage management by the Parties is thus incorporated into the Safe Yield estimate. Watermaster considers this adverse economic impact to be mitigable by the prospective calculation of the Safe Yield.

3.1.2 Managed Storage

The changes in net recharge shown in Figure 3-1 affect the Safe Yield, which will affect future pumping rights in the Chino Basin. Based on the projected net recharge and the updated Safe Yield computed for the LSLS scenario, the end-of-year managed storage was recalculated. Figure 3-2 shows the model-projected, end-of-year managed storage for the SYR1 and LSLS scenarios for the period of July 1, 2018 through June 30, 2050. At the end of the DYYP operational cycle in the LSLS scenario, the managed storage is lower than the SYR1 scenario by about 6,000 af. Due to the higher net recharge after 2032, the LSLS scenario results in a net increase of 9,000 af in managed storage compared to the SYR1 scenario by 2050. These projected changes in managed storage are small, ranging from a one percent decrease to a two percent increase.

3.2 Groundwater Elevation Projections

Figure 3-3 and Figure 3-4 show the differences in groundwater levels between the LSLS scenario and the SYR1 scenario in 2028 and 2038, coinciding with the end of the operational cycle and 10 years after the operational cycle ends. In Figure 3-3, groundwater levels remain unchanged across the southern part the basin and decline in the northern part of the basin. Groundwater levels in northwest MZ-1 and northeastern MZ-2 are projected to decline by greater than 10 feet compared to the SYR1 scenario. This pattern of groundwater level changes results from the asymmetric puts and takes assumed in the LSLS scenario and the depletion of the DYYP storage account compared to the SYR1 scenario. These declines in groundwater levels could be mitigated by optimization the location and magnitude of the puts and takes within management zones.

After 2028, the groundwater levels in the LSLS scenario begin to rebound, approaching the baseline condition in the SYR1 scenario. By 2034, there are no locations in the basin that show groundwater level declines of greater than five feet for the LSLS scenario compared to the SYR1 scenario. By 2038, Figure 3-9 there is no noticeable projected change in water levels across the basin.

Figure 3-1. Projected Net Recharge for the SYR1 and LSLS Scenarios

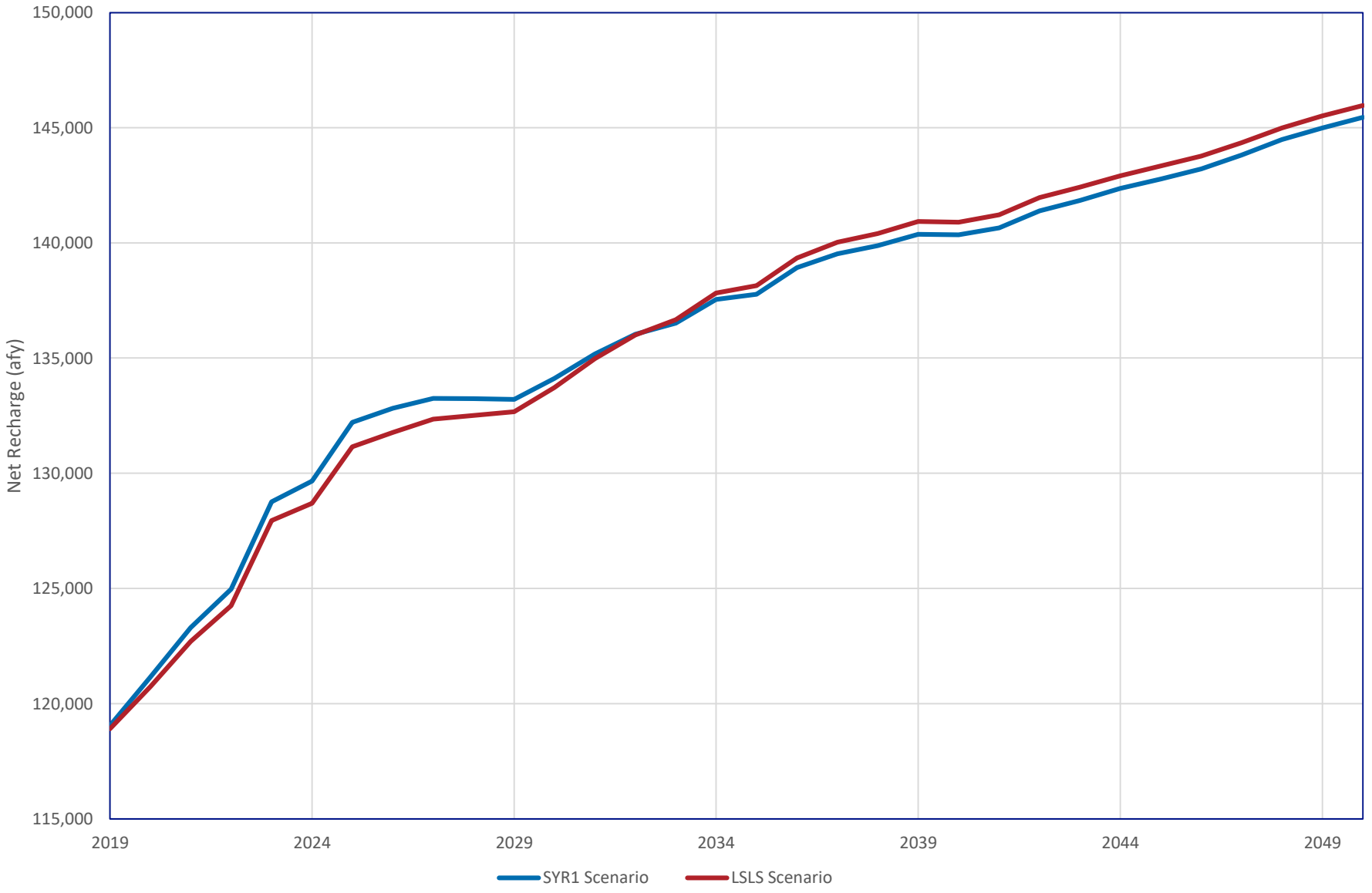
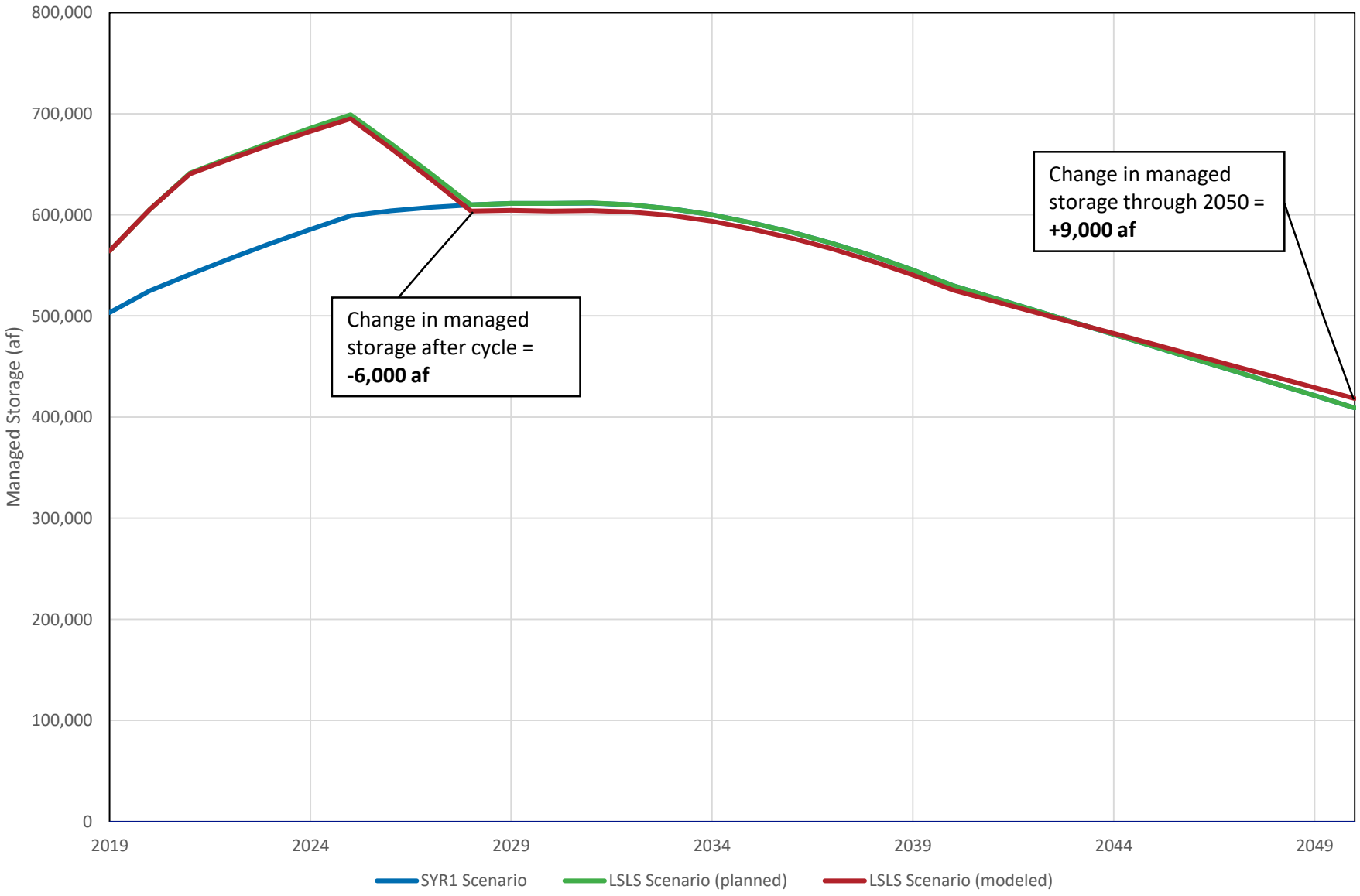
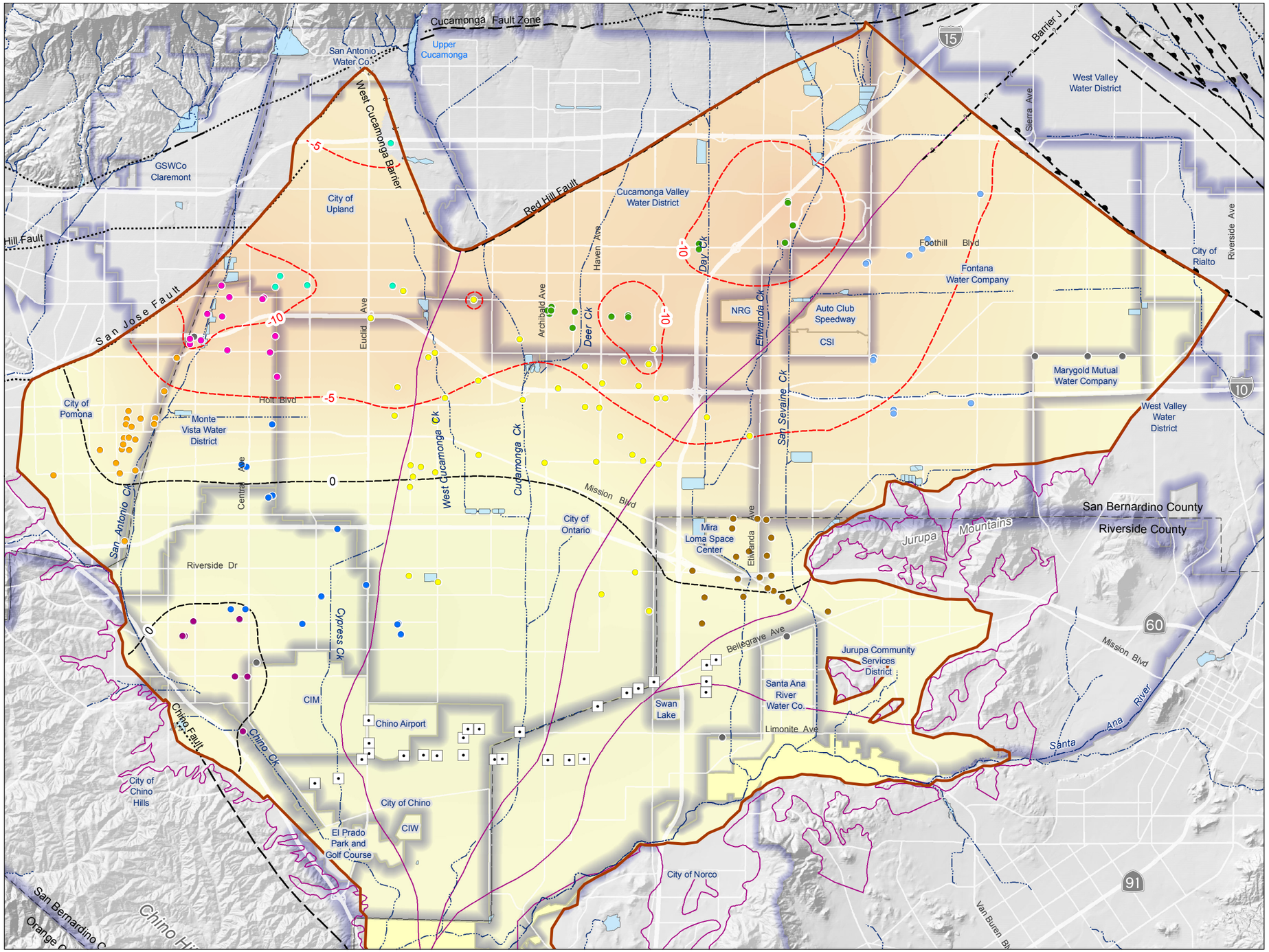


Figure 3-2. Model-Projected End-of-Year Volume in Managed Storage for the SYR1 and LSLS Scenarios





Contour of Groundwater Elevation Change (ft)
Positive Change *July 2028 - LSLS minus SYR1*

Contour of Groundwater Elevation Change (ft)
Negative Change *July 2028 - LSLS minus SYR1*

Groundwater Elevation Change (ft)
July 2028 - LSLS minus SYR1

50
0
-50
Increase
Decrease

Appropriative Pool Pumping Wells

- City of Chino
- City of Chino Hills
- City of Ontario
- City of Pomona
- City of Upland
- Cucamonga Valley Water District
- Fontana Water Company
- Jurupa Community Services District
- Monte Vista Water District
- Other Appropriators

Chino Desalter Wells

Streams & Flood Control Channels

Flood Control & Conservation Basins

Water Service Area

Chino Basin Part of the Active CVM MODFLOW Domain

OBMP Management Zones

Prepared by:

WEST YOST

Author: TA
Date: 2/4/2021
File: Figure 3-3 GWE Change 2028.mxd

0 1 2 3 4 5 Miles
0 2 4 6 8 Km

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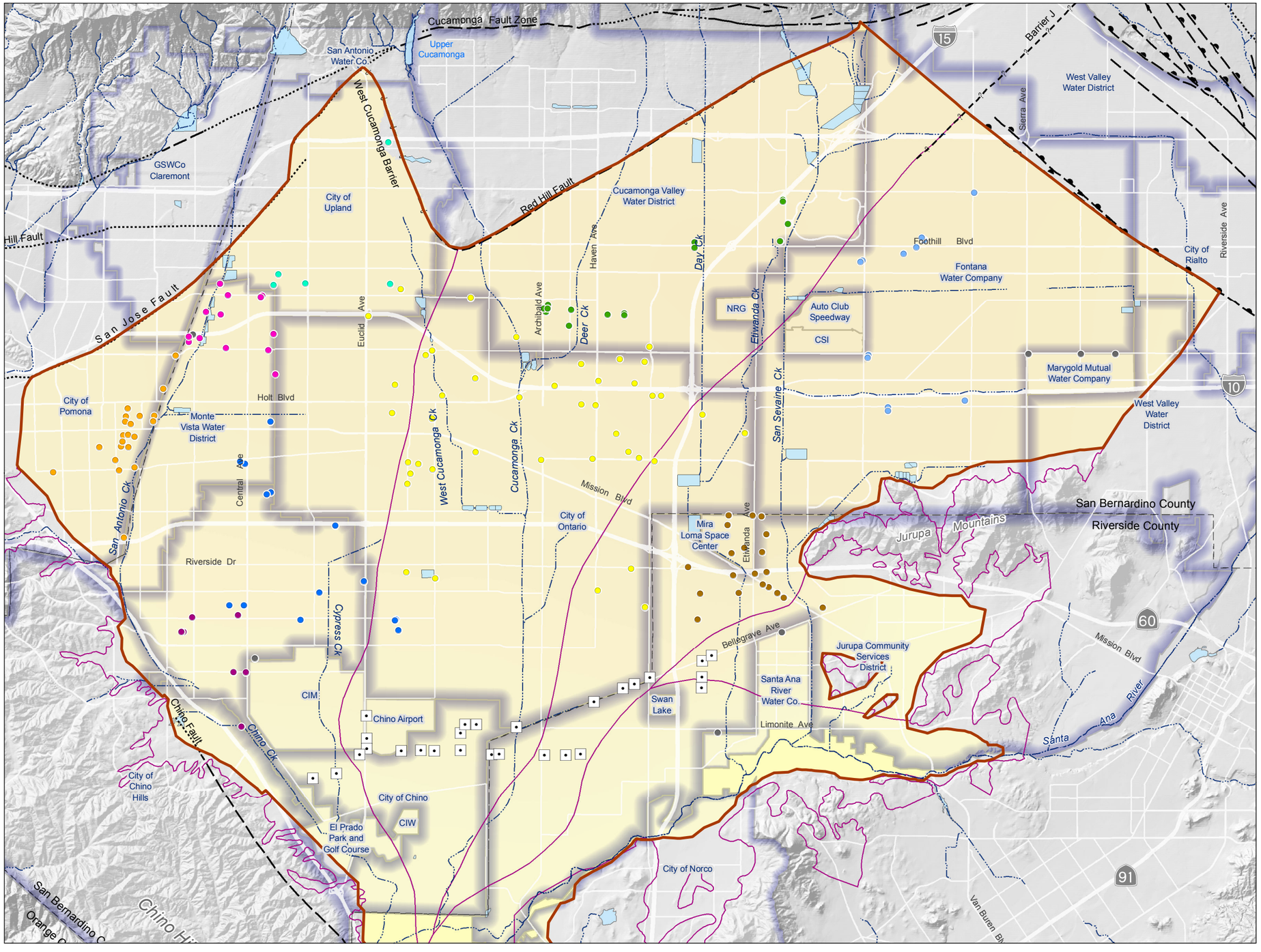
Evaluation of the Local Storage Limitation Solution

CHINO BASIN WATERMASTER
Partners in Basin Management

Projected Groundwater Elevation Change Layer 1

July 2028 - LSLS minus SYR1

Figure 3-3



Contour of Groundwater Elevation Change (ft)
Positive Change *July 2038 - LSLS minus SYR1*

Contour of Groundwater Elevation Change (ft)
Negative Change *July 2038 - LSLS minus SYR11*

Groundwater Elevation Change (ft)
July 2038 -LSLS minus SYR1

50
0
-50
Increase
Decrease

Appropriative Pool Pumping Wells

- City of Chino
- City of Chino Hills
- City of Ontario
- City of Pomona
- City of Upland
- Cucamonga Valley Water District
- Fontana Water Company
- Jurupa Community Services District
- Monte Vista Water District
- Other Appropriators

Chino Desalter Wells

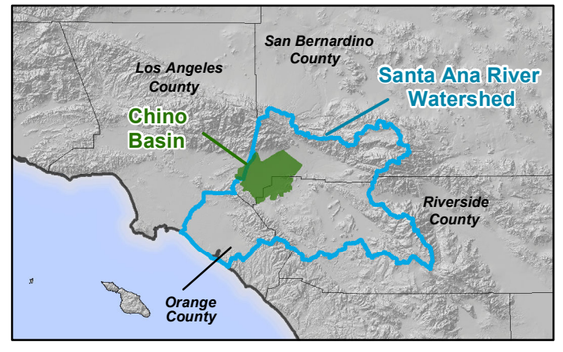
Streams & Flood Control Channels

Flood Control & Conservation Basins

Water Service Area

Chino Basin Part of the Active CVM MODFLOW Domain

OBMP Management Zones



Prepared by:

WEST YOST

Author: TA
Date: 2/4/2021
File: Figure 3-4 GWE Change 2038.mxd

0 1 2 3 4 5 Miles
0 2 4 6 8 Km

Prepared for:

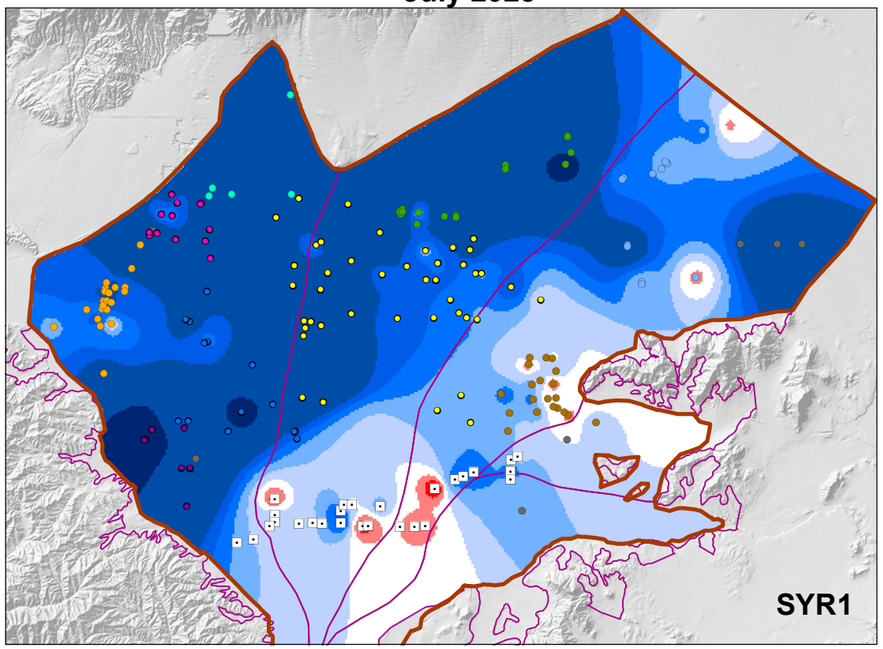
Evaluation of the Local Storage Limitation Solution

CHINO BASIN WATERMASTER
Partners in Basin Management

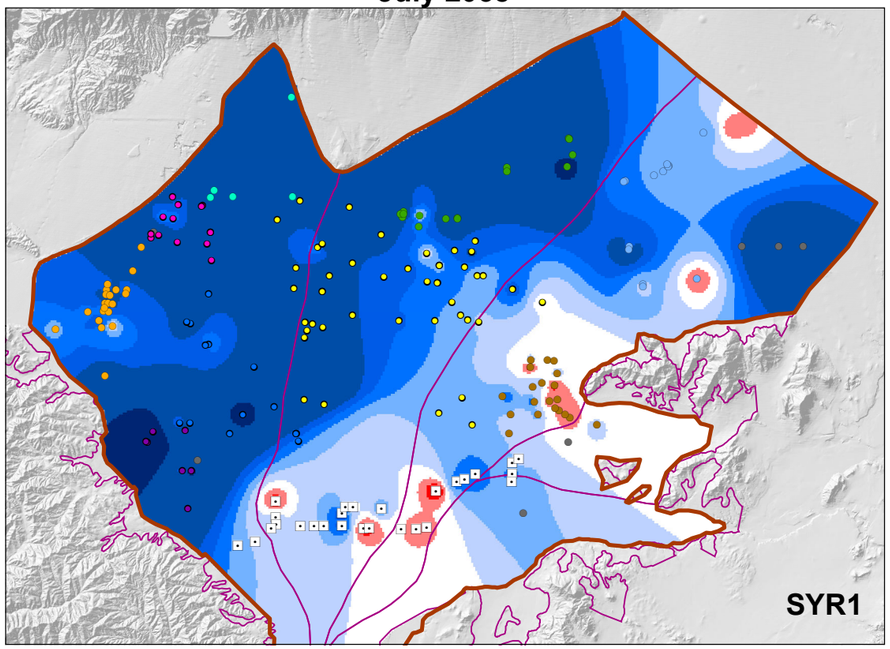
Projected Groundwater Elevation Change Layer 1
July 2038 - LSLS minus SYR1

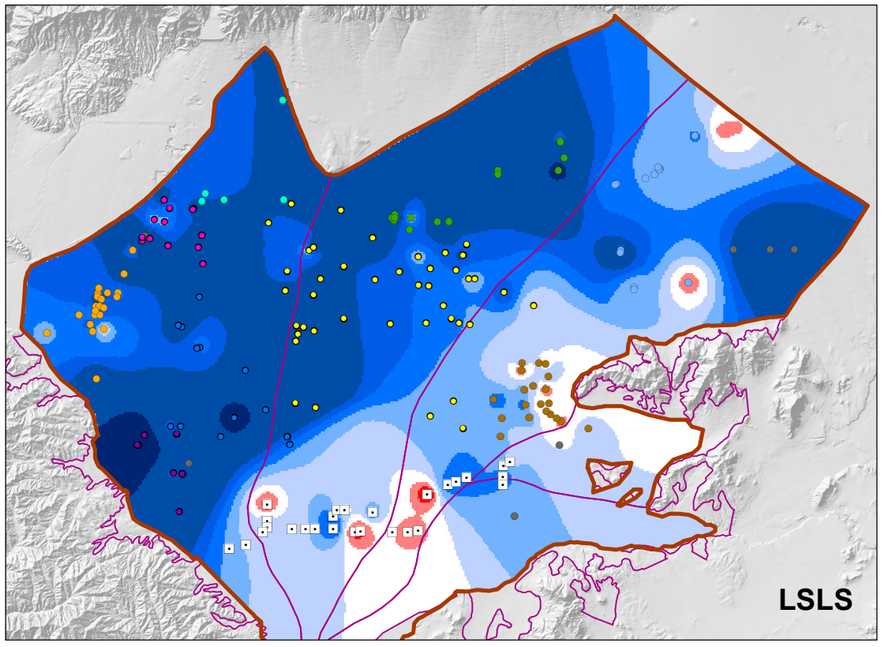
Figure 3-4

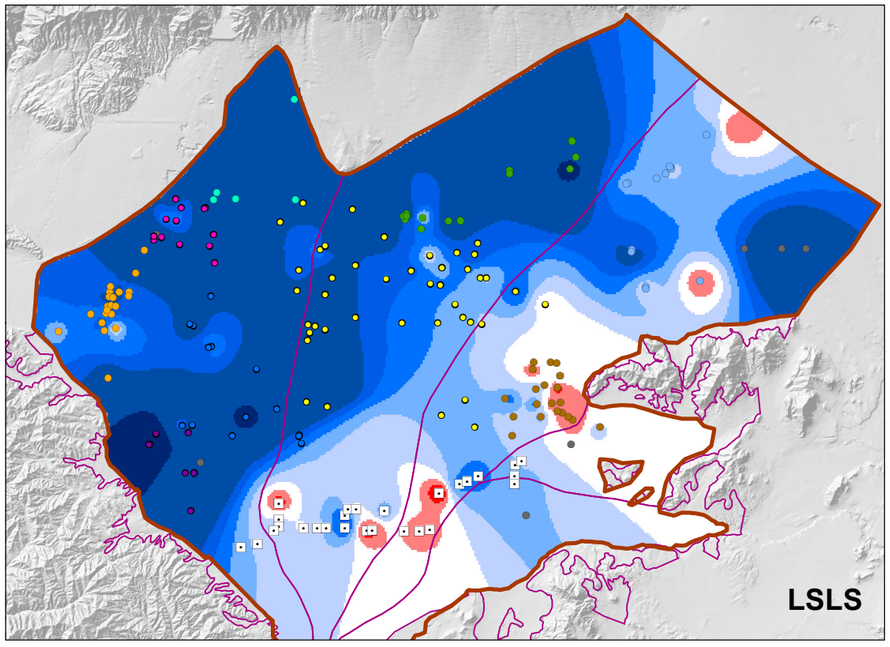
July 2028



July 2038







Projected Groundwater Level Minus Sustainability Metric (ft)

- -60 to -40
- -40 to -20
- -20 to 0
- 0 to 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100
- 100 to 200
- 200 to 400

Appropriative Pool Pumping Wells

- City of Chino
- City of Chino Hills
- City of Ontario
- City of Pomona
- City of Upland
- Cucamonga Valley Water District
- Fontana Water Company
- Jurupa Community Services District
- Monte Vista Water District
- Other Appropriators

Chino Desalter Wells

OBMP Management Zones

Chino Basin Part of the Active CVM MODFLOW Domain

Prepared by:

WEST YOST

Author: LS
Date: 2/9/2021
File: Figure 3-5 Quad Pumping Sustainability Metric.mxd

0 1 2 3 4 5 Miles
0 2 4 6 8 Km

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Evaluation of the Local Storage Limitation Solution

CHINO BASIN WATERMASTER
Partners in Basin Management

Projected Groundwater Elevation in Chino Basin Compared to Pumping Sustainability Metric

SYR1 and LSLS Scenarios

Figure 3-5

3.3 Pumping Sustainability

Figure 3-5 shows the projected difference between the groundwater levels and the pumping sustainability metrics at the end of the operating cycle (2028) and ten years after the end of the operating cycle (2038) for the SYR1 and LSLS scenarios. A review of the projected pumping sustainability in the SYR1 scenario (Figure 3-5, top) reveals the following:

- Groundwater levels in the SYR1 scenario are projected to be above the pumping sustainability metric through 2038 over the entire basin except for the JCSD and Chino Desalter well fields and one well in the FWC service area. Groundwater levels at wells in these areas are below the pumping sustainability metric in the initial condition in 2018, and the area with groundwater levels below the pumping sustainability metric does not change significantly through 2038.

A review of the projected pumping sustainability in the LSLS scenario (Figure 3-5, bottom) and comparison to the SYR1 scenario shows no significant change in pumping sustainability through 2038. No Appropriative Pool pumping wells are projected to be impacted that were not projected to have pumping sustainability challenges in the SYR1 scenario. No MPI related to pumping sustainability is projected to occur in the LSLS scenario.

3.4 New Land Subsidence

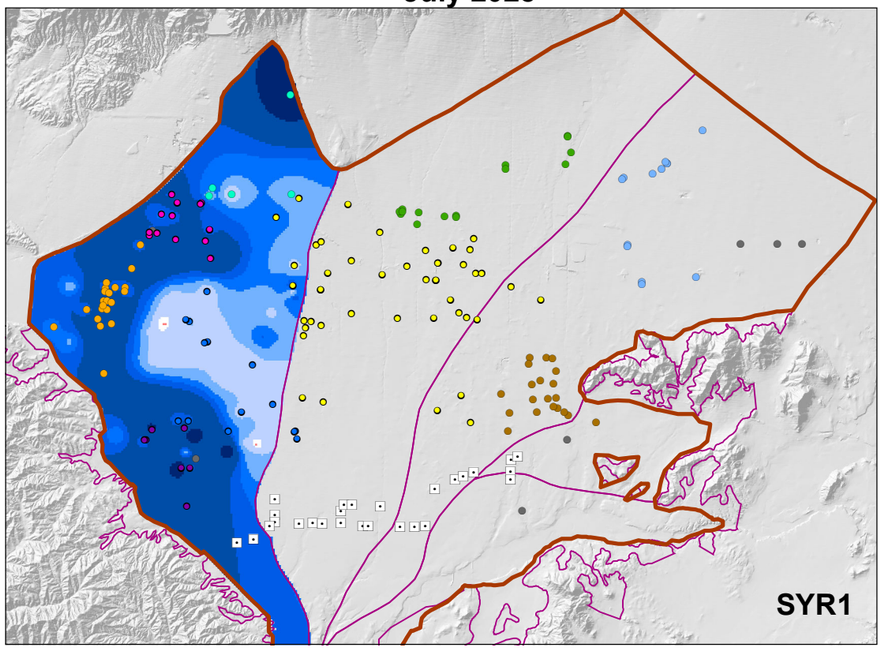
Figure 3-6 shows the projected difference between the groundwater levels and the new land subsidence metric at the end of the operating cycle (2028, left side) and ten years after the end of the operating cycle (2038, right side) for the SYR1 and LSLS scenarios. A review of the projected new land subsidence in the SYR1 scenario (Figure 3-6, top) indicates that projected groundwater elevations are greater than the preconsolidation stress except for two small areas centered on wells where groundwater pumping can be modified to ensure no new land subsidence.

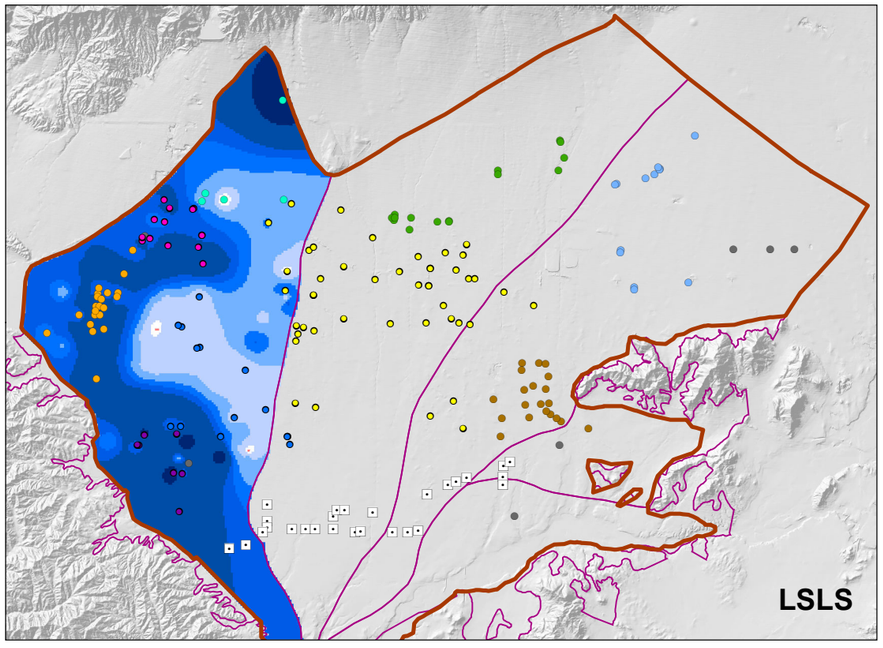
The projected new land subsidence in the LSLS scenario (Figure 3-6, bottom) looks similar to the patterns in the SYR1 scenario, with no new land subsidence projected to occur in the LSLS scenario. The projected decline in groundwater levels in northern MZ-1 in 2028 under the LSLS scenario (Figure 3-3) is not projected to result in new land subsidence. No MPI related to new land subsidence is projected to occur in the LSLS scenario.

3.5 State of Hydraulic Control

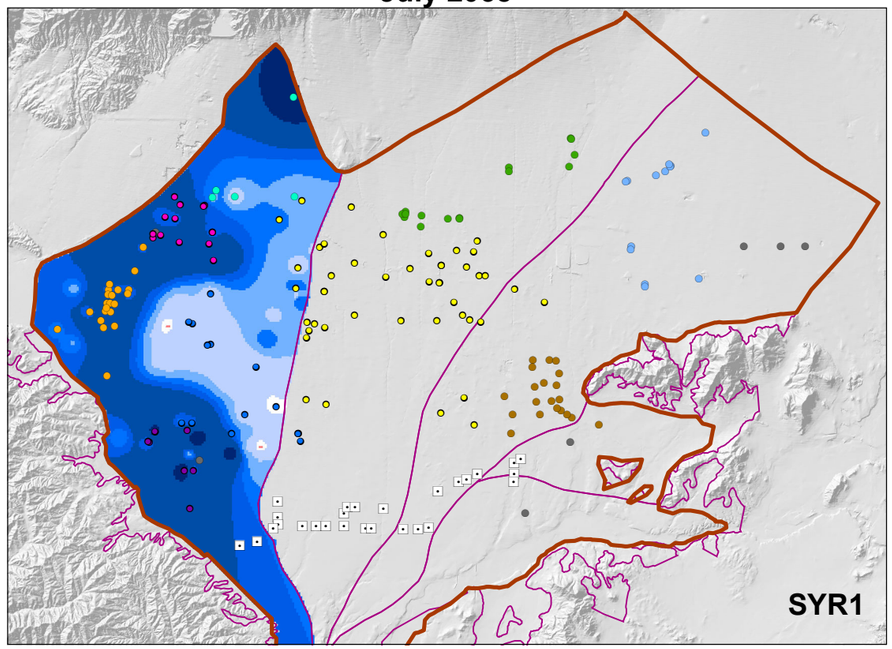
Figure 3-7 shows the time series of the groundwater discharge through the CCWF for the SYR1 and LSLS scenarios and compares them to the de minimus standard of 1,000 afy. The flow through the CCWF increases in the LSLS scenario by up to 25 afy compared to the SYR1 due to the increased storage in MZ-1 during the operational cycle. After 2032, the flow through the CCWF is less under the LSLS scenario compared to the SYR1 scenario. The maximum projected flow through the CCWF in both the SYR1 and LSLS scenarios is about 520 afy, which is below the de minimus standard. Hydraulic Control is projected to be maintained through 2050 in the LSLS scenario. Therefore, the LSLS scenario is not projected to cause adverse impacts related to Hydraulic Control.

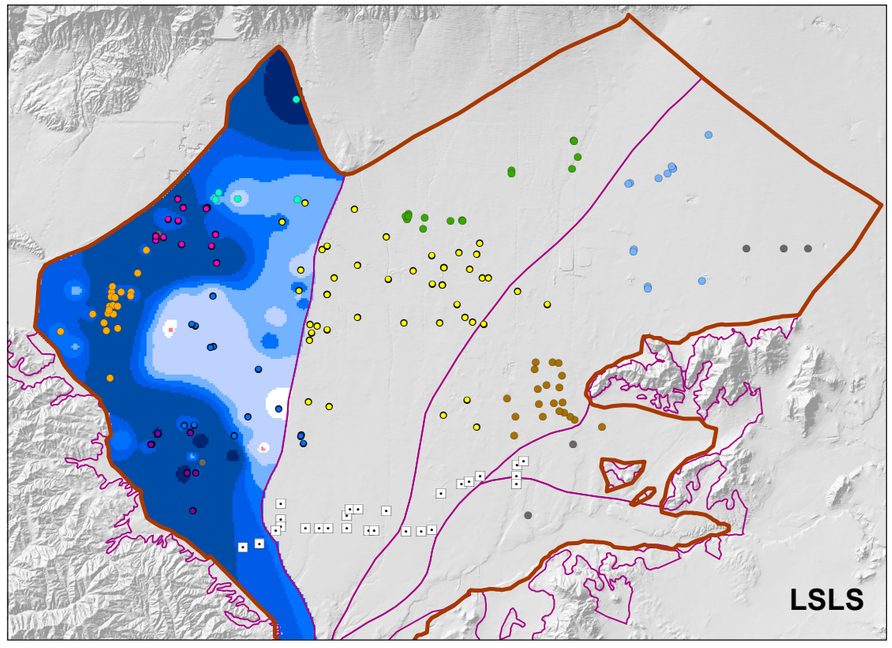
July 2028





July 2038





Projected Groundwater Level Minus Subsidence Metric (ft)

- -60 to -40
- -40 to -20
- -20 to 0
- 0 to 20
- 20 to 40
- 40 to 60
- 60 to 80
- 80 to 100
- 100 to 200
- 200 to 400

Appropriative Pool Pumping Wells

- City of Chino
- City of Chino Hills
- City of Ontario
- City of Pomona
- City of Upland
- Cucamonga Valley Water District
- Fontana Water Company
- Jurupa Community Services District
- Monte Vista Water District
- Other Appropriators

Chino Desalter Wells

OBMP Management Zones

Chino Basin Part of the Active CVM MODFLOW Domain

Prepared by:

WEST YOST

Author: LS
Date: 2/9/2021
File: Figure 3-6 Quad Subsidence Sustainability Metric.mxd

0 1 2 3 4 5 Miles
0 2 4 6 8 Km

Prepared for:

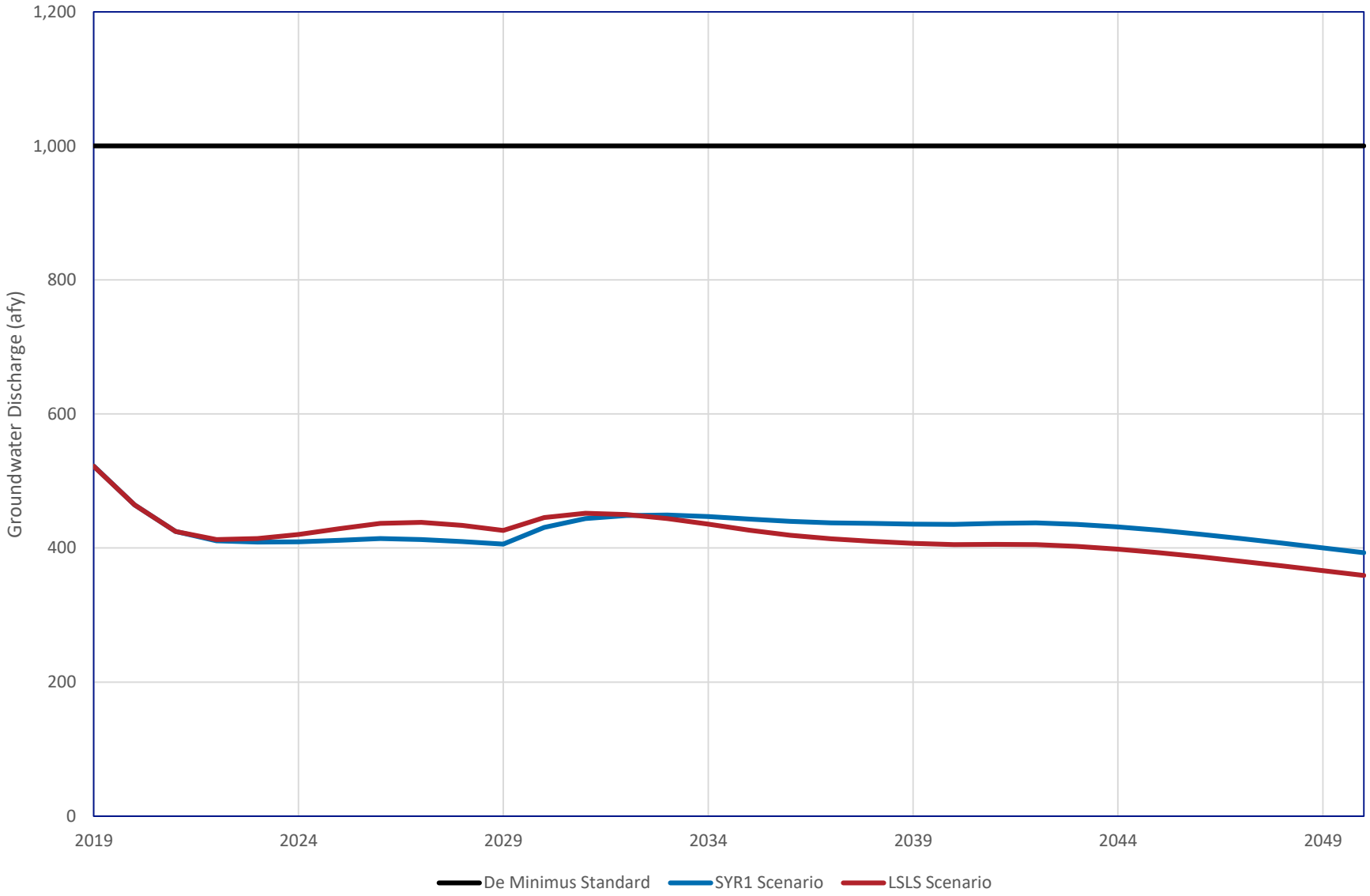
Evaluation of the Local Storage Limitation Solution

Projected Groundwater Elevation in MZ1 Compared to Subsidence Metric

SYR1 and LSLS Scenarios

Figure 3-6

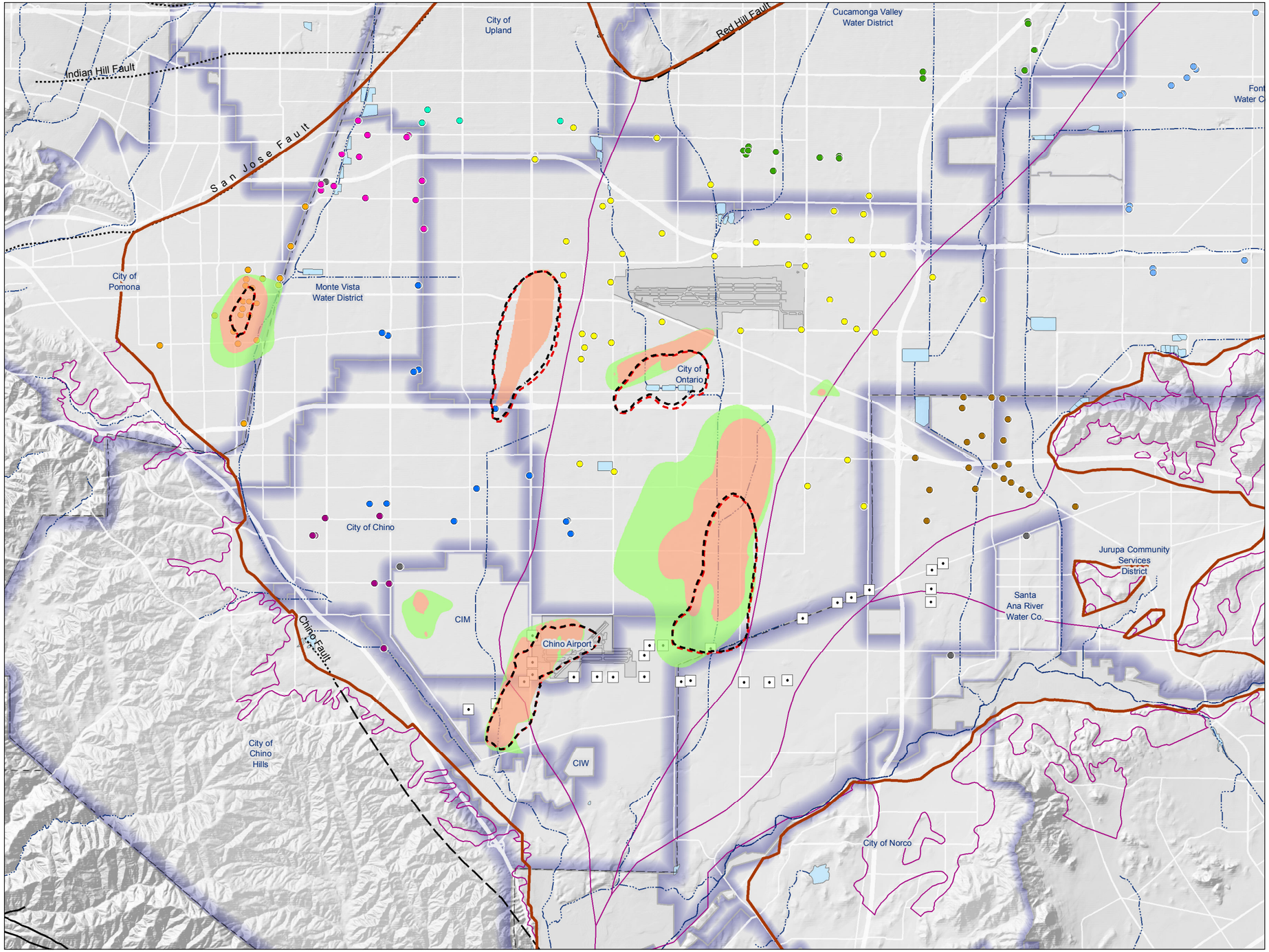
Figure 3-7. Projected Groundwater Discharge from Chino North Management Zone through the Chino Creek Well Field for the SYR1 and LSLS Scenarios



3.6 Movement of Water Quality Anomalies

Figures 3-8 and Figure 3-9 show the initial locations of seven VOC plumes in the Chino Basin and their projected locations in 2028 and 2038, respectively, as a result of the SYR1 and LSLS scenarios. These plumes have been described in recent Chino Basin Watermaster reports (WEI, 2018; WEI, 2019). By 2028 (Figure 3-8), the VOC concentrations of two of the plumes (CIM and Milliken Landfill) are projected to be less than 5 µg/L for both scenarios. The projected locations of the Pomona and Chino Airport plumes in 2028 are identical between the SYR1 and LSLS scenarios. The LSLS scenario is projected to displace the southern (downgradient) boundaries of the GE Flat Iron and GE Test Cell plumes further south by less than 400 feet compared to the SYR1 scenario.

By 2038 (Figure 3-9), the projected locations of the Pomona, Chino Airport, and South Archibald plumes are identical between the SYR1 and LSLS scenarios. The LSLS scenario is projected to displace the southern (downgradient) boundaries of the GE Flat Iron and GE Test Cell plumes further south by 200 feet or less compared to the SYR1 scenario. These plume displacements due to the LSLS scenario are minor compared to the magnitude of the baseline projected movement of the plumes. The LSLS scenario is not projected to result in any plume impacting a well operated by an Appropriative Pool party that is not already projected to be impacted under the SYR1 scenario. Therefore, these displacements are negligible and are not potential MPI.



Estimated Initial TCE Concentration (µg/L)

- 0.01 to 5
- > 5

Projected Boundary of TCE Plume in July 2028

- SYR1 (TCE > 5 µg/L)
- Scenario LSLS (TCE > 5 µg/L)

Appropriative Pool Pumping Wells

- City of Chino
- City of Chino Hills
- City of Ontario
- City of Pomona
- City of Upland
- Cucamonga Valley Water District
- Fontana Water Company
- Jurupa Community Services District
- Monte Vista Water District
- Other Appropriators

- Chino Desalter Wells
- Streams & Flood Control Channels
- Flood Control & Conservation Basins
- Water Service Area
- Chino Basin Part of the Active CVM MODFLOW Domain
- OBMP Management Zones

Prepared by:

WEST YOST

Author: LS
Date: 2/12/2021
File: Figure 3-8_3-9 WQ_Anomalies_2028_2038.mxd

0 1 2 3 Miles
0 1 2 3 4 Km

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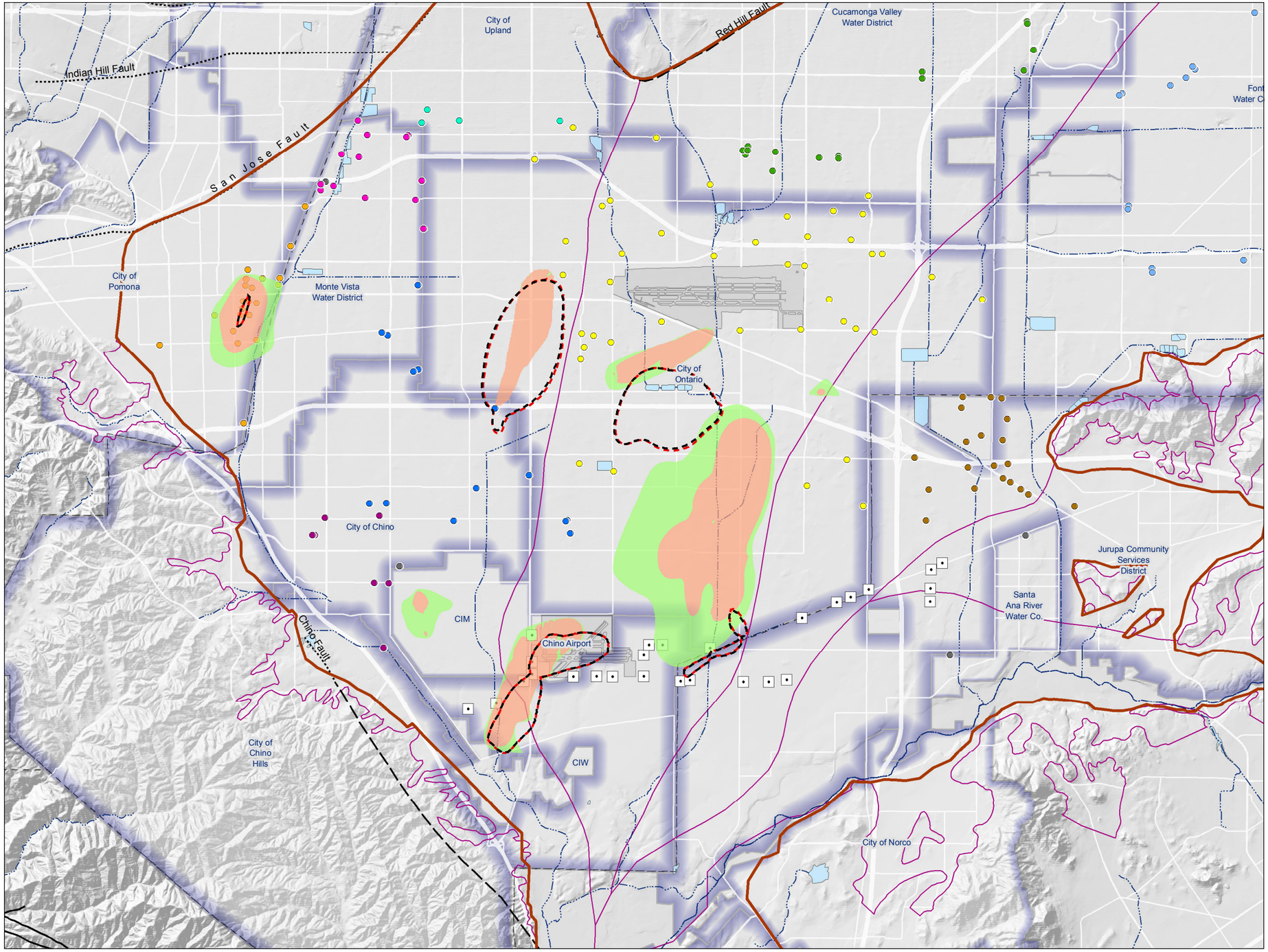
Estimated Location of Water Quality Anomalies, SYR1 and LSLS Scenarios
July 2028

Figure 3-8



Estimated Initial TCE Concentration (µg/L)

- 0.01 to 5
- > 5

Projected Boundary of TCE Plume in July 2038

- SYR1 (TCE > 5 µg/L)
- Scenario LSLS (TCE > 5 µg/L)

Appropriative Pool Pumping Wells

- City of Chino
- City of Chino Hills
- City of Ontario
- City of Pomona
- City of Upland
- Cucamonga Valley Water District
- Fontana Water Company
- Jurupa Community Services District
- Monte Vista Water District
- Other Appropriators

- Chino Desalter Wells
- Streams & Flood Control Channels
- Flood Control & Conservation Basins
- Water Service Area
- Chino Basin Part of the Active CVM MODFLOW Domain
- OBMP Management Zones

Prepared by:

WEST YOST

Author: LS
Date: 2/4/2021
File: Figure 3-8_3-9 WQ_Anomalies_2028_2038.mxd

0 1 2 3 Miles
0 1 2 3 4 Km

Prepared for:

Evaluation of the Local Storage Limitation Solution

CHINO BASIN WATERMASTER
Partners in Basin Management

Estimated Location of Water Quality Anomalies, SYR1 and LSLS Scenarios
July 2038

Figure 3-9

3.7 Summary of Adverse Impacts and MPI

Table 3-2 below summarizes the impacts to the Chino Basin and the parties from implementation of the LSLS scenario.

Table 3-2. Summary of Potential MPI and Adverse Impacts

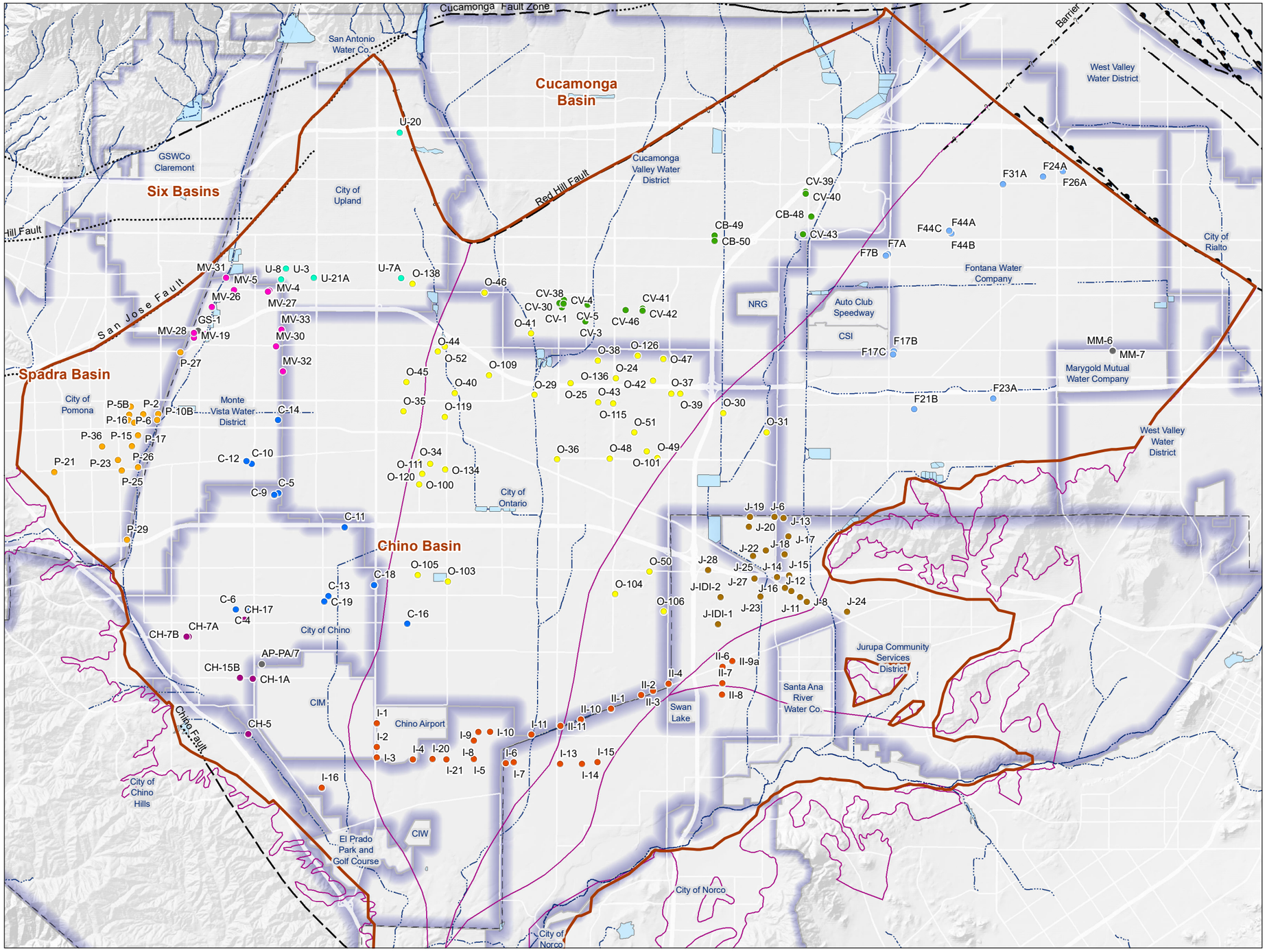
Potential Adverse Impact/MPI Category	Adverse Impacts?[(a)]	Comment
Net recharge and Safe Yield	No: • This is a minor economic impact to the Parties. • This economic impact is offset by the OBMP's prospective calculation of the Safe Yield on a going-forward basis	The LSLS scenario will temporarily reduce net recharge of 600 afy from 2019 through 2032. This is not an environmental impact, but rather an adverse economic impact to the Parties that can be mitigated by the prospective calculation of the Safe Yield under the OBMP. The reduction in net recharge through implementation of the LSLS scenario will diminish over time and is projected to be completely offset by 2050. By 2050, the net recharge in the LSLS scenario increases when compared to the baseline scenario by about 500 afy.
Pumping sustainability	No	No new pumping sustainability challenges are projected to occur
New land subsidence	No	No new land subsidence is projected to occur.
State of Hydraulic Control	No	Hydraulic Control is projected to be maintained through 2035.
Direction and speed of known plumes	No	The LSLS scenario results in a negligible impact on the direction and speed of known plumes.

(a) Will potential adverse impacts or MPI in the LSLS scenario occur through 2035 such that a significant environmental impact would occur?

The groundwater level impacts are spatially varying, and they are evaluated within the impact assessment for new land subsidence and pumping sustainability.

Appendix A

Hydrographs of Projected Groundwater Elevations with Pumping and New Land Subsidence Sustainability Metrics



Groundwater Model Wells

- City of Chino
- City of Chino Hills
- City of Corona
- City of Ontario
- City of Pomona
- City of Upland
- Cucamonga Valley Water District
- Fontana Water Company
- Jurupa Community Services District
- Monte Vista Water District
- CDA
- Other

Streams & Flood Control Channels

Flood Control & Conservation Basins

Water Service Area

Chino Basin Part of the Active CVM MODFLOW Domain

OBMP Management Zones

Faults

- Location Certain
- Location Approximate
- Approximate Location of Groundwater Barrier
- Location Concealed
- Location Uncertain

Prepared by:

WEST YOST

Author: LS
Date: 2/4/2021
File: Figure A-1 Location of Wells with HG.mxd

0 1 2 3 4 5 Miles

0 2 4 6 8 Km

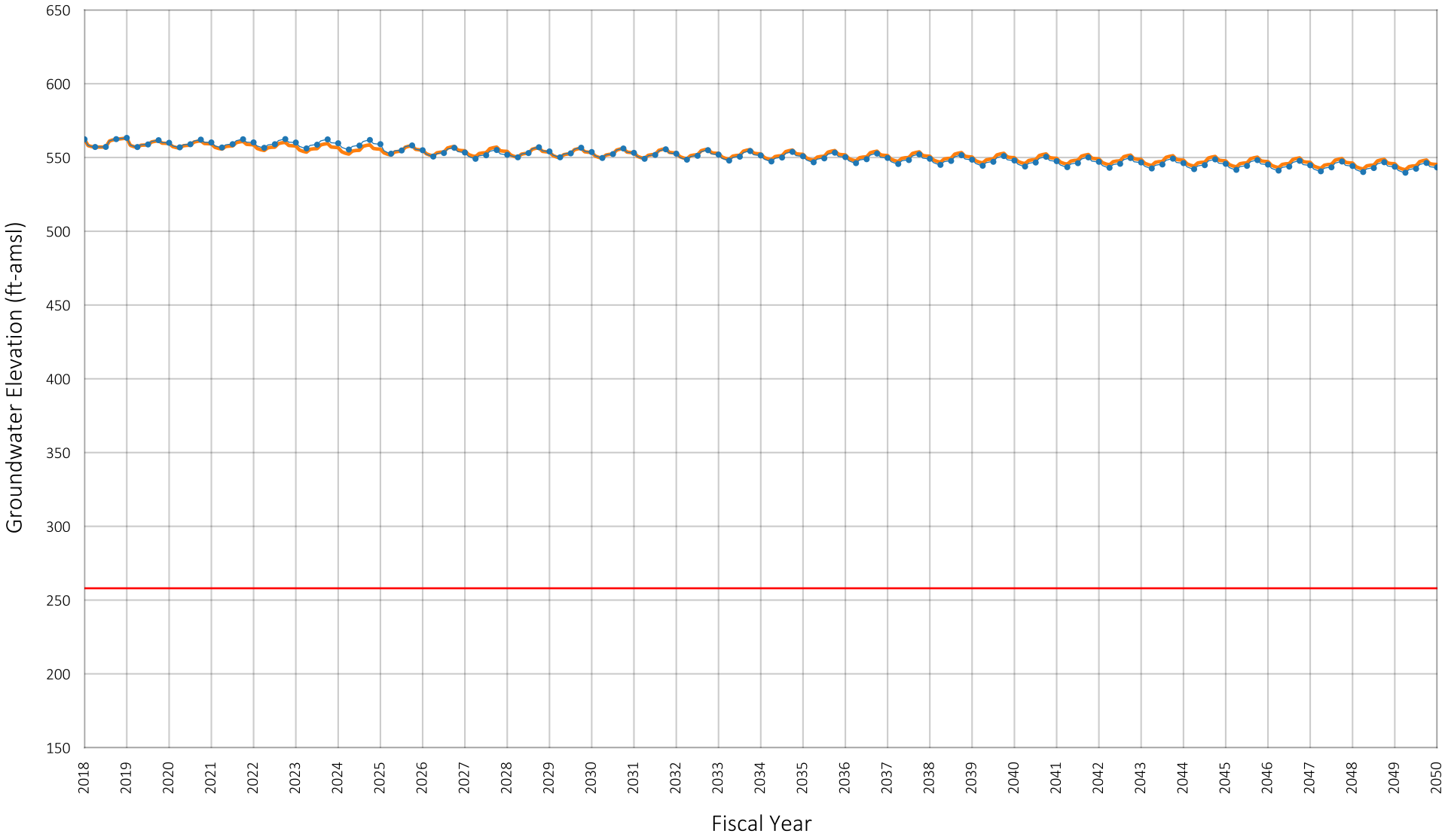
Prepared for:

Evaluation of the Local Storage Limitation Solution

CHINO BASIN WATERMASTER
Partners in Basin Management

Location of Wells with Groundwater Elevation Time Series in Appendix A

Figure A-1



Location of Well in Chino Basin

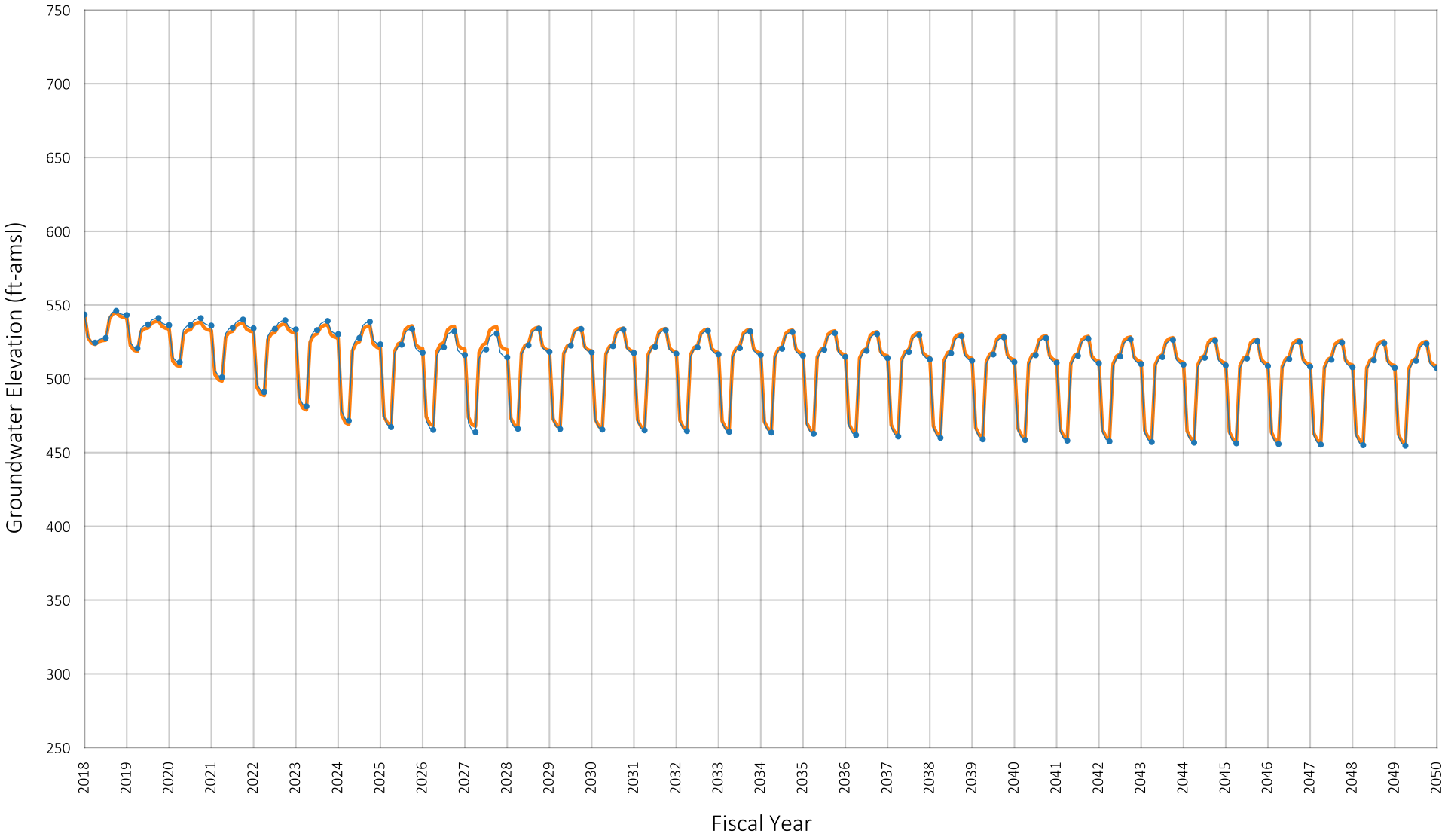
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1004280
Owner: City of Chino Hills
Well Name: 1A

Figure A-2

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

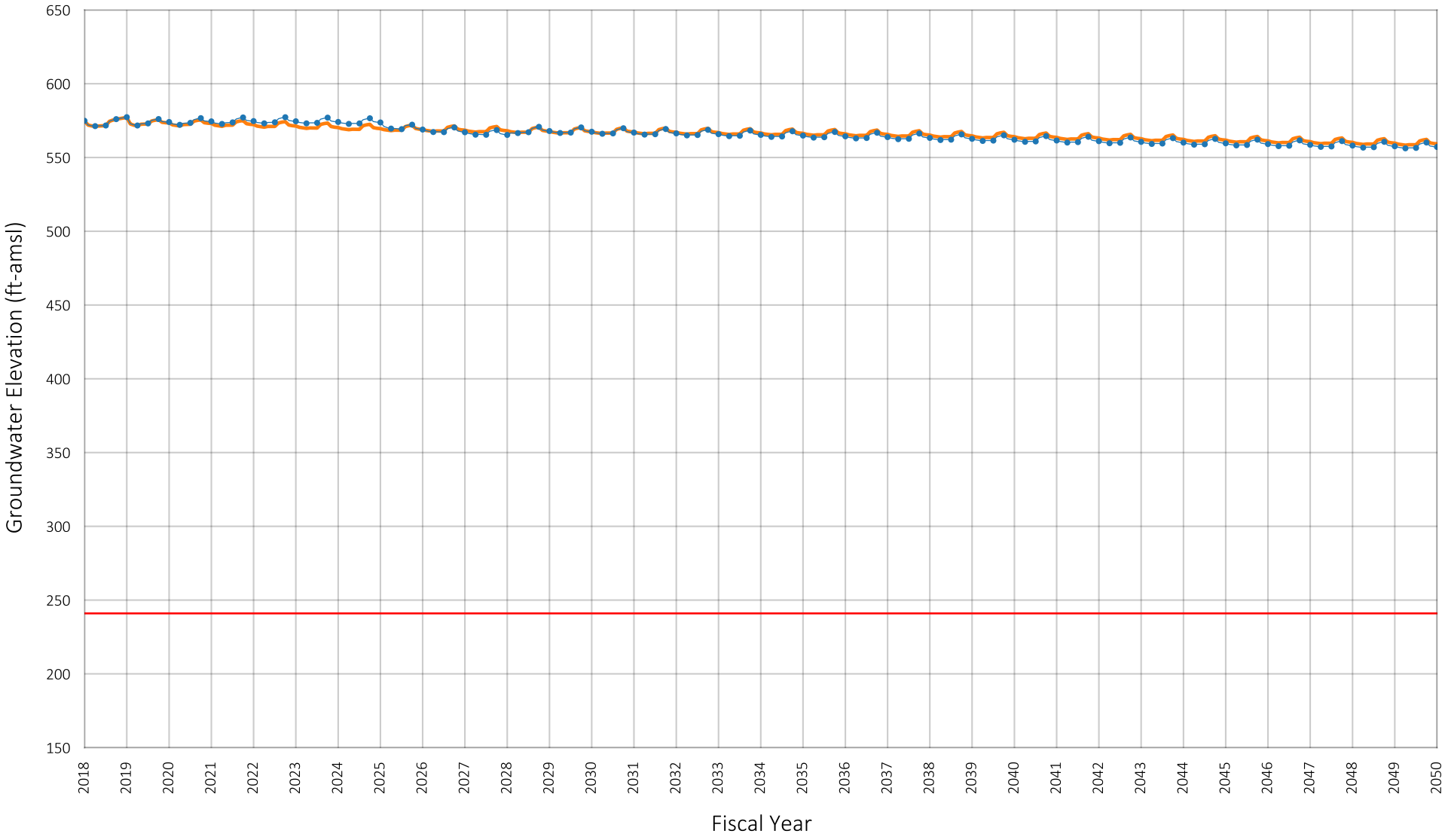
SYR1
LSLS

Projected Groundwater Elevation
Well ID#: 1207336
Owner: City of Chino Hills
Well Name: 5

Figure A-3

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

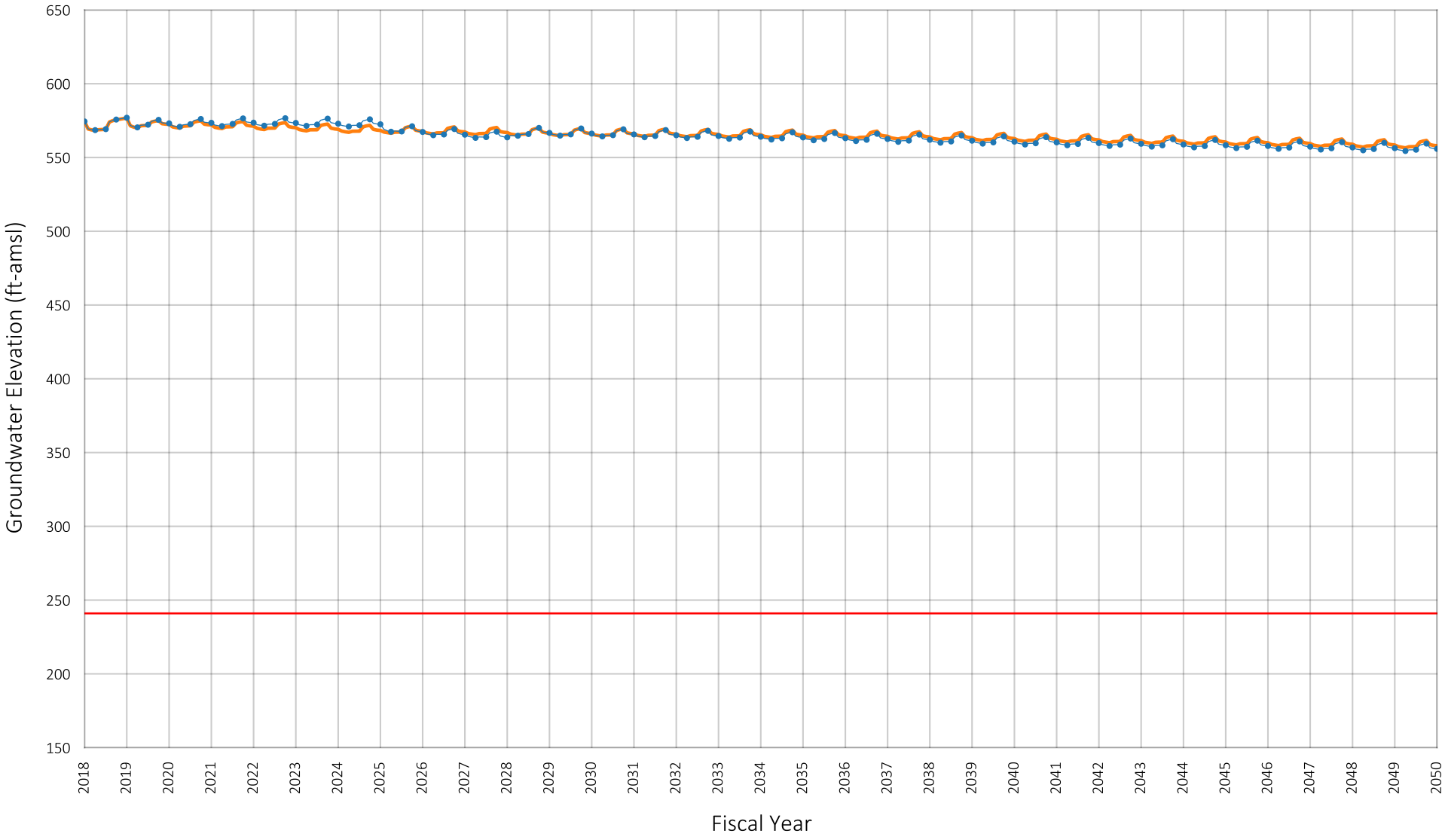
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1004215
Owner: City of Chino Hills
Well Name: 7A

Figure A-4

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

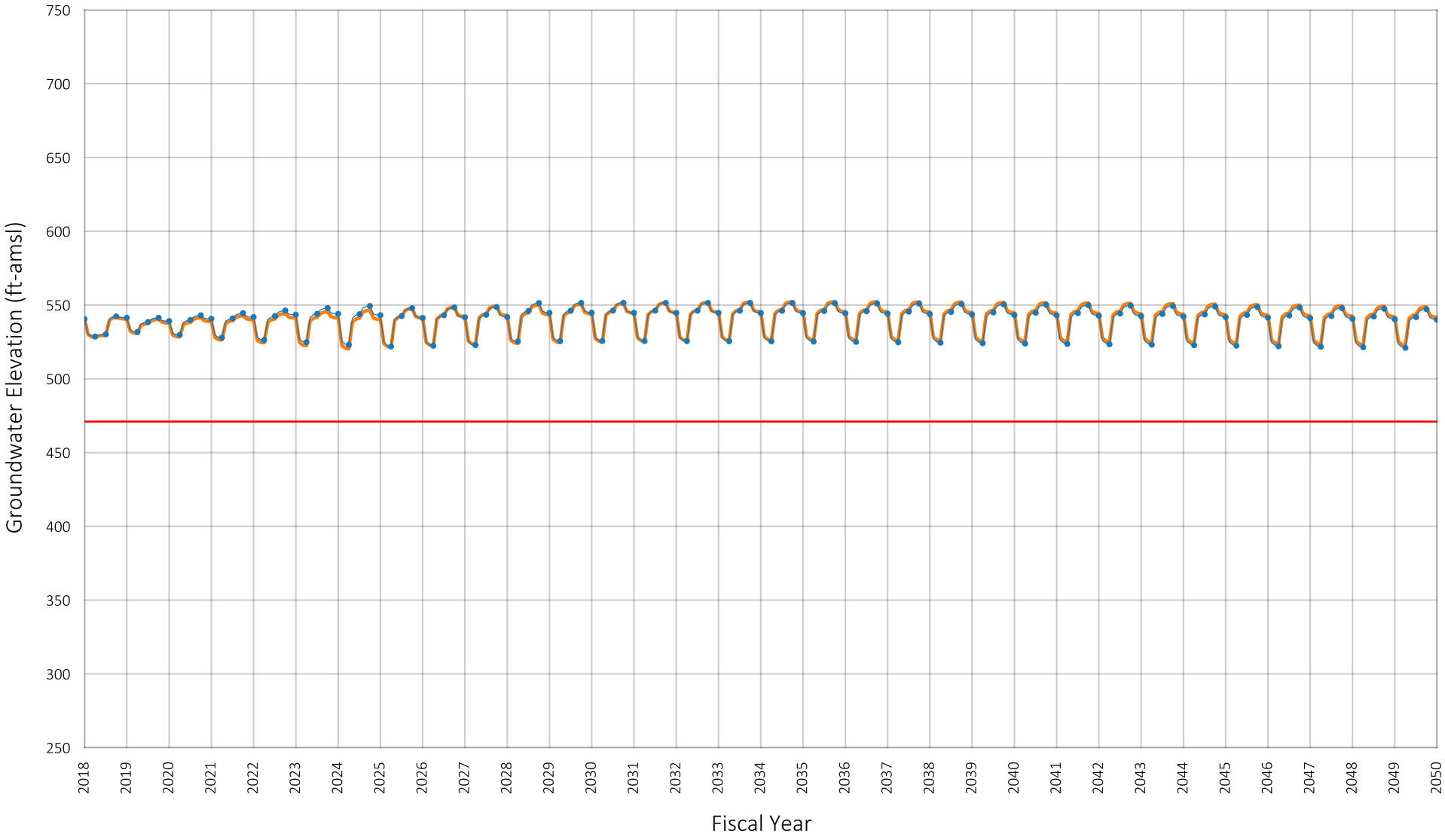
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1004216
Owner: City of Chino Hills
Well Name: 7B

Prepared by:

WEST YOST
Water. Engineered.

Figure A-5



Location of Well in Chino Basin

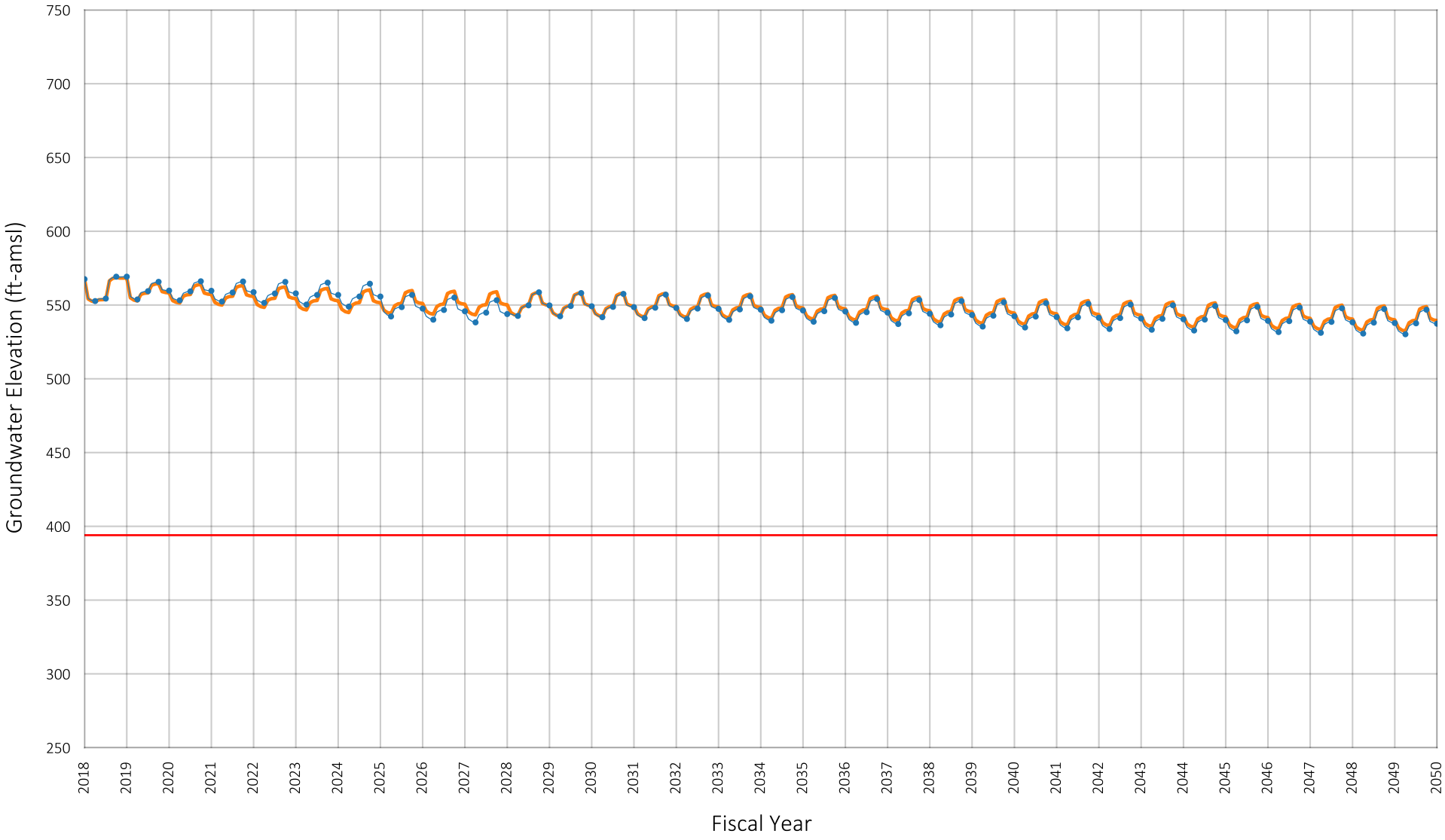
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1203214
Owner: City of Chino Hills
Well Name: 15B

Prepared by:

WEST YOST
Water. Engineered.

Figure A-6



Location of Well in Chino Basin

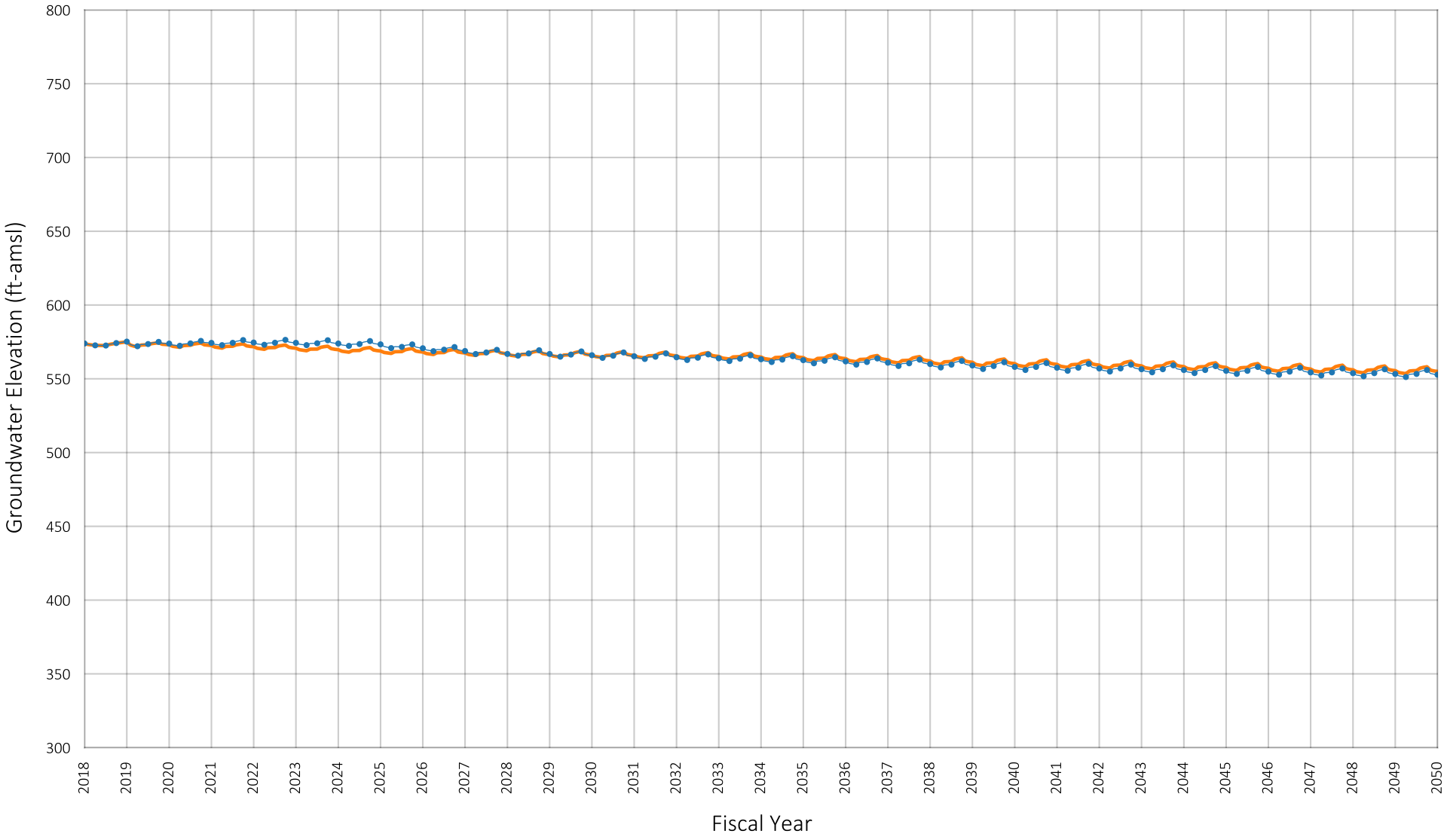
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1004179
Owner: City of Chino Hills
Well Name: 17

Prepared by:

WEST YOST
Water. Engineered.

Figure A-7



Location of Well in Chino Basin

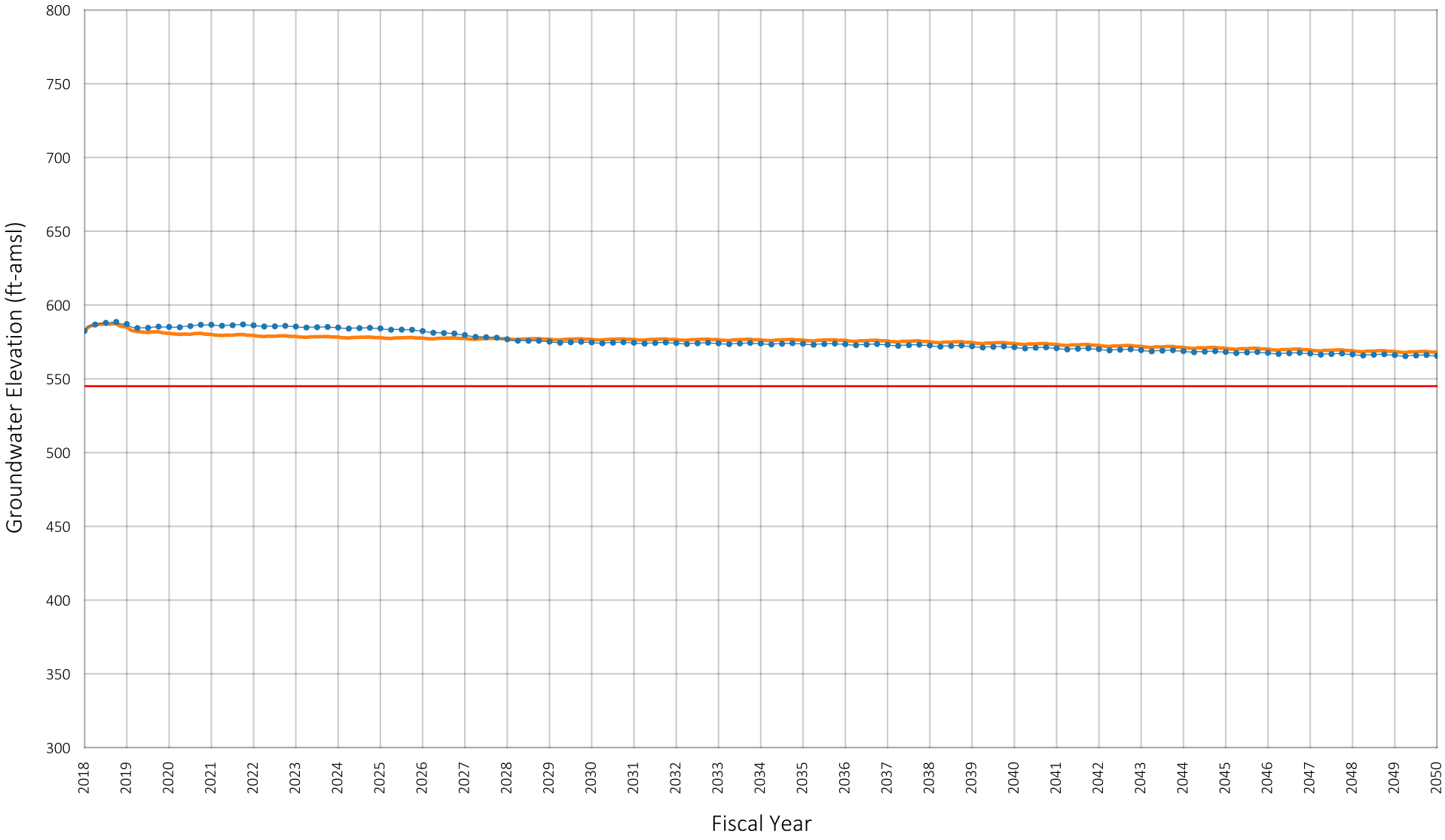
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1004178
Owner: City of Chino
Well Name: 4

Figure A-8



Location of Well in Chino Basin

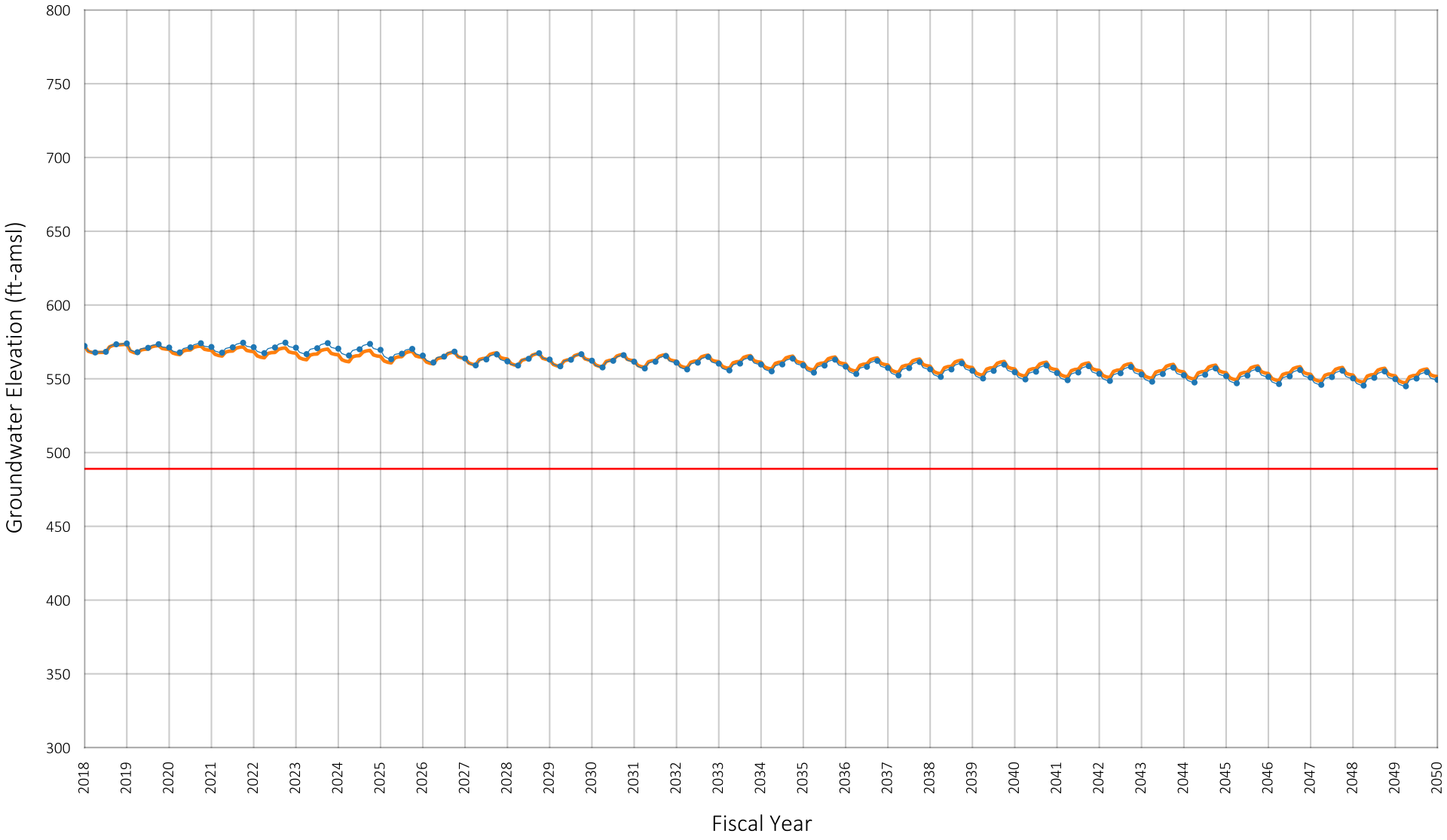
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002741
Owner: City of Chino
Well Name: 5

Prepared by:

WEST YOST
Water. Engineered.

Figure A-9



Location of Well in Chino Basin

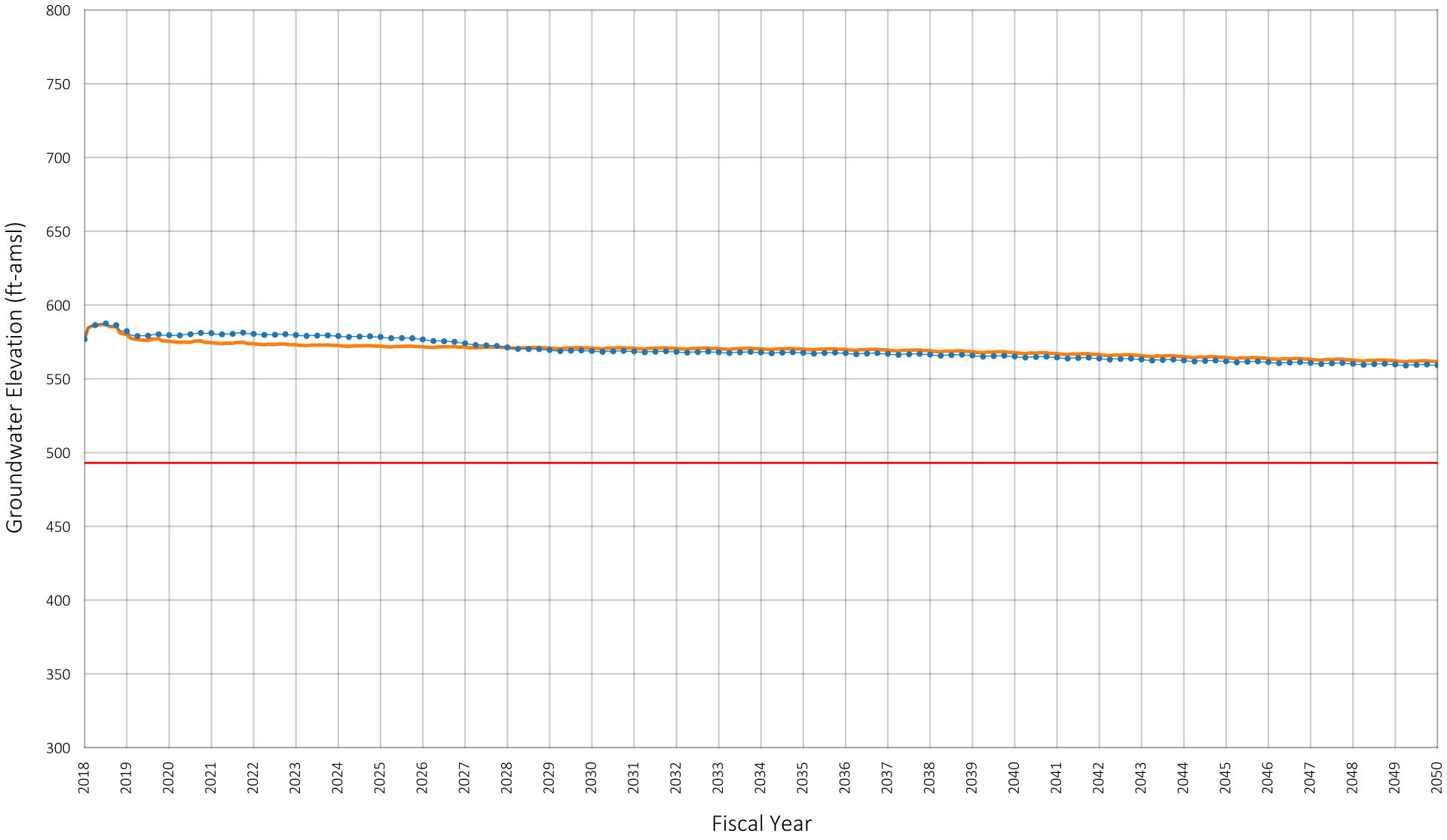
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1004176
Owner: City of Chino
Well Name: 6

Figure A-10

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

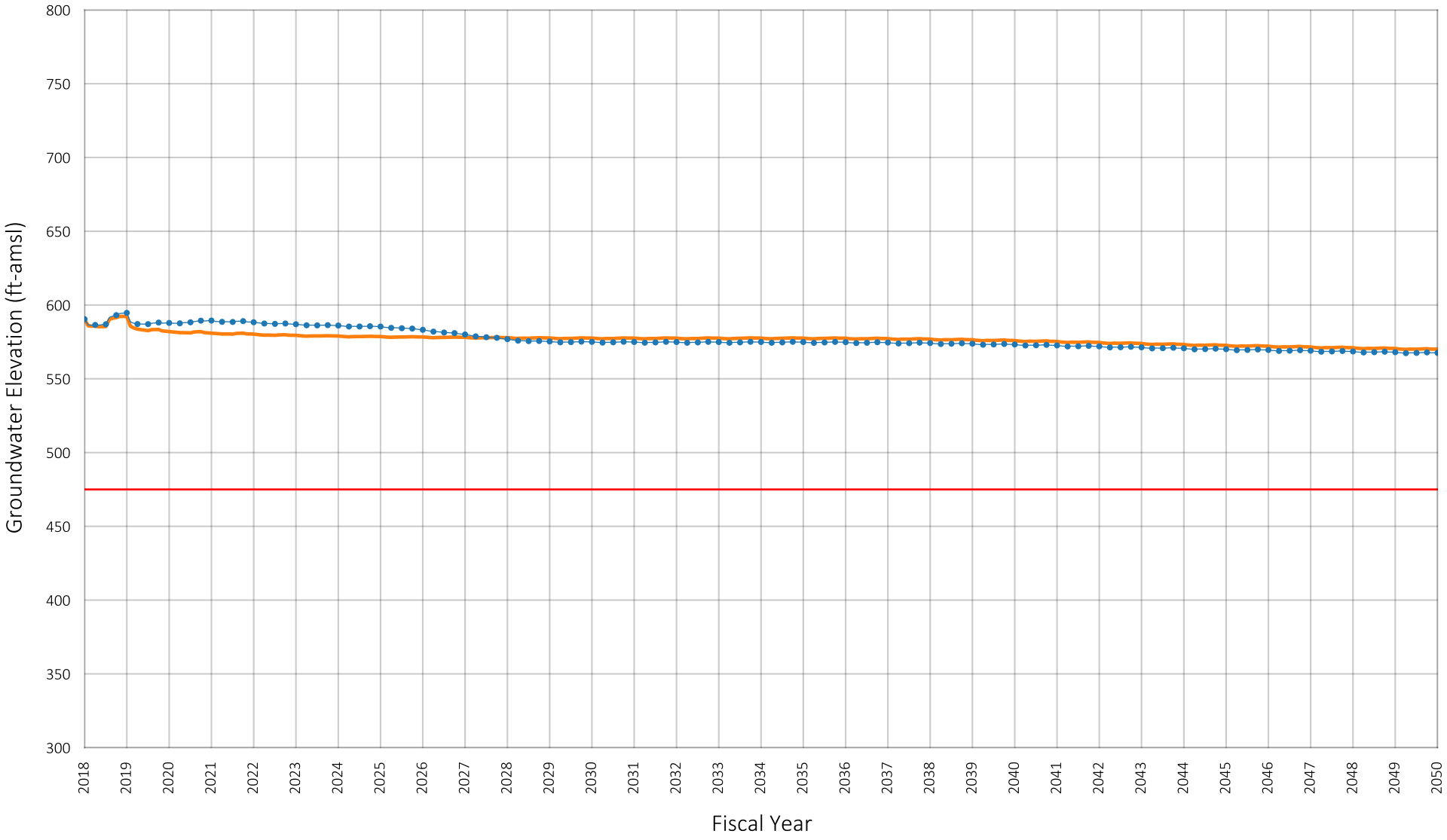
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002743
Owner: City of Chino
Well Name: 9

Figure A-11

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

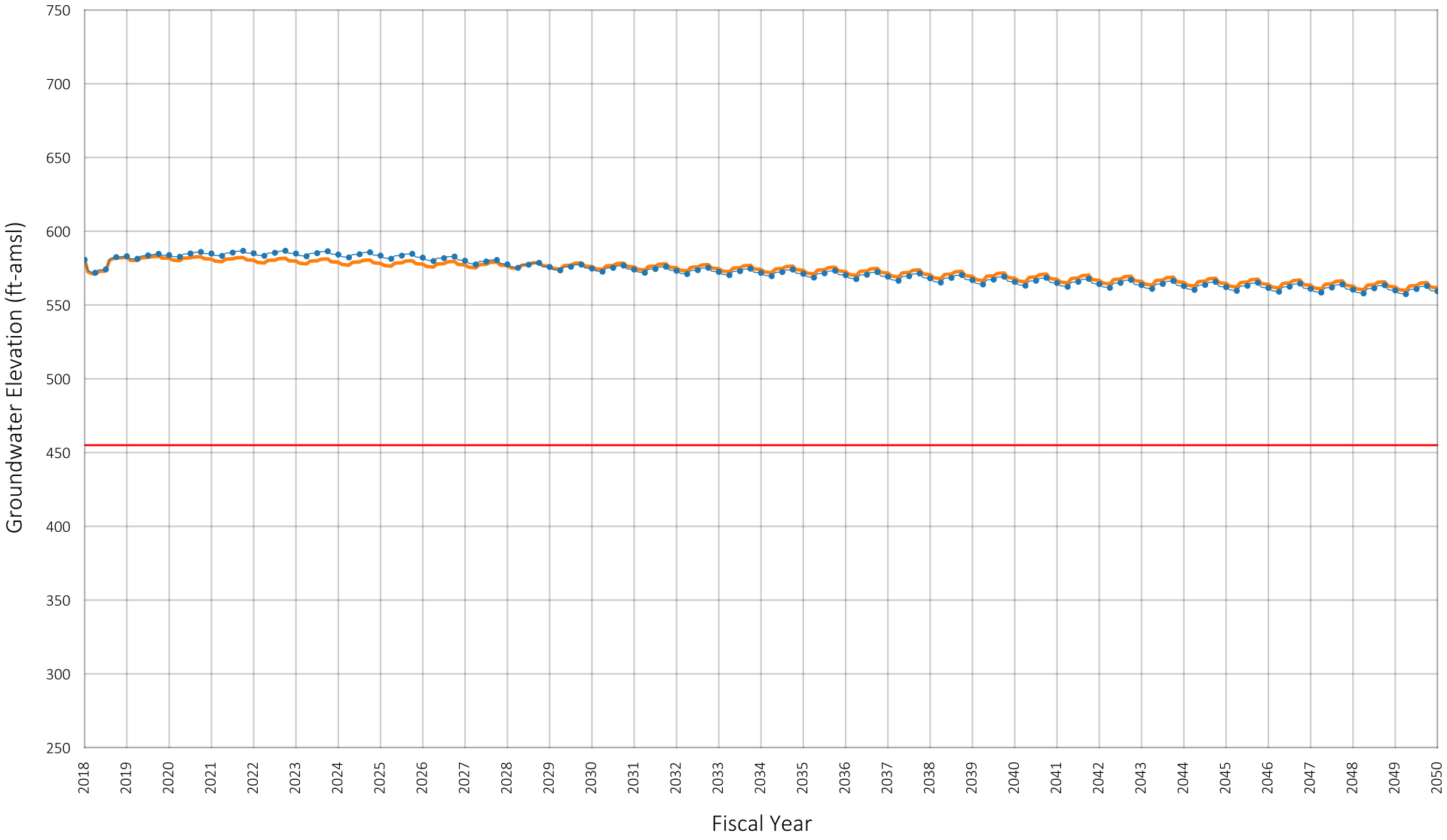
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1203283
Owner: City of Chino
Well Name: 10

Figure A-12

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

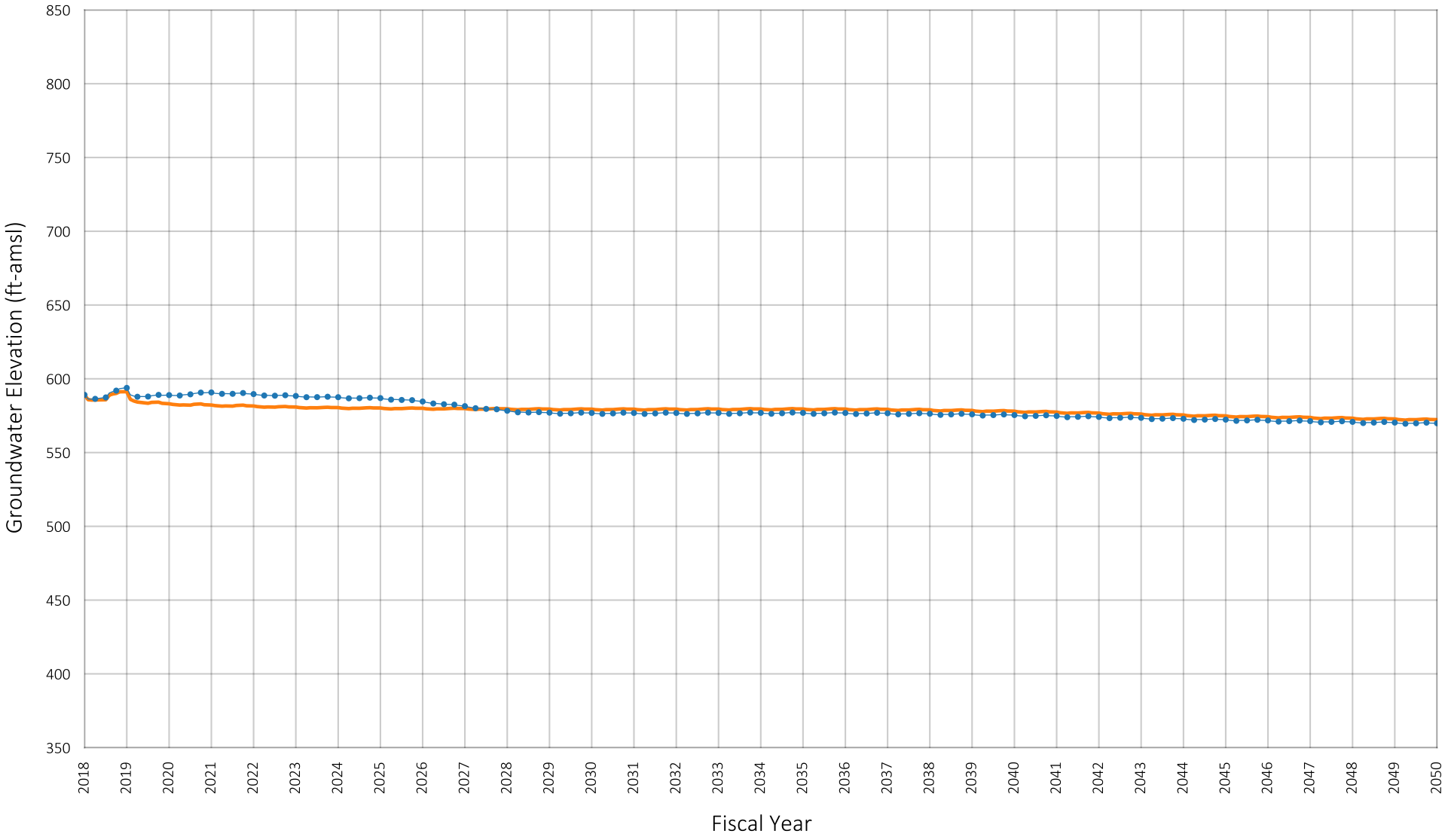
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003741
Owner: City of Chino
Well Name: 11

Prepared by:

WEST YOST
Water. Engineered.

Figure A-13



Location of Well in Chino Basin

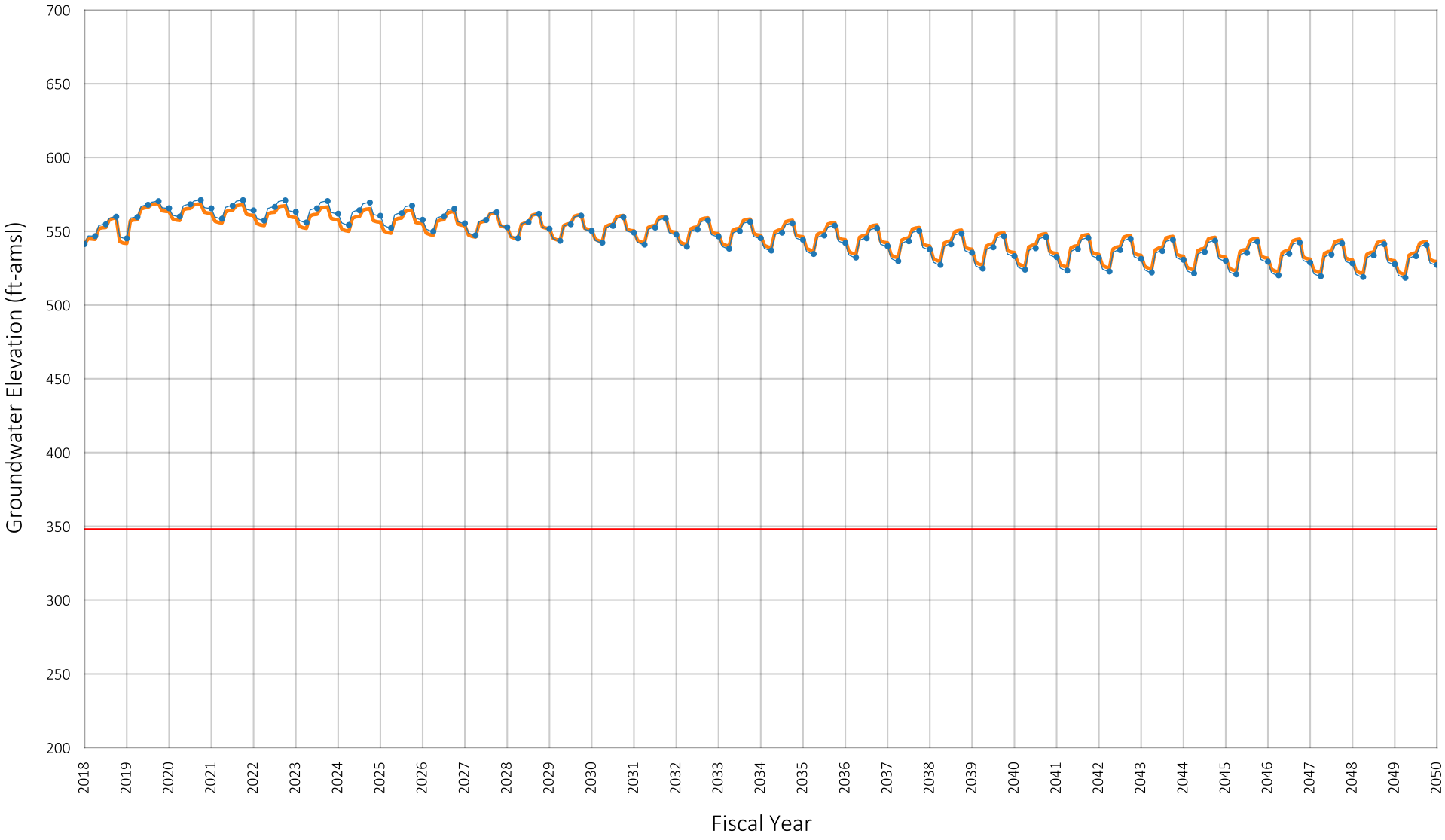
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002739
Owner: City of Chino
Well Name: 12

Figure A-14



Location of Well in Chino Basin

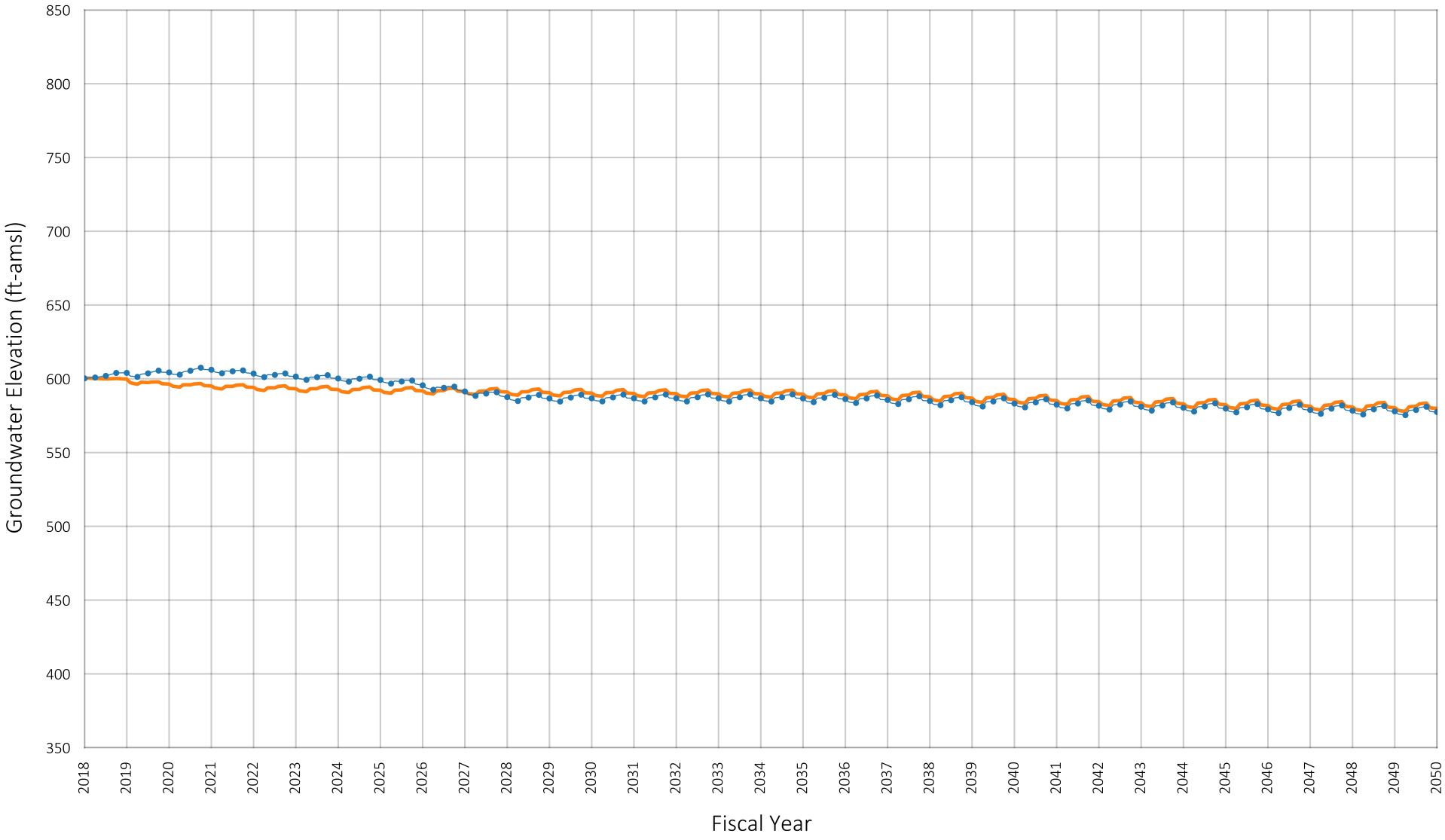
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1004185
Owner: City of Chino
Well Name: 13

Prepared by:

WEST YOST
Water. Engineered.

Figure A-15



Location of Well in Chino Basin

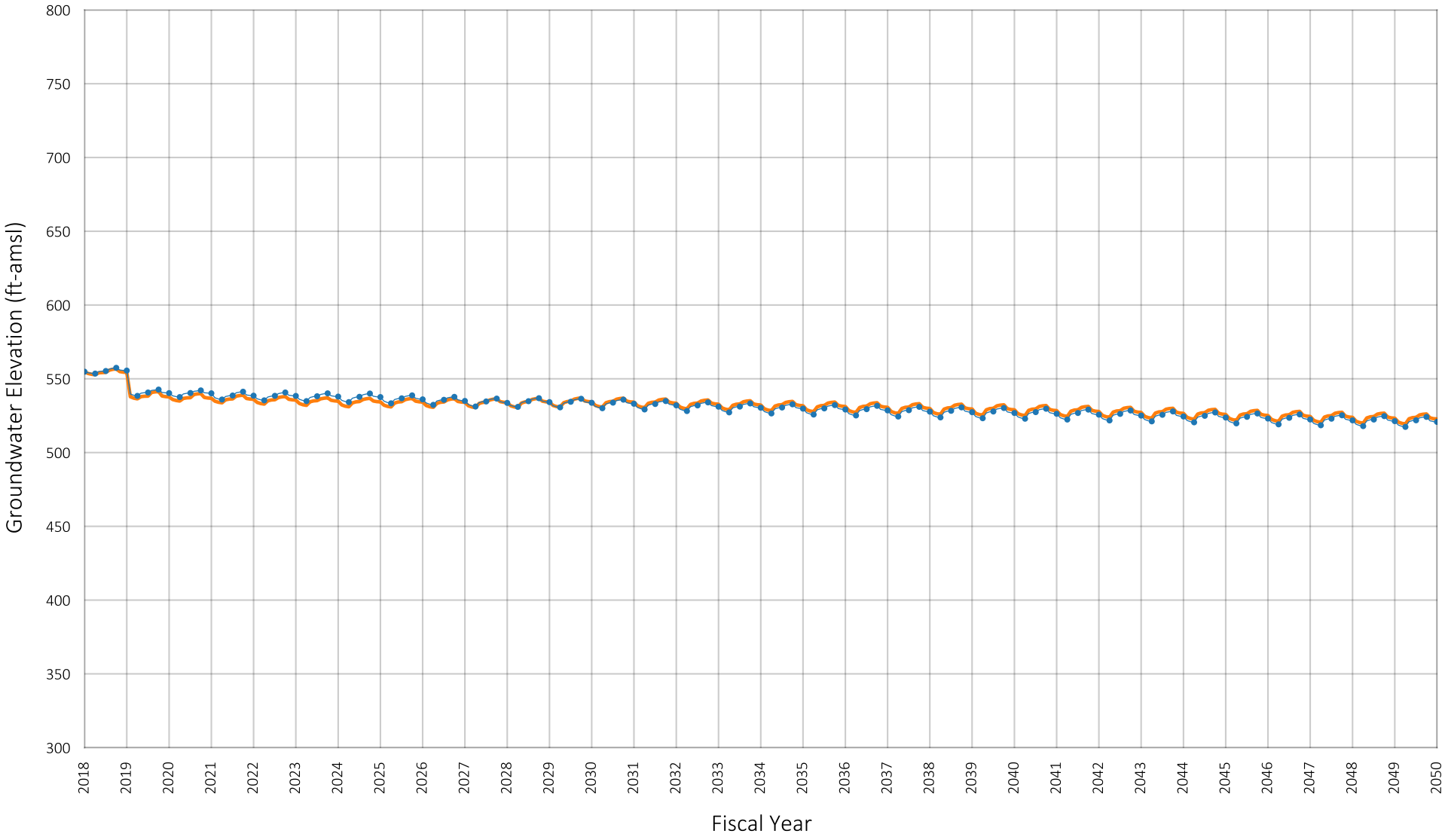
SYR1
LSLS

Projected Groundwater Elevation
Well ID#: 1002645
Owner: City of Chino
Well Name: 14

Figure A-16

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

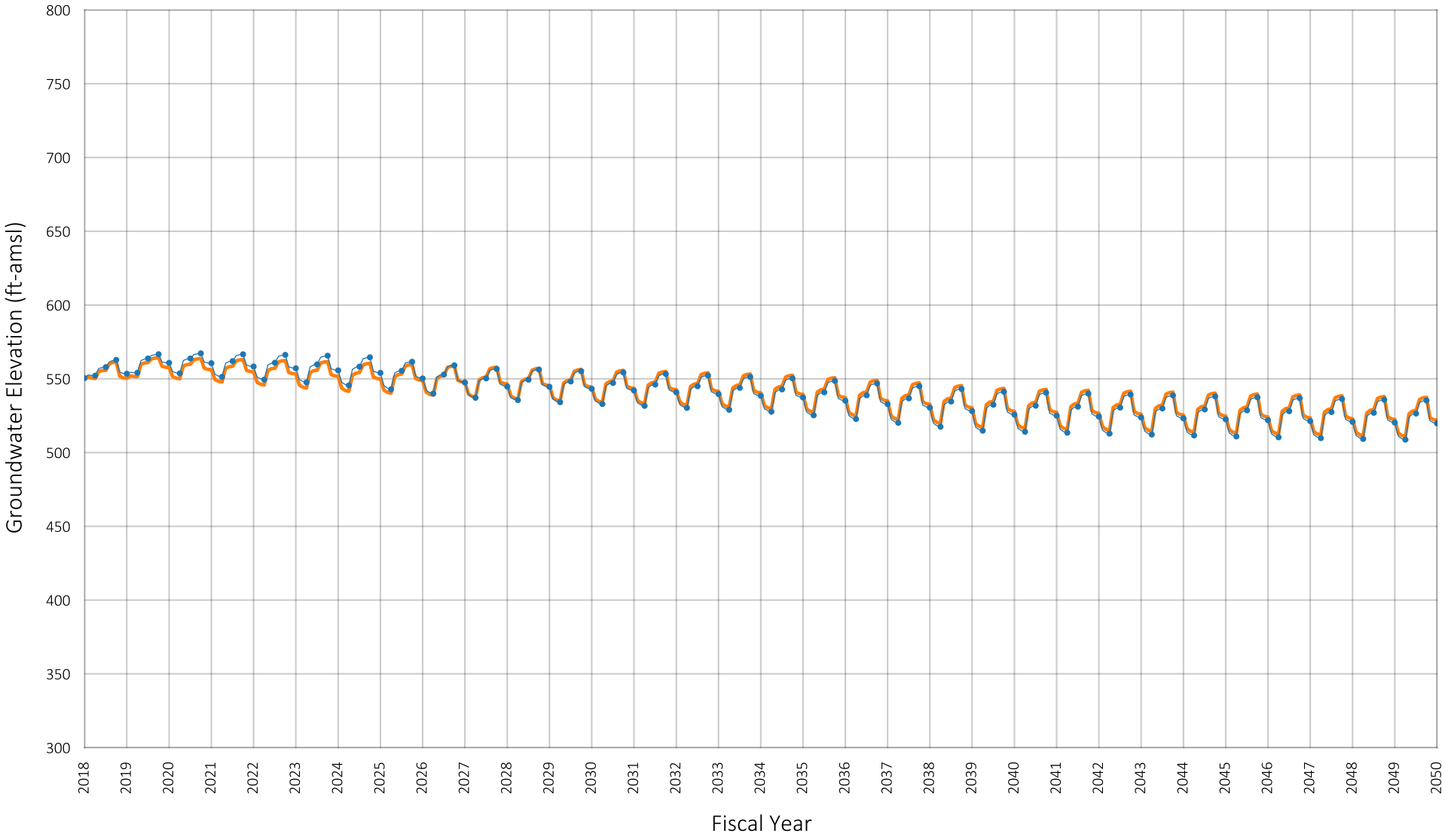
SYR1
LSLS

Projected Groundwater Elevation
Well ID#: 1208673
Owner: City of Chino
Well Name: 16

Figure A-17

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

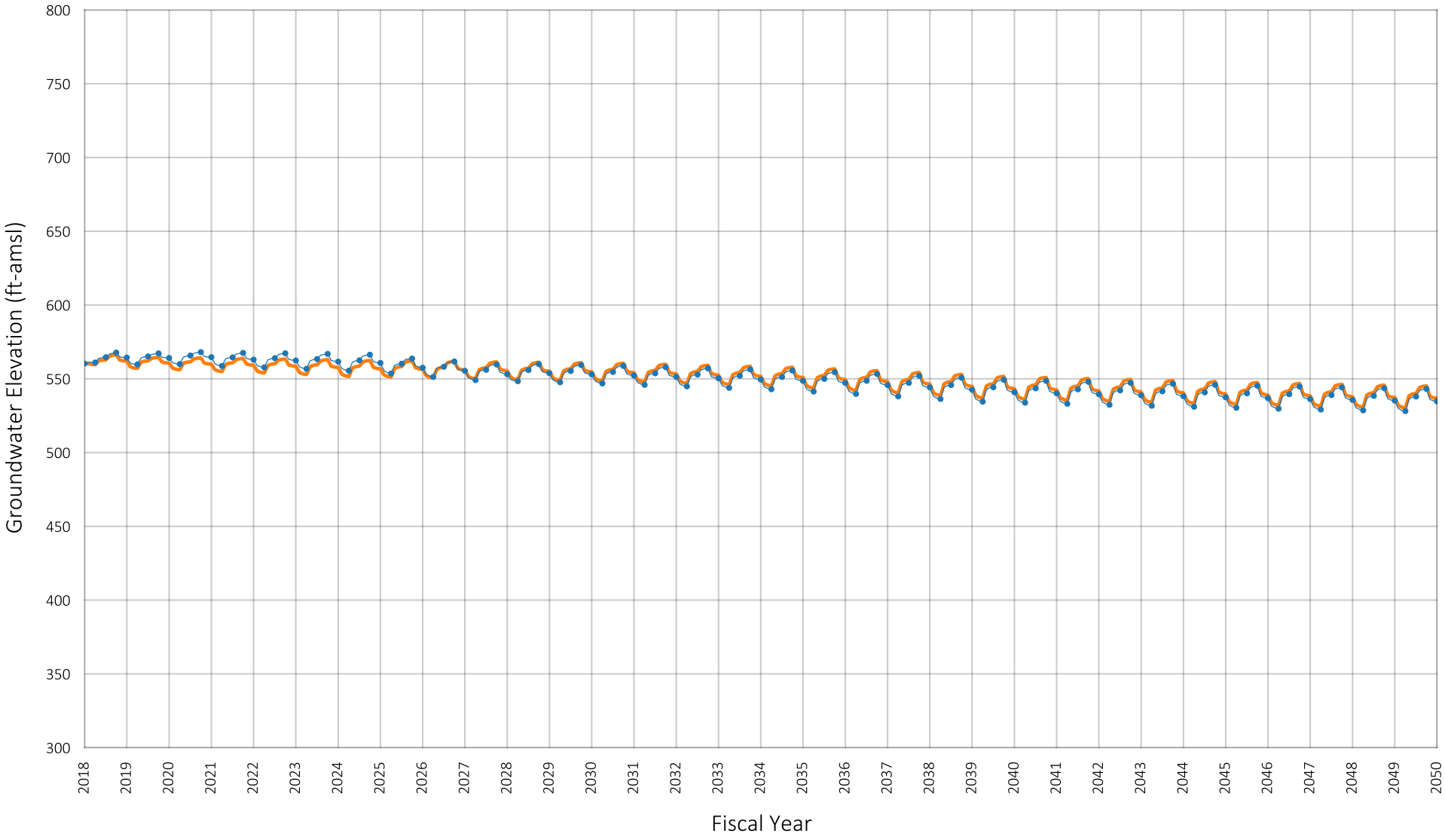
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1234063
Owner: City of Chino
Well Name: 19

Figure A-18



Location of Well in Chino Basin

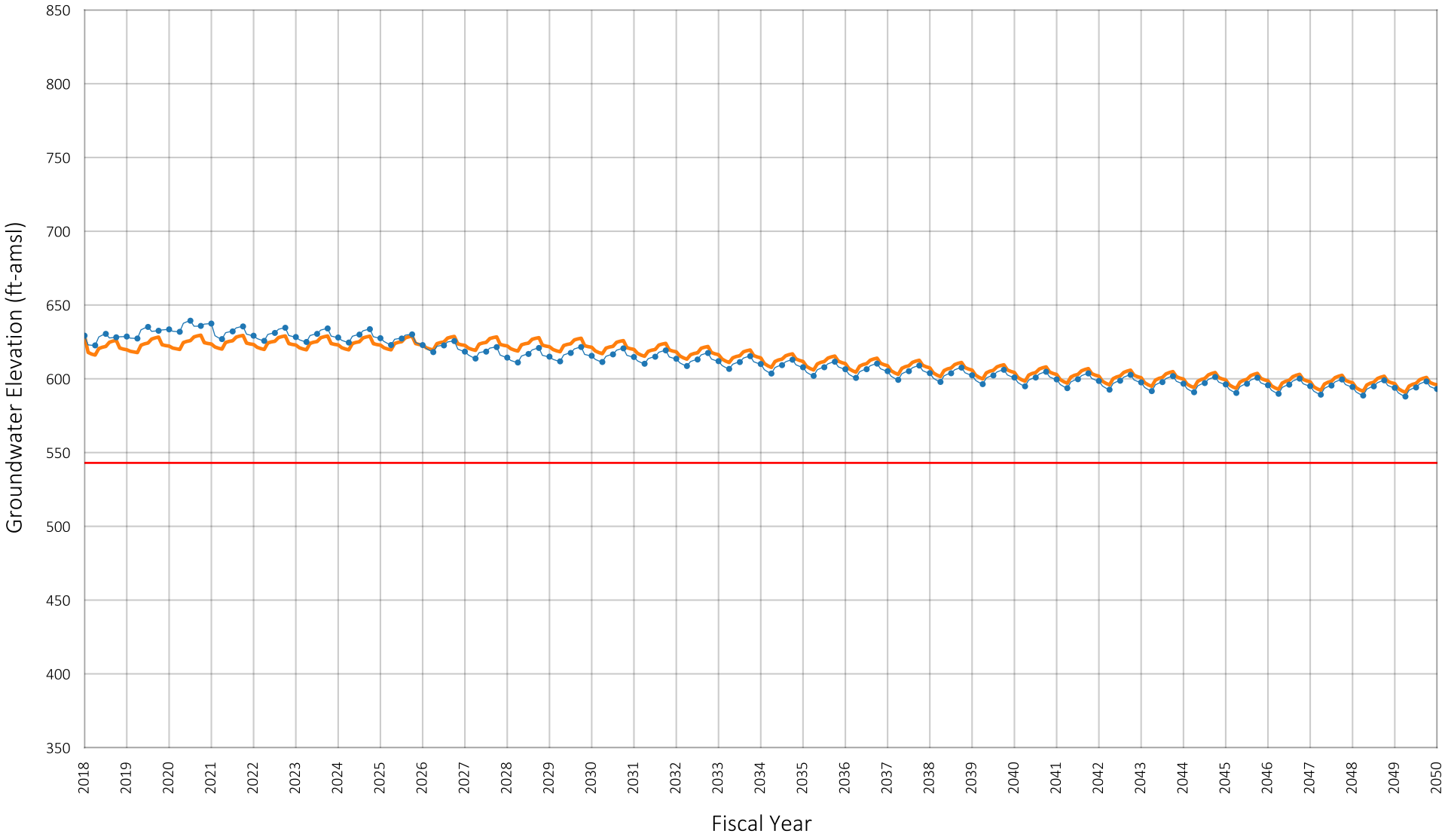
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1224773
Owner: City of Chino
Well Name: 18

Figure A-19



Location of Well in Chino Basin

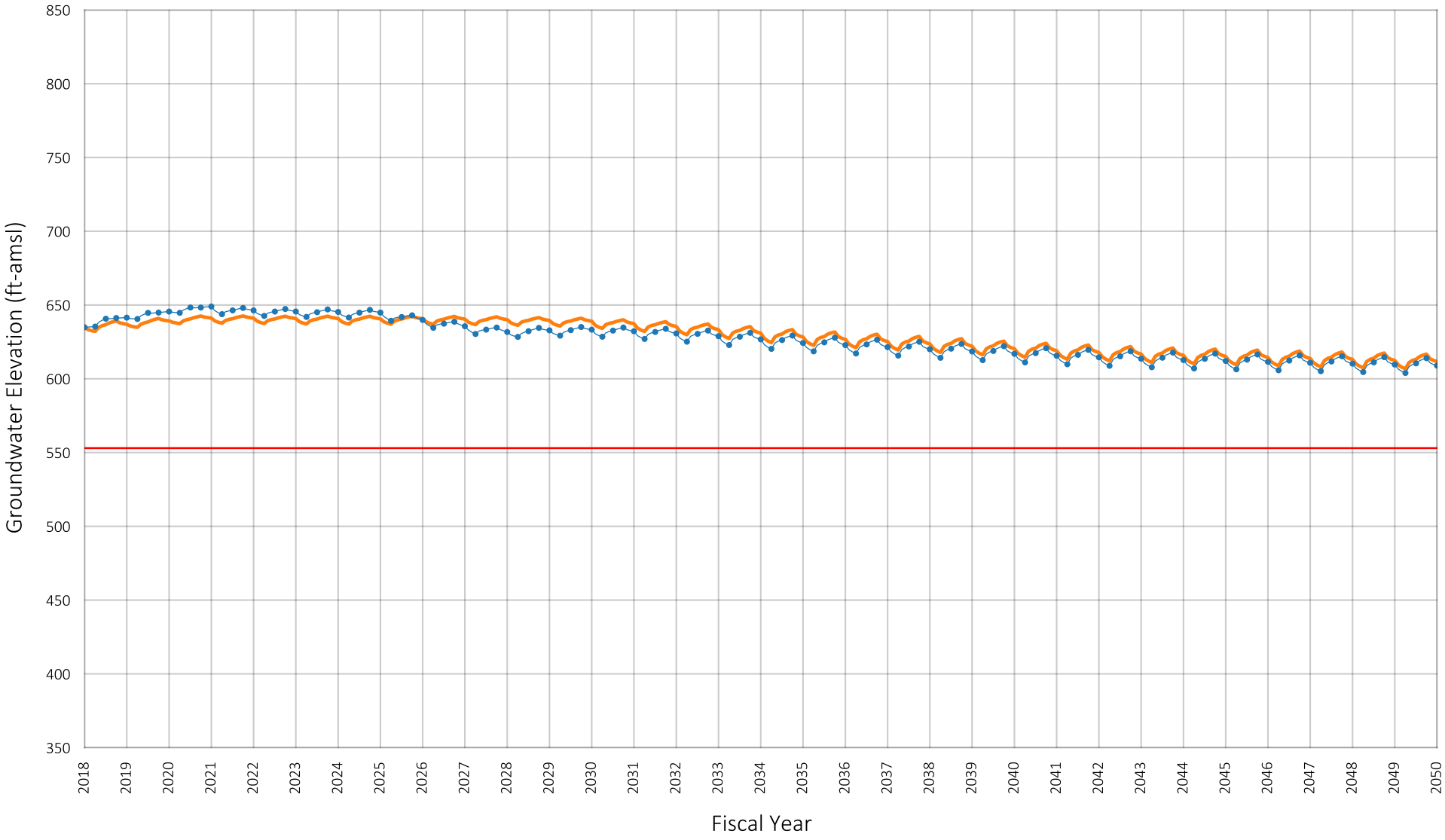
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002309
Owner: Cucamonga Valley Water District
Well Name: CB-1

Figure A-20

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

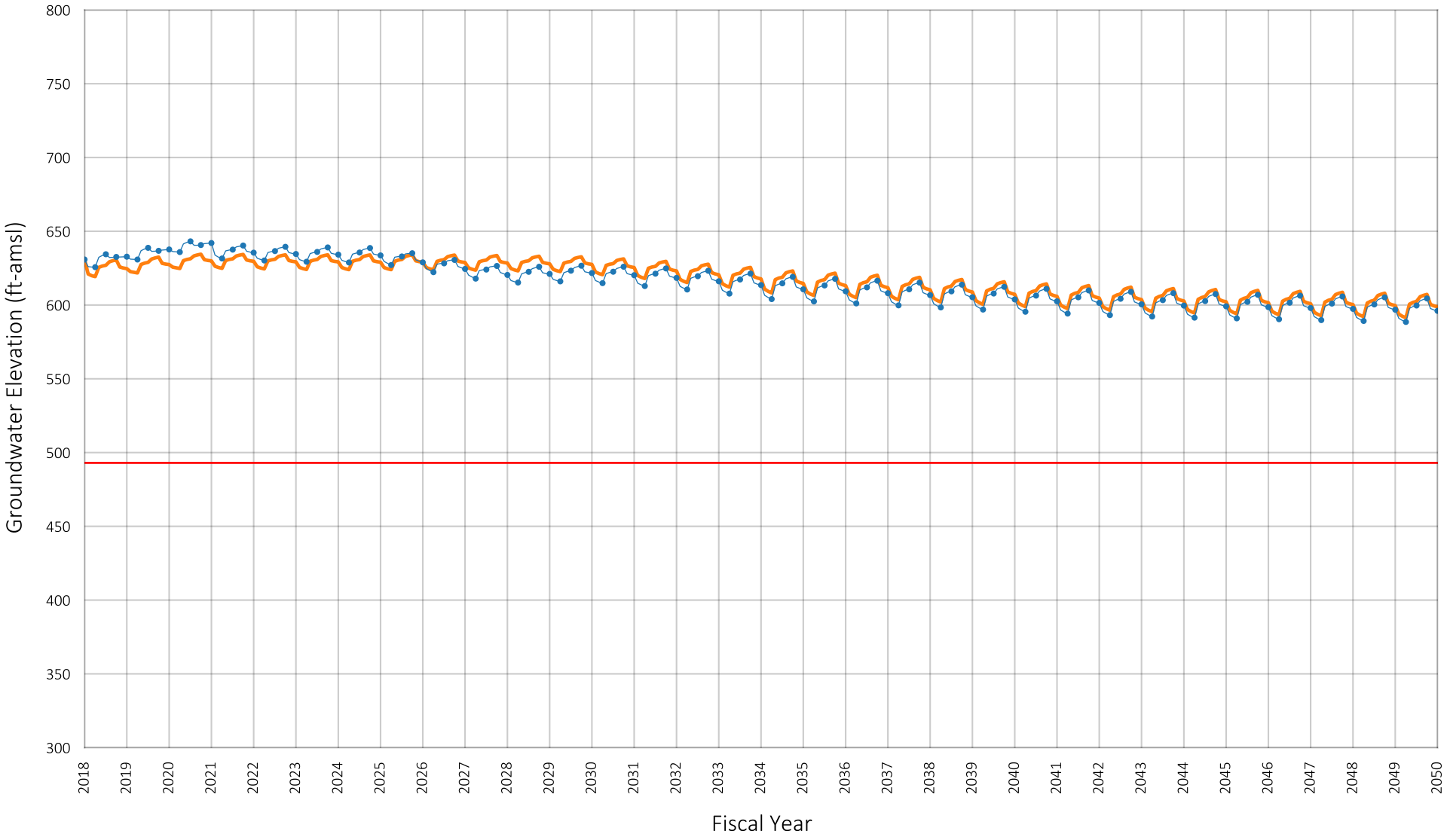
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002312
Owner: Cucamonga Valley Water District
Well Name: CB-3

Figure A-21

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

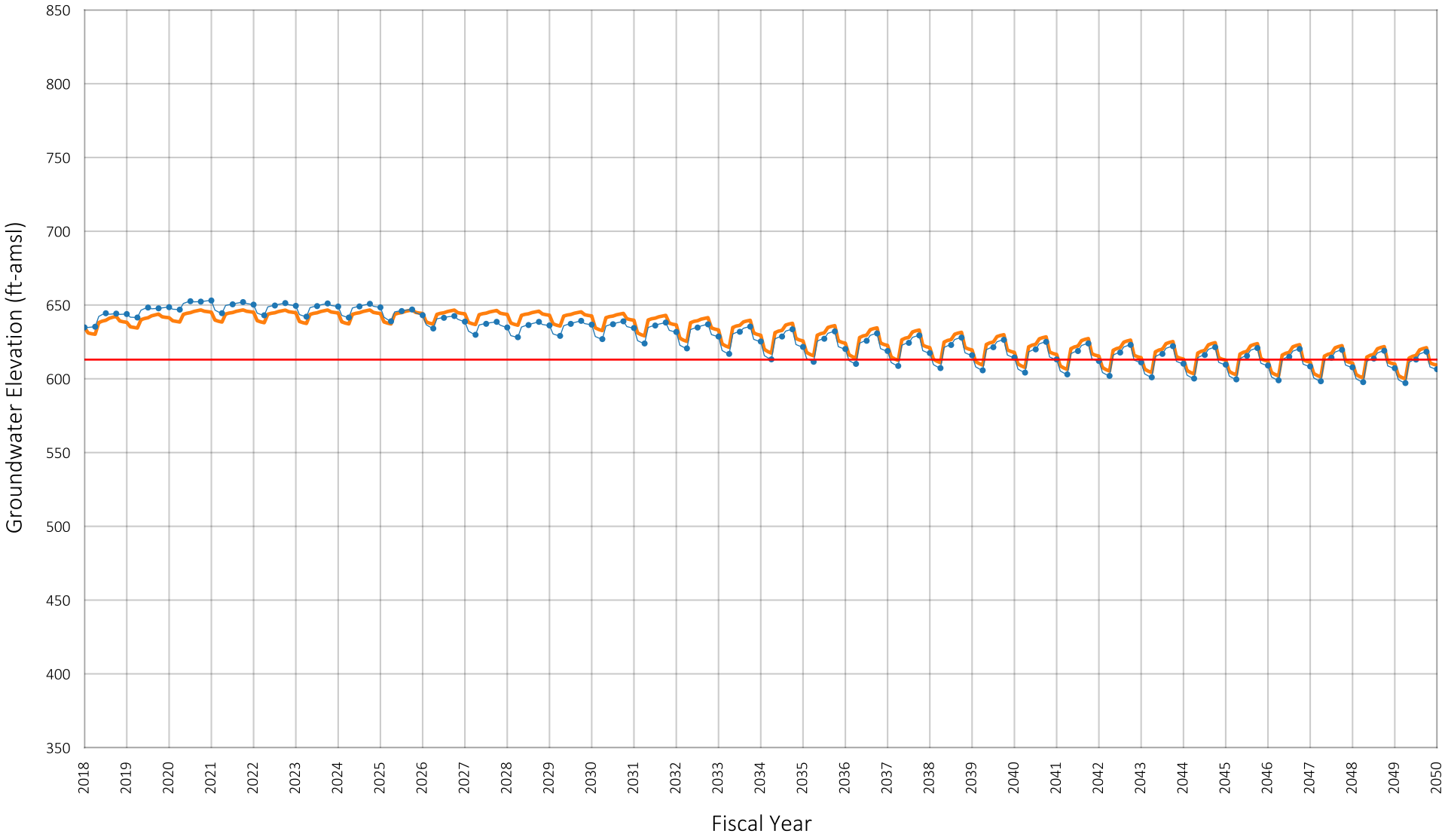
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002307
Owner: Cucamonga Valley Water District
Well Name: CB-4

Figure A-22

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

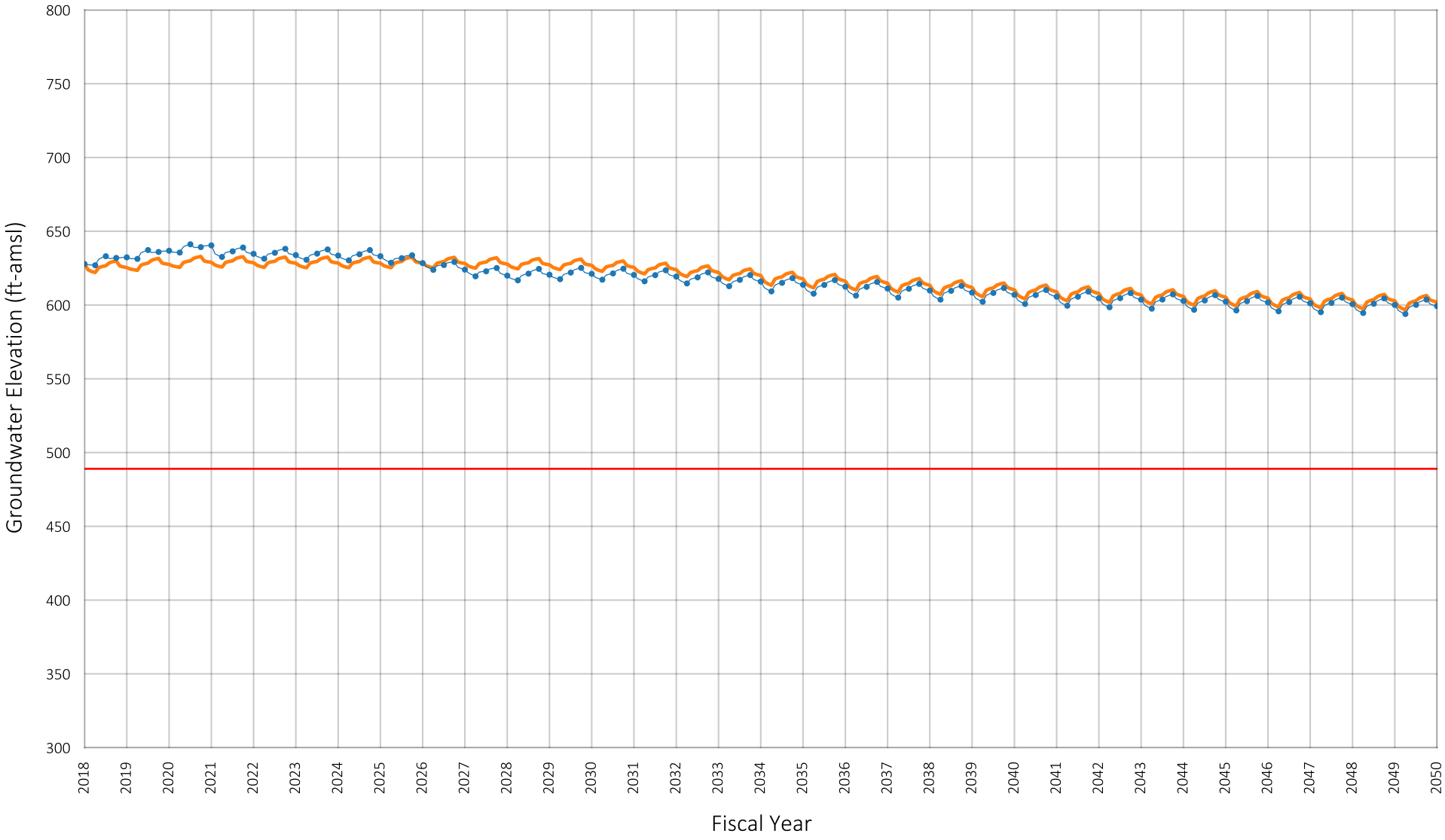
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002311
Owner: Cucamonga Valley Water District
Well Name: CB-5

Figure A-23

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

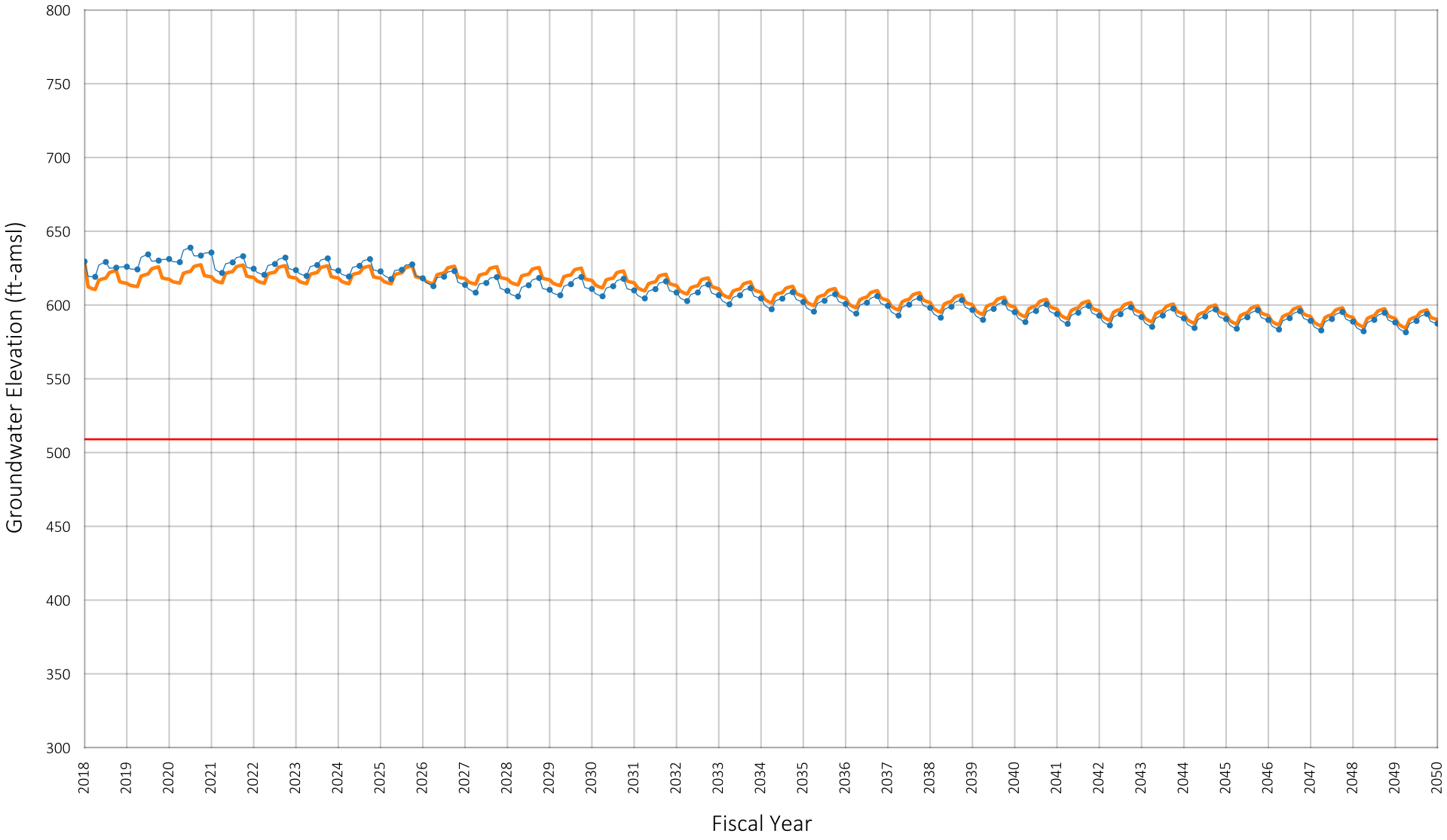
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002308
Owner: Cucamonga Valley Water District
Well Name: CB-30

Prepared by:

WEST YOST
Water. Engineered.

Figure A-24



Location of Well in Chino Basin

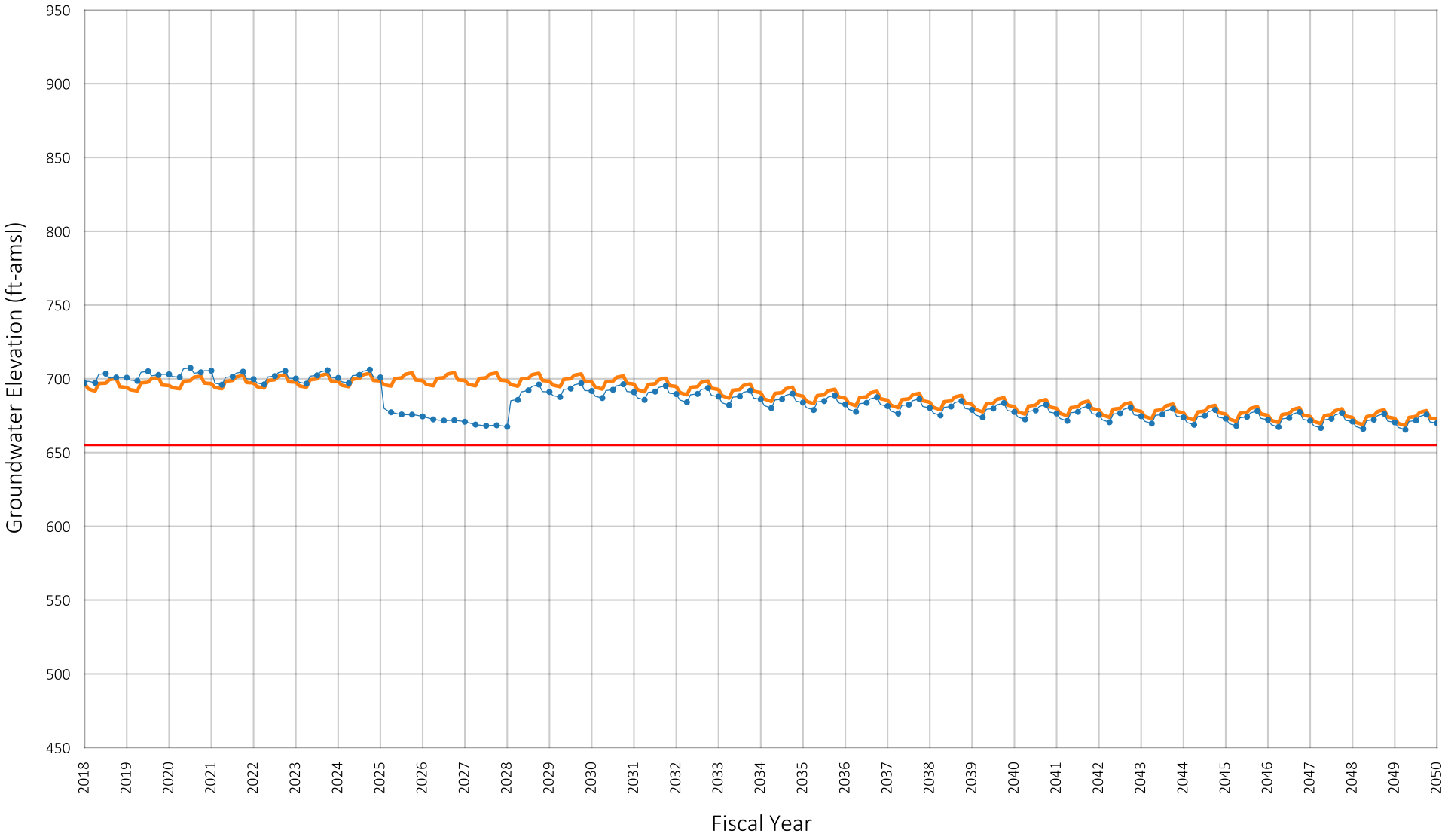
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206753
Owner: Cucamonga Valley Water District
Well Name: CB-38

Figure A-25

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

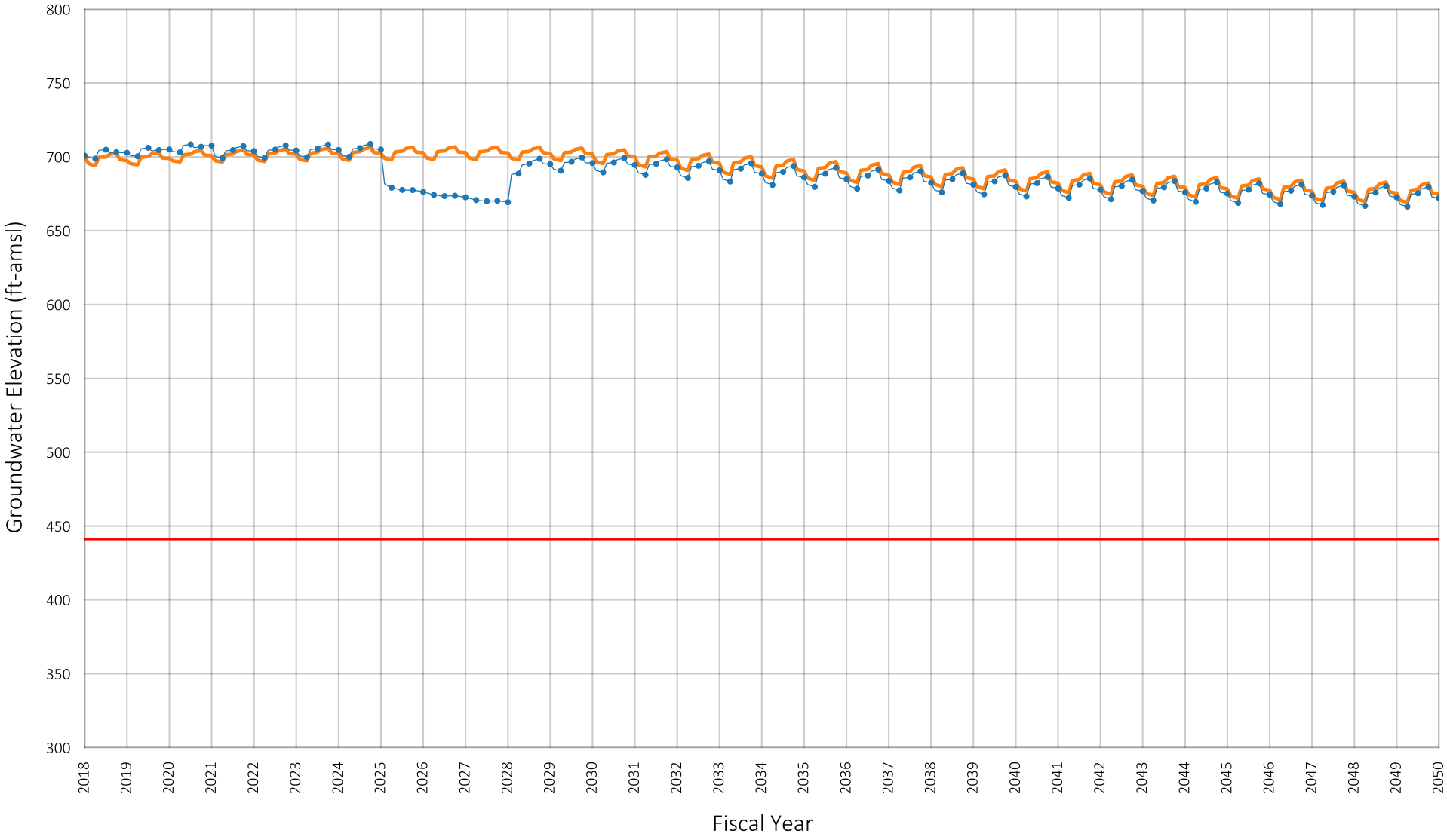
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207928
Owner: Cucamonga Valley Water District
Well Name: CB-39

Figure A-26

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

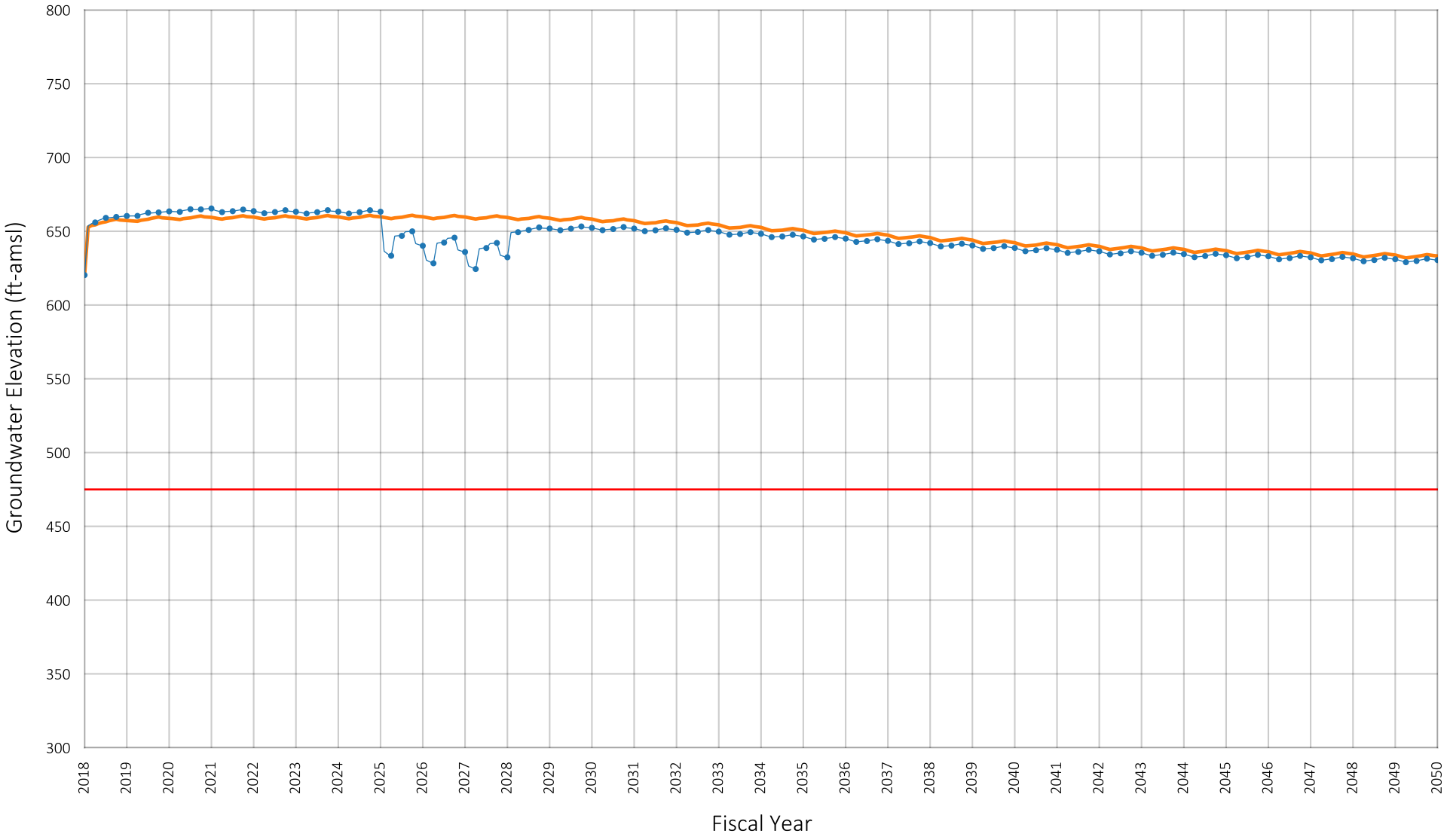
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207929
Owner: Cucamonga Valley Water District
Well Name: CB-40

Prepared by:

WEST YOST
Water. Engineered.

Figure A-27



Location of Well in Chino Basin

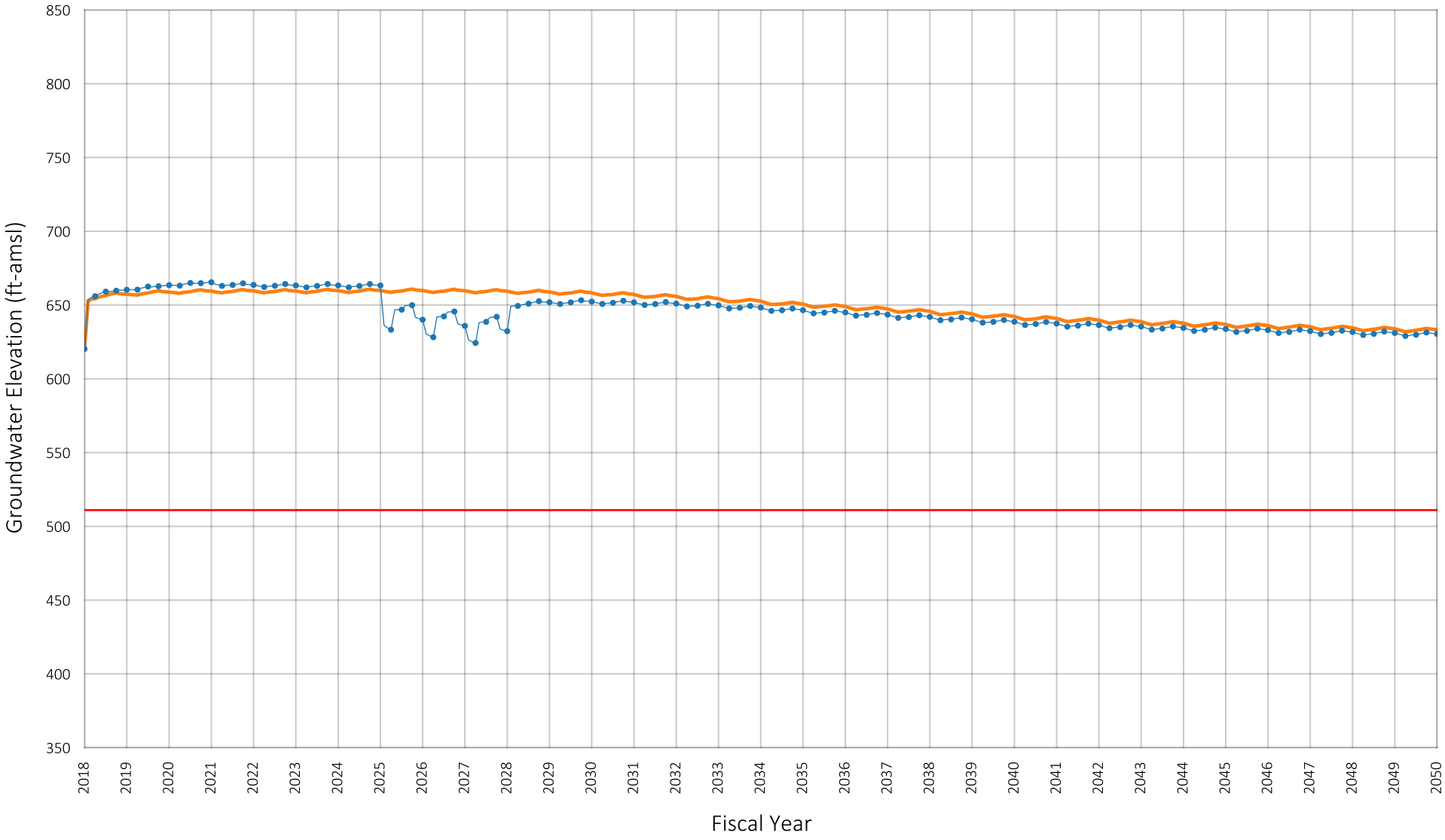
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207936
Owner: Cucamonga Valley Water District
Well Name: CB-41

Figure A-28

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

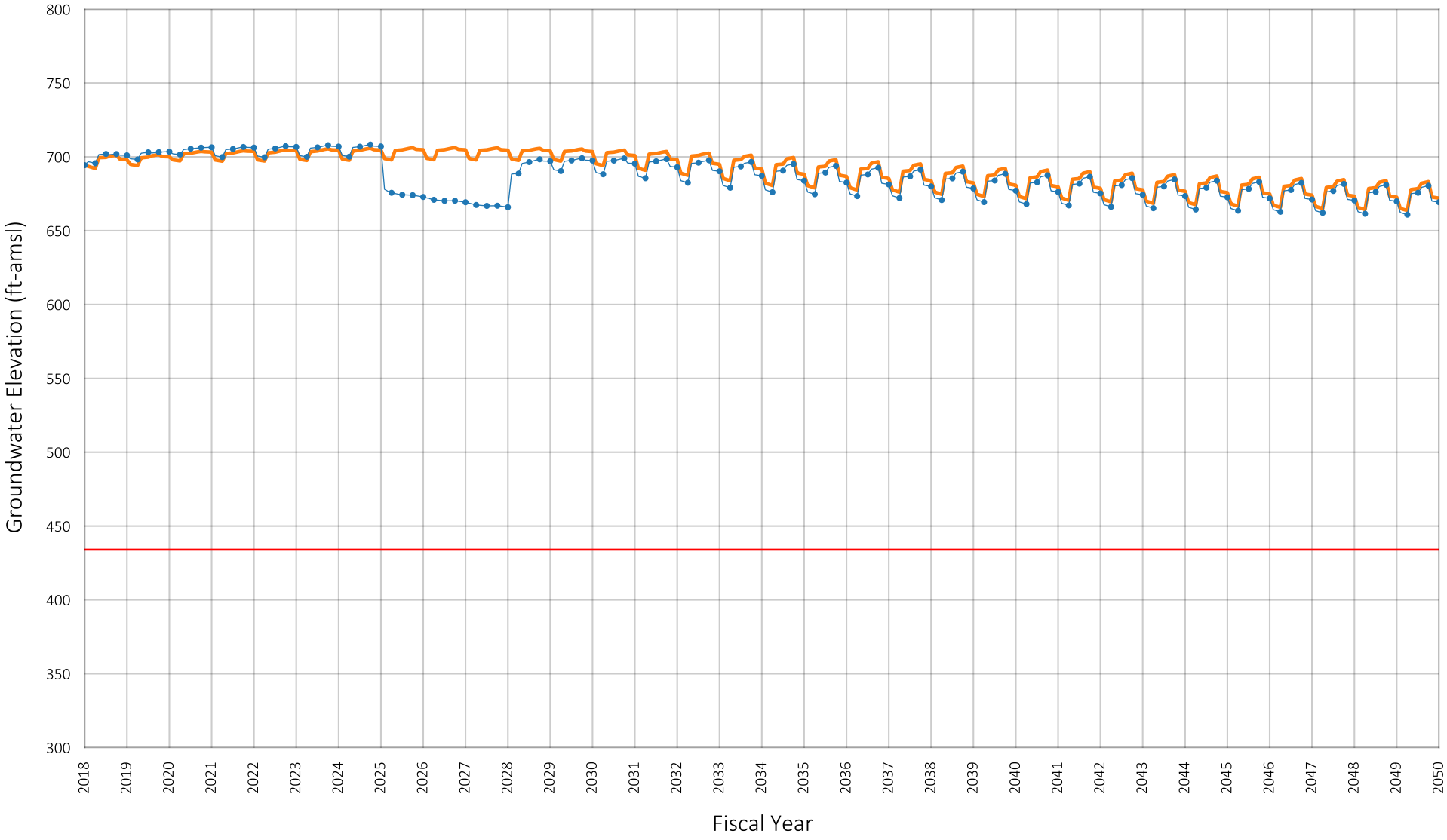
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207937
Owner: Cucamonga Valley Water District
Well Name: CB-42

Figure A-29

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

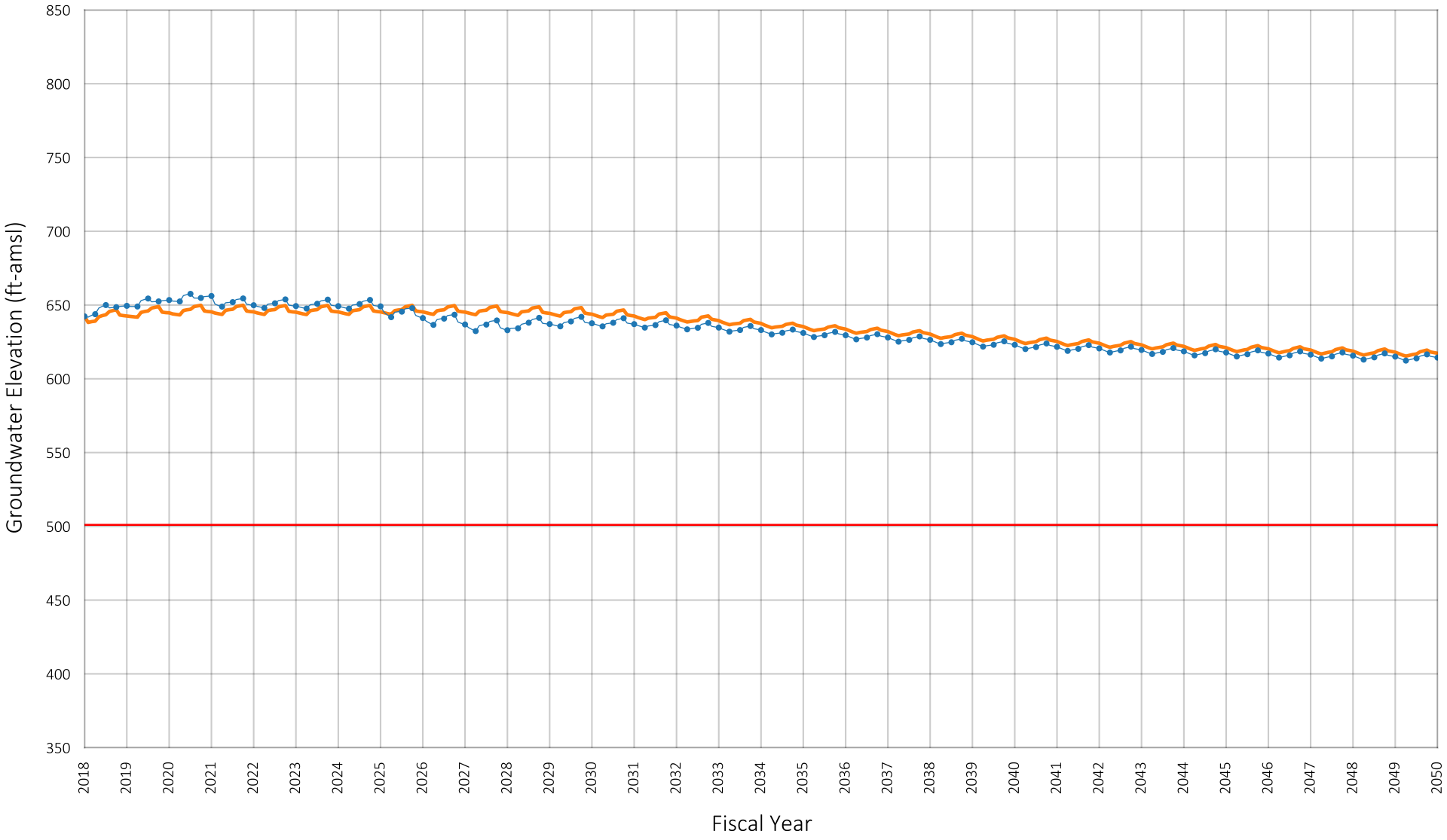
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1220079
Owner: Cucamonga Valley Water District
Well Name: CB-43

Figure A-30

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

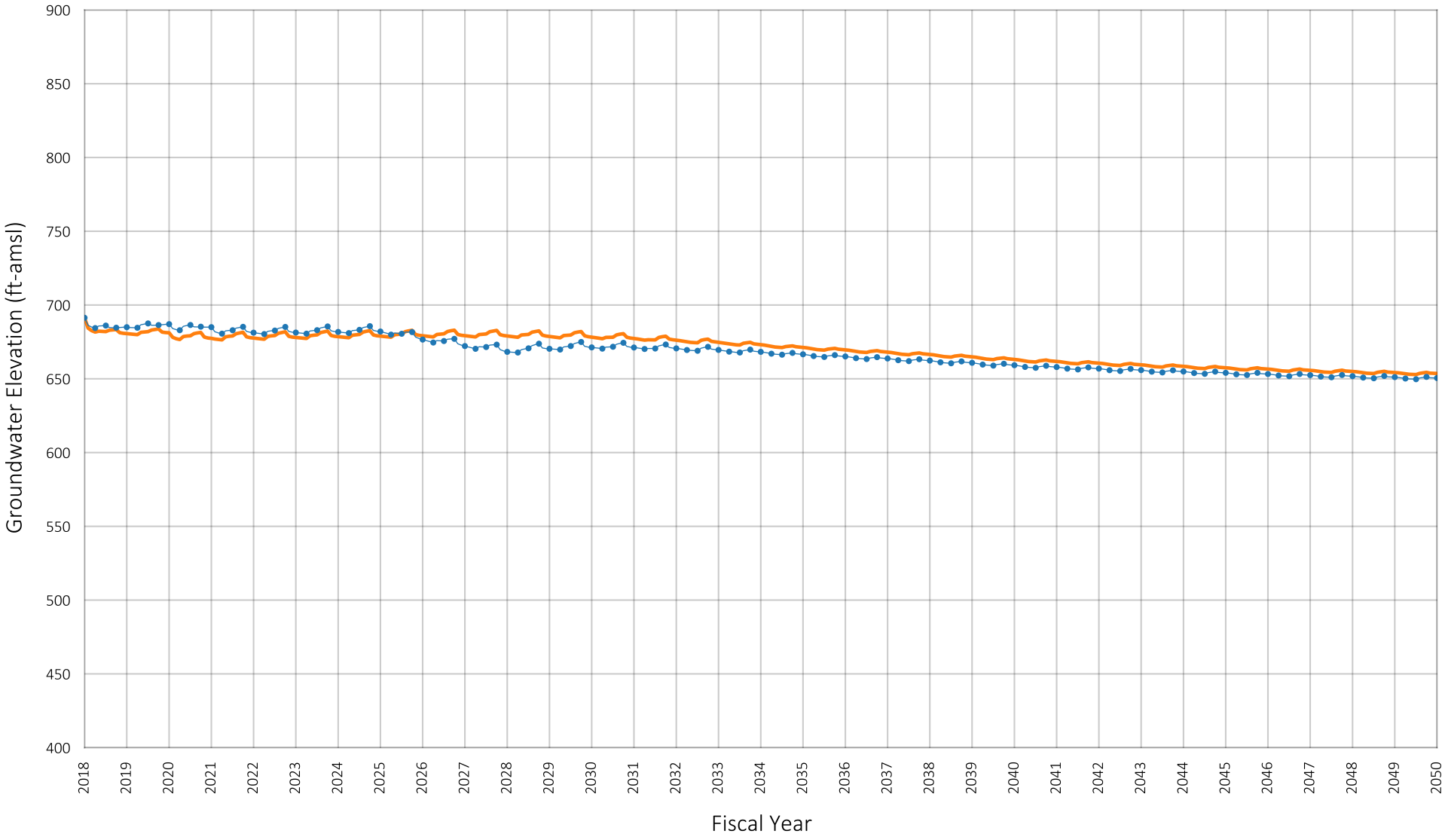
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1220080
Owner: Cucamonga Valley Water District
Well Name: CB-46

Figure A-31

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

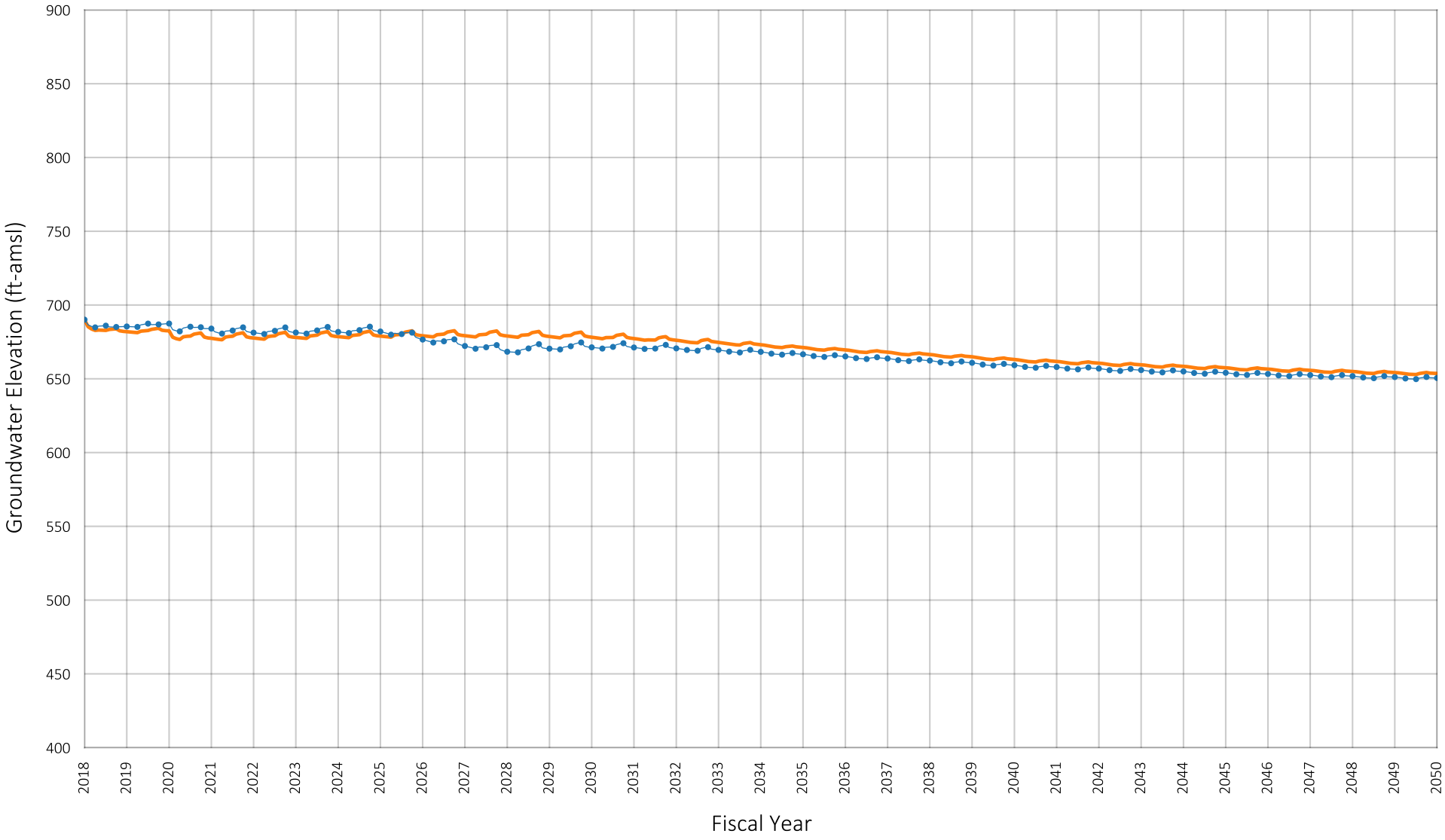
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 9100001
Owner: Cucamonga Valley Water District
Well Name: CB-49

Figure A-32



Location of Well in Chino Basin

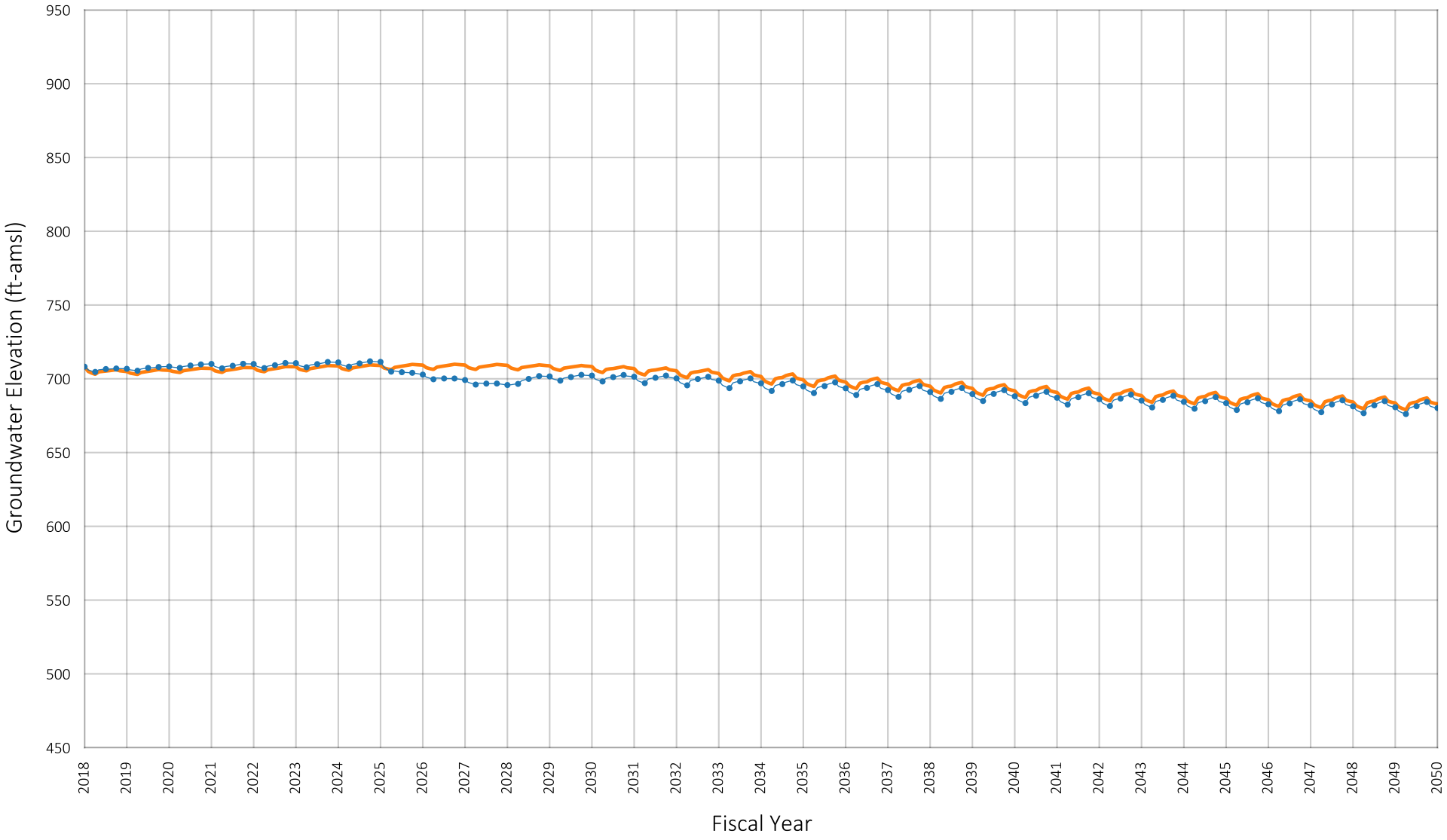
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 9100002
Owner: Cucamonga Valley Water District
Well Name: CB-50

Figure A-33



Location of Well in Chino Basin

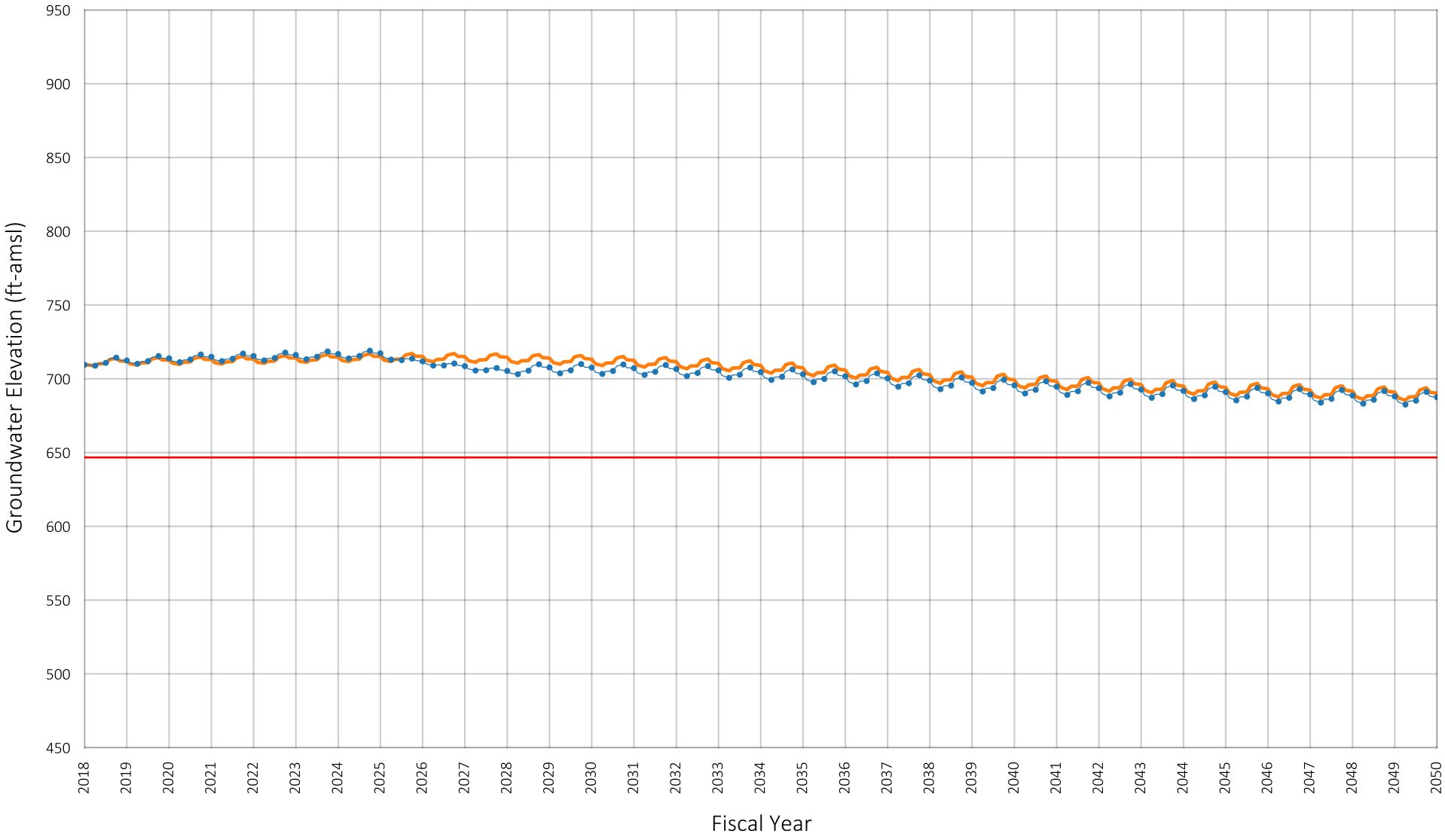
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 9100003
Owner: Cucamonga Valley Water District
Well Name: CB-48

Figure A-34



Location of Well in Chino Basin

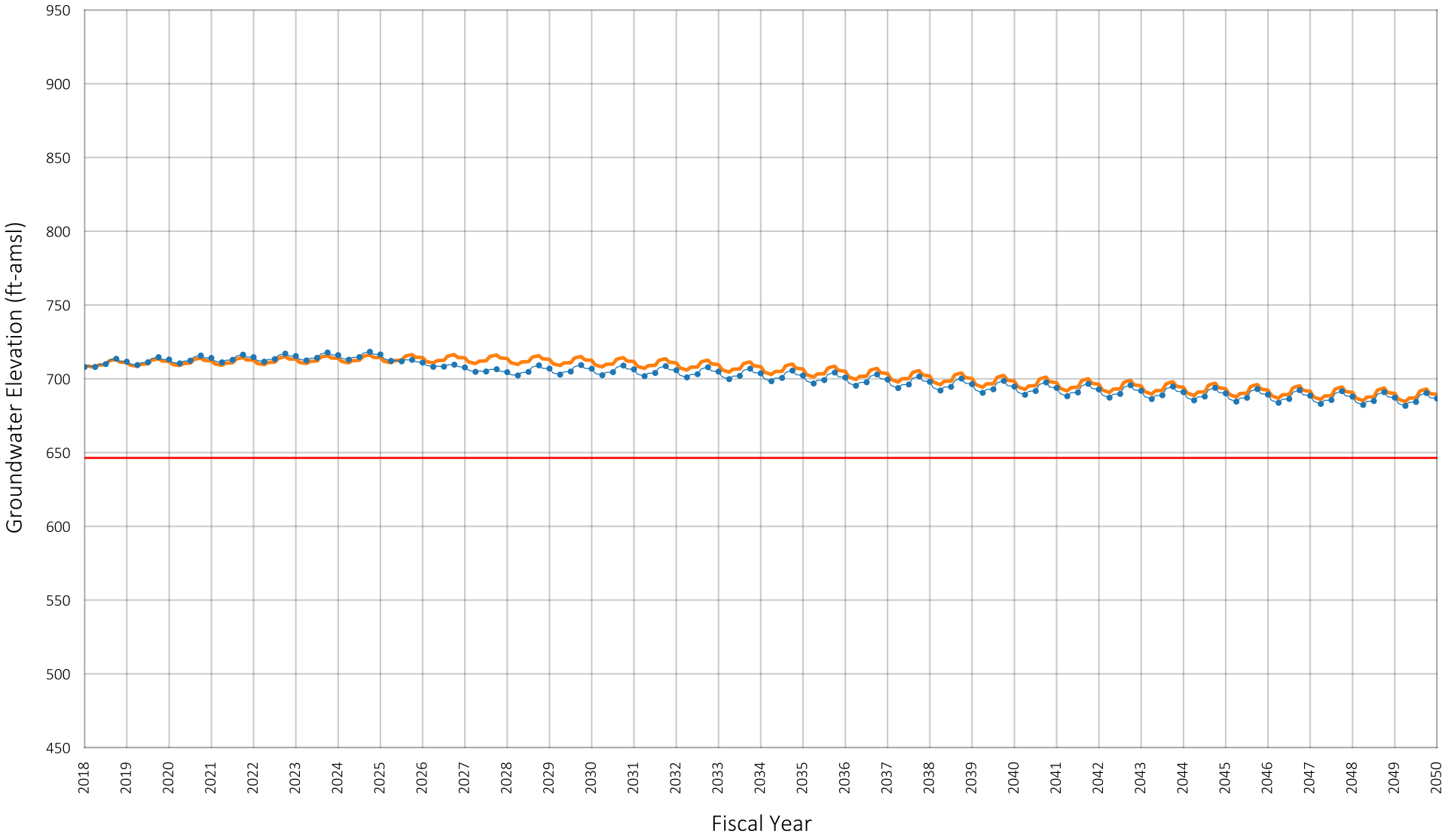
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002211
Owner: Fontana Water Company
Well Name: F7A

Prepared by:

WEST YOST
Water. Engineered.

Figure A-35



Location of Well in Chino Basin

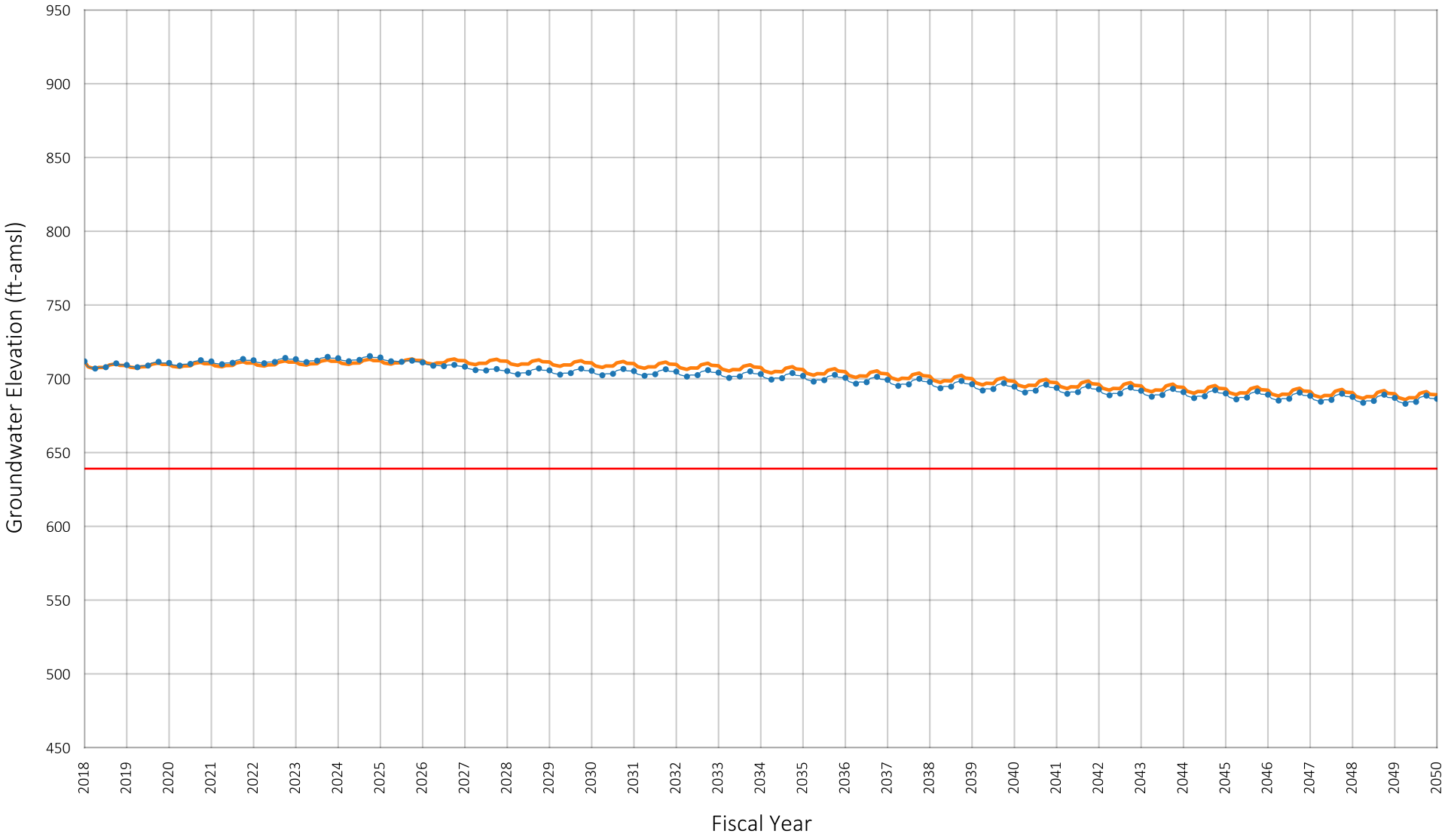
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1221726
Owner: Fontana Water Company
Well Name: F7B

Figure A-36

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

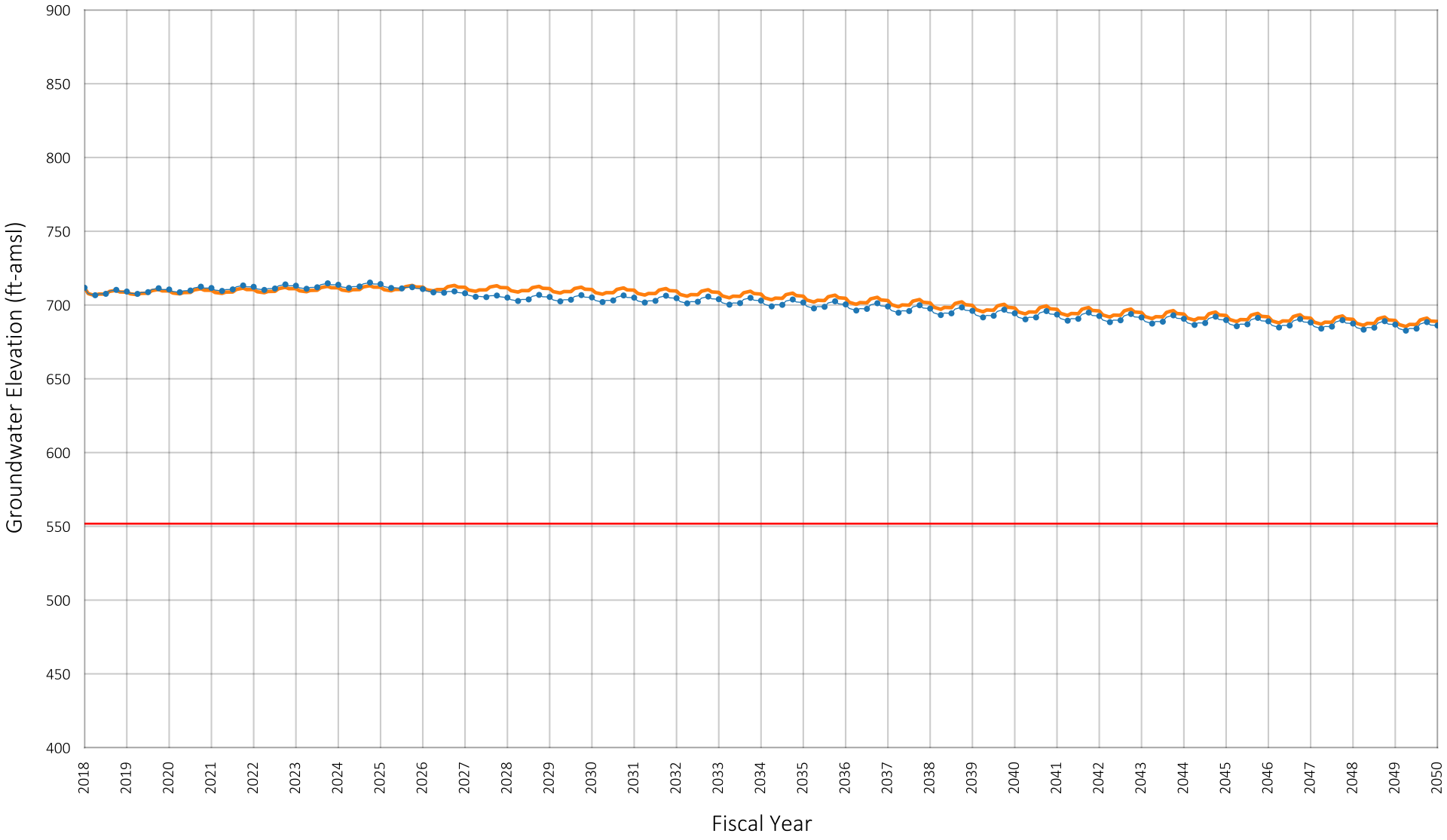
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002237
Owner: Fontana Water Company
Well Name: F17B

Prepared by:

WEST YOST
Water. Engineered.

Figure A-37



Location of Well in Chino Basin

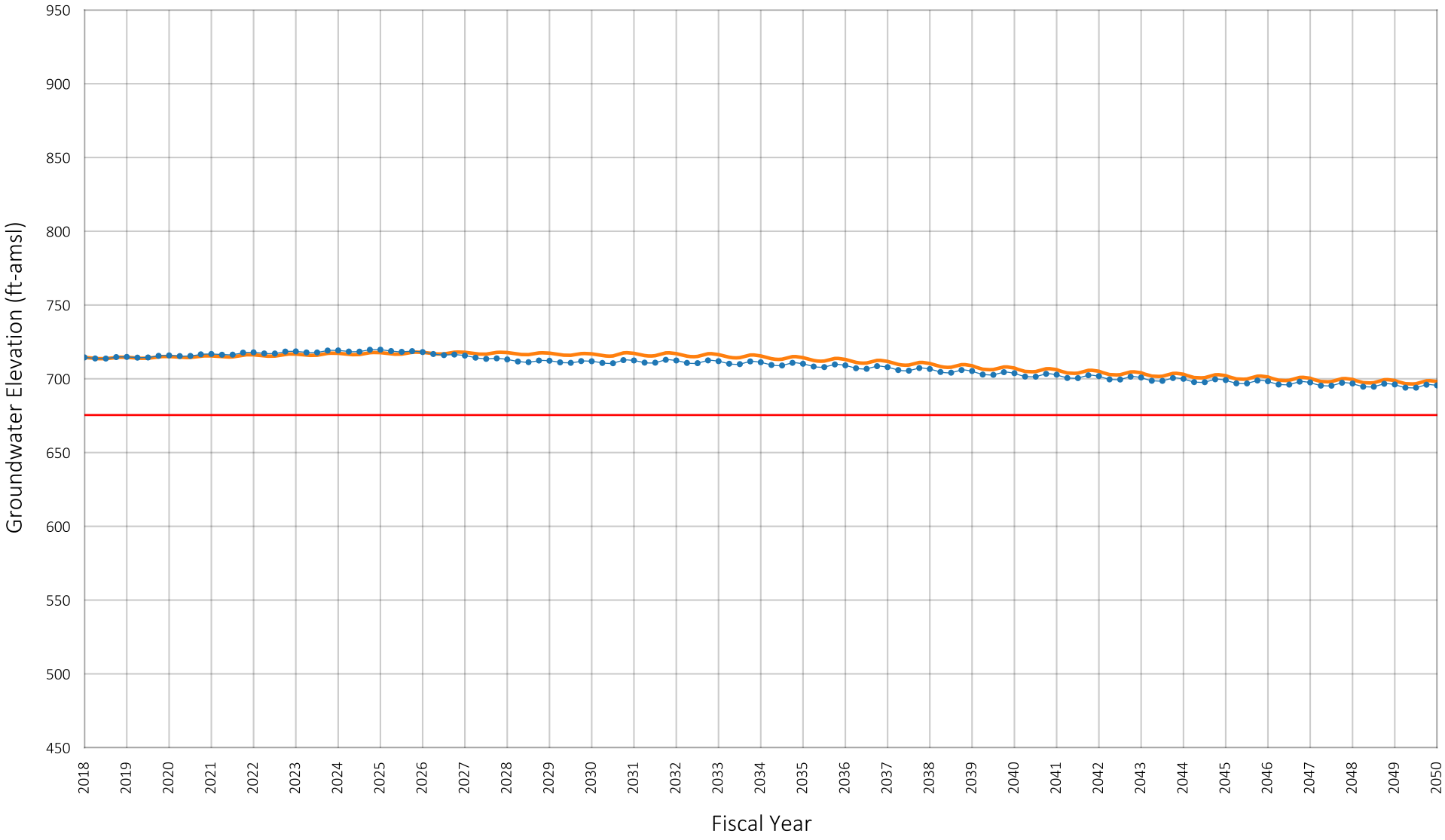
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1201069
Owner: Fontana Water Company
Well Name: F17C

Prepared by:

WEST YOST
Water. Engineered.

Figure A-38



Location of Well in Chino Basin

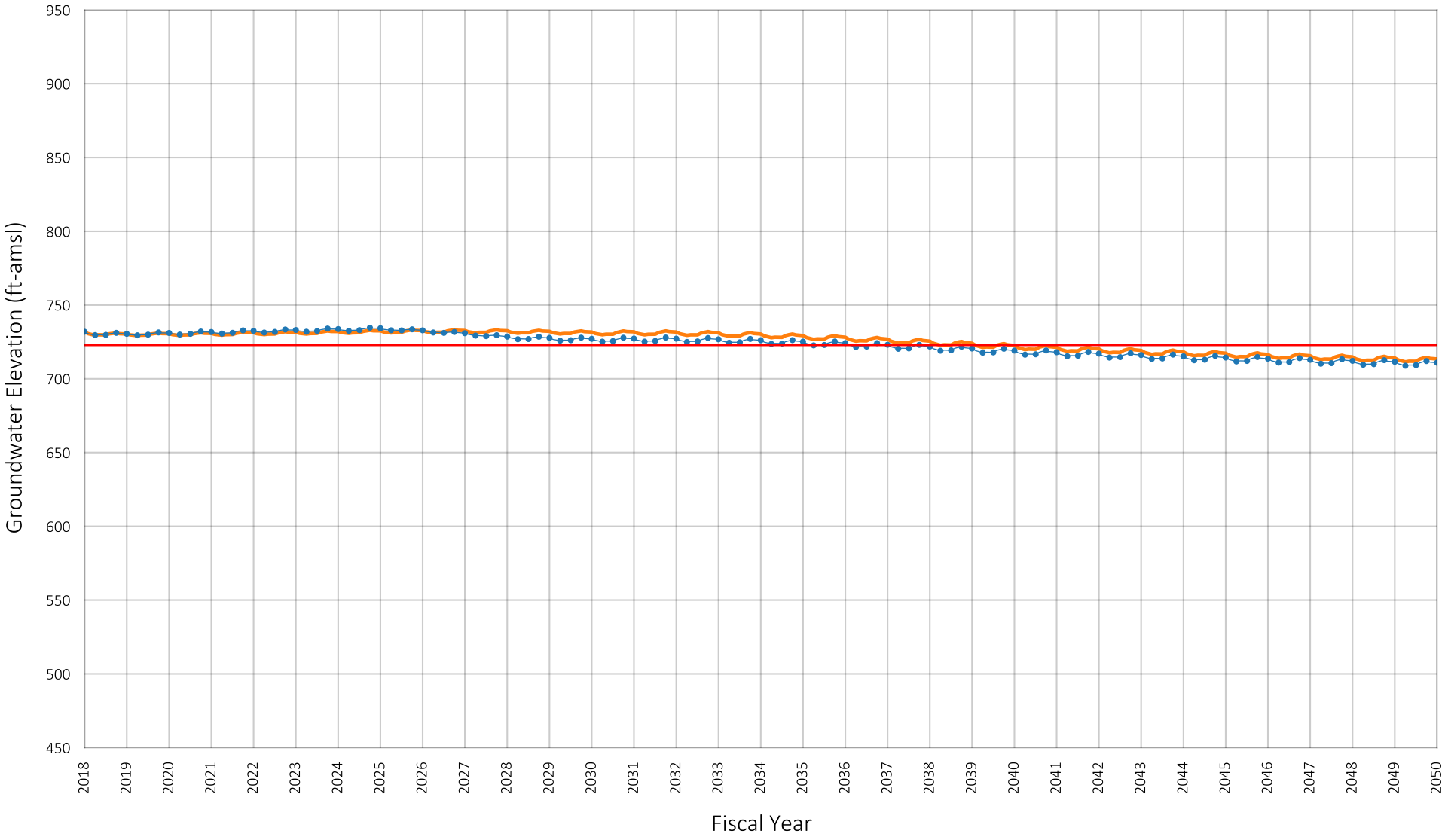
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1232847
Owner: Fontana Water Company
Well Name: F21B

Figure A-39

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

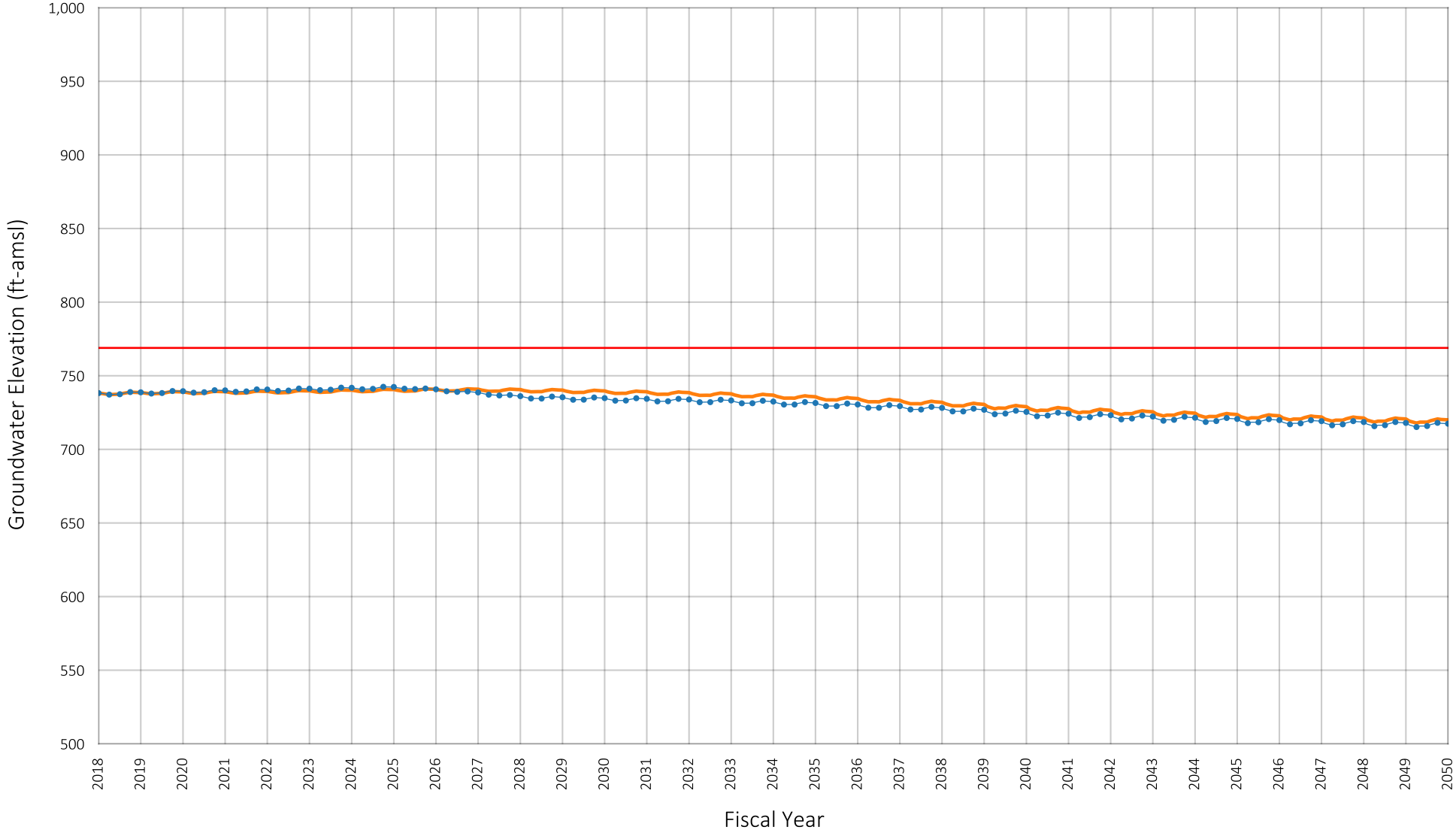
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002239
Owner: Fontana Water Company
Well Name: F23A

Figure A-40

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

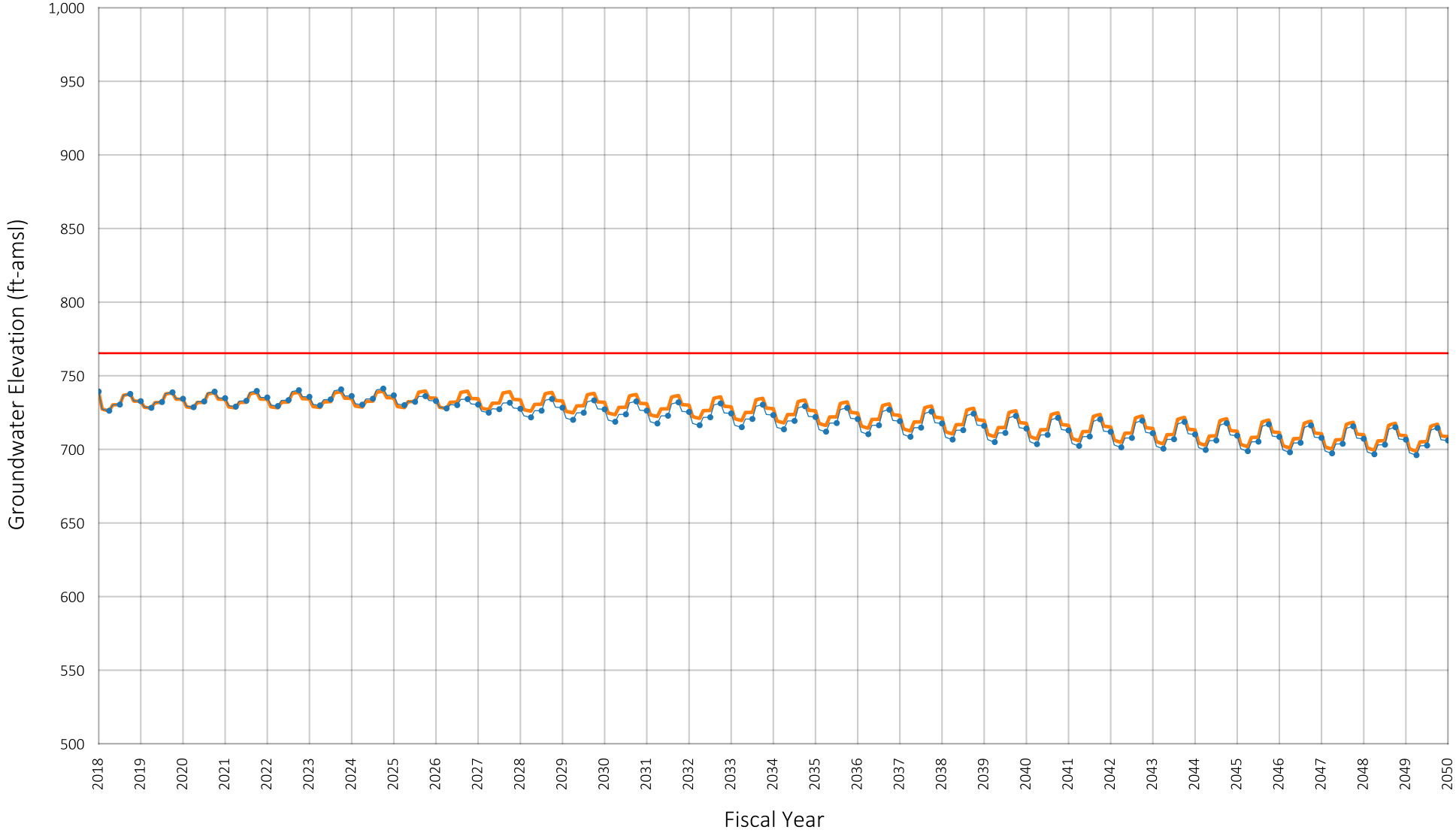
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1200218
Owner: Fontana Water Company
Well Name: F24A

Prepared by:

WEST YOST
Water. Engineered.

Figure A-41



Location of Well in Chino Basin

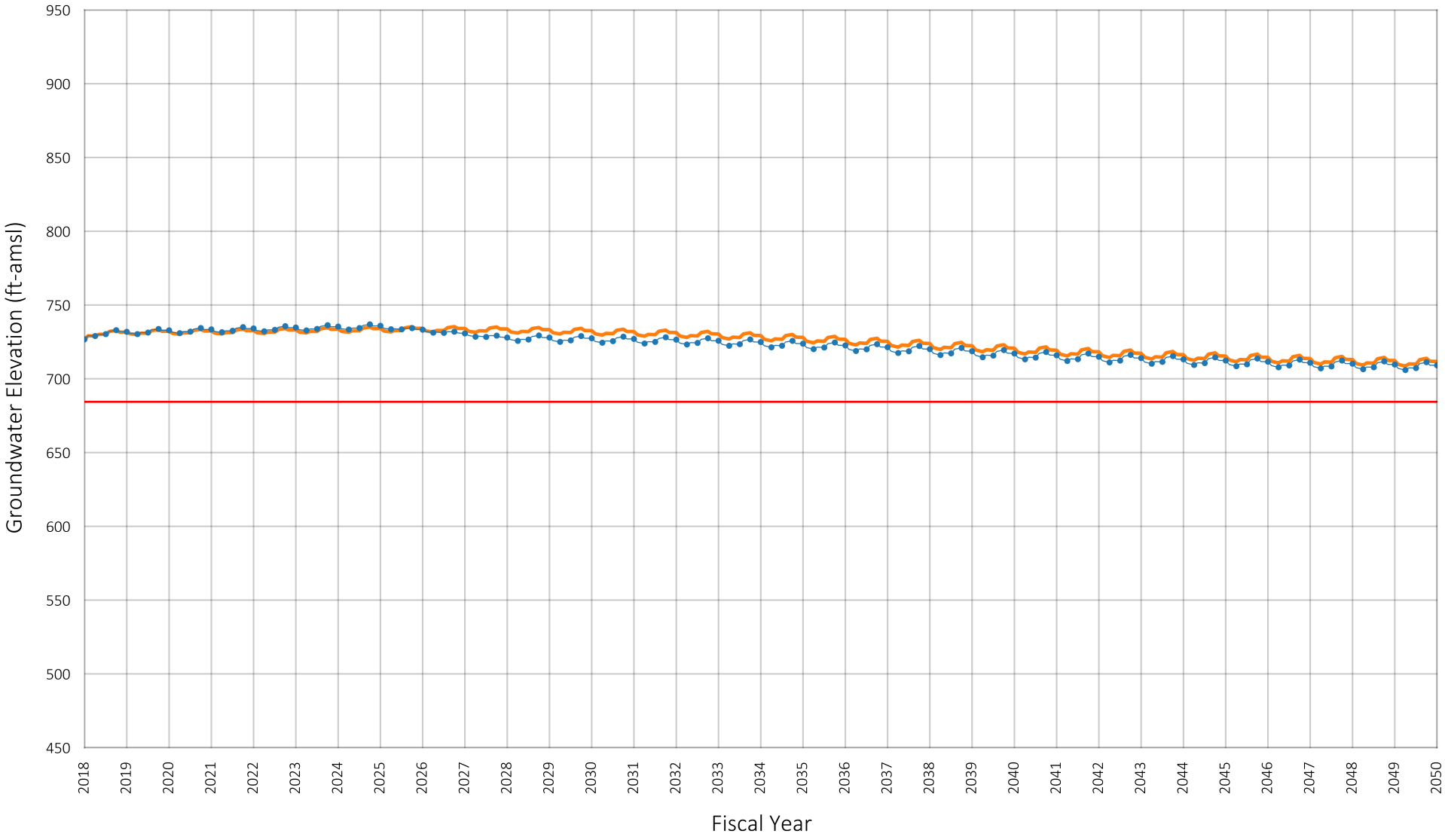
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1200219
Owner: Fontana Water Company
Well Name: F26A

Figure A-42

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

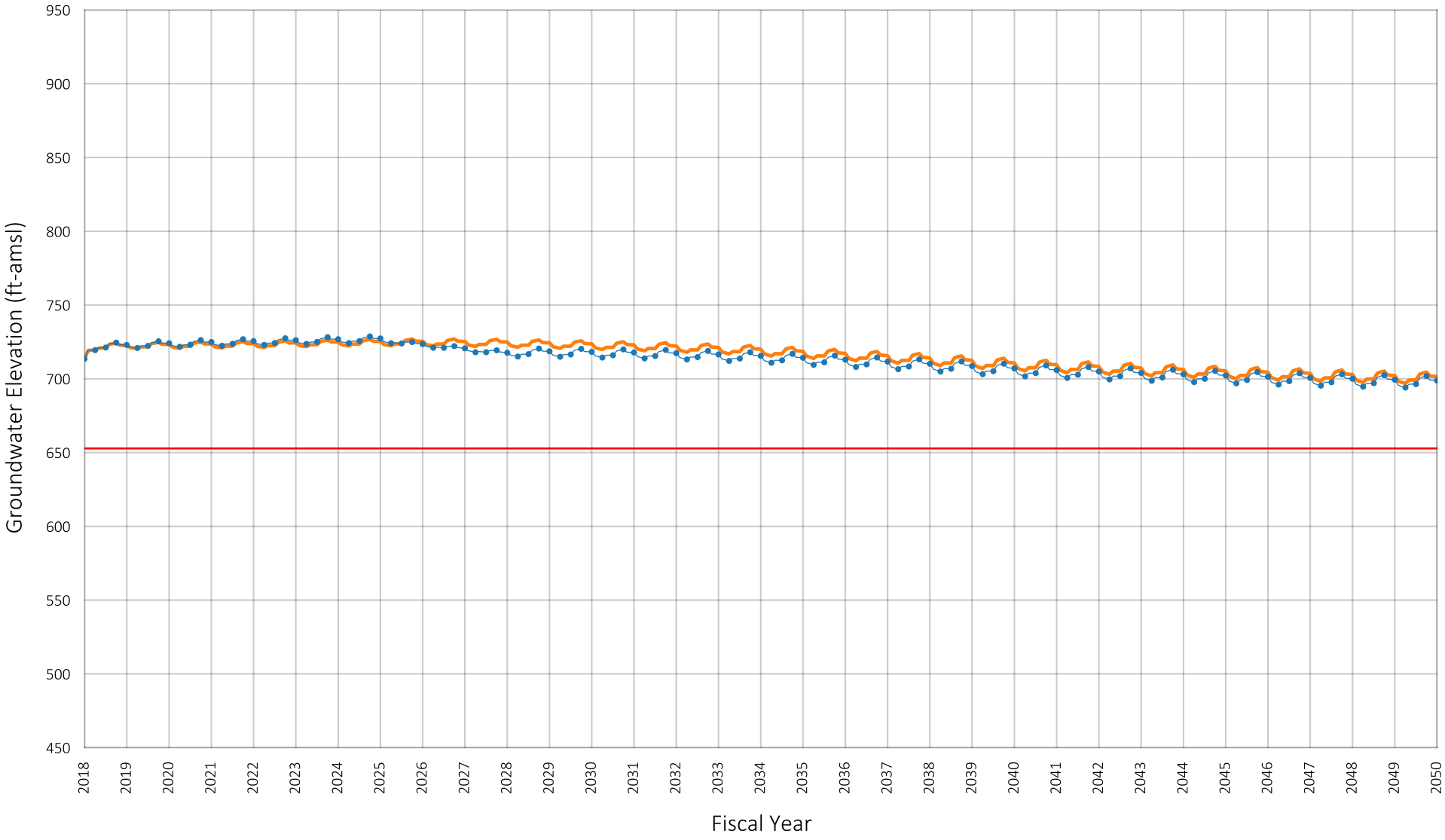
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002081
Owner: Fontana Water Company
Well Name: F31A

Figure A-43

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

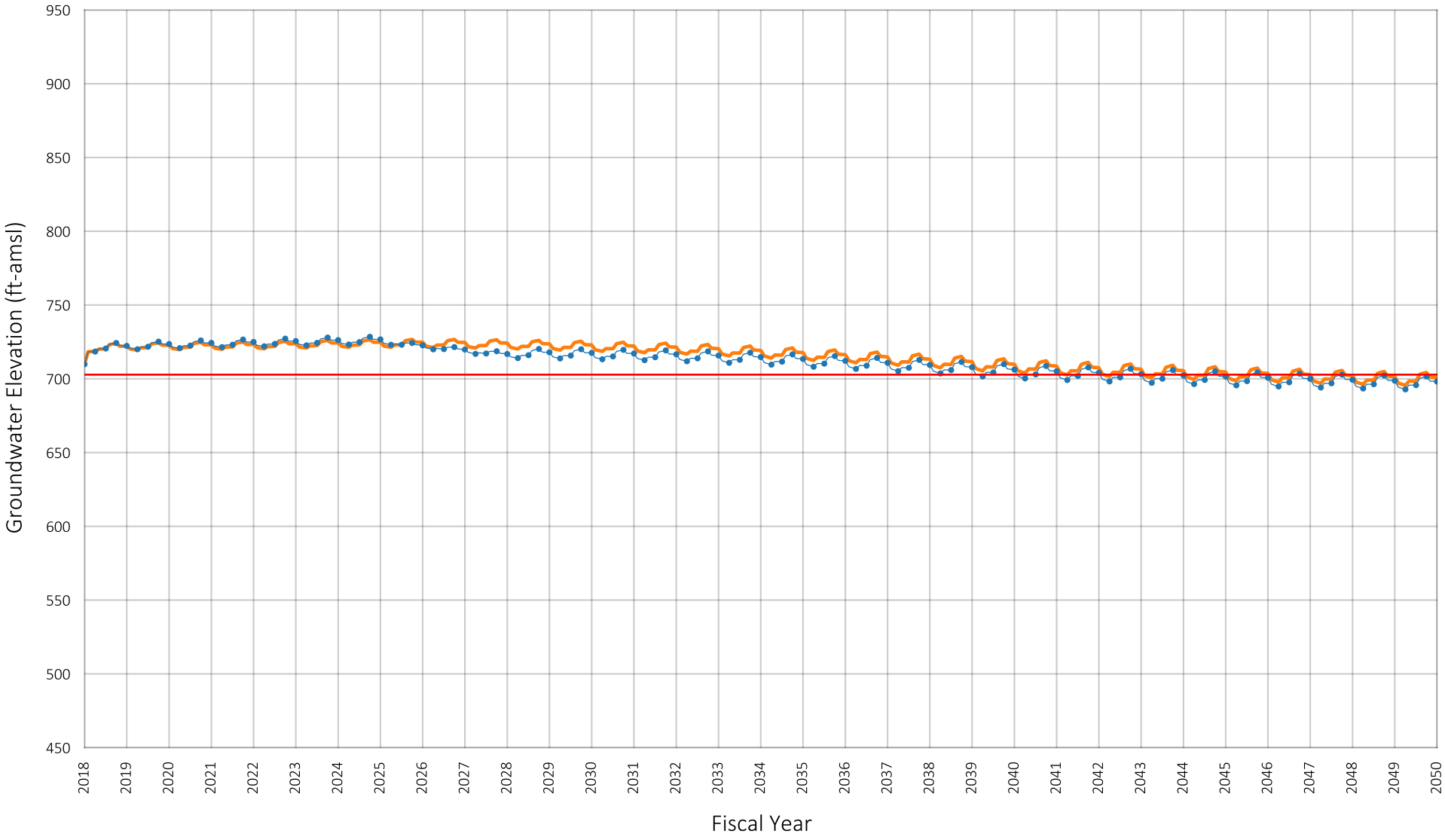
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206933
Owner: Fontana Water Company
Well Name: F44A

Prepared by:

WEST YOST
Water. Engineered.

Figure A-44



Location of Well in Chino Basin

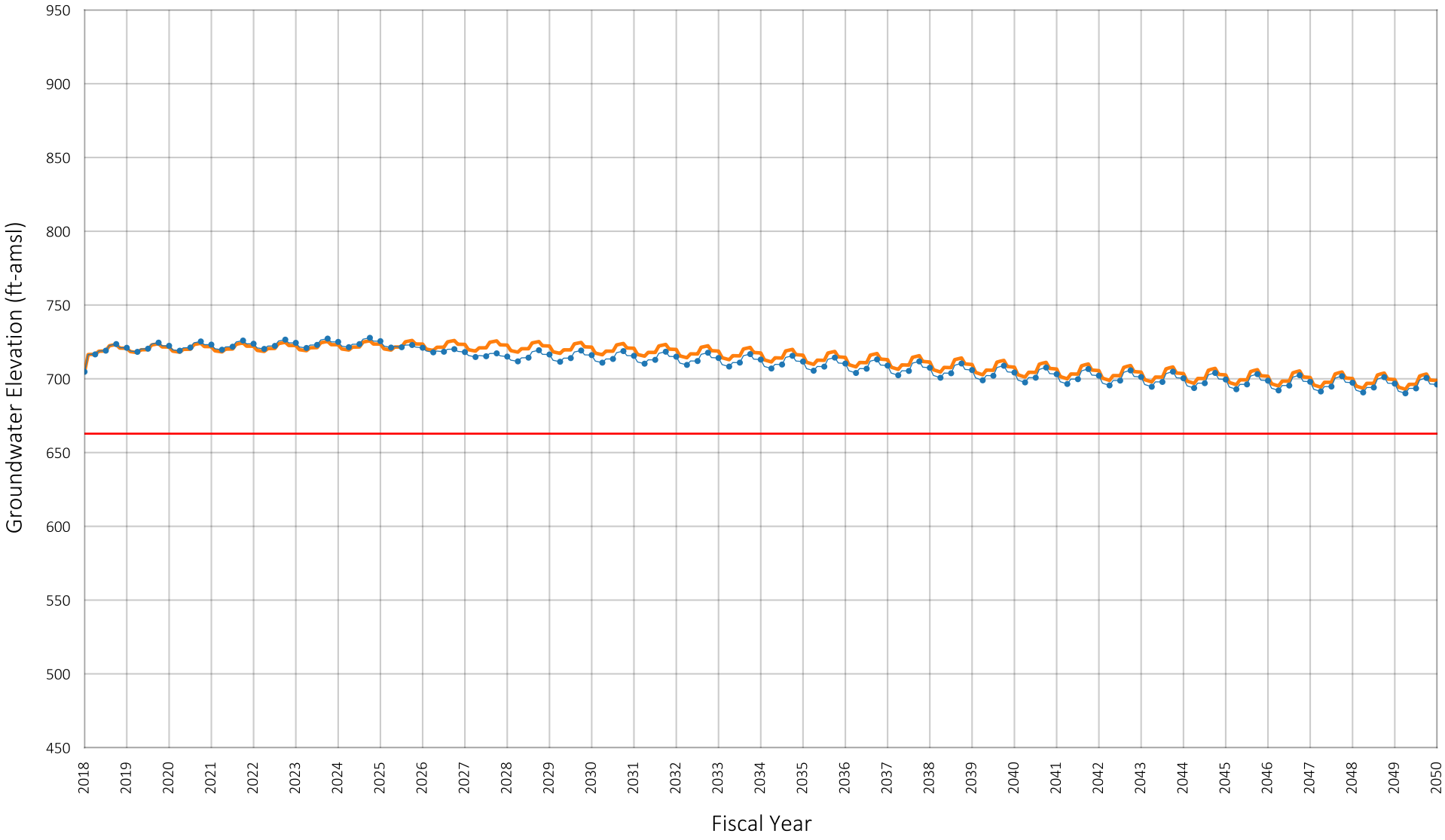
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207340
Owner: Fontana Water Company
Well Name: F44B

Figure A-45

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

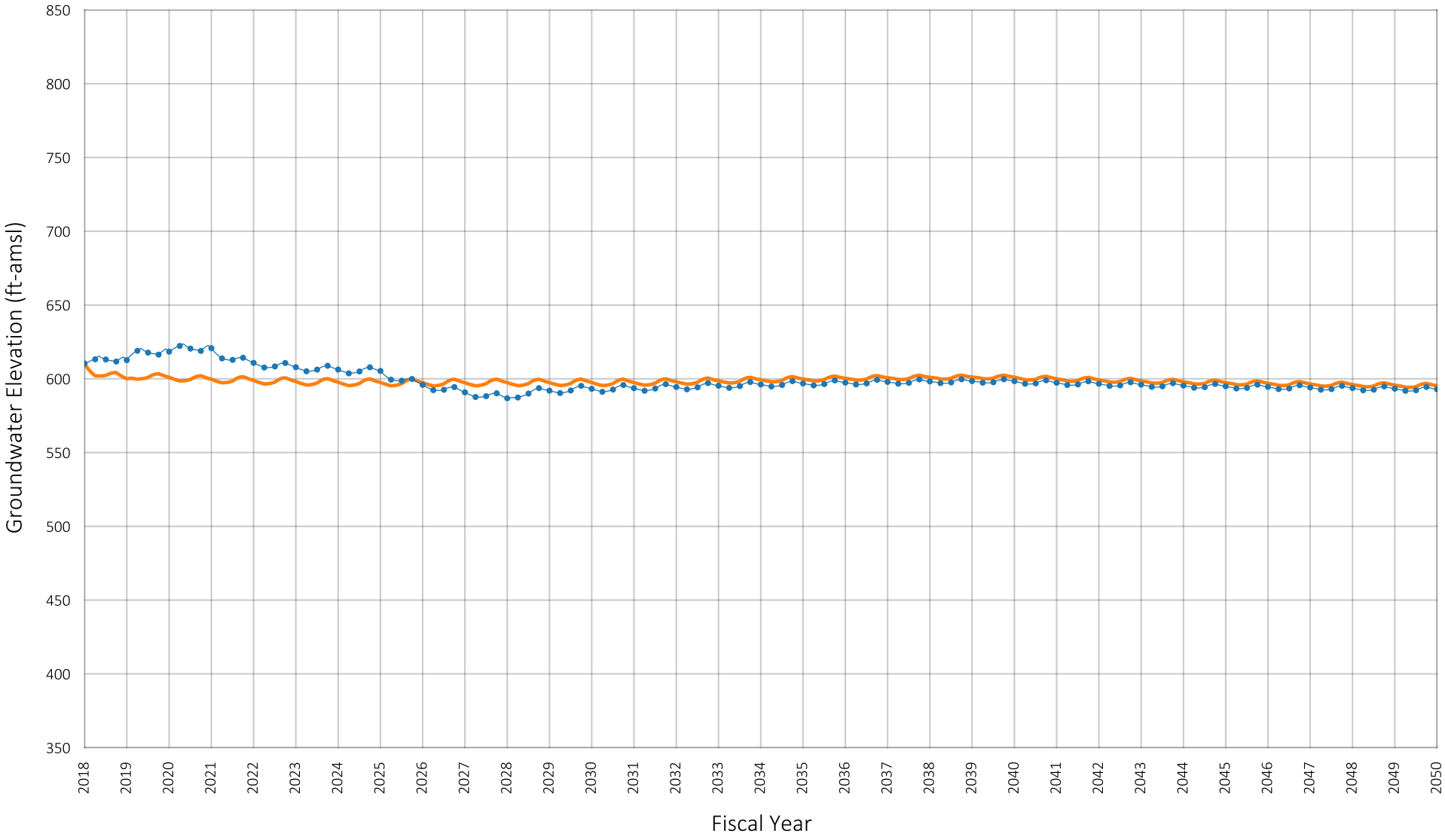
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207341
Owner: Fontana Water Company
Well Name: F44C

Figure A-46

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

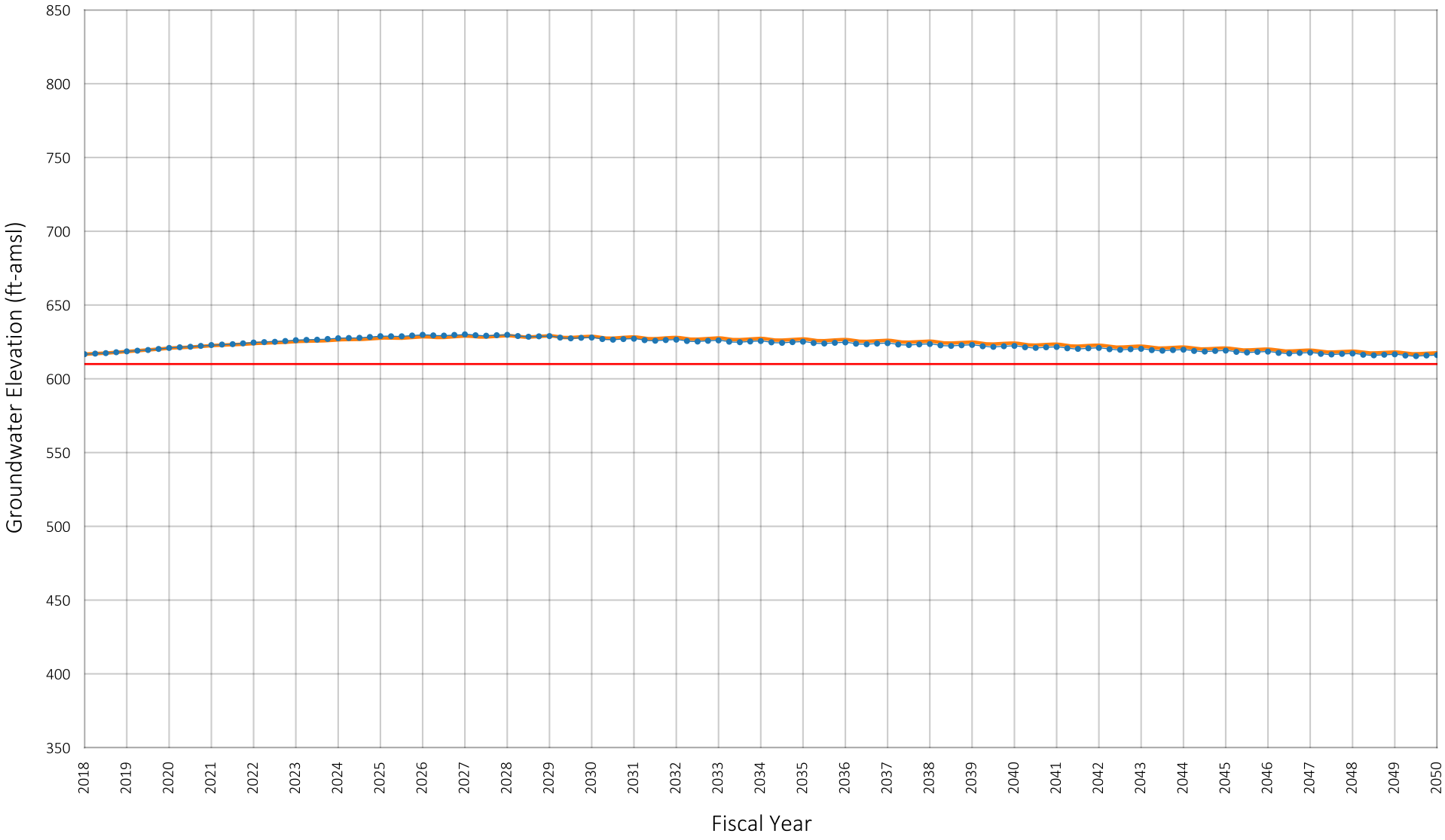
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002554
Owner: Golden State Water Company
Well Name: Margarita #1

Figure A-47



Location of Well in Chino Basin

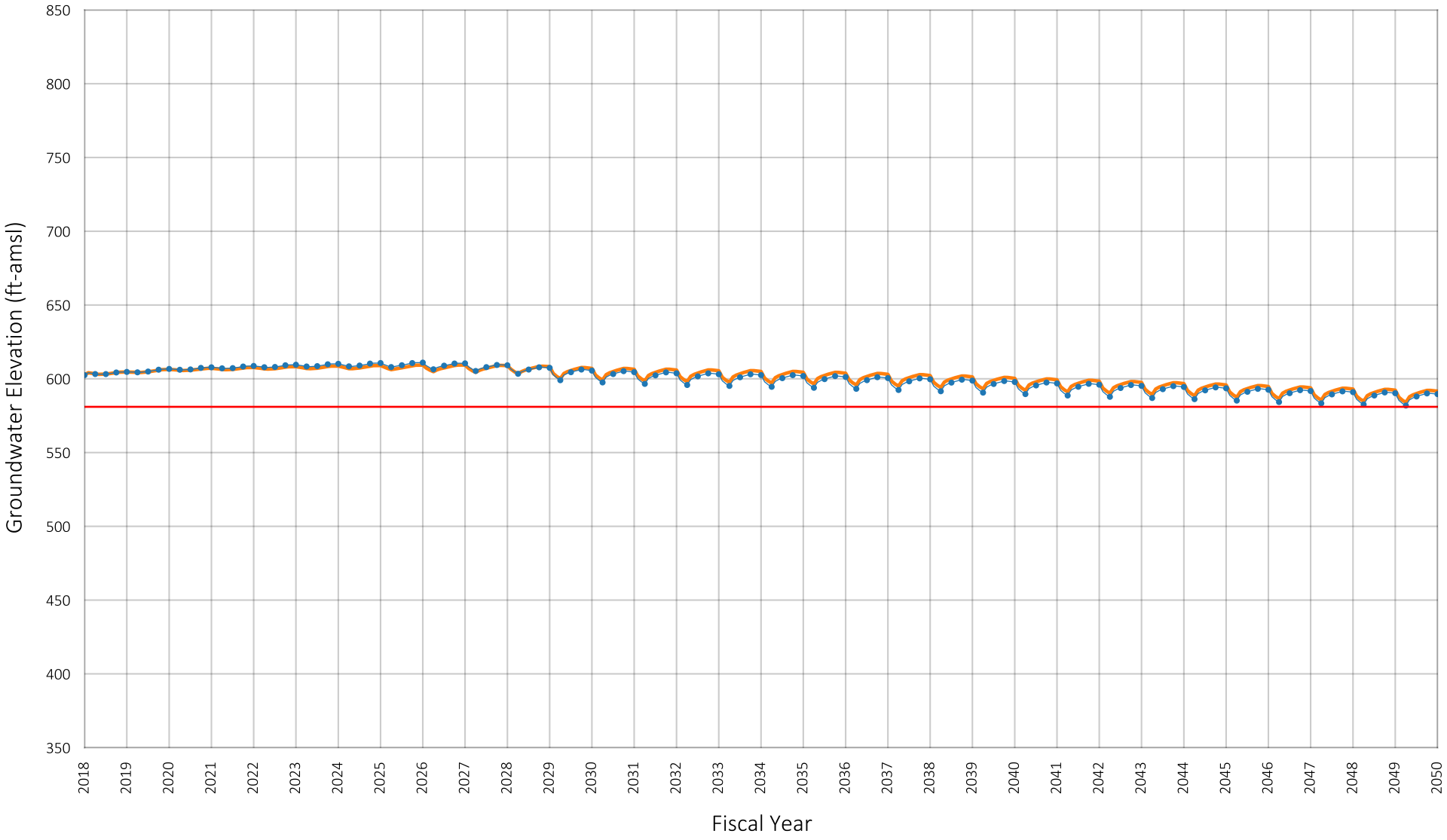
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003470
Owner: Jurupa Community Services District
Well Name: 6

Figure A-48

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

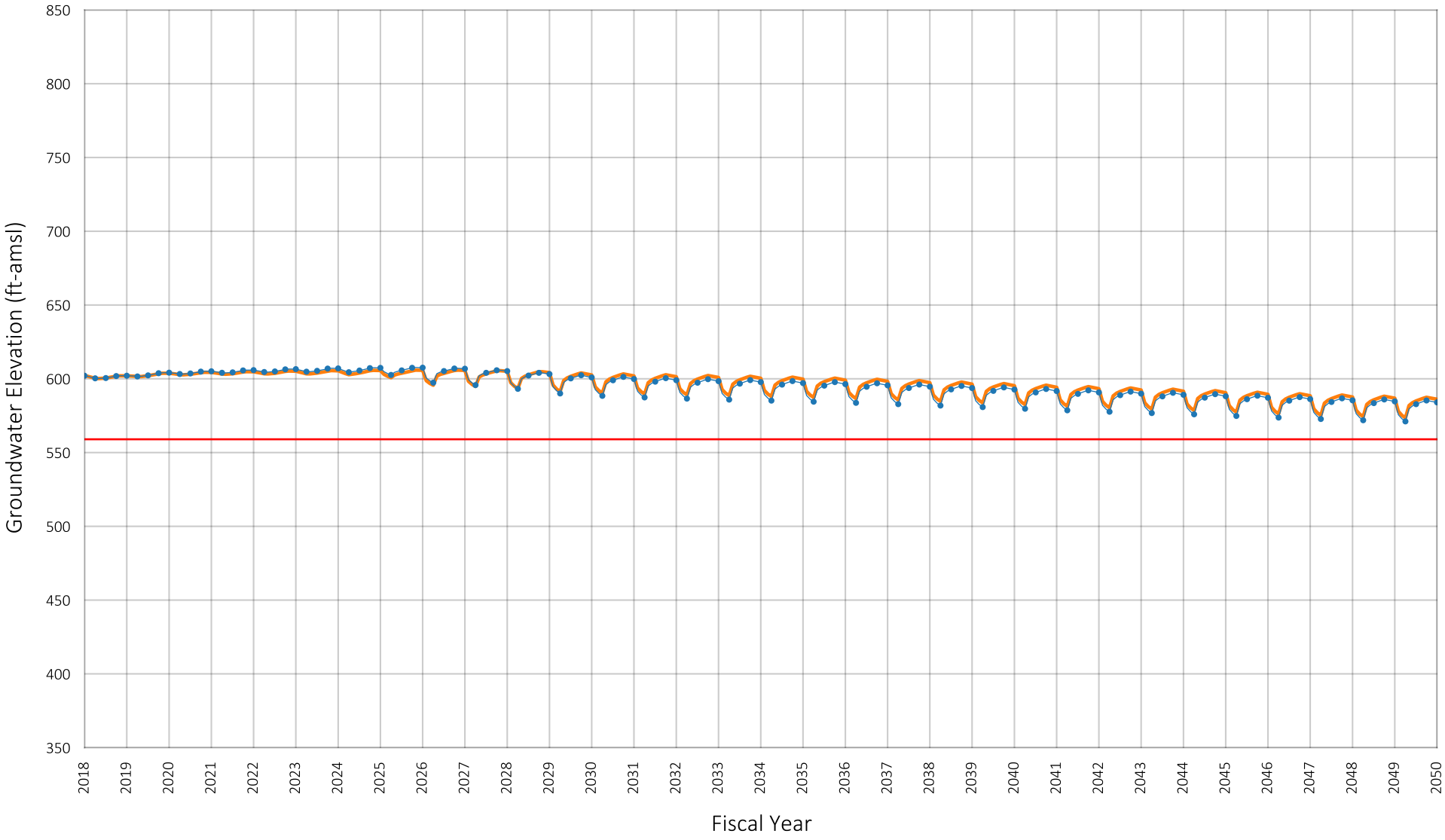
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003507
Owner: Jurupa Community Services District
Well Name: 8

Figure A-49

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

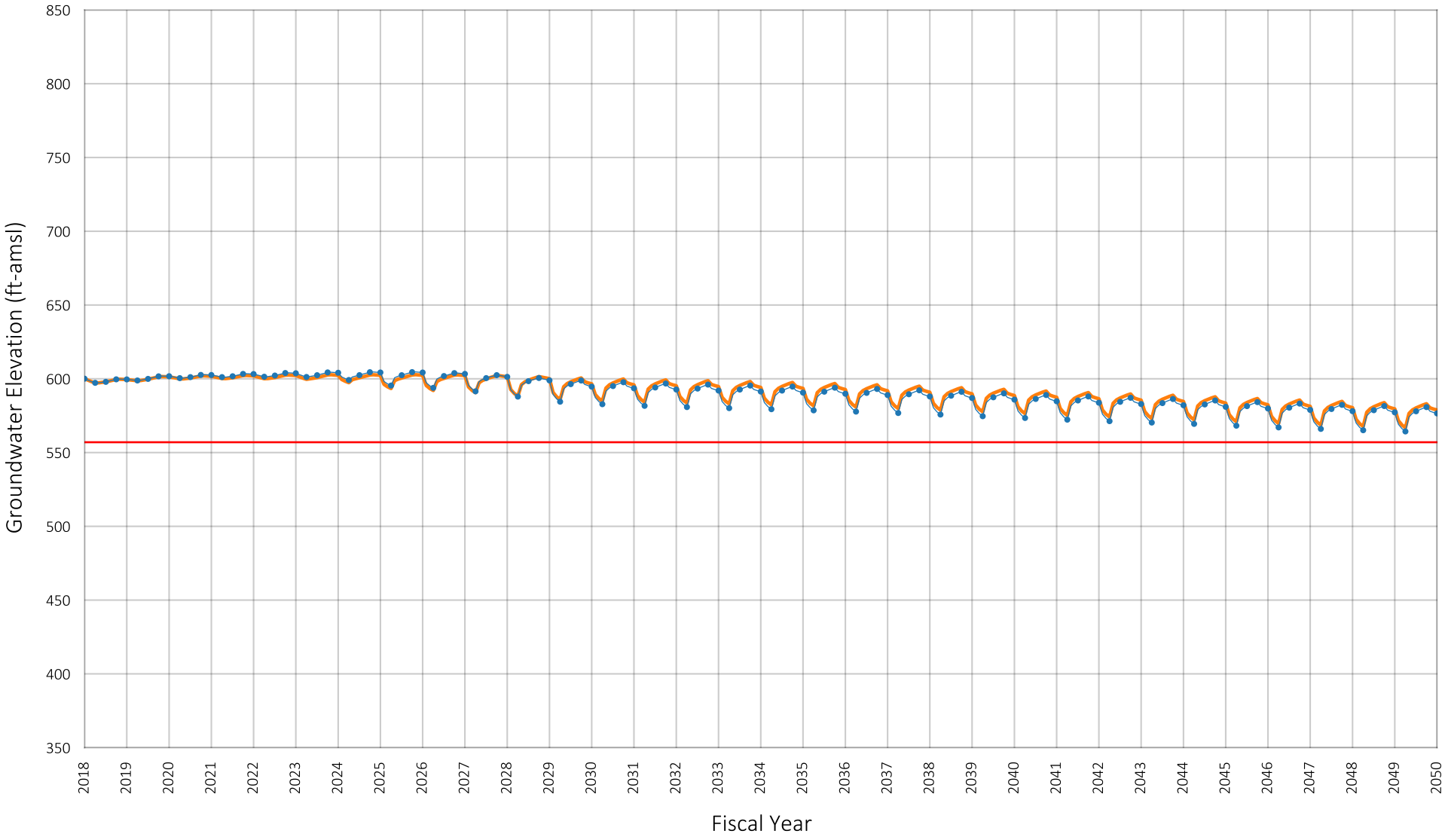
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003506
Owner: Jurupa Community Services District
Well Name: 11

Figure A-50

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

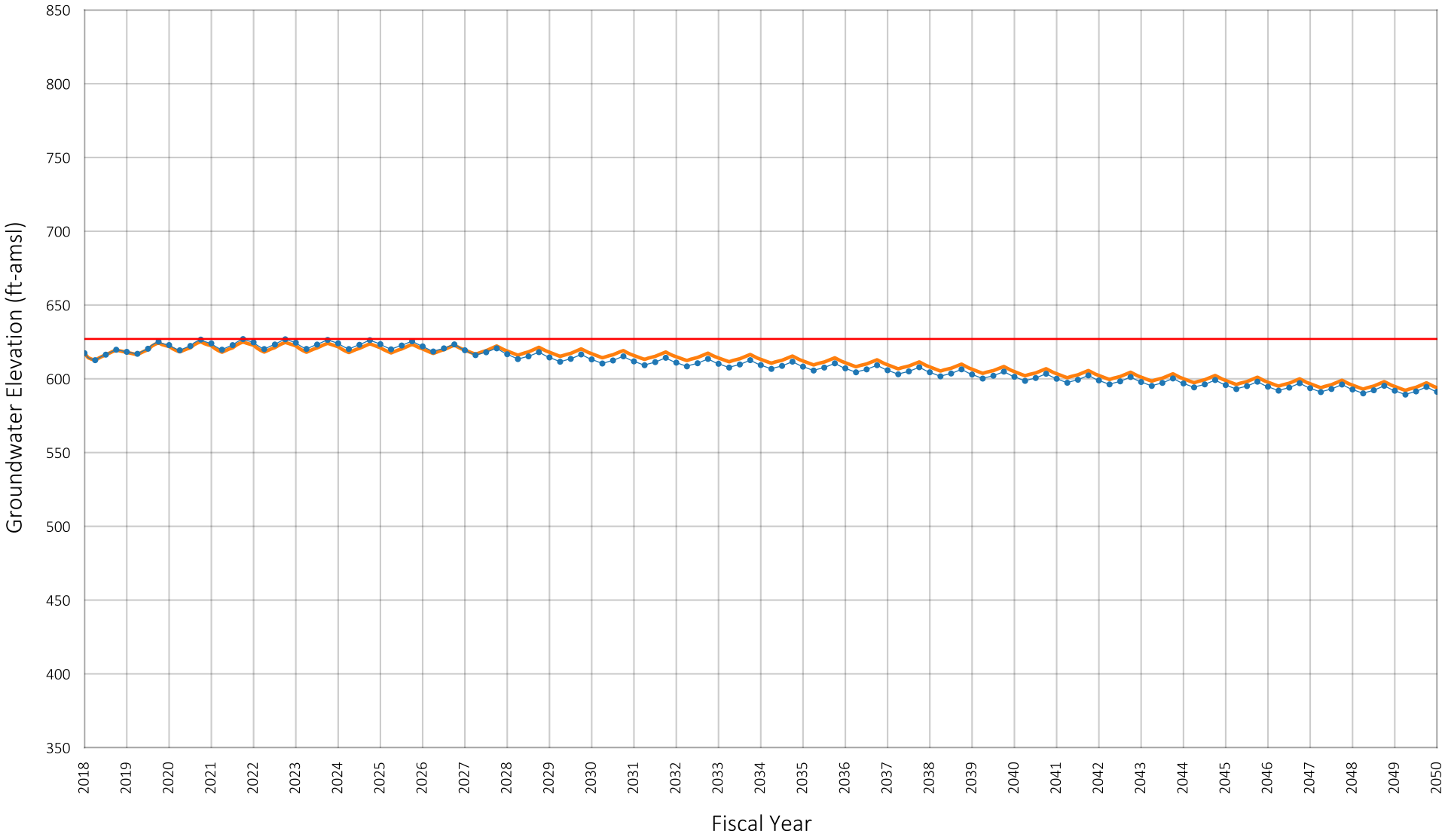
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003505
Owner: Jurupa Community Services District
Well Name: 12

Figure A-51

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

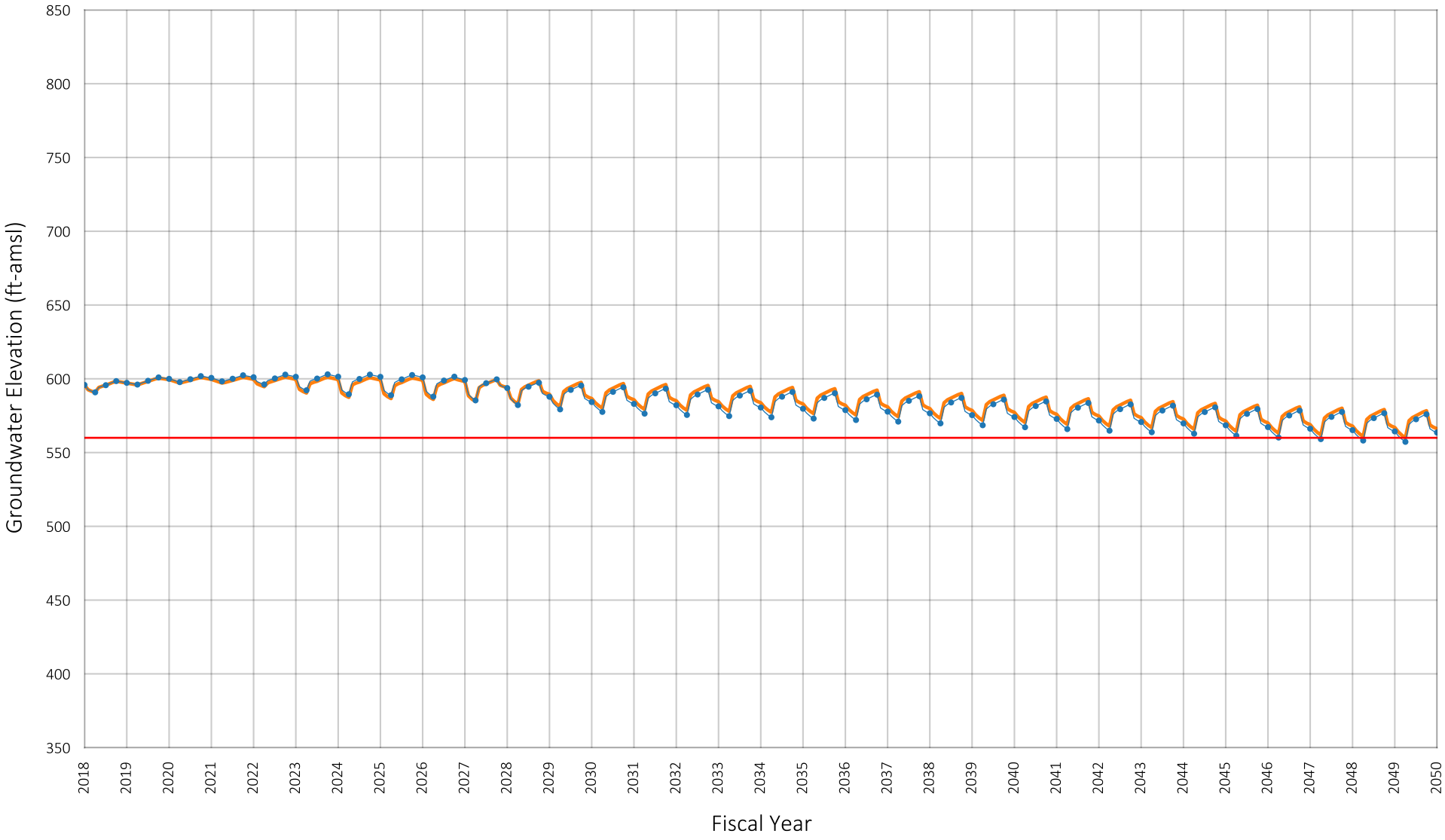
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003466
Owner: Jurupa Community Services District
Well Name: 13

Figure A-52

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

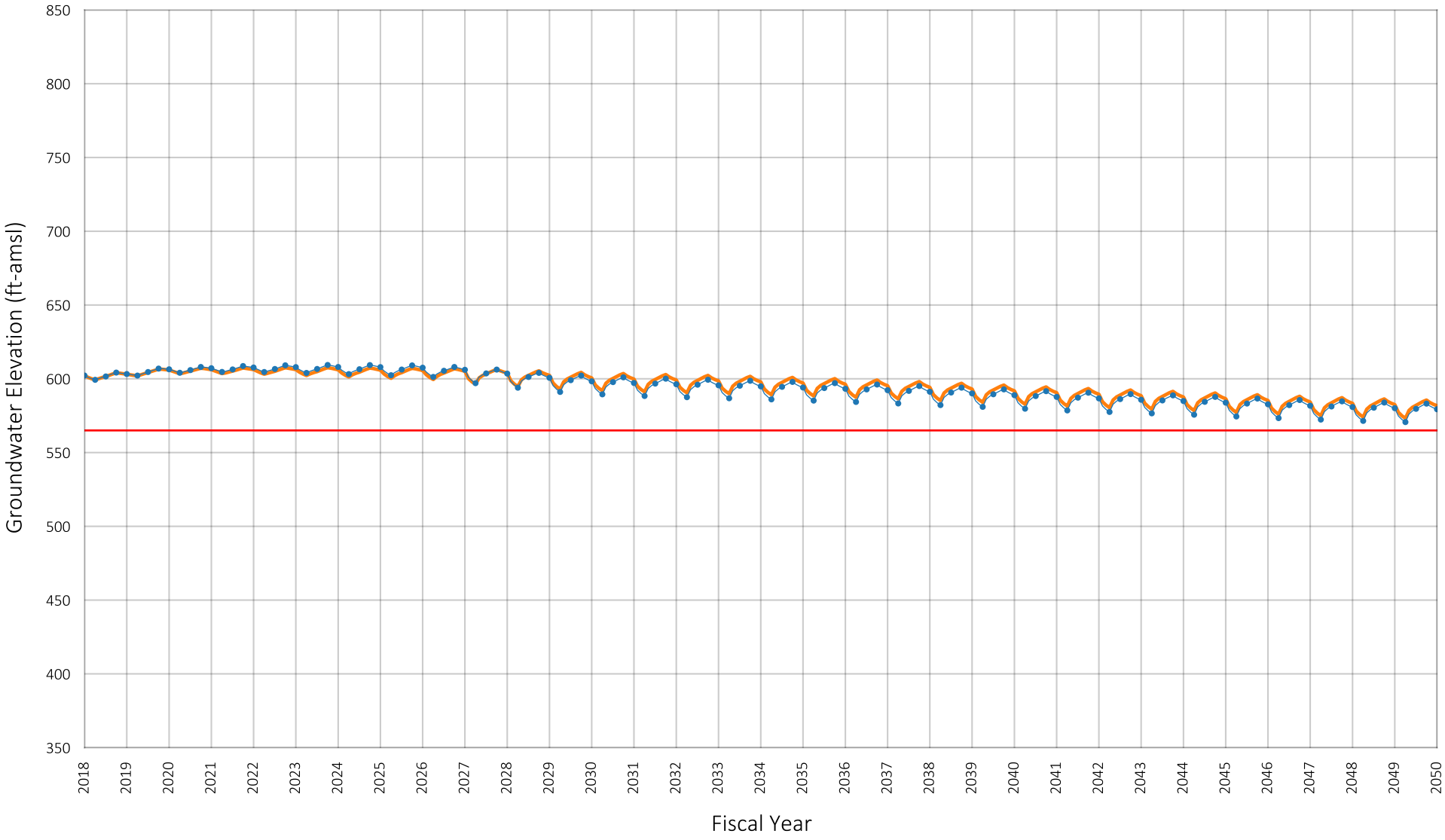
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003501
Owner: Jurupa Community Services District
Well Name: 14

Figure A-53

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

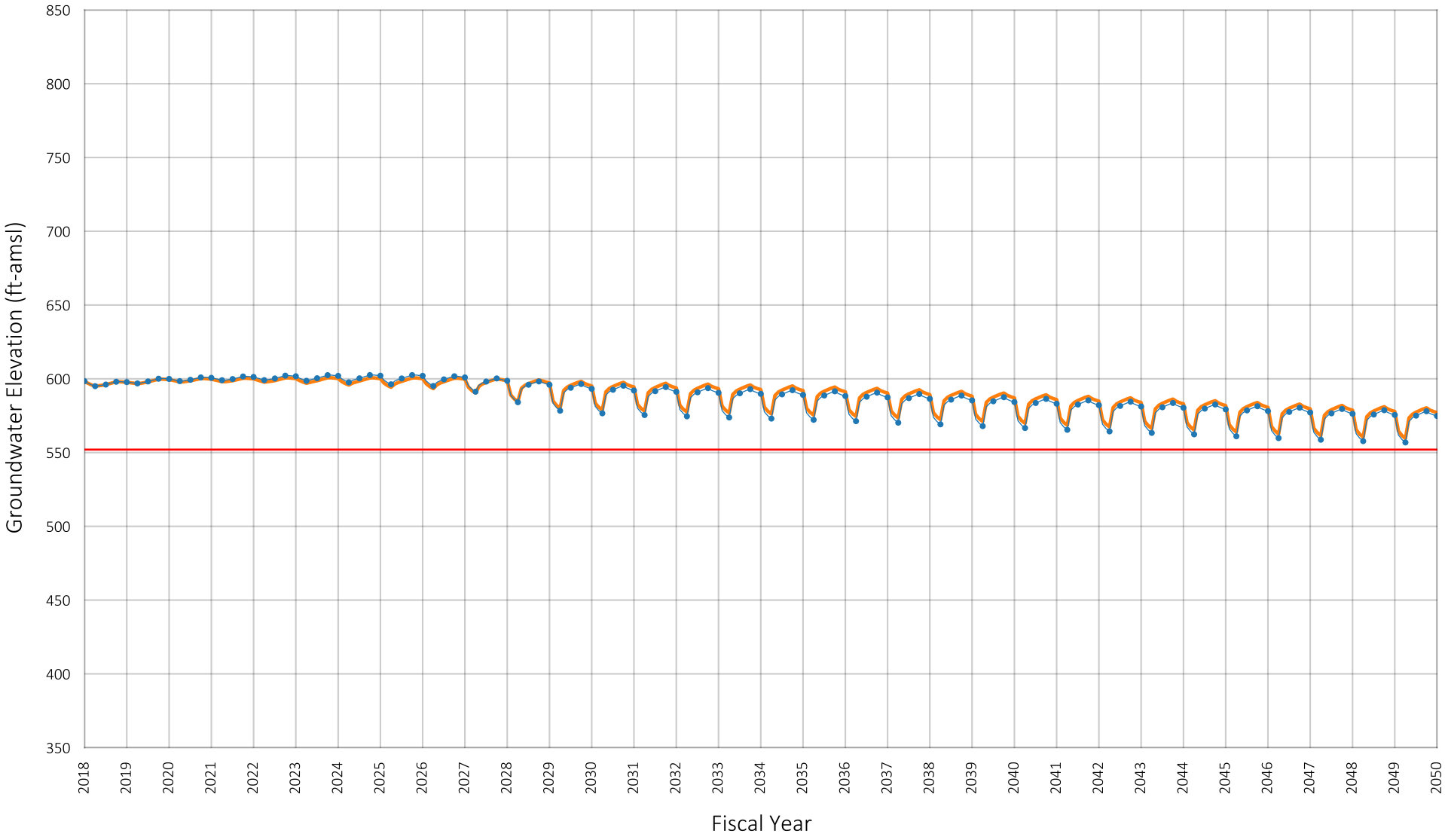
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003498
Owner: Jurupa Community Services District
Well Name: 15

Figure A-54

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

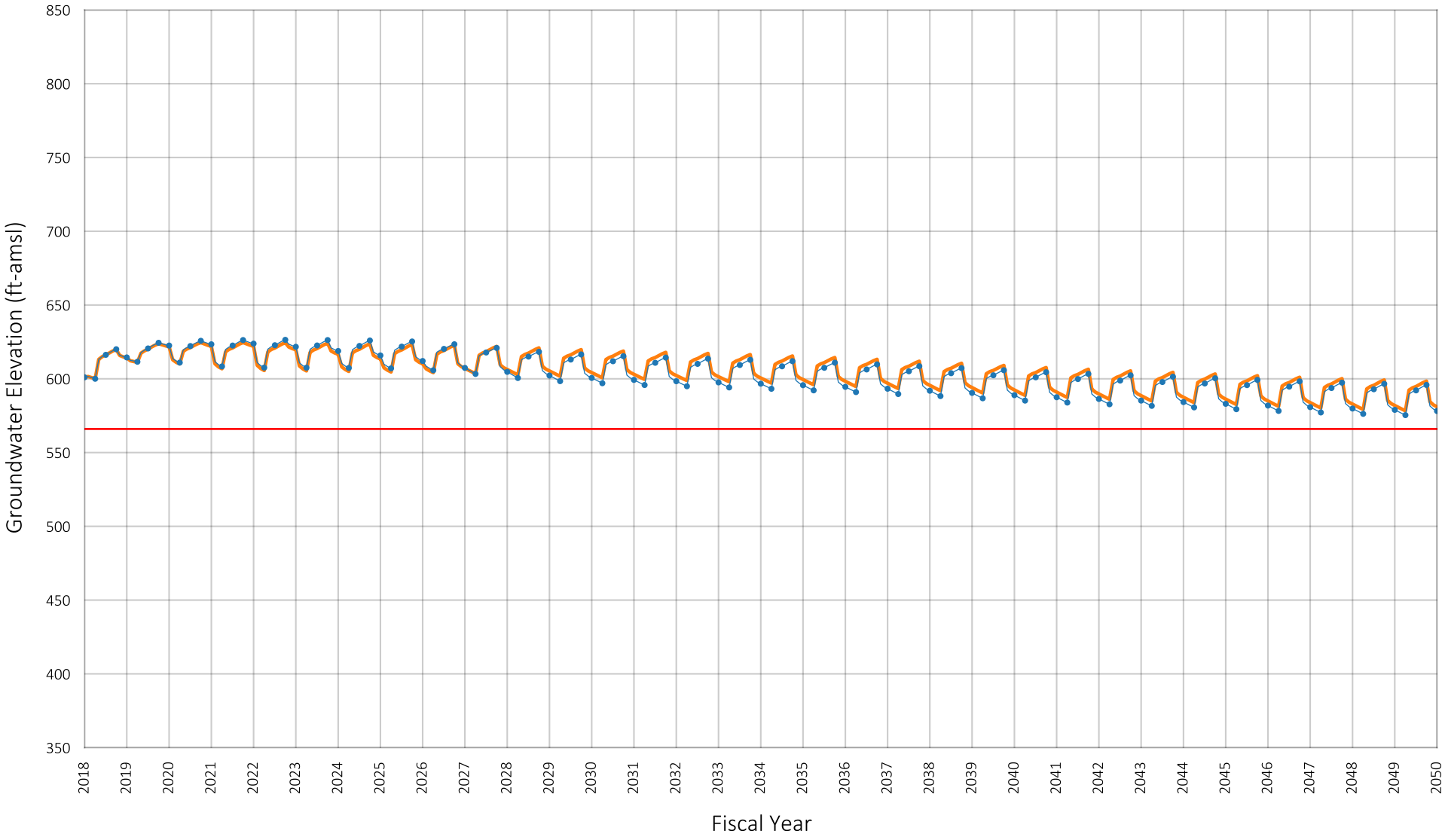
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003502
Owner: Jurupa Community Services District
Well Name: 16

Figure A-55

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

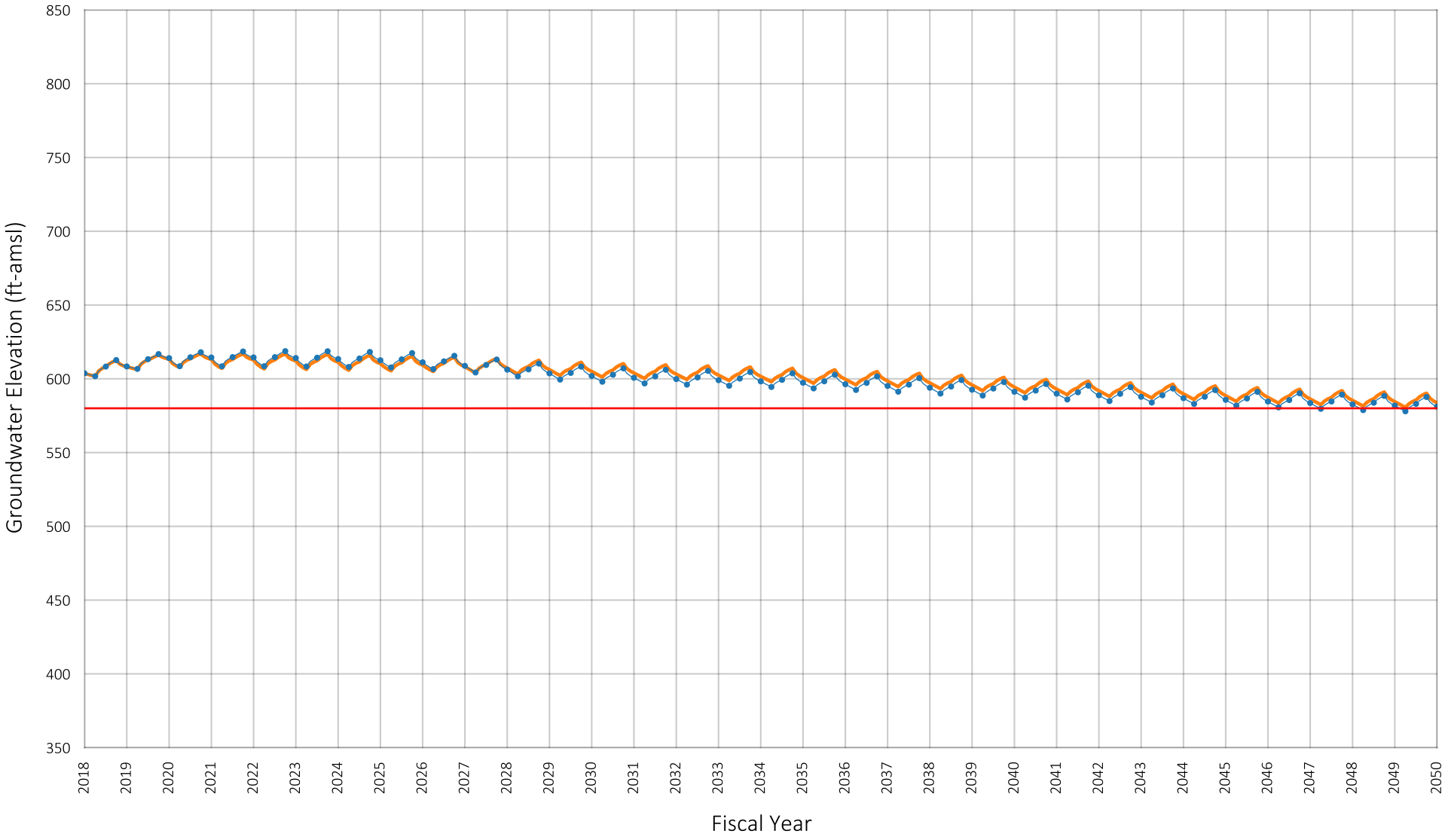
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003467
Owner: Jurupa Community Services District
Well Name: 17

Figure A-56

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

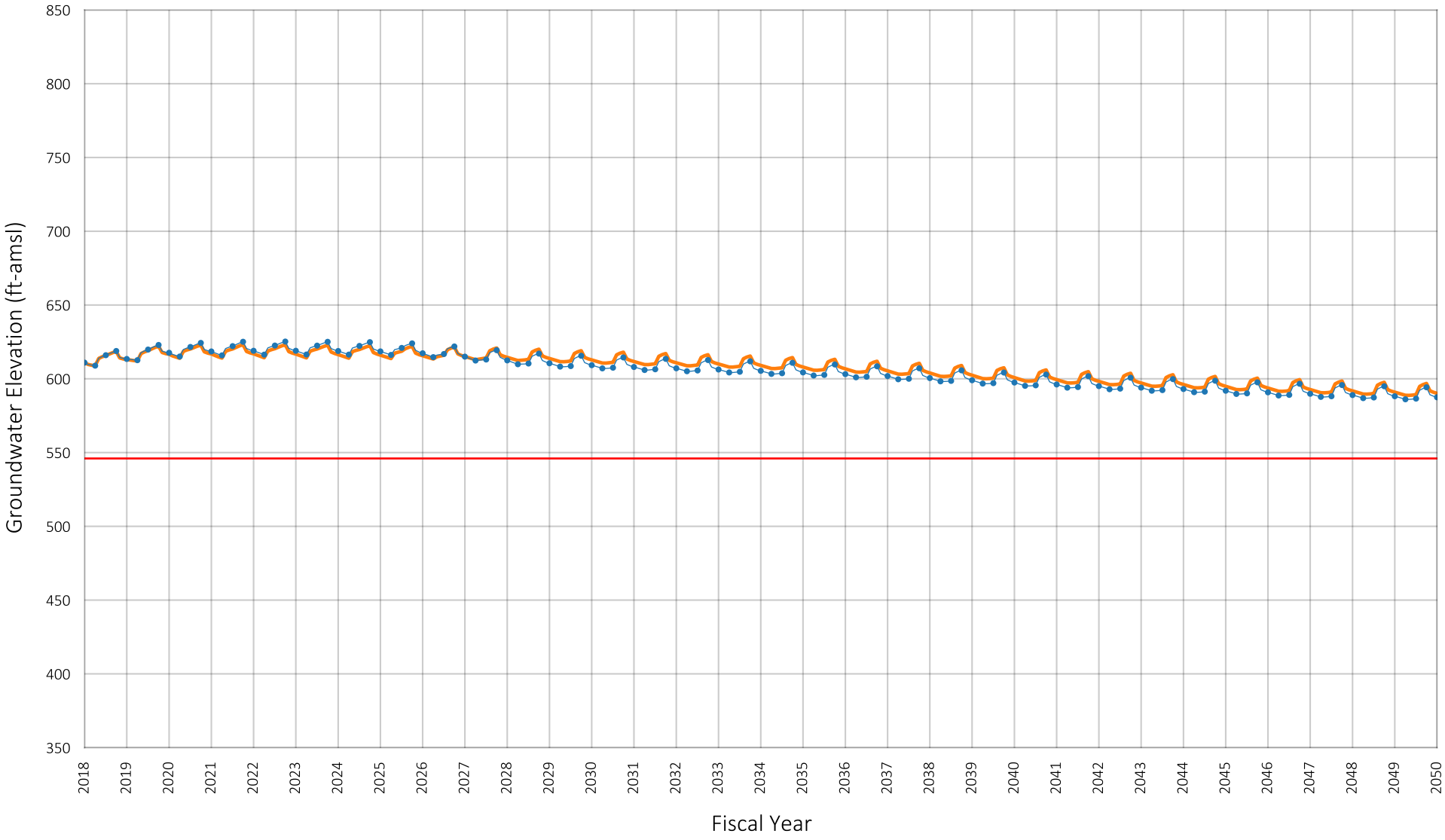
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003469
Owner: Jurupa Community Services District
Well Name: 18

Figure A-57

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

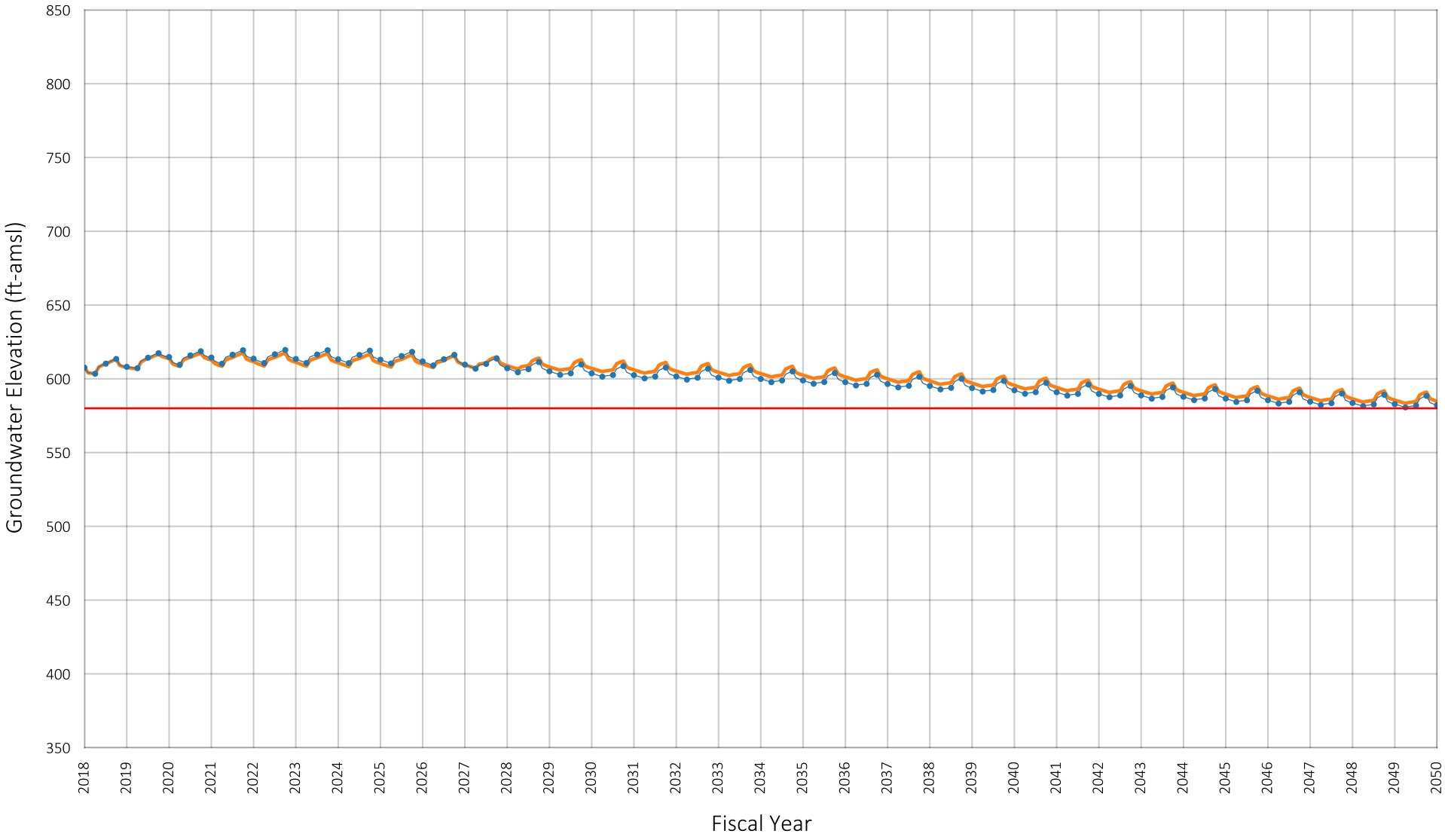
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003471
Owner: Jurupa Community Services District
Well Name: 19

Figure A-58

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

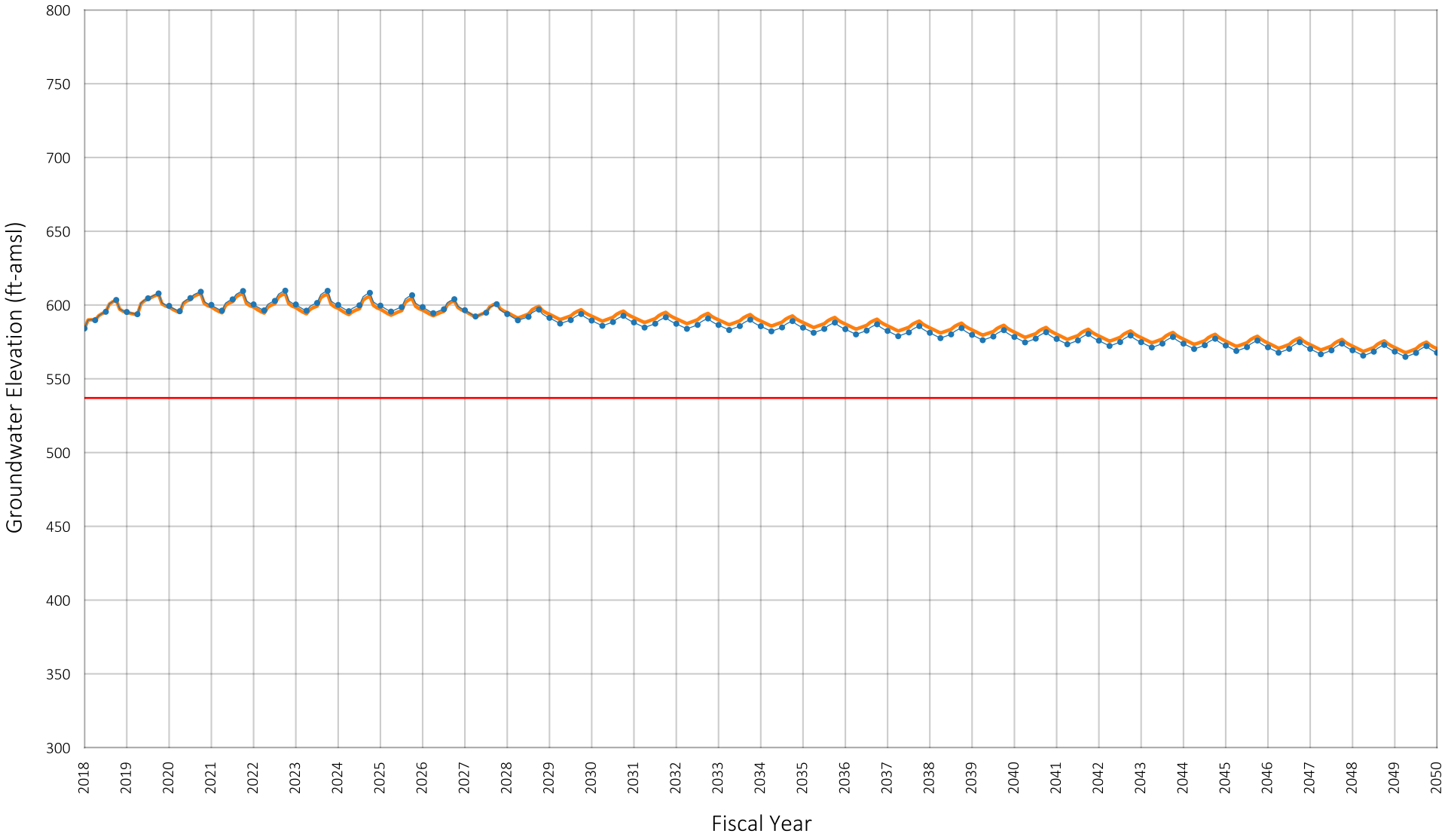
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003472
Owner: Jurupa Community Services District
Well Name: 20

Figure A-59

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

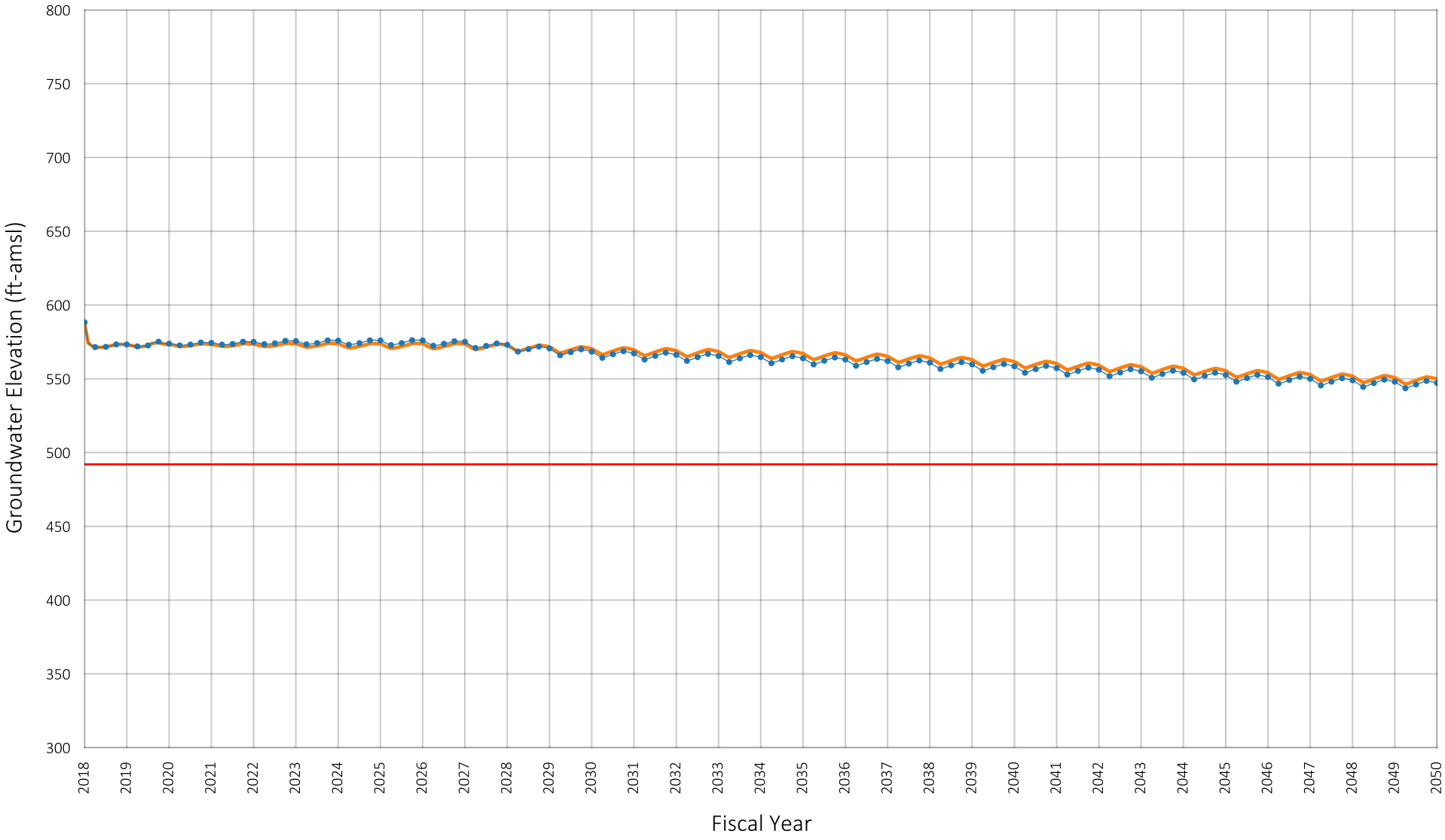
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1220154
Owner: Jurupa Community Services District
Well Name: 22

Figure A-60

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

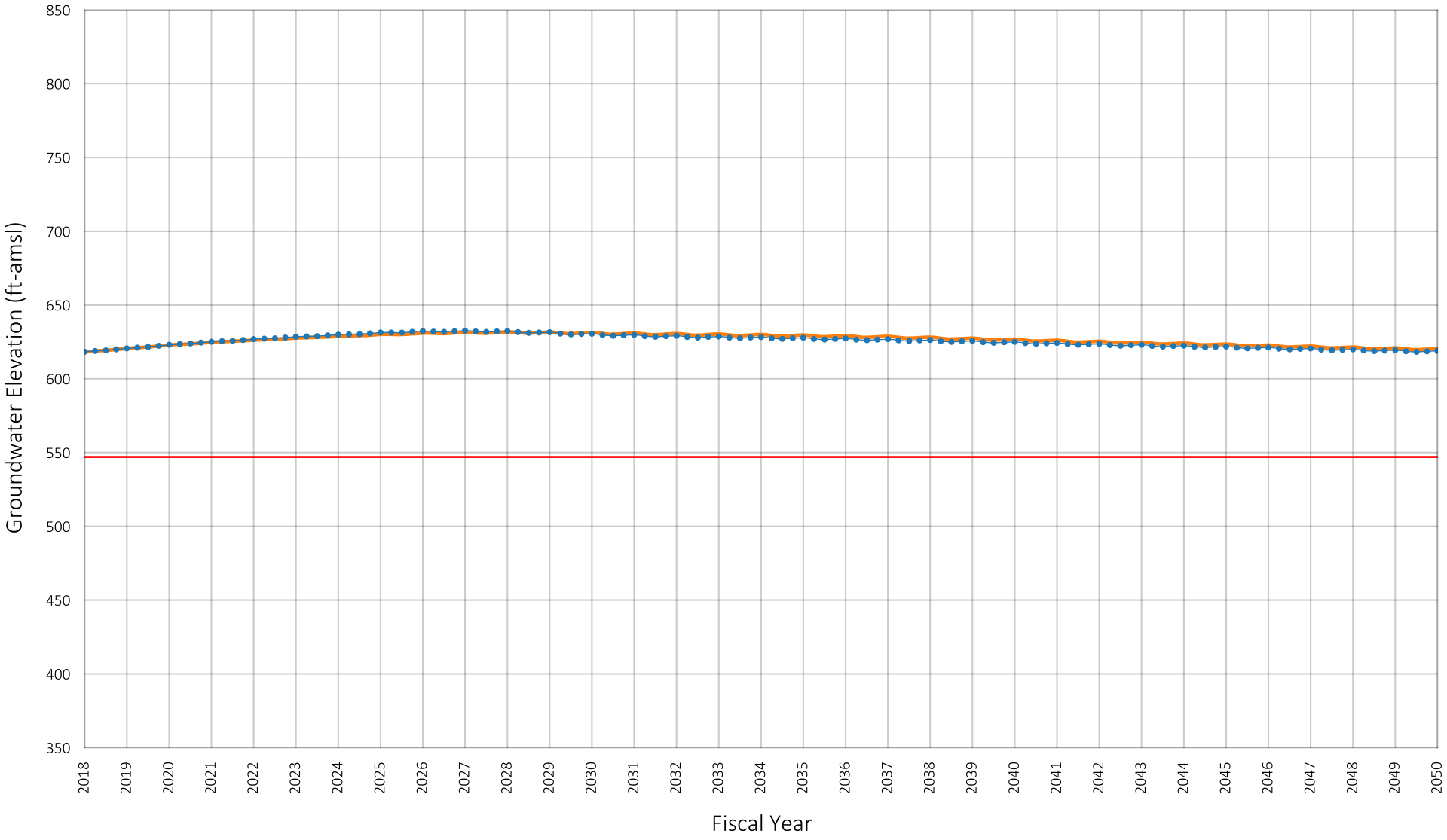
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1220155
Owner: Jurupa Community Services District
Well Name: 23

Figure A-61

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

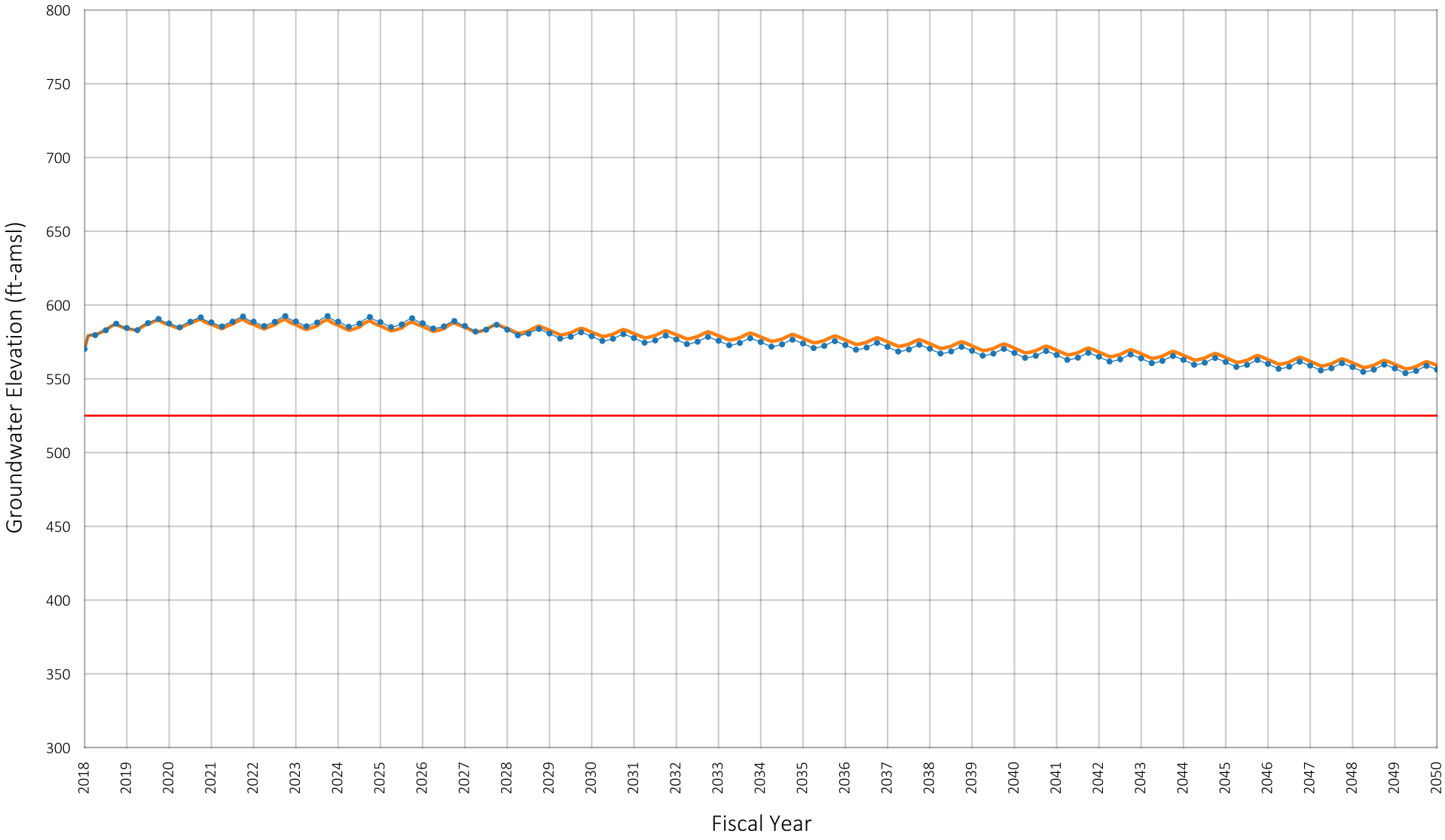
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1003515
Owner: Jurupa Community Services District
Well Name: 24

Figure A-62

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

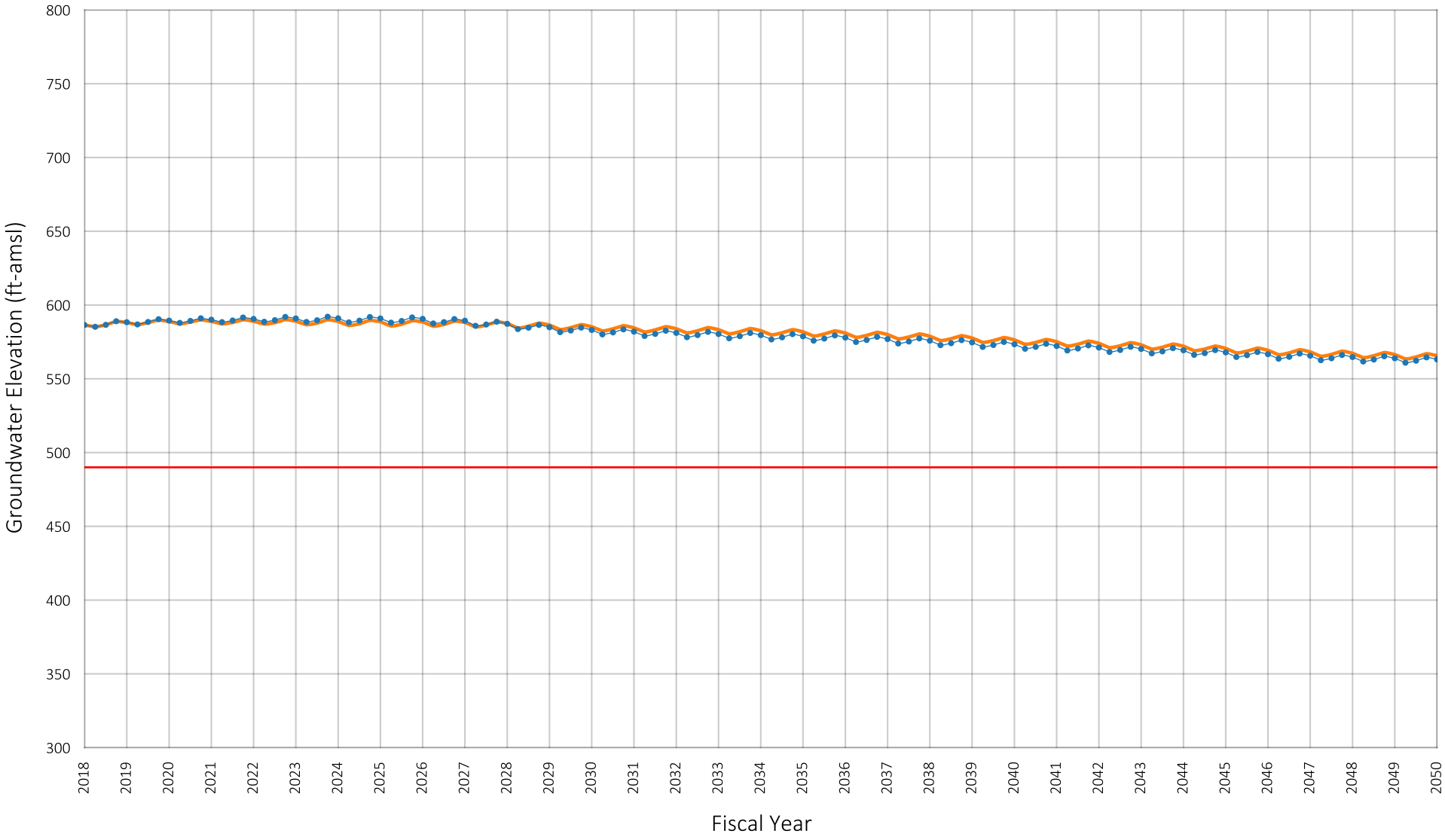
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1220158
Owner: Jurupa Community Services District
Well Name: 25

Figure A-63

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

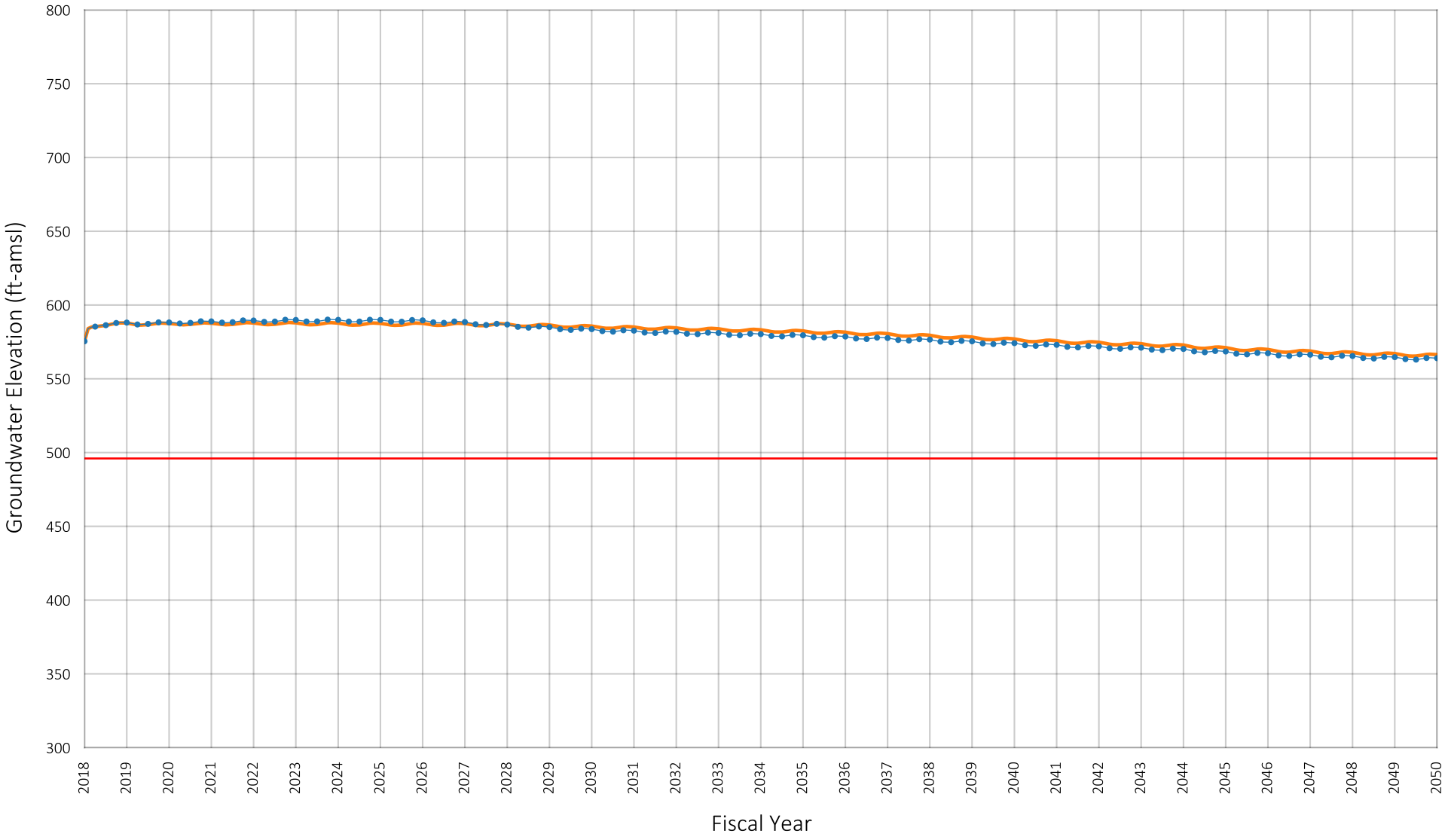
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1233787
Owner: Jurupa Community Services District
Well Name: 27

Prepared by:

WEST YOST
Water. Engineered.

Figure A-64



Location of Well in Chino Basin

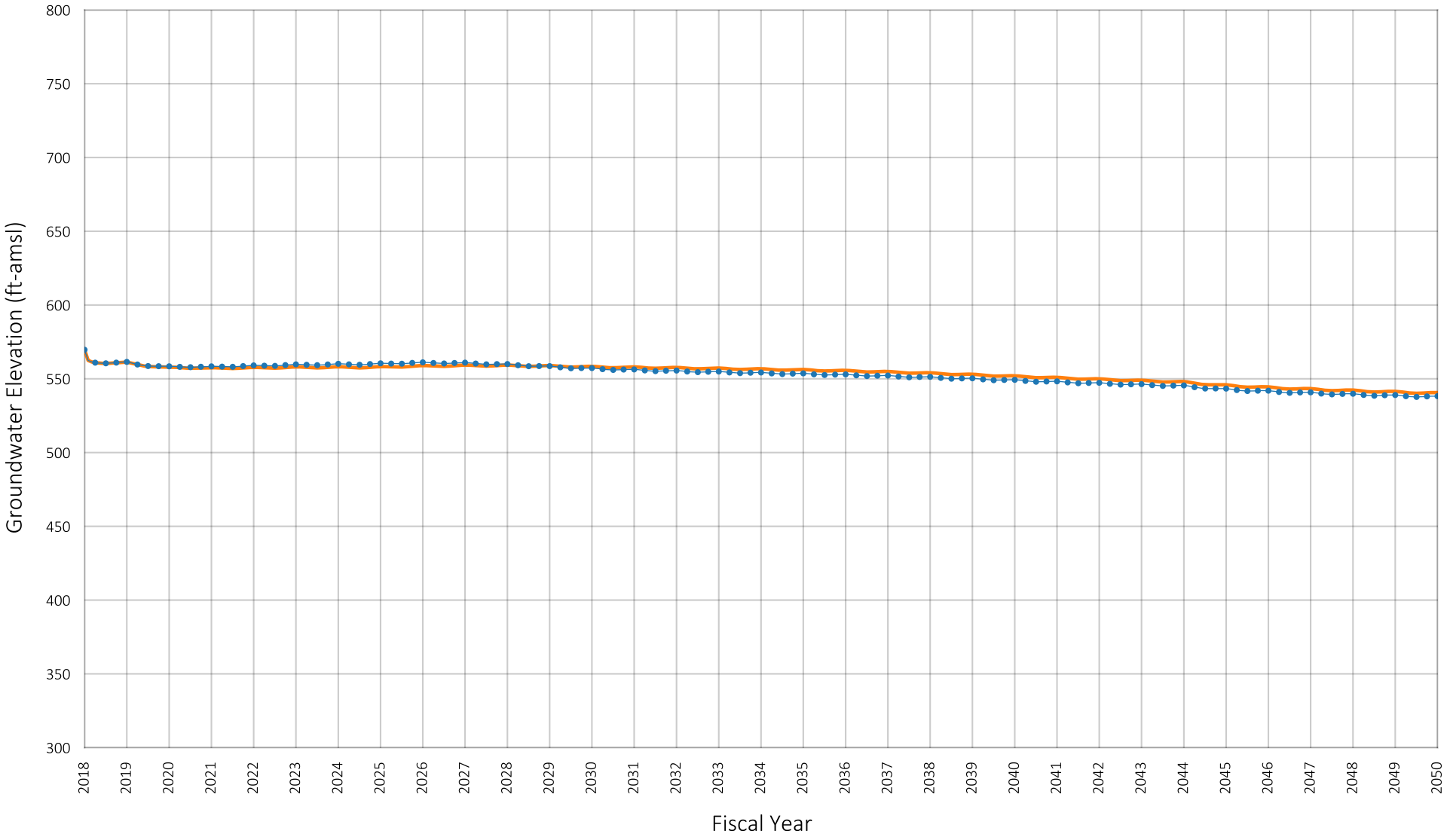
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1233788
Owner: Jurupa Community Services District
Well Name: 28

Figure A-65

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

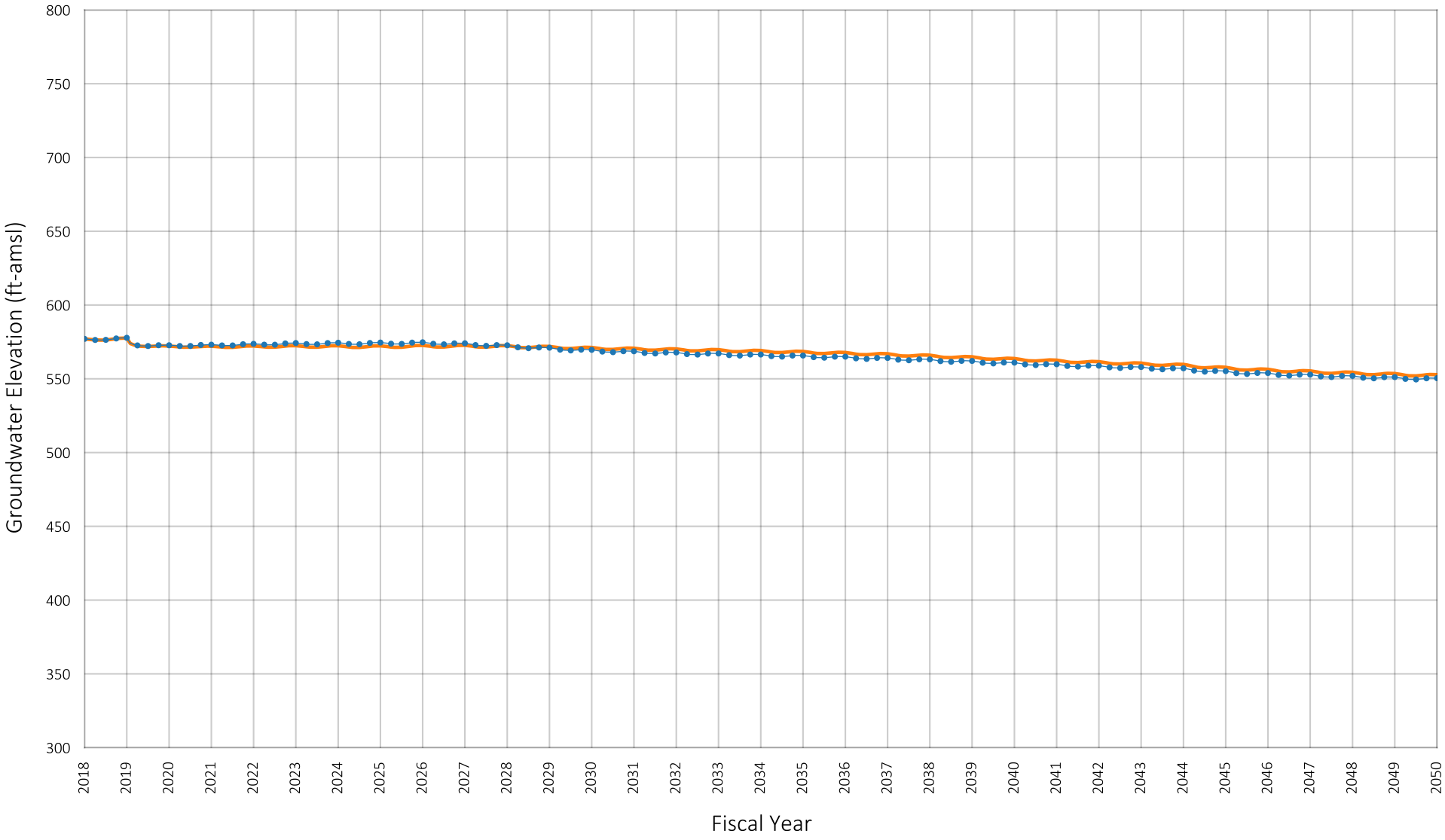
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1207942
Owner: Jurupa Community Services District
Well Name: IDI-1

Figure A-66



Location of Well in Chino Basin

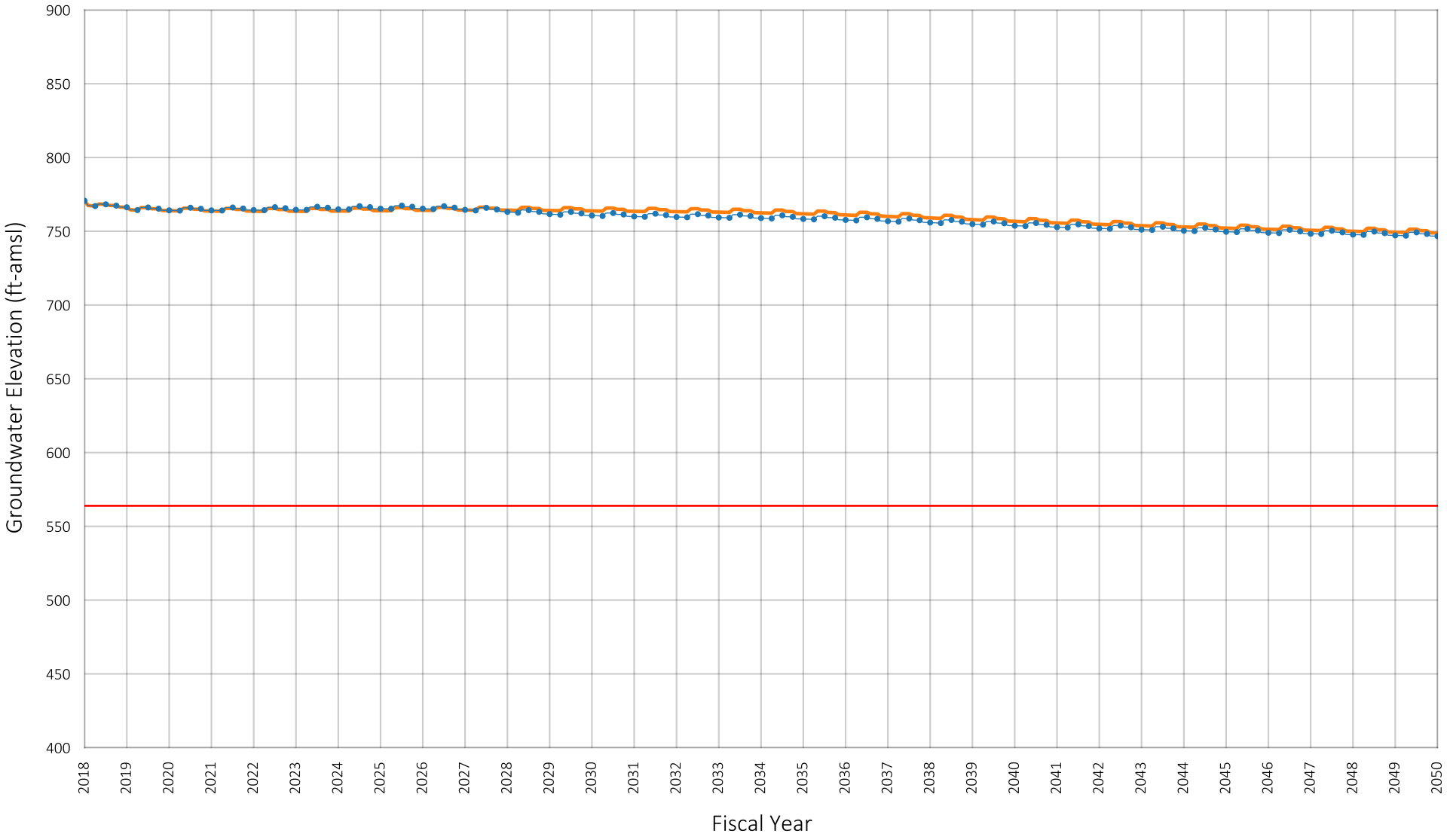
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 999902
Owner: Jurupa Community Services District
Well Name: IDI-2

Figure A-67



Location of Well in Chino Basin

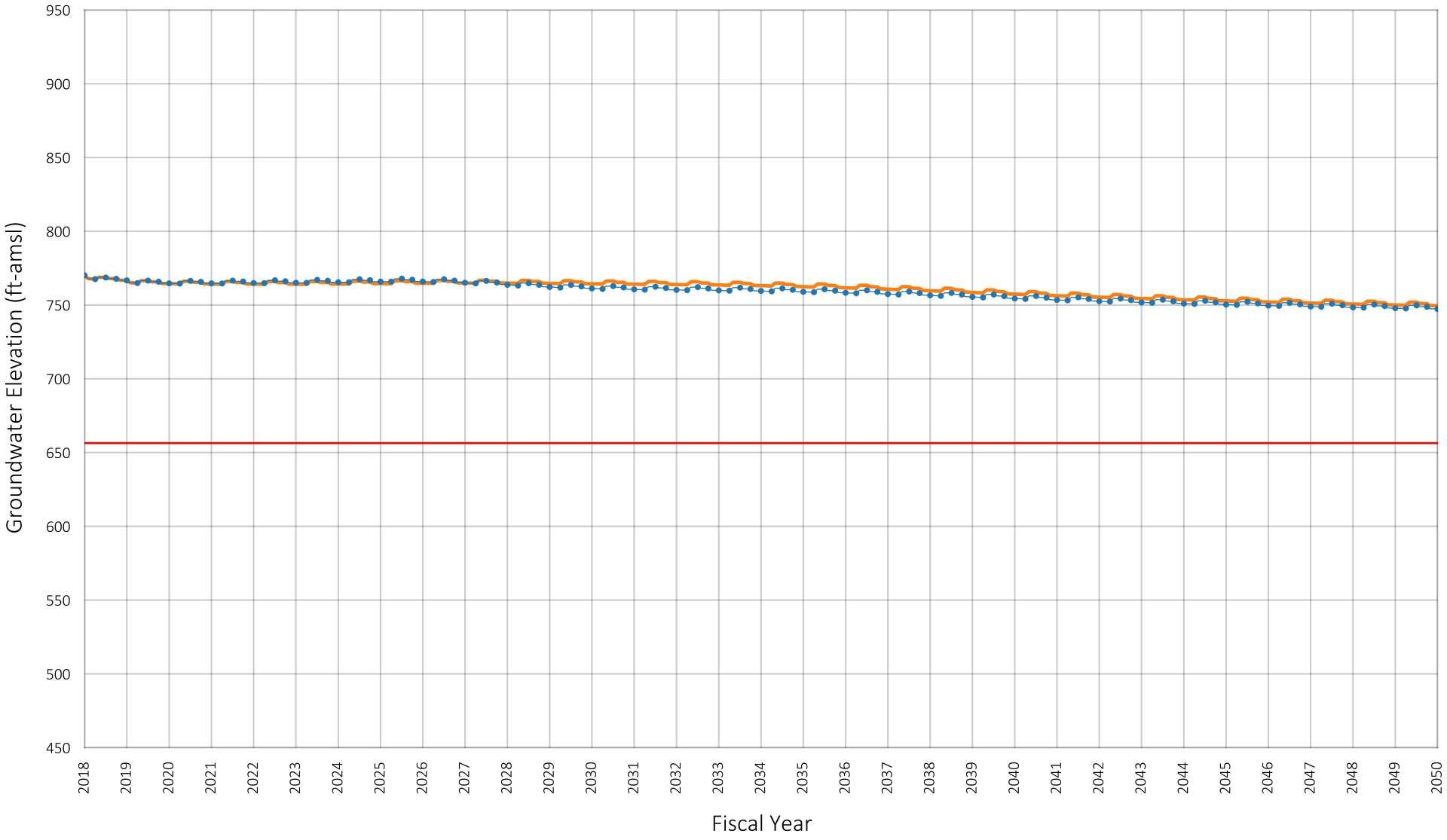
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1221751
Owner: Marygold Mutual Water Company
Well Name: MMWC 06

Figure A-68

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

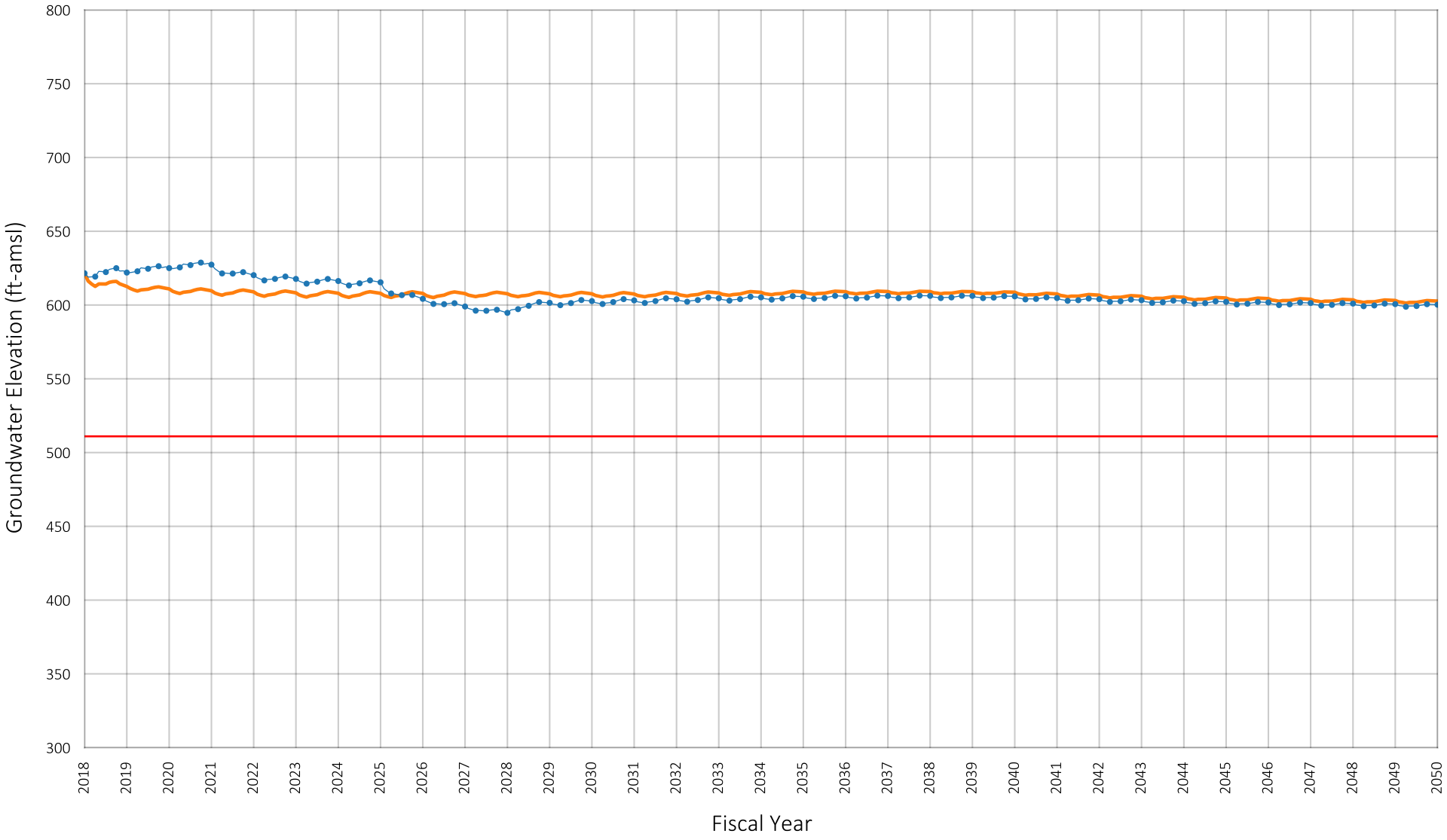
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1221752
Owner: Marygold Mutual Water Company
Well Name: MMWC 07

Figure A-69

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

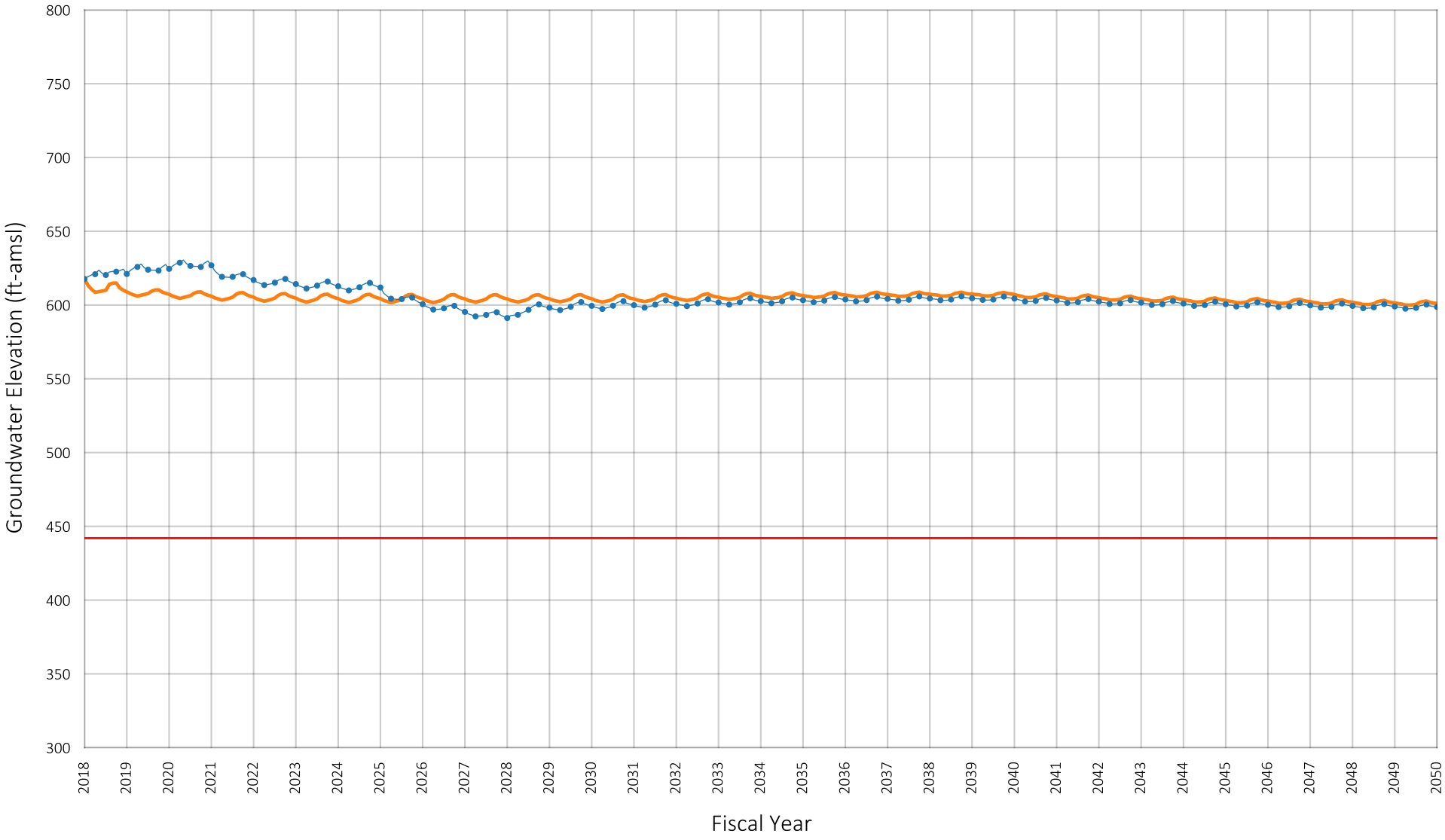
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002541
Owner: Monte Vista Water District
Well Name: 4

Figure A-70

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

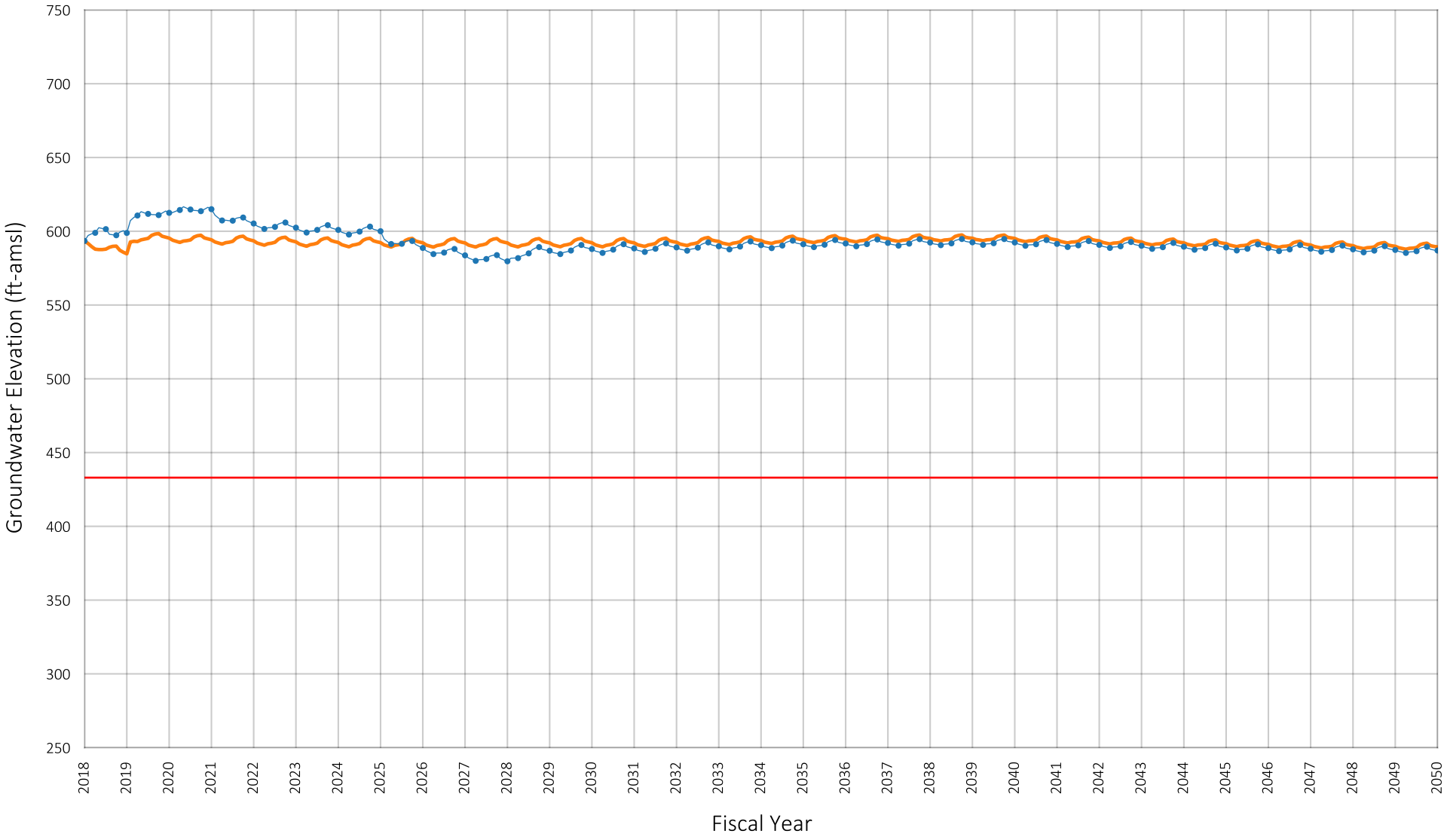
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002544
Owner: Monte Vista Water District
Well Name: 5

Figure A-71

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

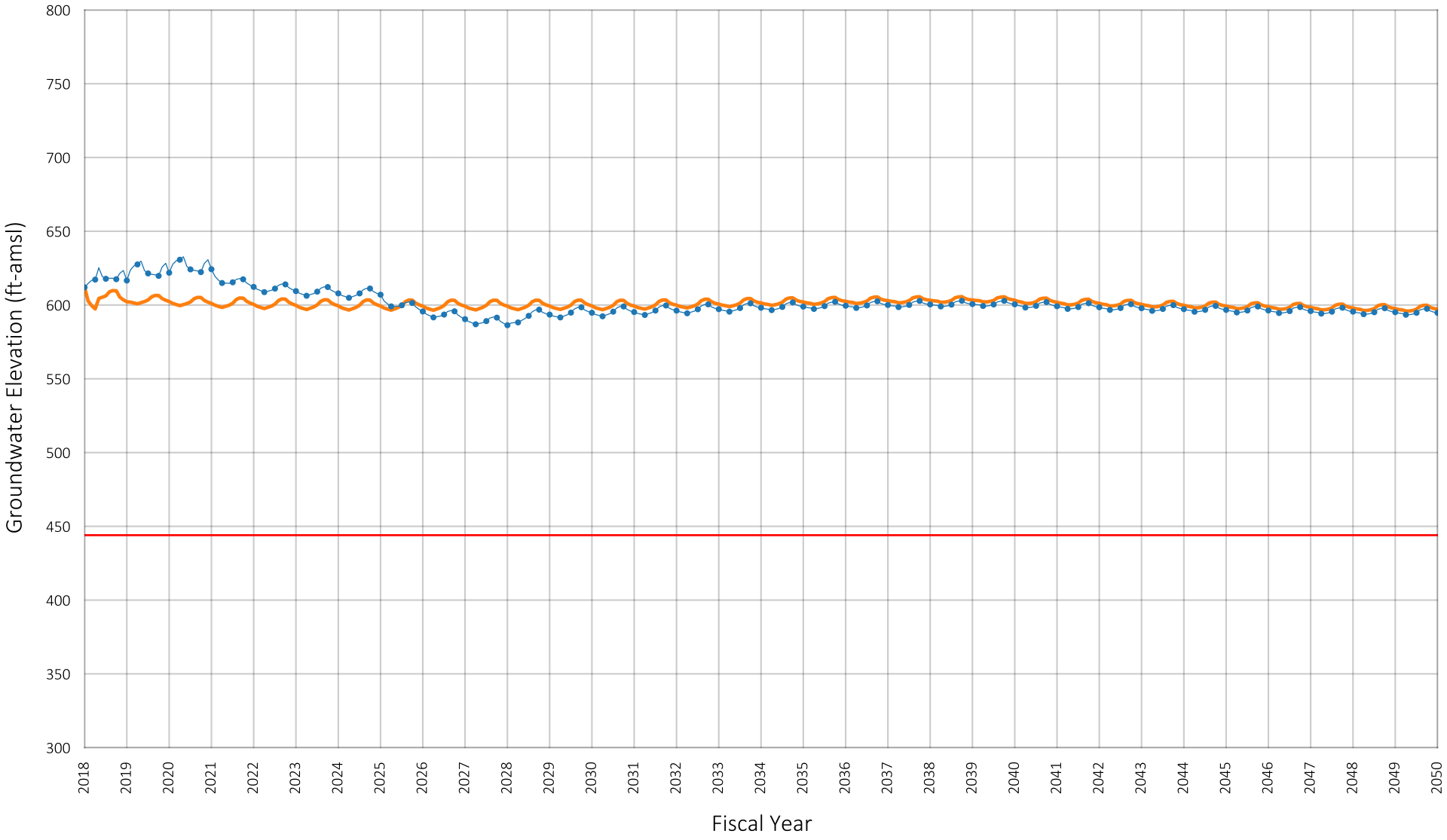
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002563
Owner: Monte Vista Water District
Well Name: 19

Figure A-72

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

SYR1

LSLS

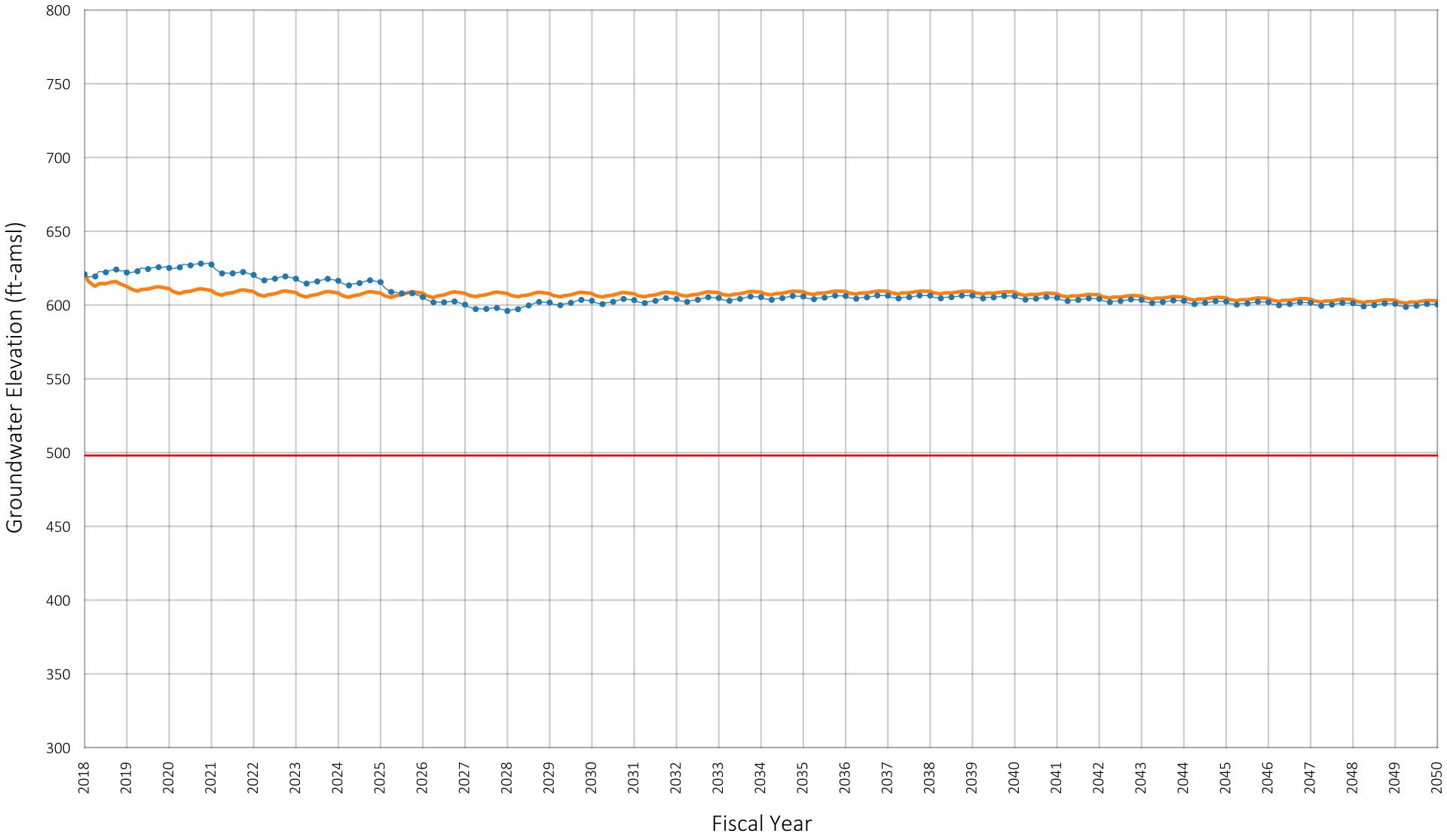
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206744
Owner: Monte Vista Water District
Well Name: 26

Figure A-73

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

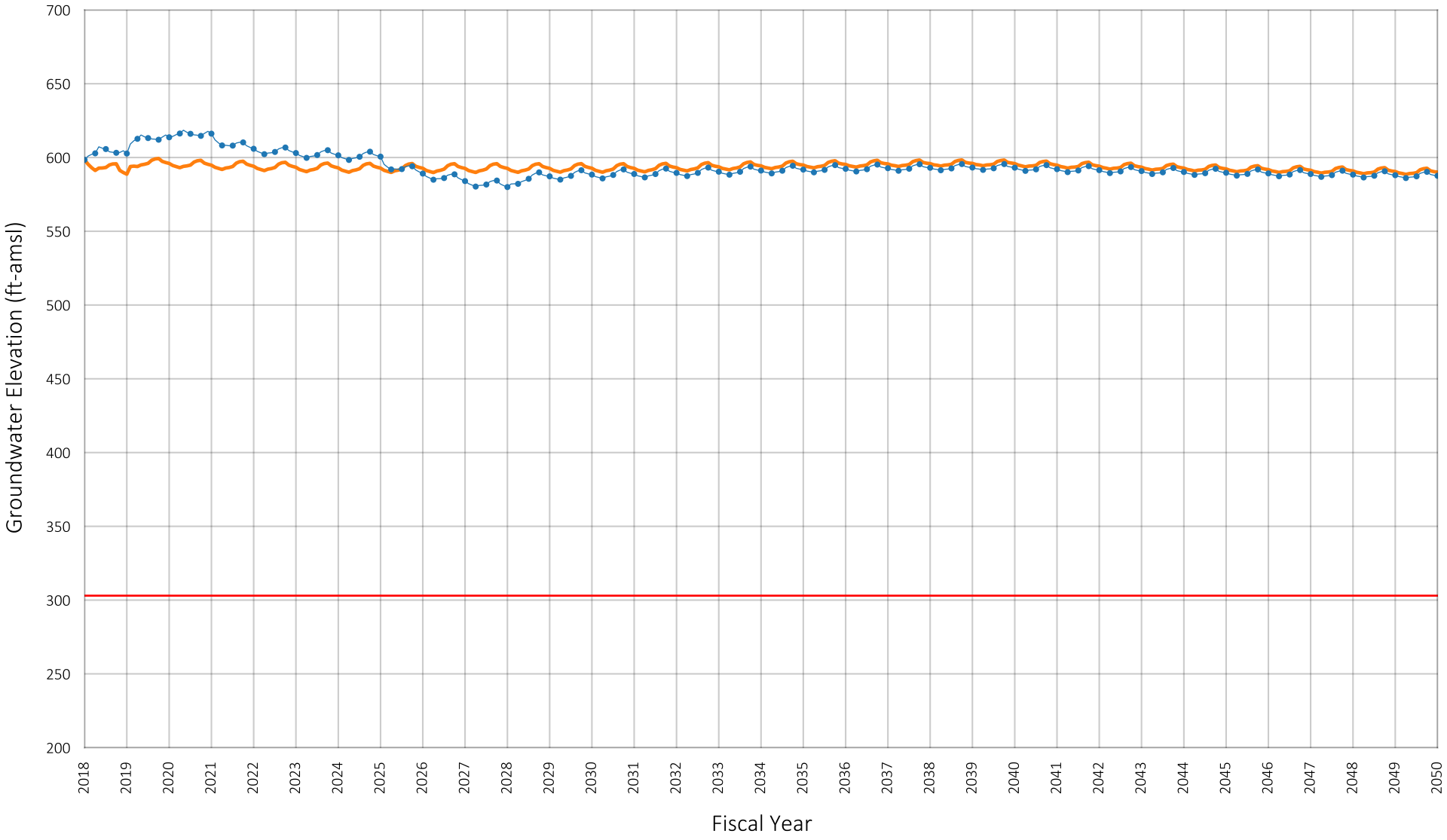
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206745
Owner: Monte Vista Water District
Well Name: 27

Figure A-74

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

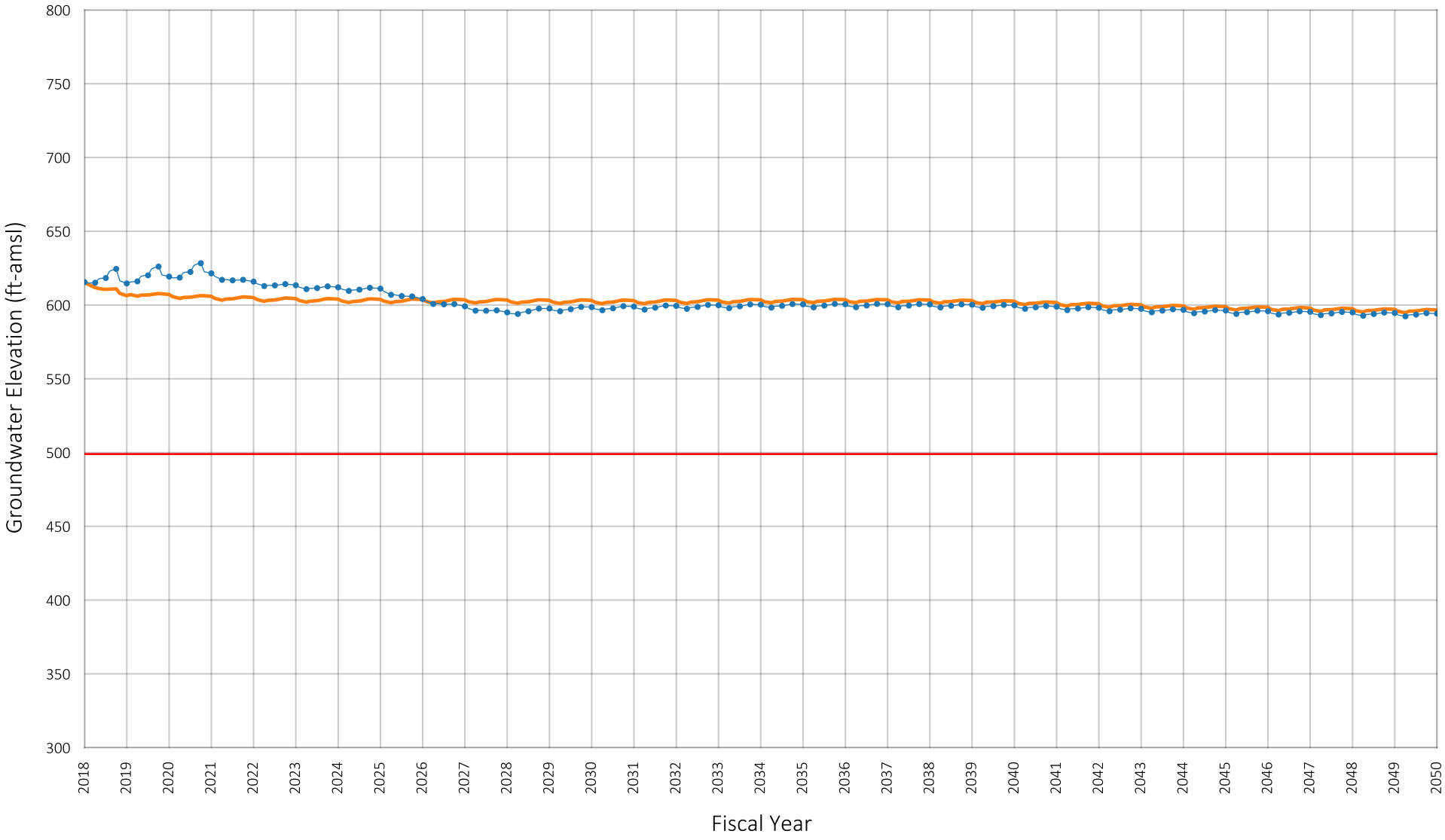
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206746
Owner: Monte Vista Water District
Well Name: 28

Figure A-75

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

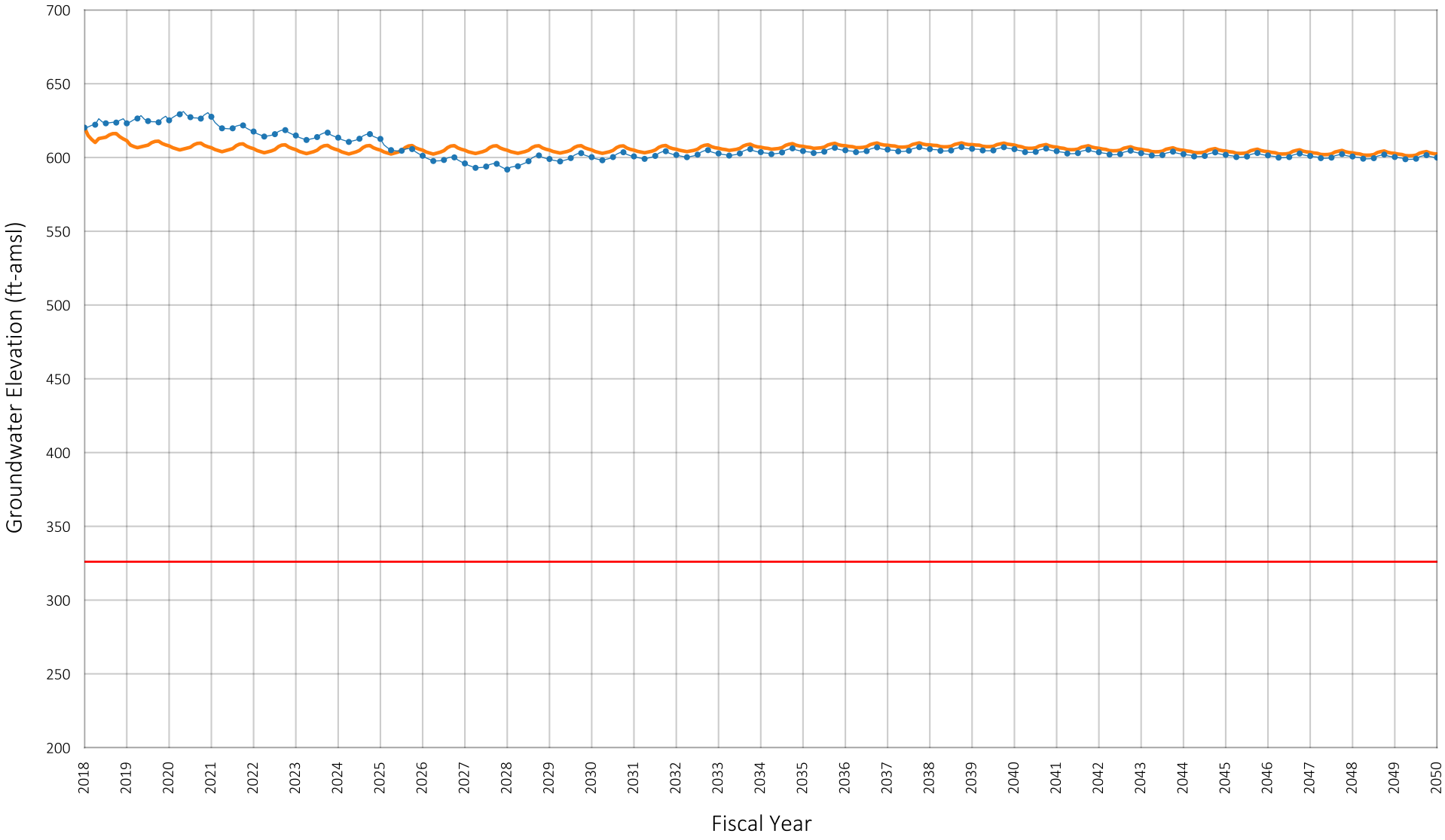
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1208781
Owner: Monte Vista Water District
Well Name: 30

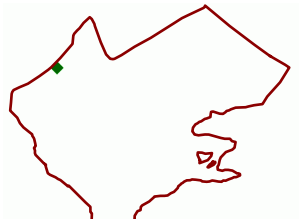
Prepared by:

WEST YOST
Water. Engineered.

Figure A-76



Location of Well in Chino Basin



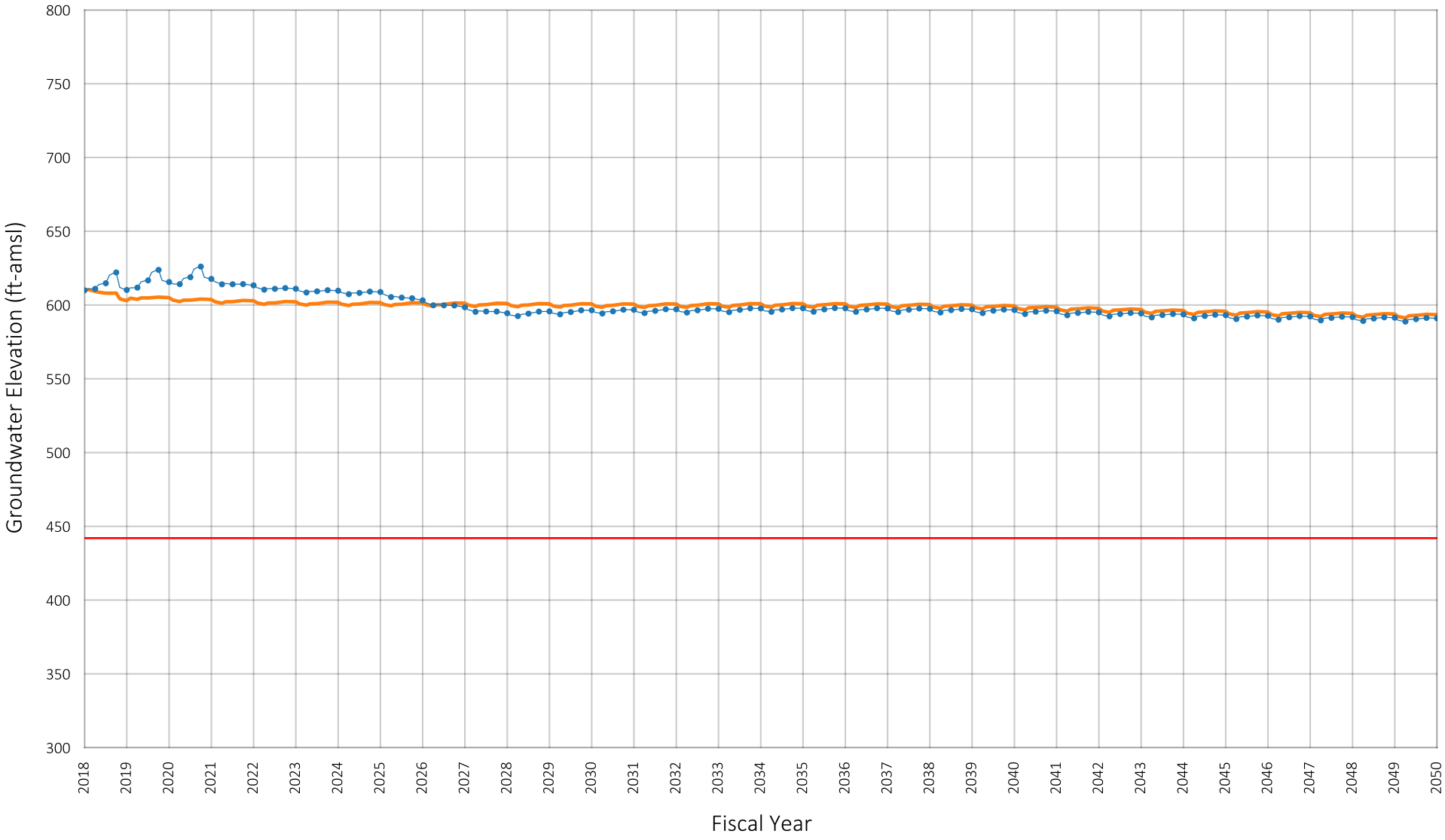
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1208782
Owner: Monte Vista Water District
Well Name: 31

Figure A-77

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

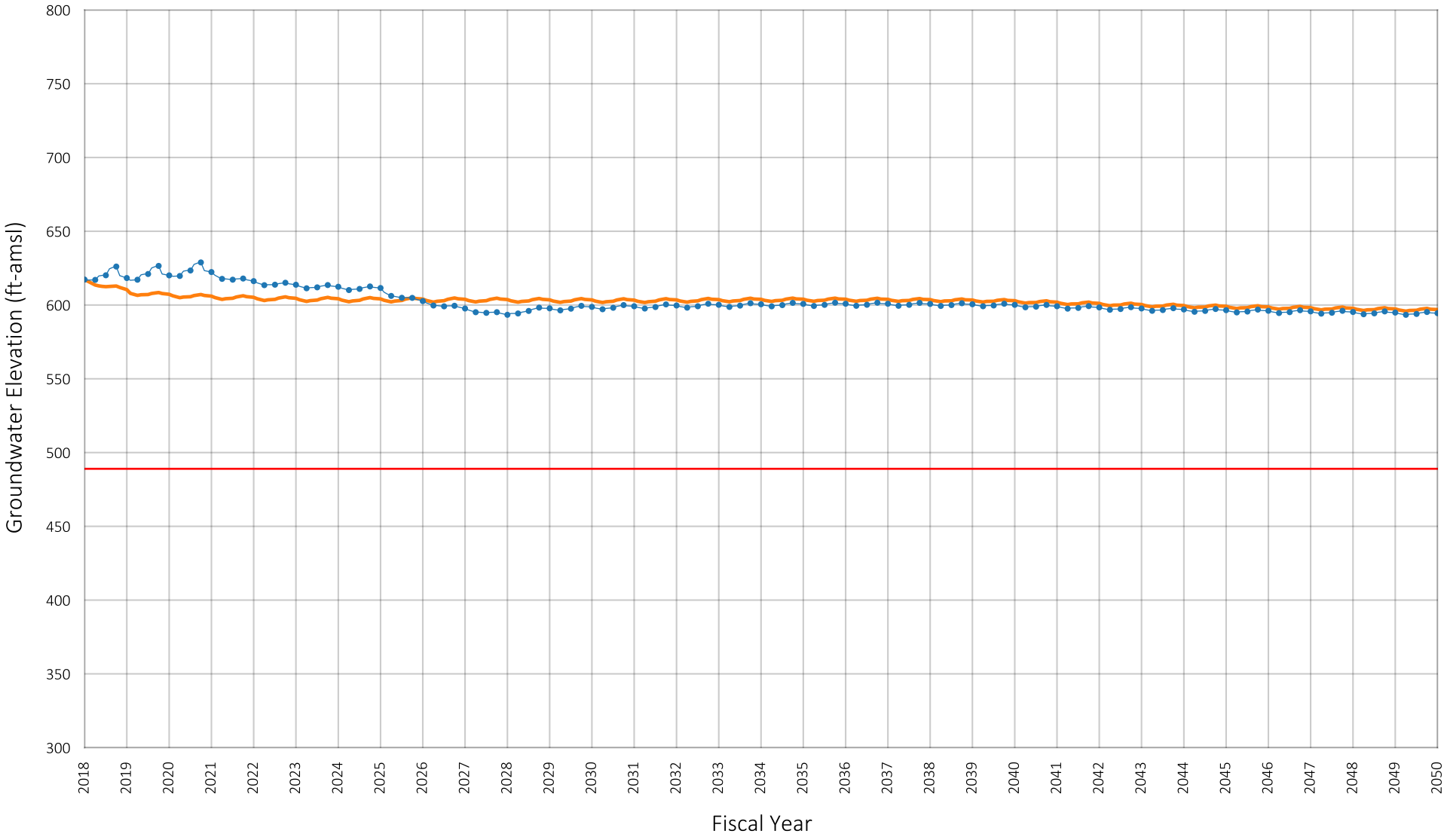
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1208771
Owner: Monte Vista Water District
Well Name: 32

Prepared by:

WEST YOST
Water. Engineered.

Figure A-78



Location of Well in Chino Basin

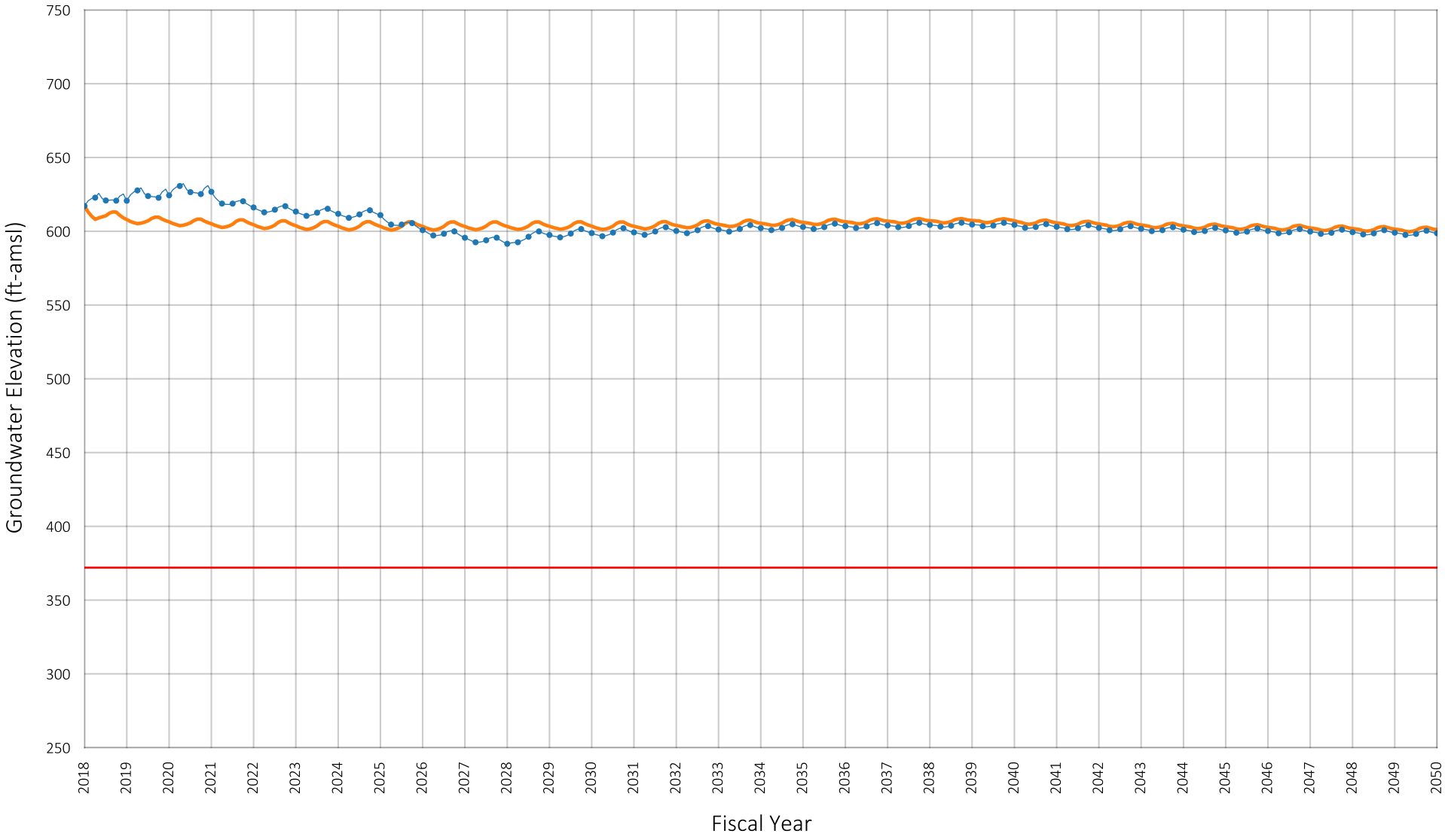
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1220173
Owner: Monte Vista Water District
Well Name: 33

Figure A-79

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

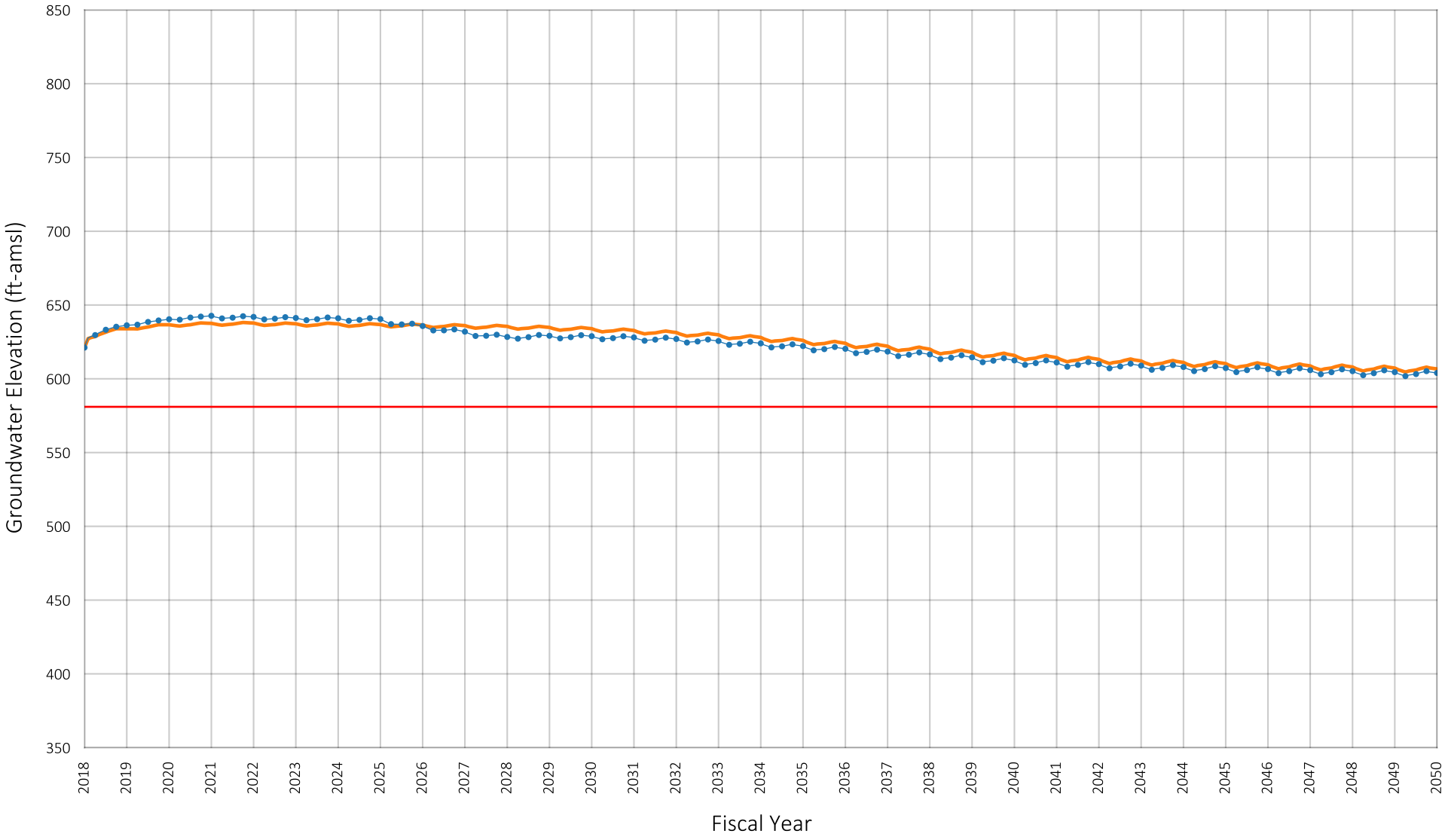
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1224765
Owner: Monte Vista Water District
Well Name: 34

Figure A-80

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

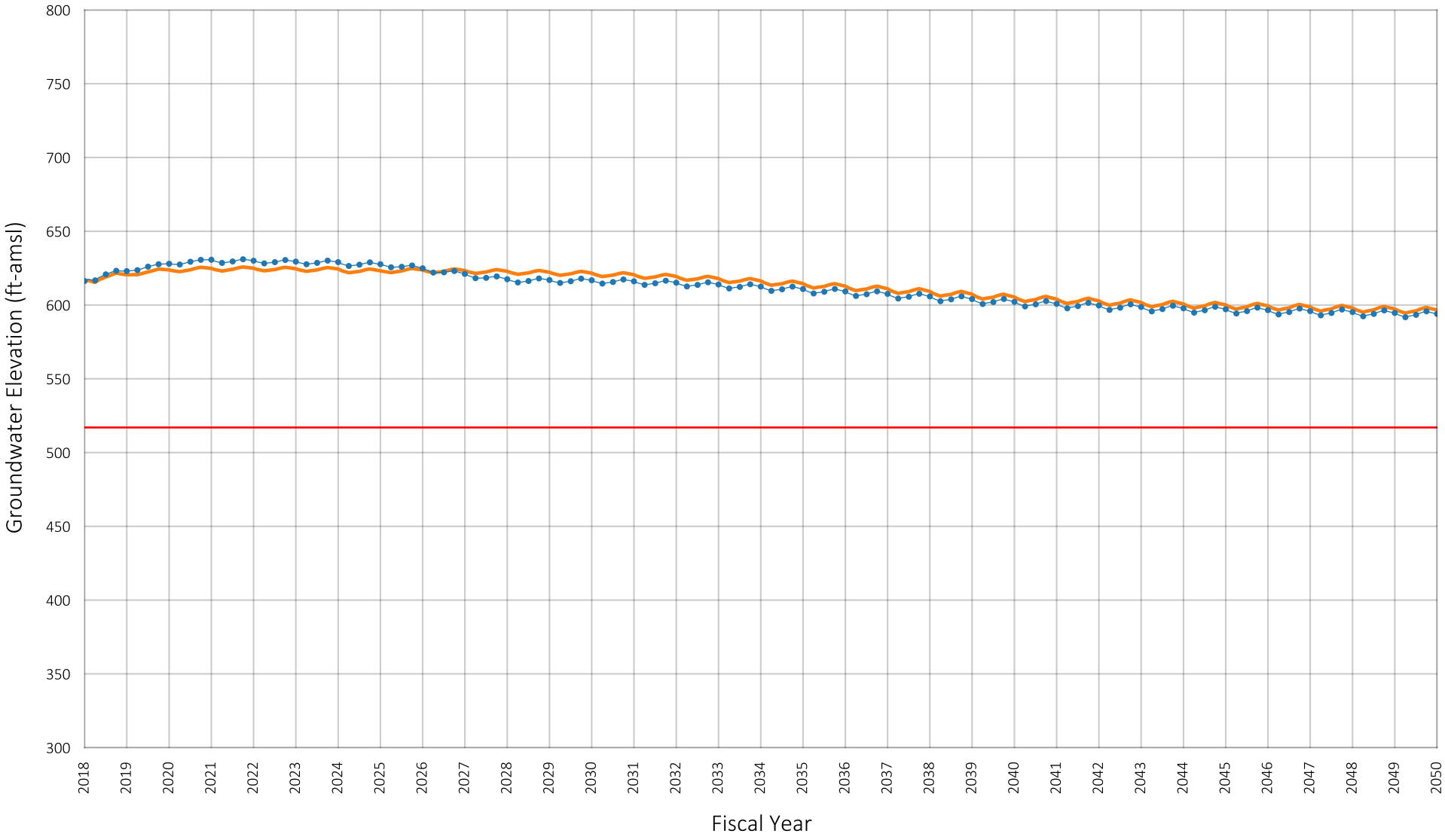
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002339
Owner: City of Ontario
Well Name: 24

Figure A-81

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

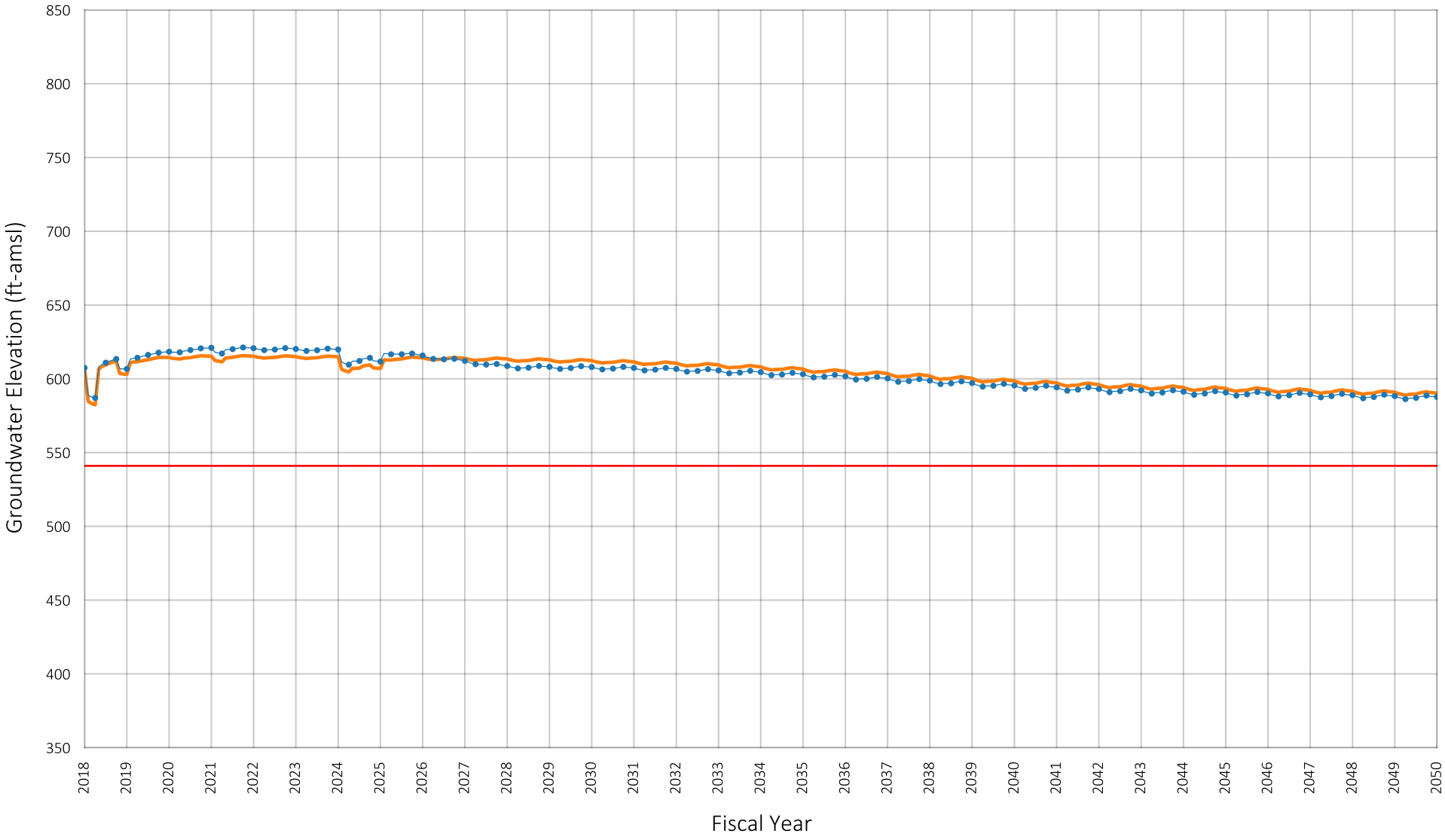
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002337
Owner: City of Ontario
Well Name: 25

Figure A-82

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

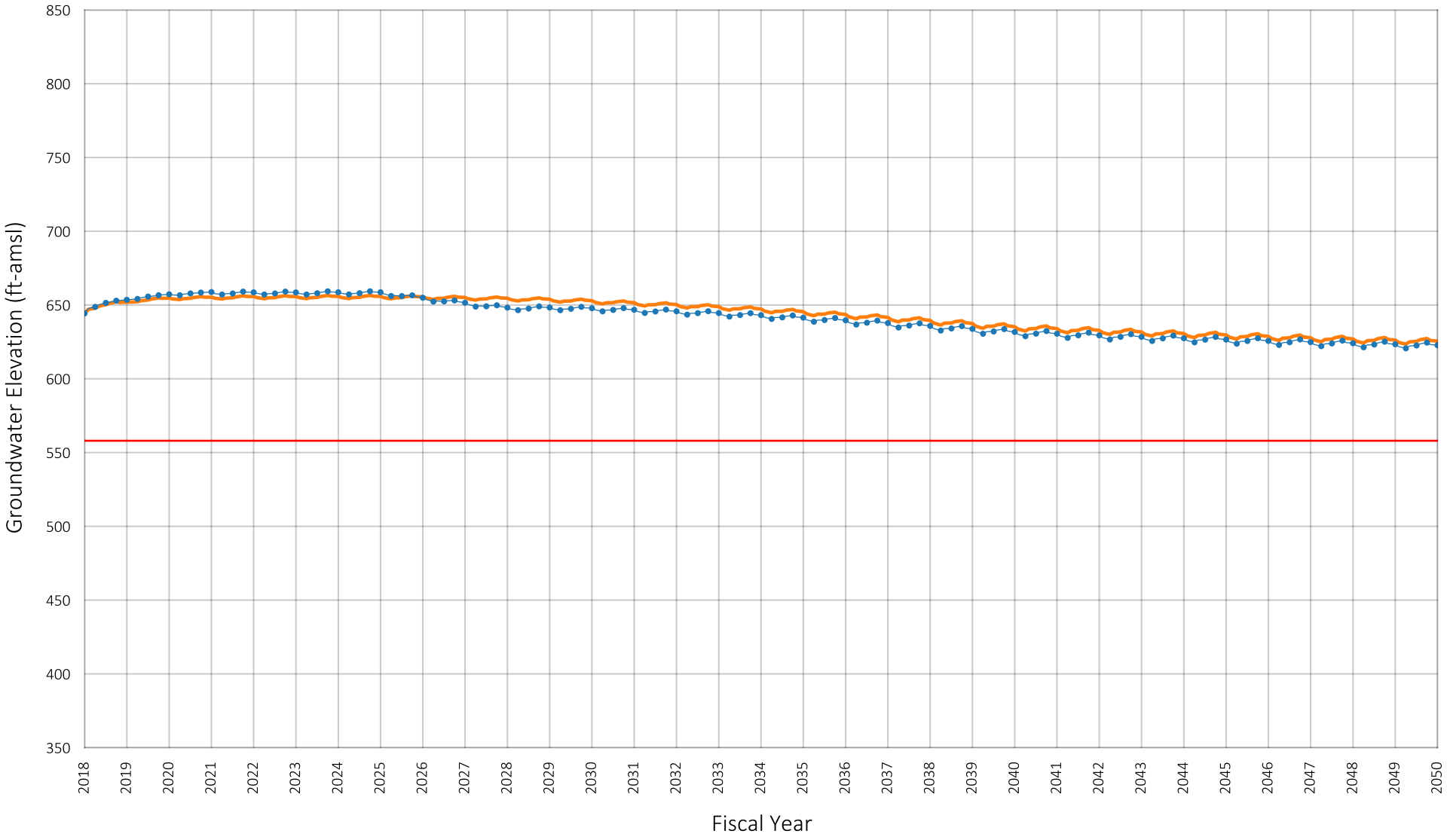
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002333
Owner: City of Ontario
Well Name: 29

Figure A-83

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

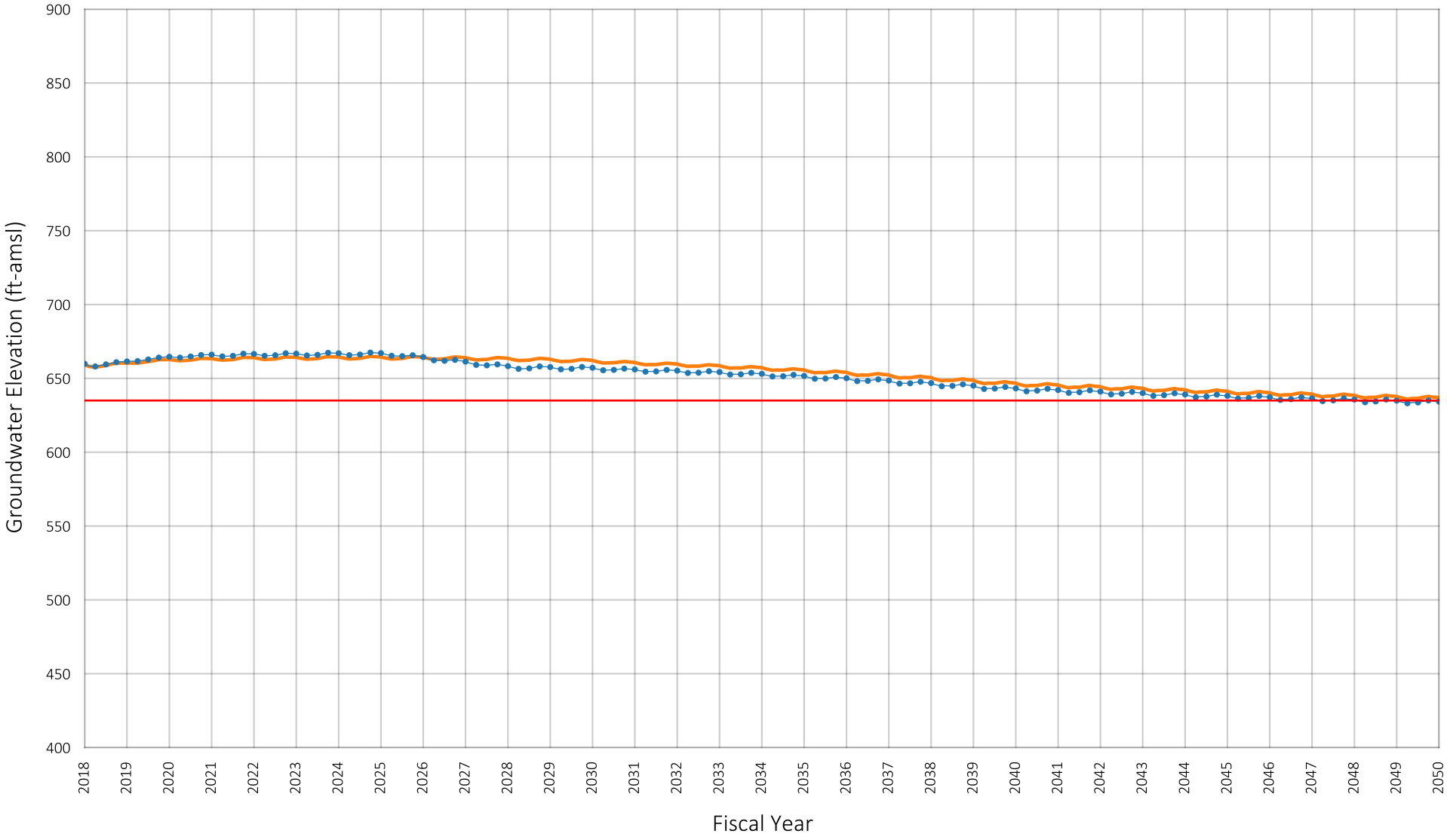
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002253
Owner: City of Ontario
Well Name: 30

Figure A-84

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

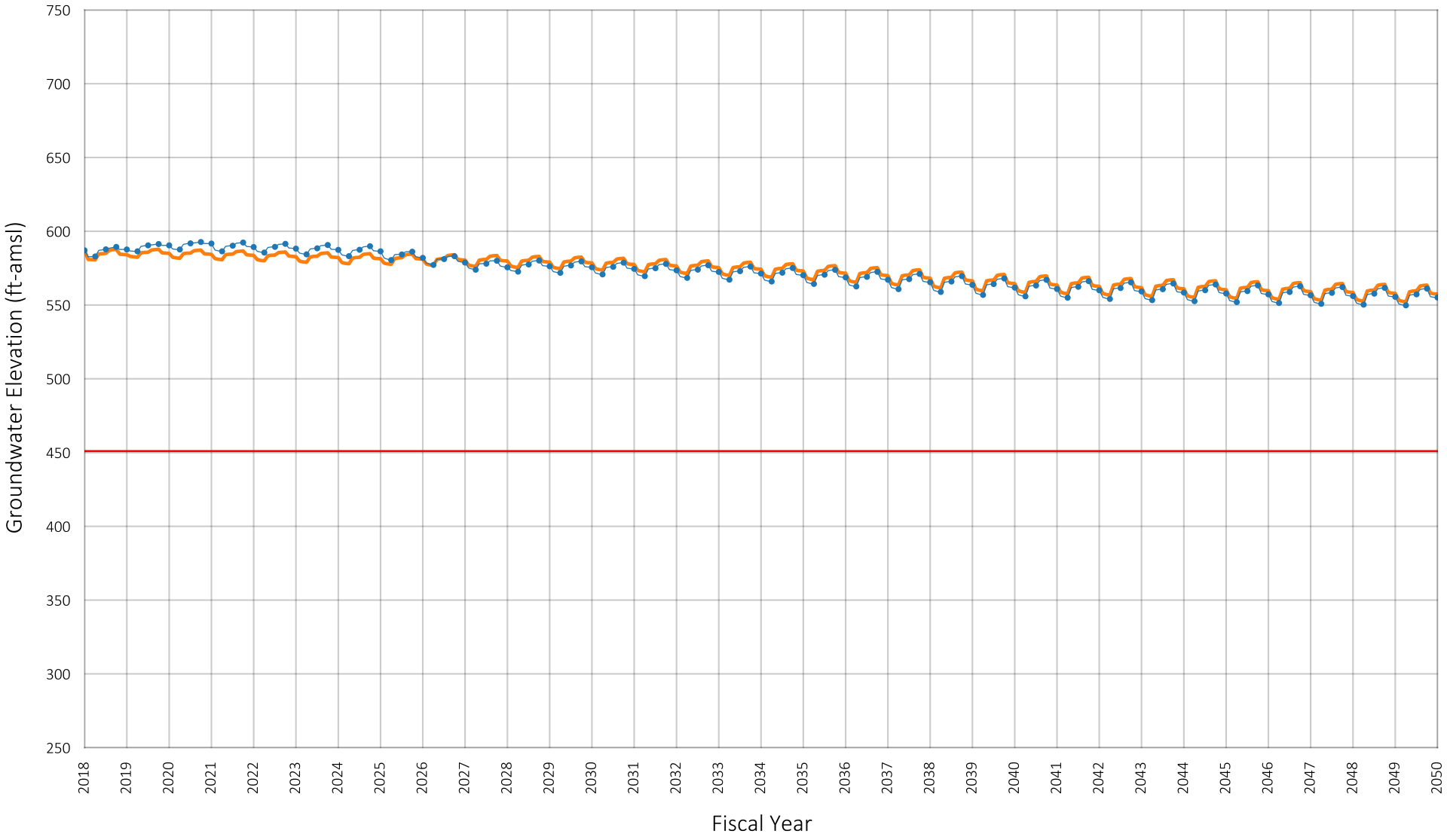
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002254
Owner: City of Ontario
Well Name: 31

Figure A-85

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

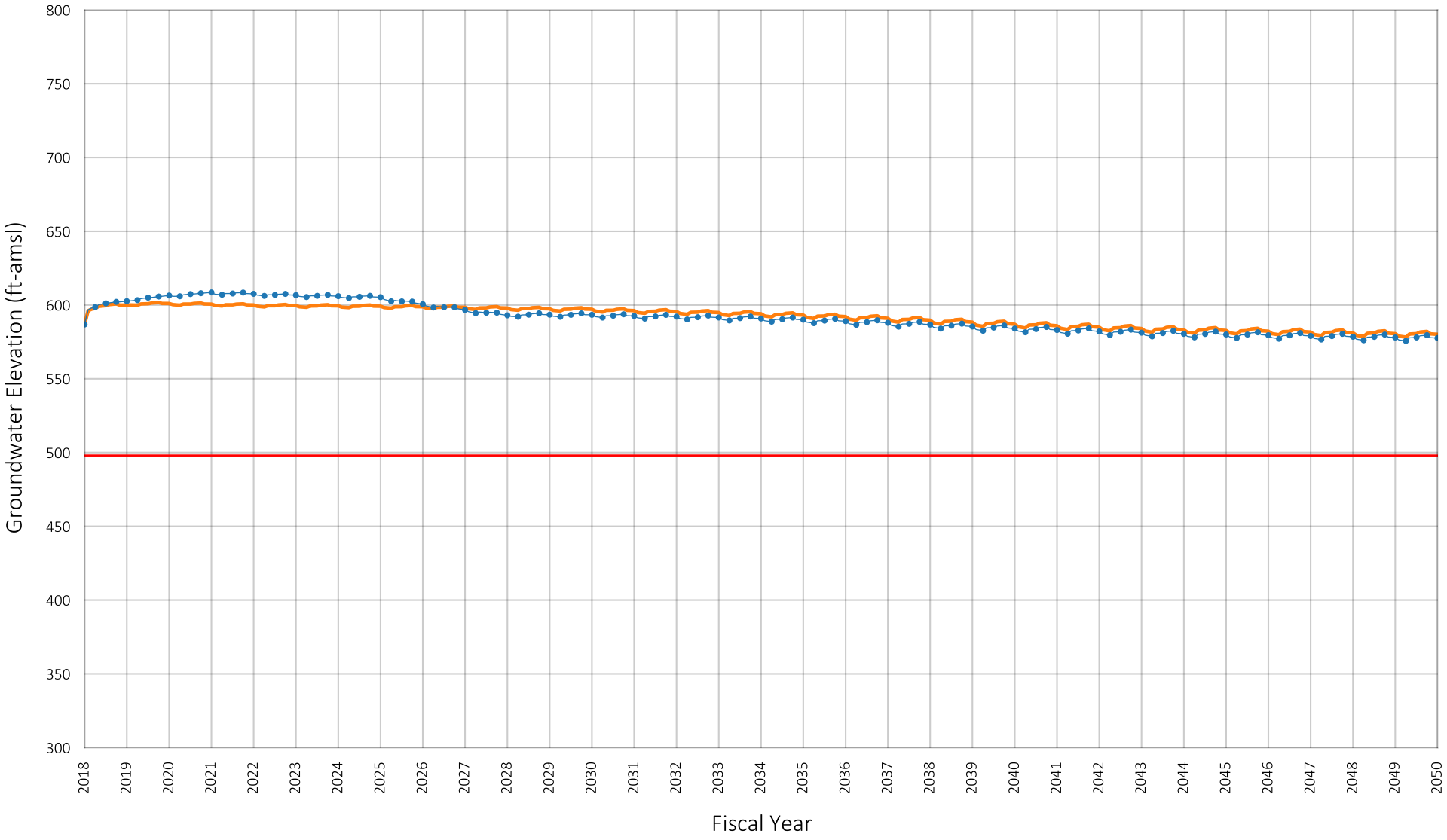
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002367
Owner: City of Ontario
Well Name: 34

Prepared by:

WEST YOST
Water. Engineered.

Figure A-86



Location of Well in Chino Basin

SYR1

LSLS

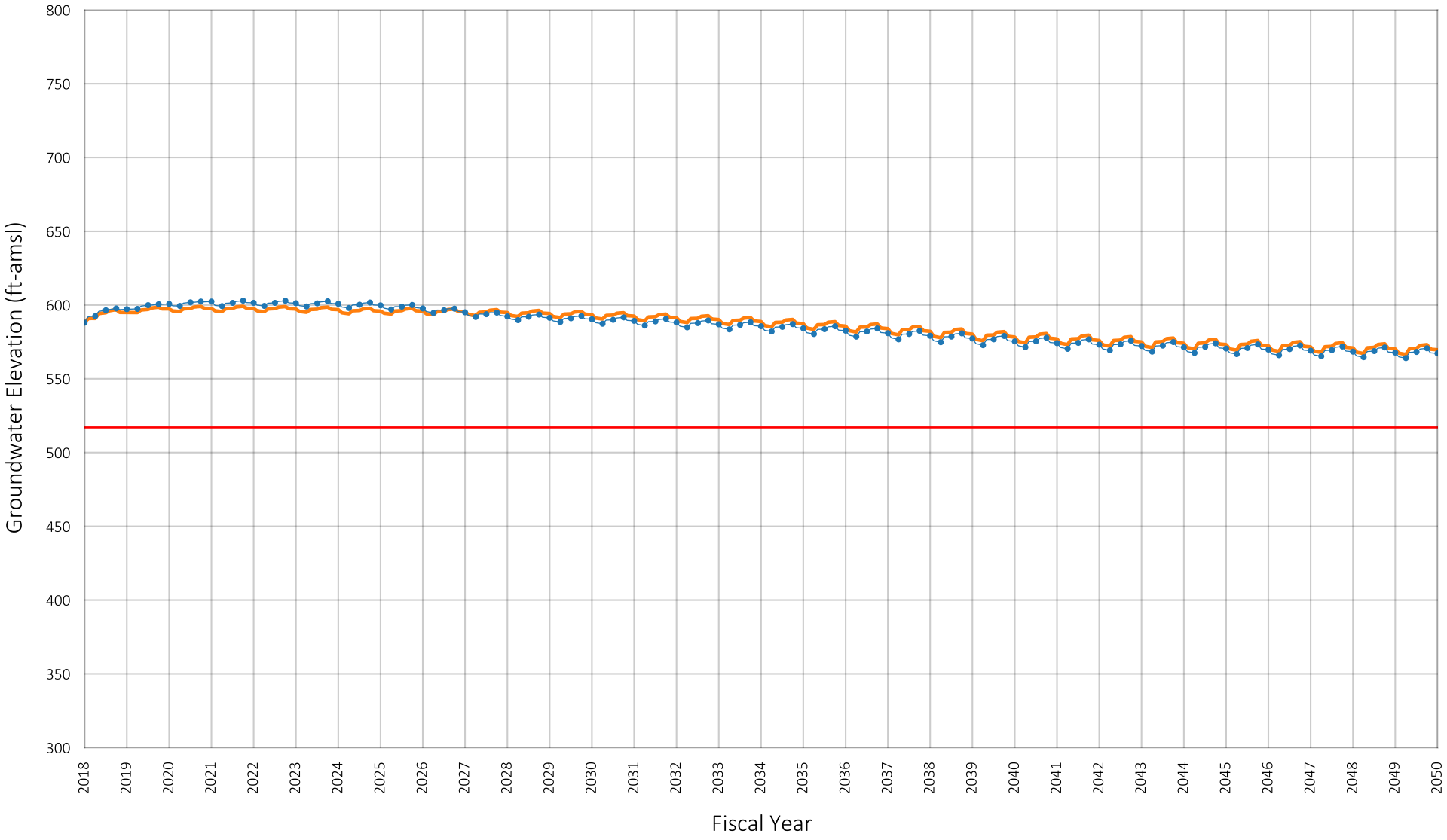
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002350
Owner: City of Ontario
Well Name: 35

Prepared by:

WEST YOST
Water. Engineered.

Figure A-87



Location of Well in Chino Basin

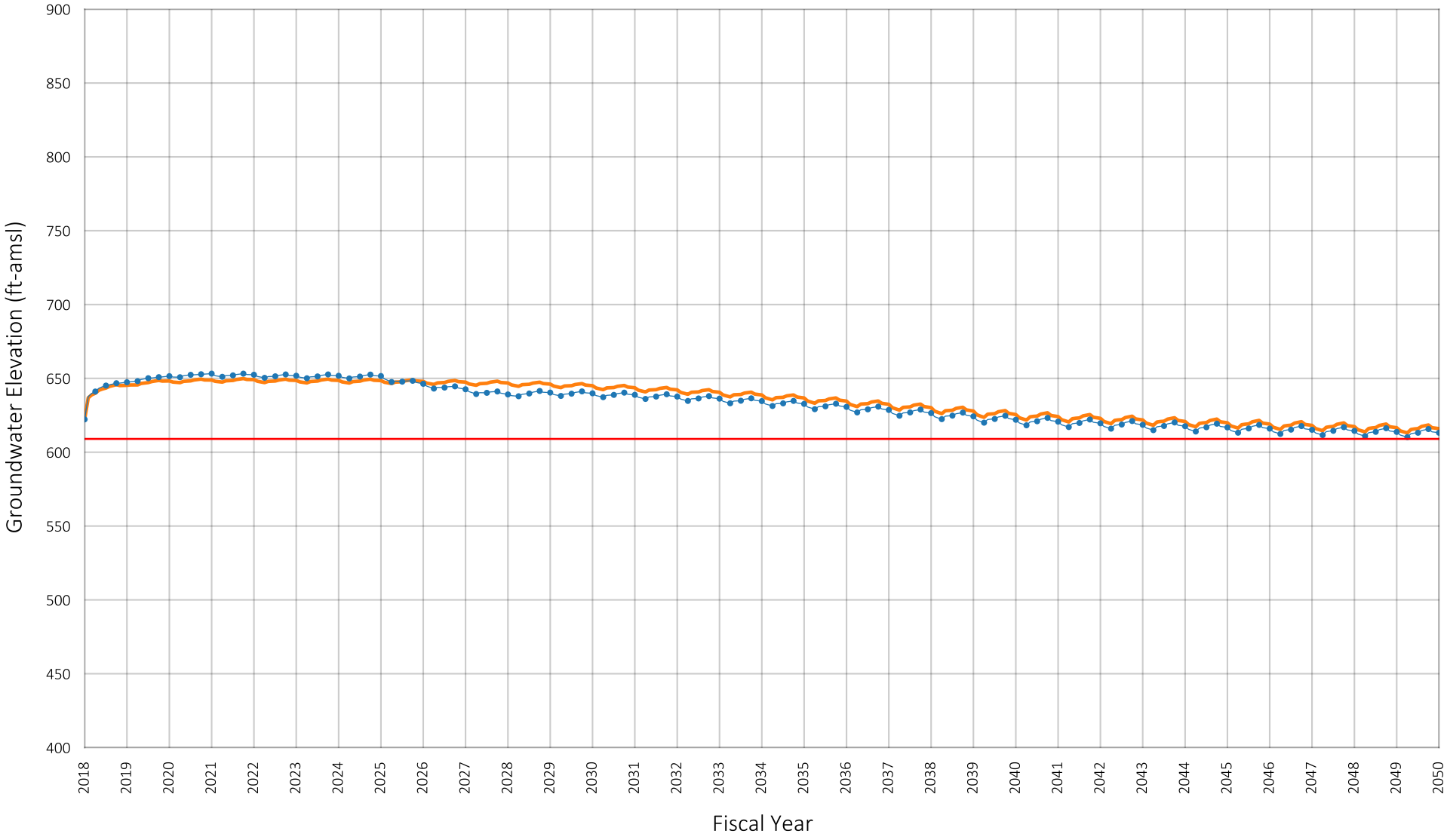
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002372
Owner: City of Ontario
Well Name: 36

Figure A-88

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

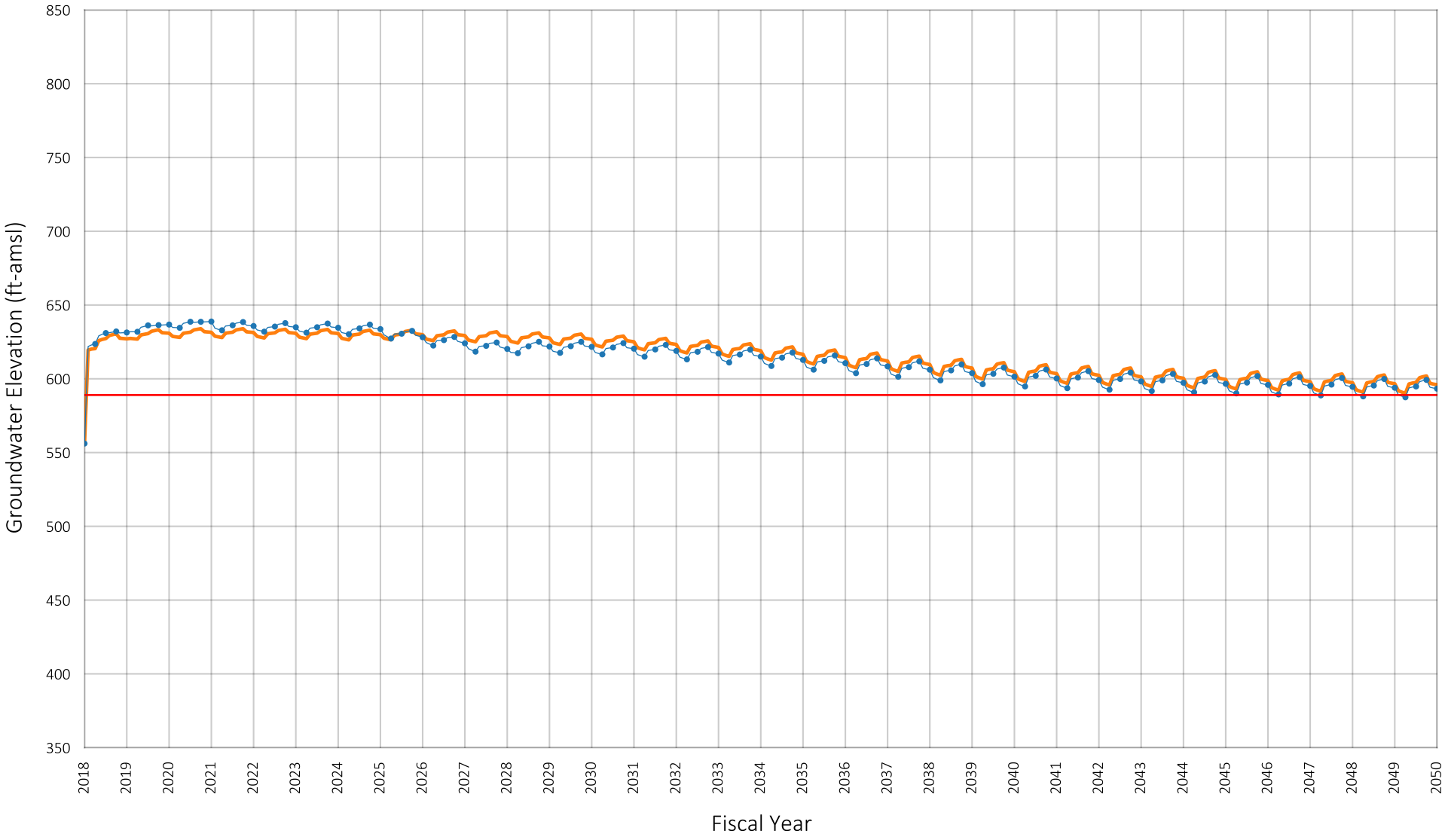
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002230
Owner: City of Ontario
Well Name: 37

Figure A-89

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

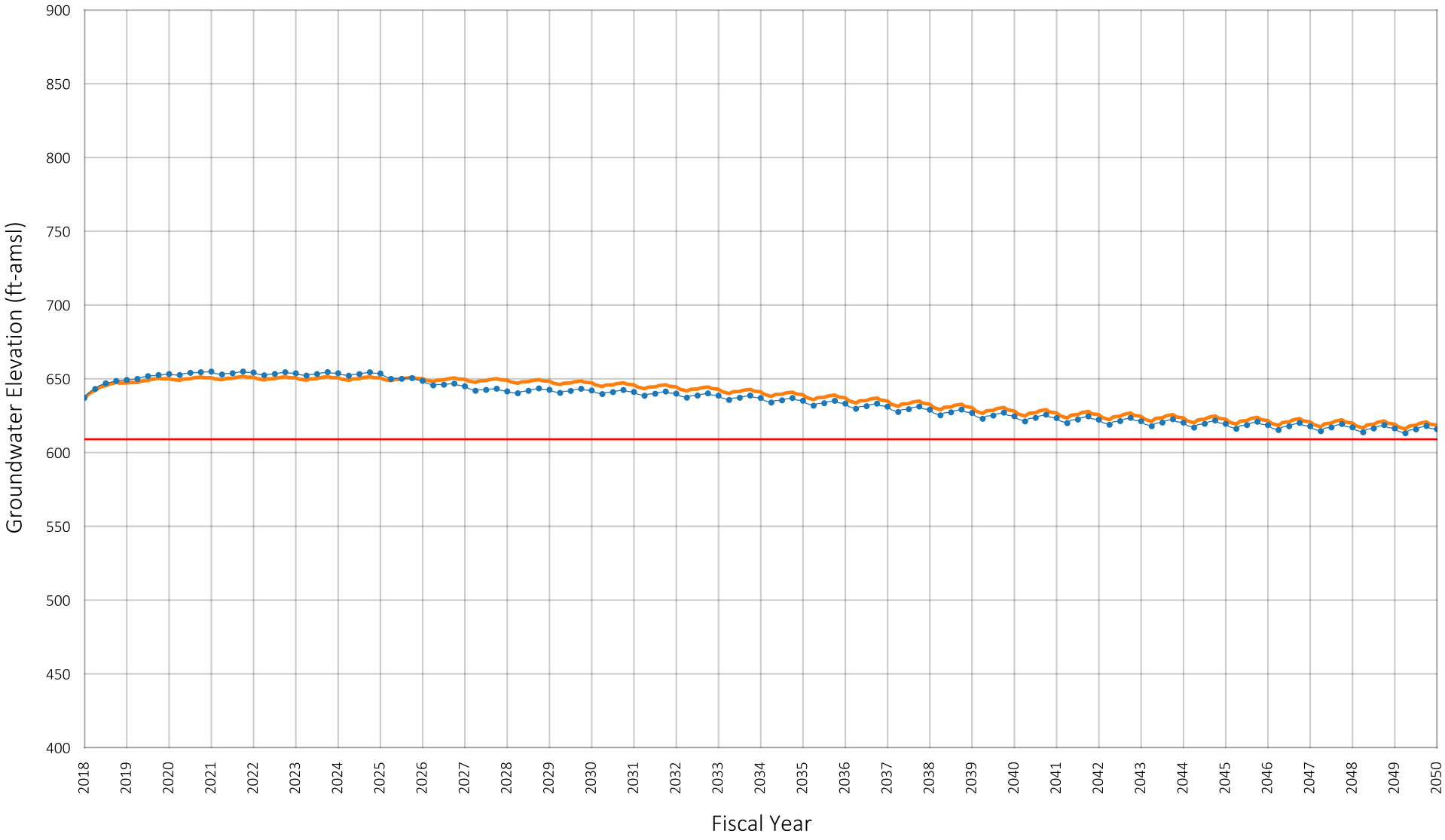
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1006998
Owner: City of Ontario
Well Name: 38

Figure A-90

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

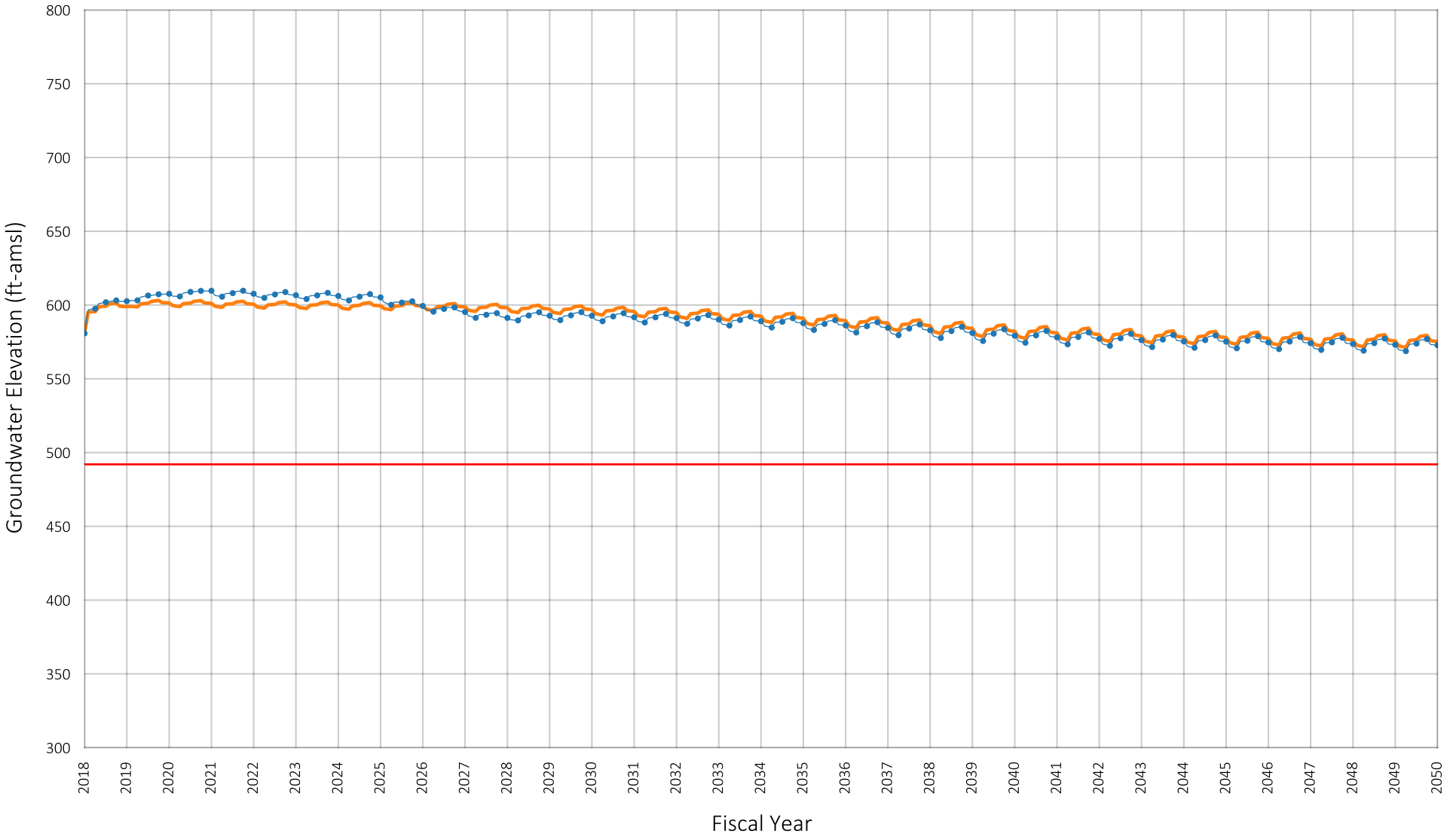
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206945
Owner: City of Ontario
Well Name: 39

Figure A-91

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

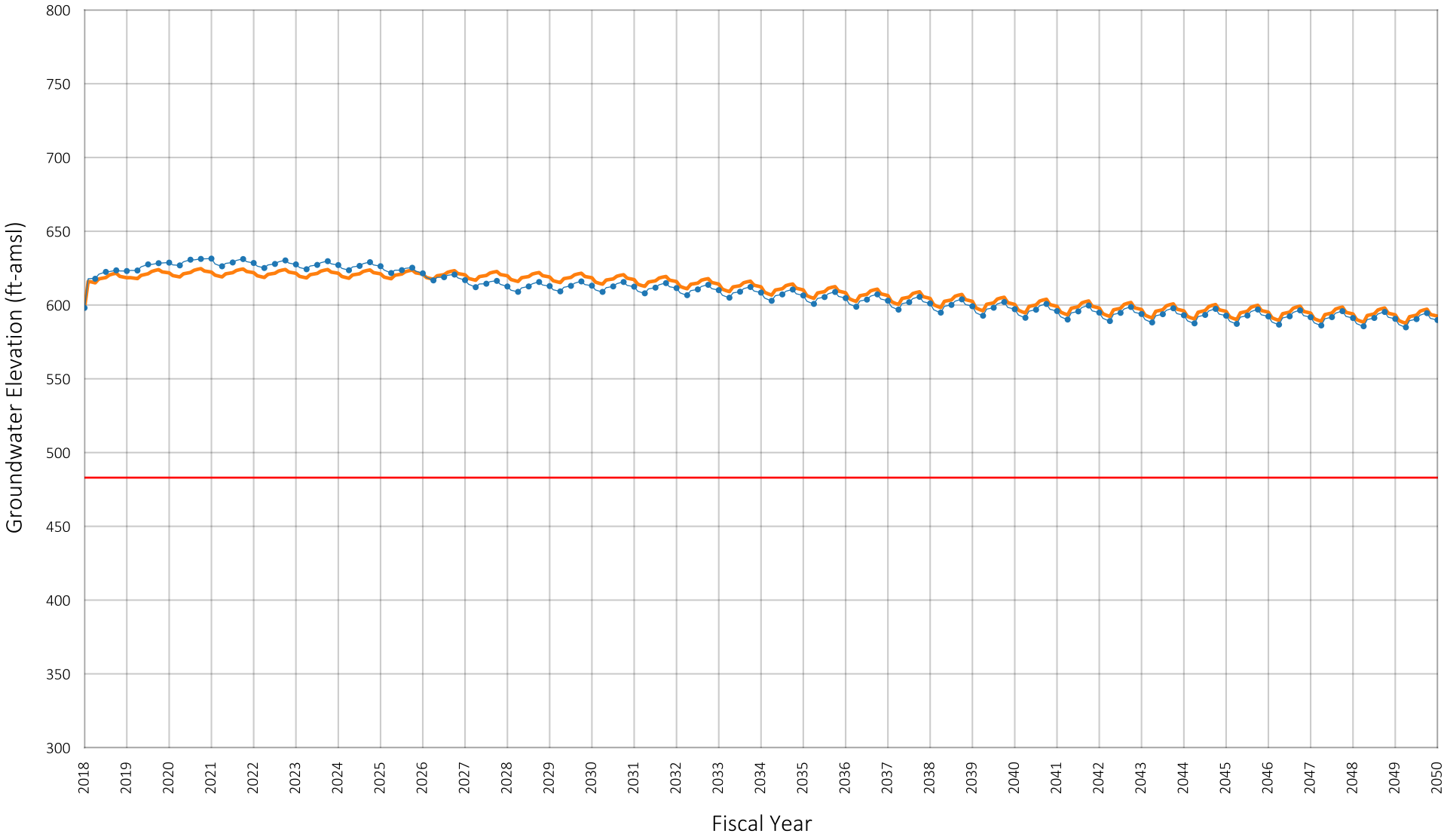
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207502
Owner: City of Ontario
Well Name: 40

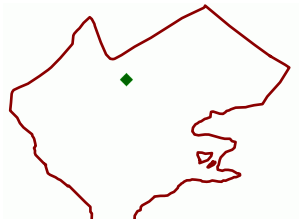
Figure A-92

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin



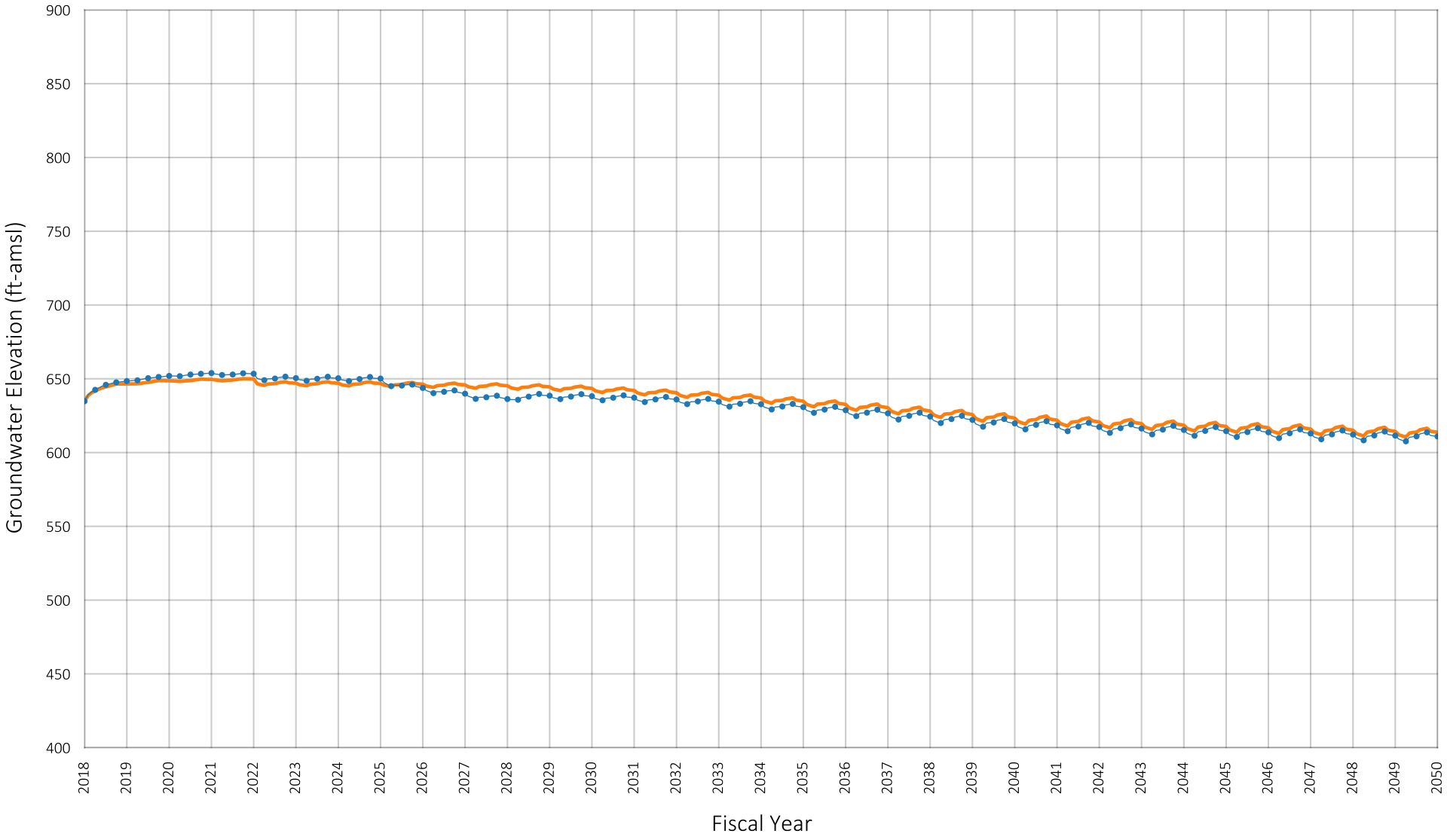
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207503
Owner: City of Ontario
Well Name: 41

Prepared by:

WEST YOST
Water. Engineered.

Figure A-93



Location of Well in Chino Basin

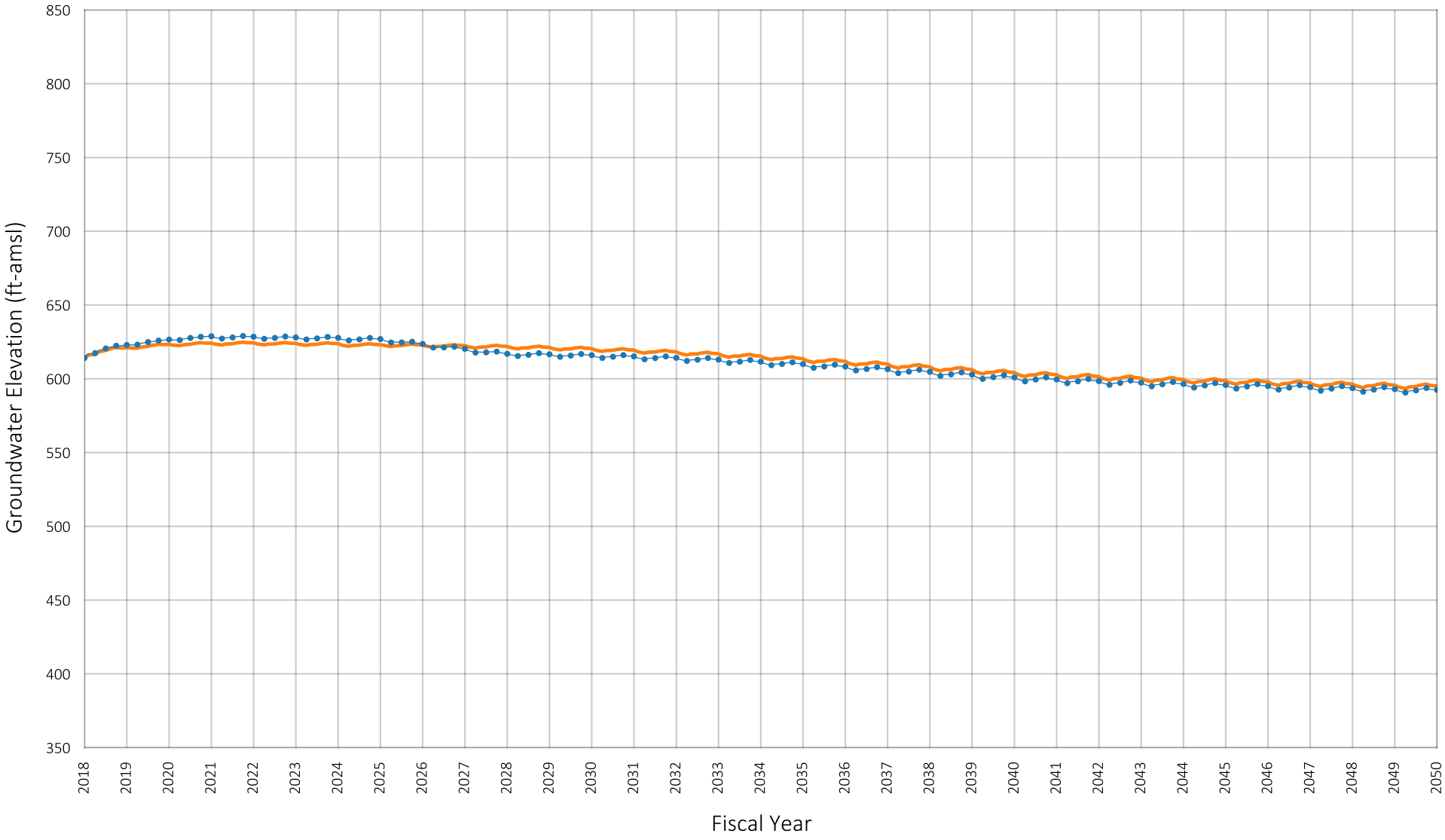
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220168
Owner: City of Ontario
Well Name: 42

Figure A-94



Location of Well in Chino Basin

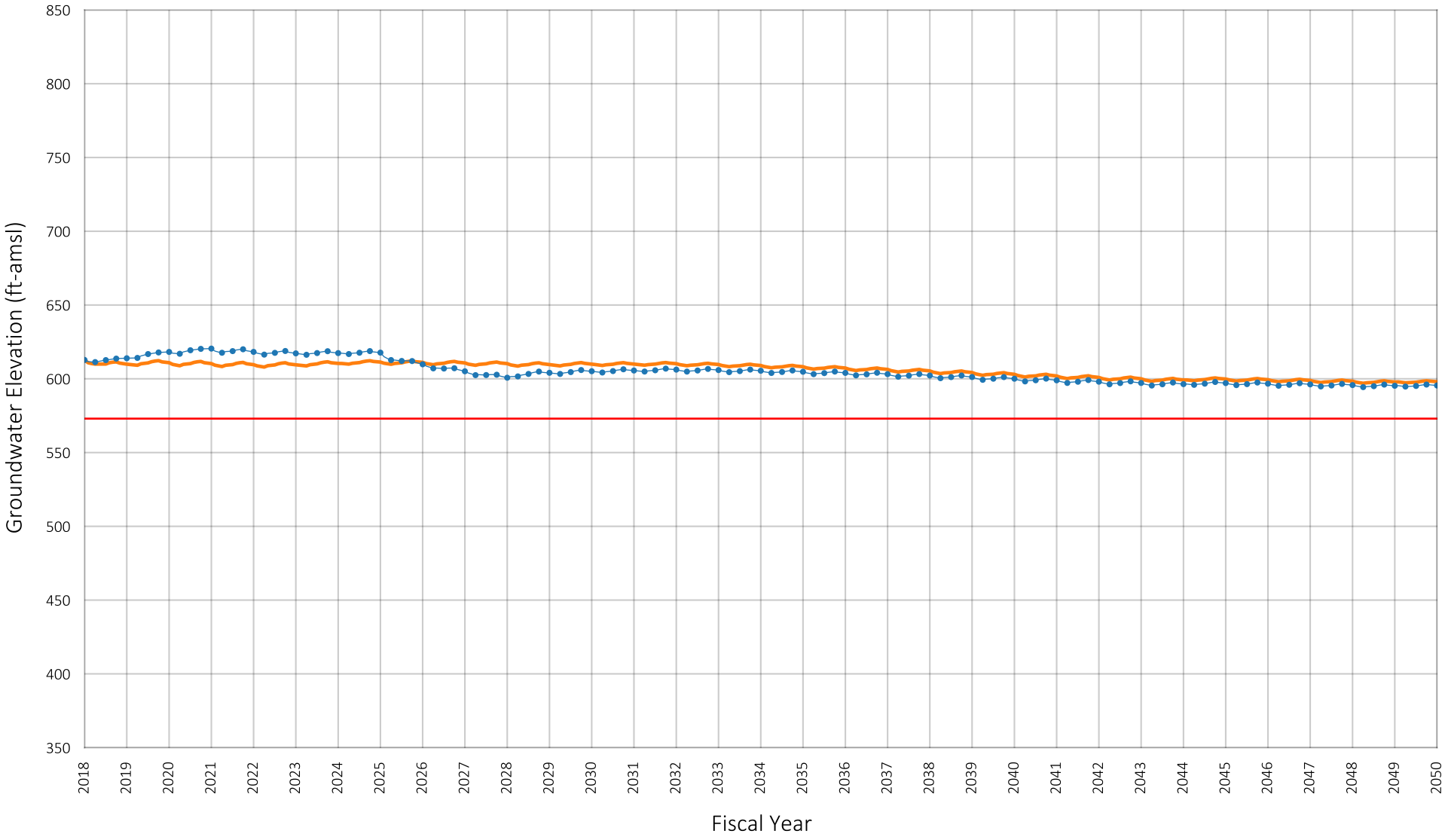
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220169
Owner: City of Ontario
Well Name: 43

Figure A-95



Location of Well in Chino Basin

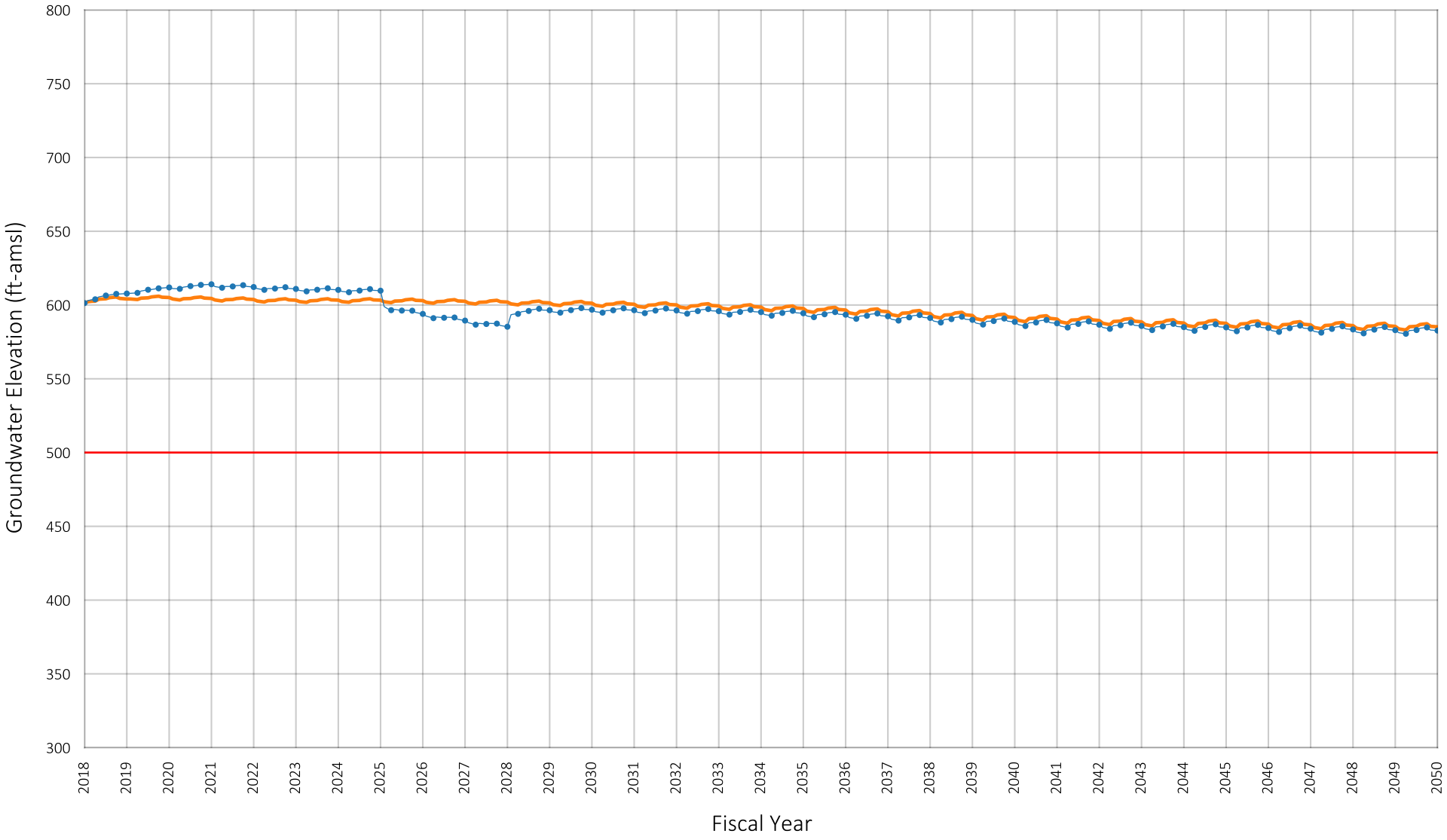
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1220170
Owner: City of Ontario
Well Name: 44

Figure A-96

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

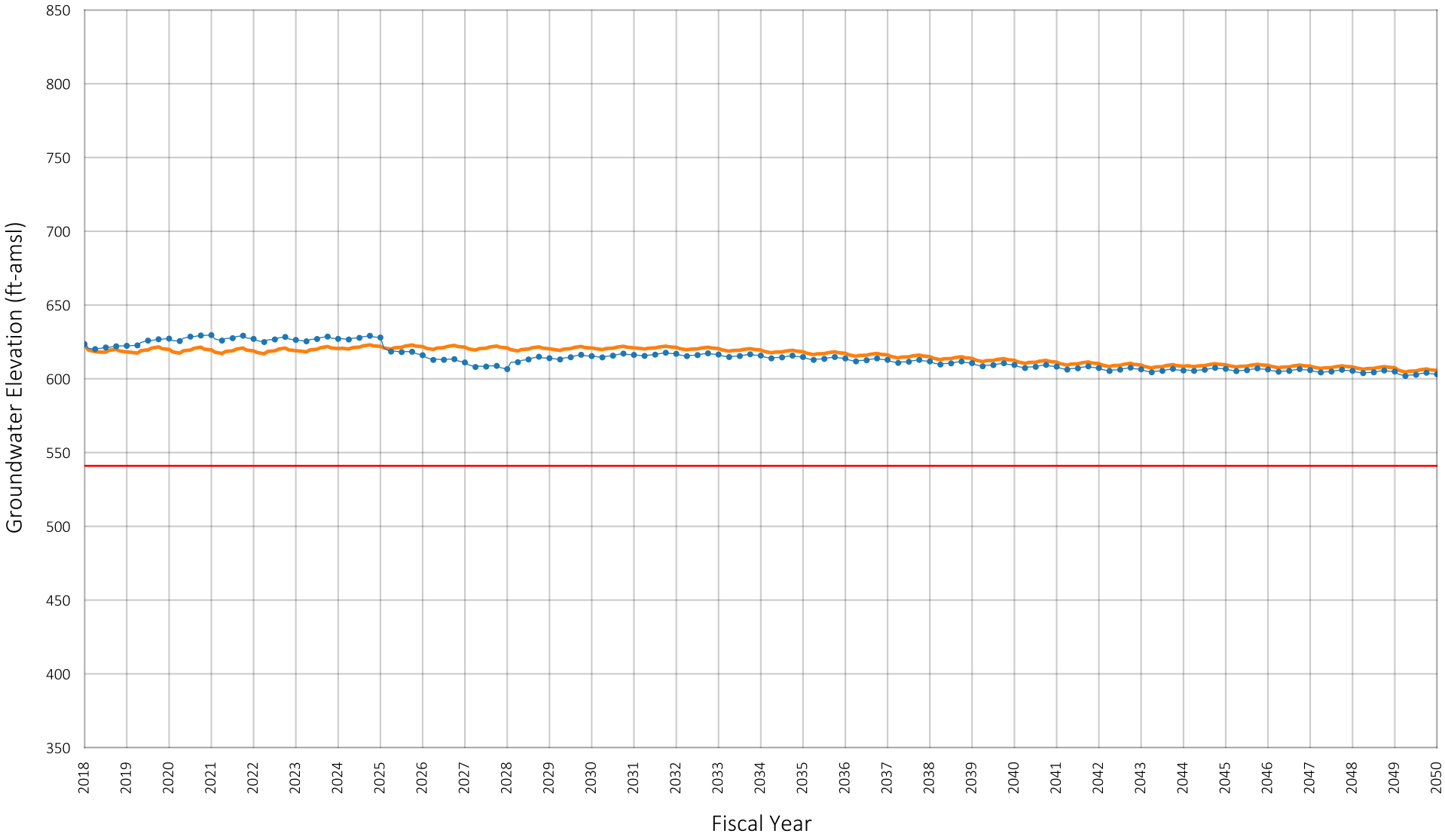
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207950
Owner: City of Ontario
Well Name: 45

Figure A-97

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

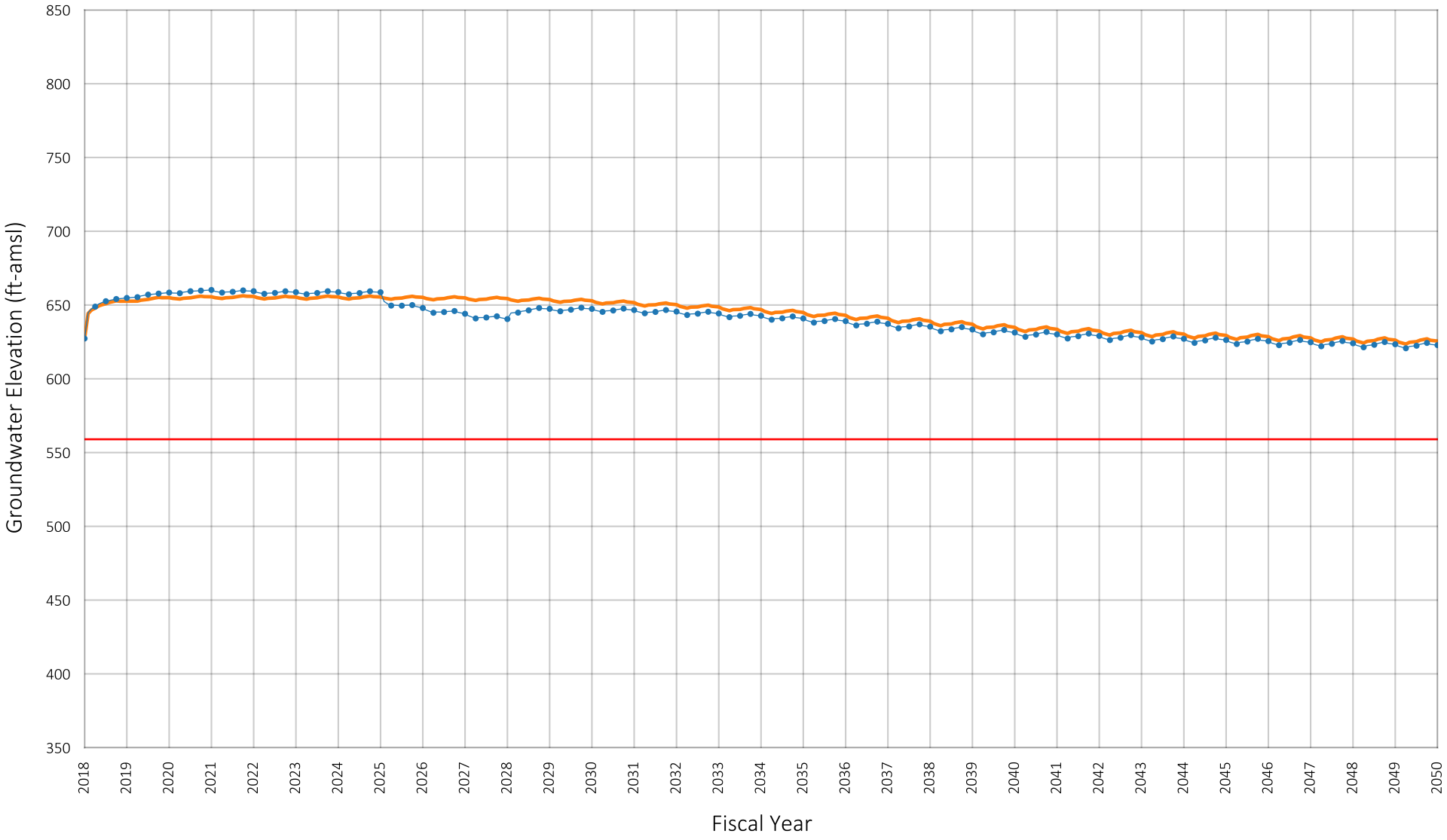
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207946
Owner: City of Ontario
Well Name: 46

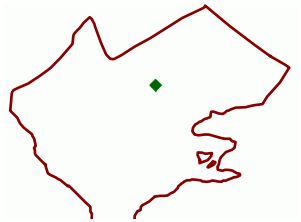
Figure A-98

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin



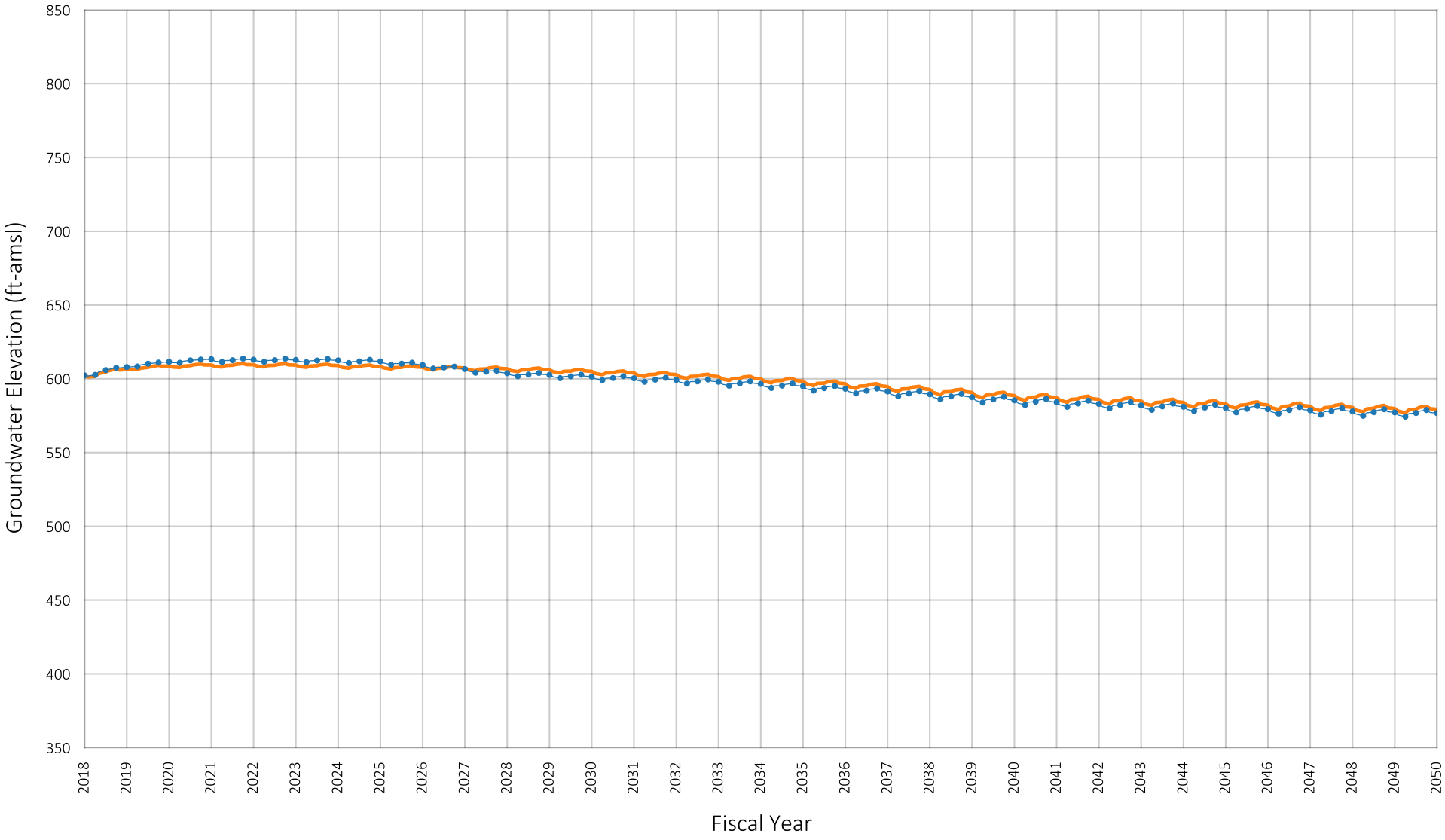
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207948
Owner: City of Ontario
Well Name: 47

Figure A-99

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

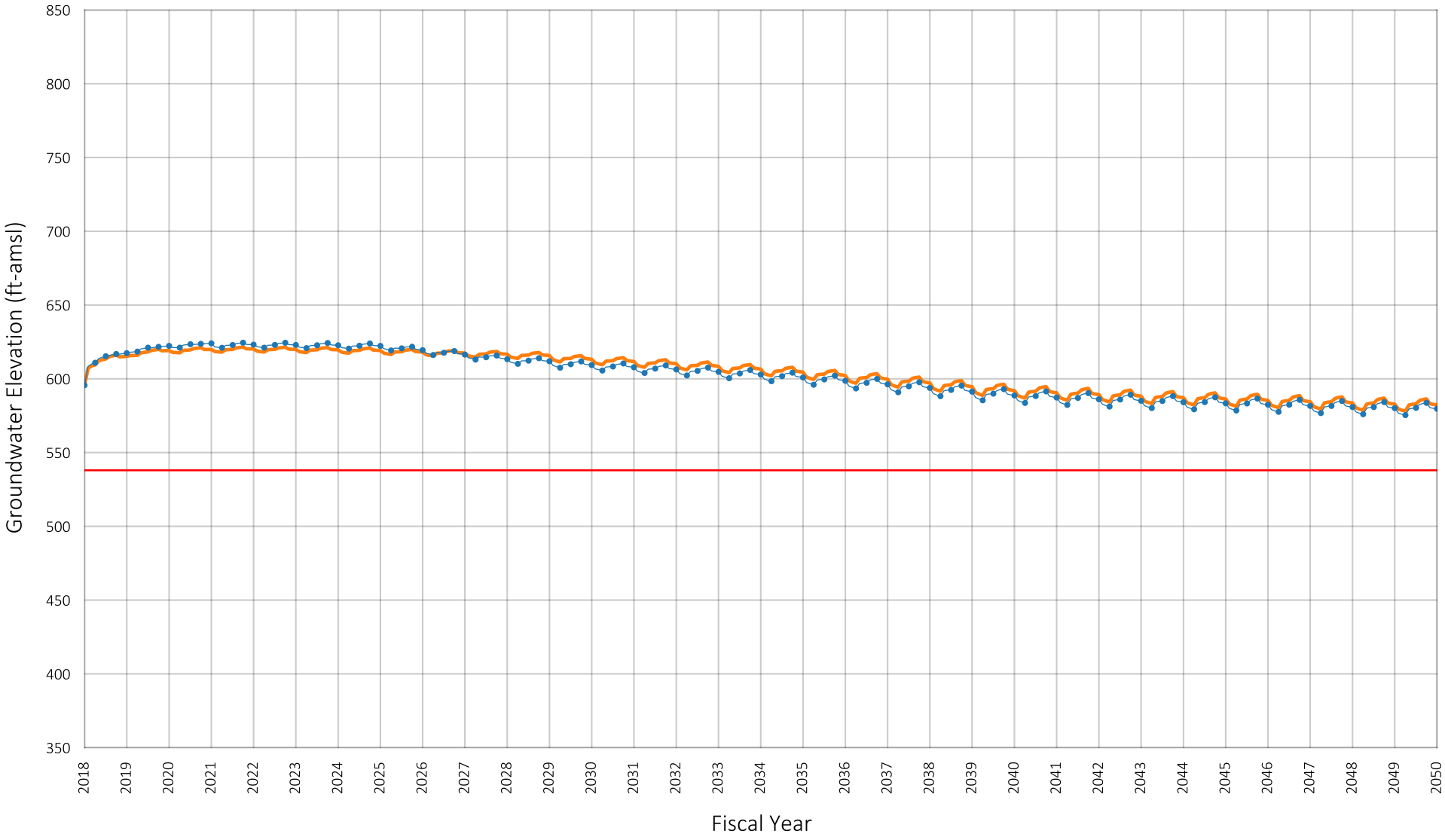
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220171
Owner: City of Ontario
Well Name: 48

Figure A-100



Location of Well in Chino Basin

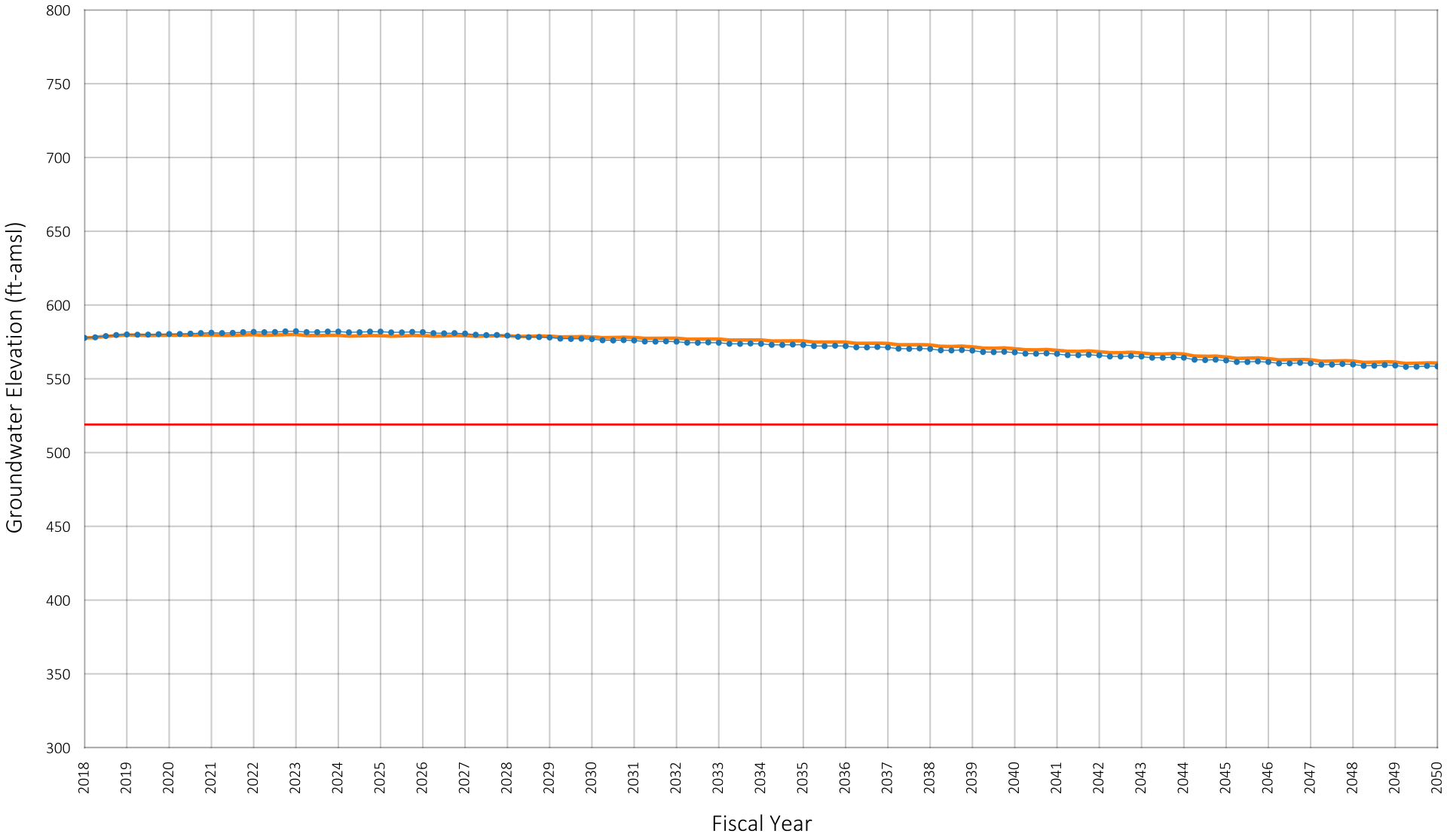
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1207952
Owner: City of Ontario
Well Name: 49

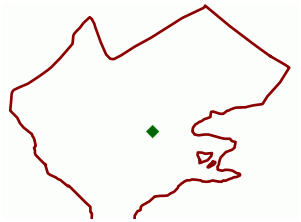
Figure A-101

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin



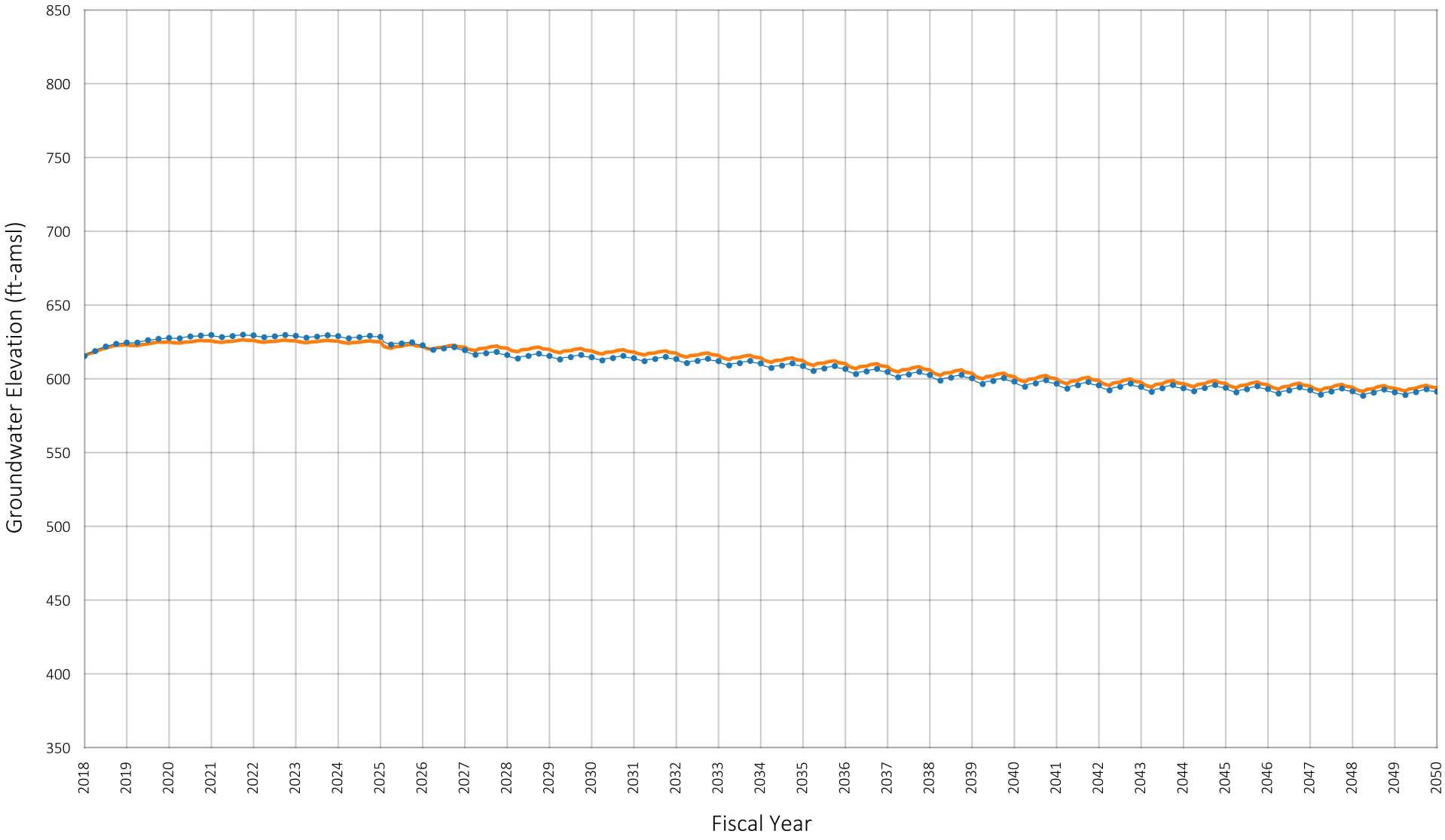
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1208387
Owner: City of Ontario
Well Name: 50

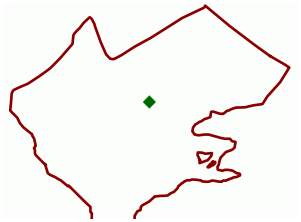
Figure A-102

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin



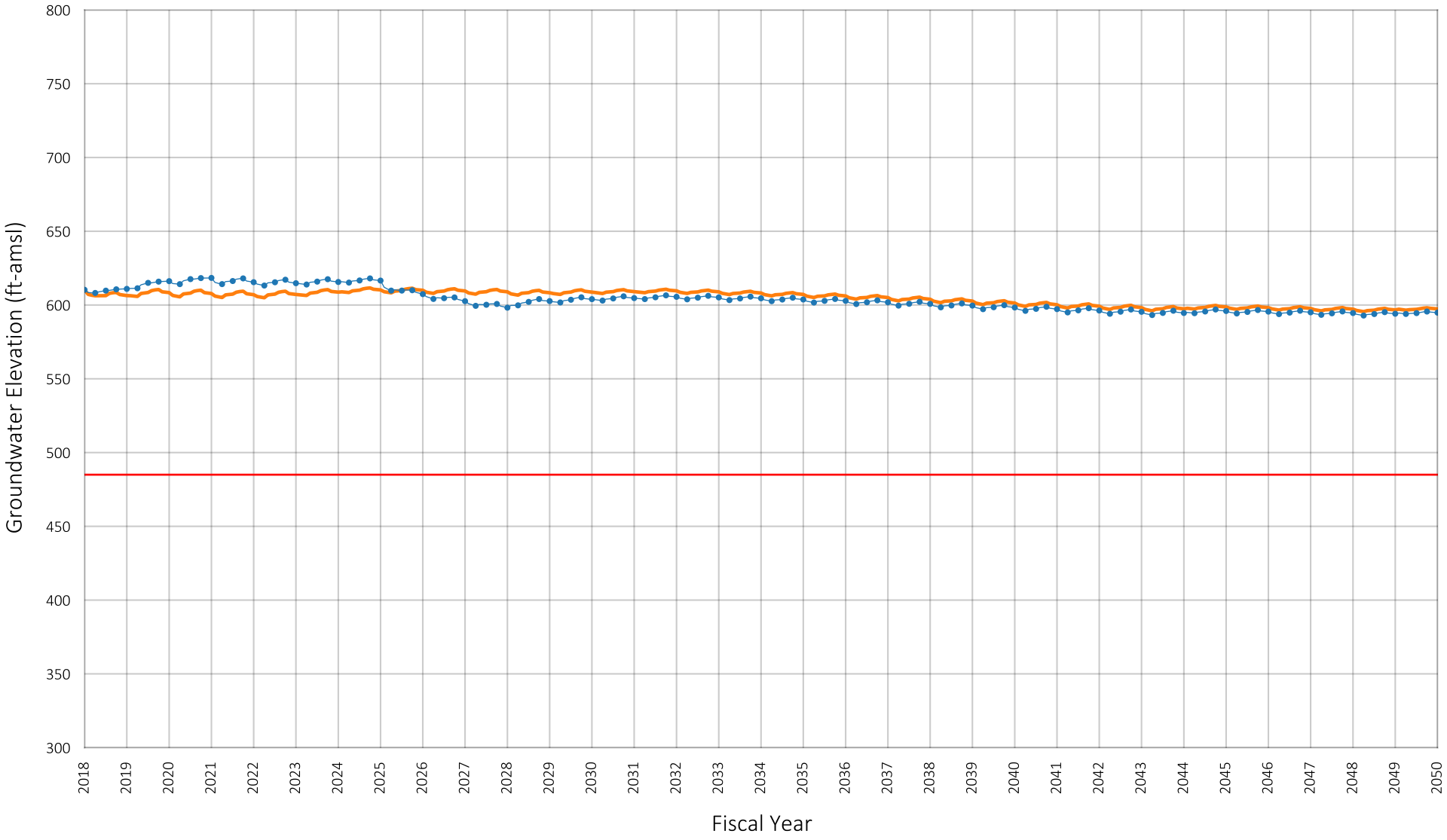
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1220172
Owner: City of Ontario
Well Name: 51

Figure A-103



Location of Well in Chino Basin

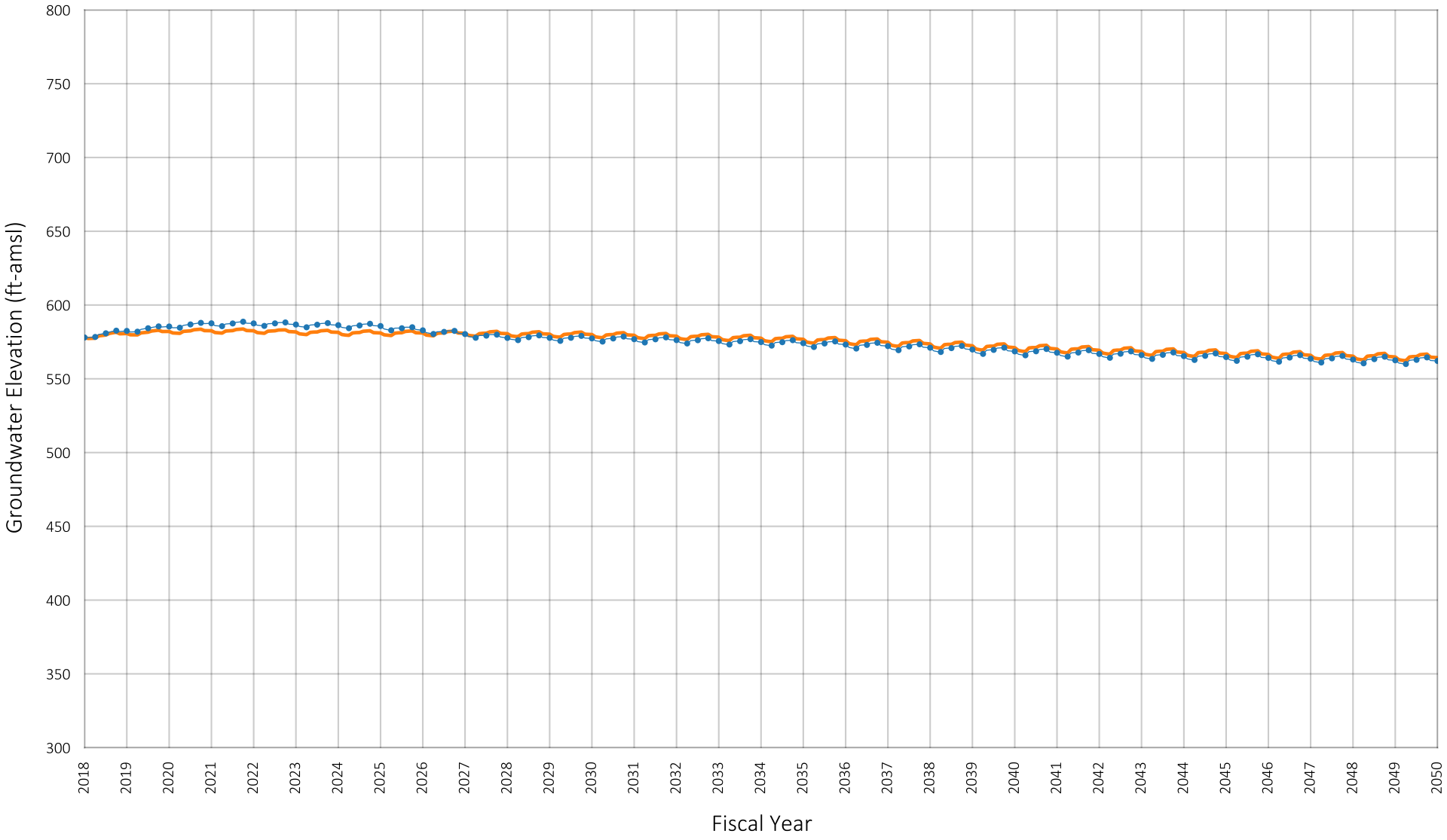
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1221753
Owner: City of Ontario
Well Name: 52

Figure A-104

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

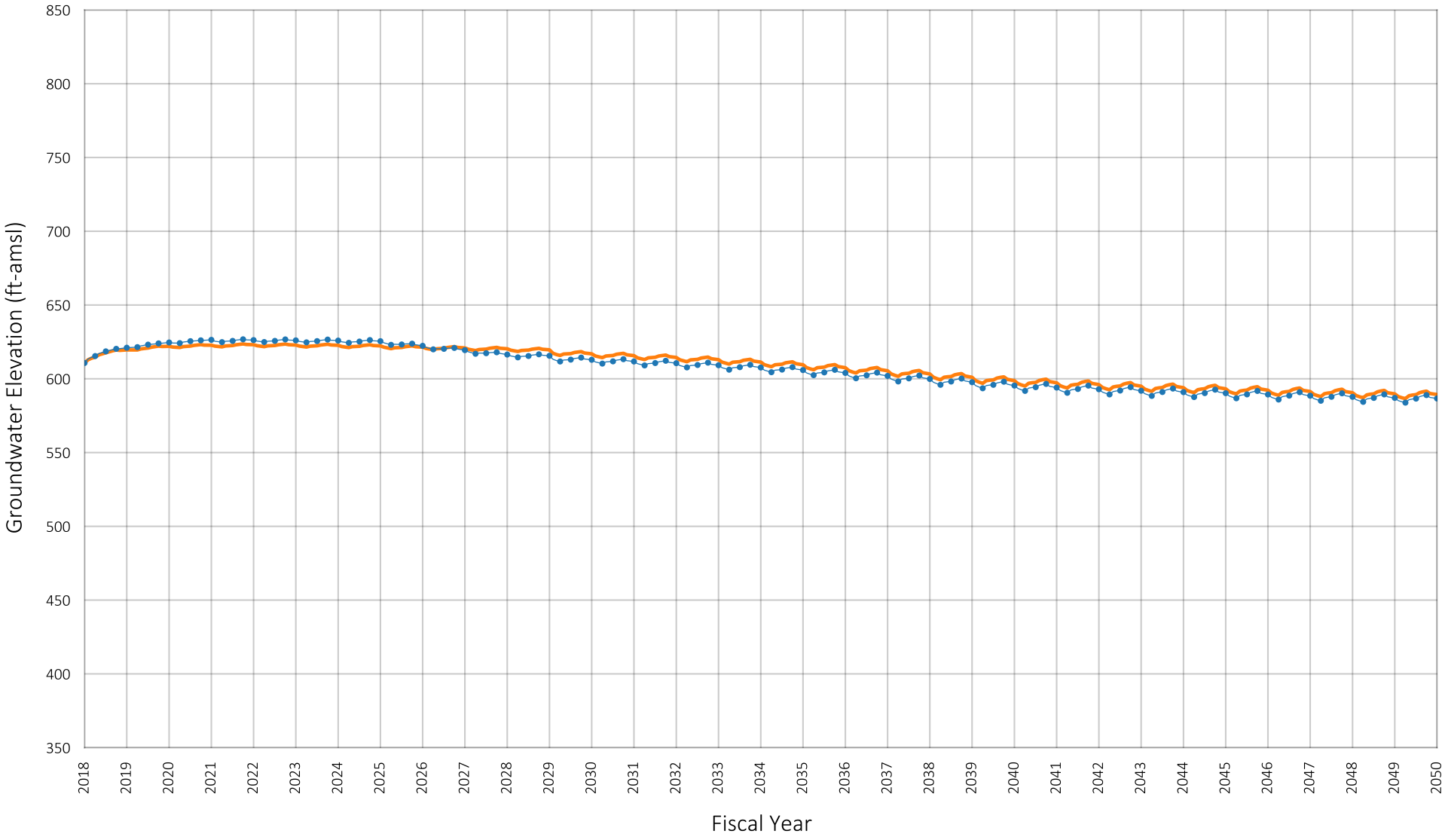
SYR1
LSLS

Prepared by:

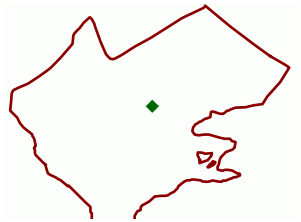
WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 100
Owner: City of Ontario
Well Name: 100

Figure A-105



Location of Well in Chino Basin



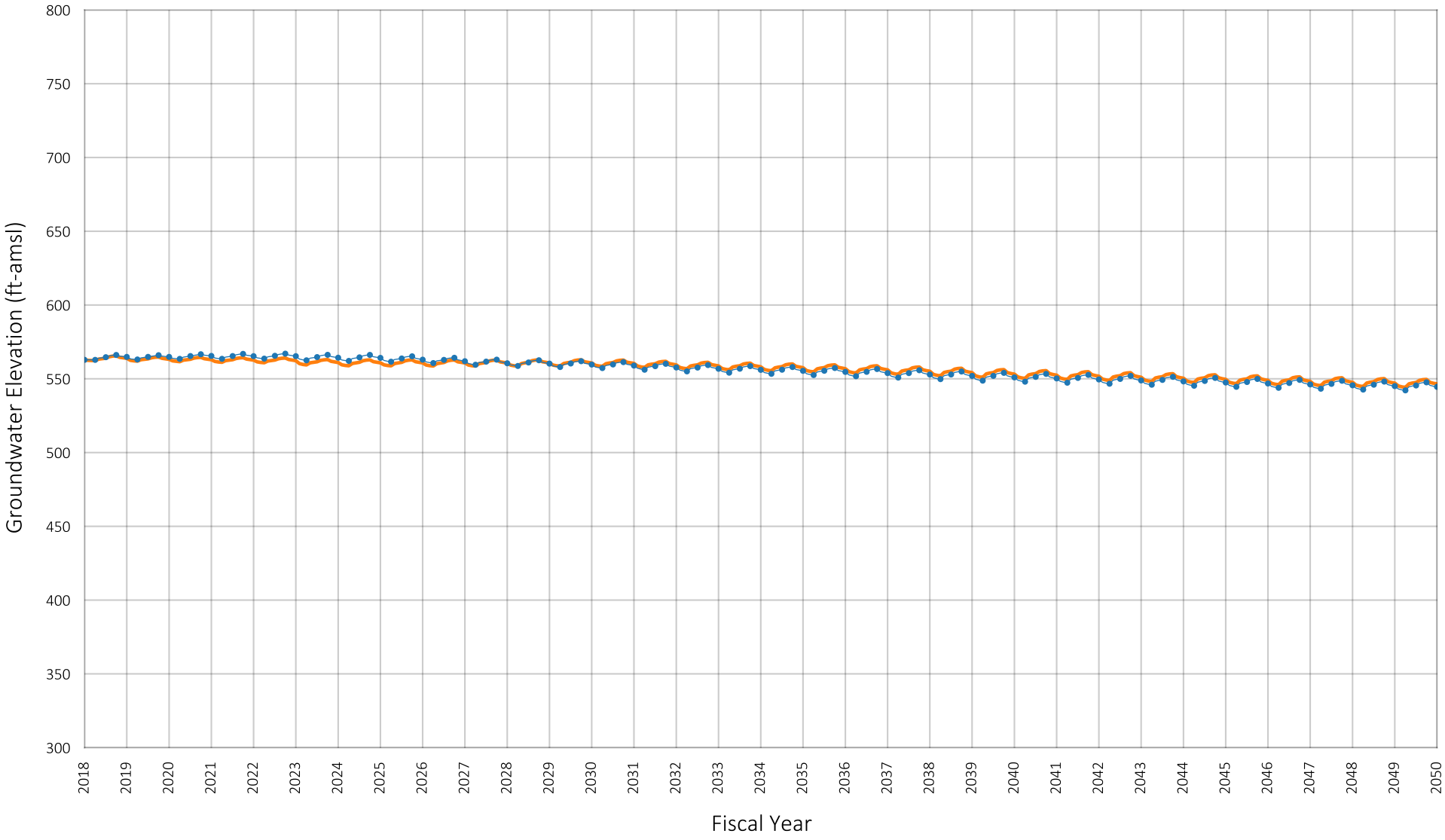
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 101
Owner: City of Ontario
Well Name: 101

Figure A-106



Location of Well in Chino Basin

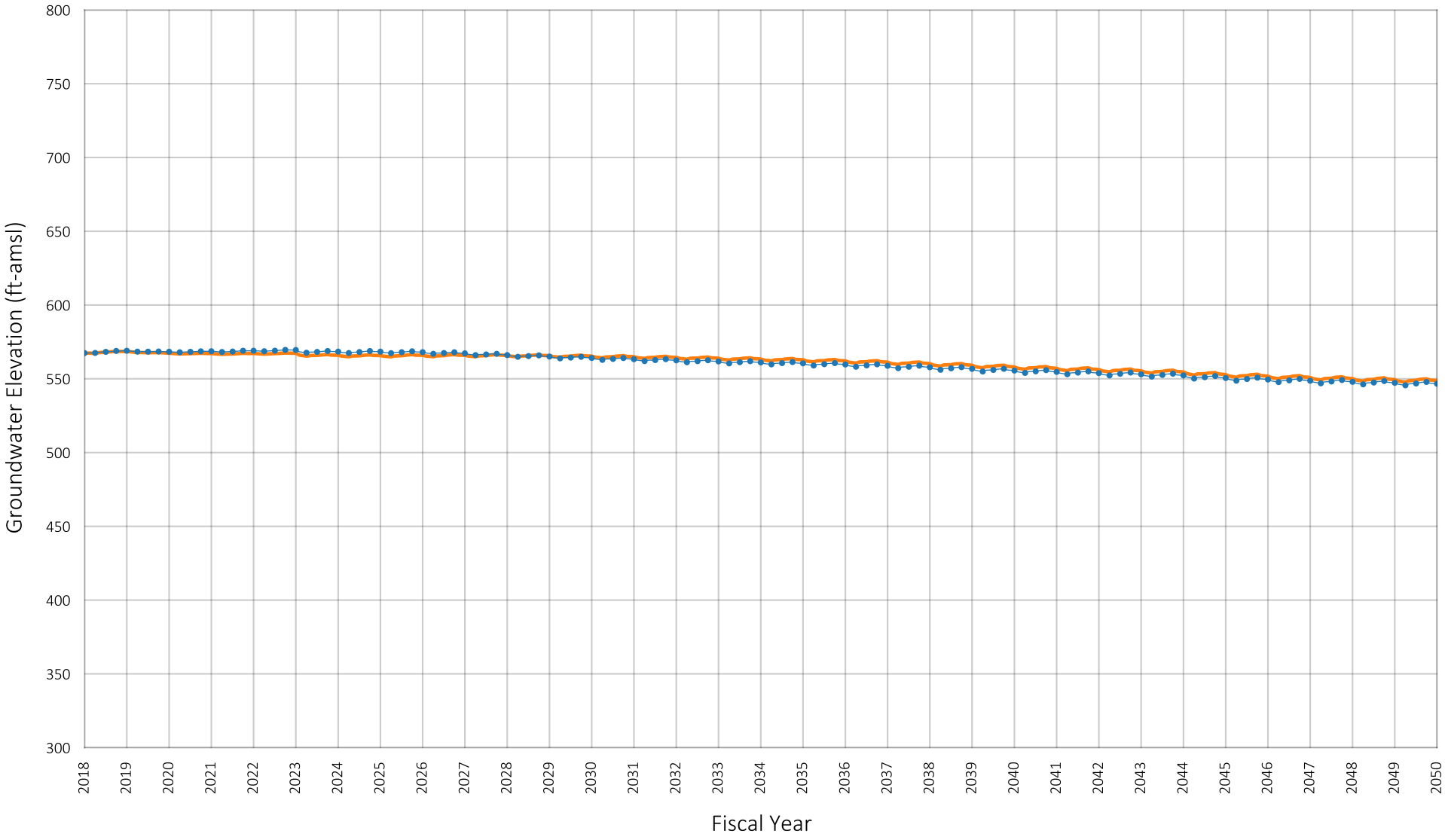
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 103
Owner: City of Ontario
Well Name: 103

Figure A-107



Location of Well in Chino Basin

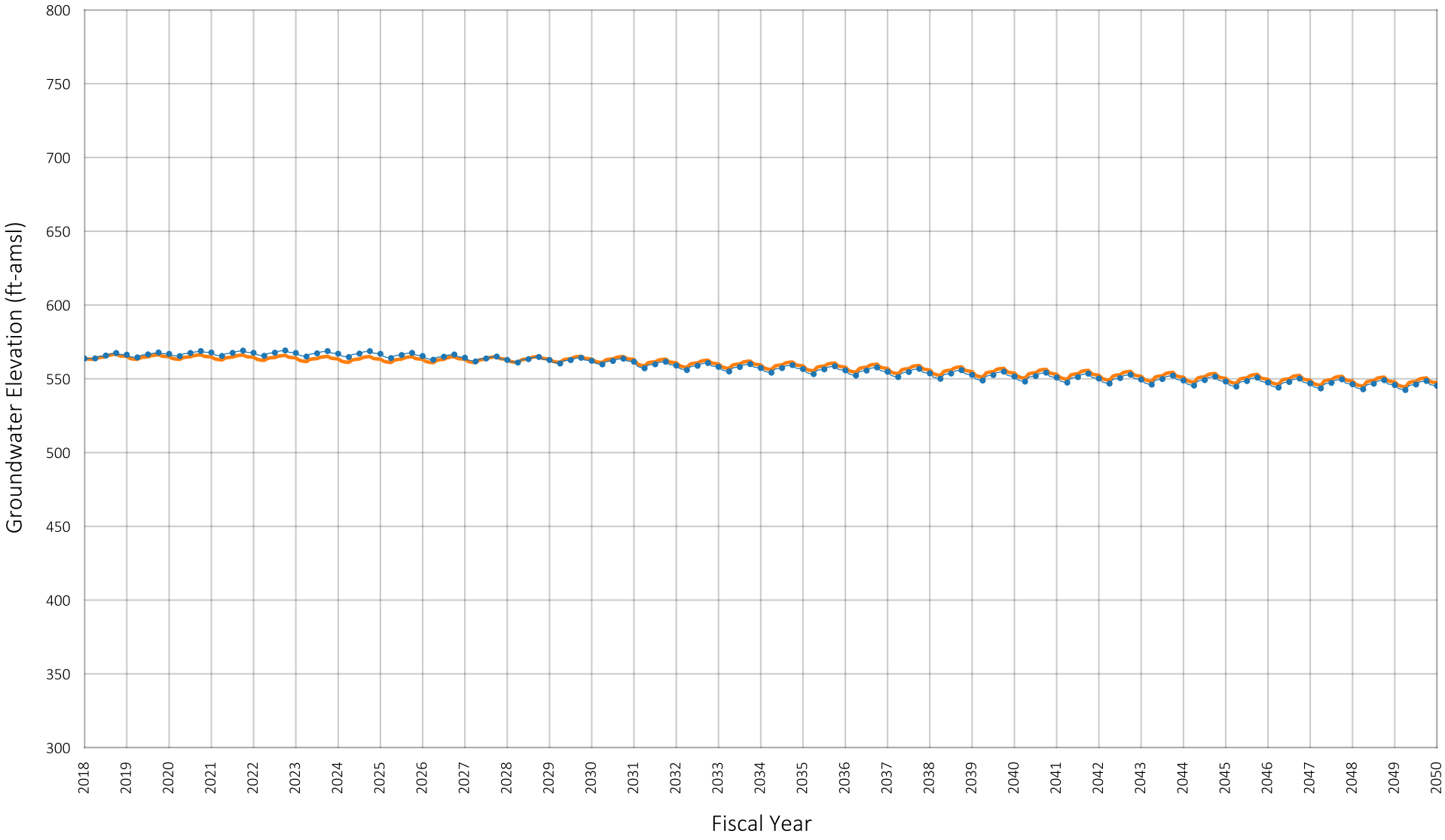
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 104
Owner: City of Ontario
Well Name: 104

Figure A-108



Location of Well in Chino Basin

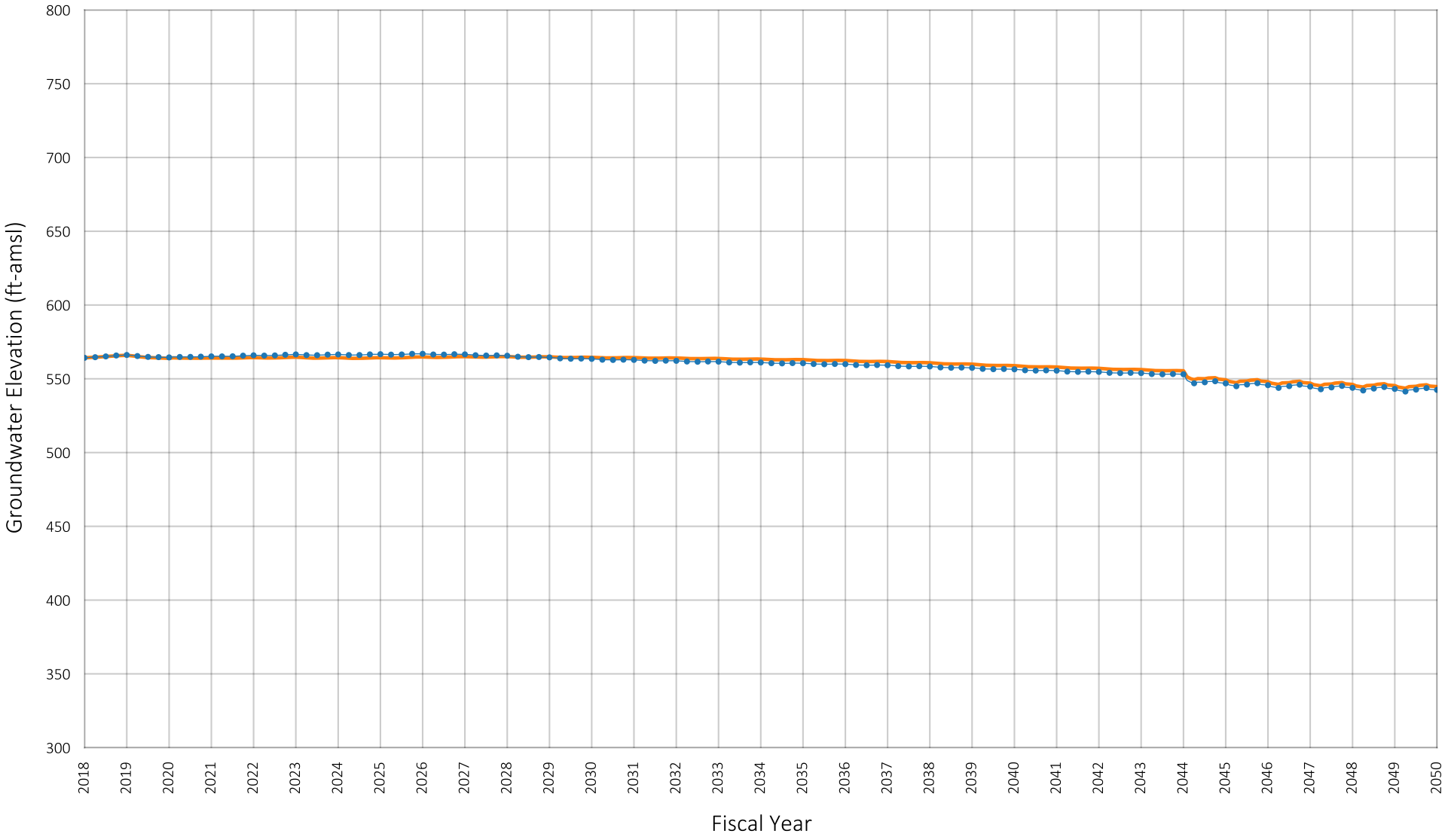
SYR1
LSLS

Projected Groundwater Elevation
Well ID#: 105
Owner: City of Ontario
Well Name: 105

Figure A-109

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

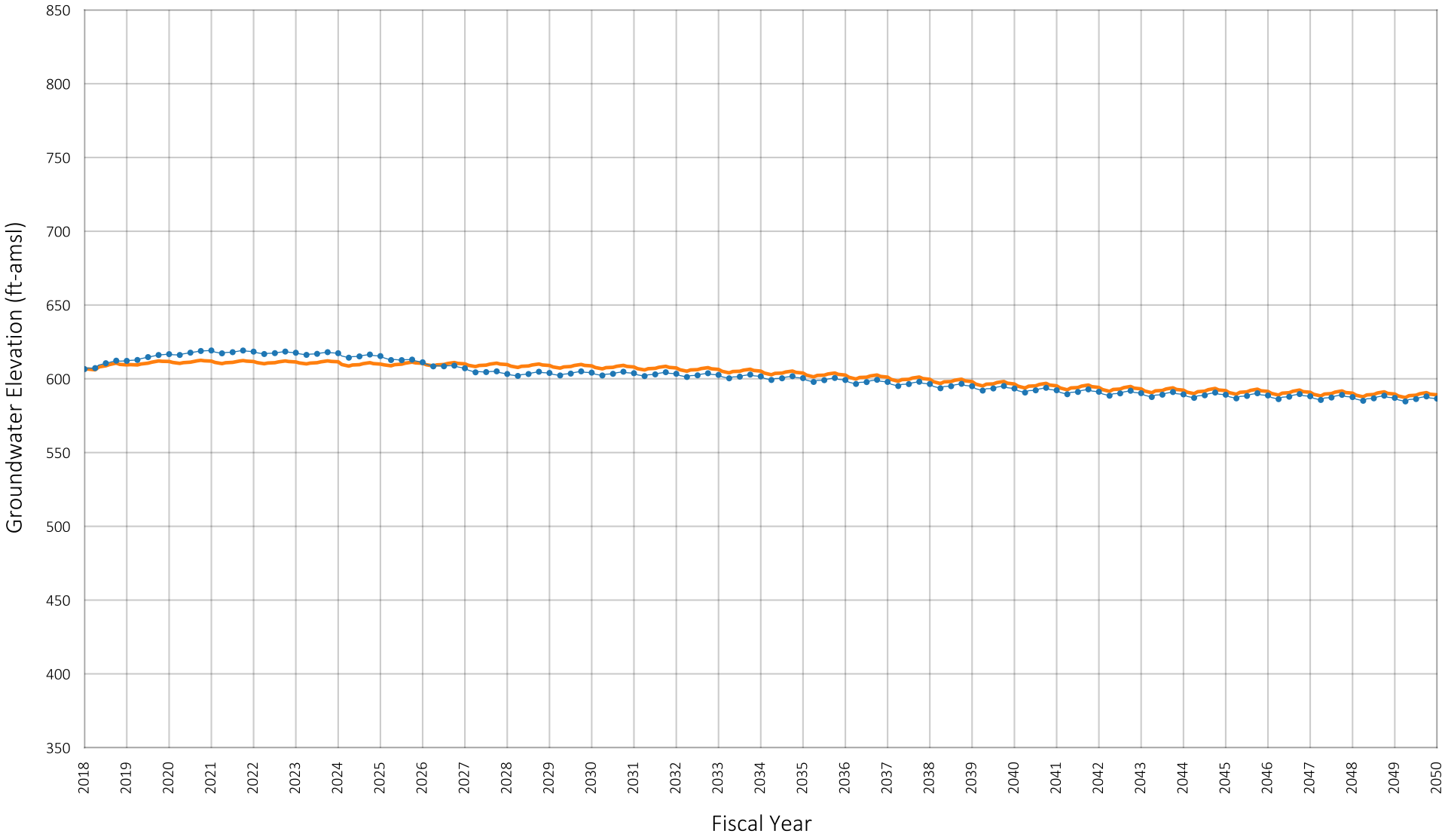
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 106
Owner: City of Ontario
Well Name: 106

Figure A-110



Location of Well in Chino Basin

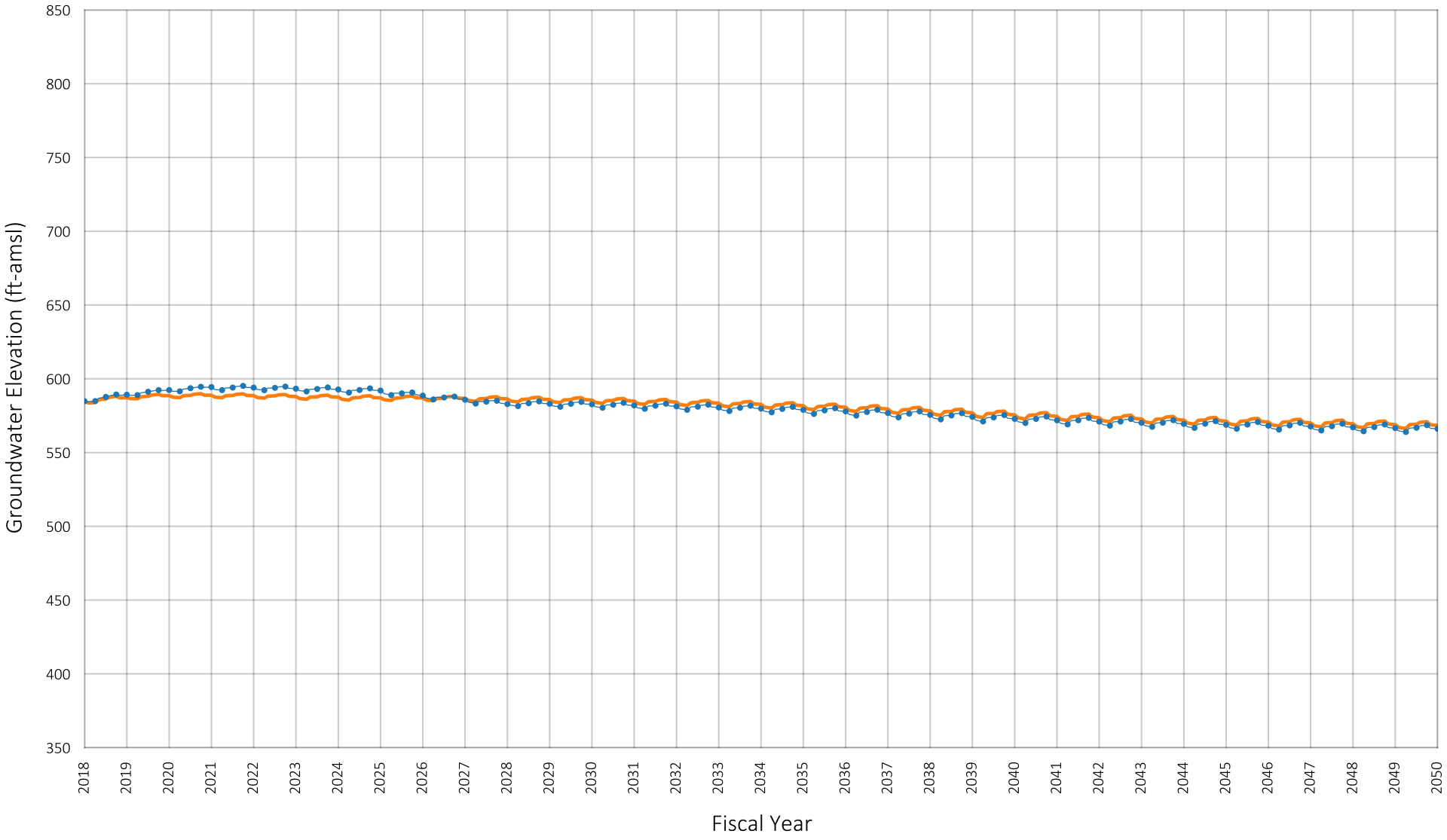
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 109
Owner: City of Ontario
Well Name: 109

Figure A-111



Location of Well in Chino Basin

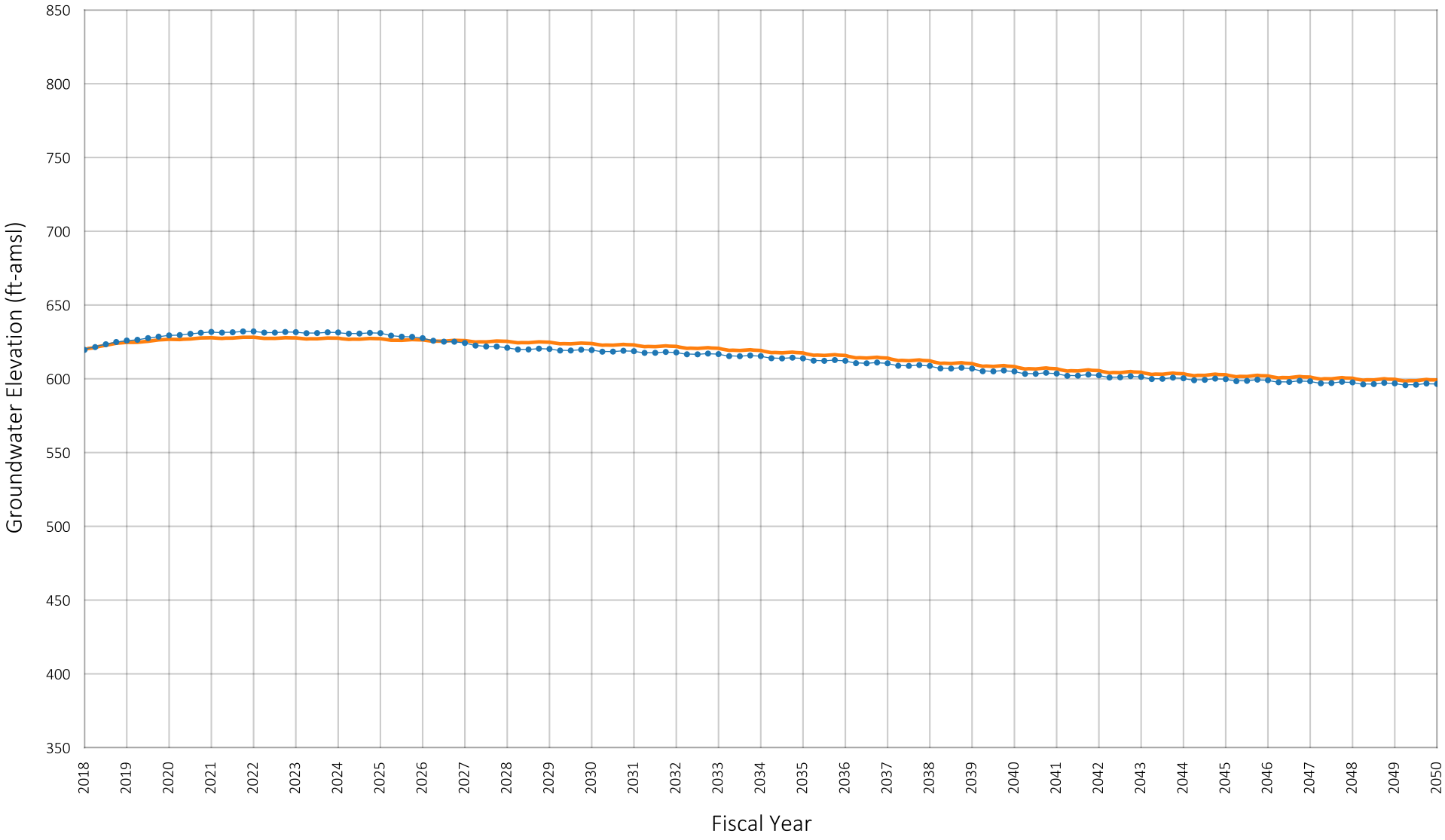
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 111
Owner: City of Ontario
Well Name: 111

Figure A-112



Location of Well in Chino Basin

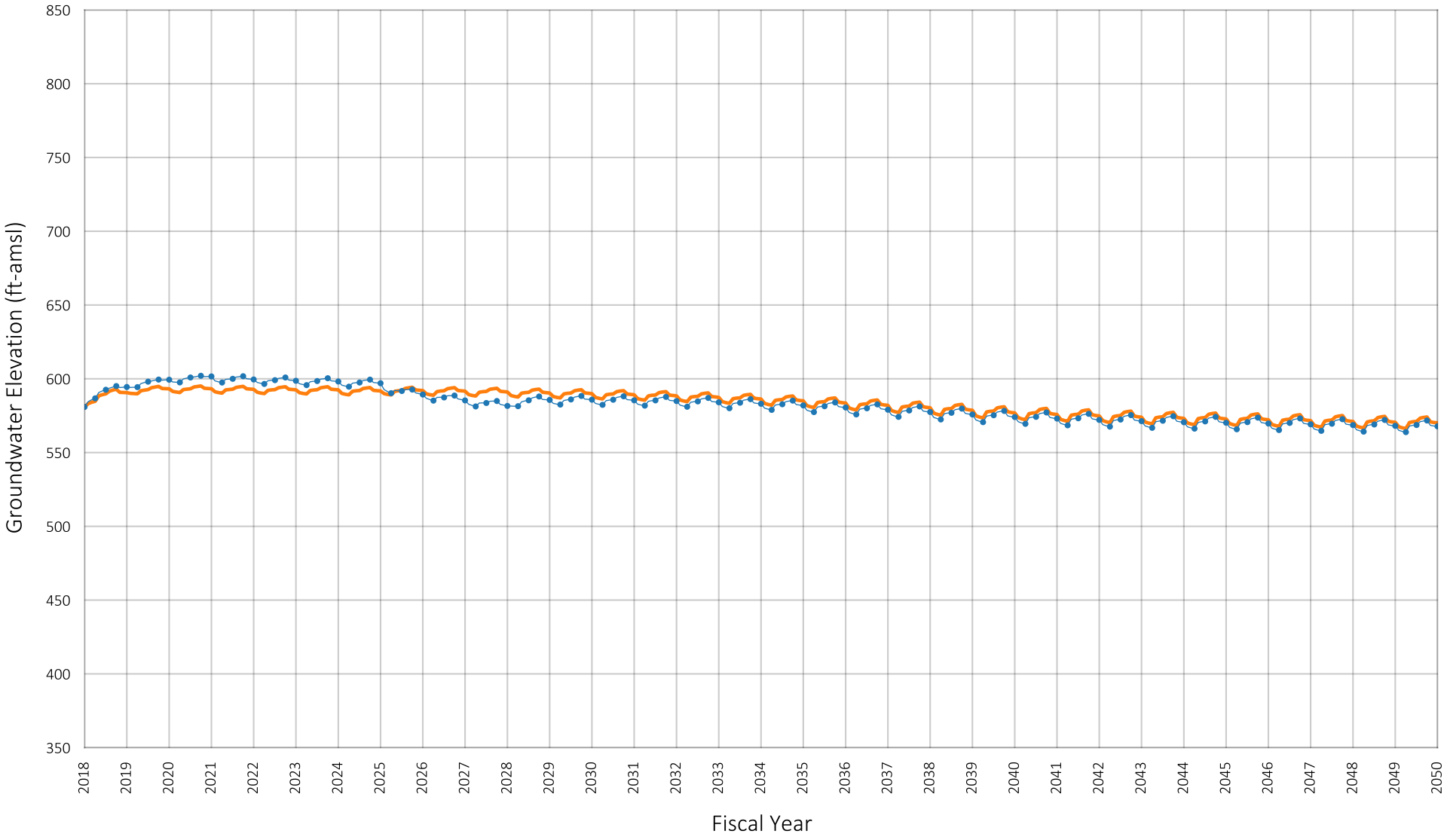
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 119
Owner: City of Ontario
Well Name: 119

Figure A-113



Location of Well in Chino Basin

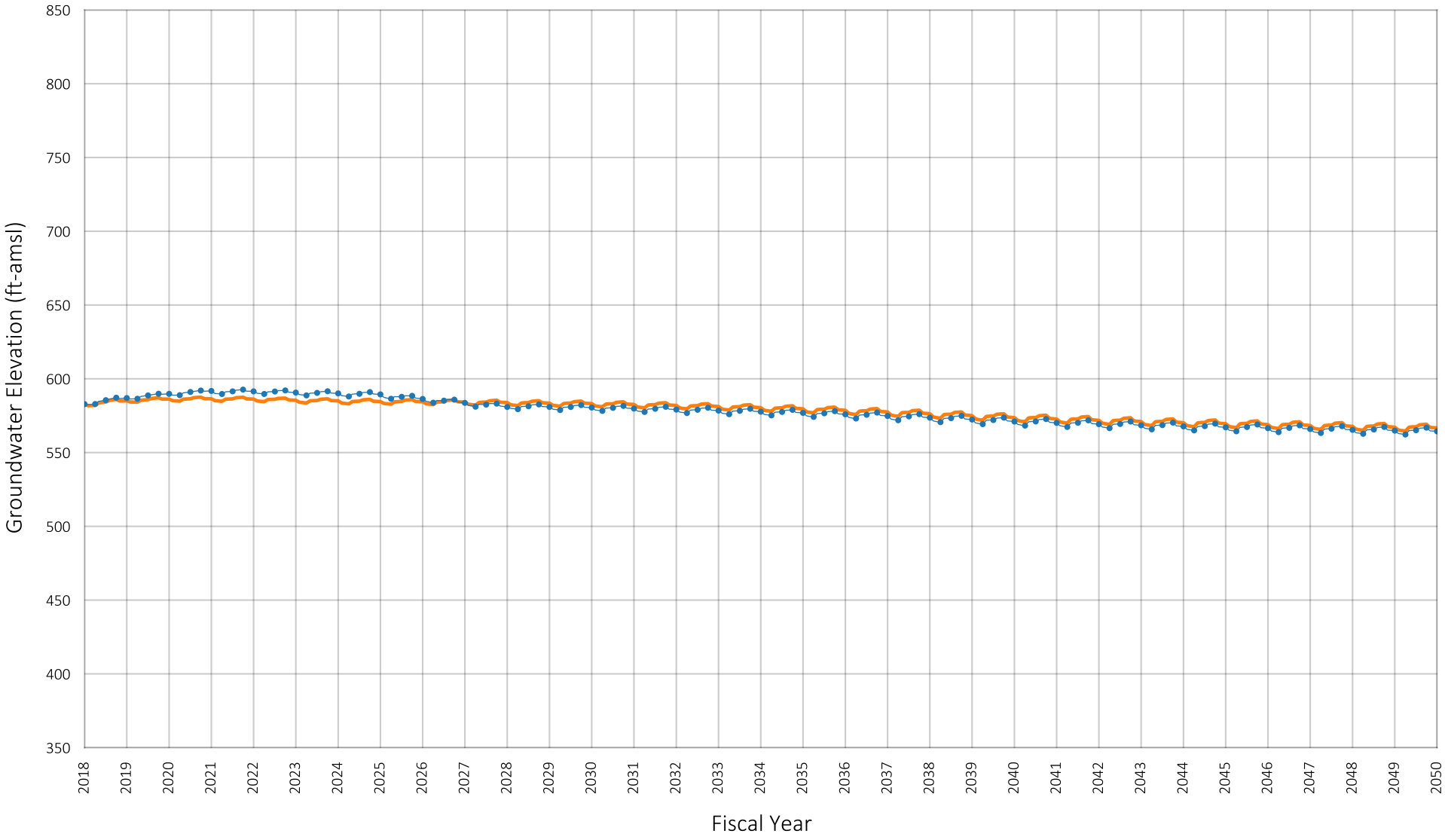
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 115
Owner: City of Ontario
Well Name: 115

Figure A-114



Location of Well in Chino Basin

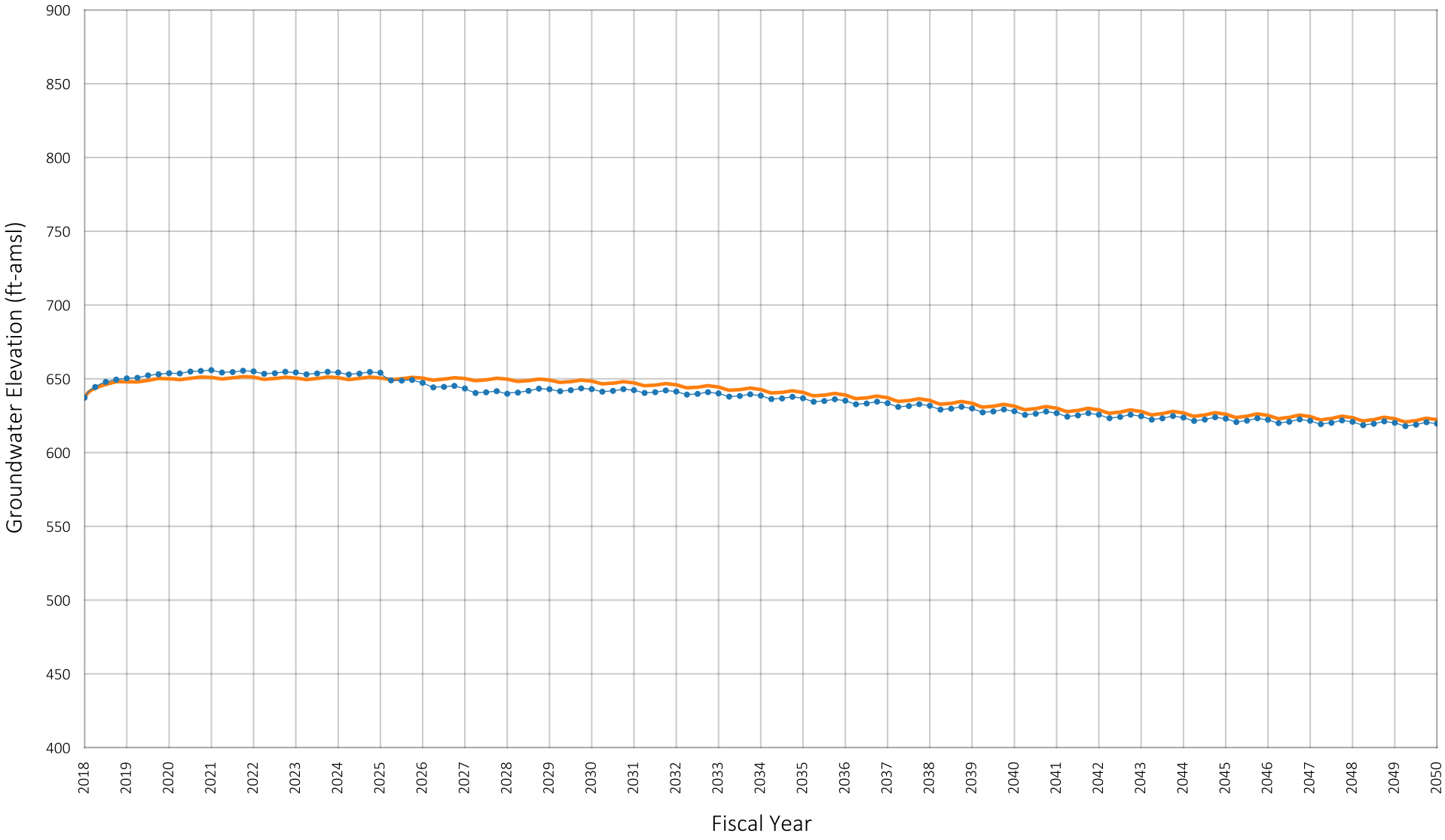
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 120
Owner: City of Ontario
Well Name: 120

Figure A-115



Location of Well in Chino Basin

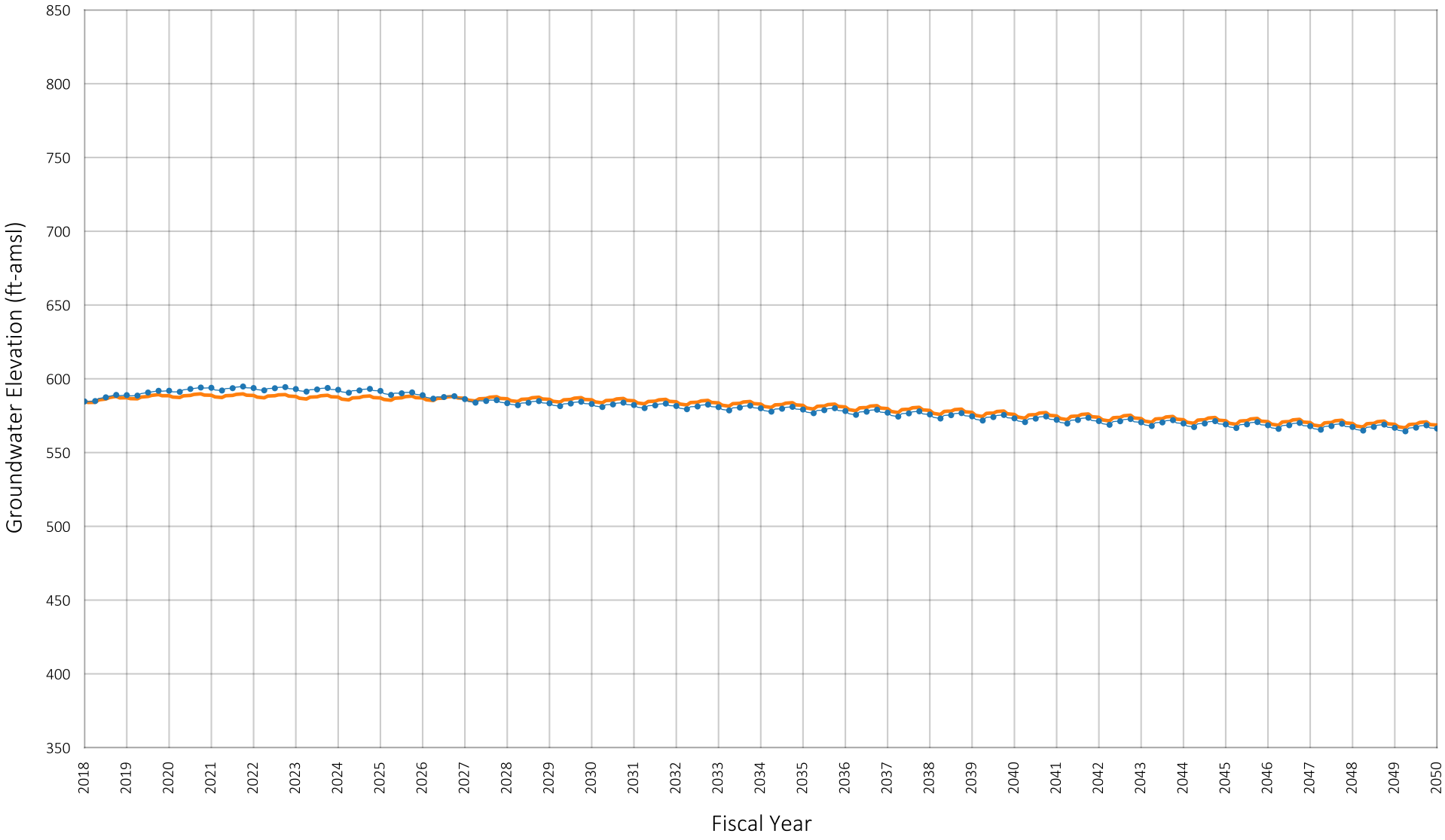
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 126
Owner: City of Ontario
Well Name: 126

Figure A-116



Location of Well in Chino Basin

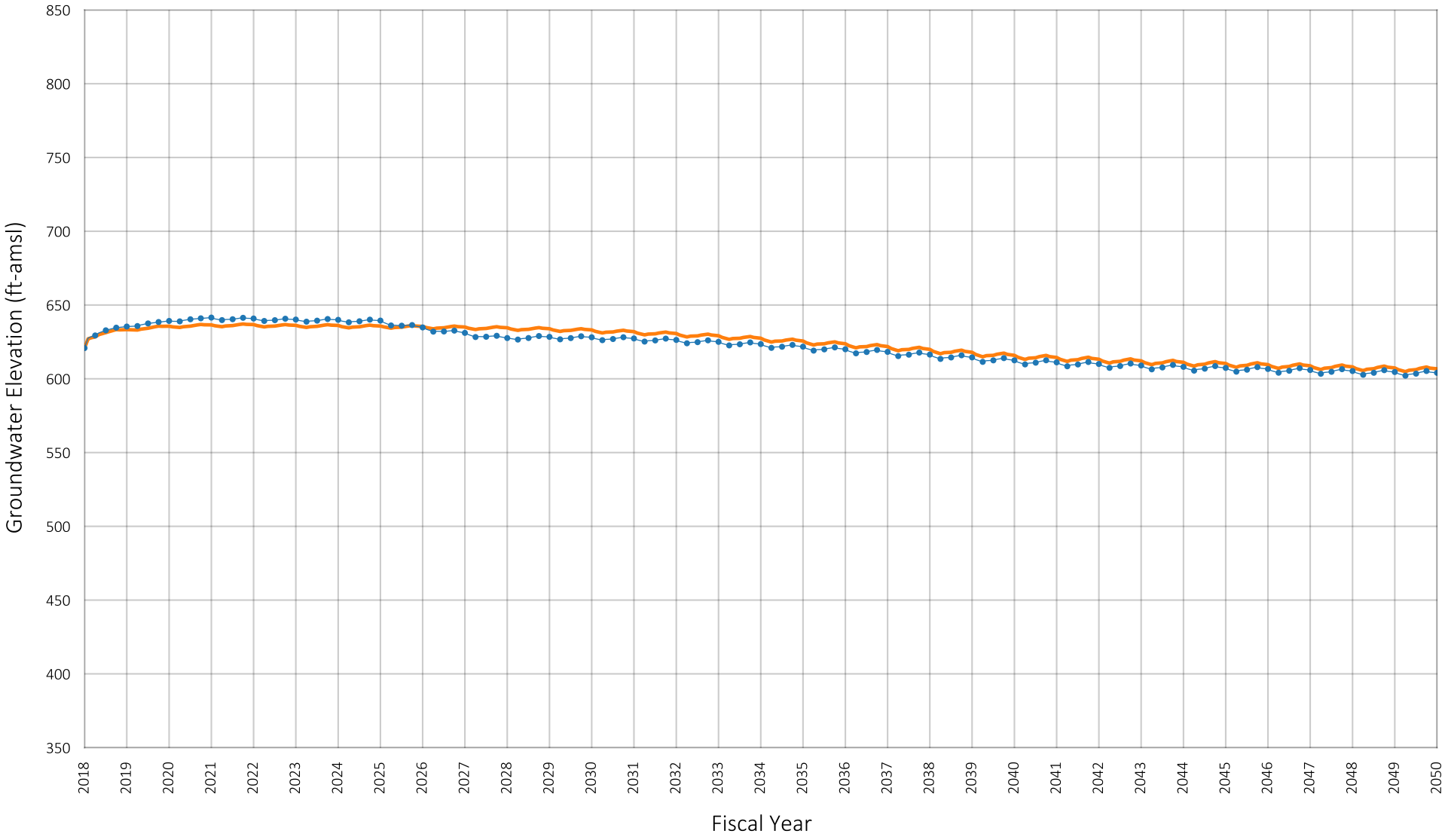
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 134
Owner: City of Ontario
Well Name: 134

Figure A-117



Location of Well in Chino Basin

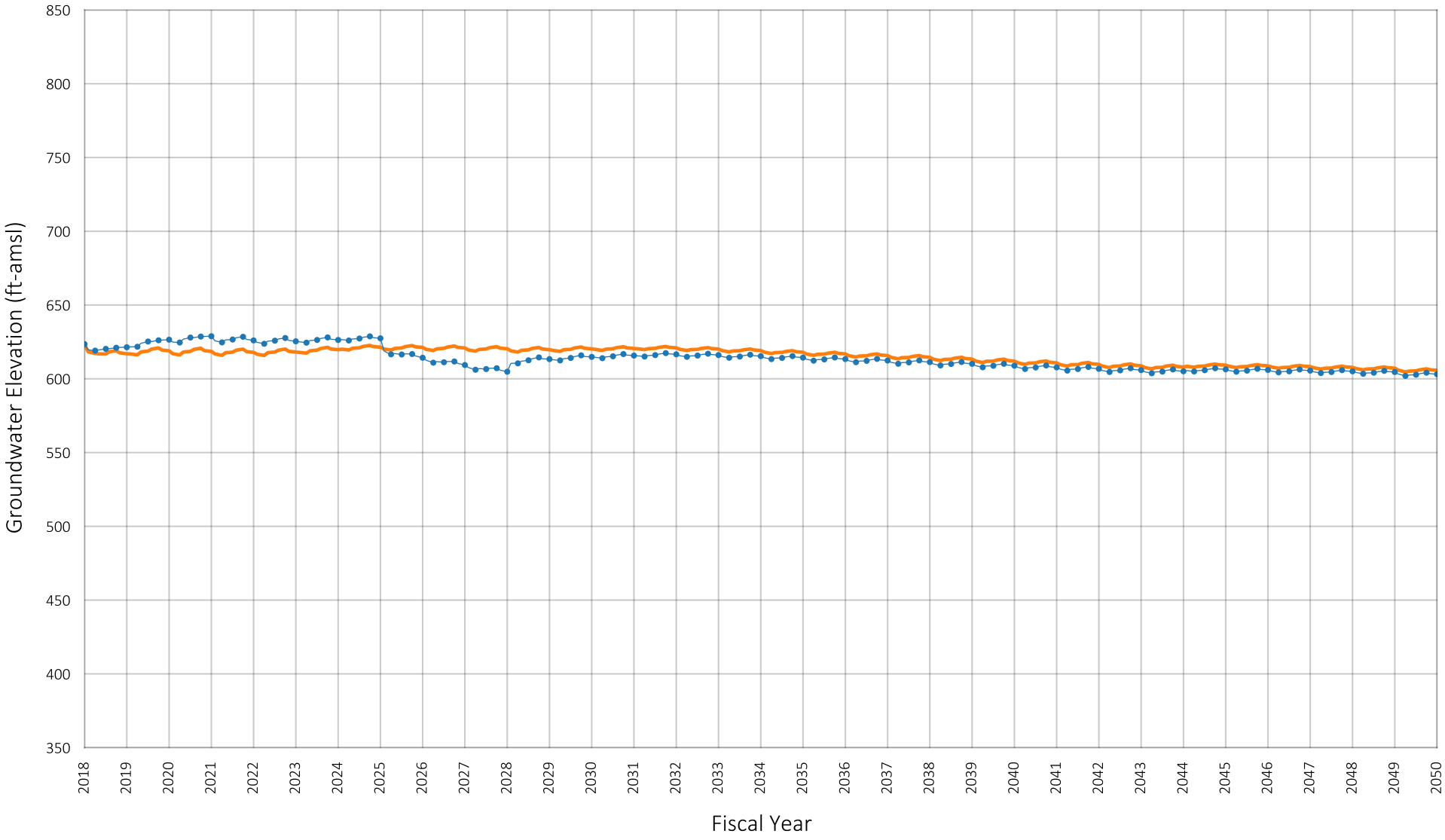
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 136
Owner: City of Ontario
Well Name: 136

Figure A-118



Location of Well in Chino Basin

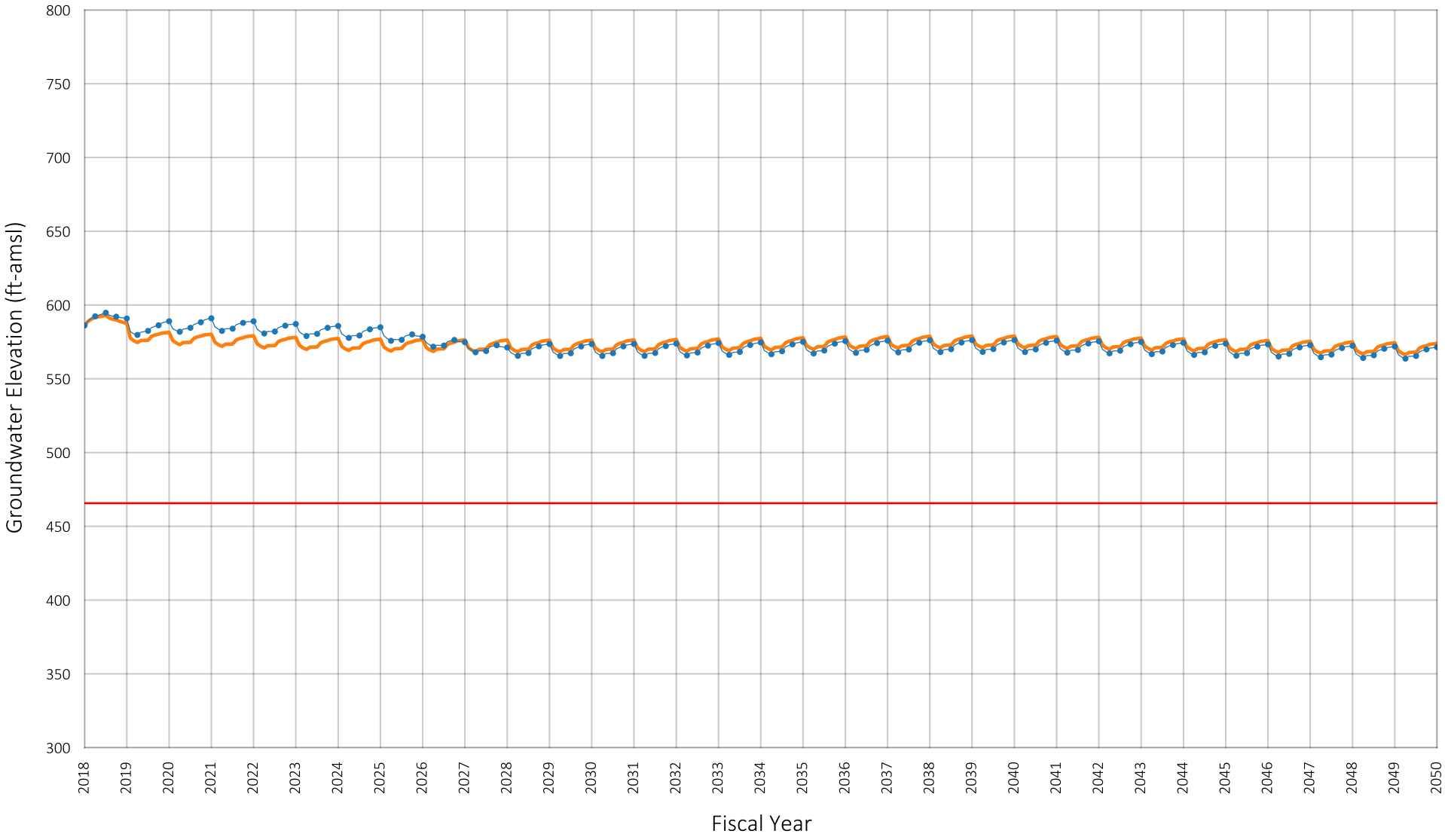
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 138
Owner: City of Ontario
Well Name: 138

Figure A-119



Location of Well in Chino Basin

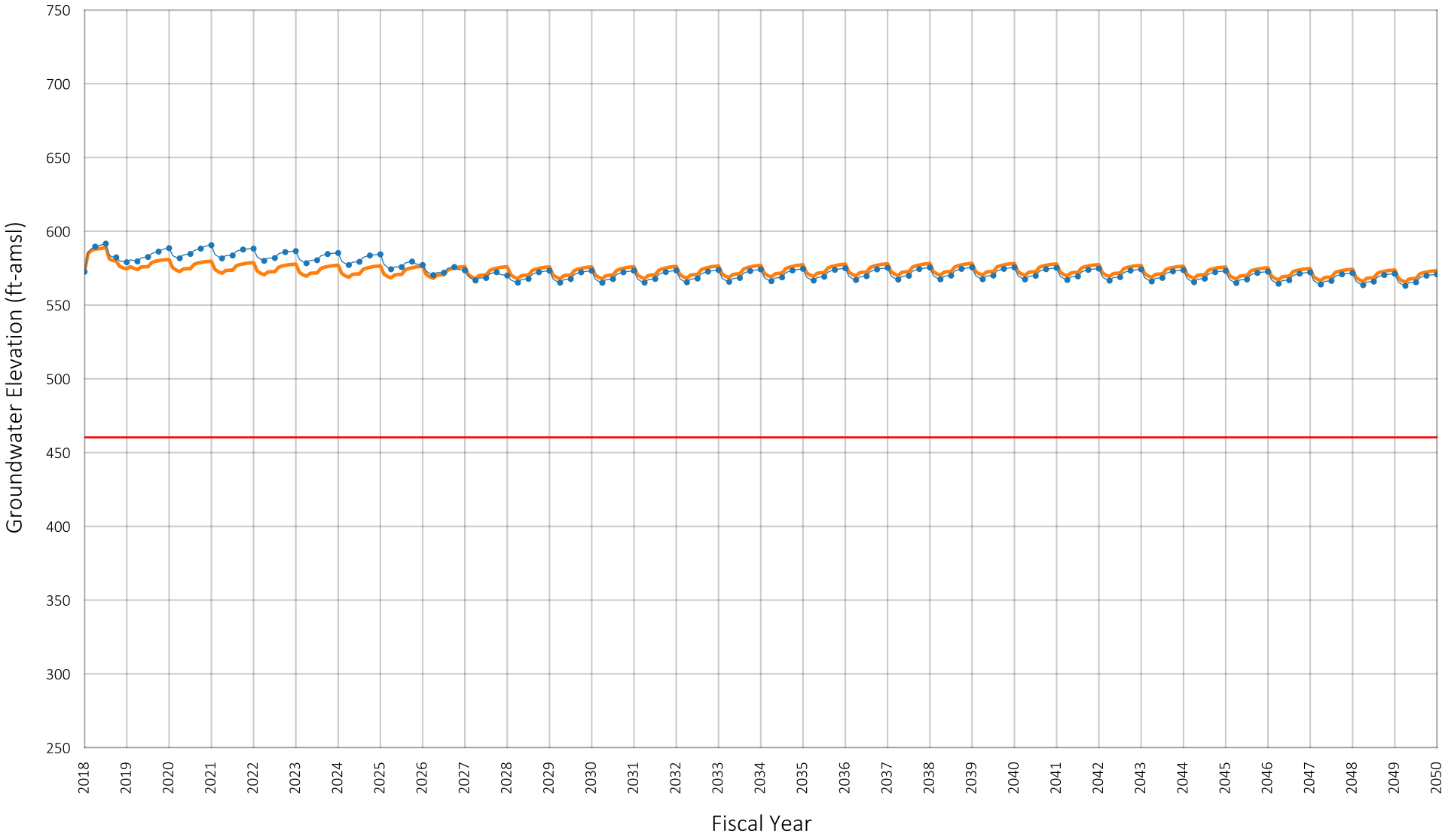
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002653
Owner: City of Pomona
Well Name: 2

Figure A-120

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

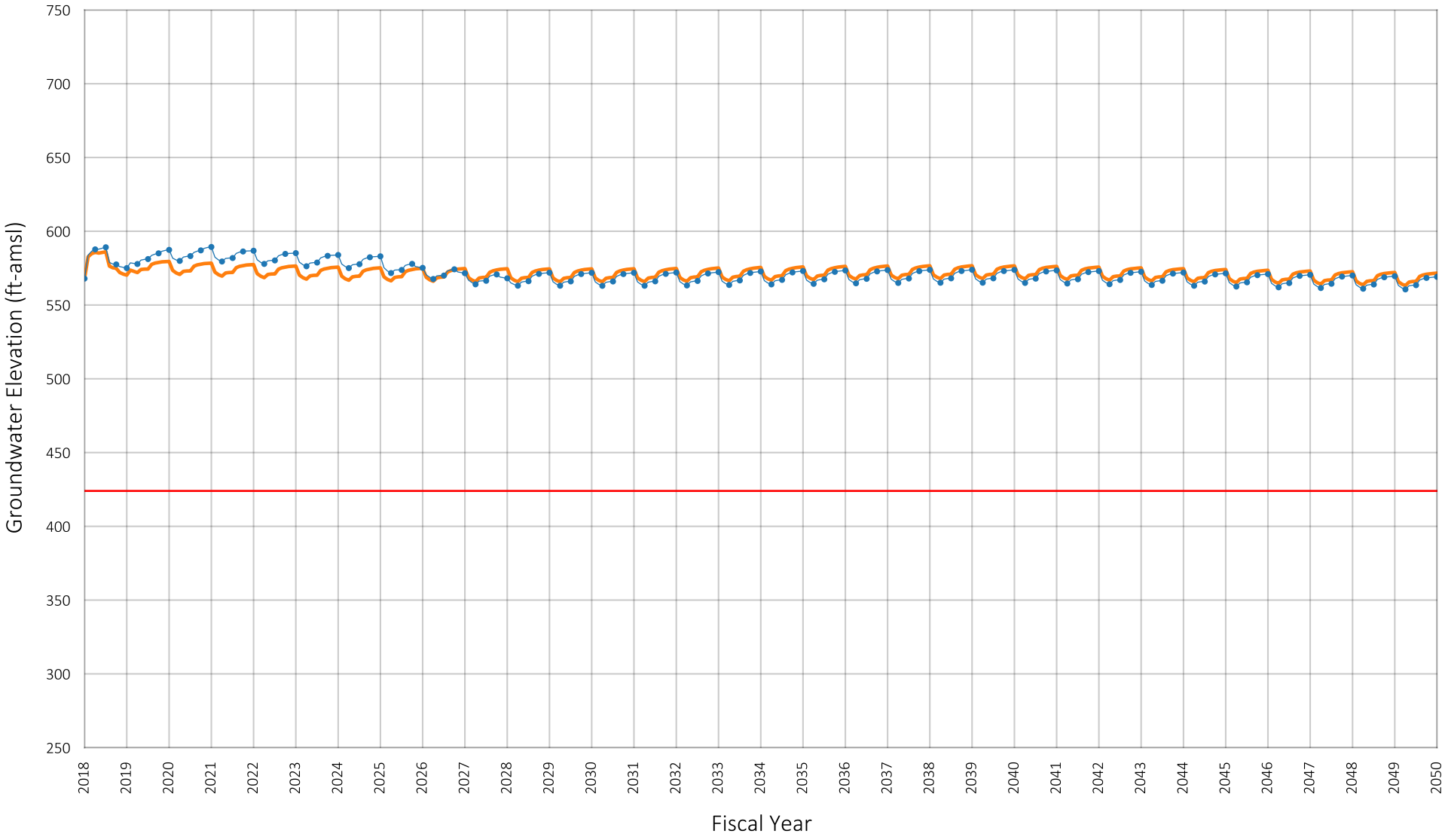
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1205314
Owner: City of Pomona
Well Name: 5B

Figure A-121

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

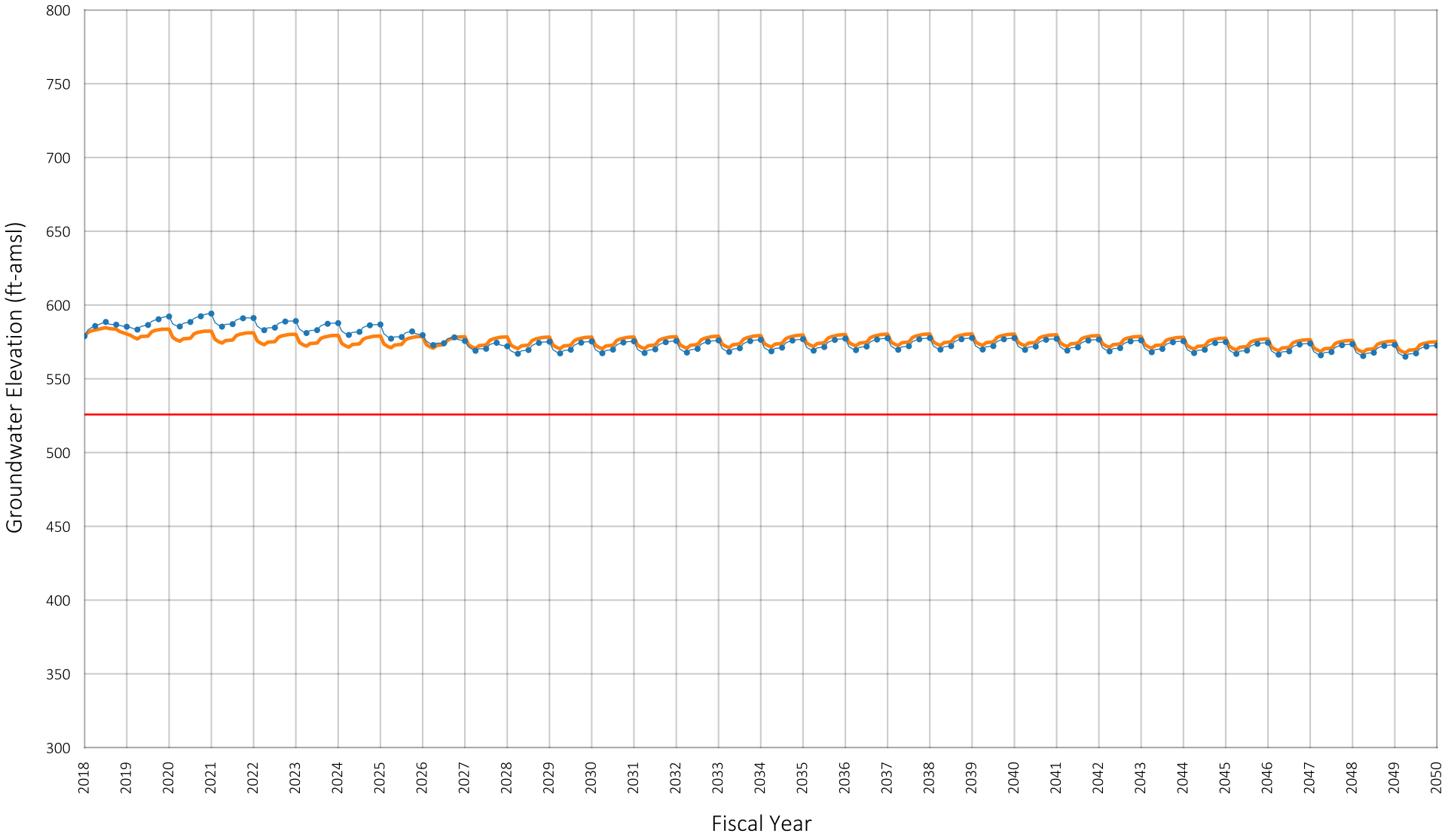
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002650
Owner: City of Pomona
Well Name: 6

Figure A-122

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

SYR1

LSLS

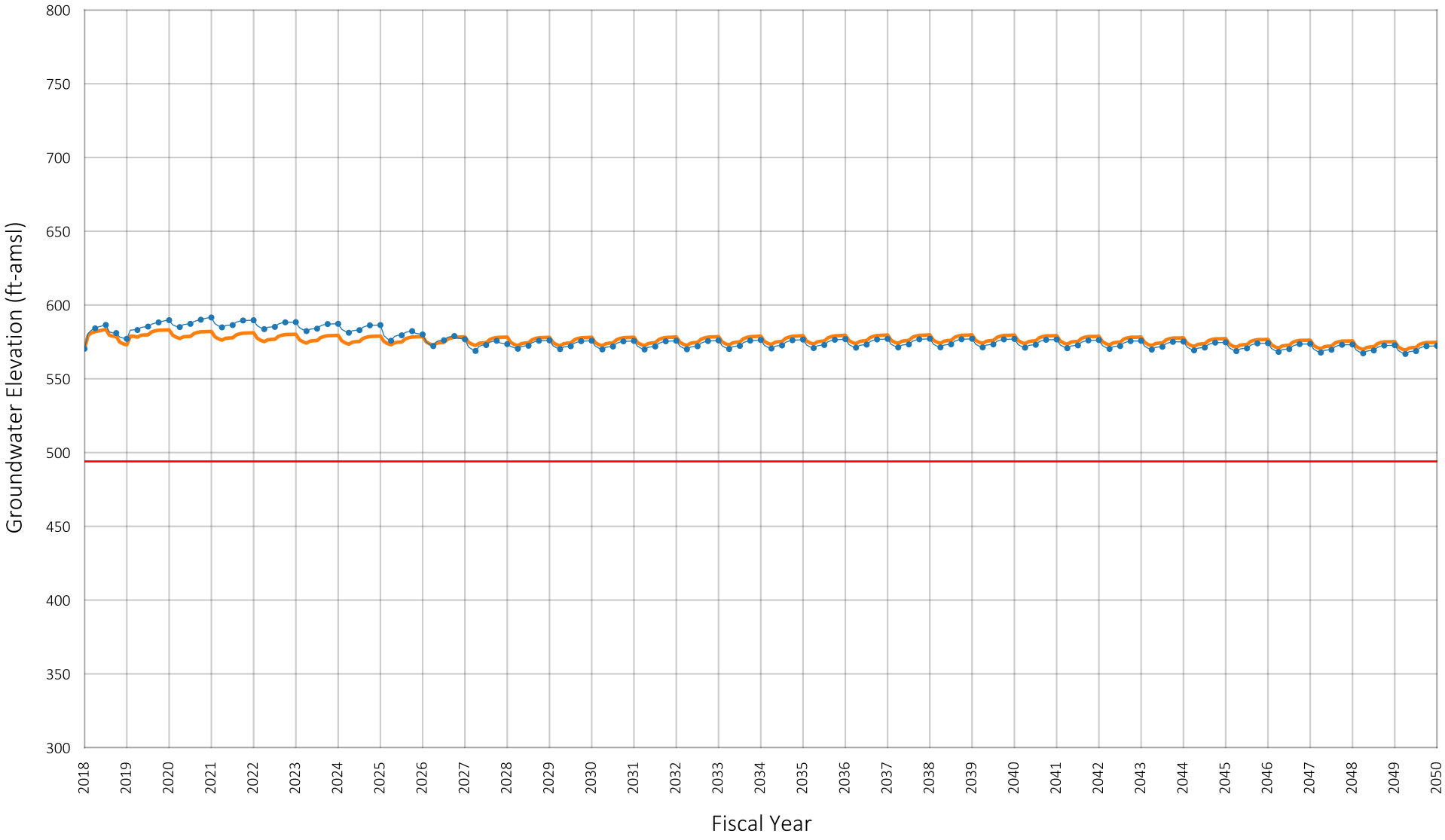
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002656
Owner: City of Pomona
Well Name: 10

Figure A-123

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

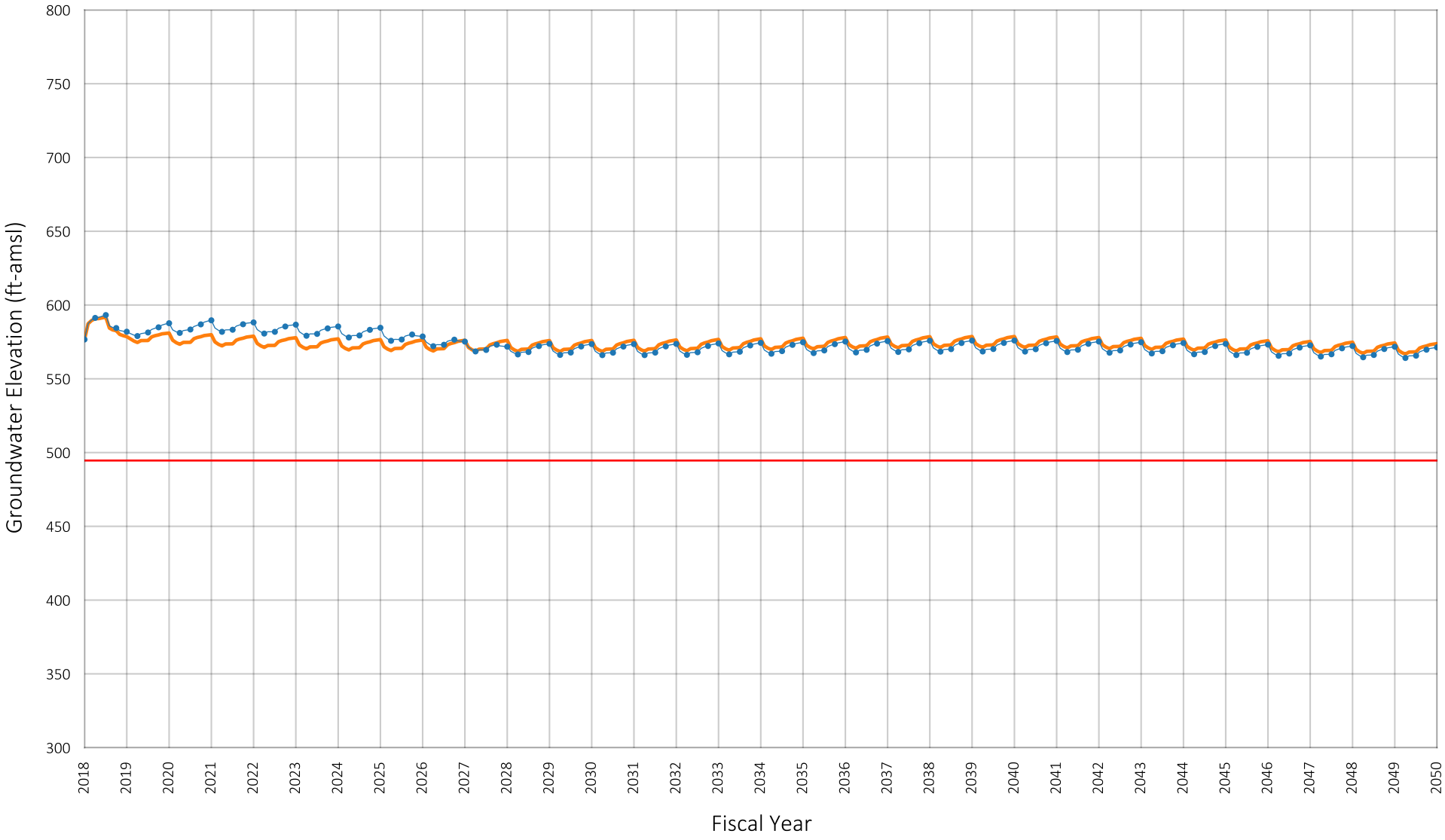
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002664
Owner: City of Pomona
Well Name: 15

Figure A-124

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

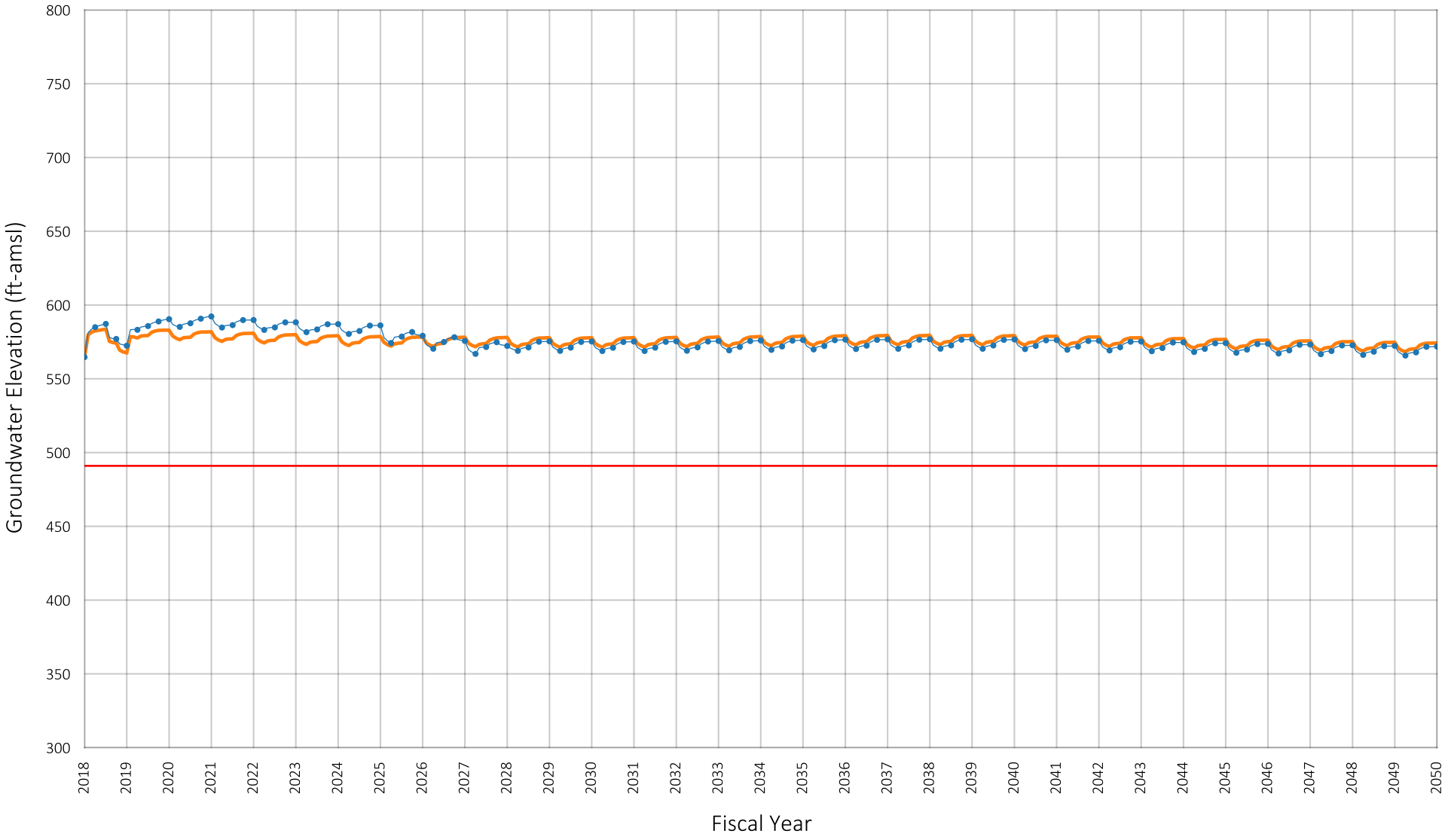
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002654
Owner: City of Pomona
Well Name: 16

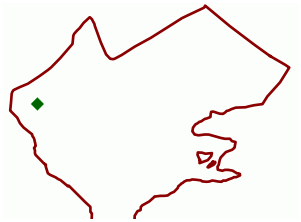
Figure A-125

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin



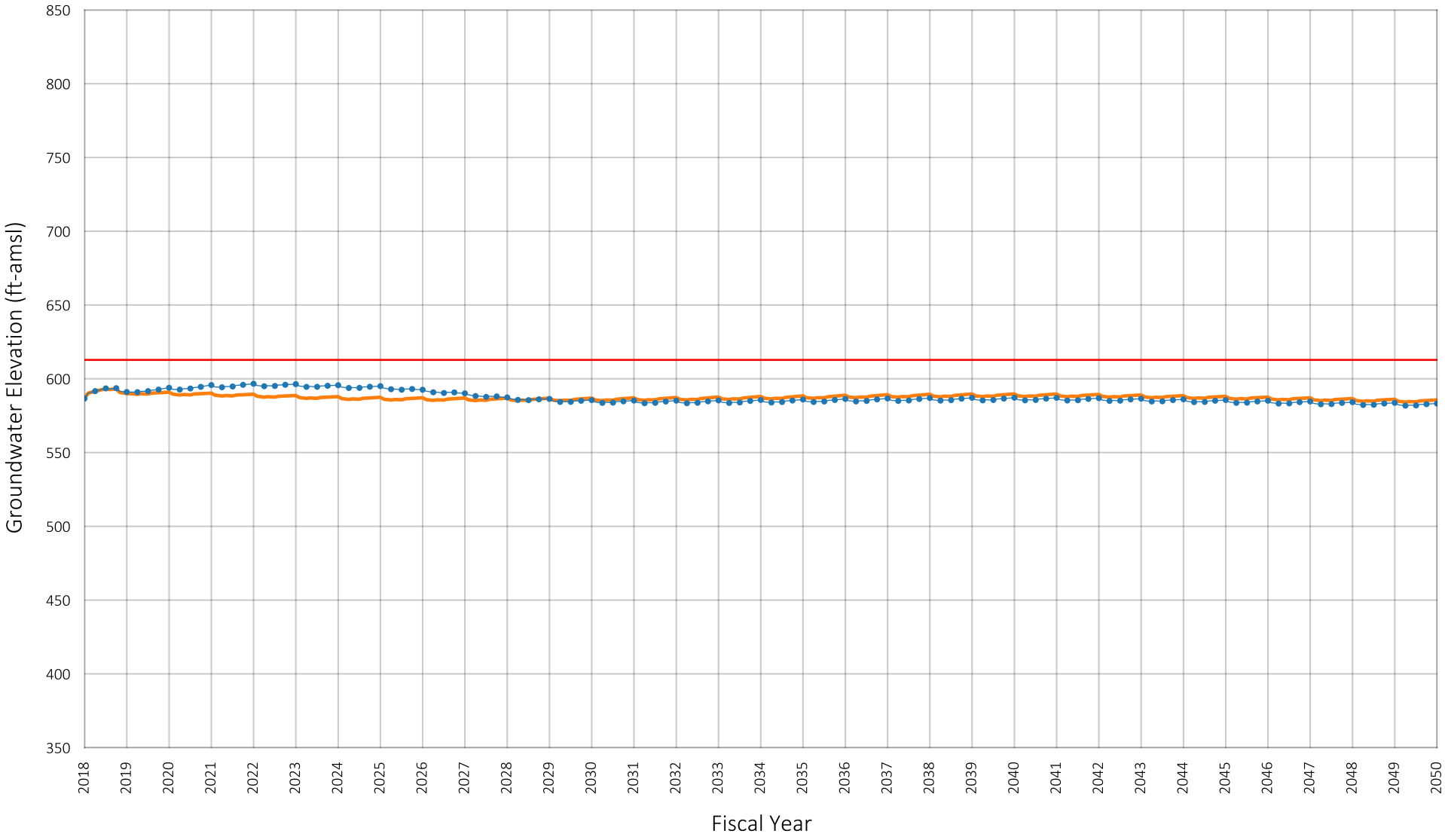
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002659
Owner: City of Pomona
Well Name: 17

Figure A-126

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

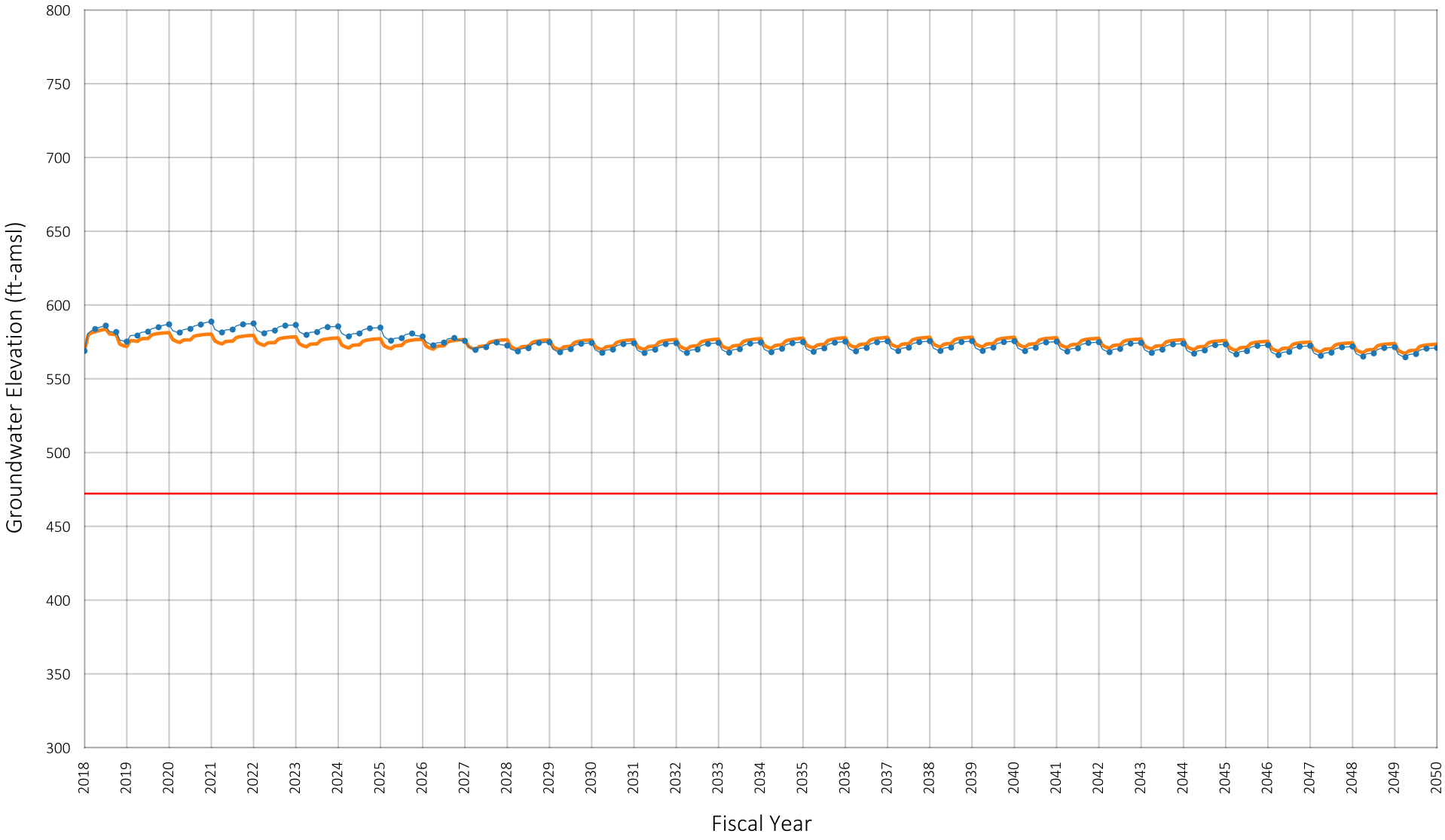
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002678
Owner: City of Pomona
Well Name: 21

Figure A-127

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

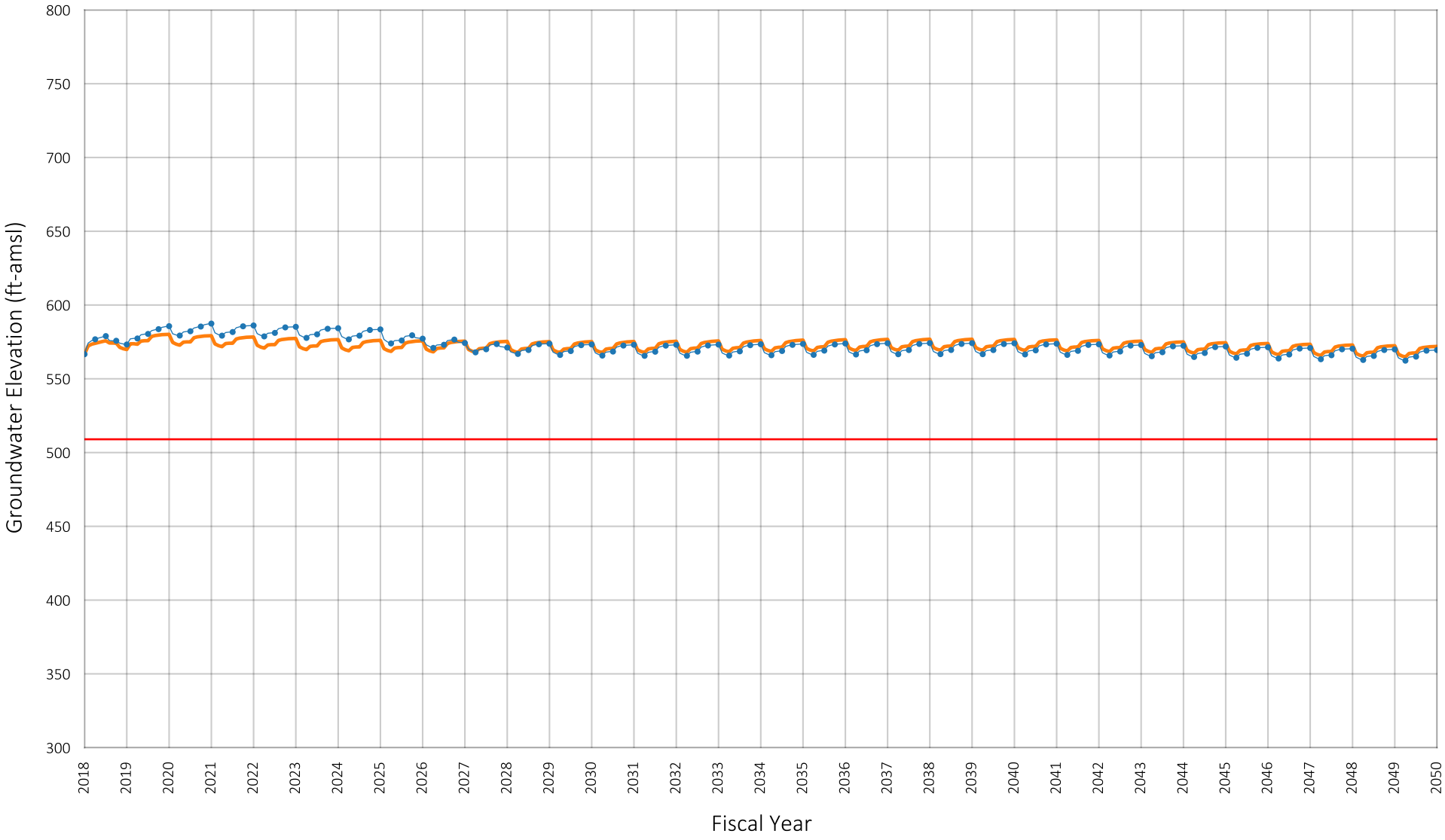
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002704
Owner: City of Pomona
Well Name: 23

Figure A-128

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

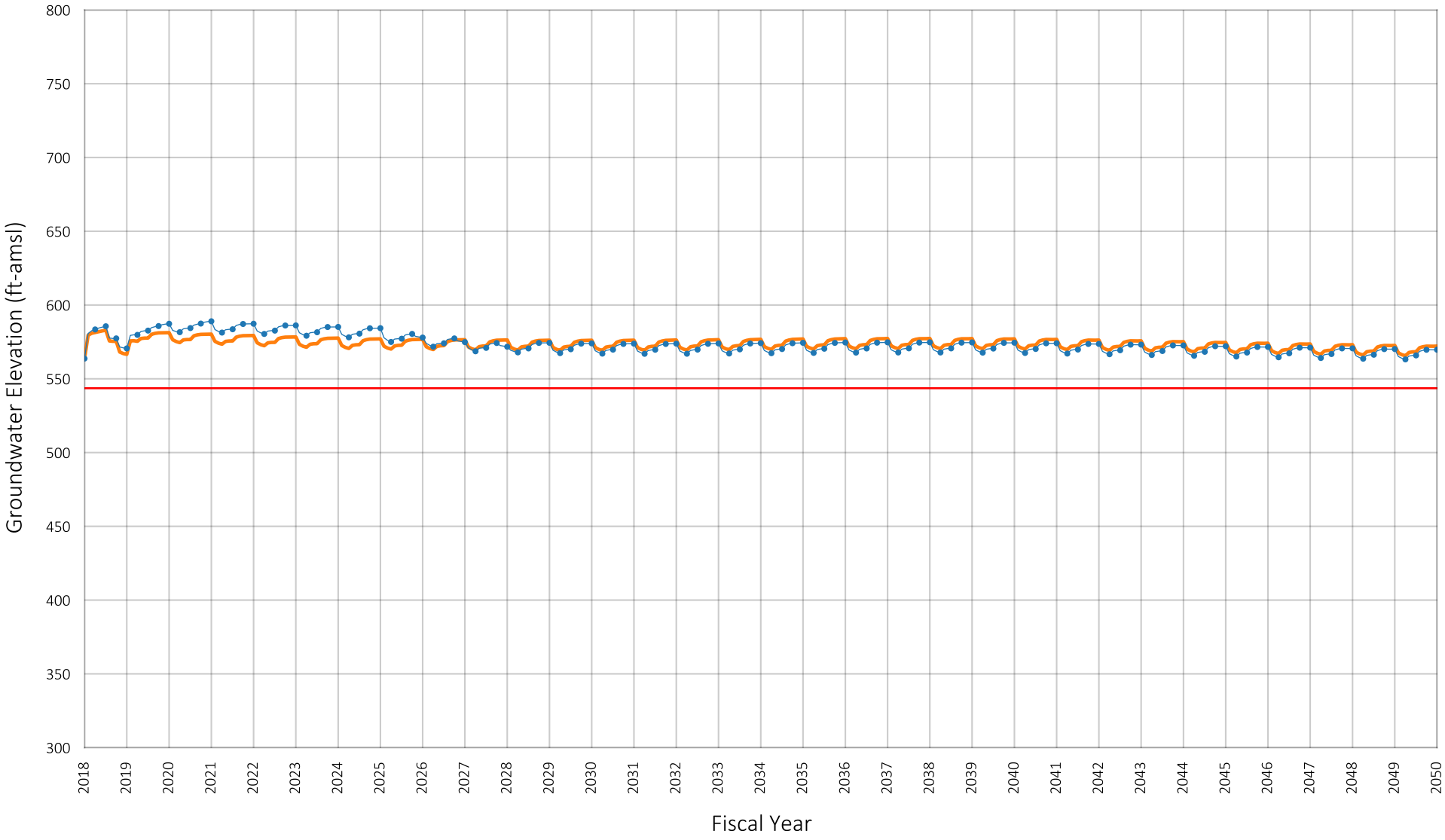
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002706
Owner: City of Pomona
Well Name: 25

Figure A-129

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

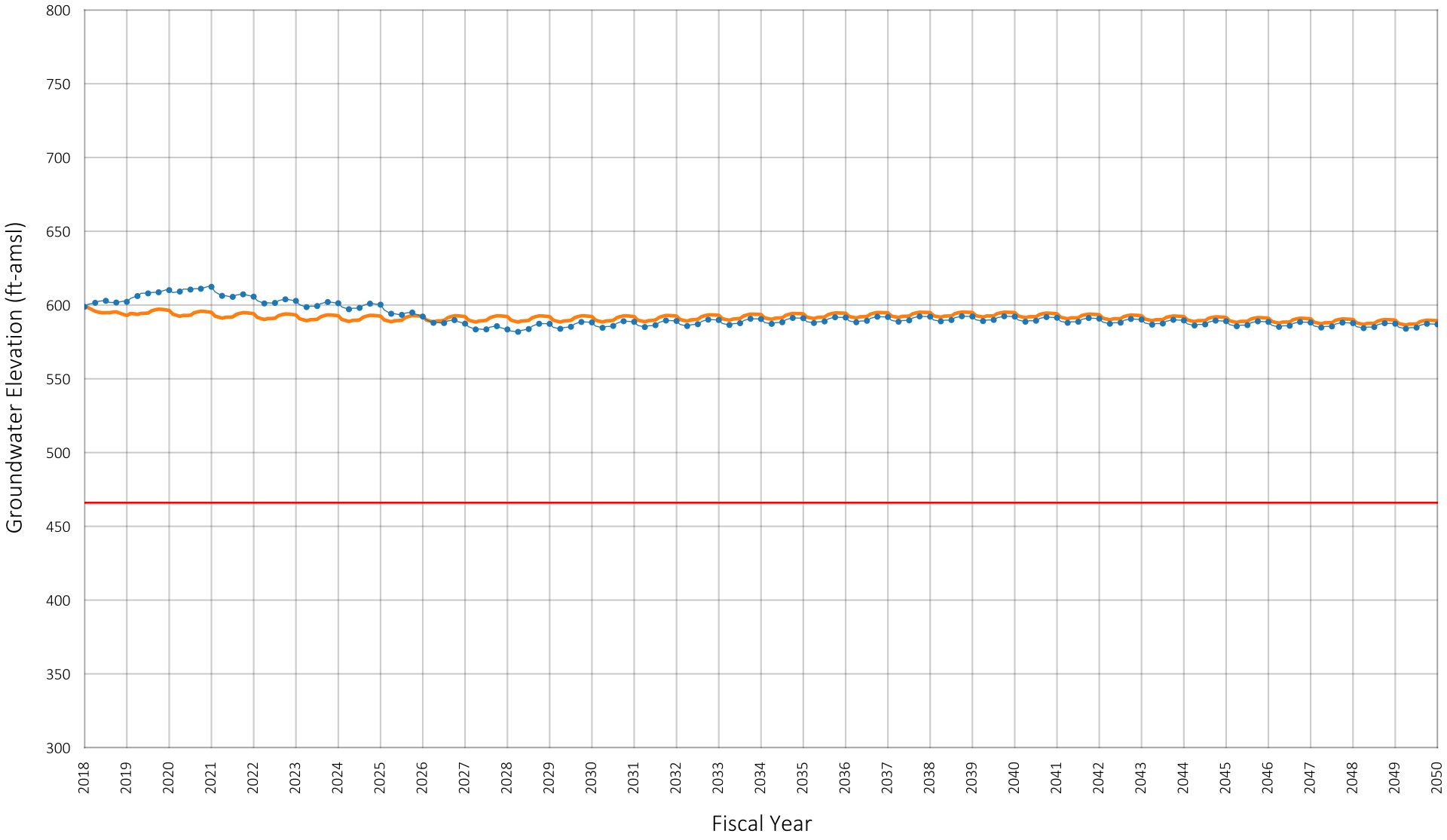
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1002703
Owner: City of Pomona
Well Name: 26

Figure A-130

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

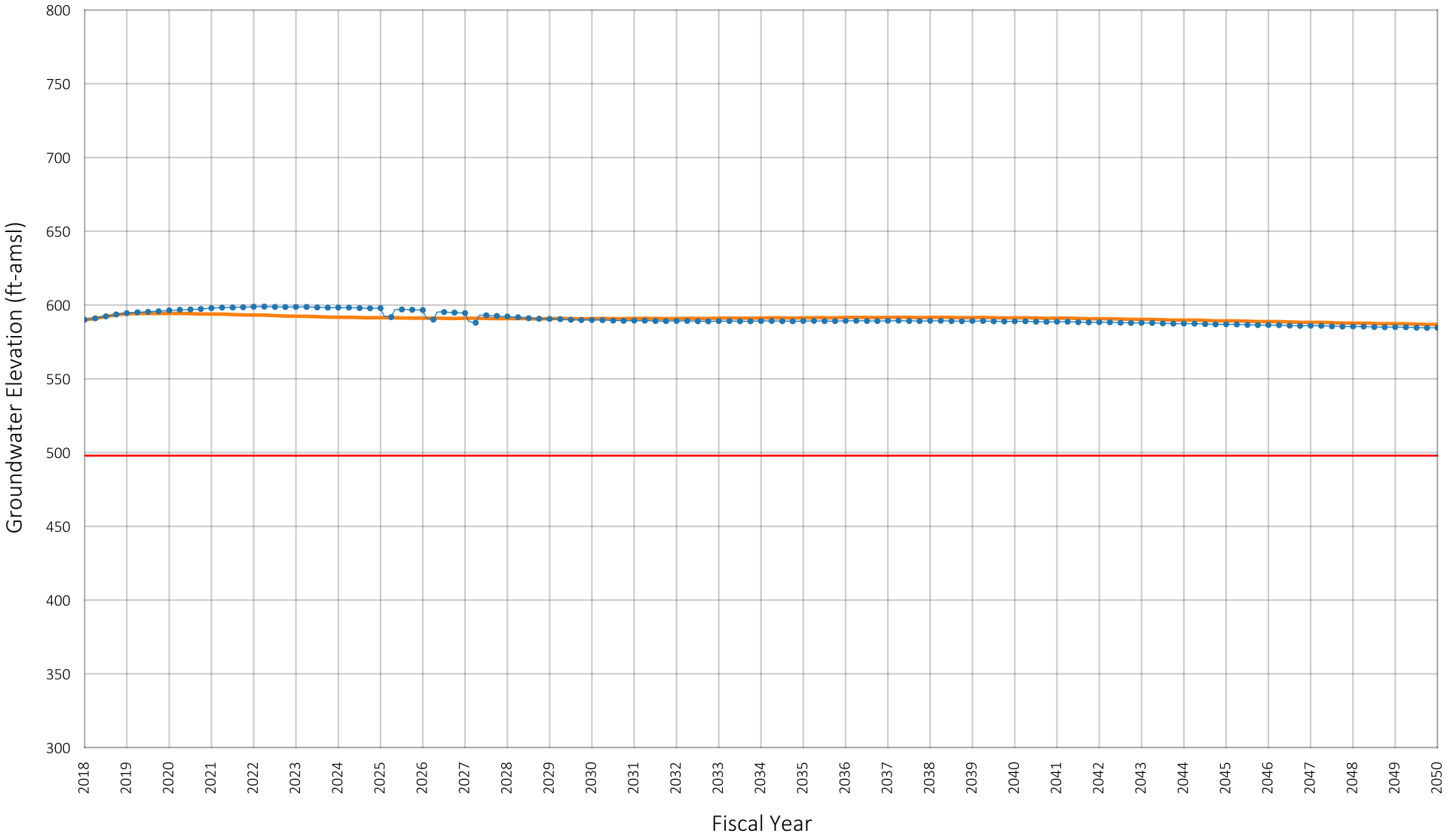
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1201236
Owner: City of Pomona
Well Name: 27

Figure A-131

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

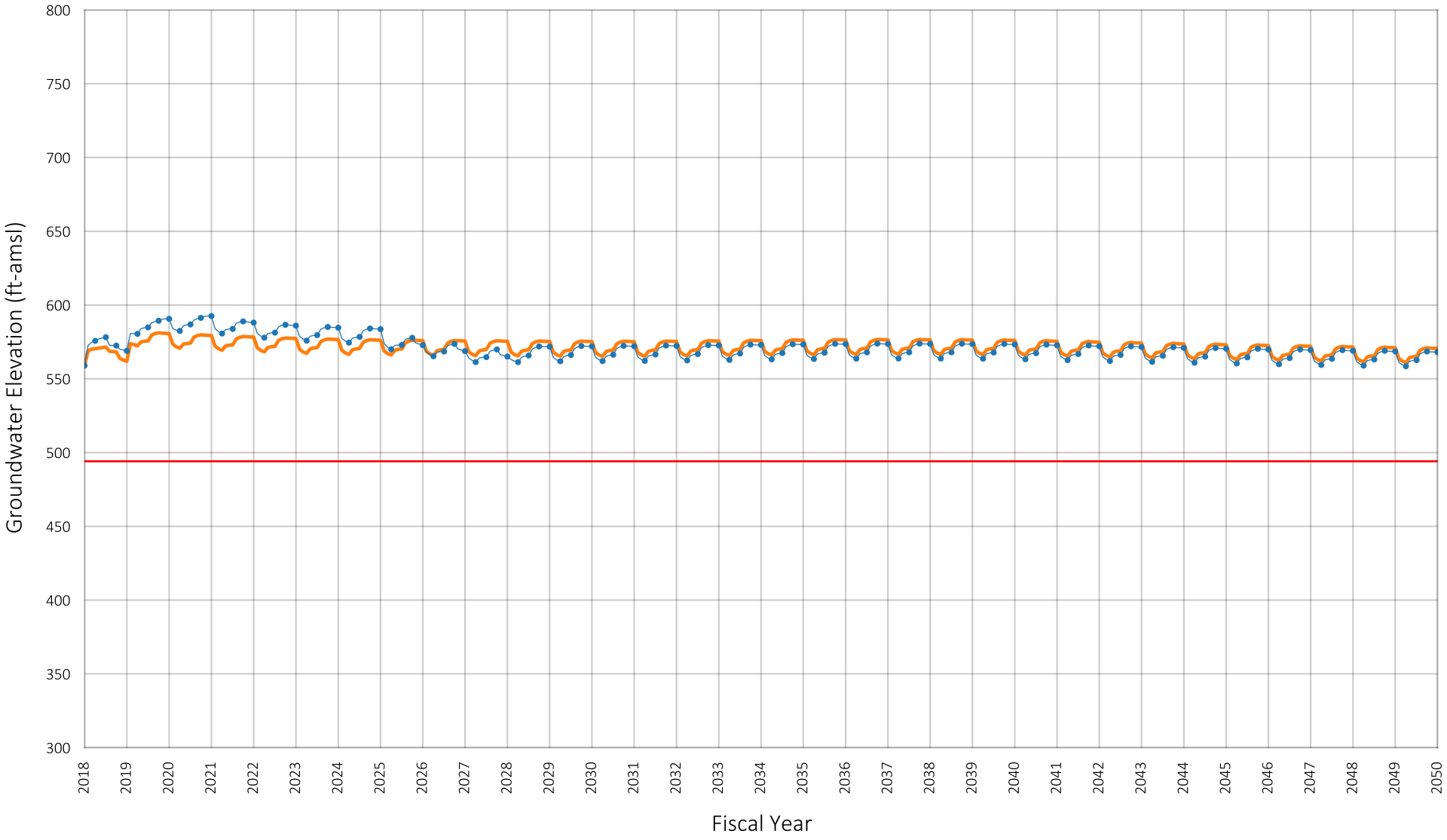
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1203062
Owner: City of Pomona
Well Name: 29

Prepared by:

WEST YOST
Water. Engineered.

Figure A-132



Location of Well in Chino Basin

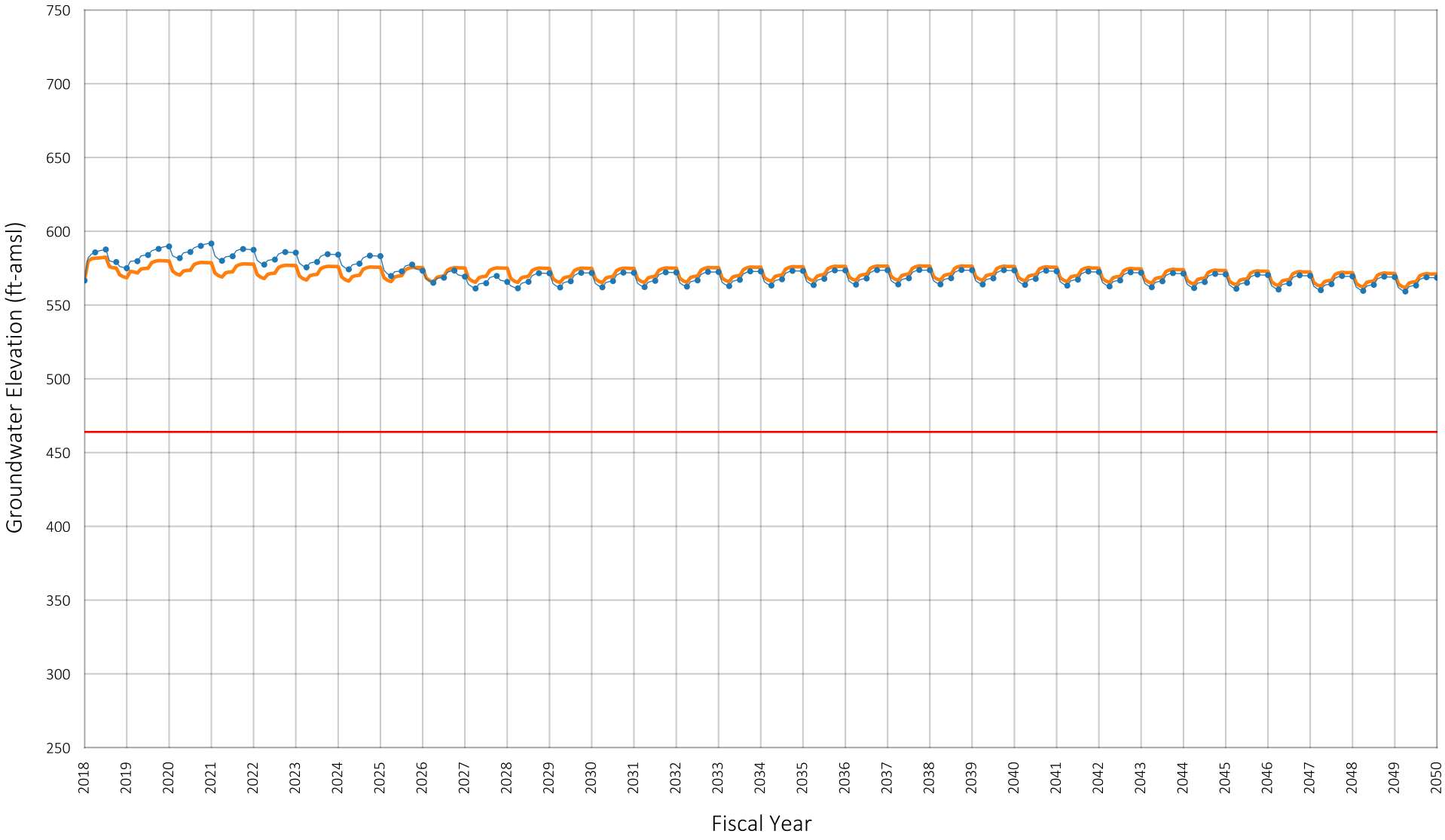
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1201247
Owner: City of Pomona
Well Name: 34

Prepared by:

WEST YOST
Water. Engineered.

Figure A-133



Location of Well in Chino Basin

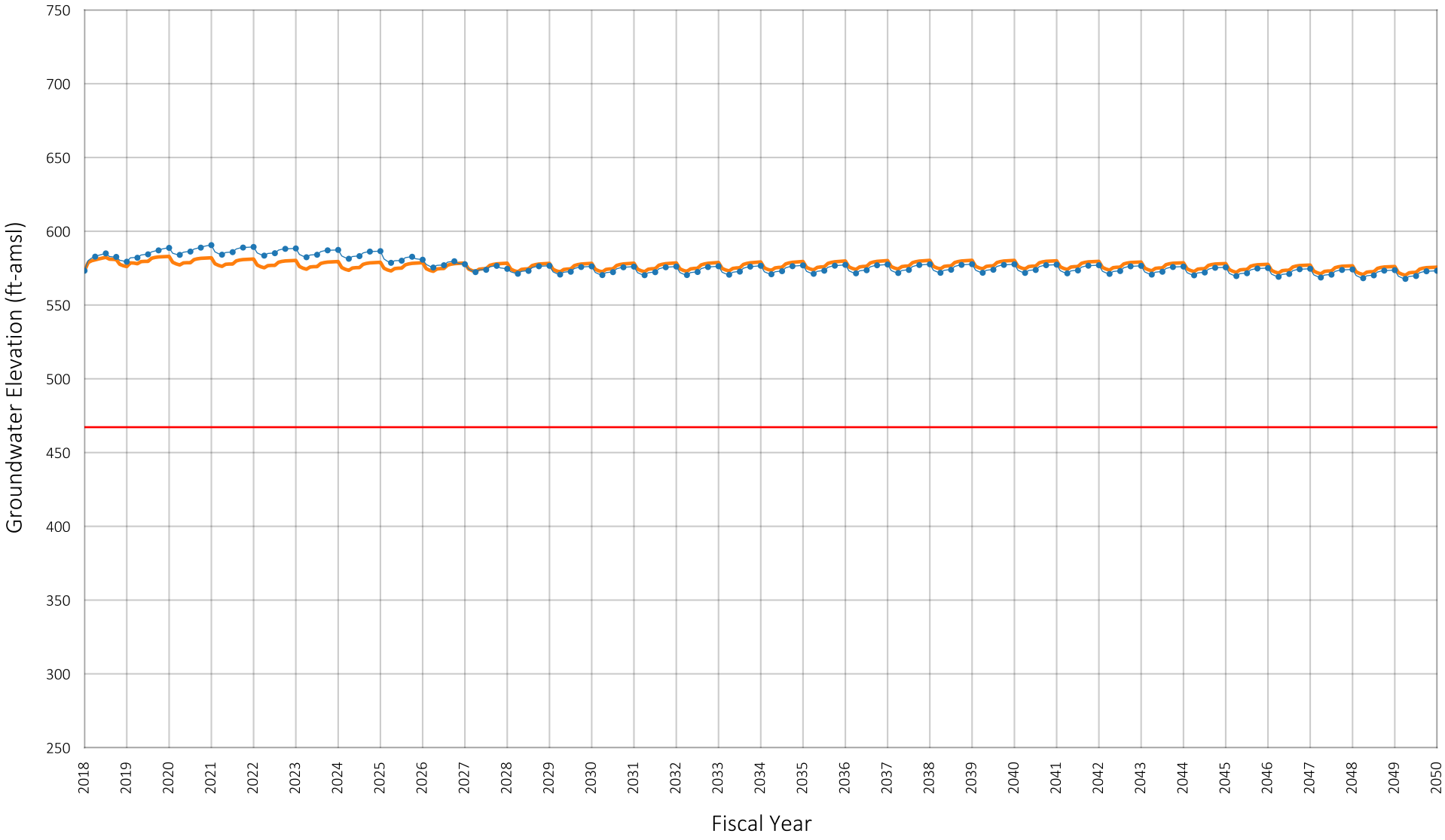
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1201246
Owner: City of Pomona
Well Name: 35

Figure A-134

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

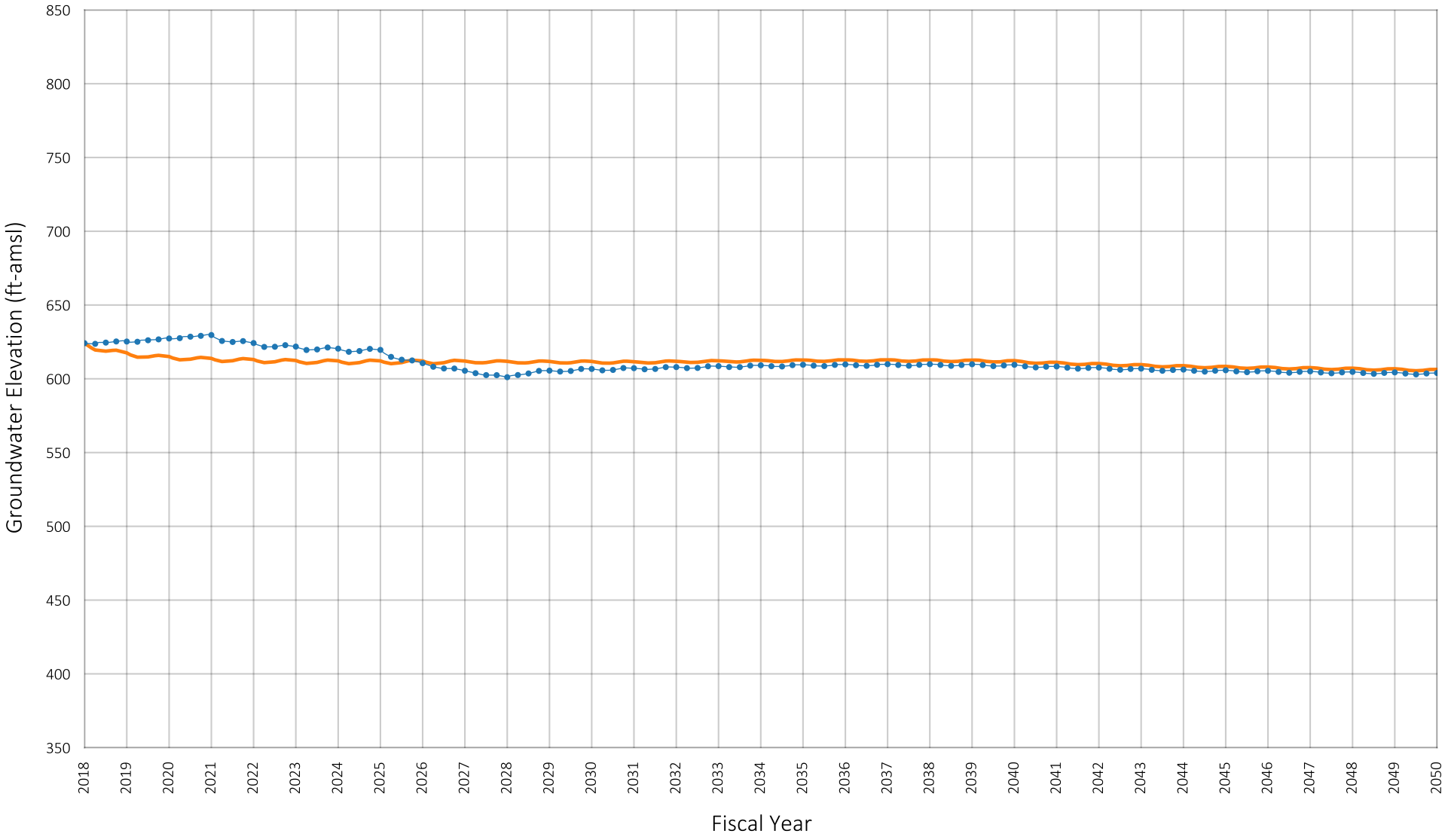
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1205309
Owner: City of Pomona
Well Name: 36

Figure A-135

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

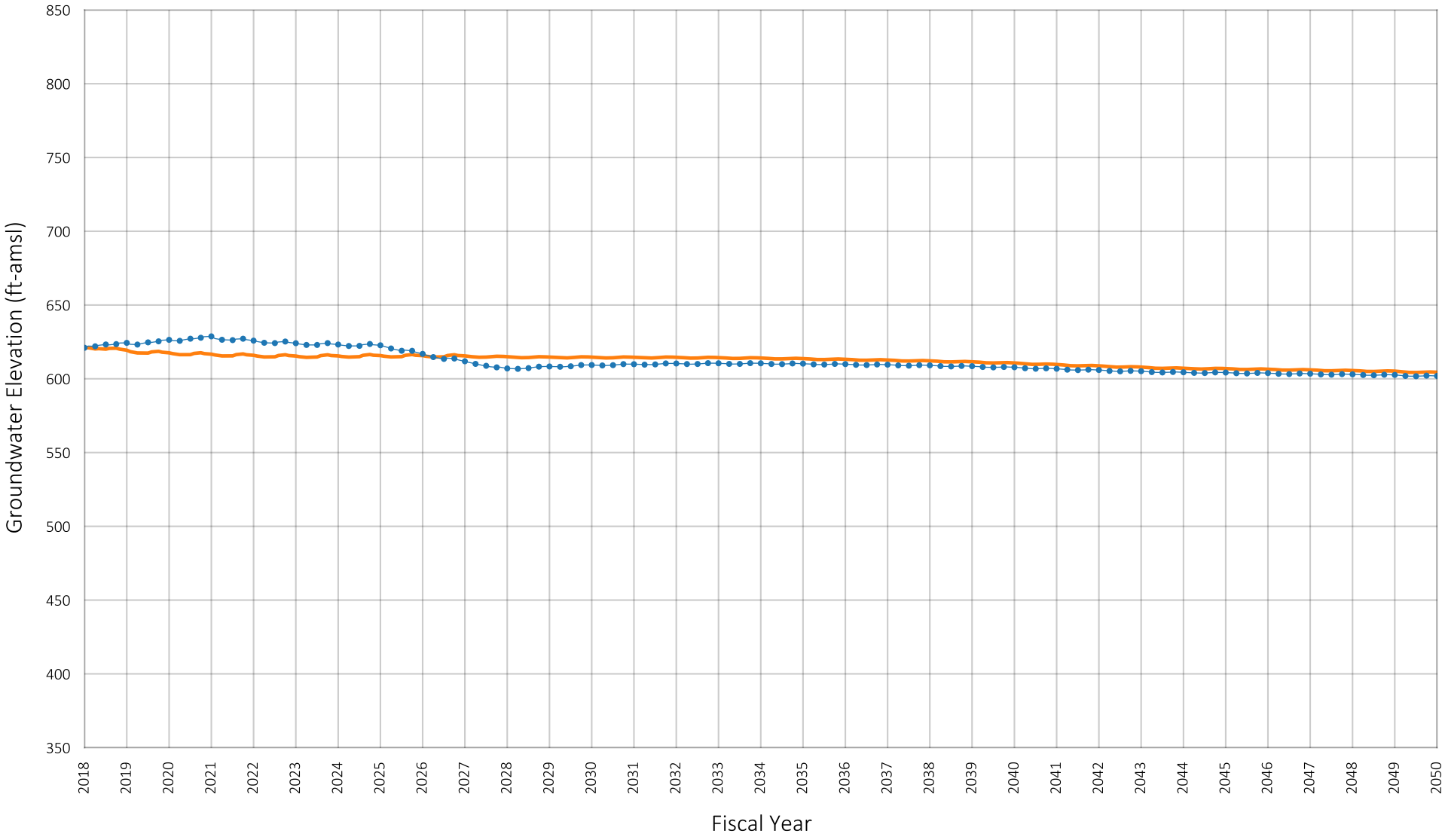
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002535
Owner: City of Upland
Well Name: 3

Figure A-136



Location of Well in Chino Basin

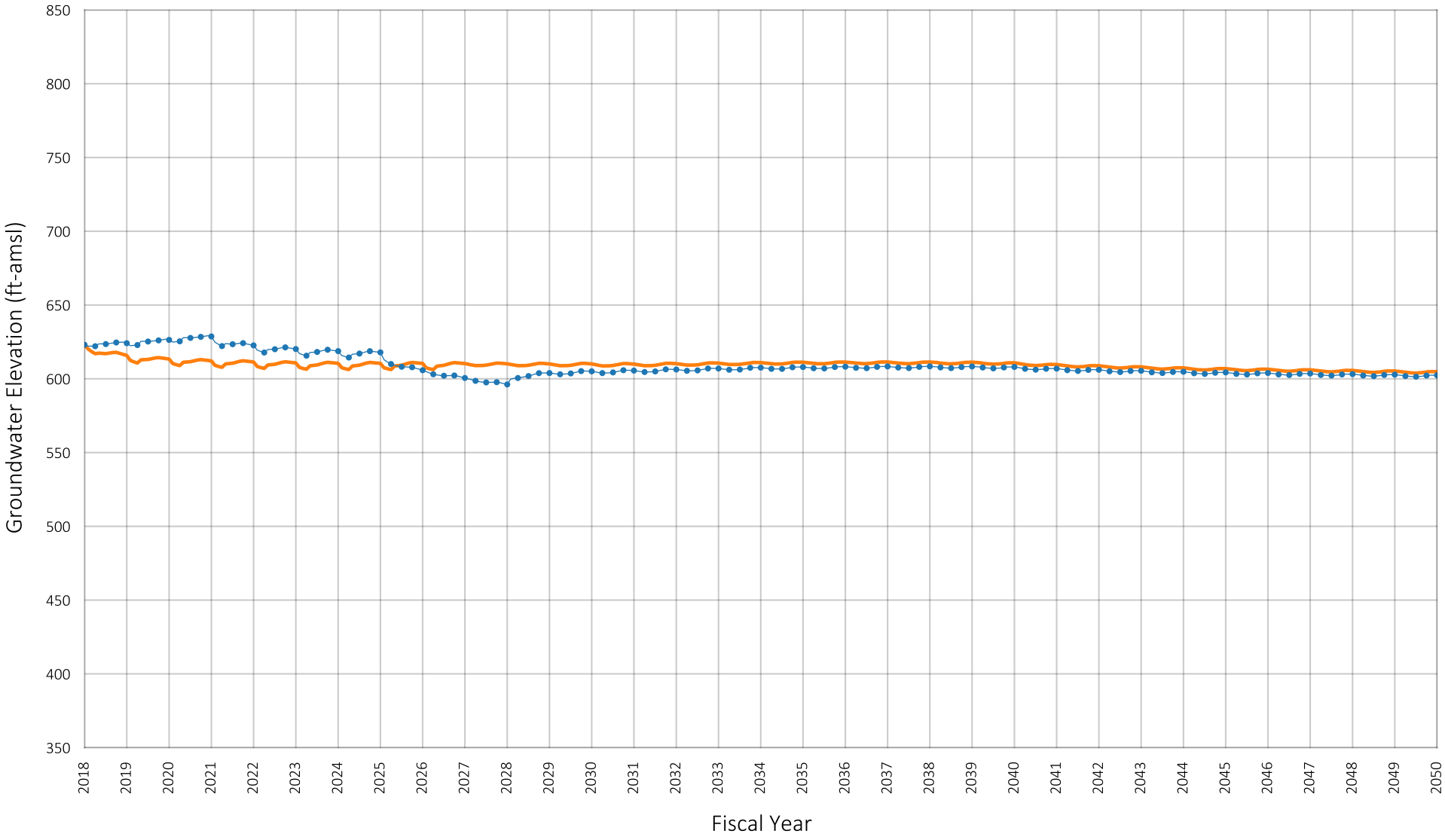
SYR1
LSLS

Projected Groundwater Elevation
Well ID#: 1006997
Owner: City of Upland
Well Name: 7A

Figure A-137

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

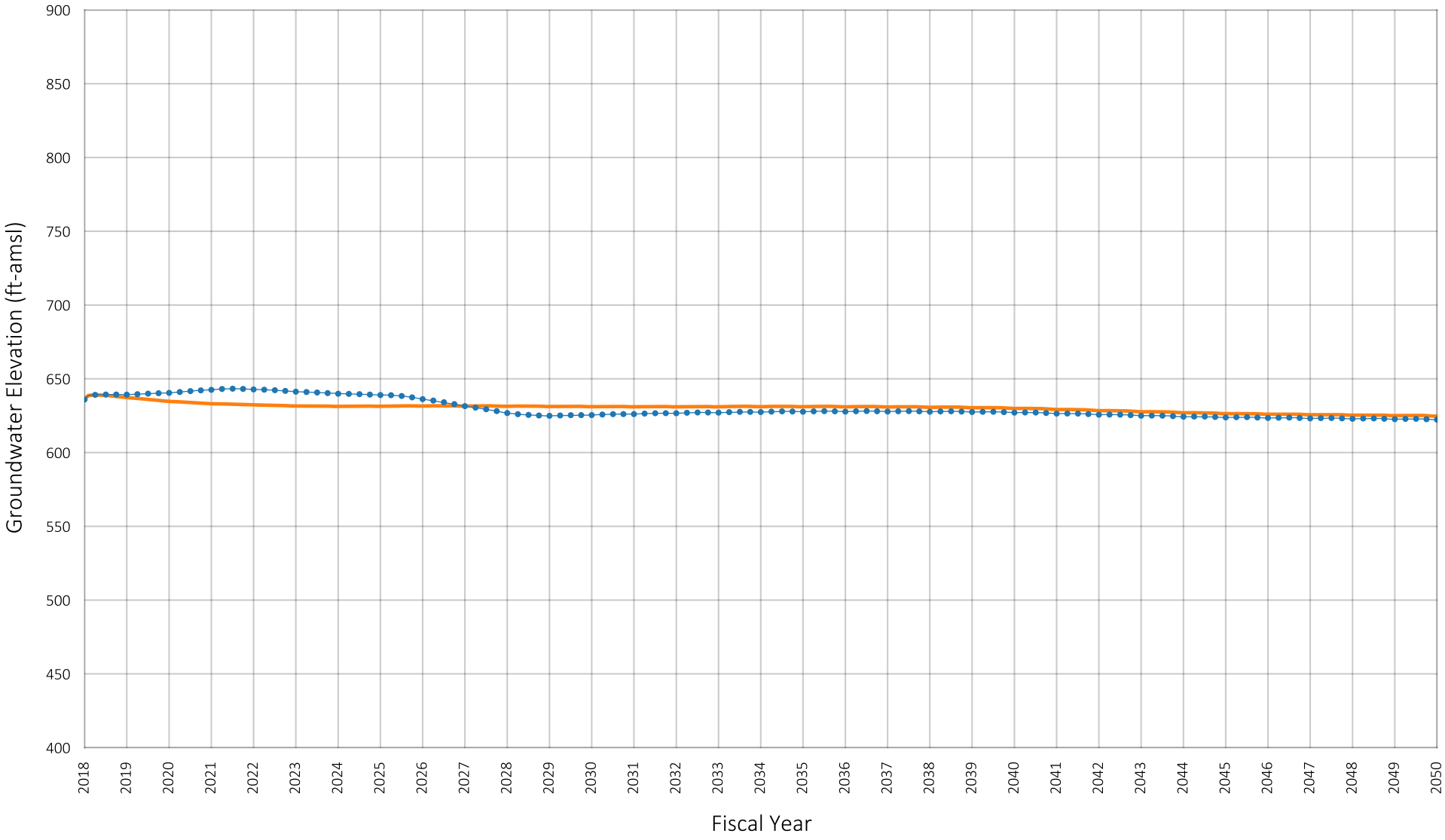
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1002531
Owner: City of Upland
Well Name: 8

Figure A-138



Location of Well in Chino Basin

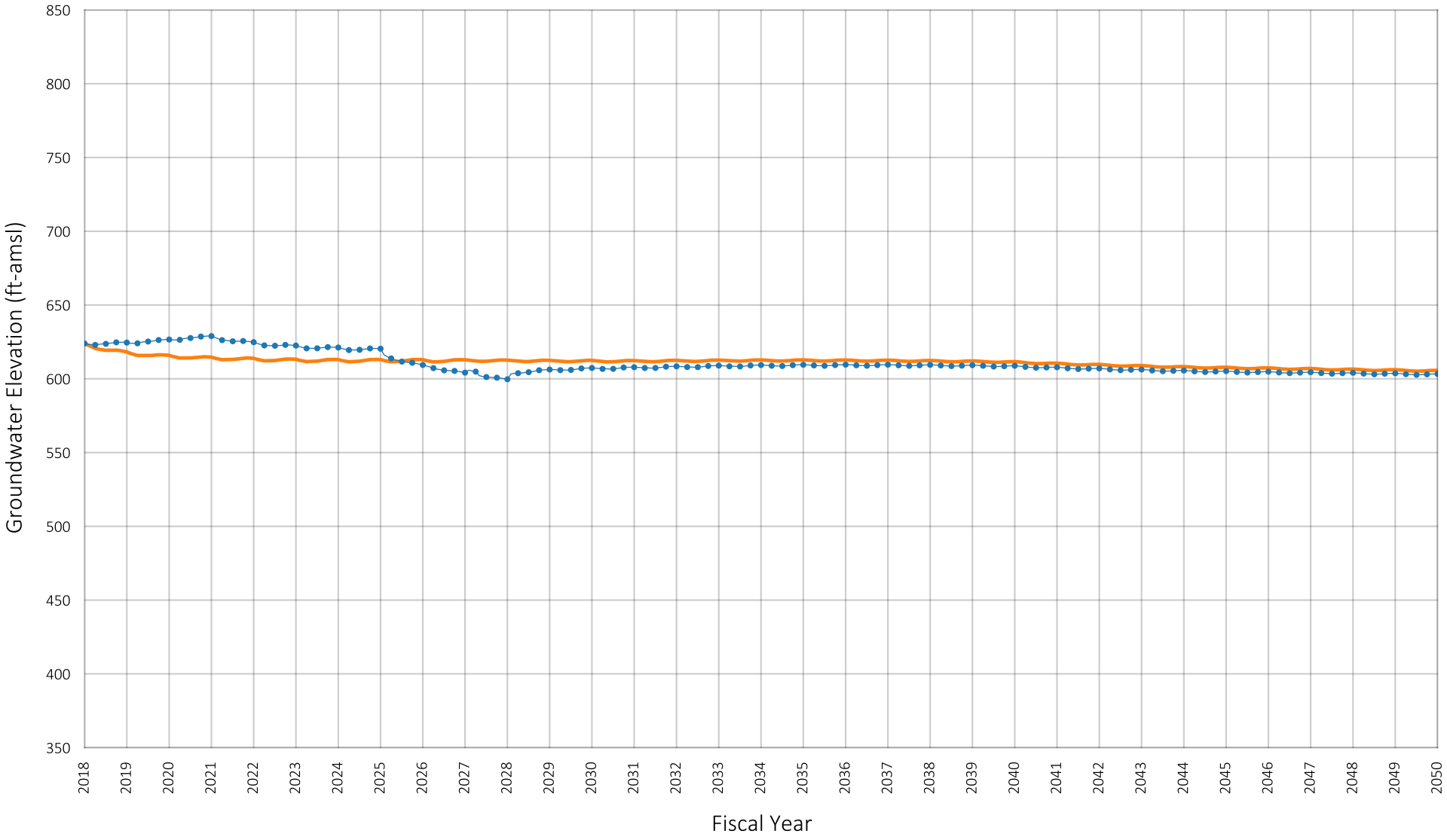
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1206654
Owner: City of Upland
Well Name: 20

Figure A-139



Location of Well in Chino Basin

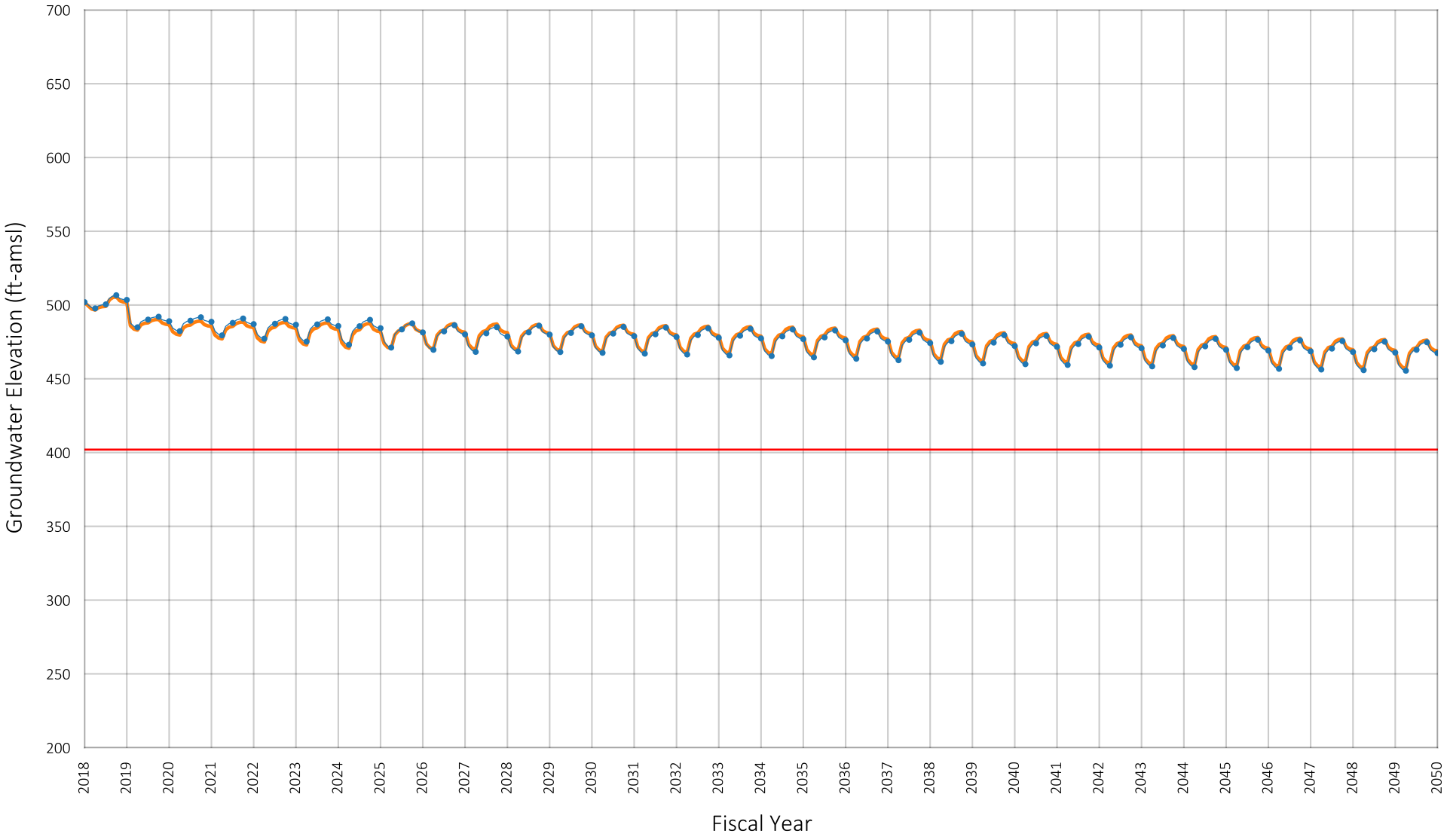
SYR1
LSLS

Projected Groundwater Elevation
Well ID#: 1207956
Owner: City of Upland
Well Name: 21A

Figure A-140

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

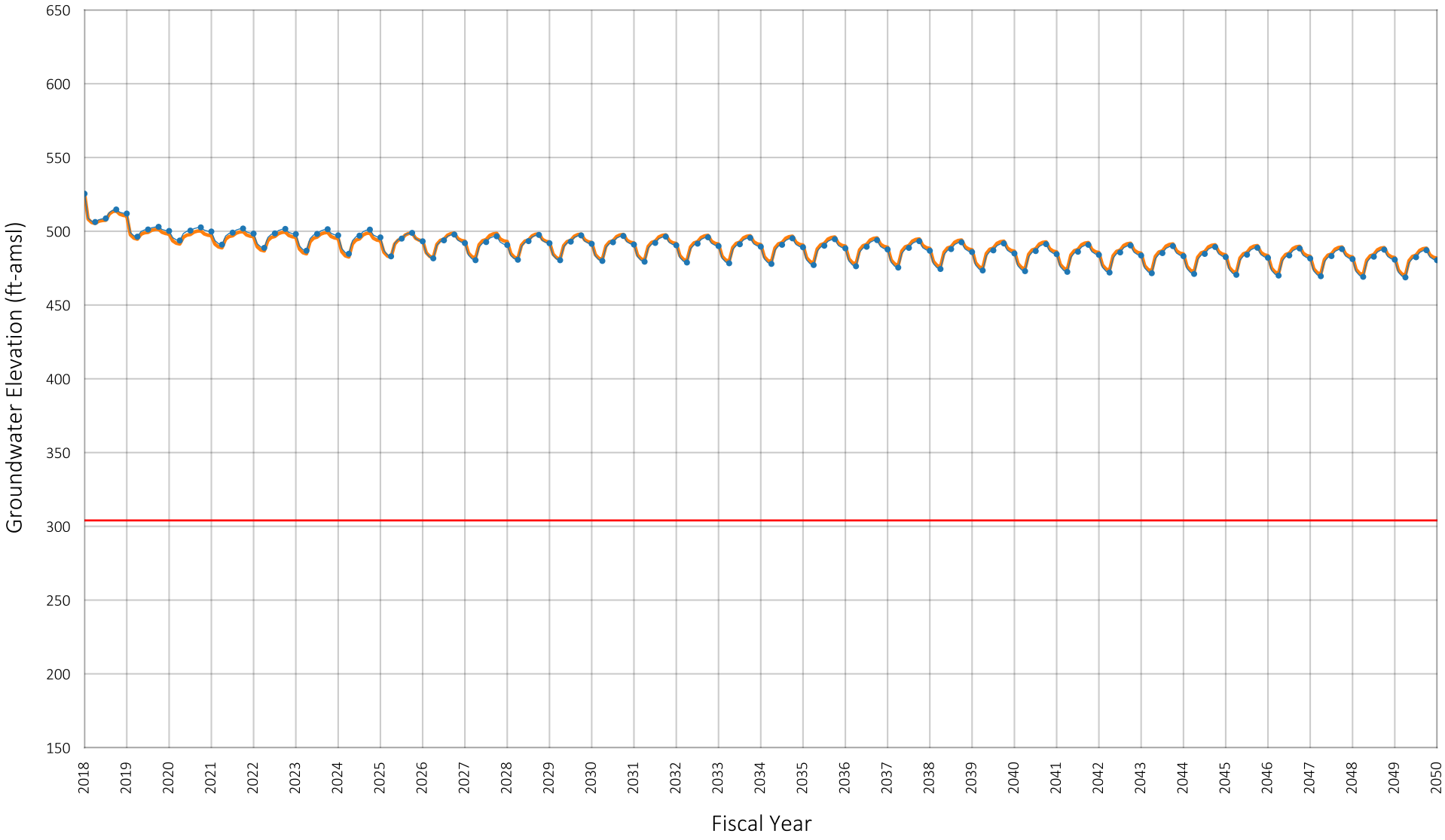
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206675
Owner: Chino Basin Desalter Authority
Well Name: I-1

Figure A-141

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

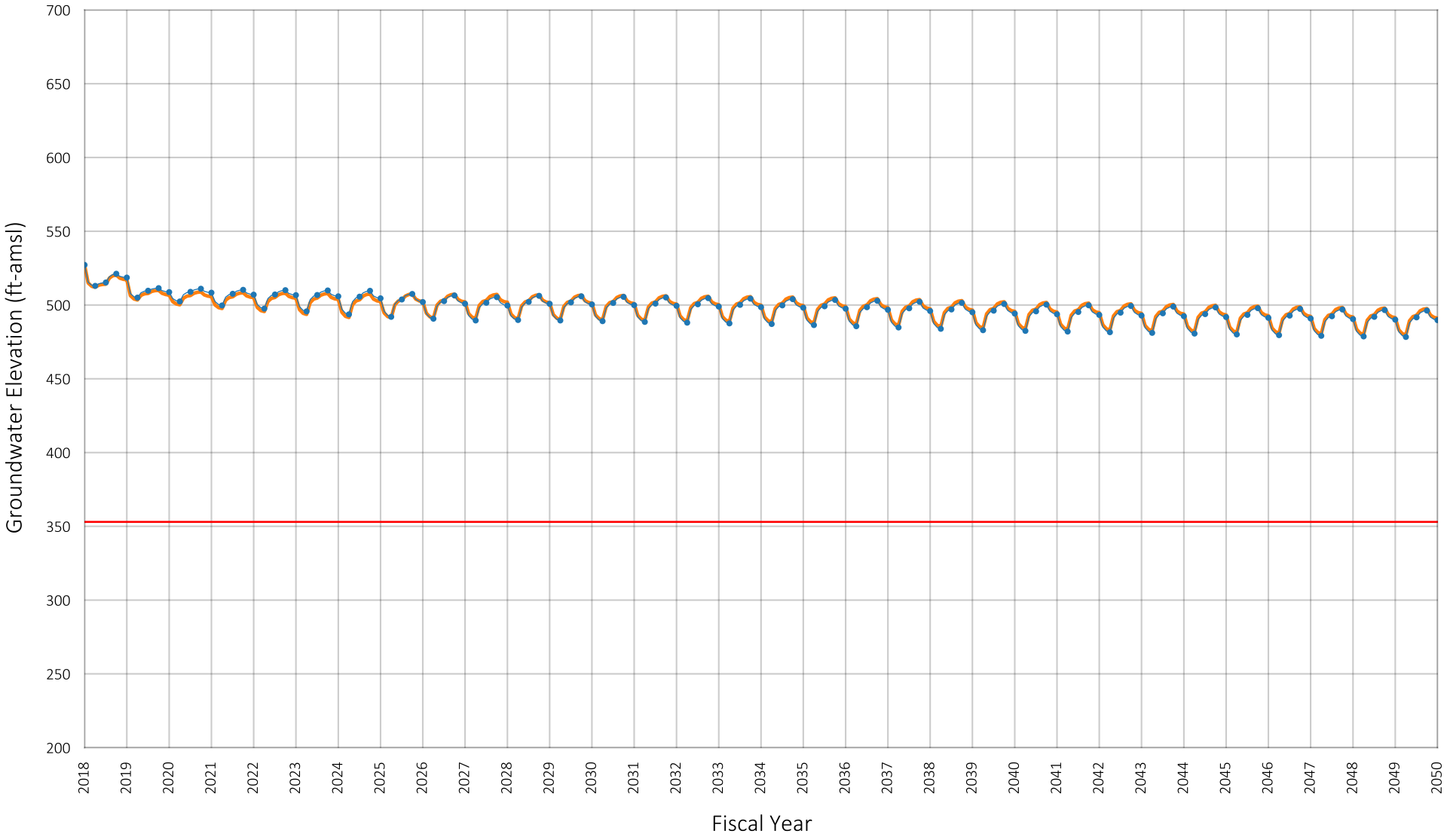
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206676
Owner: Chino Basin Desalter Authority
Well Name: I-2

Figure A-142

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

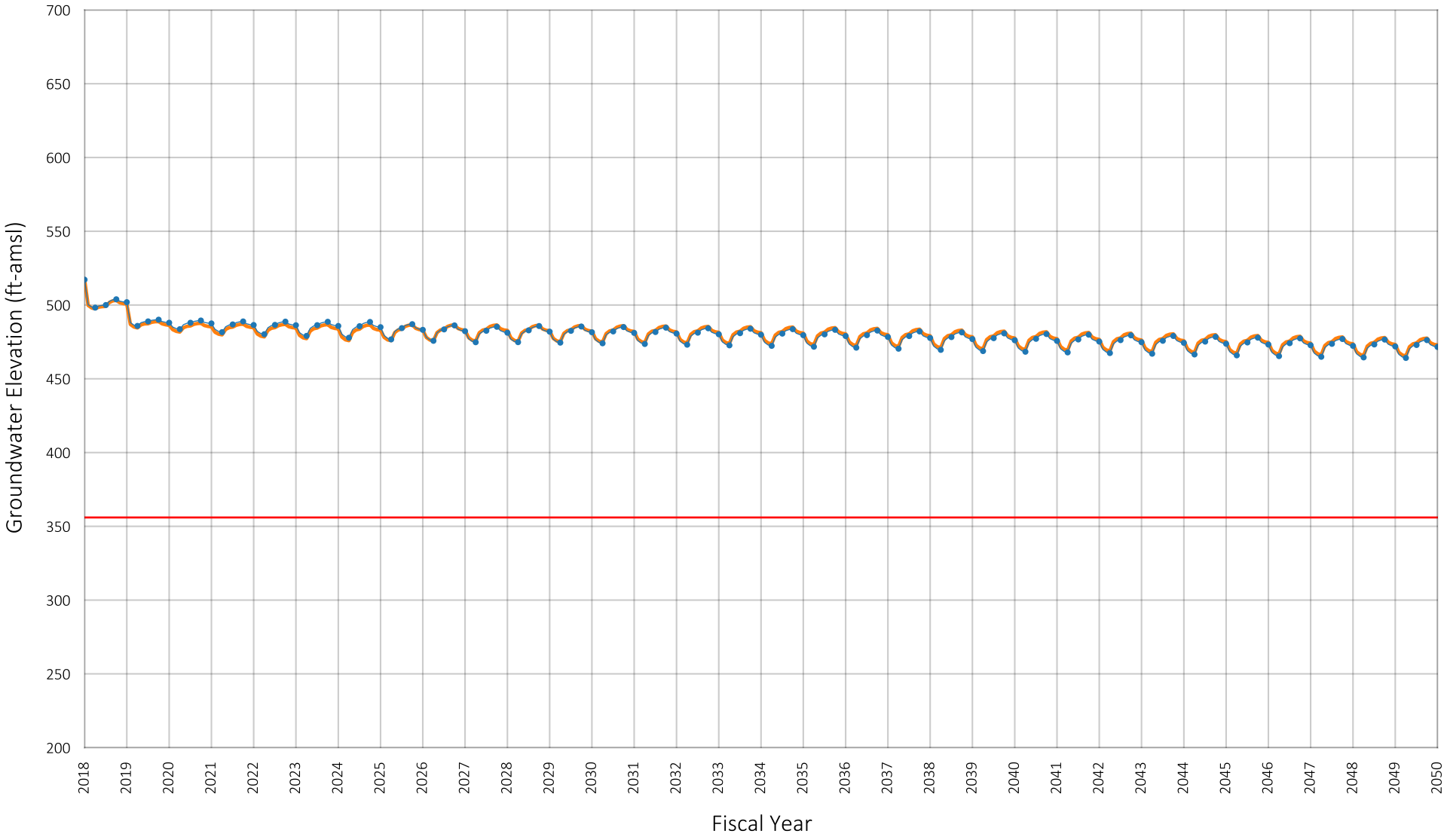
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206677
Owner: Chino Basin Desalter Authority
Well Name: I-3

Figure A-143

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

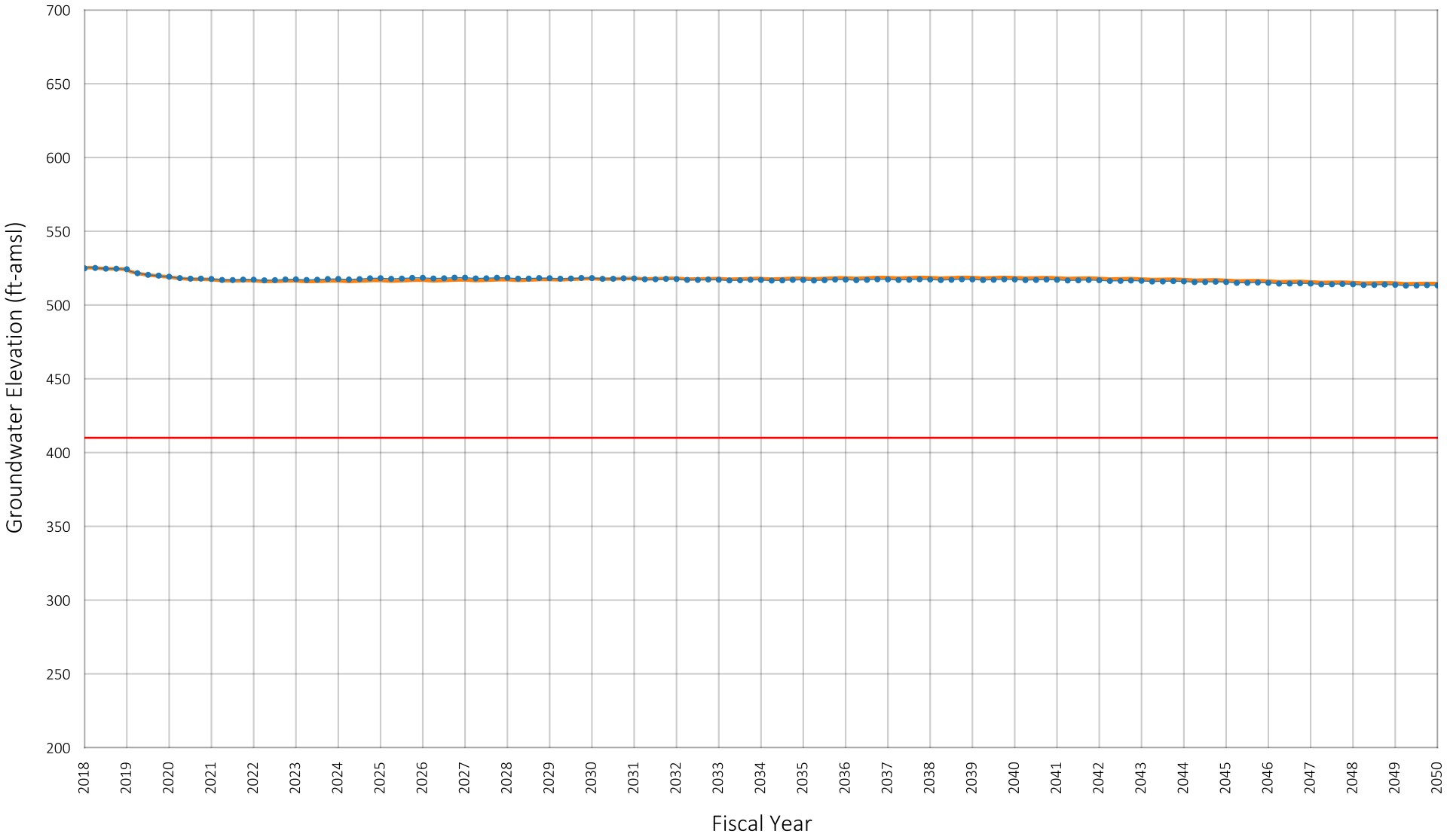
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206678
Owner: Chino Basin Desalter Authority
Well Name: I-4

Figure A-144

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

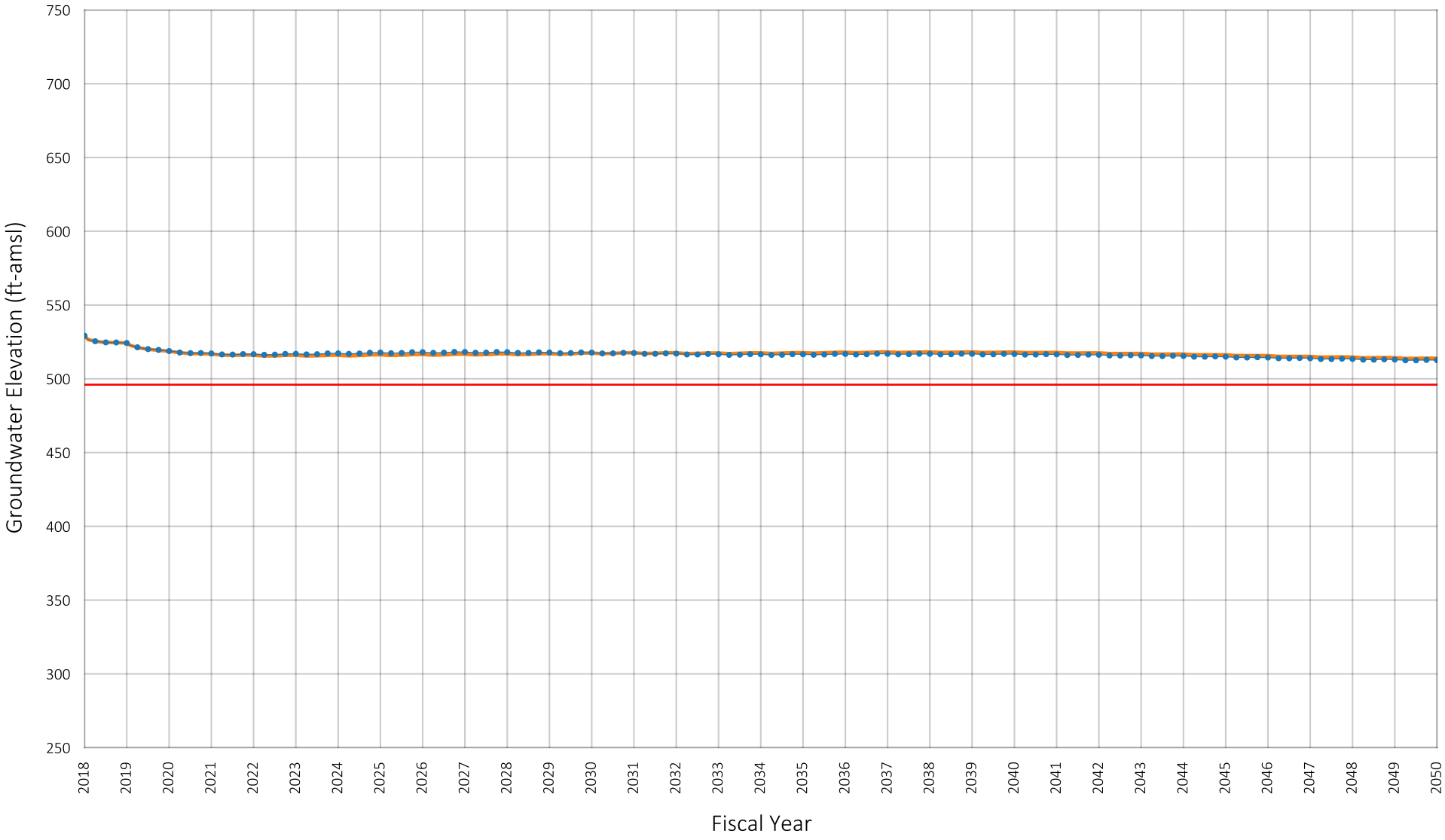
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206679
Owner: Chino Basin Desalter Authority
Well Name: I-5

Figure A-145

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

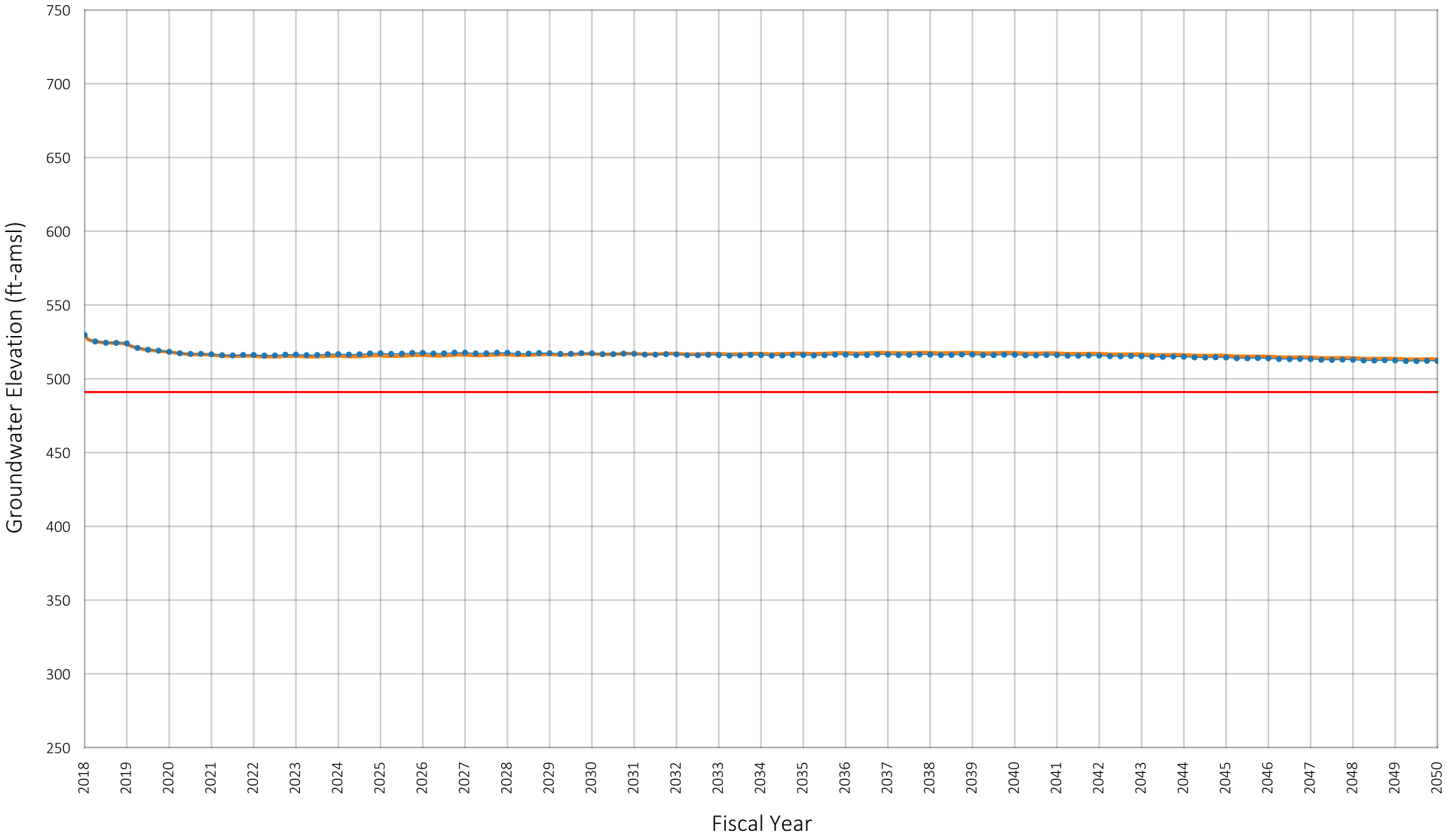
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206684
Owner: Chino Basin Desalter Authority
Well Name: I-6

Figure A-146

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

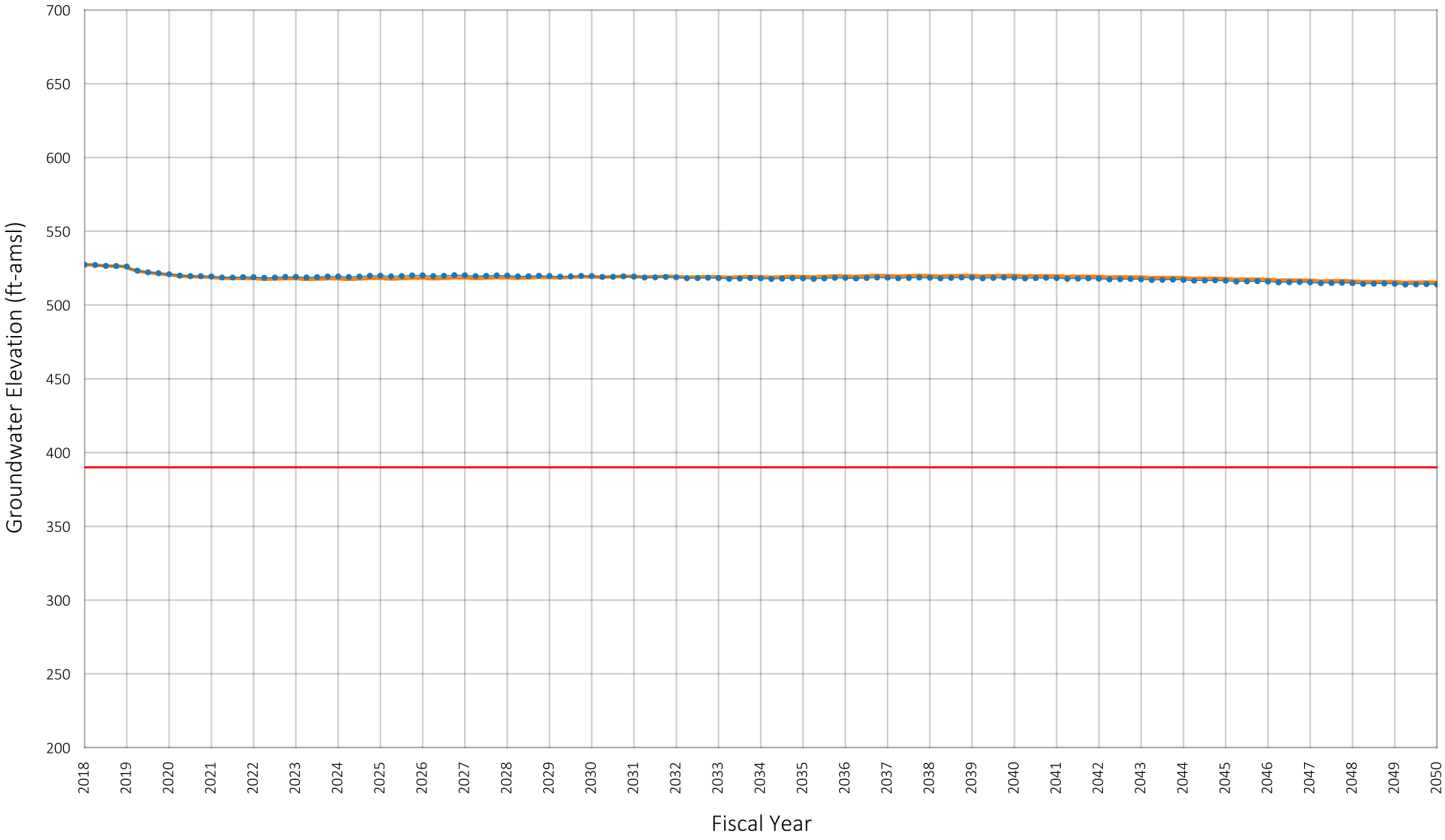
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206685
Owner: Chino Basin Desalter Authority
Well Name: I-7

Figure A-147

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

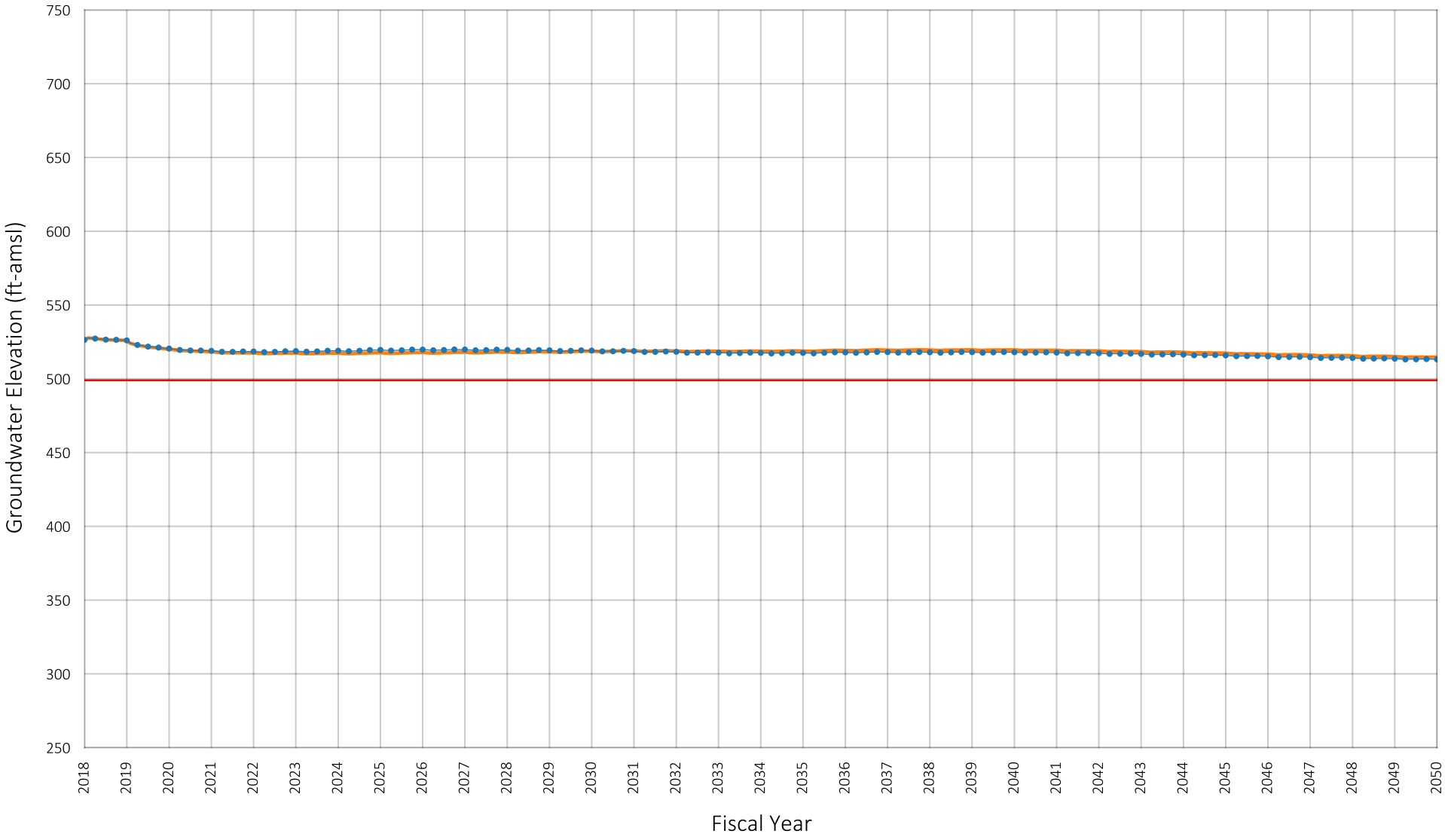
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206680
Owner: Chino Basin Desalter Authority
Well Name: I-8

Figure A-148

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

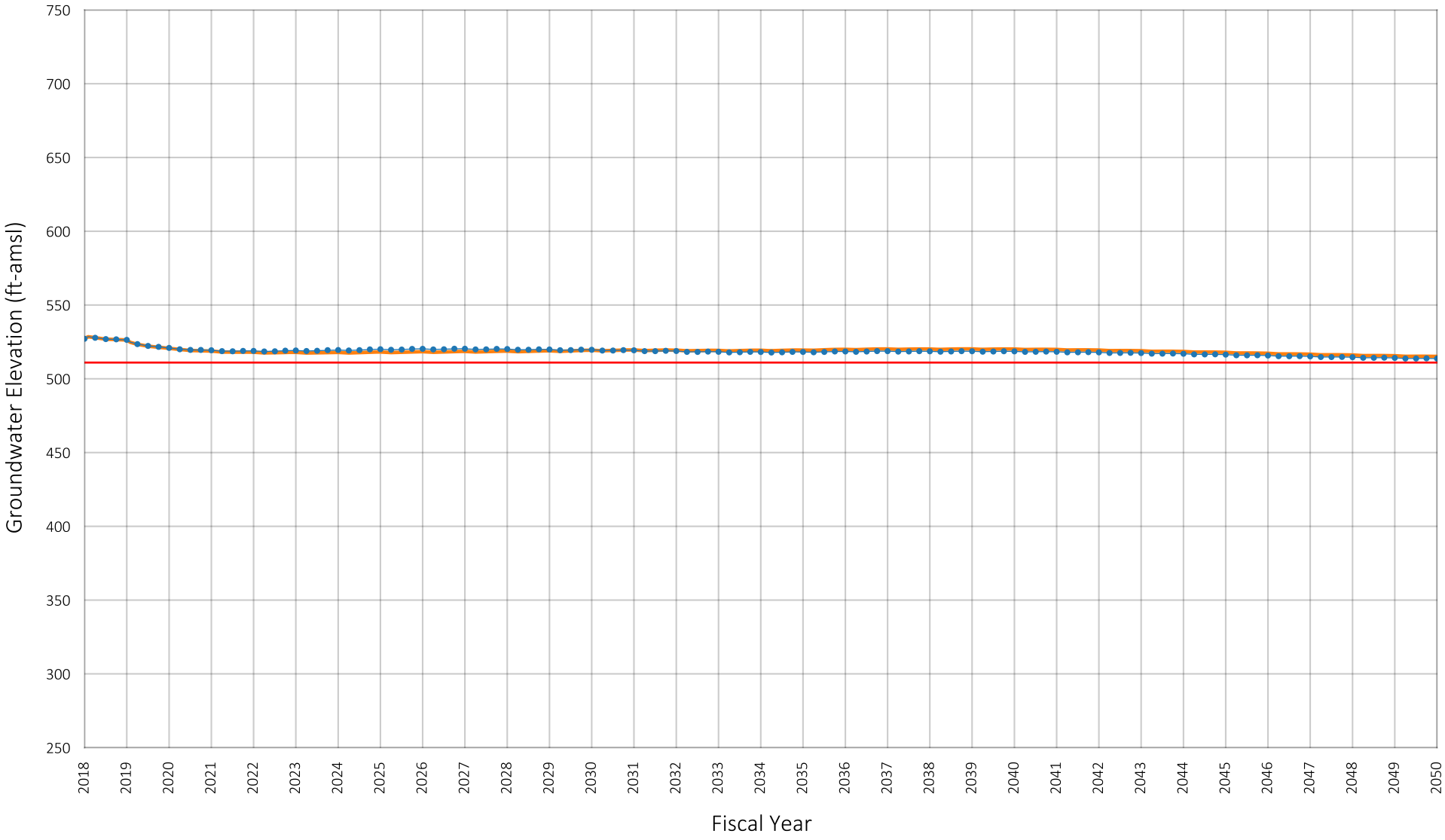
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206681
Owner: Chino Basin Desalter Authority
Well Name: I-9

Figure A-149

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

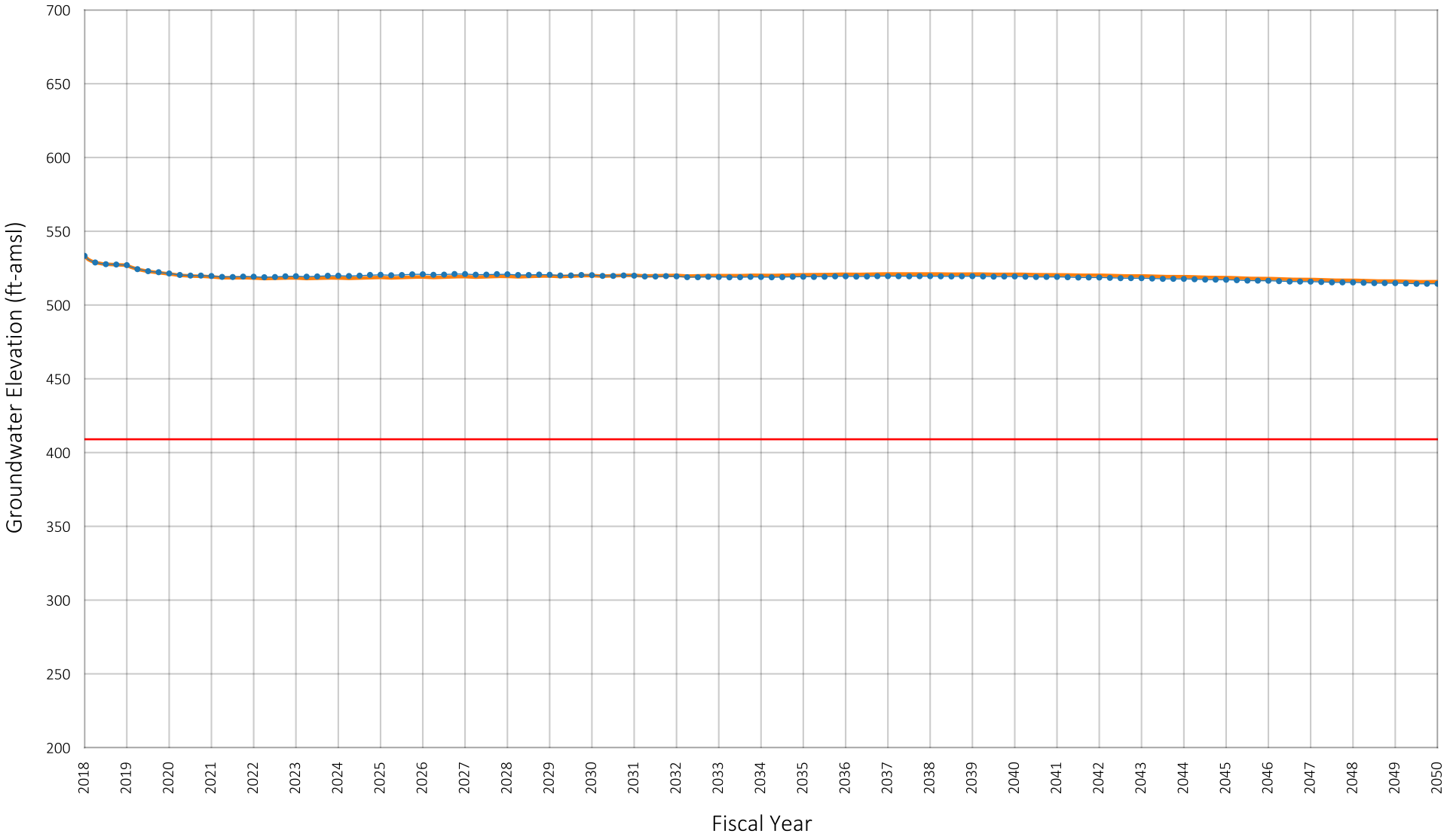
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206682
Owner: Chino Basin Desalter Authority
Well Name: I-10

Figure A-150

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

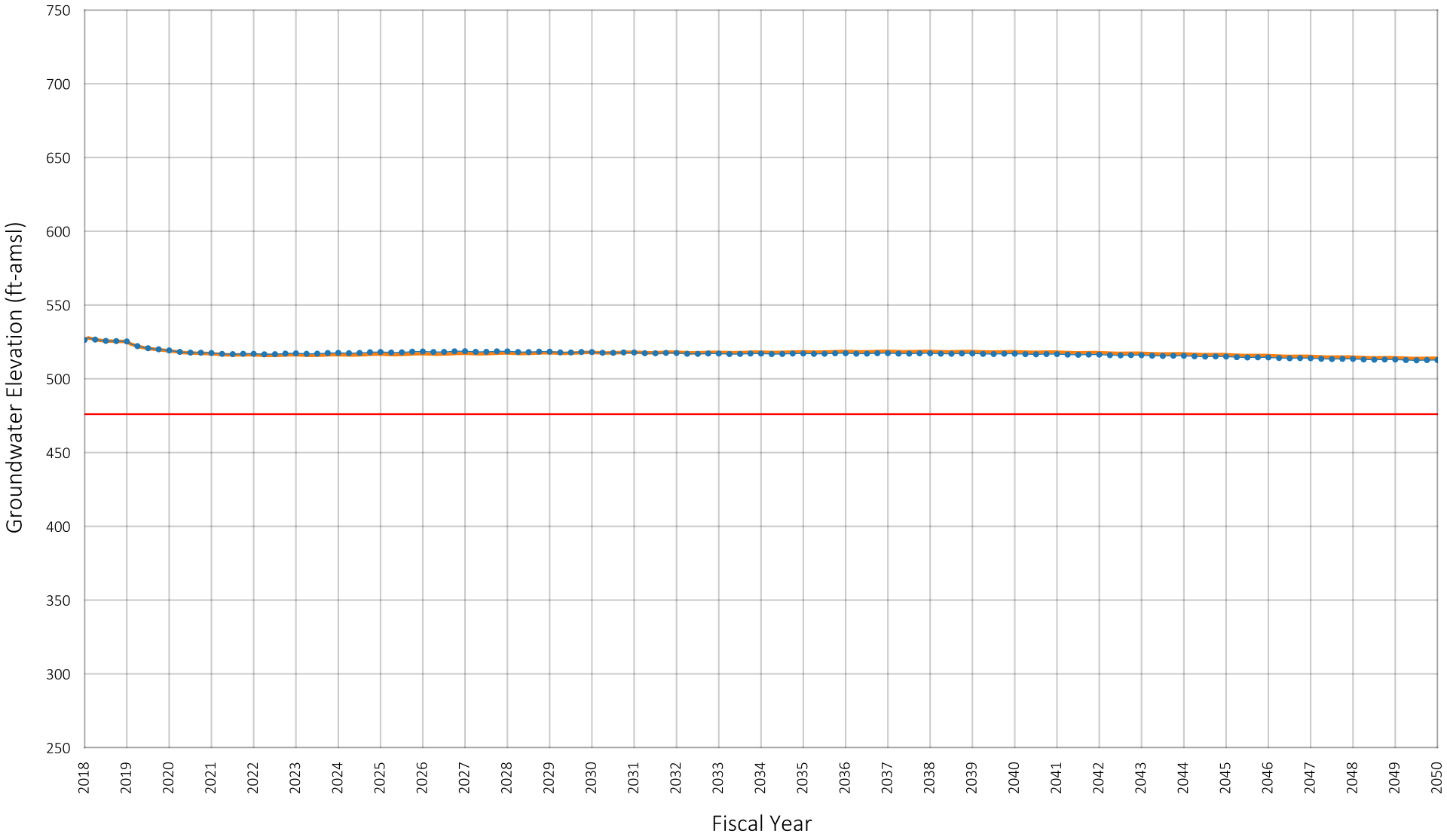
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206683
Owner: Chino Basin Desalter Authority
Well Name: I-11

Figure A-151

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

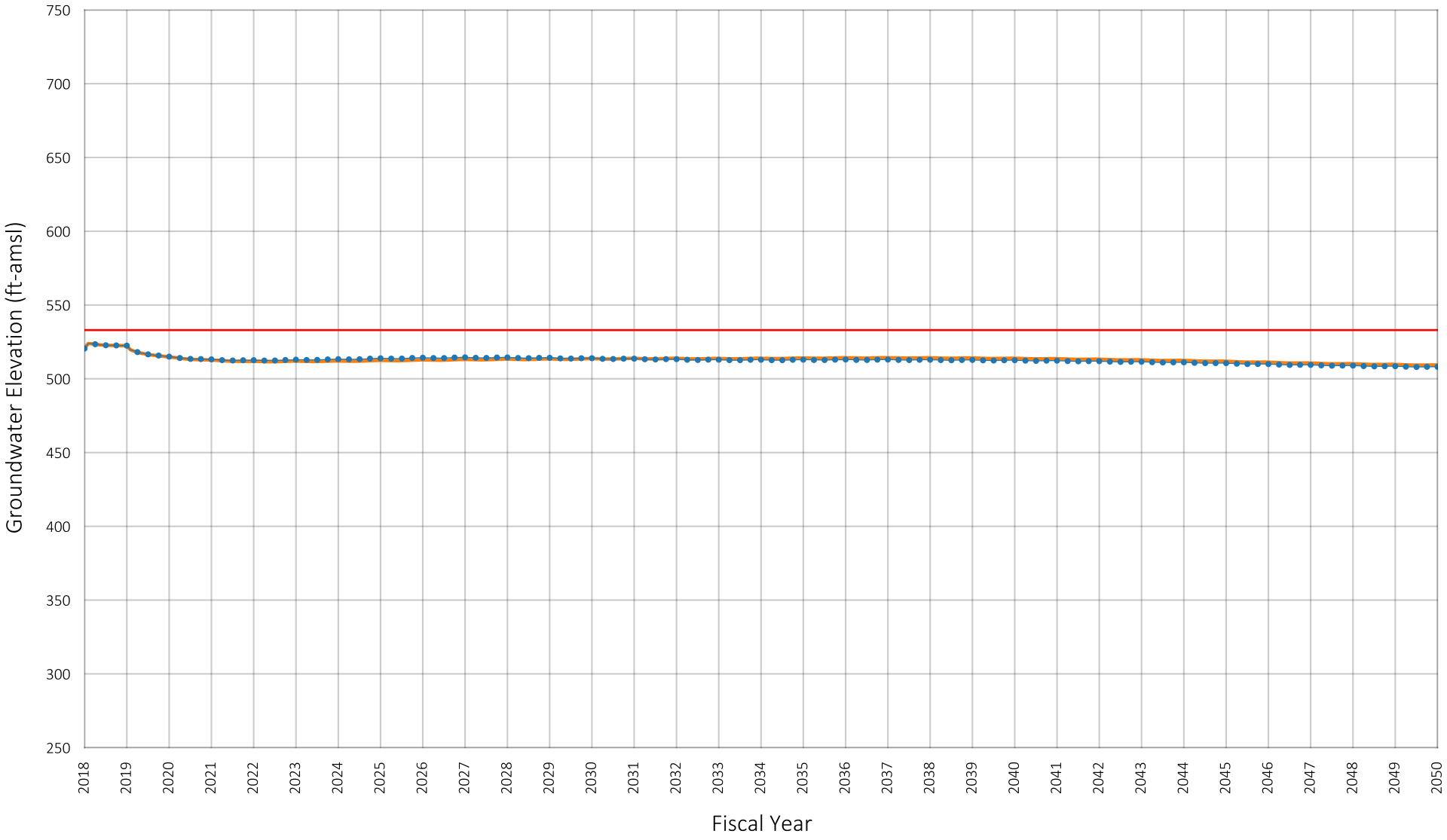
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206958
Owner: Chino Basin Desalter Authority
Well Name: I-13

Figure A-152

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

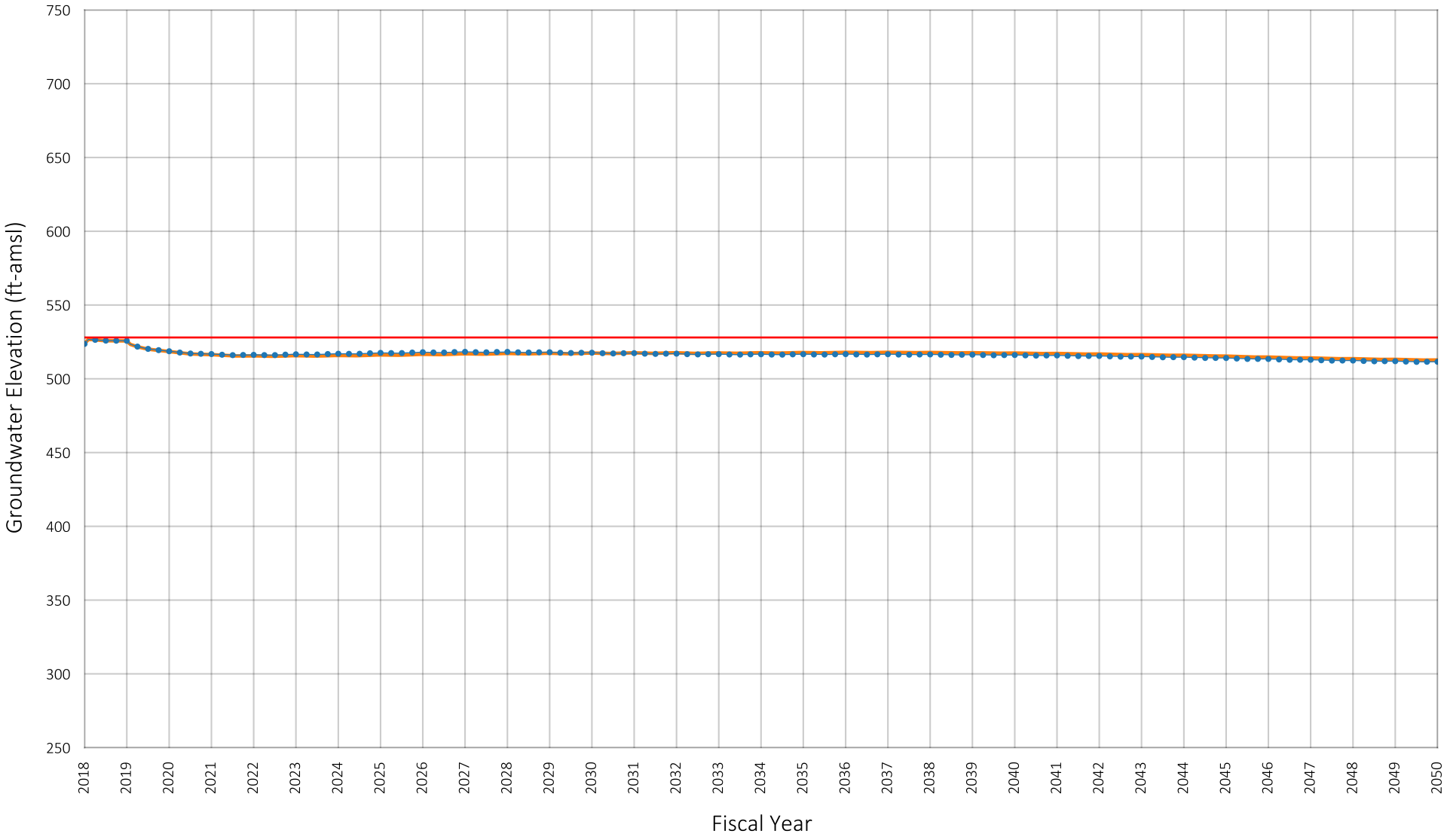
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206959
Owner: Chino Basin Desalter Authority
Well Name: I-14

Figure A-153

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

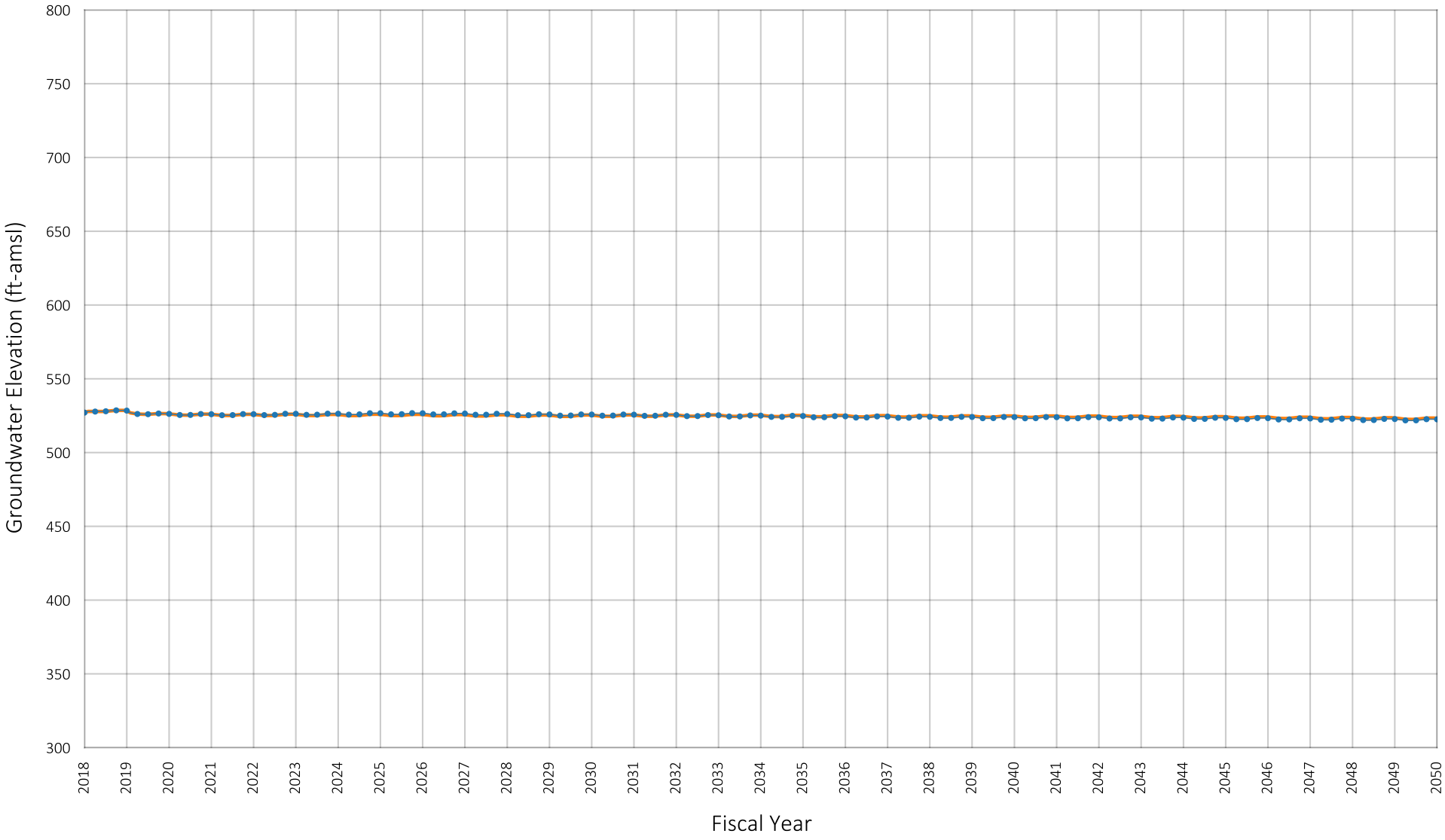
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206960
Owner: Chino Basin Desalter Authority
Well Name: I-15

Figure A-154

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

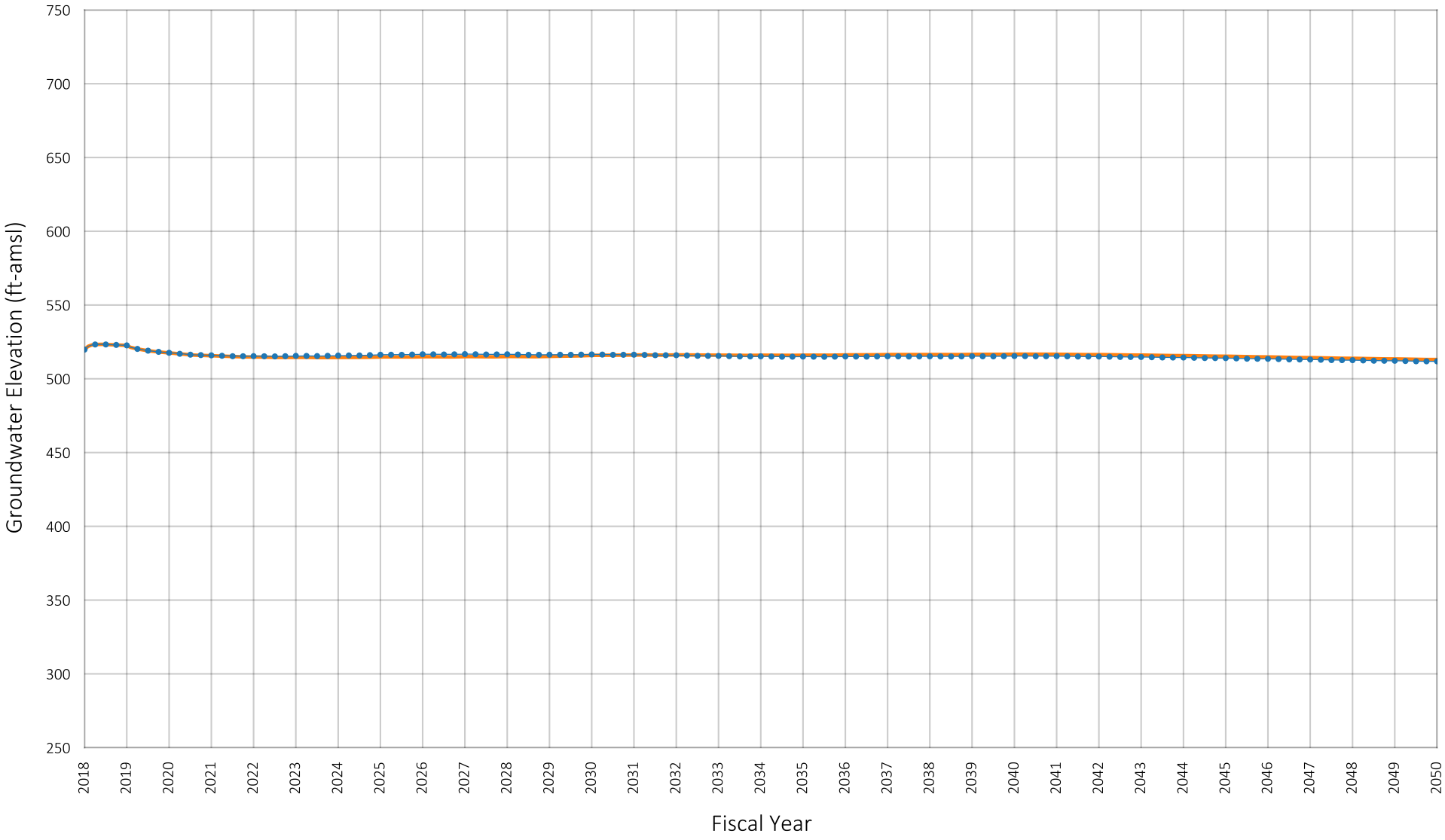
SYR1
LSLS

Projected Groundwater Elevation
Well ID#: 1222970
Owner: Chino Basin Desalter Authority
Well Name: I-16

Figure A-155

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

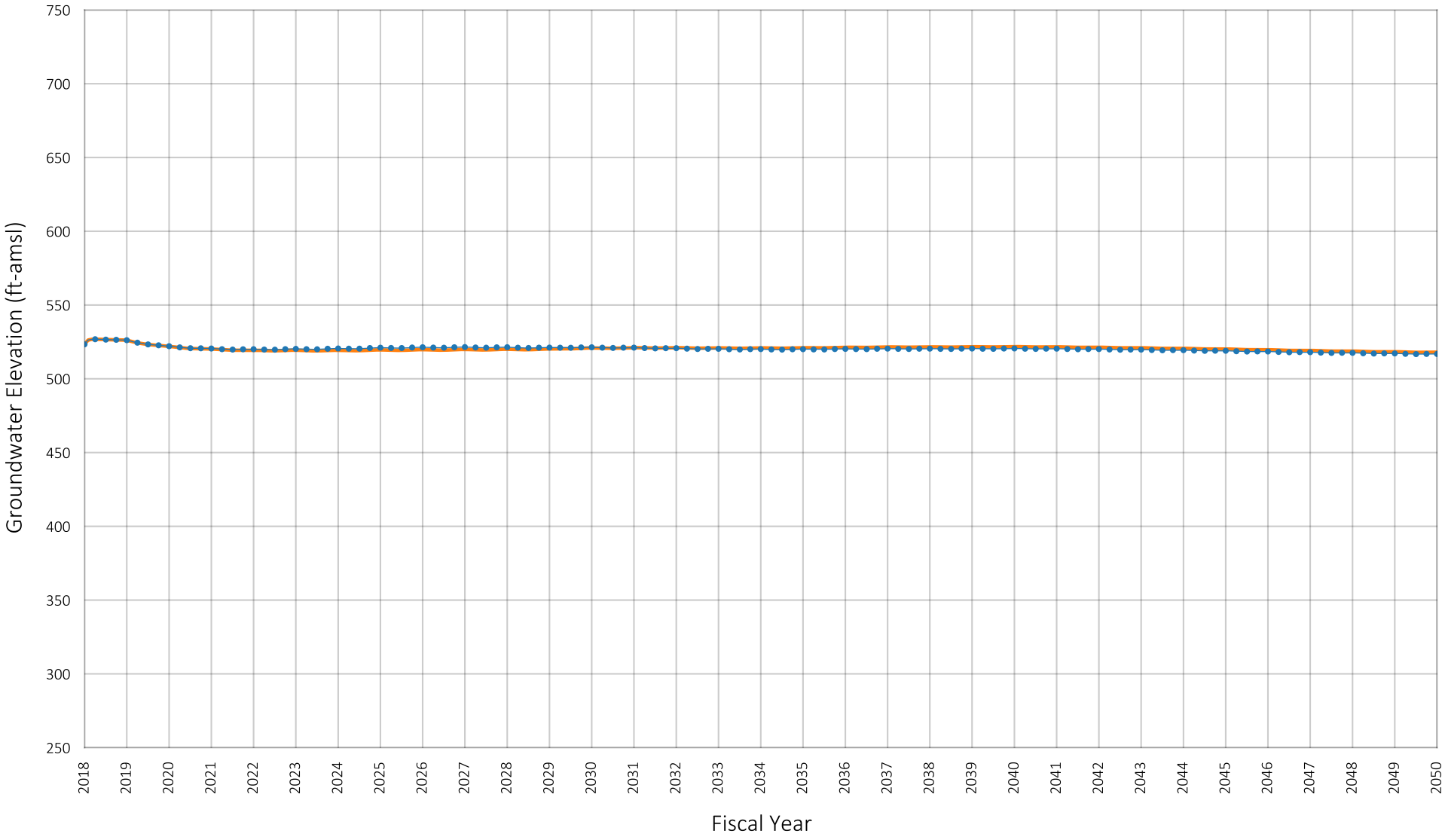
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1224801
Owner: Chino Basin Desalter Authority
Well Name: I-20

Figure A-156



Location of Well in Chino Basin

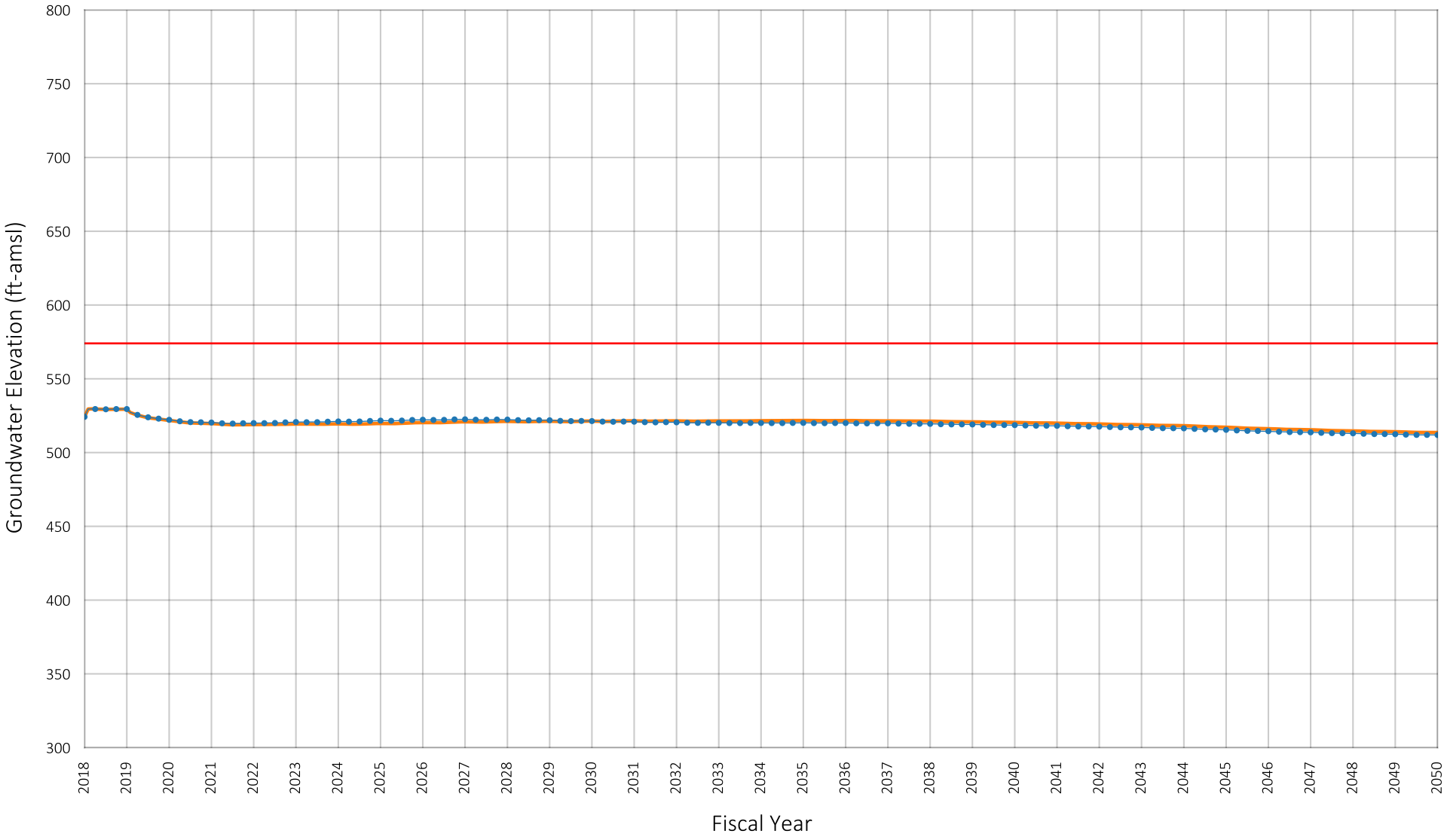
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1224812
Owner: Chino Basin Desalter Authority
Well Name: I-21

Figure A-157



Location of Well in Chino Basin

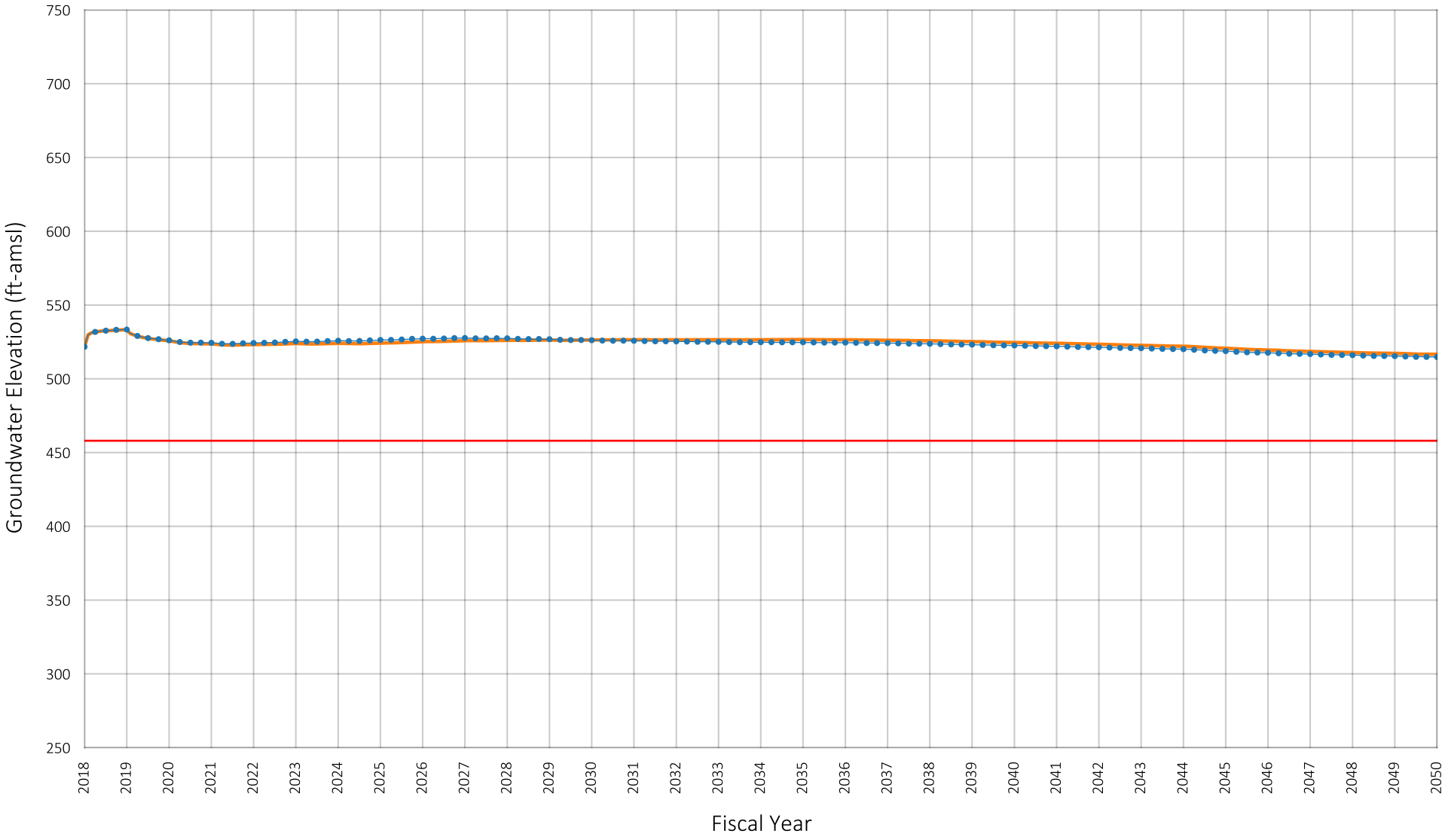
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206961
Owner: Chino Basin Desalter Authority
Well Name: II-1

Figure A-158

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

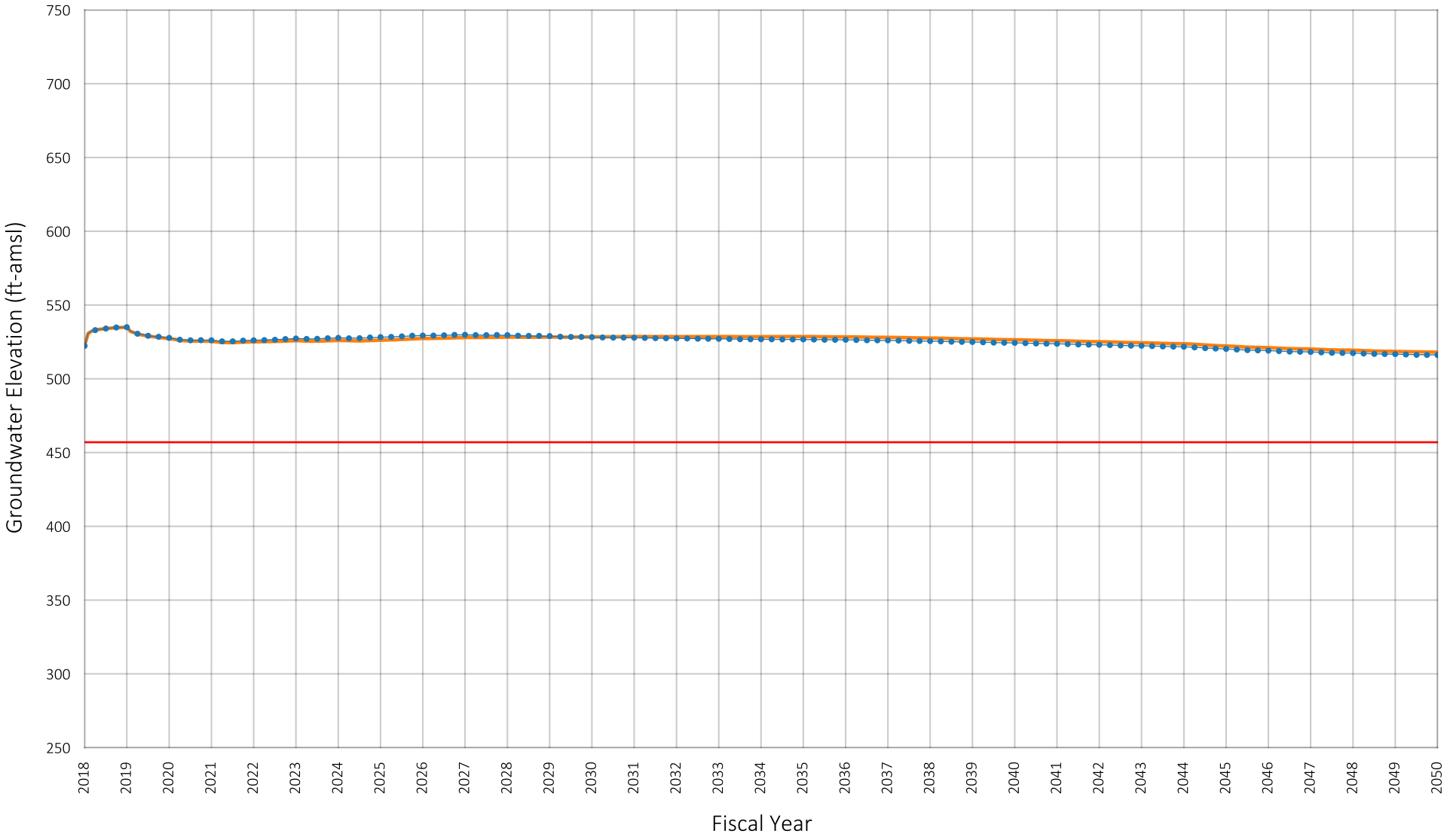
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206962
Owner: Chino Basin Desalter Authority
Well Name: II-2

Figure A-159

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

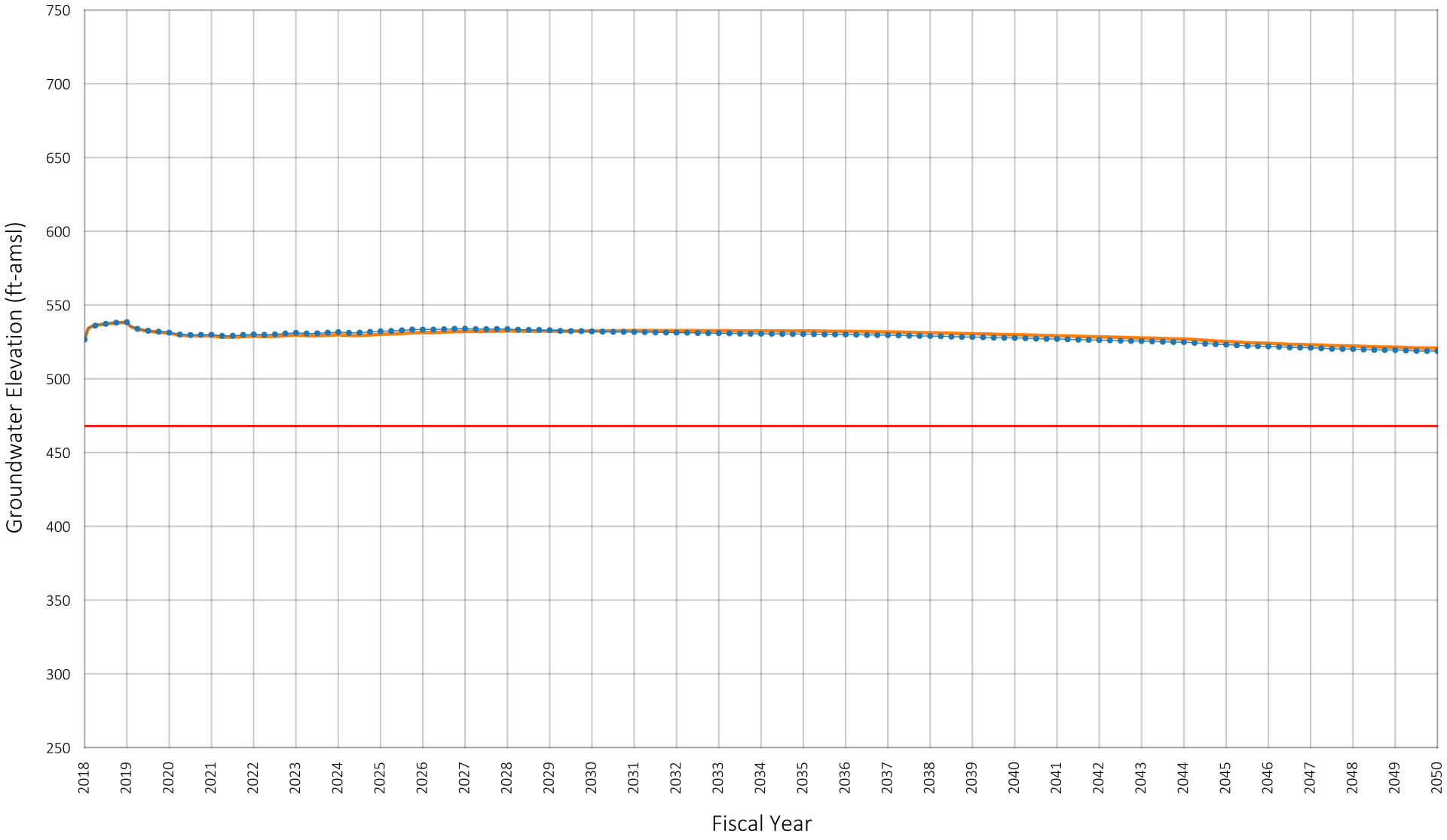
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206963
Owner: Chino Basin Desalter Authority
Well Name: II-3

Figure A-160

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

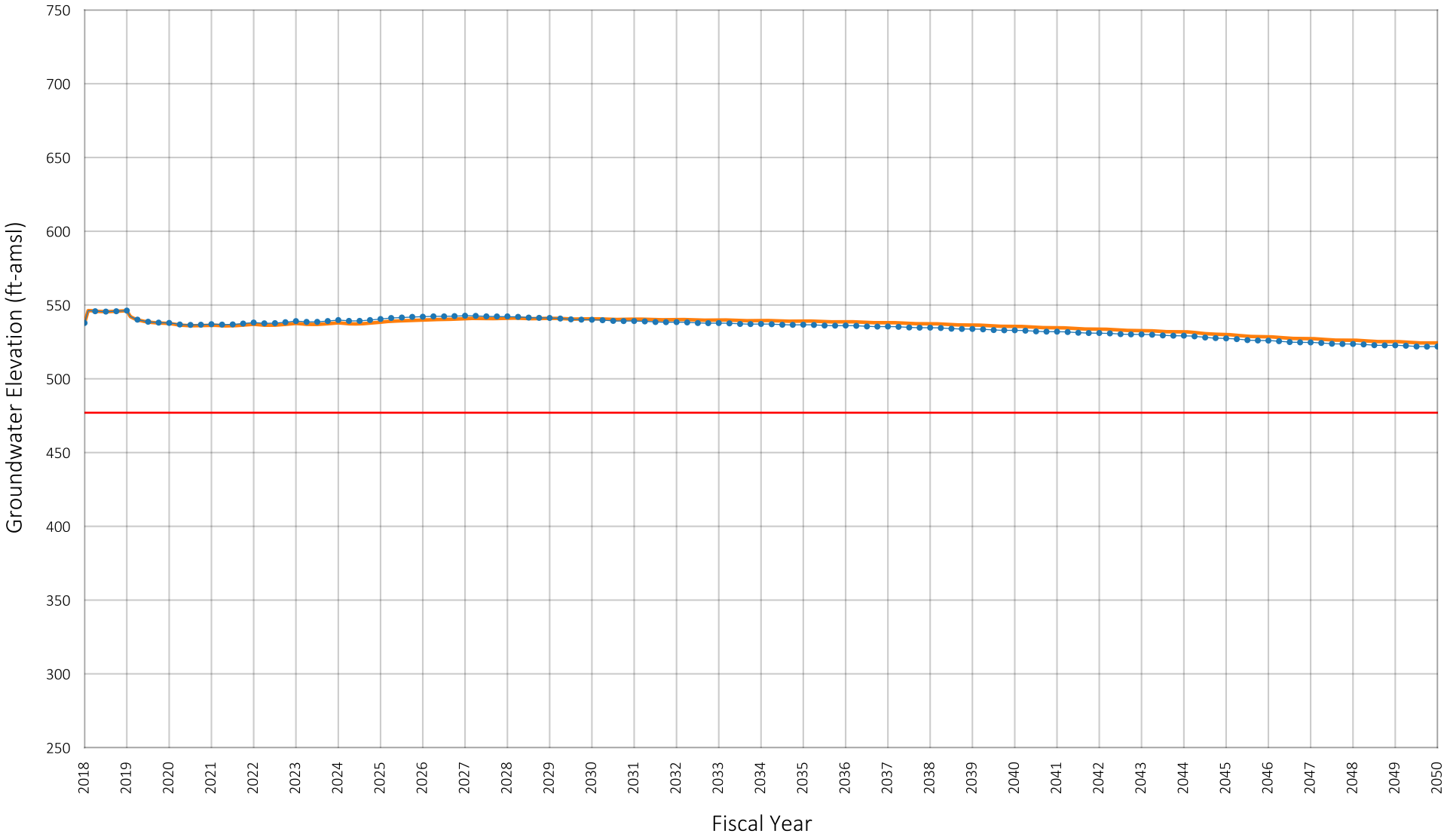
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206964
Owner: Chino Basin Desalter Authority
Well Name: II-4

Figure A-161

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

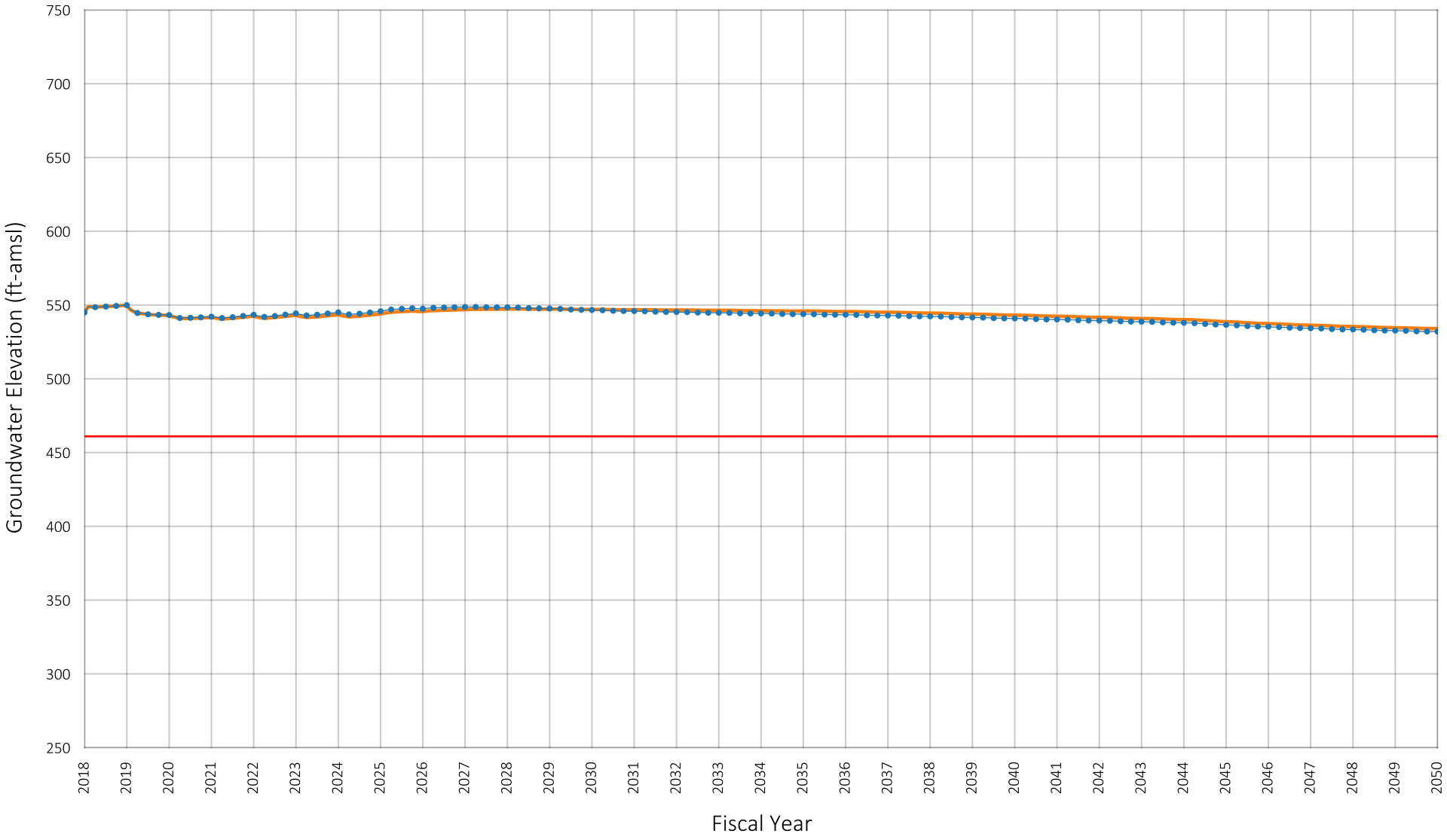
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206966
Owner: Chino Basin Desalter Authority
Well Name: II-6

Figure A-162

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

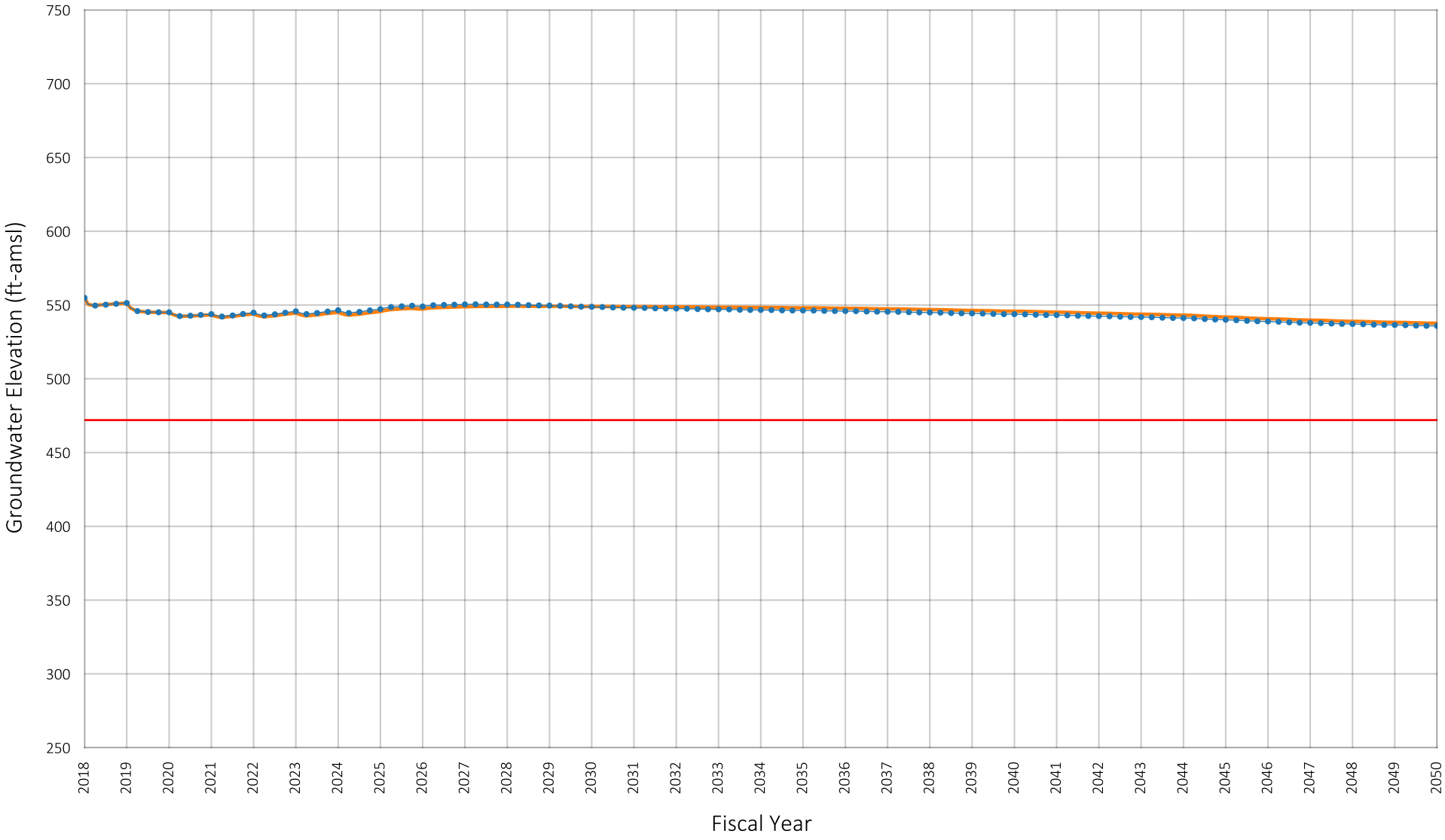
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206967
Owner: Chino Basin Desalter Authority
Well Name: II-7

Figure A-163

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

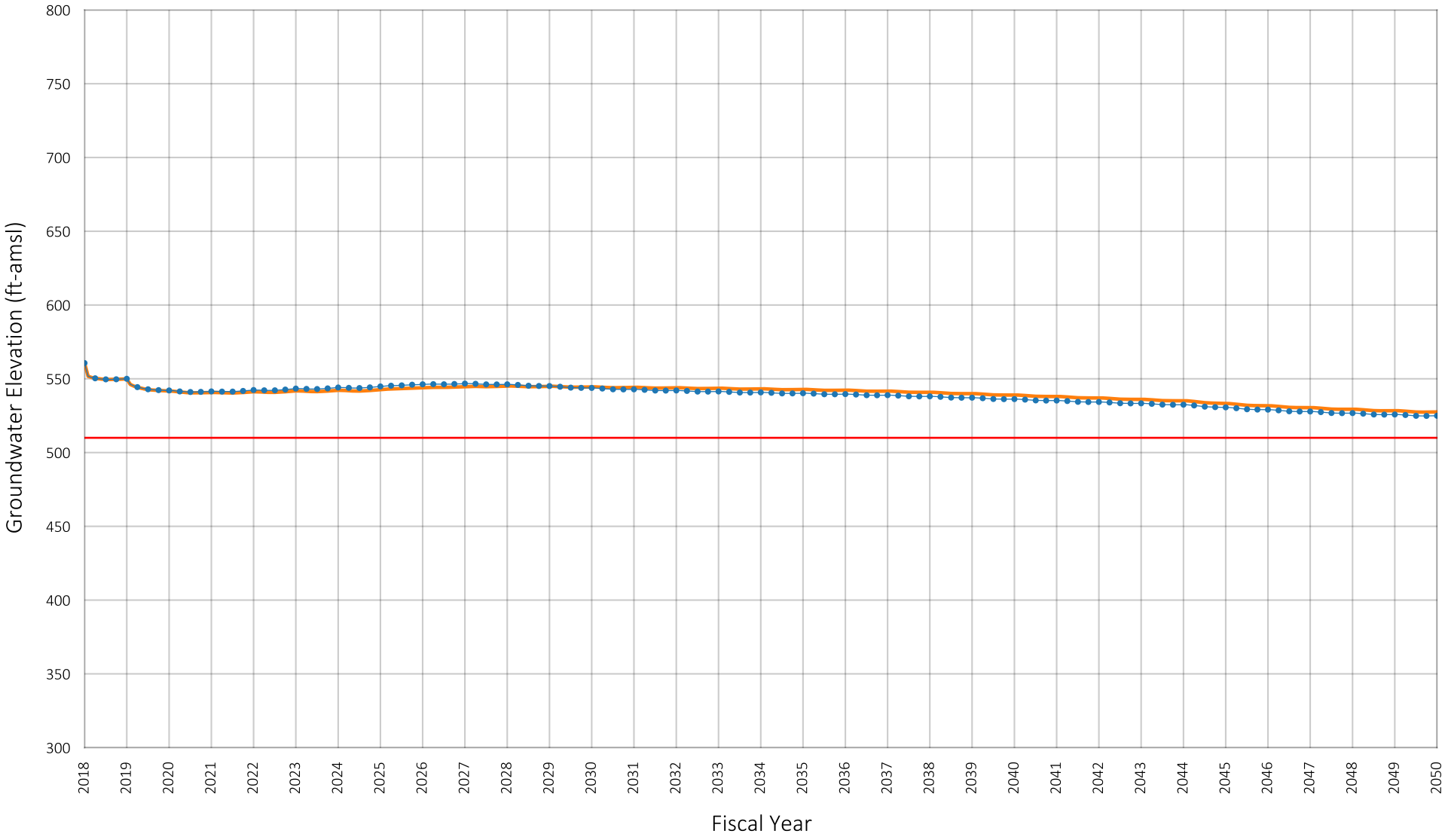
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206968
Owner: Chino Basin Desalter Authority
Well Name: II-8

Figure A-164

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

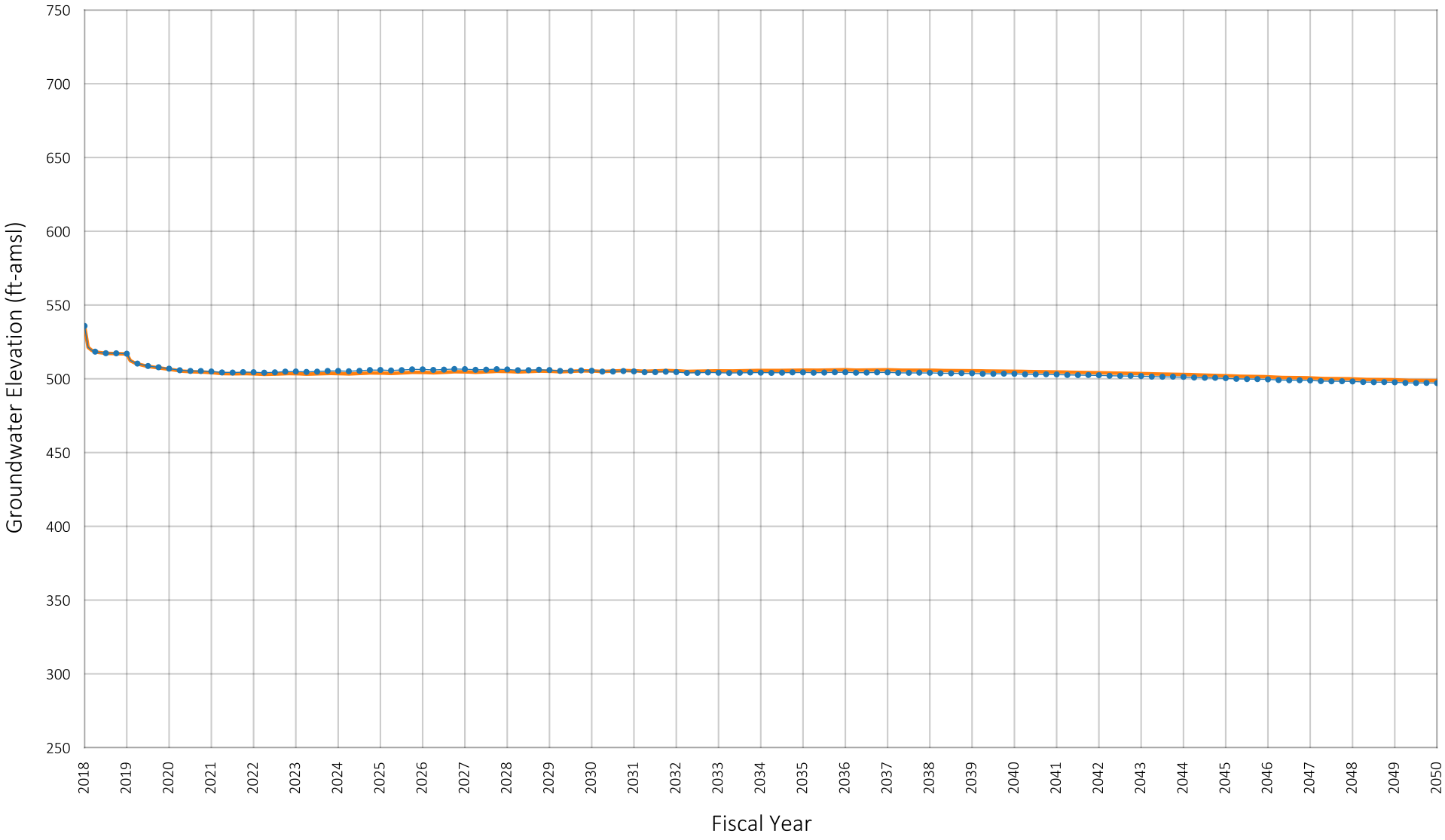
SYR1
LSLS
Pumping Sustainability Metric Elevation

Projected Groundwater Elevation
Well ID#: 1206969
Owner: Chino Basin Desalter Authority
Well Name: II-9A

Figure A-165

Prepared by:

WEST YOST
Water. Engineered.



Location of Well in Chino Basin

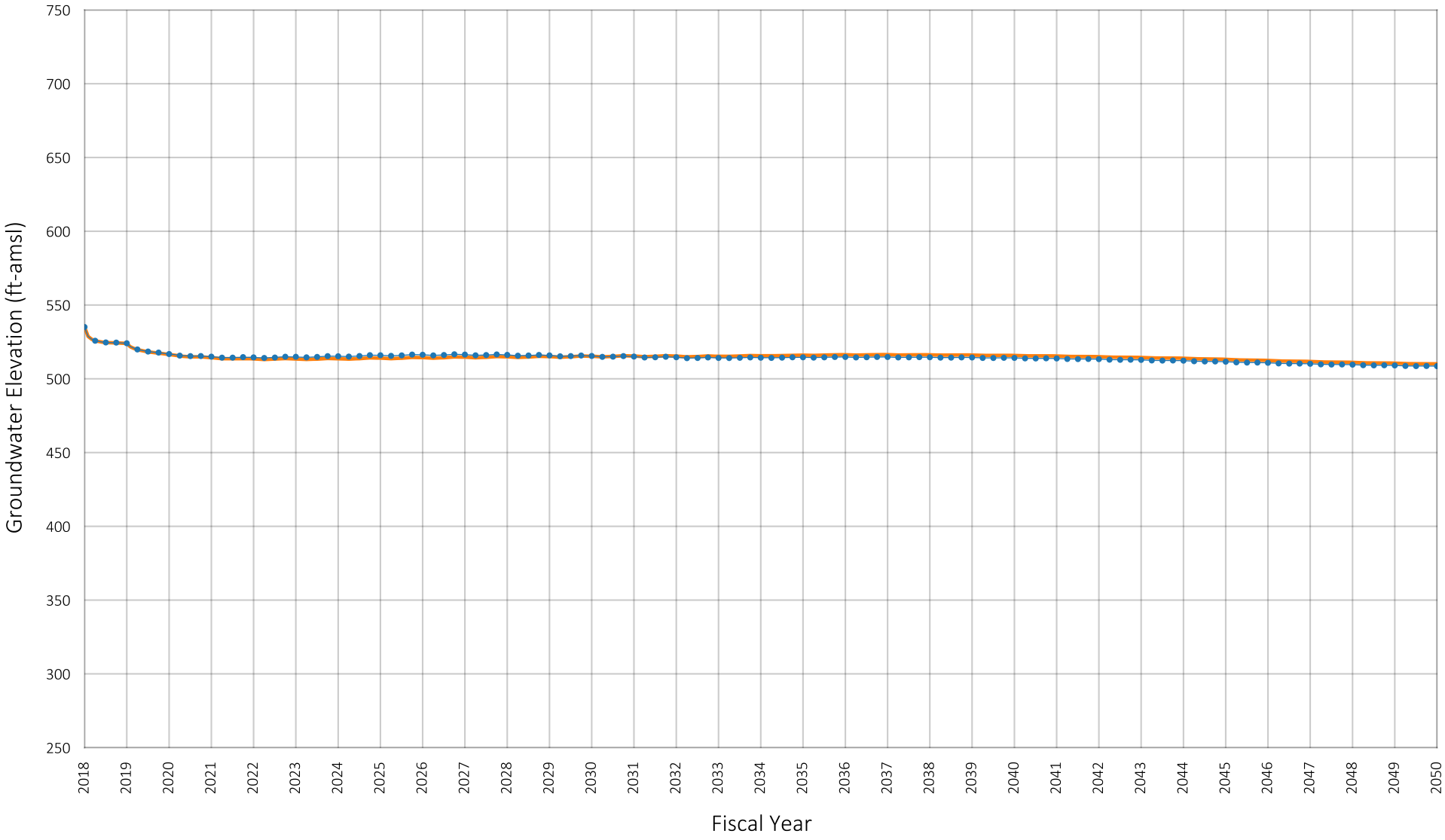
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1234064
Owner: Chino Basin Desalter Authority
Well Name: II-10

Figure A-166



Location of Well in Chino Basin

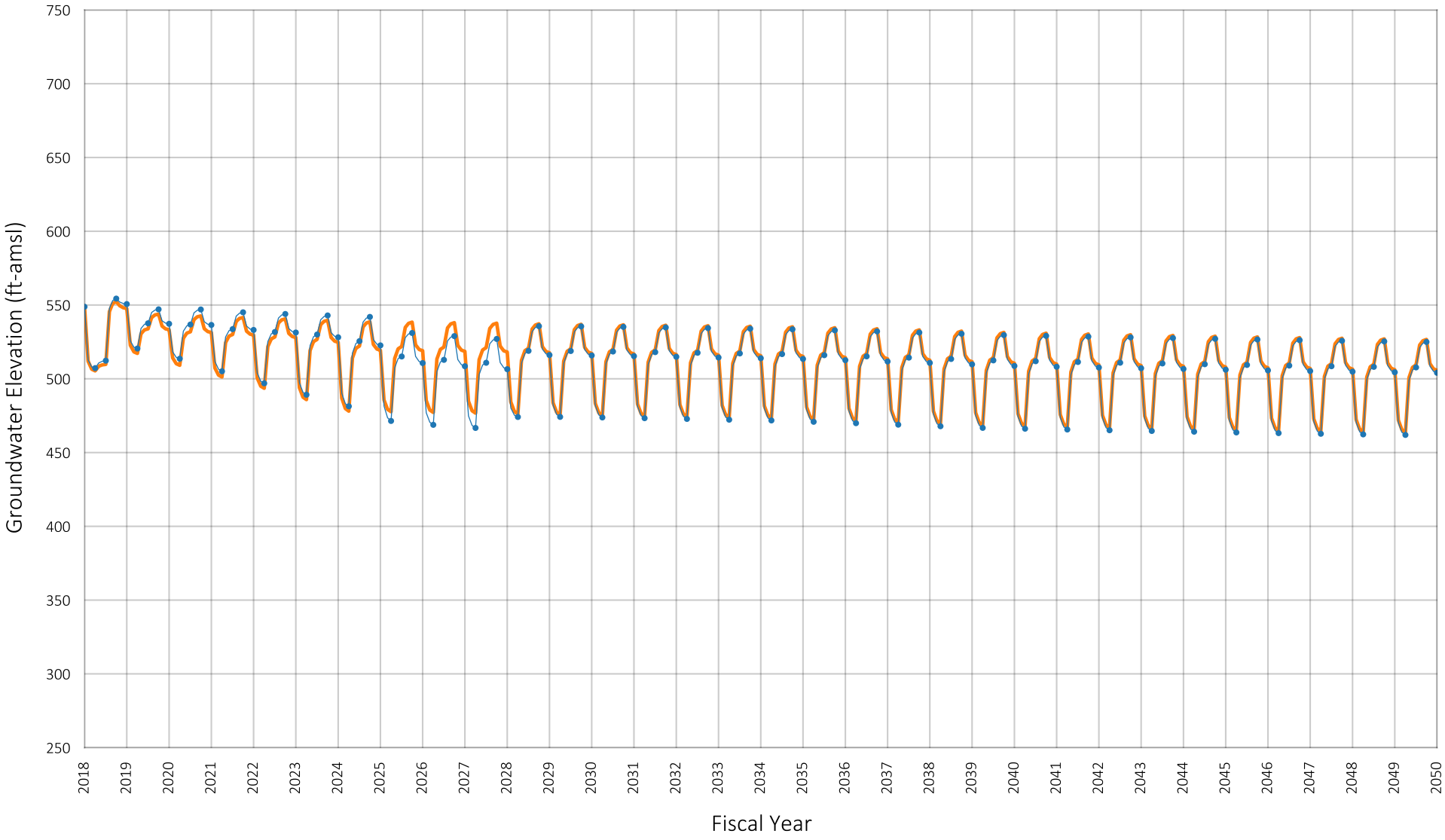
SYR1
LSLS

Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Elevation
Well ID#: 1234065
Owner: Chino Basin Desalter Authority
Well Name: II-11

Figure A-167



Location of Well in Chino Basin

SYR1
LSLS

Projected Groundwater Elevation
Well ID#: 1206952
Owner: Chino Basin Water Master
Well Name: AP-PA/7

Figure A-168

Prepared by:

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Concord

1001 Galaxy Way, Suite 310
Concord CA 95420
925-949-5800

Davis

2020 Research Park Drive, Suite 100
Davis CA 95618
530-756-5905

Eugene

1650 W 11th Avenue, Suite 1-A
Eugene OR 97402
541-431-1280

Lake Forest

23692 Birtcher Drive
Lake Forest CA 92630
949-420-3030

Lake Oswego

5 Centerpointe Drive, Suite 130
Lake Oswego OR 97035
503-451-4500

Oceanside

804 Pier View Way, Suite 100
Oceanside CA 92054
760-795-0365

Phoenix

4505 E Chandler Boulevard, Suite 230
Phoenix AZ 85048
602-337-6110

Pleasanton

6800 Koll Center Parkway, Suite 150
Pleasanton CA 94566
925-426-2580

Sacramento

8950 Cal Center Drive, Bldg. 1, Suite 363
Sacramento CA 95826
916-306-2250

San Diego

11939 Rancho Bernardo Road, Suite 100
San Diego CA 92128
858-505-0075

Santa Rosa

2235 Mercury Way, Suite 105
Santa Rosa CA 95407
707-543-8506

APPENDIX 2

AGRICULTURAL POOL

CALENDAR YEAR 2020

Member	Alternate	Association	Agency
Feenstra, Robert, Chair		Dairy	Ag Concepts
Pierson, Jeff, Vice-Chair		Crops	Unitex
LaBrucherie, Jr., Ron		Crops	
	Filippi, Gino	Crops	
	Hofer, Paul	Crops	
Vanden Heuvel, Geoffrey		Dairy	
deBoom, Nathan		Dairy	Ag Concepts
Huitsing, John		Dairy	Milk Producers Council
DeHaan, Henry		Dairy	Henry DeHaan Dairy
Pietersma, Ron		Dairy	Pietersma & Company
Page, Bob		County	County of San Bernardino
	Silva, Andrew	County	County of San Bernardino
Boyd, Carol		State	State of California, CIM
Hall, Pete		State	State of California, CIM
Medrano, Jimmy		State	State of California, CIM
	Levin, Marilyn	State	State of California, DOJ
	Golden-Krasner, Noah	State	State of California, DOJ
	Ahmed, Tamer	State	State of California, CIM
	Bettencourt, Terry	State	State of California, CIM
	Cain, Larry	State	State of California, CIM

NON-AGRICULTURAL POOL
CALENDAR YEAR 2020

Member	Alternate	Association	Agency
Geye, Brian, Chair		Non-Ag	California Speedway Corporation
	Wilkings, Ray	Non-Ag	California Speedway Corporation
Bowcock, Bob, Vice-Chair		Non-Ag	CalMat Co.
	Sage, Kevin	Non-Ag	CalMat Co.
Dooley, Dennis		Non-Ag	Southern Service Company
	Urena, William	Non-Ag	Southern Service Company
Penrice, David		Non-Ag	Aqua Capital Management LP
Haddad, Ramsey		Non-Ag	California Steel Industries, Inc.
	Brundage, Kathleen	Non-Ag	California Steel Industries, Inc.
		Non-Ag	CCG Ontario, LLC
Stone, Shaun		Non-Ag	City of Ontario (Non-Ag)
	Quach, Christopher	Non-Ag	City of Ontario (Non-Ag)
	Romero, Jeanina	Non-Ag	City of Ontario (Non-Ag)
Page, Bob		Non-Ag	County of San Bernardino (Non-Ag)
	Silva, Andrew	Non-Ag	County of San Bernardino (Non-Ag)
Kolodziej, Edward		Non-Ag	General Electric Company
	Paul Deutsch	Non-Ag	General Electric Company
Costaglio, Natalie		Non-Ag	Hamner Park Associates, a California Limited Partnership
	Adler, Michael	Non-Ag	Hamner Park Associates, a California Limited Partnership
Jew, Van		Non-Ag	Monte Vista Water District (Non-Ag)
	Scott-Coe, Justin	Non-Ag	Monte Vista Water District (Non-Ag)
Edwards, Jeffrey		Non-Ag	GenOn California South, LP
	DiCiolli, Tom	Non-Ag	GenOn California South, LP
LeValley, David		Non-Ag	Praxair, Inc.
	Galindo, Jose	Non-Ag	Praxair, Inc.
Riboli, Steve		Non-Ag	Riboli Family and San Antonio Winery, Inc.
Cruikshank, Tom		Non-Ag	Space Center Mira Loma, Inc.
	Harold, Lauren	Non-Ag	Space Center Mira Loma, Inc.
Mendoza, Alberto		Non-Ag	TAMCO
	Heredia, Cinthia	Non-Ag	TAMCO
	Feitoza, Joao	Non-Ag	TAMCO
	Rothman, Larry	Non-Ag	TAMCO
		Non-Ag	West Venture Development Company

APPROPRIATIVE POOL COMMITTEE
CALENDAR YEAR 2020

Member	Alternate	Association	Agency
Bosler, John, Chair		Appropriative	Cucamonga Valley Water District
	Espinoza, Eduardo	Appropriative	Cucamonga Valley Water District
	Krishnan, Praseetha	Appropriative	Cucamonga Valley Water District
Fealy, Cris, Vice-Chair		Appropriative	Fontana Water Company
	Tarango, Eric	Appropriative	Fontana Water Company
Sage, Kevin		Appropriative	Nestlé Waters North America (Arrowhead Water Company)
	Bowcock, Bob	Appropriative	Nestlé Waters North America (Arrowhead Water Company)
Sage, Kevin		Appropriative	CalMat Co.
	Bowcock, Bob,	Appropriative	CalMat Co.
Crosley, Dave		Appropriative	City of Chino
	Coker, Amanda	Appropriative	City of Chino
	Jakher, Amer	Appropriative	City of Chino
	Castro, Vivian	Appropriative	City of Chino
Craig, Ron		Appropriative	City of Chino Hills
	Wiley, Mark	Appropriative	City of Chino Hills
Hays, Chuck		Appropriative	City of Fontana
	Kramer, Keith	Appropriative	City of Fontana
Blais, Chad		Appropriative	City of Norco
	Nelson, Sam	Appropriative	City of Norco
Burton, Scott		Appropriative	City of Ontario
	Gienger, Katie	Appropriative	City of Ontario
	Jones, Courtney	Appropriative	City of Ontario
Diggs, Chris		Appropriative	City of Pomona
Hoerning, Rosemary		Appropriative	City of Upland
	Ledbetter, Steven	Appropriative	City of Upland
Page, Bob		Appropriative	County of San Bernardino
	Silva, Andrew	Appropriative	County of San Bernardino
Swift, Josh		Appropriative	Fontana Union Water Company
	Zielke, Seth	Appropriative	Fontana Union Water Company
Lewis, Ben		Appropriative	Golden State Water Company
	Moore, Toby	Appropriative	Golden State Water Company
Berch, Chris		Appropriative	Jurupa Community Services District
	Popelar, Steven	Appropriative	Jurupa Community Services District
Andrews, Steven		Appropriative	Marygold Mutual Water Company
	Brokaw, Justin	Appropriative	Marygold Mutual Water Company
Jew, Van		Appropriative	Monte Vista Water District
	Scott-Coe, Justin	Appropriative	Monte Vista Water District
Jew, Van		Appropriative	*Monte Vista Irrigation Company
	Scott-Coe, Justin	Appropriative	*Monte Vista Irrigation Company
Bowcock, Bob		Appropriative	NCL Co., LLC
	Sage, Kevin	Appropriative	NCL Co., LLC
Kamansky, Geoffrey		Appropriative	Niagara Bottling Company
	Granger, Janelle	Appropriative	Niagara Bottling Company
Fealy, Cris		Appropriative	Nicholson Trust
	Swift, Josh	Appropriative	Nicholson Trust
Layton, Teri		Appropriative	San Antonio Water Company
	Lee, Brian	Appropriative	San Antonio Water Company
Gershon, Sam		Appropriative	Santa Ana River Water Company
	Lopez, John	Appropriative	Santa Ana River Water Company
Hoerning, Rosemary		Appropriative	*West End Consolidated Water Co.
	Ledbetter, Steven	Appropriative	*West End Consolidated Water Co.
Mansell, Clarence		Appropriative	West Valley Water District
	Loukeh, Nadia	Appropriative	West Valley Water District
	Chan, Joanne	Appropriative	West Valley Water District

**Minor Reps*

APPENDIX 3

WEST YOST
ADDRESS: 23692 BIRTCHER DRIVE LAKE FOREST, CA 92630
TEL (949) 517-9060 • FAX (530) 756-5991
EMAIL: GRAPP@WESTYOST.COM

AND

TOM DODSON & ASSOCIATES
PHYSICAL ADDRESS: 2150 N. ARROWHEAD AVENUE SAN BERNARDINO, CA 92405
MAILING ADDRESS: PO BOX 2307, SAN BERNARDINO, CA 92406
TEL (909) 882-3612 • FAX (909) 882-7015
E-MAIL TDA@TDAENV.COM

MEMORANDUM

February 8, 2021

From: Garrett Rapp, West Yost and Kaitlyn Dodson-Hamilton, Tom Dodson & Associates

To: Mr. Edgar Tellez Foster

Subj: Energy Utilization under the Proposed Local Storage Limit Solution

The following analysis reflects the professional opinions of Associate Engineer Garrett Rapp of West Yost regarding the utilization of existing facilities and the energy required thereof to enable increased storage within the Chino Basin, and Environmental Specialist Kaitlyn Dodson-Hamilton of Tom Dodson & Associates regarding the correlation between energy utilization and Greenhouse Gas (GHG) emissions, as it relates to modifying the Safe Storage Capacity (SSC) within the Chino Basin under the 2000 Optimum Basin Management Program (OBMP).[1]

The OBMP set the SSC for the Chino Basin at 500,000 acre feet (AF). The SSC was temporarily reset to 600,000 AF through June 30, 2021, pursuant to a CEQA Addendum (Addendum No. 1) to the 2000 Program Environmental Impact Report (PEIR) prepared for the OBMP.

The proposed Local Storage Limit Solution (LSLS) would modify the SSC to 700,000 AF acre feet (AF) through June 30, 2030, decreasing to 620,000 AF from July 1, 2030 through June 30, 2035 (modified project), reverting to the originally approved amount of 500,000 AF as identified in the OBMP thereafter.

Garrett Rapp:

Without the modified project, the SSC will reset from 600,000 AF to 500,000 AF on July 1, 2021. If this occurs, the Parties' available managed storage in the Chino Basin will be immediately reduced and some of their stored water will be eliminated from their storage accounts. By 2025, the Parties' managed storage would be limited to 400,000 AF due to the Dry Year Yield Program (DYYP), which will take up 100,000 AF of the 500,000 AF limit under the SSC. After the expiration of the DYYP in 2028, however, the managed storage space available to the Parties will increase to 500,000 AF.

[1] See curriculum vitae for Mr. Rapp and Ms. Dodson-Hamilton, attached.

Based on the planning projections used in the LSLS scenario, the reduction in the Parties' managed storage due to limiting the SSC to 500,000 AF is about 200,000 AF. This 200,000 AF comprises the potential accruals to the Parties' individual storage accounts due to pumping less than their rights.[2] The lost volume in managed storage in the Chino Basin under the OBMP could otherwise be used to replace imported water used for Basin replenishment in subsequent years. This means that allowing the SSC to reset to 500,000 AF on June 30, 2021, will increase the amount of imported water used for replenishment by about 200,000 AF. Importing water from the State Water Project or other sources beyond the Chino Basin is more energy-intensive than pumping groundwater from the Chino Basin.

Kaitlyn Dodson-Hamilton:

Given the above, the proposed modified project would result in less energy utilized in support of management of the Chino Basin due to a reduced need for imported water. Utilization of imported water is energy intensive because it requires transportation from outside of the Basin. When compared to the business as usual scenario as approved under the OBMP, the LSLS scenario would require less energy to operate the Parties' existing facilities to increase storage of water within the Basin. This energy savings would accrue to all of the Parties that would not have to purchase imported water in the future as a result of the increased SSC.

Energy utilization to import water to the Basin relates to GHG emissions because energy sources used to produce electricity to operate water pumps—such as the natural gas—emit GHGs including CO_2, CH_4, and N_2O. These gases are the primary contributors to global climate change (GCC) from development projects, including operation of existing facilities that utilize energy.

Although neither the OBMP PEIR nor the 2017 Addendum No. 1 quantified GHG emissions from operation of the OBMP, or analyzed the potential environmental impacts associated with such GHG emissions, it is possible to analyze the potential for the modified project to increase or decrease GHG emissions as compared to the baseline. The Basin is currently operating under the 2000 OBMP, as modified by the 2010 Peace II Subsequent EIR (SEIR) and the 2017 Addendum No. 1. As such, given that the baseline scenario described above would result in greater energy utilization than that which would be utilized under the modified project, GHG emissions generated by the modified project are projected to be less than that which would occur under the baseline scenario.

Sincerely,

Garrett Rapp
Associate Engineer, West Yost

Kaitlyn Dodson-Hamilton
Environmental Specialist, Tom Dodson & Associates

[2] See "Evaluation of the Local Storage Limit Solution" (West Yost 2021).

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Garrett Rapp, PE

Associate Engineeer

Garrett has six years of experience in the water resources industry. His technical expertise as a professional engineer includes water resources engineering and planning, including surface and groundwater hydrology and hydraulics, water resources planning, surface and groundwater computer simulation modeling and software development, ground-level monitoring, water rights, regulatory compliance, surface water and groundwater quality, municipal recycled water discharge impacts in receiving waters, and water supply and flood control facility design.

STAFF TITLE: Associate Engineer II

YEARS OF EXPERIENCE: 6

PROFESSIONAL REGISTRATIONS

- Professional Civil Engineer, California, No. 86007

EDUCATION

- MS, Hydrology, University of Arizona, 2020
- BS, Civil Engineering, University of Virginia, 2013

PROFESSIONAL AFFILIATIONS

- Arizona Hydrological Society
- Groundwater Resources Association of California

EXPERIENCE

GROUNDWATER MANAGEMENT

Cloud/Web-based Advanced Modeling and Simulation Turnkey High-Performance Computing Environment for Surface and Subsurface Science, US Department of Energy: Project developer for the design and development of an open-source, Python-based user interface (UI) for ParFlow-CLM, a fully integrated, parallel environmental modeling software tool. This project required combining the input from stakeholders across the academic and non-profit sectors to develop an accessible user interface that will improve the adoption and use of the ParFlow-CLM modeling software. Garrett was responsible for developing the UI and integrating it with the ParFlow-CLM software, interfacing between the software team and hydrologists, documenting and publishing the code, and conducting several tutorials for current and prospective users of ParFlow-CLM.

Watermaster Engineering Services, Chino Basin Watermaster, Rancho Cucamonga, CA: Garrett has worked on various tasks for Watermaster since 2013 through 2018. Garrett has been involved in many of the following projects for the Watermaster and other agencies as well.

- Development of a Storage Framework for the Chino Basin: Project engineer that collaborated on the development of a storage framework for the Chino Basin. This is a comprehensive investigation to assess the groundwater basin response to the planned use of managed storage in the Chino Basin, including potential storage and recovery projects. Garrett worked with the Watermaster and various groundwater producers to develop planning estimates to project future behavior in the basin, including pumping and replenishment estimates. Garrett provided information to develop new groundwater model scenarios, reviewed and analyzed the results of the scenarios, and presented the groundwater model results to the Watermaster Board and other stakeholders. His analysis involved assessing potential impacts of future behavior on land subsidence, production sustainability, and the overall balance of recharge and discharge in the basin and making recommendations to mitigate any undesirable impacts. Garrett also collaborated on the report of this investigation, developing text, tables, and charts to characterize and document the results of the various model scenarios.

- **Implementation of the 2013 Amendment to the 2010 Recharge Master Plan Update (RMPU):** Project engineer that performing as-needed technical work to support the implementation of the 2013 Amendment to the 2010 RMPU for the Chino Basin Watermaster. The implementation phase is focused on the design and operation of the storm water recharge projects recommended as part of the RMPU. Garrett's ongoing duties include building surface water models to quantify the storm water recharge for planned projects under various modes of operation, developing plans and engineering cost estimates for new projects, creating maps and documents to communicate these analyses, and coordinating with Watermaster on the operations of the Recharge Investigations/Projects Committee (RIPCom). This work included using surface water modeling to optimize pumping operations in the San Sevaine Basin to refine the design recommendations of the pump, including a sensitivity analysis of the basin volume to the volume of water recharged. Garrett was also responsible for developing a surface water model and cost opinions for several alternatives for a potential new storm water recharge project in eastern Chino Basin. This involved analyzing subsurface investigations to design several feasible project alternatives, estimating the cost and potential performance of each scenario, and presenting these findings to RIPCom and Chino Basin Watermaster's Appropriative Pool.
- **Evaluations of Potential Material Physical Injury to the Chino Basin Resulting from Various Recharge Applications, 2015 through present:** As project engineer, Garrett evaluated various agencies' applications to recharge water into the Chino Basin and determining whether they may cause Material Physical Injury (MPI) to the Chino Basin.The evaluation criteria to determine MPI included impacts related to land subsidence, liquefaction, water quality, and others. Garrett evaluated potential recharge activities that may include delivering water to existing spreading basins, constructing new spreading basins, or injection via Aquifer Storage and Recovery wells.
- **Development of the 2016 Annual Report of the Ground-Level Monitoring Committee:** Project engineer for the development of the 2016 Annual Report of the Ground-Level Monitoring Committee. Garrett's role was to analyze vertical and horizontal survey data to determine relationships and trends in land movement and to make recommendations as to future monitoring activities. Garrett developed maps and charts to depict relationships between the horizontal and vertical survey data.
- **Development of the 37th, 38th, 39th, and 40th Annual Reports for the Chino Basin Watermaster:** Project engineer working with the team and Watermaster staff to develop three Annual Reports over a 12-month period to bring Watermaster's Annual Reporting to the current period. His work involved developing over 15 appendices that characterize Watermaster events and accounting for each of the three years, developing text and graphics to describe the highlighted events and statistics for each year, and coordinating on the review and design of each report. For the most recent report (40th Annual Report), Garrett compiled information for several of the appendices and coordinated on the review and design of the report.
- **Development of the 2014/15, 2015/16, and 2016/17 Annual Streamflow Monitoring Reports for Chino Basin Watermaster's Water Rights Permit 21225, Chino Basin Watermaster:** Project engineer for the completion of the 2014/15, 2015/16, and 2016/17 Annual Streamflow Monitoring Reports for Chino Basin Watermaster's Water Rights Permit 21225, serving as the primary project engineer for the latter two. The objective of this report is to assess the impacts of Watermaster's storm water diversions on the Santa Ana River. Garrett's work focused on developing and running surface water models to quantify the flows in several tributary creeks, quantifying the impacts to the Santa Ana River, and developing a report summarizing these impacts and the methodology used to quantify them.
- **Development of Water Rights Progress Reports and Certification of Water Diversion Measurements:** Primary project engineer, developing the Watermaster's progress reports for their three surface water diversion permits, including demonstrating compliance with the Emergency Regulation for Measuring and Reporting the Diversion of Water (Senate Bill 88). This involved extensive data collection and coordination with Watermaster's legal counsel to ensure compliance with the new measurement and reporting requirements.
- **Development of the 2017 Chino Basin Groundwater Model Update and Required Demonstrations Report:** Project engineer assisting with the development of the 2017 Chino Basin Groundwater Model Update and Required Demonstrations Report for Watermaster. Garrett develops text, tables, and charts to characterize the results of the updated groundwater model, which has been updated to reflect the updated water supply plans of the agencies overlying the Chino Basin. He also developed text, tables, and figures to describe the modeled effects of the storm water recharge projects proposed in the 2013 Amendment to the 2010 RMPU on the Chino Basin.

Assessment of the Cumulative Effects of Water Transfers in the Chino Basin: Project engineer responsible for developing methods and quantifying the impacts of water transfers between water appropriators in the Chino Basin. He was responsible for developing a methodology to analyze Watermaster's water rights assessment packages to determine the magnitude and spatial variability in the water rights that have been transferred between parties since 2001 and determining the change in balance of recharge and discharge in the basin over this time period in the absence of the transfers.

Calculation of the Change in Groundwater Storage for Water Years 2015 and 2016, Cucamonga Valley Water District, Rancho Cucamonga, CA: Project engineer collaborating on the calculation of the change in storage of the Cucamonga Groundwater Basin, an adjudicated basin that must report this calculation to the Department of Water Resources each year pursuant to the Sustainable Groundwater Management Act. Garrett's duties included choosing water levels representative of the regional groundwater levels in the Cucamonga Basin, developing contour maps to characterize the change in groundwater levels, and preparing graphics to accompany the technical memoranda.

Upper Temescal Valley Salt and Nutrient Management Plan, Elsinore Valley Municipal Water District and Eastern Municipal Water District, Lake Elsinore and Perris, CA: Project engineer for the development of an Upper Temescal Valley SNMP. The Regional Board has required the EVMWD and EMWD to prepare an SNMP to support their recycled water discharge and reuse plans in the Upper Temescal Valley. The objectives of this project are to establish antidegradation objectives for the Upper Temescal Valley groundwater management zones (these objectives currently do not exist), estimate current ambient water quality and assimilative capacity, project future total dissolved solids and nitrogen concentrations based on the water resources management plans of the local water supply agencies, identify the regulatory challenges posed by the recycled water reuse and discharge plans of the EVMWD and EMWD, and develop a salt and nutrient management plan that addresses these challenges. Garrett was responsible for implementing the Wasteload Allocation surface water model that is being used to characterize historical, current, and future surface water runoff and recharge (storm water and recycled water) in the Upper Temescal Valley. In support of the model, he implemented a procedure to create a daily precipitation record by synthesizing data from local precipitation gages and PRISM data, a spatial climatic dataset that accounts for changes in elevation, location, and topography. Garrett's work also involved creating maps and tables showing the inputs to the surface water model, including precipitation, land use, and delineated sub-watersheds in the Upper Temescal Valley study area.

Modeling Work to Support the Completion of a Title 22 Engineering Report, City of Beaumont, Beaumont, CA: Project engineer for the completion of a Title 22 Engineering Report for the City of Beaumont. The objectives of this project were to create surface water and groundwater models to characterize the impact of recycled water discharge in the Beaumont and San Timoteo Groundwater Management Zones as part of the development of a Title 22 Engineering study to allow the City of Beaumont to increase the capacity of its wastewater treatment plant, implement a recycled water reuse and recharge program, and receive credit for groundwater replenishment of new storm water in recharge basins. Garrett's work was focused on developing and running the HSPF surface water model of the study area, including gathering data to create model input files, characterizing the operation of stormwater recharge basins, and designing networks to characterize the watershed. Garrett was also responsible for supporting the development of a numerical groundwater-flow model, including summarizing lithology data from across the Beaumont Basin and quantifying the impact of riparian vegetation evapotranspiration on the groundwater table.

Characterization of Potential for Stormwater Diversion and Hydrologic Impacts at Prado Basin, City of Corona, Corona, CA: Project engineer for this analysis to characterize the potential for stormwater diversion to recharge groundwater in the Temescal Basin and to assess the resultant impacts at Prado Basin. The project objective was to update an existing surface water model of the watershed overlying and surrounding the City of Corona to quantify the stormwater available for capture and to assess downstream impacts on surface water flows entering Prado Dam from Temescal Creek. Garrett's responsibilities involved gathering data to update the model, running several operation scenarios to quantify the stormwater capture potential and downstream flow, and creating tables and charts quantifying the results.

PUBLICATIONS

- Rapp, G. A., Condon, L. E., & Markovich, K. H. (2020). Sensitivity of simulated mountain block hydrology to subsurface conceptualization. Water Resources Research, 56, e2020WR027714. https://doi.org/10.1029/2020WR027714
- WEI. 2018 Recharge Master Plan Update. Prepared for the Chino Basin Watermaster, Sept. 2018.
- Rapp, G. and Wildermuth, M. Estimation of Evaporation Losses in Recharge Facilities in the Chino Basin. Prepared for the Chino Basin Watermaster, Sept. 2017.
- Rapp, G. and Wildermuth, M. Annual Streamflow Monitoring Report for Water Rights Permit 21225. 2015, 2016, and 2017.

- WEI. Chino Basin Optimum Basin Monitoring Program 2016 State of the Basin Report. Prepared for the Chino Basin Watermaster, June 2017.
- WEI. Stormwater Resources Plan Functional Equivalency Document. Prepared for the Inland Empire Utilities Agency, May 2016.

CONFERENCE PRESENTATIONS/ PROCEEDINGS

- 2013 Chino Basin Recharge Master Plan Implementation (Talk) – National Groundwater Association Annual Groundwater Summit, Nashville, TN, December 2017
- Adaptive Management of Land Subsidence and Ground Fissuring in the Chino Groundwater Basin, CA (Poster) – Groundwater Resources Association of California Annual Conference, Sacramento, CA, October 2017
- 2013 Chino Basin Recharge Master Plan Implementation (Poster) – 16th Biennial Symposium on Managed Aquifer Recharge, San Diego, CA, March 2018
- Sensitivity of Mountain-Block Hydrology to Heterogeneous Soil Depth and Recharge (Talk) – Geological Society of America Annual Conference, Phoenix, September 2019
- Sensitivity of Simulated Mountain-Block Hydrology to Heterogeneous Soil Depth and Recharge (Poster) – American Geophysical Union Fall Meeting, San Francisco, CA, December 2019
- Storage and Recovery Program Framework for the Chino Basin (Talk) – 17th Biennial Symposium on Managed Aquifer Recharge, Tempe, AZ (Remote), October 2020

Kaitlyn Dodson-Hamilton

Title
Vice President, Environmental Specialist

Education
B.A., *English, with Honors,* University of California Riverside, 2011

Experience
January 2015 - present

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Summary

Kaitlyn Dodson-Hamilton is Vice President of and is an Environmental Specialist for Tom Dodson & Associates, an environmental consulting firm in San Bernardino, California. She has more than 10 of experience in research and mapping for California Environmental Quality Act (CEQA), National Environmental Protection Agency (NEPA), and regulatory purposes at Tom Dodson & Associates. Ms. Dodson-Hamilton has more than six years of experience at TDA in environmental and resource management, with special expertise in CEQA and NEPA compliance. Ms. Dodson-Hamilton personally prepares environmental documentation for a broad variety of CEQA and NEPA projects, as well as regulatory permits for the State Department of Fish and Game, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers with the oversight of Tom Dodson, president of Tom Dodson & Associates. She works in conjunction with Tom to work with clients, governmental agencies, and decision-makers to find solutions to complex problems.

Ms. Dodson-Hamilton attends meetings and hearings in conjunction with Tom Dodson for nearly all reports for which she is the co-author. She has a broad understanding of all 21 topics outlined in Appendix G of the CEQA Guidelines, which range from Aesthetics, to Geology, to Utilities and Service Systems. Kaitlyn works directly with clients to problem solve and see a given project through to its completion.

Relevant Experience

Inland Empire Utilities Agency (IEUA)

TDA is one of the primary consultants for IEUA. Over the past 6+ years Kaitlyn has assisted Tom with several projects to comply with both the California Environmental Quality Act and National Environmental Policy Act for a variety of projects. TDA also assists IEUA with applying for funding through the Clean Water State Revolving Fund for various infrastructure/improvement projects. TDA has continued consulting with IEUA and recently completed a Program EIR for IEUA Facilities Masters Plans, which examined the long-term implementation of wastewater, recycled water and organic waste management programs. Other projects in which Kaitlyn has co-authored include: Lower Day Basin Project, Fontana Water Company Recycled Water Improvement Project, and Pomona Intertie Project. All of these documents have been successful in accomplishing full compliance with both CEQA and NEPA and other regulatory requirements, such as Corps of Engineers and endangered species permits.

Mission Springs Water District (MSWD)

Tom Dodson is the primary environmental consultant for MSWD. Over the past 6+ years Kaitlyn has assisted Tom with several projects to comply with both the California Environmental Quality Act and National Environmental Policy Act for a variety of projects. TDA also assists MSWD with applying for funding through the Clean Water State Revolving Fund for various infrastructure/improvement projects. TDA has continued consulting with MSWD and recently completed the West Valley Water Reclamation Program EIR, which was approved by the MSWD Board in 2019 with full support from their Board. Kaitlyn was the main author of this Program EIR with Tom overseeing the evolution of the Project. The certification of this EIR will allow/has allowed MSWD to construct a new wastewater treatment facility, along with a conveyance system that would connect existing sewered areas to the new facility as well as areas that are served by individual septic systems, which have contributed to water quality degradation within the

Coachella Valley groundwater basin Garnet Hill Subbasin MZ4.

Inland Valley Development Agency (IVDA)/San Bernardino International Airport Authority (SBIAA)
Tom Dodson is the Environmental Manager for the IVDA and SBIAA in their role as the redevelopment and reuse agency for Norton Air Force Base located in San Bernardino, California. As such, Kaitlyn has worked closely with both IVDA and SBIAA on several projects. Over the past 6+ years, Kaitlyn has, in conjunction with Tom, prepared environmental documents to comply with both the California Environmental Quality Act and National Environmental Policy Act for a variety of projects. These projects include: SBIAA Land Exchange Environmental Assessment, SBIAA Unical Addendum, IVDA (in conjunction with the City of Highland and the San Manuel Band of Mission Indians [SMBMI]) 3rd Street / 5th Street Roadway Improvements Project, and most recently, Kaitlyn worked closely with SBIAA on the Eastgate Building I Environmental Impact Report, which was approved by the Board in October of 2018. Kaitlyn also works closely with SBIAA to compile their Hazardous Waste Manifests to ensure SBIAA pays the appropriate fees to the Department of Toxic Substances Control. TDA is currently (as of 2020) working the IVDA and Cities of Highland and San Bernardino, in conjunction with the SMBMI, on the Draft Airport Gateway Specific Plan (AGSP) EIR to provide a plan for future development to the north of the San Bernardino International Airport.

City of Highland, Various CEQA/NEPA Documents
Over the past 6+ years, Kaitlyn has assisted Tom with the preparation of environmental documents to comply with both the California Environmental Quality Act and National Environmental Policy Act for a few City projects. The City retained TDA's services for the 3rd Street / 5th Street Corridor Improvements Project. The City, IVDA, and SMBMI proposed to improve the roadway and infrastructure conditions for 3rd Street/5th Street and several intersecting local roadway segments within the City of Highland. TDA compiled an Environmental Narrative for the three agencies to apply for funding through the Economic Development Agency and assisted with NEPA compliance for the Environmental Assessment. TDA also compiled an Initial Study- Mitigated Negative Declaration (IS/MND) for the City. The documentation in the Initial Study was compiled to meet CEQA and NEPA requirements. The IS/MND was adopted by the City Council. The EDA recently approved the project and granted funding for the project. Additionally, TDA's services were retained for a second roadway improvement project along Victoria Avenue between Highland Avenue and 3rd Street that include storm drain improvements, for which TDA compiled an IS/MND that was adopted by the City in July of 2018. As stated above, TDA is currently working with the Cities of Highland and San Bernardino, in conjunction with the IVDA and SMBMI, on the Draft AGSP EIR to provide a plan for future development to the north of the San Bernardino International Airport.

Professional Experience

Vice President, Environmental Specialist, Tom Dodson & Associates: January 2015-present
Kaitlyn has working in and around the Environmental Consulting business for more than 10 years as a part time employee assisting Tom Dodson with research and mapping for CEQA, NEPA, and regulatory purposes. In January of 2015, Kaitlyn began working full time as an environmental analyst. Ms. Dodson-Hamilton has more than six years of experience at TDA in environmental and resource management, with special expertise in CEQA and NEPA compliance. Ms. Dodson-Hamilton personally authors environmental documentation for a broad variety of CEQA and NEPA projects ranging from infrastructure projects to commercial and residential development. Kaitlyn also prepares regulatory permits for the State Department of Fish and Game, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers with the oversight of Tom Dodson.