Appendix A

Task Force Presentation Slides on the Development of the 2023 Data Gap Framework

How to Finalize Potential Data Gaps Analysis

- **Purpose:** To create a framework to identify and resolve potential data gaps in each GMZ, including creating documentation of how they are addressed (for the record)
- **Rationale:**
  - Attrition analysis and notification to well owners didn't work
  - Regional Board seeks assurance that sufficient data is being collected to fully assess GMZ-wide water quality conditions
- **Approach:** Draft 2022 GMP included a 4-step approach that to determine if "Potential" are "Actual" data gaps, providing two years to complete the steps
  - Step 1. Determine if it is important to address the potential data gaps now (based on GMZ RW use and other factors)
  - Step 2. Demonstrate no potential data gaps with new (since 2004) hydrogeologic information
  - Step 3. Eliminate potential data gaps by identifying and monitoring existing wells
  - Step 4. Prepare plan to fill actual data gaps with construction of new monitoring wells (or document why not possible to address the actual data gap)

How to Finalize Potential Data Gaps Analysis

Agency concerns based on Comments Received:

- Does RB have authority to require agencies to fill actual data gaps?
  - Regional Board seeks collaborative implementation to address a known problem that is consistent with past Task Force cooperation, not to issue orders
- Identifying Responsible Parties. *(Attempted in Table 3-1 – Responsible Parties)*
  - Need more time to work out who is responsible
  - Responsibility to perform process vs. responsibility to perform monitoring
  - How to engage well owners that are not Task Force participants – can they be named responsible?
- Timing to complete proposed process – potentially need more time
- Address cross-over with GSA efforts to fill data gaps for SGMA compliance
- Need improved criteria for whether potential data gaps in each GMZ are to be addressed now, or can be deferred
  - Tie directly to RW Policy
  - Tie to process to update GMZ storage parameters

How to Finalize Potential Data Gaps Analysis

Recommended Process

Prepare TM documenting Potential Data Gaps Analysis and Framework to Address Data Gaps in time for Regional Board to include in their analysis of conformance. ***Due by October 2023*** (end of month ok)

- Process to develop the final TM:
  - Schedule individual GMZ meetings at SAWPA with Regional Board staff and consultant to review identified potential data gaps (can group logical GMZs together – e.g. San Jacinto GMZs) – over 1-2 day period at SAWPA, in person
  - Use outcomes of individual meetings to propose/present the following at TF meetings:
    - Process to finalize assignment of Responsible Parties for each GMZ
    - Revised identification of potential data gaps in each GMZ
    - Revised framework for addressing potential data gaps

How to Finalize Potential Data Gaps Analysis

Proposed Schedule

- April 2023 – Approve technical consultant budget and schedule to complete Potential Data Gaps Analysis
- May 2023 – Hold individual meetings at SAWPA with stakeholders from each GMZ to review potential data gaps
- June 2023 – Task Force meeting discussion summarizing outcomes of individual meetings and next steps for assigning responsible agencies
- July 2023 – Task Force meeting discussion to present revised potential data gaps in each GMZ
- August 2023 – Task Force meeting discussion to present revised framework for addressing potential data gaps
- September 25, 2023 – Deliver Draft TM to task force
- October 16, 2023 – Deliver revised Draft TM to task force with comments addressed
- October 27, 2023 – Deliver Final TM to SAWPA
- October 30, 2023 – SAWPA deliver Final TM to Regional Board

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Groundwater Monitoring Program:
Data Gaps Assessment

June 1, 2023

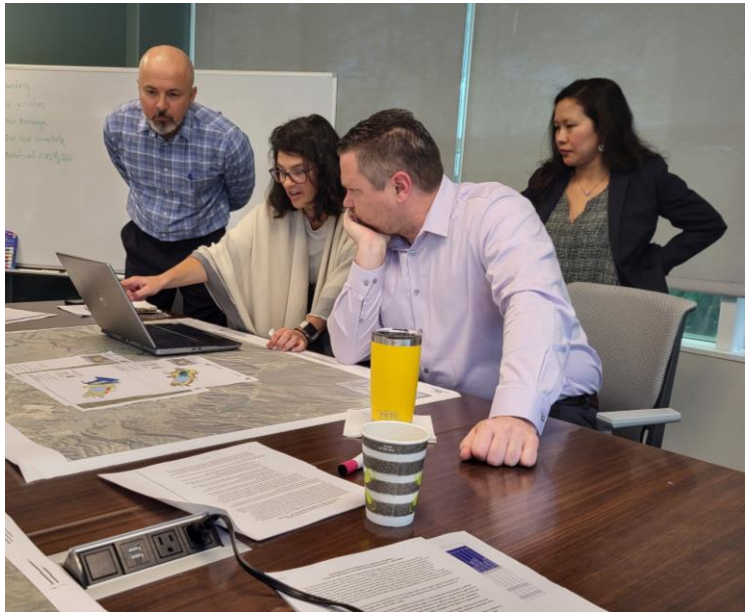
Background: Data Gaps Assessment

- 2019 Recycled Water Policy requires the Regional Board to reassess the monitoring network every five-year for potential data gaps
- The draft data gaps assessment section was removed from the 2022 Groundwater Monitoring Plan because the Task Force determined that more time needed is refine the identification of potential data gaps and responsible parties
- **Objective:** To identify potential data gaps and create a framework to resolve potential data gaps in each GMZ

Potential Data Gap and Framework Review – Agency Participants

- Met with the Regional Board and the following Task Force members and other local agencies to discuss monitoring network in each GMZ on May 15, 16, and 17:

Beaumont Cherry Valley Water District	East Valley Water District
Chino Basin Watermaster	Eastern Municipal Water District
City of Beaumont	Elsinore Valley Municipal Water District
City of Corona	Inland Empire Utilities Agency
City of Colton	Jurupa Community Services District
City of Loma Linda	Orange County Water District
City of Redlands	Rubidoux Community Water District
City of Riverside	San Bernardino Valley Municipal Water District
City of San Bernardino	Yucaipa Valley Water District
Cucamonga Valley Water District	Western Municipal Water District



What did we do in the meetings?

- Background on what we are doing and why
- Reviewed current well locations in each GMZ and the draft potential data gaps areas defined in Draft 2022 GMP
- Reviewed and applied data gap criteria in each GMZ to confirm/change and prioritize data gaps:
  - Aquifer extent, recycled water activities, managed groundwater recharge activities, Beneficial use, surface water – groundwater connectivity
- Agencies provided local insights/inputs and learned about how potential data gaps are proposed to be resolved
- Regional Board provided feedback on approach and data gap locations
- Discussed Responsible Parties
- Had FUN and learned a lot!

Discussion of Potential Solutions to Fill Data Gaps

- Collaborate with non-Task Force agencies or clean up entity to sample their wells
  - ***New potential collaborators identified!***
- Sample irrigation wells and/or rehabbing existing wells for water quality testing
  - ***New wells identified and some data gaps filled through initial agreements to sample active wells!***
- If we can demonstrate/document groundwater connectivity between GMZs, can propose to utilize wells located close to data gap areas but in adjacent GMZ
- Using recent hydrogeologic information to demonstrate a need to change the aquifer parameters
  - Obtained contacts and information to be able to assess which GMZs need to be updated
- Regional Board approved that data gaps in Department of Defense (DoD) or tribal lands are unresolvable data gaps and do not require back up documentation
- For all other potential data gaps, responsible parties documentation of how data gaps will be filled or rationales on if data gaps cannot be filled in each GMZ
- Construct new well (last resort)

Schedule for Filling Data Gaps

AWQ Recomp No.	Recomp Period	Task Force Deadline to Finish	Declaration of Conformance or 5-Year Assessment
2021 AWQ	2002-2021	Oct 2023	April 2024
Assess Potential Data Gaps		Oct 2025	NA
Data collection process and storage updates		Oct 2027	NA
2026 AWQ	2007-2026	Oct 2028	April 2029
2031 AWQ	2012-2031	Oct 2033	April 2034

- October 2023 – Final TM on Potential Data Gaps Analysis and Framework to Address Data
- 2024-2025 – Responsible parties will assess and develop plans to address potential data gaps either with existing wells or with new wells
  - SAWPA to start researching grant opportunities for well construction, should it be needed

Next Steps

- June - Document responsible parties based on meeting discussions
  - Ian to schedule individual meetings amongst each group of responsible parties to confirm and address any concerns
- June/July - Circulate meeting notes and updated documentation of potential data gaps and priority to address (e.g. GMZ maps)
- August - Present updated potential data gaps and priority, framework to resolve, and responsible parties
- Prepare draft Data Gaps and Framework technical memorandum
  - Deliver for review by September 18
  - Task Force comments due to West Yost/SAWPA by October 6
  - Deliver revised Draft TM to task force with comments addressed by October 18
  - Deliver final TM to SAWPA October 27

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Groundwater Monitoring Program: Data Gaps Assessment

June 27, 2023

Next Steps

- June - Document responsible parties based on meeting discussions
  - Ian to schedule individual meetings amongst each group of responsible parties to confirm and address any concerns
- June/July - Circulate meeting notes and updated documentation of potential data gaps and priority to address (e.g. GMZ maps)
- August - Present updated potential data gaps and priority, framework to resolve, and responsible parties
- Prepare draft Data Gaps and Framework technical memorandum
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Analysis of Potential Data Gaps: Progress Update and Next Steps

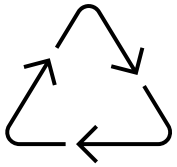
July 25, 2023

Background: Data Gaps Assessment

- 2019 Recycled Water Policy requires the Regional Board to reassess the monitoring network every five-year for potential data gaps
- The draft data gaps assessment section was removed from the 2022 Groundwater Monitoring Plan because the Task Force determined that more time needed is refine the identification of potential data gaps and responsible parties
- **Objective:** To identify potential data gaps and create a framework to resolve potential data gaps in each GMZ

Progress on Analysis of Potential Data Gaps

- Met with the Regional Board, Task Force members, and other local agencies to discuss monitoring network in each GMZ on May 15 to 17.



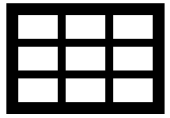
- Met with the Regional Board on July 12 to review discussions from the meetings in May and key considerations for identifying responsible parties.
  - GMZ with RW*: **high** priority to develop plans to address data gaps by 2025
  - GMZ with no RW: **low** priority and plans to address data gaps may be developed after 2025
  - Dischargers or SNMP-agencies are the responsible parties

**If recycled water use is minimal, does that justify a "high" priority listing? What is the threshold?*

Progress on Analysis of Potential Data Gaps

- Coordinating with Task Force members on wells that were identified in May meetings to fill data gaps, if possible.

- Researching recycled water activities in Colton and Bunker Hill-A to identify potentially new Task Force member/responsible party.



- Updating the table of potential data gaps and responsible parties based on research results

Schedule for Filling Data Gaps

AWQ Recomp No.	Recomp Period	Task Force Deadline to Finish	Declaration of Conformance or 5-Year Assessment
2021 AWQ	2002-2021	Oct 2023	April 2024
Assess and Plan for Potential Data Gaps		**Oct 2025**	NA
Data collection process and storage updates		Oct 2027	NA
2026 AWQ	2007-2026	Oct 2028	April 2029
2031 AWQ	2012-2031	Oct 2033	April 2034

- October 2023 – Final TM on Potential Data Gaps Analysis and Framework to Address Data
- 2024-2025 – Responsible parties will assess and develop plans to address potential data gaps either with existing wells or with new wells
  - SAWPA to start researching grant opportunities for well construction, should it be needed

Next Steps

- July - Circulate meeting notes, updated documentation of potential data gaps and priority to address gaps
- August 15th – deadline for members to provide input
  - If meeting is wanted, please provide input sooner so we can schedule meeting before August 11th.
- Prepare draft Data Gaps and Framework technical memorandum
  - Deliver for review by September 18
  - Task Force comments due to West Yost/SAWPA by October 6
  - Deliver revised Draft TM to task force with comments addressed by October 18
  - Deliver final TM to SAWPA October 27

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Analysis of Potential Data Gaps: Progress Update and Next Steps

August 30, 2023

Agenda

- Background – reminder of what we are doing and why
- Progress on Analysis of Potential Data Gaps
- Proposed resolution of two questions based on Regional Board feedback
- Next Steps

Background: Data Gaps Assessment

- 2019 Recycled Water Policy requires the Regional Board to reassess the monitoring network every five-year for potential data gaps
- **Task Force Objective:** Identify potential data gaps in each GMZ and create a framework to resolve them
- The draft data gaps assessment section was removed from the 2022 Groundwater Monitoring Plan because the Task Force determined that more time is needed to refine the identification of potential data gaps and agencies responsible to resolve them
- Data Gaps Framework due to the Regional Board October 31, 2023

Progress on Analysis of Potential Data Gaps

- Met with the Regional Board, Task Force members, and other local agencies to discuss monitoring network in each GMZ in May

- Met with the Regional Board in July to discuss outcomes from the May meetings, agencies to discuss GMZ prioritization for resolving potential data gaps

- Researched recycled water activities in Colton, Lytle, and Bunker Hill-A to identify dischargers responsible for resolving potential data gaps

Progress on Analysis of Potential Data Gaps

- Initial GMZ Prioritization Presented to Task Force at July meeting
  - **High Priority:** GMZs receiving RW discharges must address potential data gaps through framework by 2025 (including GMZs, that receive Santa Ana River recharge and are analyzed in the WLA)
  - **Low Priority:** GMZs with no current Recycled Water discharges (and no planned discharges before 2028) will address data gaps as part of next 5-year assessment of the SNMP
  - Dischargers or SNMP-agencies are agencies to resolve the potential data gaps

Progress on Analysis of Potential Data Gaps

- Coordinated with Task Force members to confirm understanding of assignment of responsibility to address potential data gaps with dischargers and updating the table based on responses

- Met with the Regional Board to resolve two remaining questions
  - For prioritization of addressing potential data gaps, if recycled water use is minimal, does that justify a “high” priority listing?
  - Who is the agency to address potential data gaps in Colton GMZ?

GMZ Prioritization – RW Use Amounts

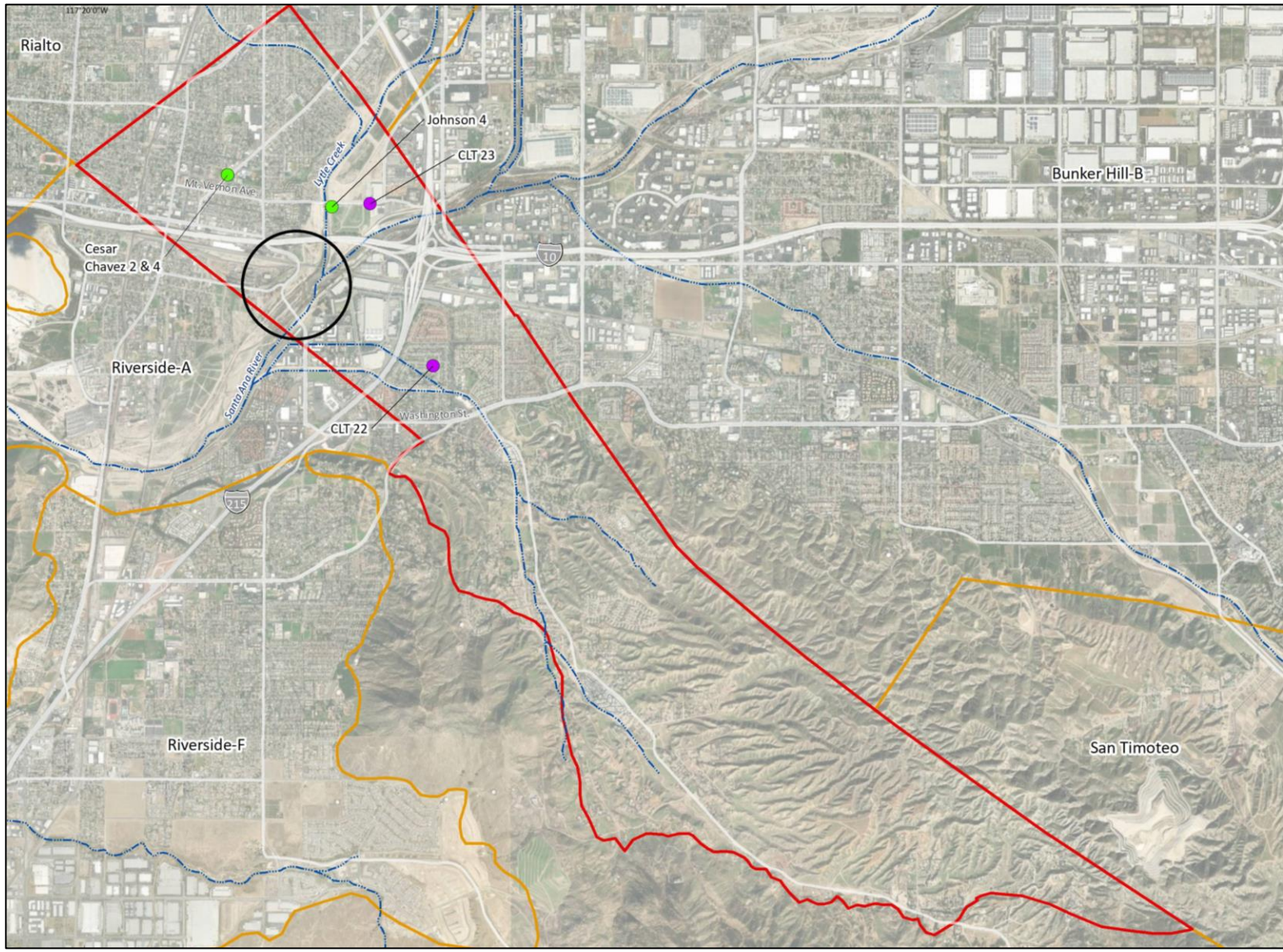
- For prioritization of addressing data gaps, if recycled water use is minimal, does that justify a “high” priority listing?
- Options:
  1. If there is RW use in a GMZ (no matter the volume), then the priority is “high”
  2. Establish threshold amount for priority – use below the threshold becomes “low” priority
     - How to establish threshold amount?
- **<u>Recommended Approach based on Water Board staff feedback</u>**:
  - If there is RW use in a GMZ, then the priority is “high”* to resolve data gap, no matter the volume
  - Update the Data Gaps Framework to also include the option for agencies to provide legal or regulatory rationale why there is no data gap, or why they are not responsible for potential data gaps as part of the 2-year period to resolve potential data gaps

Colton GMZ

Wells in the Groundwater Monitoring Network

(Monitoring Agency)

- City of Colton
- City of Riverside



Colton GMZ

- High Priority to resolve potential data gaps because it theoretically receives SAR recharges and is analyzed as part of WLA
- No direct RW discharger in the GMZ
- **Recommended approach based on Water Board staff feedback:**
  - This is a special case GMZ where there is no direct discharger. There is no imminent threat to not having a responsible agency at this time, and for this reason, assignment of potential data gaps and agency responsible to resolve them can be deferred until the storage model is updated. This could provide a more complete understanding of the GMZ and its potential data gaps.

Framework to Resolve Potential Data Gaps

- Multi-step approach to resolve potential data gaps in high priority GMZs:
  - Step 1. Resolve potential data gaps either by:
    - Fill potential data gaps by identifying and monitoring existing wells in general gap locations
    - Responsible dischargers can provide documentation to the Water Board of the technical rational (e.g. based on hydrogeologic information) or policy/legal rationale of why the potential data gap is not an actual data gap, or whey the discharger is not responsible to address it
  - Step 2. If potential data gaps are actual data gaps, either:
    - Submit a plan and schedule to fill actual data gaps with construction of new monitoring wells
    - Document why it is not possible for agency to address the actual data gap

Schedule for Filling Data Gaps

- October 2023 – Final TM on Potential Data Gaps Analysis and Framework to Address Data
- 2024-2025 – Dischargers that are responsible for GMZs address potential data gaps by following framework steps
  - All documentation due to the Water Board by December 2025
  - SAWPA to identify grant opportunities for well construction, should it be needed

Next Steps

- August 31 – circulate updated maps and table of dischargers responsible for addressing potential data gaps

- Prepare draft Data Gaps and Framework technical memorandum
  - Deliver for review by September 18
  - Task Force comments due to West Yost/SAWPA by October 6
  - Deliver revised Draft TM to task force with comments addressed by October 18
  - Deliver final TM to SAWPA October 27

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Appendix B

Preliminary Data Gap Framework and Discussion Notes from the May Meetings

B.1 Preliminary Data Gap Framework Handout

Development of a Framework to Identify and Address
Potential Data Gaps in the GMZ Monitoring Networks - Next Steps

The 2018 Recycled Water Policy (Policy) requires that data gaps in an SNMP monitoring network be assessed every five-years (see Section 6.2.6 of the Policy – Attachment A is a full excerpt of Section 6 of the Policy that describes the requirements for an SNMP). Section 3.2 of the Draft *2022 Groundwater Monitoring Program to Support Implementation of the Santa Ana Basin Plan,* which was prepared in October 2022, described a draft framework for identifying and addressing potential data gaps in the monitoring networks of the GMZs in the Santa Ana River Basin. The framework included an initial identification of potential data gaps in each GMZ and a multi-step process to demonstrate if the potential data gaps are actual data gaps and develop a plan/schedule to fill actual data gaps. The draft framework was removed from the report because the Task Force determined that more time is needed to refine the identification of potential data gaps and identify responsibility for addressing the potential gaps.

The following is an excerpt of the framework from the October 2022 draft report, which describes how the draft potential data gaps were identified in the GMZs [see Attachment B to read full excerpt of Section 3.2 or click this link to see the GMZ maps]:

> *Due to the diversity and varying complexity of the GMZs, it was deemed unreasonable to define a strict quantitative approach to identifying data gaps. An example of a quantitative approach to determining if you have a sufficient monitoring network is to define a target number of wells per area (e.g., per square mile). As an alternative approach, potential data gaps were identified qualitatively as follows, supported by the information mapped in the figures in Appendix B:*
>
> - *In areas where the storage raster shows significant aquifer volume and there are either no wells monitored or there are large spatial gaps between monitored wells, there is a potential data gap*
> - *In areas with high TDS concentrations (hot spots) where a spatial gap is created by well(s) with data that have generated statistics in the past but are no longer monitored, there is a potential data gap*
> - *In areas where a significant spatial gap is created by wells with data that have generated statistics in the past but are no longer monitored, there is a potential data gap.*
> - *If a well with data that generated statistics in the past is no longer monitored but occurs in an area with limited aquifer storage (grey and brown areas in the Appendix B figures), it was not deemed a potential data gap.*
> - *If a well is no longer monitored, but is reasonable in proximity to wells that continue to be monitored, it was not deemed a potential data gap.*

Additionally, the framework proposed certain criteria that would determine if the need to fill a data gap was immediately necessary, or not:

> *Potential data gaps would be important to fill when there are recycled water (or other discharge) permitting decisions that need to be made based on the AWQ findings, if imported water is recharged in the GMZ and the Responsible Agencies perform modeling in accordance with the Cooperative Agreement, and/or if the groundwater in the GMZ is used for municipal or domestic*

water supply. If none of these features are relevant, then the potential data gaps need not be investigated immediately

The proposed process to refine the data gaps framework is as follows:

- Schedule individual GMZ meetings at SAWPA with Regional Board staff and consultant to review potential data gaps identified in October 2022 draft.
- Use outcomes from the individual GMZ meetings to propose/present the following at TF meetings:
    - Process to finalize assignment of Responsible Parties for each GMZ
    - Revised identification of potential data gaps in each GMZ
    - Revised framework for addressing potential data gaps

The next step for addressing potential data gaps is to meet with the Task Force members and Regional Board to review GMZ maps that characterize: the current monitoring network, the potential data gaps identified in the October 2022 draft of the Groundwater Monitoring Program report, and specific features/criteria that could support adjustment of the potential data gaps identified and help to determine prioritization of filling data gaps. In discussion with the Task Force's Scoping Committee, West Yost was tasked to define a set of draft criteria that could be used in discussion during the individual GMZ meetings to guide the refinement of the potential data gaps identified. Based on the GMZ meetings, the criteria may be modified or expanded. Attachment C lists some specific comments received from Task Force members about the criteria for identifying data gaps or prioritizing filling data gaps.

The proposed considerations for identifying if there is a sufficient spatial distribution of monitoring points in a GMZ, or if it is a priority to fill a data gap, are as follows:

1. Boundary – only identify gaps within the extent of alluvial aquifer (if different than GMZ)
    a. Don't need monitoring outside of aquifer extent
    b. GMZ maps will characterize this information
2. Areas with recycled water (RW) use activities – do existing wells capture impacts of RW activities? [requirement of the Policy – see Attachment A]. RW activities include:
    a. RW discharge to unlined streams or ponds
    b. RW use for irrigation
    c. RW recharge
    d. To the extent the information is readily available, GMZ maps will characterize the information in a through c above
    e. For discussion in GMZ meetings: what magnitude or spatial extent of recycled water activities are significant enough to trigger data gaps to be high priority to address?
3. Proximity to other supplemental recharge sources - do existing wells capture impacts of recharge sources?
    a. Stormwater recharge
    b. Imported water recharge
    c. To the extent the information is readily available, GMZ maps will characterize the information in a through b above
    d. For discussion in GMZ meetings: what magnitude or spatial extent of supplemental recharge activities are significant enough to trigger data gaps to be high priority to address?
4. Proximity to areas where groundwater has connectivity with adjacent surface waters

    a. GMZ maps will characterize this information (map unlined streams – where known)
    b. For discussion in GMZ meetings:
        i. What extent of interconnected surface water are significant enough to trigger data gaps to be high priority to address? Do all interconnected surface waters matter?
5. Beneficial Uses (BUs) of Groundwater in GMZ – what are the uses?
    a. Municipal Potable
    b. Municipal Potable only with treatment
    c. Municipal Non-potable
    d. Private Domestic, Agricultural, of CI wells
    e. For discussion in GMZ meetings – if BUs are limited in all or portions of a GMZ, is monitoring needed – or is it needed everywhere? What magnitude of use makes the use important?

This approach is generally consistent with the Policy's requirements for monitoring networks (see Attachment A) and the DWR's Best Management Practices (MPs) for defining groundwater quality monitoring networks (Attachment D). With respect to the DWR BMPs related to groundwater quality monitoring networks, the recommended approach is largely qualitative based on the known water quality contaminants in the basin and best professional judgment as to the potential impact that groundwater management actions could have on water quality.

Attachment A to May 1, 2023 Task Force Meeting Handout – Agenda Item 8

Section 6 of the 2019 Recycled Water Policy Full Policy[1]:

6.1. Introduction

6.1.1. Some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives established in the applicable regional water board Water Quality Control Plans (basin plans). Not all basin plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salts or nutrients. These conditions can be caused by naturally-occurring sources of salinity, discharges of agricultural, domestic, industrial, and municipal wastewater; fertilizers; and residual solids (including on-site wastewater treatment systems). In addition, irrigation using imported water, diverted water, surface water, groundwater, or recycled water, and indirect potable reuse for groundwater recharge (groundwater recharge) can contribute to increased salt and nutrient loading. Regulation of recycled water alone will not fully address these conditions.

6.1.2. Salts and nutrients from all sources must be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses. The most effective way to address salt and nutrient loading is typically through the development of regional or subregional salt and nutrient management plans rather than imposing requirements solely on individual recycled water projects or other individual sources of salts and nutrients.

6.1.3. *Basin evaluation.* To sustain the ongoing development of salt and nutrient management plans in basins where plans are needed and to clarify where salt and nutrient management planning is not needed, each regional water board shall evaluate each basin or subbasin in its region before April 8, 2021 and identify basins through a resolution or executive officer determination where salts and/or nutrients are a threat to water quality and therefore need salt and nutrient management planning to achieve water quality objectives in the long term. Each regional water board shall review and update this evaluation every five years to consider any changes in these factors that have occurred that would change the findings from the initial evaluation. Basin evaluations completed prior to April 8, 2019 can be used to satisfy this requirement if the prior evaluation clearly identifies whether the basin requires salt and nutrient management planning to achieve water quality objectives in the long term. Regional water boards shall consider the following factors in this determination, as well as any additional region-specific factors:

- Magnitude of and trends in the concentrations of salts and nutrients in groundwater
- Contribution of imported water and recycled water to the basin water supply
- Reliance on groundwater to supply the basin or subbasin
- Population

[1] 2018 Recycled Water Policy: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf

- Number and density of on-site wastewater treatment systems
- Other sources of salts and nutrients, including irrigated agriculture and confined animal facilities
- Hydrogeologic factors, such as regional aquitards, depth to water, and other basin- or subbasin-specific factors

6.2. Development and adoption of salt and nutrient management plans

6.2.1. The State Water Board encourages collaborative work among salt and nutrient management planning groups, the agricultural community, the regional water boards, Integrated Regional Water Management groups, and groundwater sustainability agencies formed under the Sustainable Groundwater Management Act to achieve the goals of groundwater sustainability, recycled water use, and water quality protection. For basins identified pursuant to 6.1.3, the State Water Board encourages local water suppliers, wastewater treatment agencies, and recycled water producers, together with local salt and nutrient contributing stakeholders, to continue locally driven and controlled, collaborative processes open to all stakeholders and the regional water board that will result in the development of salt and nutrient management plans for groundwater basins and the management of salts and nutrients on a basin-wide basis. The State Water Board also encourages stakeholders to incorporate the basin evaluation information developed by each regional water board, pursuant to 6.1.3, into the salt and nutrient management planning efforts.

6.2.1.1. Every groundwater basin and subbasin identified pursuant to 6.1.3 shall have a salt and nutrient management plan or a plan that is functionally equivalent pursuant to 6.2.1.4. Salt and nutrient management plans shall be tailored to address the water quality concerns of the basin and subbasin. Such plans shall include implementation measures, as appropriate, to address all sources of salt and/or nutrients to groundwater basins, including projects using recycled water for irrigation and groundwater recharge. The salt and nutrient management plans may address constituents other than salts and nutrients that adversely affect groundwater quality.

6.2.1.2. The State Water Board recognizes that because stormwater is typically lower in nutrients and salts and can augment local water supplies, inclusion of a significant stormwater use and recharge component within salt and nutrient management plans can play a vital role in the long-term sustainable use of water in California. Inclusion of stormwater recharge is consistent with the California Water Plan and the State Water Board Strategy to Optimize Resource Management of Stormwater (STORMS) vision, as adopted in State Water Board Resolution No. 2016-0003, that stormwater be managed as a resource, wherein water quality improvement and water supply enhancement are complementary goals.

6.2.1.3. Salt and nutrient management plans adopted as a Basin Plan amendment or accepted by the regional water board prior to April 8, 2019 shall be evaluated pursuant to 6.2.6 and 6.2.7 by April 8, 2024.

6.2.1.4. The regional water board may determine pursuant to 6.2.3 that a groundwater management plan for a basin, subbasin, or other regional planning area is functionally equivalent to a salt and nutrient management plan. For example, the regional water board may find that groundwater sustainability plans developed pursuant to the Sustainable Groundwater Management Act include water quality components that sufficiently address the components of 6.2.4 and therefore are functionally equivalent to a salt and nutrient management plan.

6.2.1.5. The provisions in 6.2 are not intended to limit regional water board authority pursuant to Water Code section 13242 to adopt plans and programs of implementation for the protection of beneficial uses.

6.2.2. Implementation of salt and nutrient management plans may require a regional water board to amend its basin plan. The regional water board shall consider for adoption a basin plan amendment when implementation of a salt and nutrient management plan involves adoption and/or modification of water quality objectives, beneficial uses, or programs of implementation consistent with Water Code sections 13240, 13241, and 13242. In other cases where a regional water board determines a basin plan amendment is not required, the accepted salt and nutrient management plan serves as a technical document to support future regional water board decisions.

6.2.3. *Regional water board review and acceptance of salt and nutrient management plans.* Proposed salt and nutrient management plans shall be submitted to the regional water board for review. The regional water board shall evaluate the salt and nutrient management plan in accordance with the provisions of 6.2.4. Following review, the regional water board shall make one of the following determinations through a resolution. This determination shall be made within six months of receipt of a proposed salt and nutrient management plan, unless compliance with CEQA is required and the regional water board notifies the public of this within the six-month period.

6.2.3.1. The proposed salt and nutrient management plan does not satisfy the requirements of 6.2.4. In this case, the regional water board shall provide specific findings regarding which components in 6.2.4 are not adequately addressed and recommendations for what may need to be included or modified in the proposed salt and nutrient management plan for the regional water board to accept the plan.

6.2.3.2. The proposed salt and nutrient management plan satisfies the requirements of 6.2.4, a basin plan amendment is not needed to implement the plan, and the regional water board will accept the plan. In this case, the accepted salt and nutrient management plan will serve as a technical document to support future regional water board decisions.

6.2.3.3. The proposed salt and nutrient management plan satisfies the requirements of 6.2.4 and a basin plan amendment will be needed to implement the plan. In this case, the regional water board shall initiate a process to amend the basin plan based on the accepted salt and nutrient management plan and associated documentation.

6.2.4. *Required components of salt and nutrient management plans.* The degree of specificity within salt and nutrient management plans and the length of the plans will be dependent on a variety of site-specific factors, including but not limited to, size and complexity of a basin, source water quality, stormwater recharge, hydrogeology, and aquifer water quality. Each salt and nutrient management plan shall include the following components:

6.2.4.1. A basin- or subbasin-wide monitoring plan that includes an appropriate network of monitoring locations to provide a reasonable, cost effective means of determining whether the concentrations of salts, nutrients, and other constituents of concern as identified in the salt and nutrient management plans are consistent with applicable water quality objectives. The number, type, and density of monitoring locations to be sampled and other aspects of the monitoring program shall be dependent upon basin-specific conditions and input from the regional water board. Salts, nutrients, and the constituents identified in 6.2.1.1 shall be monitored. The frequency of monitoring shall be proposed in the salt and nutrient management plan for review by the regional water board pursuant to 6.2.3.

6.2.4.1.1. The monitoring plan must be designed to effectively evaluate water quality in the basin. The monitoring plan must focus on water supply wells, areas proximate to large water recycling projects, particularly groundwater recharge projects, and other potential sources of salt and nutrients identified in the salt and nutrient management plan. Also, monitoring locations shall, where appropriate, target groundwater and surface waters where groundwater has connectivity with adjacent surface waters.

6.2.4.1.2. The monitoring plan may include water quality data from existing wells where the wells are located and screened appropriately to determine water quality throughout the most critical areas of the basin. The State Water Board supports monitoring approaches that leverage the use of groundwater monitoring wells from other regulatory programs, such as the Irrigated Lands Regulatory Program and the Sustainable Groundwater Management Act.

6.2.4.1.3. The monitoring plan shall identify those stakeholders responsible for conducting, compiling, and reporting the monitoring data. Where applicable, the regional water board will assist by encouraging other dischargers in the basin or subbasin to participate in the monitoring program. The data shall be electronically reported annually in a format that is compatible with a Groundwater Ambient Monitoring & Assessment (GAMA) information system and must be integrated into the GAMA information system or its successor.

6.2.4.2. Water recycling use goals and objectives.

6.2.4.3. Salt and nutrient source identification, basin or subbasin assimilative capacity and loading estimates, together with fate and transport of salts and nutrients.

6.2.4.4. Implementation measures to manage or reduce the salt and nutrient loading in the basin on a sustainable basis and the intended outcome of each measure.

6.2.4.5. An antidegradation analysis demonstrating that the existing projects, reasonably foreseeable future projects, and other sources of loading to the basin included within the plan will, cumulatively, satisfy the requirements of State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California (Antidegradation Policy).

6.2.5. Nothing in this Policy shall prevent stakeholders from developing a plan that is more protective of water quality than applicable standards in the basin plan. No regional water board, however, shall seek to modify basin plan objectives without compliance with Water Code section 13241.

6.2.6. *Data assessment.* The regional water boards, in consultation with stakeholders, shall assess and review monitoring data generated from these plans every five years, unless an alternate timeline has been established in a basin plan amendment. This assessment shall include an evaluation of:

- observed trends in water quality data as compared with trends predicted in the salt and nutrient management plan;

- the ability of the monitoring network to adequately characterize groundwater quality in the basin;

- potential new data gaps;

- groundwater quality impacts predicted in the salt and nutrient management plan based on most recent trends and any relied-upon models, including an evaluation of the ability of the model to simulate groundwater quality;

- available assimilative capacity based on observed trends and most recent water quality data; and

- projects that are reasonably foreseeable at the time of this data assessment but may not have been when the salt and nutrient management was prepared or last updated.

6.2.7. The regional water boards, in consultation with stakeholders, shall use the results of these periodic assessments to update basin evaluations of available assimilative capacity, projected trends, and concentrations of salts and nutrients in groundwater, and then determine whether potential updates or revisions to the salt and nutrient management plan may be warranted as a result of the data assessment or to make the plan consistent with the Policy.

Attachment B to May 1, 2023 Task Force Meeting Handout – Agenda Item 8
Draft Data Gaps Framework Excerpted from the October 2022 Draft GMP
(removed from final report)

Note: This is the draft framework, as presented in October 2022. It has not yet been updated to address Task Force comments. This will be updated following additional meetings and workshops with the Task Force.

1.1 Potential Data Gaps

As described in Section 2.0, the prior interpretive tools task of the AWQ project did not yield the desired outcomes of addressing future potential data gaps. Although the wells at risk of being lost from the analysis were identified and the well owners were contacted and asked to resume sampling, few if any wells were added to the monitoring networks. One of the goals of this 2022 GMP was to provide a comprehensive framework for addressing potential data gaps in the GMZ monitoring network to better enable the agencies responsible (Responsible Agencies) to take actions to address potential data gaps.

Methods to (1) identify potential data gaps in each GMZ and (2) resolve the potential data gaps, were developed, in part, based on feedback from the Task Force members. The assessment and process are described below.

1.1.1 Assessment to Identify Potential Data Gaps

Due to the diversity and varying complexity of the GMZs, it was deemed unreasonable to define a strict quantitative approach to identifying data gaps. An example of a quantitative approach to determining if you have a sufficient monitoring network is to define a target number of wells per area (e.g., per square mile). As an alternative approach, potential data gaps were identified qualitatively as follows, supported by the information mapped in the figures in Appendix B:

- In areas where the storage raster shows significant aquifer volume and there are either no wells monitored or there are large spatial gaps between monitored wells, there is a potential data gap
- In areas with high TDS concentrations (hot spots) where a spatial gap is created by well(s) with data that have generated statistics in the past but are no longer monitored, there is a potential data gap
- In areas where a significant spatial gap is created by wells with data that have generated statistics in the past but are no longer monitored, there is a potential data gap.
- If a well with data that generated statistics in the past is no longer monitored but occurs in an area with limited aquifer storage (grey and brown areas in the Appendix B figures), it was not deemed a potential data gap.
- If a well is no longer monitored, but is reasonable in proximity to wells that continue to be monitored, it was not deemed a potential data gap.

The data gaps are considered “potential” at this stage for two reasons:

1. The GMZ boundaries and aquifer storage properties were defined in the early 2000s, and in many GMZs, there are improved aquifer characterizations. Thus, what is seen as a data gap relative to the 2004 GMZ delineations, may actually not represent a real gap based on

today's understanding of the aquifer system. It was not possible in the scope of work for this project to learn enough about the specifics of updated hydrogeologic characterizations in every GMZ.

2. Though considerable efforts were made to contact as many well owners as possible in developing this 2022 GMP, it was not possible to reach all owners. And, in some cases, existing wells were identified that could fill potential data gaps, but those wells are not currently monitored. There is the potential to do additional outreach to the owners to arrange to have the wells monitored for water quality.

For these reasons, there needs to be a process whereby the potential data gaps can be investigated in greater detail. The investigations will be implemented in a stepwise approach to evaluate options that could avoid the cost of filling data gaps with new well construction. The investigations to address the potential data gaps are best addressed by the agencies operating in the GMZs, as was noted in the feedback from the Task Force members (see Table 2-1). The process to investigate potential data gaps is described in Section 1.1.2.

Appendix C contains a map of each GMZ that shows the location of any potential data gaps identified. The area of the potential data gap is shown as a red circled area on the map. If no potential data gaps were identified, then the map indicates "no data gaps". Note that if there is no existing monitoring network in a GMZ (e.g., there are no monitored wells in the GMZ), then no map was prepared. As noted in Section 0 there are three GMZs with no monitoring networks: La Habra, Riverside-C, and Santiago. For these GMZs, Table 3-1 indicates that two to four potential data gaps need to be addressed, if appropriate based on the below stepwise process.

1.1.2 Process to Investigate Potential Data Gaps

Table 3-1 lists the GMZs in the SAR Watershed and for each GMZ shows the number of potential data gaps identified and the Responsible Agencies identified to address them. Also shown in Table 3-1 are four features that could be used to assess the importance of filling the potential data gaps. The four features shown in Table 3-1 are:

- Recycled water that is discharged to the SAR or its tributaries recharges into the GMZ
- Recycled water is used for direct non-potable use or recharge in the GMZ
- Imported water is recharged in the GMZ
- GMZ used for municipal or domestic supply

Potential data gaps would be important to fill when there are recycled water (or other discharge) permitting decisions that need to be made based on the AWQ findings, if imported water is recharged in the GMZ and the Responsible Agencies perform modeling in accordance with the Cooperative Agreement, and/or if the groundwater in the GMZ is used for municipal or domestic water supply. If none of these features are relevant, then the potential data gaps need not be investigated immediately, as described in the following stepwise process.

For GMZs where potential data gaps were identified, the Responsible Parties will follow a four-step process to guide them through addressing the potential data gaps. For each step, a question is posed, and the answer determines if the Responsible Agency has satisfied the potential data gap or if additional steps must be taken. The steps are:

Step 1. Determine if it is important to address the potential data gaps now

Step 2. Eliminate Potential Data Gaps with Additional Hydrogeologic Information

Step 3. Eliminate Potential Data Gaps by Monitoring Existing Wells

Step 4. Fill data gaps with construction of new monitoring wells

Step 1. Determine if it is important to address the potential data gaps now

Does the GMZ with the identified potential data gaps have any of the four features shown in Table 3-1 that suggest it is important to fill the potential data gaps?

No – Potential data gaps do not need to be addressed until one or more of the four features will become relevant within the next five-year period (e.g., new recycled water reuse projects, or development of potable water supply). Responsible Agencies for the GMZ must (1) notify the Santa Ana Water Board and Task Force in writing of this finding and (2) update the Santa Ana Water Board every five years as to any changes that would trigger the need to address data gaps.

Yes – Responsible Agencies *Proceed to Step 2* of addressing potential data gaps.

Step 2. Eliminate Potential Data Gaps with Additional Hydrogeologic Information

Do the Responsible Agencies have new hydrogeologic information developed after 2004 that could refute the finding that a potential data gap exists? (For example, is there a new hydrogeologic conceptual model that illustrates that the AWQ storage model is outdated and would impact the identification of data gaps?)

No – Responsible Agencies *Proceed to Step 3* of addressing data gaps.

Yes – Prepare a technical memorandum (TM) that summarizes the hydrogeologic evidence that the identified potential data gaps do not need to be addressed. The TM must include: (1) characterization of evidence with references cited, (2) a proposed updated delineation of aquifer/GMZ boundary (if appropriate), and (3) shapefiles of new aquifer storage properties (including layers, if appropriate). Submit TM to the Santa Ana Water Board and Task Force.

Step 3. Eliminate Potential Data Gaps by Monitoring Existing Wells

Can data gaps be addressed by sampling existing wells not initially identified as part of the GMZ monitoring network?

No – Data gap exists. Responsible Agencies *Proceed to Step 4*.

Yes – Responsible Agencies prepare a TM documenting expanded monitoring with newly identified existing wells and submit to the Santa Ana Water Board and Task Force. The TM must include: (1) updated map and table of the monitoring program, including identification of monitoring entities, (2) commitment to annual sampling of new wells that have not previously been monitored for the first three years of monitoring, and (3) identify if all potential data gaps are not fully addressed with existing wells.

Step 4. Fill data gaps with construction of new monitoring wells

Responsible Party to perform a well siting study. Can remaining data gaps be filled through construction of new wells?

No – if a finding is made that new wells cannot be constructed, the Responsible Agencies must provide evidence to enable the Santa Ana Water Board to determine if that data gap cannot be reasonably addressed. Findings must be documented and submitted to the Santa Ana Water Board and Task Force. Such a finding may trigger additional technical studies at the Santa Ana Water Board's discretion.

Yes – Responsible Parties prepare a monitoring well construction plan/schedule. The plan must include: (1) well location(s) and technical specifications, (2) detailed schedule to construct well(s), (3) commitment to annual sampling of new well for the first three years of monitoring. Responsible Agencies proceed to implement construction plan and schedule following Santa Ana Water Board approval.

1.1.3 Schedule to Investigate Potential Data Gaps

Responsible Parties will have two years to complete Steps 1 through 4. The two-year clock begins upon approval of this 2022 GMP by the Santa Ana Water Board Executive Officer, but not later than January 1, 2023. Therefore, the steps must be completed by December 31, 2025.

Table 3-1. Number of Potential Data Gaps in Each GMZ and the Parties Responsible to Address Them

Groundwater Management Zones	GMZ Features				Number of Potential Data Gaps Identified	Responsible Agencies for Addressing Potential Data Gaps																					
	Recycled water that is discharged to the SAR or its tributaries recharges into the	Recycled water is used for direct non-potable use or recharge in the GMZ	Imported water recharge in GMZ	GMZ used for municipal or domestic supply		Eastern MWD	Beaumont Cherry Valley WD	City of Banning	City of Beaumont	San Gorgonio Pass WA	Yucaipa Valley WD	San Bernardino County Special Districts Department	San Bernardino Valley MWD	City of Redlands	East Valley WD	City of Rialto	City of Colton	City of San Bernardino	City of Riverside	Western Municipal WD	Cucamonga Valley WD	Chino Basin Watermaster	Inland Empire Utilities Agency	Jurupa CSD	Elsinore Valley MWD	Lee Lake Water District	City of Corona	Orange County WD
San Jacinto Basins																											
Canyon			X	X	1	X																					
San Jacinto Upper Pressure		X	X	X	0	X																					
San Jacinto Lower Pressure		X			1	X																					
Hemet South		X		X	2	X																					
Lakeview/Hemet North		X		X	0	X																					
Perris North		X		X	0	X														X							
Perris South				X	0	X																					
Menifee		X		X	1	X																					
Beaumont/Yucaipa Plain																											
Beaumont	X	X	X	X	1		X	X	X	X	X																
San Timoteo	X			X	0				X		X																
Yucaipa		X	X	X	2						X																
San Bernardino Basin																											
Lytle		X		X	1							X	X														
Bunker Hill-A		X	X	X	1							X	X														
Bunker Hill-B	X	X	X	X	1								X	X	X												
Rialto				X	0								?			?											
Colton	X			X	1								?				?		?								
Riverside and Arlington Basins																											
Riverside-B		X		X	2											X											
Riverside-C					3 - 4																			X			
Riverside-A	X				2											X	X	X									
Riverside-F				X	2														X								
Riverside-E				X	1														X								
Riverside-D					2 - 3														X								
Arlington		X		X	2														X	X							
Chino and Cucamonga Basins																											
Cucamonga				X	3															X	X	X					
Chino-North		X	X	X	2																X	X	X				
Chino-East				X	3																X		X				
Chino-South	X			X	3												X	X	X		X		X				
Elsinore and Temescal Valleys																											
Elsinore		X		X	2																			X			
Upper Temescal Valley	X	X		X	0	X																		X			
Coldwater				X	0																			X	X	X	
Temescal	X	X		X	2																					X	
Orange County																											
La Habra					2 - 3																						X
Orange County	X	X	X	X	0																						X
Santiago					2 - 3																						X
Irvine		X		X	0																						X

Attachment C - Comments received from Task Force members on the criteria for identifying data gaps or prioritizing filling data gaps

NOTE: This Attachment is NOT a comprehensive list of all comments received on the data gaps framework

OCWD Comment 1: The proposed stepwise process should be clearly connected to the requirements set forth in the State Board's Salt and Nutrient Management Plan requirements and other relevant State Board and Regional Board requirements.

OCWD Comment 2: The stepwise process for potential data gaps should incorporate consideration specific to GMZs that do not have established water quality objectives. For example, in addition to the four criteria listed in the draft report, consideration should be given to the following items in determining if a potential data gaps exist for a GMZ without water quality objectives:

- The designated beneficial uses of groundwater in the GMZ
- Assessing the amount of existing groundwater pumping in the GMZ
- Assessing the amount of future development that may occur in a GMZ, since future development could affect groundwater quality (alternatively, if there are no prospects of significant future development, there may be limited or few factors that could change water quality in the future)
- Setting a threshold so that if pumping of groundwater in the GMZ is below the threshold, constructing new wells to collect ambient water quality data is not warranted. The threshold may also be related to the designated beneficial uses and whether there is future development in the GMZ (for example, in a GMZ with a small number of pumping wells, no use of recycled water, no managed aquifer recharge, and no prospects of significant future development, then construction of new monitoring wells for the purposes of compliance with the State Board's Salt and Nutrient Management Plan may not be warranted).

OCWD Comment 3: The fourth importance criteria "GMZ used for municipal or domestic supply" should be better defined with respect to 'domestic supply'. For example, do privately owned wells used for irrigation fall under the category of 'domestic supply'? The phrase 'domestic supply' should be defined using established State Board Division of Drinking Water terminology to the extent possible.

EVMWD: Identification of potential data gaps must also include requirements established by other State and/or County agencies. For instance, several GMZs are currently implementing SGMA or SNMPs, which require improving and/or enhancing groundwater monitoring networks by addressing data gaps, etc. This approach should be flexible so it accommodate and/or incorporates already established methodologies to comply with data gaps as established by other regulatory programs (e.g. SGMA, SNMP, Max Benefit, etc.)

Riverside: Generally speaking, it seems that this effort may be creating new issues for agencies to address. If there are going to be potentially known issues that result from current and future agencies activities that trigger their responsibilities for more monitoring , it would be beneficial for it to be addressed in this document now rather than it being addressed later in a different effort. As example, Riverside has a permit to distribute recycled water over select management zones, one of which is the Arlington Basin. This basin is high in TDS compared to Riverside discharged water, and an analysis of if this is a benefit to the basin or not is worthwhile. However because data gaps have been found to exist in this management zone, it seems as though our ability to distribute recycled water within this

management zone could become jeopardized. It would be great to see potential issues like this addressed in this document so that existing projects do not become at risk. Perhaps putting the data gaps and existing activities into context could provide a level of protection.

Attachment D – Excerpts from DWR Best Management Practice Document on Monitoring Networks and Identification of Data Gaps

Link to full BMP: Monitoring Networks and Identification of Data Gaps Best Management Practice

Excerpts from general overview of developing sufficient monitoring networks:

"…the collection of data from a robust network is required to ensure that uncertainty is appropriately reduced during the analysis of these datasets."

"…The monitoring network must be capable of capturing data on a sufficient temporal frequency and spatial distribution to demonstrate short-term, seasonal, and long-term trends in basin conditions."

"…The degree of monitoring should be consistent with the level of groundwater use."

"…Areas that are subject to greater groundwater pumping, greater fluctuations in conditions, significant recharge areas, or specific projects may require more monitoring (temporal and/or spatial) than areas that experience less activity or are more static."

"…Professional judgement will be essential to determining the degree of monitoring that will be necessary."

"…Collect sufficient spatial and temporal data from each applicable principal aquifer to determine groundwater quality trends for water quality indicators, as determined by the Agency, to address known water quality issues"

Excerpts related to Groundwater Quality monitoring networks

"Groundwater quality monitoring networks should be designed to demonstrate that the degraded water quality sustainability indicator is being observed for the purpose of meeting the sustainability goal. The monitoring network should consist largely as supplemental monitoring locations where known groundwater contamination plumes under existing regulatory management and monitoring exist, and additional safeguards for plume migration are necessary. In addition, some monitoring may be necessary to address other degraded water quality issues in which migration could impact beneficial uses of water, including, but not limited to, unregulated contaminant plumes and naturally occurring water quality impacts. Seawater intrusion and degraded water quality are naturally related, as many practices are interchangeable. The following represent specific practices to be employed in the execution of the GSP:

- Monitor groundwater quality data from each principal aquifer in the basin that is currently, or may be in the future, impacted by degraded water quality.
    - The spatial distribution must be adequate to map or supplement mapping of known contaminants.
    - Monitoring should occur based upon professional opinion, but generally correlate to the seasonal high and low, or more frequent as appropriate.
        - ♣ Where regulated plumes exist, monitoring should coincide with regulatory monitoring for plume migration comparison purposes.
        - ♣ Where unregulated degraded water quality occurs, monitoring should be consistent with the degree of groundwater use in the regions of the known impacts.

- Collect groundwater quality data from each principal aquifer in the basin that is currently, or may be in the future, impacted by degraded water quality.
    - Agencies should use existing water quality monitoring data to the greatest degree possible. For example, these could include ILRP, GAMA, existing RWQCB monitoring and remediation programs, and drinking water source assessment programs.
- Define the three-dimensional extent of any existing degraded water quality impact.
- Data should be sufficient for mapping movement of degraded water quality.
- Data should be sufficient to assess groundwater quality impacts to beneficial uses and users.
- Data should be adequate to evaluate whether management activities are contributing to water quality degradation."

B.2 Meeting Notes and Discussions from May 2023

Potential Data Gaps Meetings with GMZ Representatives: Key Discussions

Canyon

- Eastern MWD to check its latest updated aquifer property to verify that the characterization of groundwater storage in the AWQ is accurate.
- No recycled water use
- Data gap area in northern portion of the GMZ → Soboba tribal land and the Regional Board does not have the authority to request access or require them to monitor groundwater quality (*unresolvable data gap).*
- Conclusion: There is no well in area of Soboba tribal land (*unresolvable data gap)*

San Jacinto Upper Pressure

- There is recycled water use and imported water recharge.
- Maximum benefit SNMP being implemented by Eastern MWD.
- Conclusion: No data gap

San Jacinto Lower Pressure

- No wells in the northern portion of the GMZ where 2018 storage raster show high storage and also area of TDS concentration transition zone according to 2018 TDS raster. A well around this area is beneficial to understand the change in water quality in the transition zone.
- Conclusion: One potential data gap area in the northern portion of the GMZ.

Hemet-South

- One potential data gag area in are with recycled water use.
- Another potential data gap in area that needs to be check with the most recent groundwater model to determine if this area has sufficient storage.
    - Eastern MWD to check its latest updated aquifer property to verify that the characterization of groundwater storage in the AWQ is accurate.
- Conclusion: Two potential data gaps

Lakeview/Hemet-North

- Conclusion: No data gap

Perris North

- No well in DoD land → the Regional Board has no authority to request access or require DoD to provide data (*unresolvable data gap).*
- Conclusion: There is no well in area owned by DoD (*unresolvable data gap).*

Perris South

- One potential data gap in area owned by South Coast Edison (one well that used to be monitored in this area).
- Conclusion: one potential data gap area.

Menifee

- There is a data gap at the western end of the GMZ.
- If EMWD can demonstrate that the groundwater flow system between Menifee GMZ and Perris South GMZ is continuous, and TDS/N concentrations are similar, then they could propose to

utilize the available monitoring site in Perris South near the boundary of Menifee to "fill" the data gap. Hydrogeologic evidence should be presented to demonstrate how data gaps is filled with adjacent GMZ well.

- Conclusion: one potential data gap area

Beaumont

- One potential data gap along the western boundary of the GMZ
    - This area is not correct in the AWQ project storage model. It needs to be updated to reflect the latest hydrogeology.
    - There may still be potential data gap, but would need to be assessed after the storage model updated
    - Groundwater flows from Beaumont to San Timoteo, can the agency use a well in San Timoteo GMZ that are close to the boundary and data gap area to fill data gap?
        - If responsible parties can demonstrate that the groundwater flow system between the GMZs is continuous, and TDS/N concentrations are similar, then they could propose to utilize the available monitoring site in Perris South near the boundary of Menifee to "fill" the data gap. Hydrogeologic evidence should be presented to demonstrate how data gaps is filled with adjacent GMZ well.
    - Potential Yucaipa Valley Water District IRP project is being considered in the data gap area. Monitoring wells will be required for IRP, which can be used to fill data gap if data gaps is actual.
- Conclusion: One potential data gap

San Timoteo

- Conclusion: No data gaps – all data gaps were previously resolved following 2012 AWQ recomputation

Yucaipa

- More wells currently sampled for water quality but are not in the maximum benefit/AWQ database. These wells will be added to the maximum benefit/AWQ database.
    - YVWD Wells 5, 6, and 7.
- Potential wells in data gap area in Crafton Hills (pending outreach to well owners)
    - Redland Heights and Redlands 36 may be able to fill one area
    - Bear Valley Mutual wells 5th Ave and Happe may be able to fill one area
- There may be some USGS wells in data gap areas – USGS may be getting grants to sample USGS Wilson Creek and Equestrian wells.
- Conclusion:
    - One potential data gap area in central GMZ, pending confirmation of existing wells that have not been provided in the AWQ database. If filled, no data gap.
    - Two potential data gaps in Crafton Hills area, pending outreach to Redlands and BVMWC to fill this area. If filled, no data gaps.

Lytle

- Conclusion: Potential data gap area in northern developed area of the GMZ

Bunker Hill A

- No recycled water use
- Devore Water Company may have wells in this GMZ.
- Conclusion: One potential data gap but since there is no recycled water use, it's a low priority to fill data gap.

Bunker Hill B

- Two new monitoring wells to be installed near Weaver basin, which will be used for RW recharge
- One potential data gap area in City of Redlands service area. City informed that three wells in this area are active and have been sampled recently (Well 30A, 31A, 41) → City to confirm if these wells are being monitoring and will continue to be monitored
- Conclusion: One potential data gap. City of Redlands wells Well 30A, 31A, 41 can fill data gap if they are sampled annually.

Rialto

- No recycled water use. Should this be a low priority to identify responsible party to future fill data gap? Responsible party will be the agency that applies for recycled water discharge permit in the future. Discuss with Regional Board.
- Constructing a new well (CLT 33) next to CLT 21 (200 feet away)
- Sufficient coverage of wells to understand quality for municipal supply.
- Conclusion: No data gap.

Colton

- Need to check the latest updated aquifer property to verify that the characterization of distribution of groundwater storage in the AWQ is accurate. May need to reassess data gaps after storage is updated.
- Potentially six existing wells that could be assessed to increase monitoring network, City of Colton and City of Riverside to investigate if these wells can be sampled for water quality.
- There is a well close to the data gap area but in the adjacent GMZ, can this well be used to fill data gap?
    - If responsible parties can demonstrate that the groundwater flow system between the GMZs is continuous, and TDS/N concentrations are similar, then they could propose to utilize an available monitoring site near the boundary to "fill" the data gap. Hydrogeologic evidence should be presented to demonstrate how data gaps is filled with adjacent GMZ well.
- Conclusion: One potential data gap, pending findings from City of Colton and Riverside. And if well close to data gap but in the adjacent GMZ can be used to fill data gap.

Riverside-B

- No recycled water activities – need responsible party?
- WVWD-41, which is in Riverside-A near the boundary of Riverside-A/B and the data gap area, can agency use this well to fill data gap?
    - If responsible parties can demonstrate that the groundwater flow system between the GMZs is continuous, and TDS/N concentrations are similar, then they could propose to

utilize an available monitoring site near the boundary to "fill" the data gap. Hydrogeologic evidence should be presented to demonstrate how data gaps is filled with adjacent GMZ well.

- Conclusion: Two potential data gaps

Riverside-C

- Only one well in GMZ
- JCSD has irrigation wells in the northern portion of the GMZ that can be sampled to provide more data in this area. JCSD to confirm.
- No recycled water use
- Conclusion: One or two potential data gap areas, pending review of well sites JCSD will start sampling

Riverside-A

- Colton WRF does not discharge and sends all of its recycled water to RIX for discharge.
- Potentially more wells were discovered in areas of data gaps. Responsible agencies will need to outreach to well owner to determine if these wells can be monitored.
    - 4 wells on RIX facility. These wells can be sampled for WQ, sample will be comingled samples and can be used to monitor WQ.
    - Riverside County Park well near Rancho Jurupa County Park
    - Rubidoux 13 well – currently measured for WL only but can check if can be sampled for WQ
    - 2 Rubidoux's wells between Rubidoux 2 and 6 area.
- Conclusion: Two potential data gaps, pending if new wells can be monitored annually.

Riverside-F

- No recycled water use
- Van Buren wells may be abandoned due to PFAS – can they be sampled after out of operation?
- One data gap area south east of Van Buren wells
- Conclusion: One potential data gap area

Riverside-E

- Conclusion: No data gap but if any current wells are loss, then data gap exists.

Riverside-D

- No municipal production
- Very minimal recycled water use
- Can this be low priority due to very minimal recycled water use and no municipal production? Check with Regional Board.
- City of Riverside will continue to sample existing well to track water quality trends.
- Conclusion: Two potential data gap areas

Arlington

- No wells in area of recycled water use – potential data gap

    - There may be no groundwater in the area of RW use (at least based on AWQ storage properties). Updated hydrogeology should be reviewed
- WMWD evaluating feasibility for recycled water recharge in Victoria Basin
- Data gap in eastern, central area. In this area –
    - Army 1 and 2, and Cal Baptist in area of data gap but not actively being monitored, City of Riverside to check if these wells can be monitored to fill data gaps
- Conclusion: Two to three potential data gaps areas, needs to be re-assessed based on updated storage model.

Cucamonga

- Cucamonga Valley WD working on updated groundwater model. Can review aquifer property to verify that the characterization of groundwater storage in the AWQ is accurate and to support updated storage model.
- Future expansion plan for recycled water use dictates areas to be monitored – data gaps to be assessed when future reuse areas characterized
- One data gap in eastern GMZ
- Northern area is not a data gap, unless recycled water is moved up that way
- Conclusion: One potential data gap area, pending update of potential future recycled water use areas

Chino-North

- Two data gap areas – one in City of Chino Hills and one in Fontana WC's service areas. Watermaster will work with these agencies to request to monitor these wells.
- One data gap area – monitoring wells will be constructed in the northern portion of the GMZ as part of the CBP project
- Conclusion: Three potential data gaps, pending if existing and new wells will be sampled for water quality annually.

Chino-East

- JCSD irrigation wells (JCSD 24 and High School Irrigation wells) in area of data gap → can be monitored for water quality (TDS/N)
- Stringfellow wells in data gap area – Regional Board can draft a letter to request permission to sample wells.
- Conclusion: Potential data gaps, pending if existing wells in data gap areas can be monitored annually.

Chino-South

- JCSD irrigation well (JCSD 41) in area of data gap → can be monitored for water quality (TDS/N)
- Stringfellow wells in data gap area – Regional Board can draft a letter to request permission to sample wells.
- One well in Silverlake Equestrian Park that potentially can be sampled
- Conclusion: Potential data gaps, pending if existing wells in data gap areas can be monitored annually.

Elsinore

- Historically AWQ computations have been based on deeper municipal production wells. Elsinore maximum benefit work demonstrated that if shallow wells are included in the AWQ computation, the answers would change. Solution → keep computing AWQ based on the deeper municipal wells to protect the beneficial uses in this layer; continue to monitor shallow wells and include them in the TDS/N projection as part of maximum benefit commitment.
- Palomar 2 well will be online and will be monitored for water quality (TDS/N)
- Conclusion: No data gap. Elsinore Valley MWD is currently working on a monitoring workplan pursuant to the Elsinore Maximum Benefit SNMP.

Upper Temescal Valley

- Some potential data gaps area but since some areas are different compared to Bulletin 118 boundary, these areas may have minimal water. Additionally, there are private well owners that refused access for monitoring in previous effort. Elsinore Valley MWD to document justifications and references from existing works (i.e., GSPs, etc.) to demonstrate why there is no data gap.
- Conclusion: One potential data gap, pending Elsinore Valley MWD's justifications.

Coldwater

- COR 20 → offline due to WL below pump but due to wet year, WL is above pump again. City of Corona to sample well to see the change in groundwater level due to wetter year and nearby mining pit being full
- COR 21 and COR 3 → offline and not sample but can be sampled. City of Corona to sample these wells annually for TDS and nitrate
- WSC is performing a private well study in Bedford-Coldwater GSA.
- City of Corona to check if there is a monitoring well near Glen Ivy Golf Club (potential data gap area).
- Conclusion: Data gap in the northern portion of GMZ near the Glen Ivy Golf Club, pending findings from City of Corona.

Temescal

- Potential data gap in western portion of the GMZ but also area of minimal storage according to the most recent GSP groundwater model.
- GSA can ask new wells to be sampled for water quality (TDS/N)
- Potentially 8 monitoring wells in area of potential data gaps (Oak street MWs and Main street MWS). City of Corona to investigate if these wells can be sampled for water quality (TDS/N)
- Conclusion: One potential data gap in western portion of GMZ, pending if monitoring wells in data gap area can be monitored and justification for an update to the groundwater aquifer property.

La Habra

- No recycled water activities and only groundwater pumping → low priority to fill data gap.
- OCWD to coordinate with City of La Habra or associated GSA to determine monitoring activities
- Conclusion: Yes, there are data gaps but low priority due to no recycled water use.

Orange County

- Newly constructed well (CREA-YL/1; ID: 1246518) is the only well in corner northwestern portion of the GMZ. This well may go away due to the development in this area → could be data gap in the future. OCWD will work with the Regional Board to coordinate with the developer to preserve this well. The Regional Board discussed drafting a letter to assist OCWD in coordinating with the developer.
- Do not use injection wells for AWQ computation. Remove injection wells from AWQ database.
- Conclusion: No data gap

Santiago

- Recycled water pipeline at the Peters Canyon Park but there is no meter associated with this pipeline. OCWD to investigate if there is recycled water use in Santiago GMZ.
- Conclusion: Yes, there are data gaps but due to no or very minimal recycled water activity (pending finding from OCWD), it's a low priority for filling data gap.

Irvine

- Conclusion: Area with no wells either 1) has low storage according to the OCWD model for this GMZ or 2) in Department of Defense (DoD) land and the Regional Board has no authority to request access or require DoD to provide data (*unresolvable data gap*). For these reasons, there is no data gap.

Appendix C

Maps of Potential Data Gaps in Each GMZ

One Potential Data Gap
(unresolvable data gap)

05 Cienega

San Jacinto-
Upper Pressure

LHMWD 14

LHMWD 16

LHMWD 02

LHMWD 10

LHMWD 04

Pepper Tree

Bee Canyon

Fairview Ave

74

74

Acacia

Grant/FL

Hemet-South

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

WEST YOST K:\Clients\986 Santa Ana Watershed Project Authority\380-21.01 BMPTF-SNMP Planning\GIS\MXD\Data Gaps\Figure A-1_CanyonGMZ_GW Mon Network.mxd - cruz - 8/31/2023

Wells in the Groundwater Monitoring Network

(Monitoring Agency)

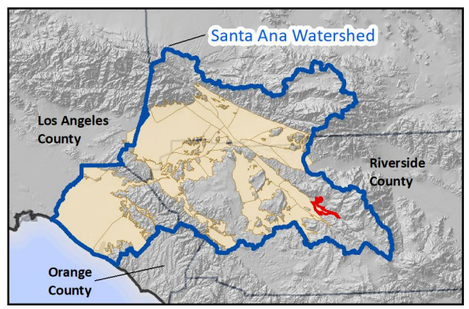
- Eastern Municipal Water District
- Lake Hemet Municipal Water District

Groundwater Management Zone (GMZ)

- Canyon
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

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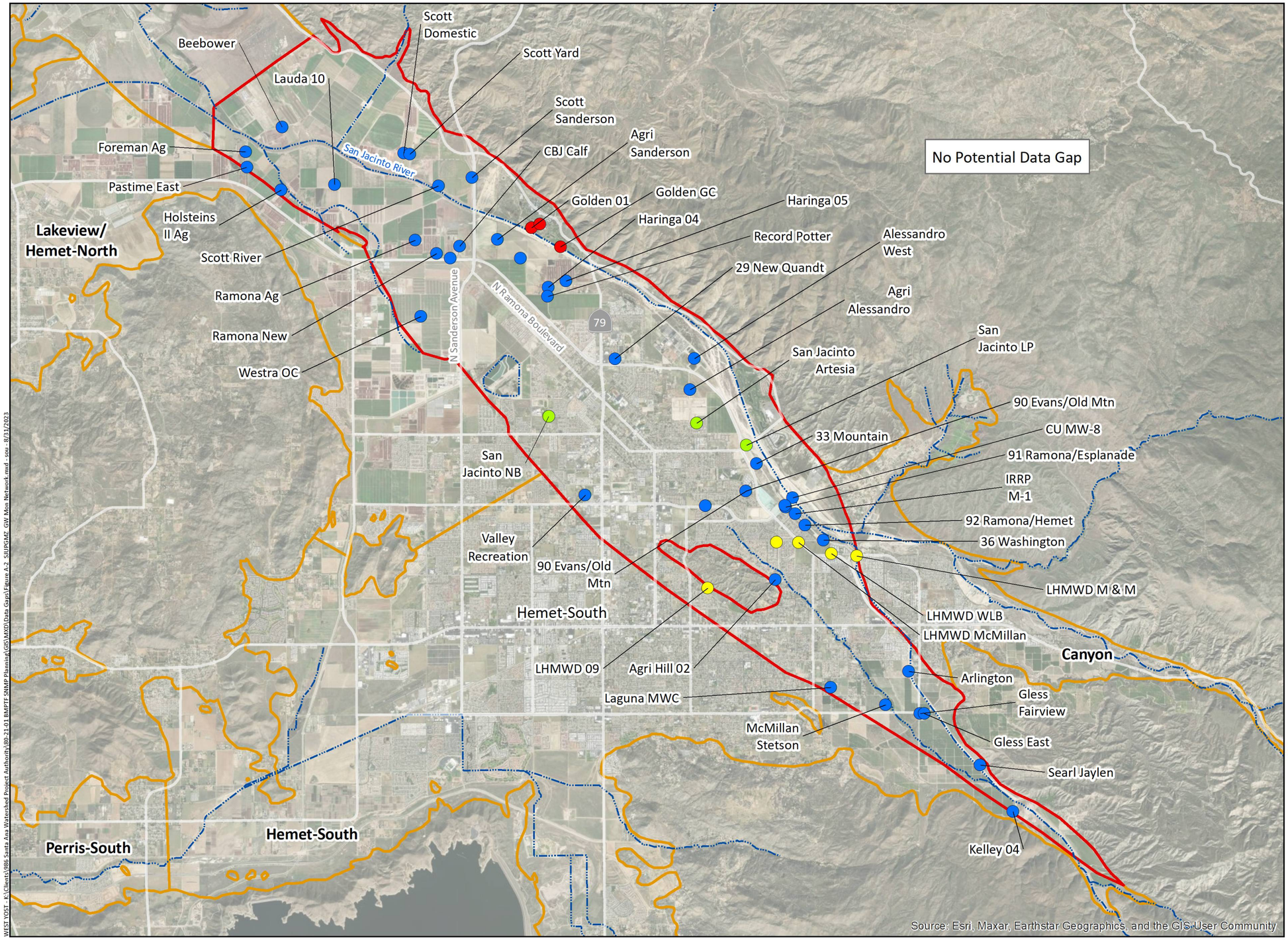
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Canyon GMZ

Figure A-1



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

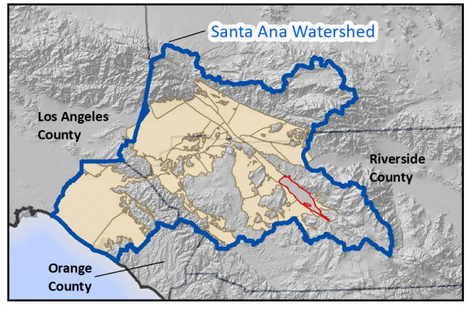
- Eastern Municipal Water District
- City of San Jacinto
- Lake Hemet Municipal Water District
- Private

Groundwater Management Zone (GMZ)

- San Jacinto Upper Pressure
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

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0 2 Miles

0 3 Km

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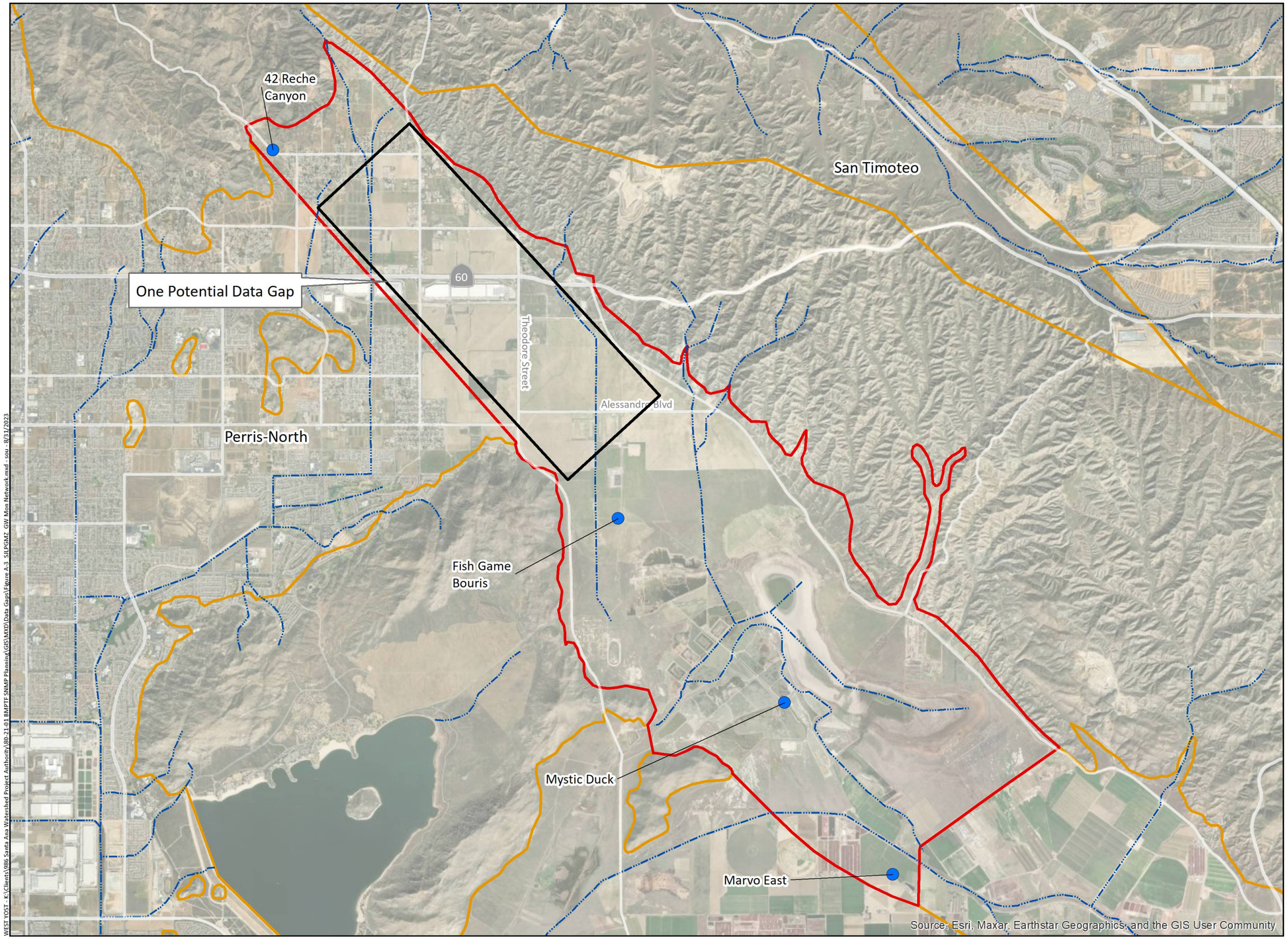
Identification of Potential Data Gaps

San Jacinto Upper Pressure GMZ

Figure A-2



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

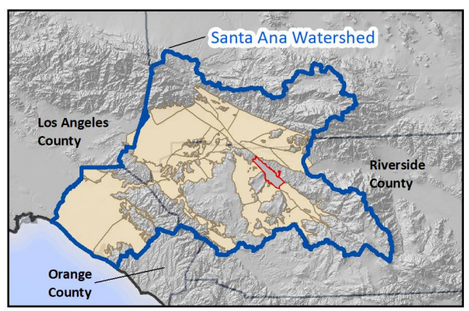
- Eastern Municipal Water District

Groundwater Management Zone (GMZ)

- San Jacinto Lower Pressure
- Other GMZ

Other Features

- Streams and Flood Control Channels



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0 3 Km

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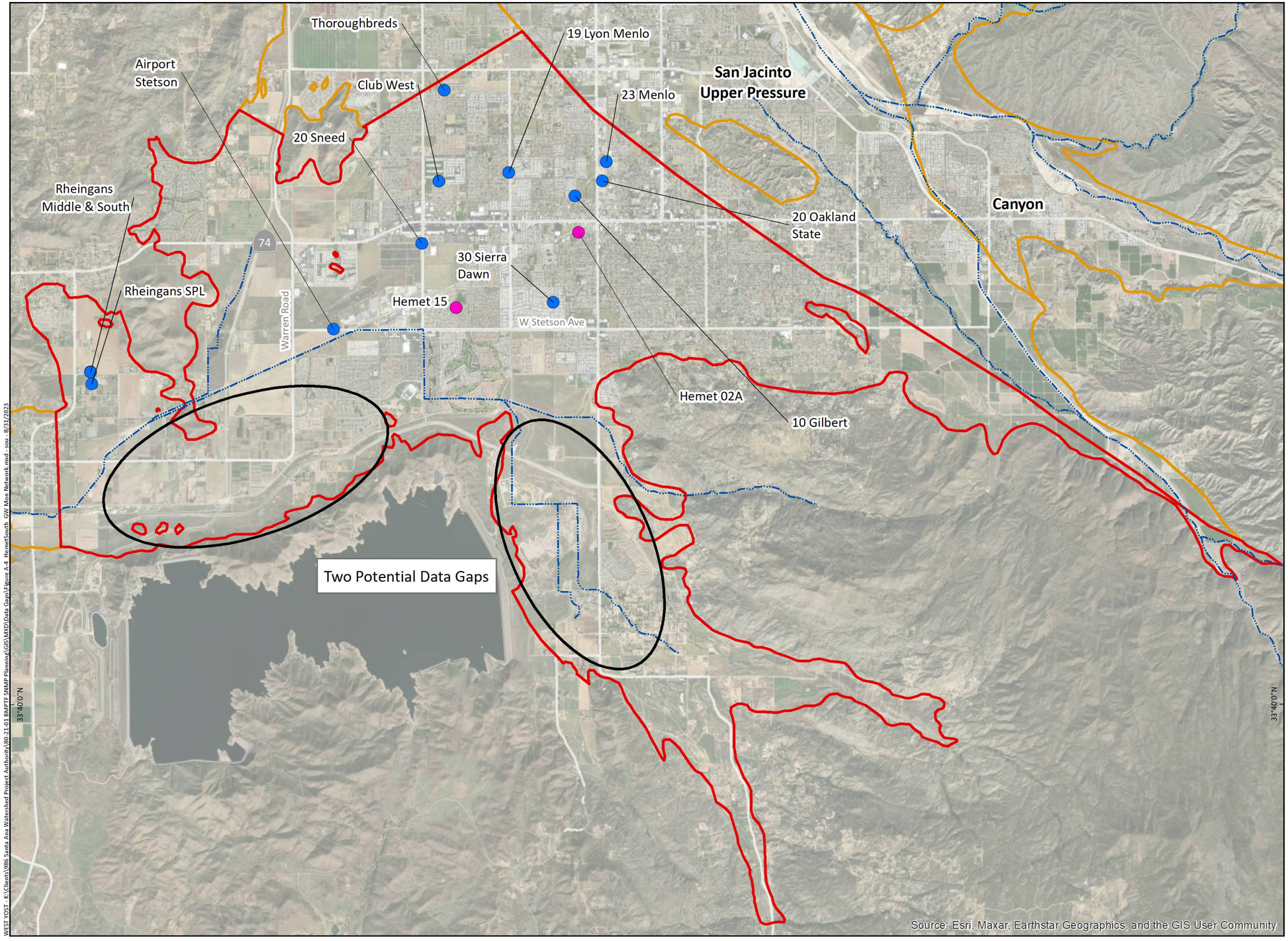
Identification of Potential Data Gaps

San Jacinto Lower Pressure GMZ

Figure A-3



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

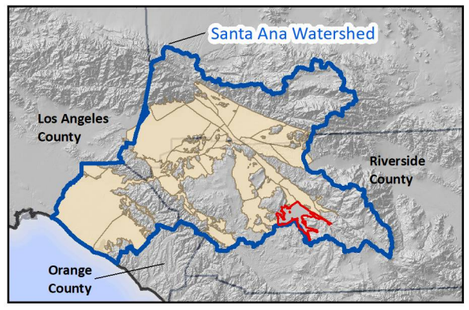
- Eastern Municipal Water District
- City of Hemet

Groundwater Management Zone (GMZ)

- Hemet South
- Other GMZ

Other Features

- Streams and Flood Control Channels



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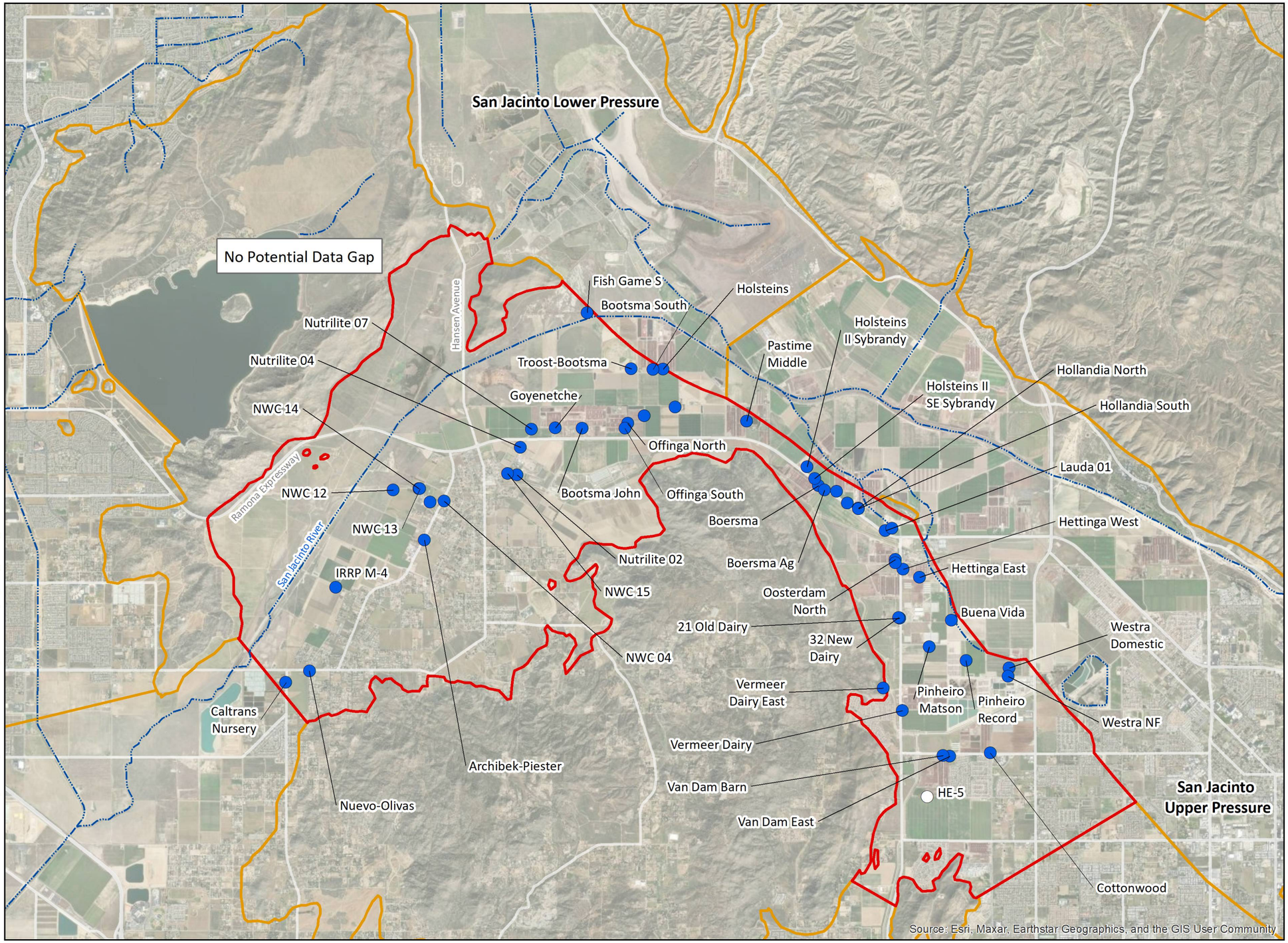
Identification of Potential Data Gaps

Hemet South GMZ

Figure A-4



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

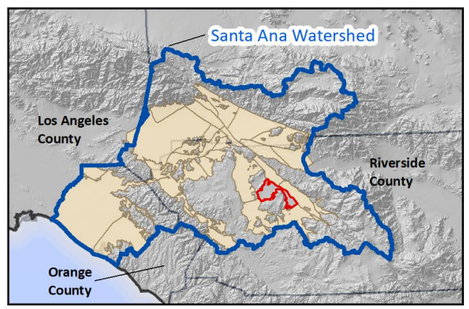
- Eastern Municipal Water District
- Riverside County Waste Management

Groundwater Management Zone (GMZ)

- Lakeview/Hemet-North
- Other GMZ

Other Features

- Streams and Flood Control Channels



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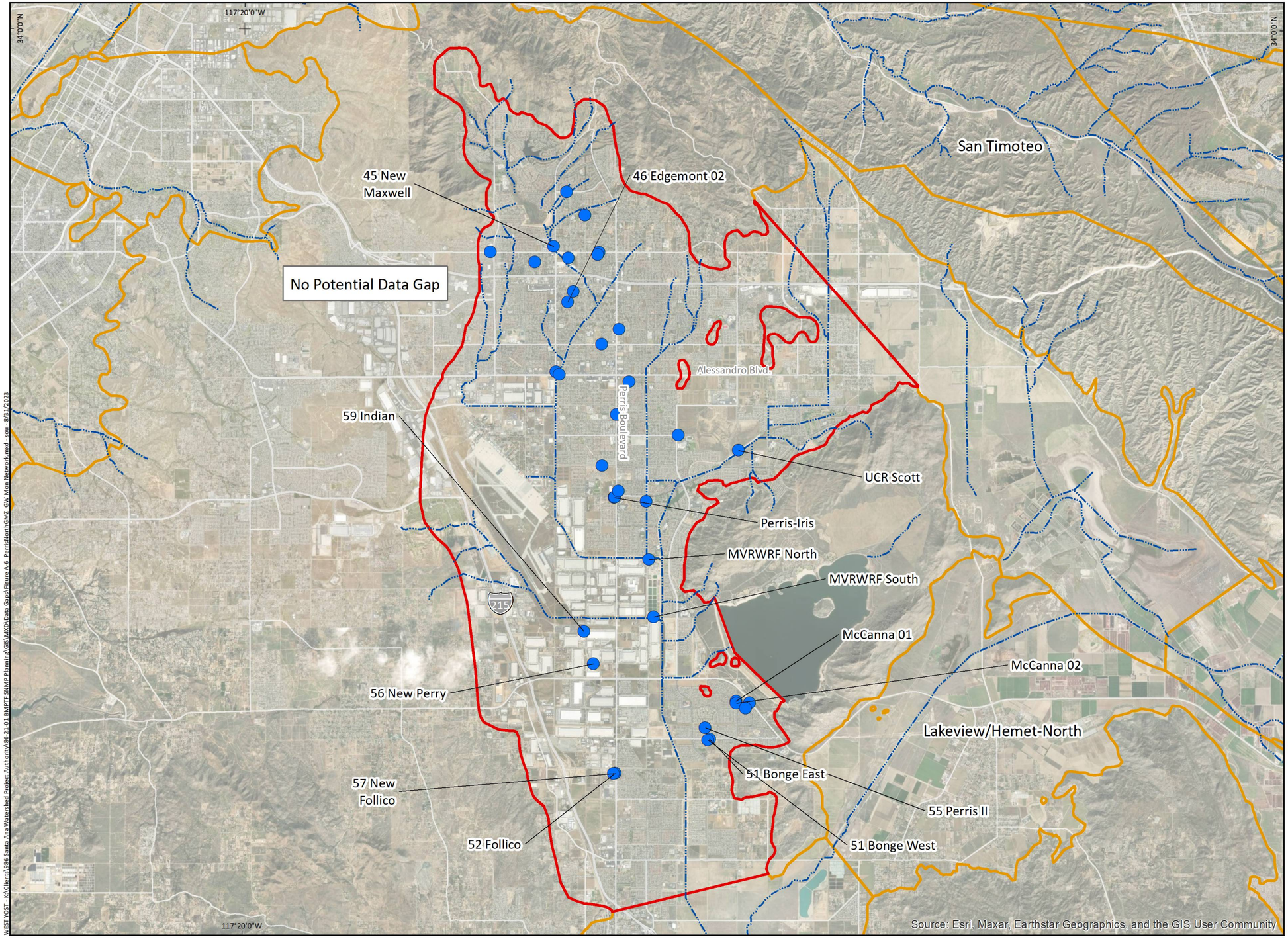
Identification of Potential Data Gaps

Lakeview/Hemet-North GMZ

Figure A-5



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

Eastern Municipal Water District
(well with no label are tentative locations to be finalized)

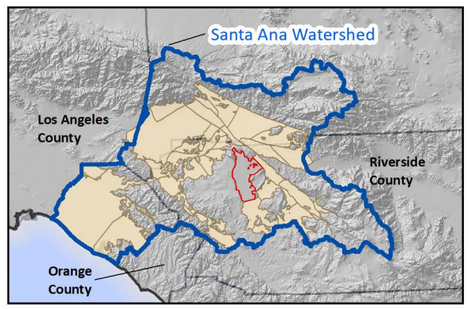
Groundwater Management Zone (GMZ)

Perris-North

Other GMZ

Other Features

Streams and Flood Control Channels



Prepared by:

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0 3 Km

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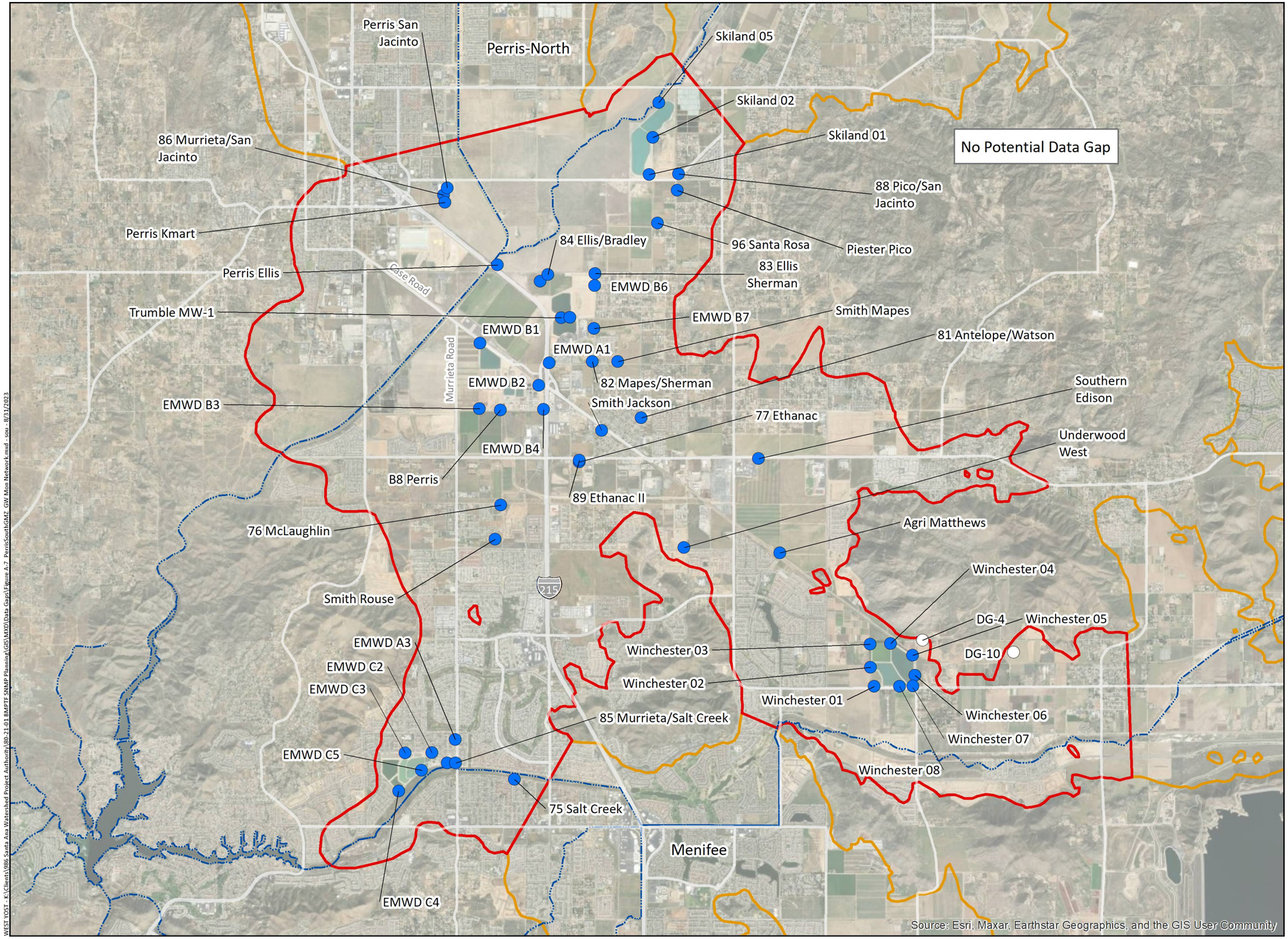
Identification of Potential Data Gaps

Perris-North GMZ

Figure A-6

WEST YOST - K:\Clients\986 Santa Ana Watershed Project Authority\80-21-01 BMPTF-SNMP Planning\GIS\MXD\Data Gaps\Figure A-6_PerrisNorthGMZ_GW Mon Network.mxd - cou - 8/31/2023



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

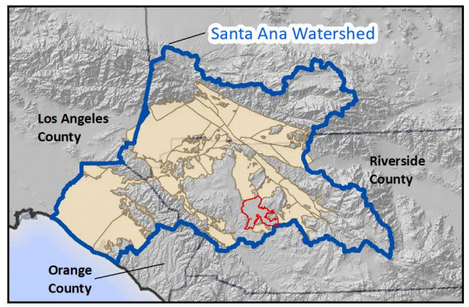
- Eastern Municipal Water District
- Riverside County Waste Management

Groundwater Management Zone (GMZ)

- Perris-South
- Other GMZ

Other Features

- Streams and Flood Control Channels



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0 3 Km

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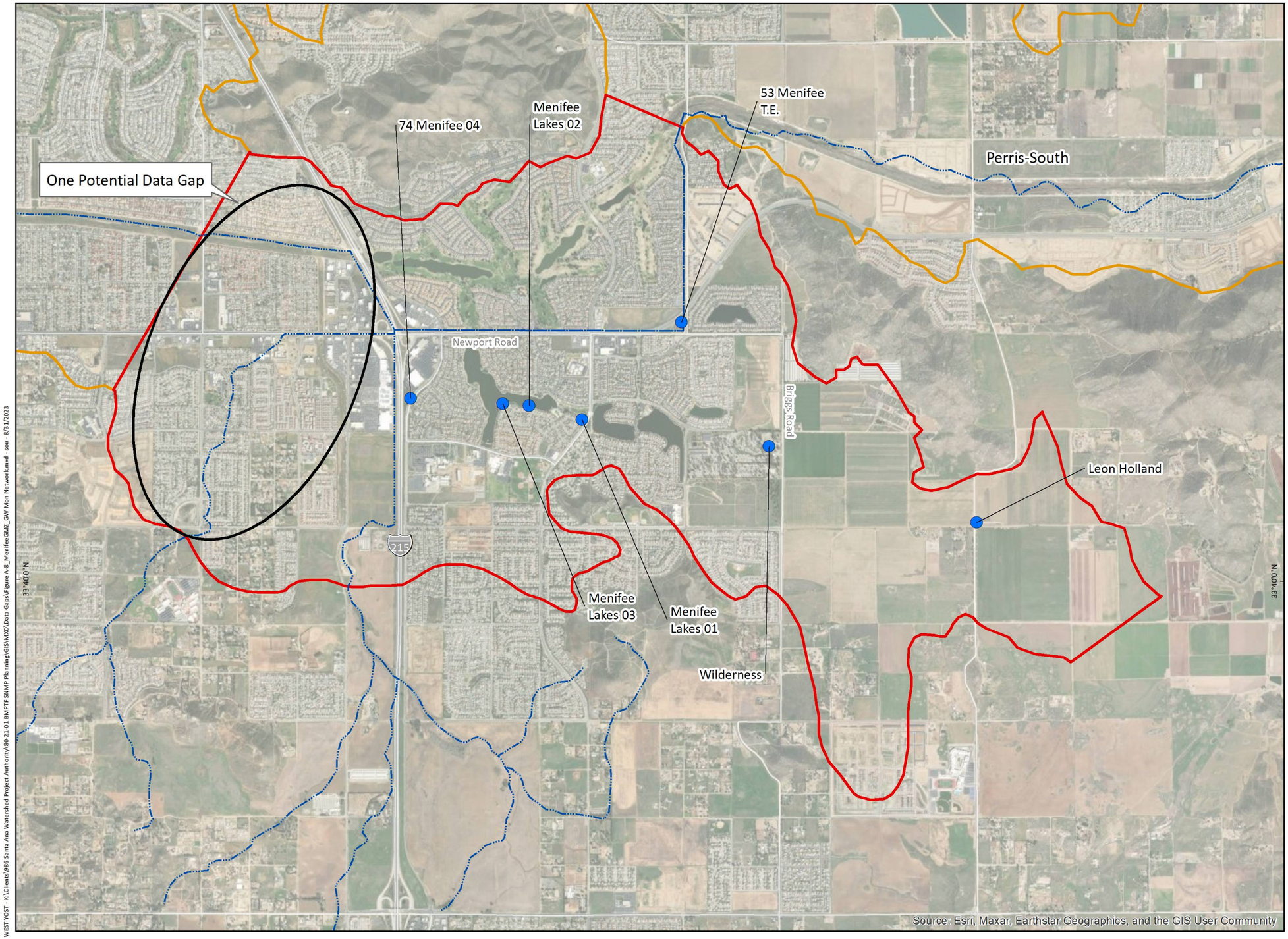
Identification of Potential Data Gaps

Perris-South GMZ

Figure A-7



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

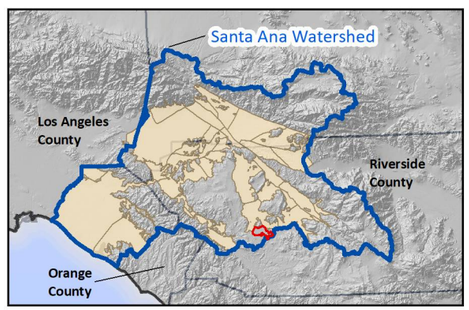
- Eastern Municipal Water District

Groundwater Management Zone (GMZ)

- Menifee
- Other GMZ

Other Features

- Streams and Flood Control Channels



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Identification of Potential Data Gaps

Menifee GMZ

Figure A-8

SMWC 05
SMWC 04
Yucaipa
CVM-1
YVWD 48
BCVWD 29
BCVWD 05
BCVWD 04A
BCVWD 16
BCVWD 23
BCVWD 21
BCVWD 22
BCVWD 25
BCVWD 03
BCVWD 26
BAN M3
BAN C-2A
BAN C-3
BAN C-4
CW 2
NA_1206892
NA_1004370
OBMW-1~4
Ranch Well
OV-2
OV-1
BCVWD 24
CV Nursery
Desert Lawn
NA_1201486
Morongo A
Morongo D
San Timoteo
One Potential Data Gap
Vineland Street
Noble Creek
Beaumont Avenue
Smith Creek
10
34°0'0"N
34°0'0"N
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Wells in the Groundwater Monitoring Network
(Monitoring Agency)

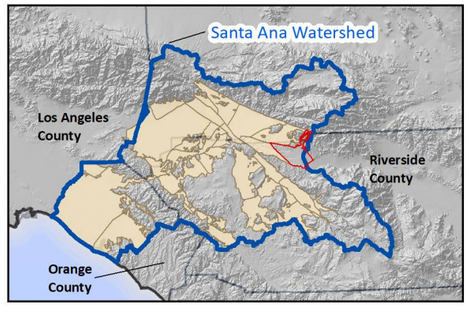
- Beaumont Cherry Valley Water District
- City of Banning
- City of Beaumont
- Riverside County Waste Management
- San Gorgonio Pass
- South Mesa Water Company
- Yucaipa Valley Water District

Groundwater Management Zone (GMZ)

- Beaumont
- Other GMZ

Other Features

- Streams and Flood Control Channels



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0 3 Km

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Identification of Potential Data Gaps
Beaumont GMZ
Figure A-9

YVWDMW-1&5
YVWD MW-2
YVWD MW-3
YVWD MW-4
Live Oak Canyon Road
No Potential Data Gap
Yucaipa
Fishermen's Retreat 1
Fishermen's Retreat 2
San Timoteo Wash
SanTim-1
San Tim-2
San Timoteo Canyon Rd
60
1
Heartland Well
San Jacinto Lower Pressure
34°0'0"N
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Wells in the Groundwater Monitoring Network
(Monitoring Agency)

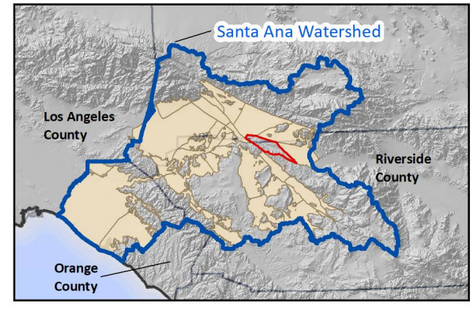
- City of Beaumont
- Yucaipa Valley Water District

Groundwater Management Zone (GMZ)

- San Timoteo
- Other GMZ

Other Features

- Streams and Flood Control Channels



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0 3 Km

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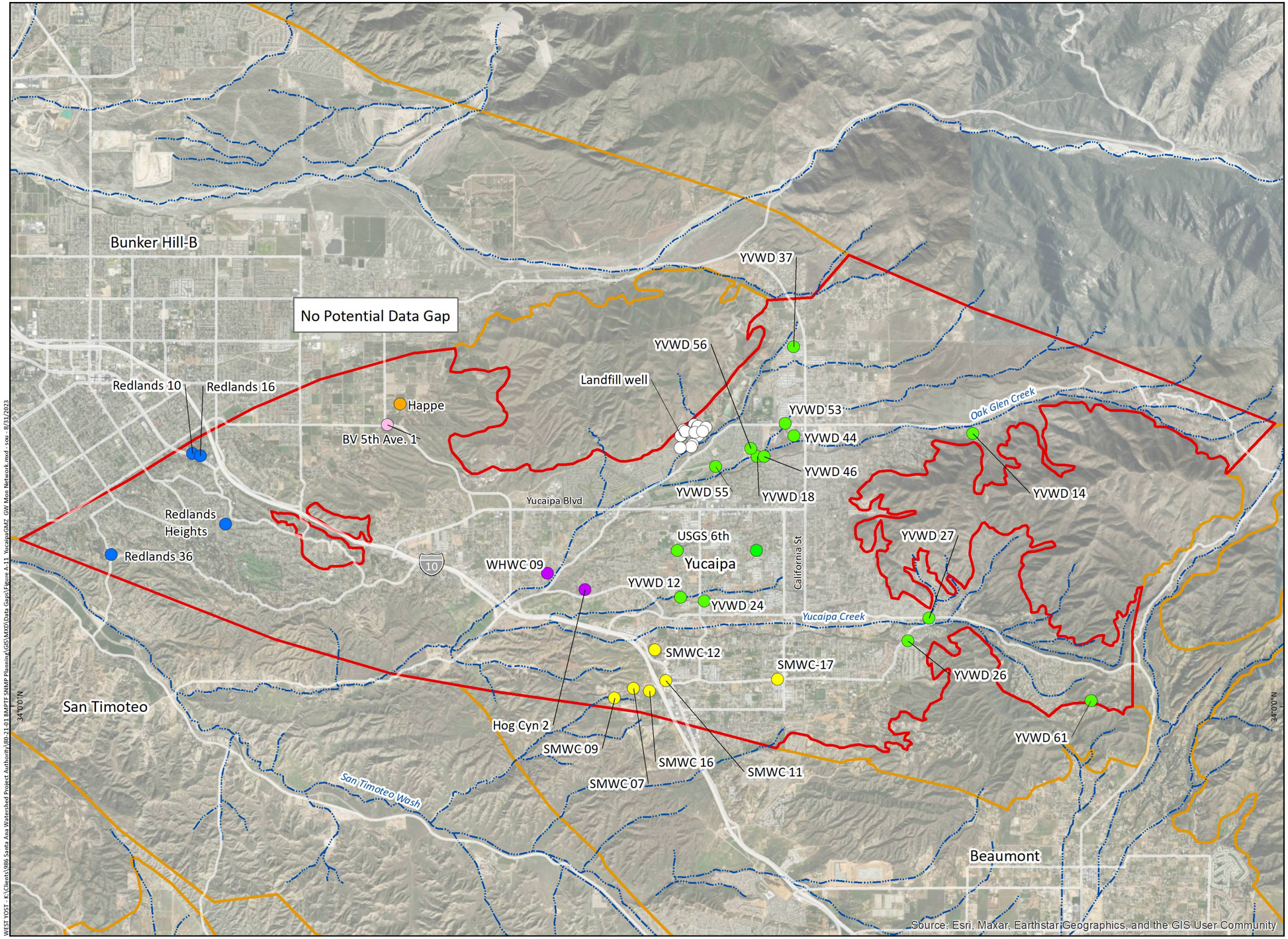
Identification of Potential Data Gaps
San Timoteo GMZ

Figure A-10



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

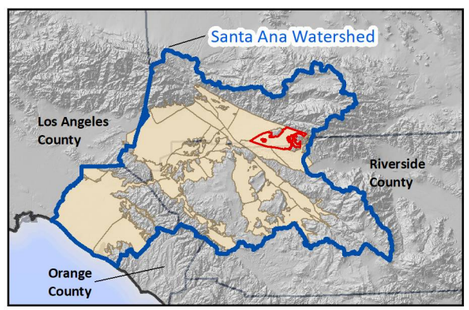
- City of Redlands
- San Bernardino County Landfills
- South Mesa Water Company
- Western Heights Water Company
- Yucaipa Valley Water District
- Bear Valley Mutual Water Company
- Happe Mutual Well Company

Groundwater Management Zone (GMZ)

- Yucaipa
- Other GMZ

Other Features

- Streams and Flood Control Channels



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Data Gap Framework

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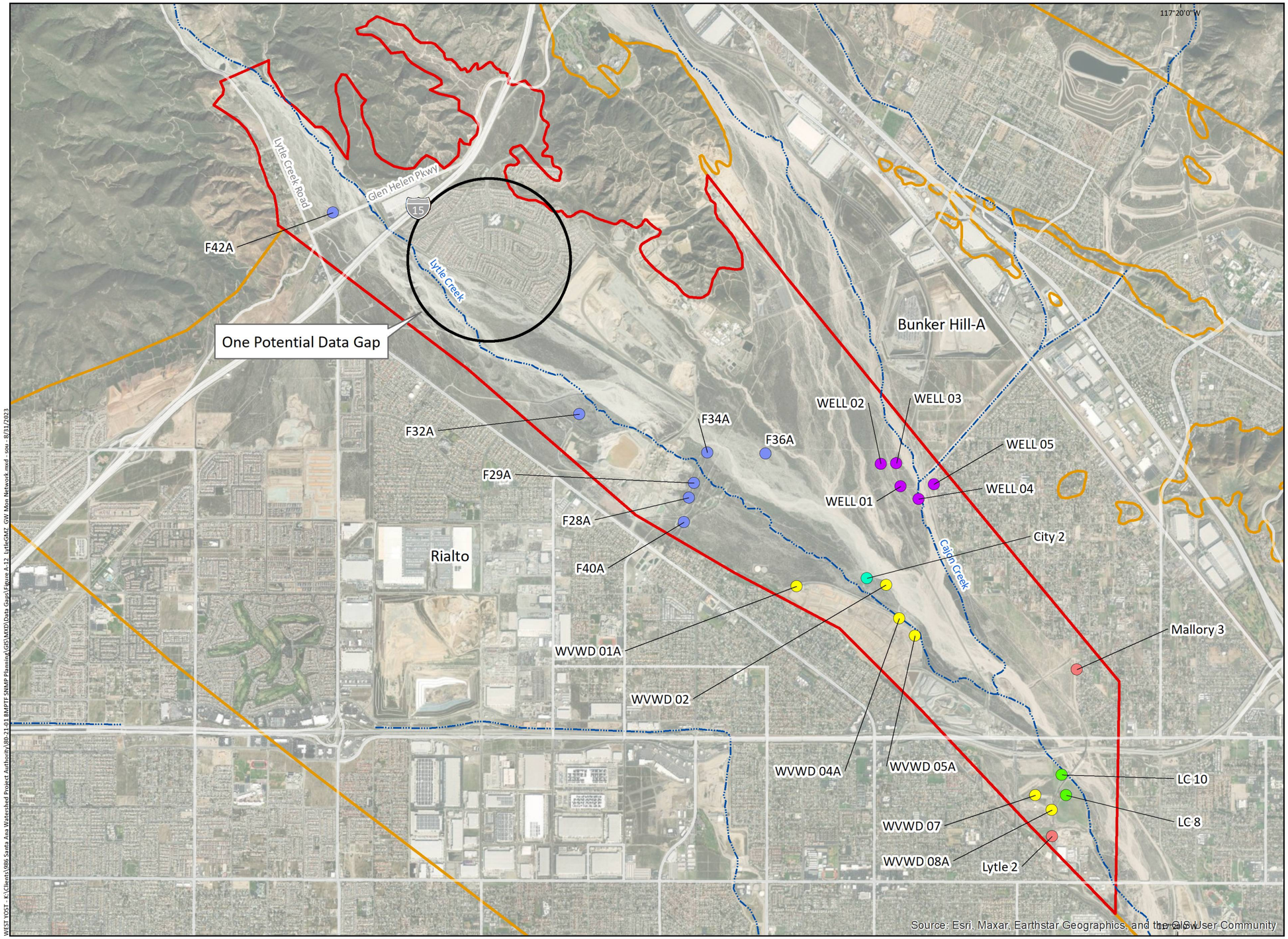
Identification of Potential Data Gaps

Yucaipa GMZ

Figure A-11



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

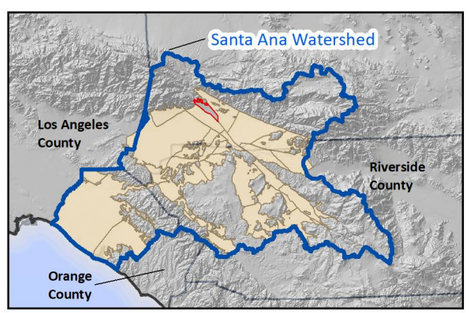
- City of Rialto
- City of San Bernadino
- Fontana Water Company
- Moscoy Mutual Water Company
- Riverside Highland Water Company
- West Valley Water District

Groundwater Management Zone (GMZ)

- Lytle
- Other GMZ

Other Features

- Streams and Flood Control Channels



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Prepared by:

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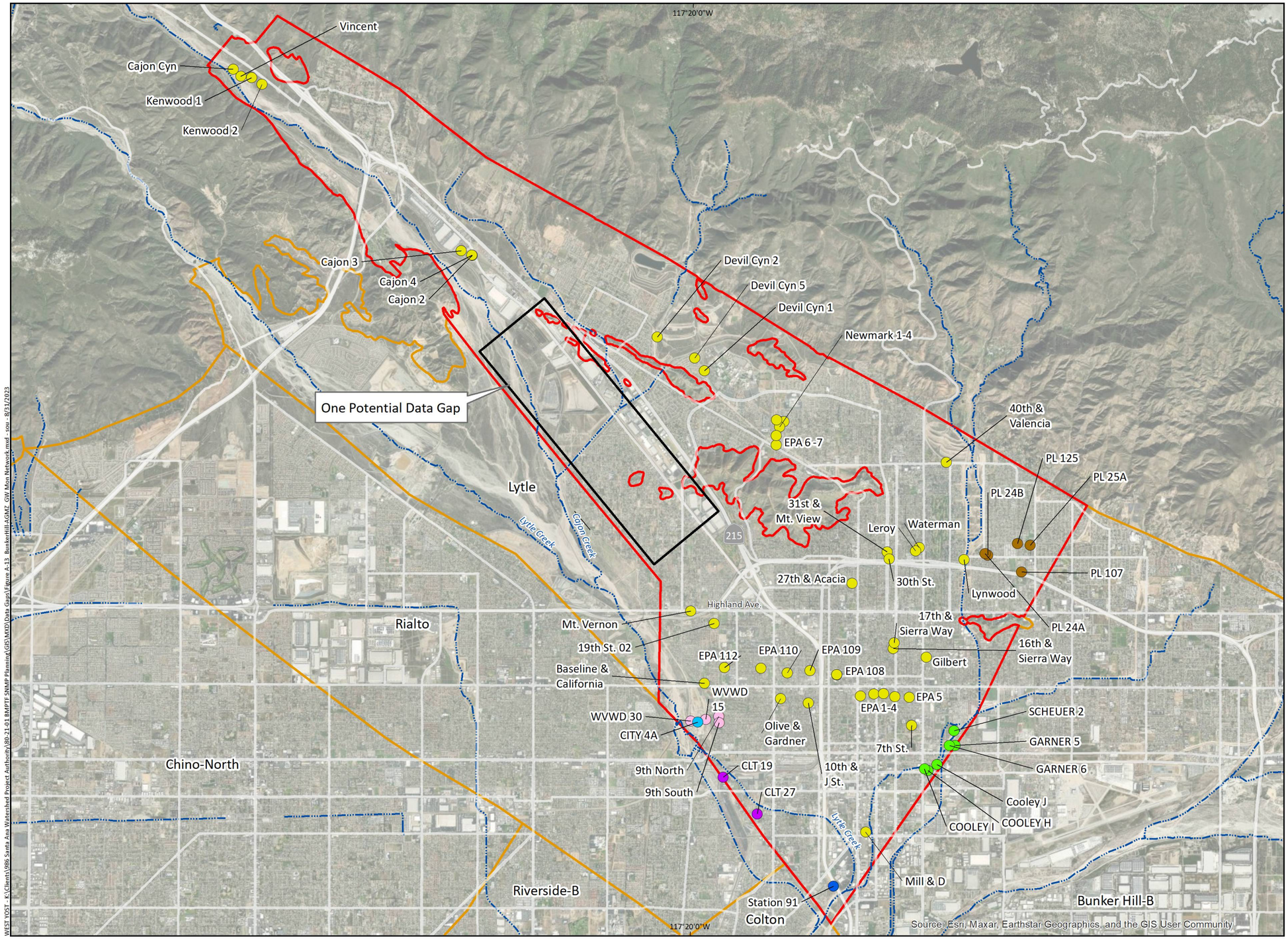
One Potential Data Gap

SAWPA

Identification of Potential Data Gaps

Lytle GMZ

Figure A-12



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

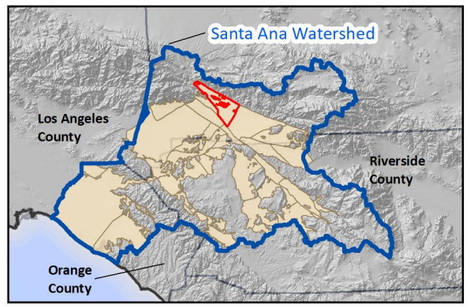
- City of Colton
- City of Rialto
- City of Riverside
- City of San Bernardino
- East Valley Water District
- Elsinore Valley Municipal Water District
- West Valley Water District

Groundwater Management Zone (GMZ)

- Bunker Hill A
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

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Data Gap Framework

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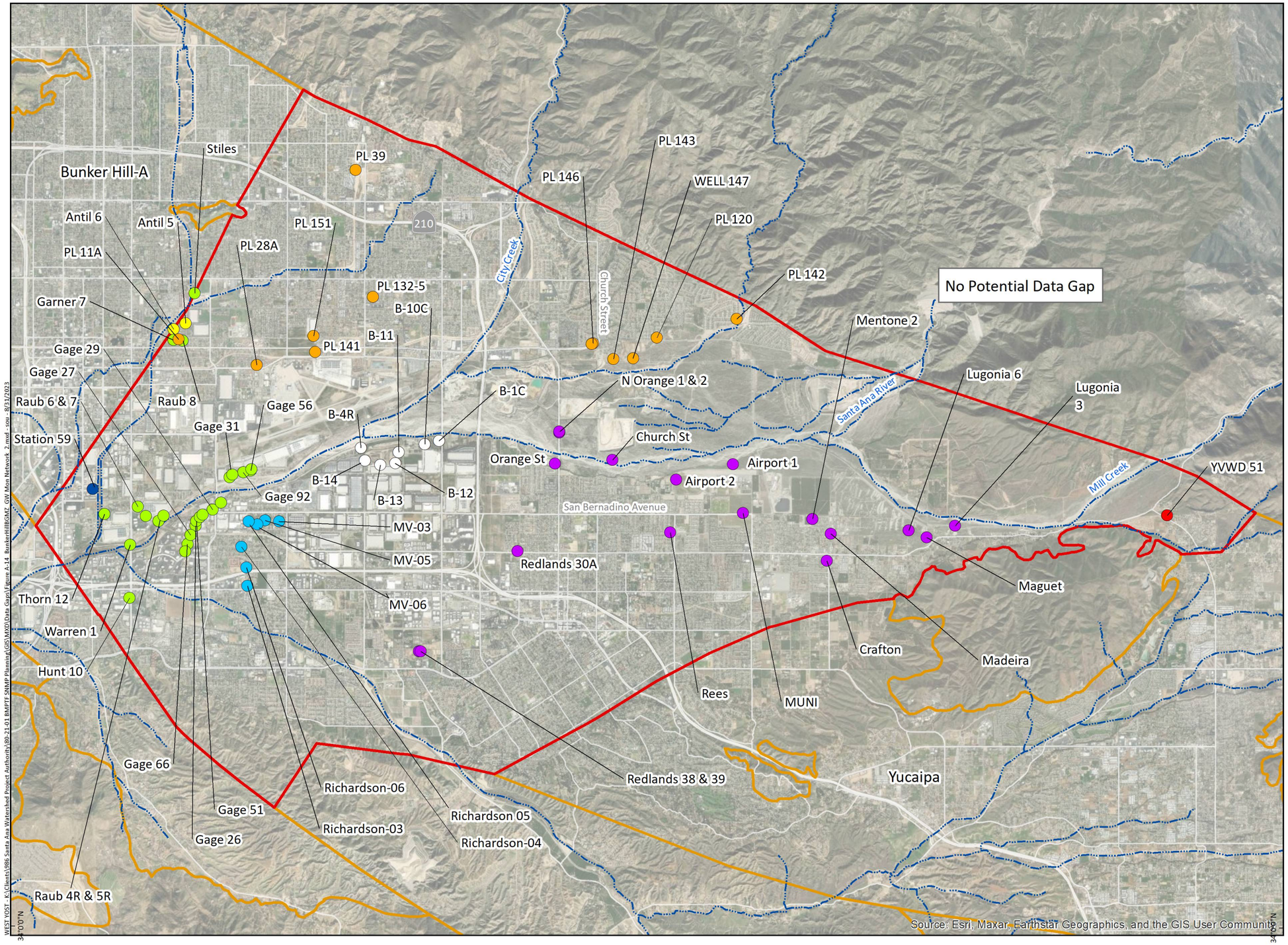
Identification of Potential Data Gaps

Bunker Hill A GMZ

Figure A-13



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

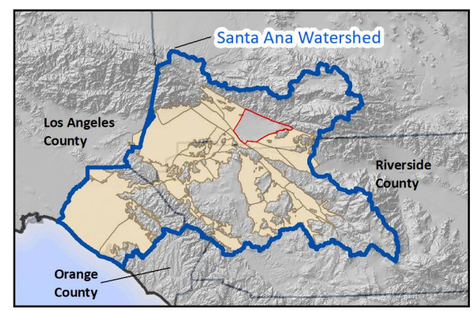
- City of Loma Linda
- City of Redlands
- City of Redlands Landfill
- City of Riverside
- City of San Bernadino
- East Valley Water District
- Yucaipa Valley Water District
- Elsinore Valley Municipal Water District

Groundwater Management Zone (GMZ)

- Bunker Hill B
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

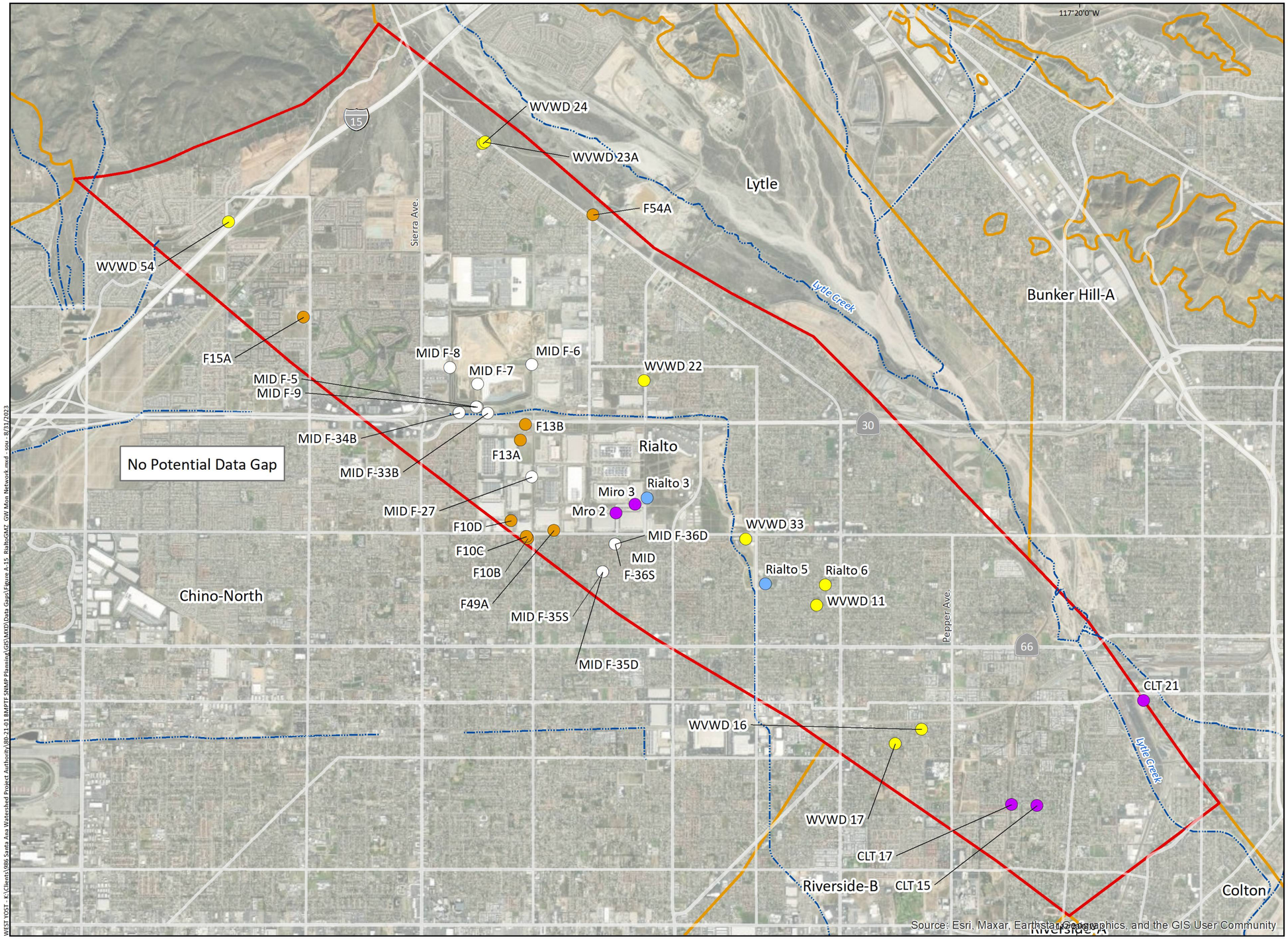
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Bunker Hill B GMZ

Figure A-14



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

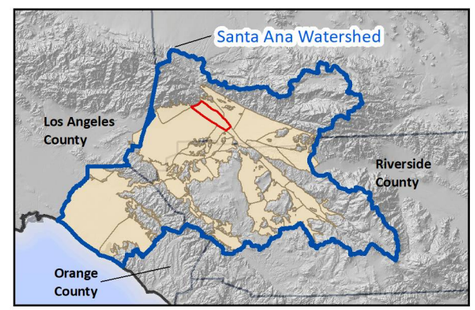
- City of Colton
- City of Rialto
- Fontana Water Company
- West Valley Water District
- San Bernardino County Landfills

Groundwater Management Zone (GMZ)

- Rialto
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

2 Miles

3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

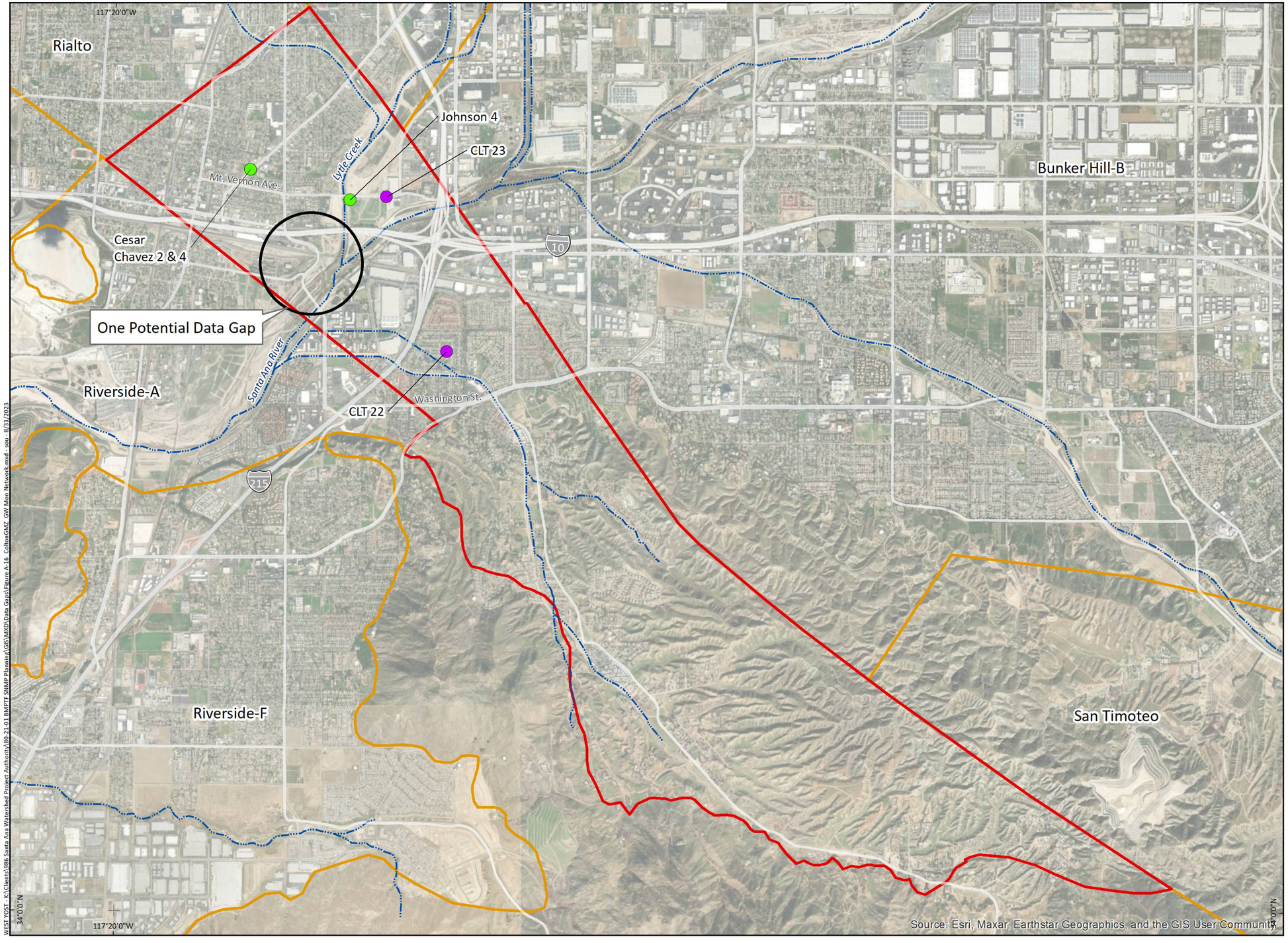
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Rialto GMZ

Figure A-15



WEST YOST - K:\Clients\986 Santa Ana Watershed Project Authority\Bb-21-01 BMPTF SNMP Planning\GIS\MXD\Data Gaps\Figure A-16_ColtonGMZ_GW Mon Network.mxd - sou - 8/31/2023

Wells in the Groundwater Monitoring Network

(Monitoring Agency)

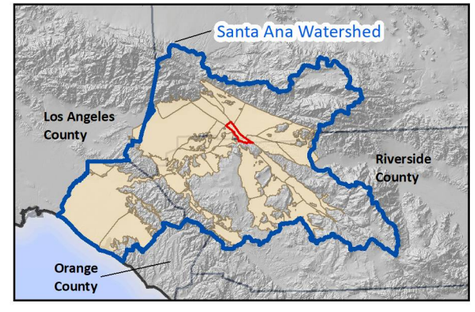
- City of Colton
- City of Riverside

Groundwater Management Zone (GMZ)

- Colton
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

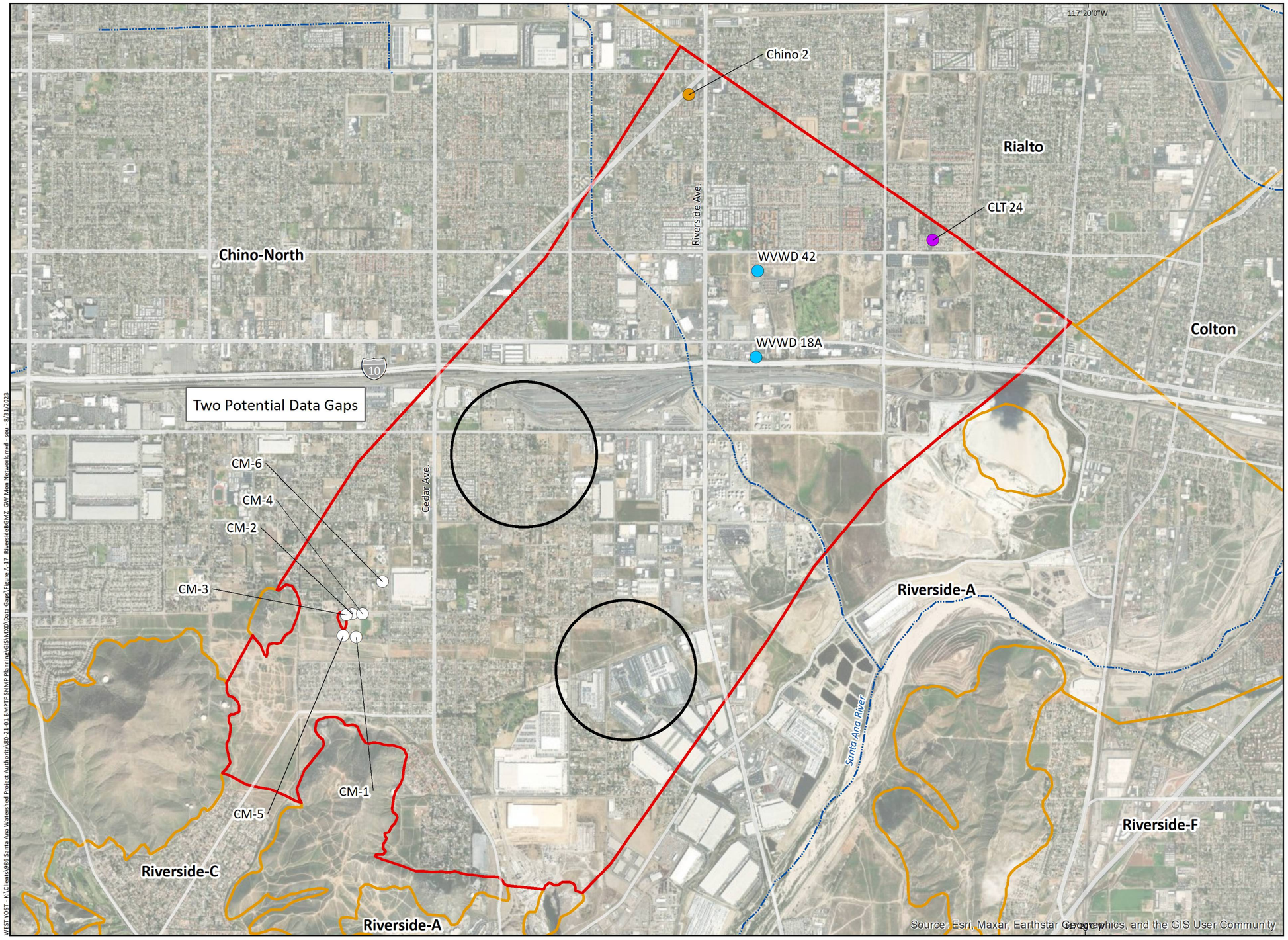
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Colton GMZ

Figure A-16



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

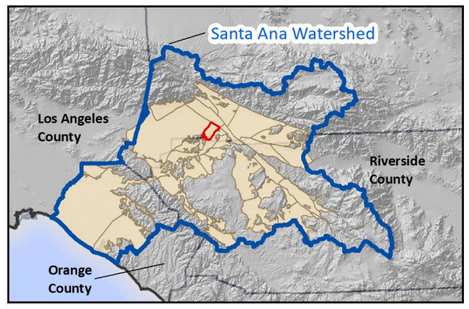
- City of Colton
- City of Rialto
- County of San Bernardino
- West Valley Water Distrrict

Groundwater Management Zone (GMZ)

- Riverside B
- Other GMZ

Other Features

- Streams and Flood Control Channels



WEST YOST - K:\Clients\986 Santa Ana Watershed Project Authority\80-21-01 BMPTF-SNMP Planning\GIS\MXD\Data Gaps\Figure A-17_RiversideBGMZ_GW Mon Network.mxd - sou - 8/31/2023

Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

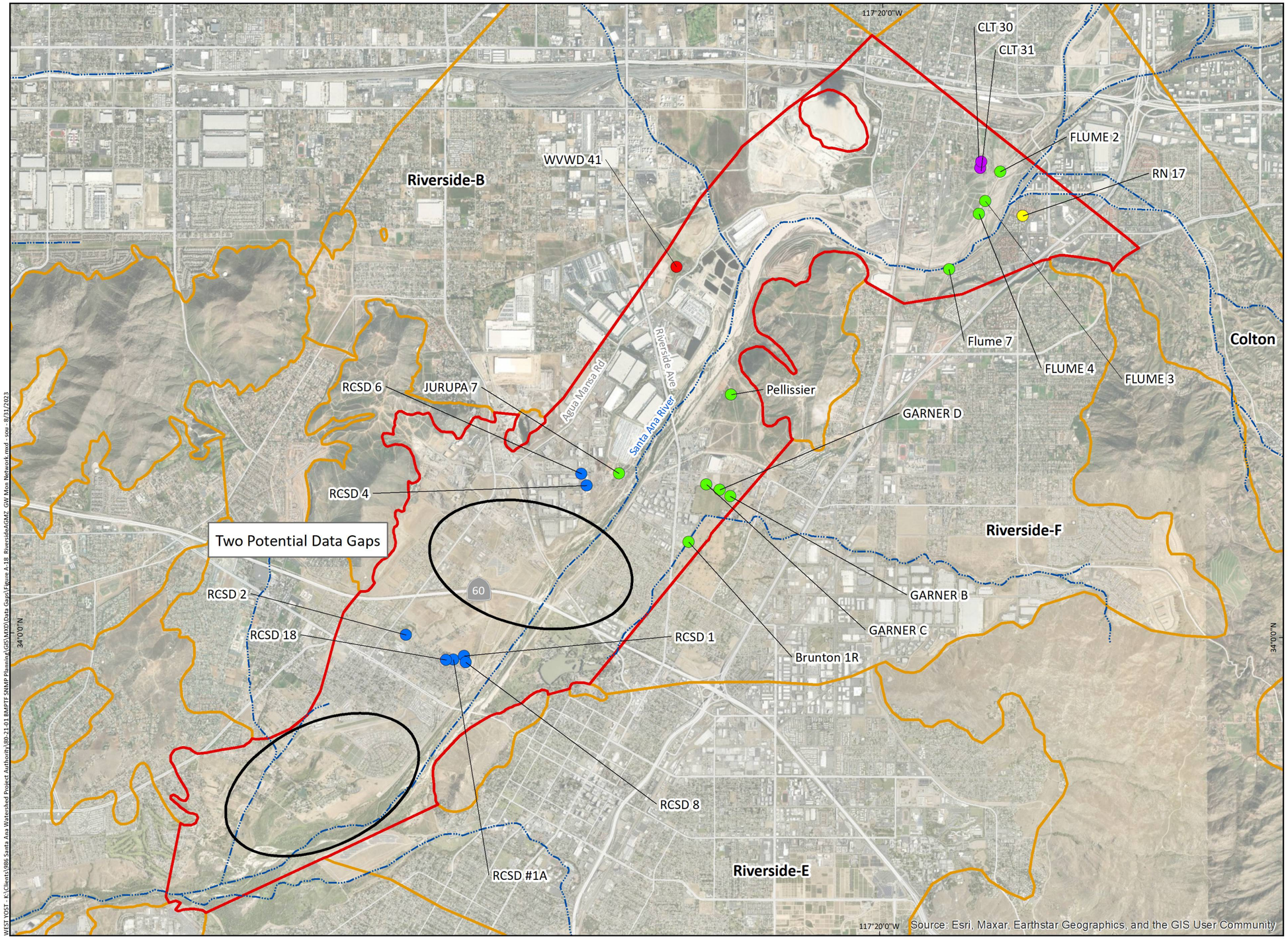
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Riverside B GMZ

Figure A-17



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

- City of Colton
- City of Riverside
- Colton/San Bernardino Regional Tertieary Treatment and Water Reclamation Authority*
- Riverside Highland Water Company
- Rubidoux Community Services District
- West Valley Water District

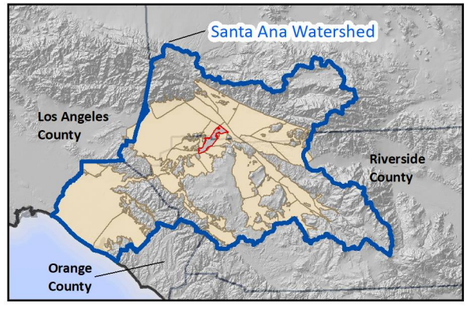
Groundwater Management Zone (GMZ)

- Riverside-A
- Other GMZ

Other Features

- Streams and Flood Control Channels

*Note: Combined pump water is sampled



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

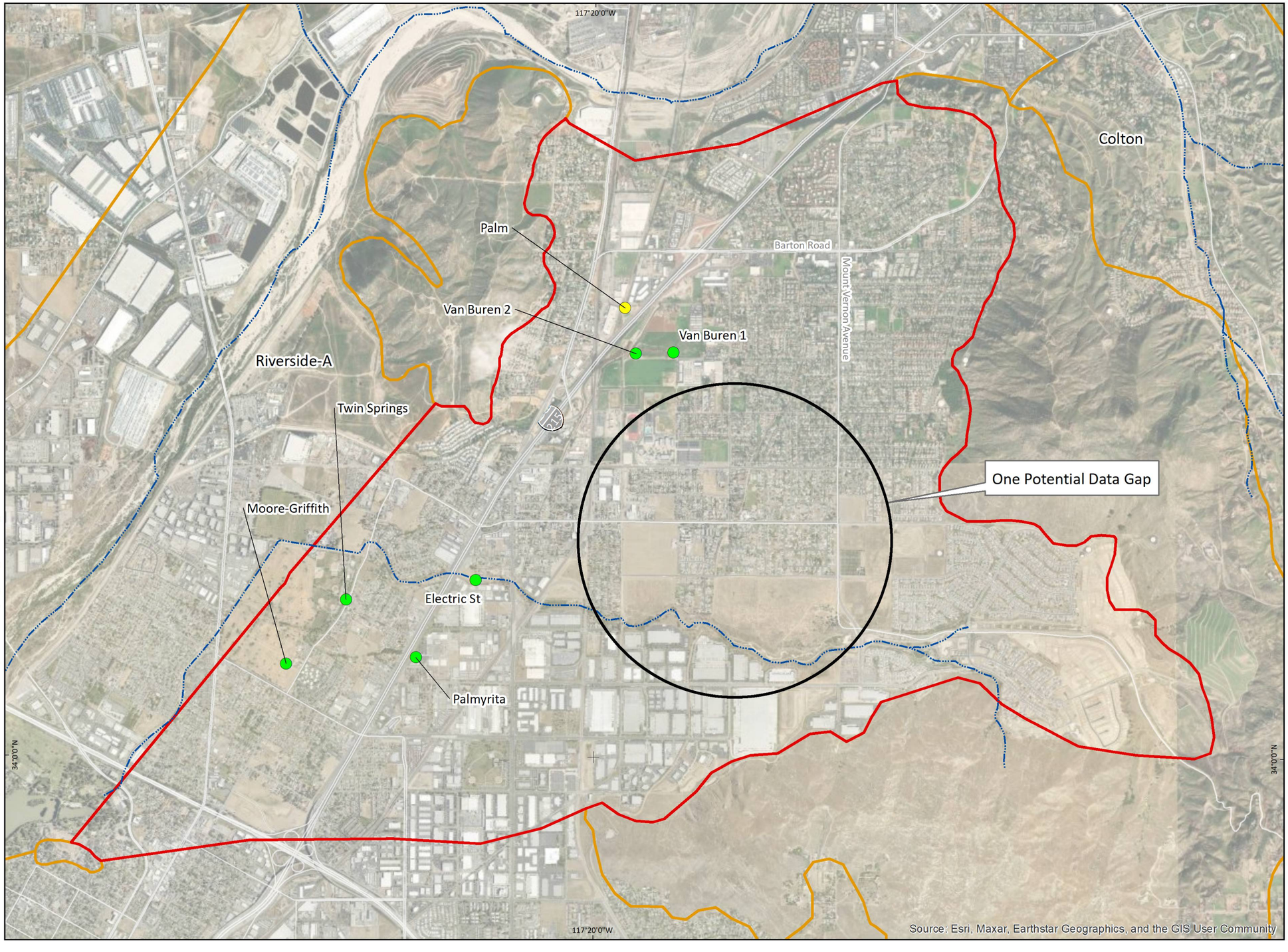
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Riverside-A GMZ

Figure A-18



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

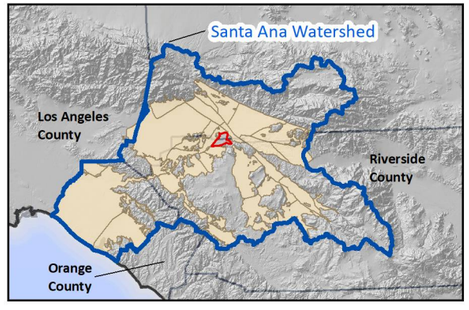
- City of Riverside
- Elsinore Valley Municipal Water District

Groundwater Management Zone (GMZ)

- Riverside F
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 1 Miles

0 1 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

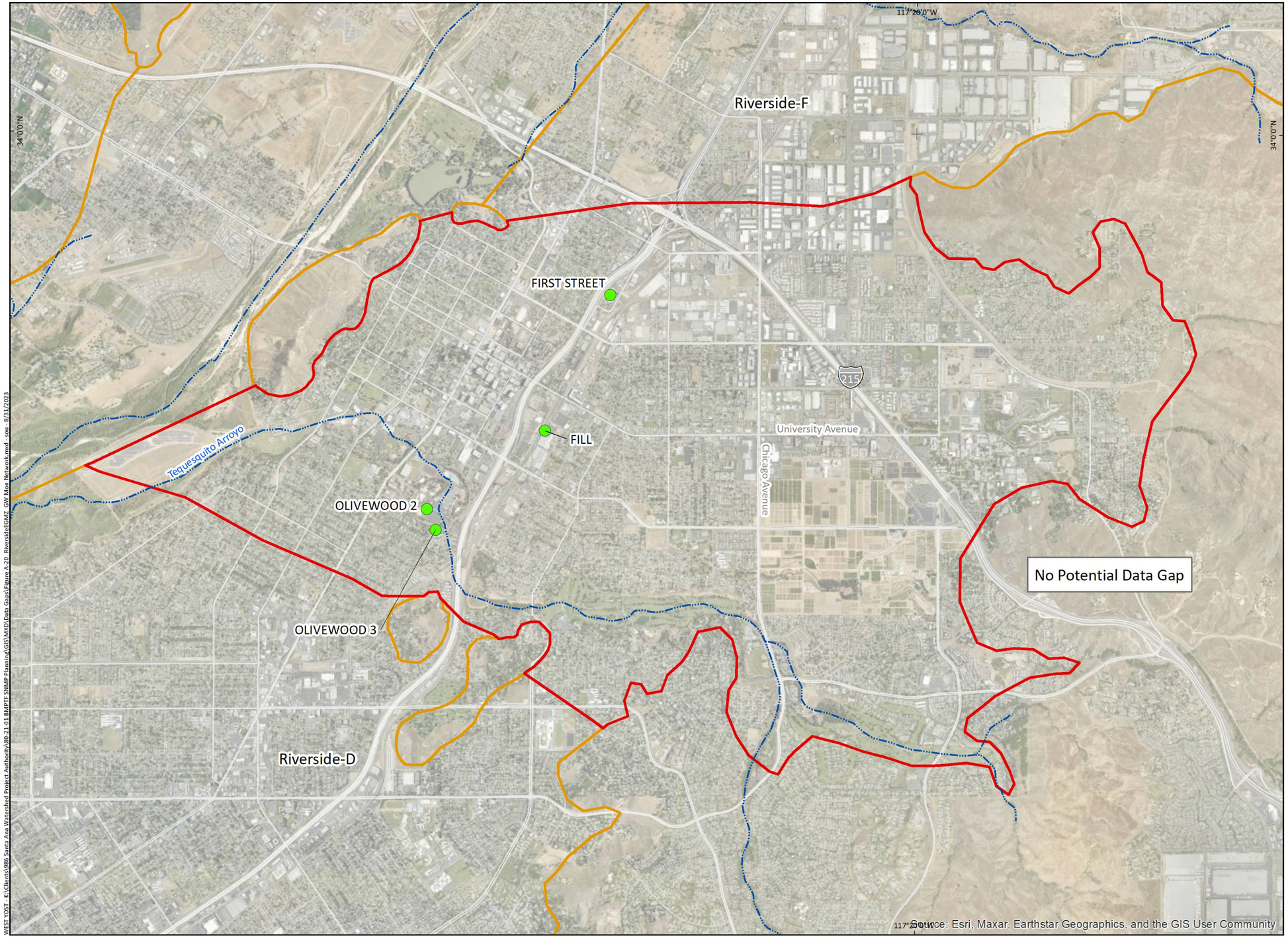
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Riverside F GMZ

Figure A-19



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

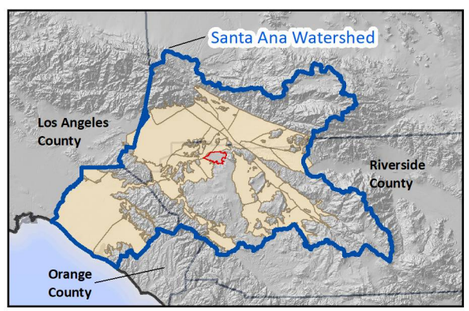
- City of Riverside

Groundwater Management Zone (GMZ)

- Riverside E
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

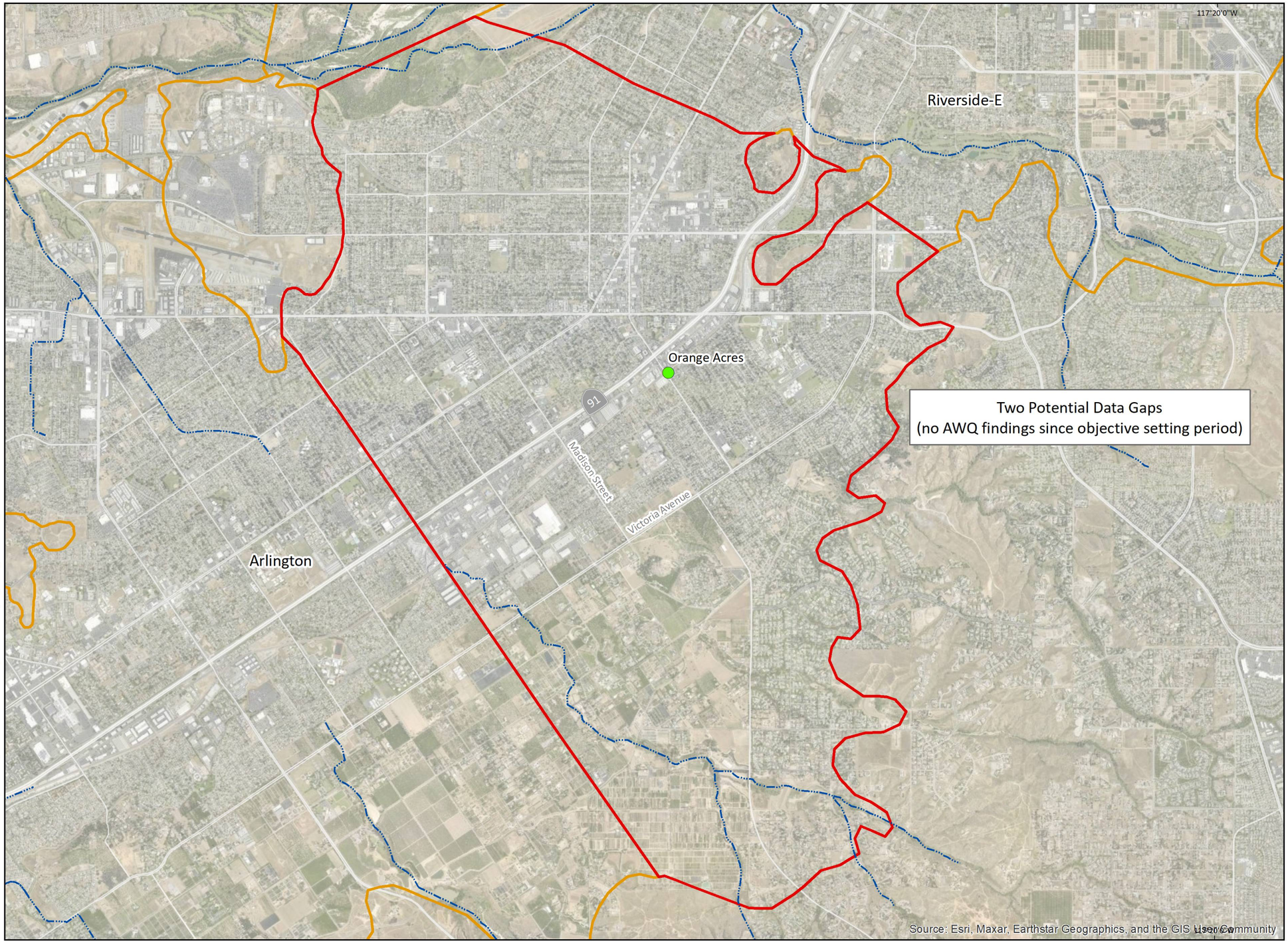
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Riverside E GMZ

Figure A-20



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

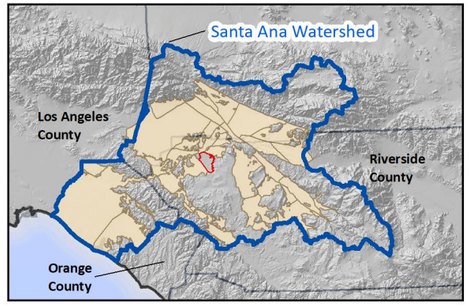
- City of Riverside

Groundwater Management Zone (GMZ)

- Riverside D
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 1 Miles

0 1 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

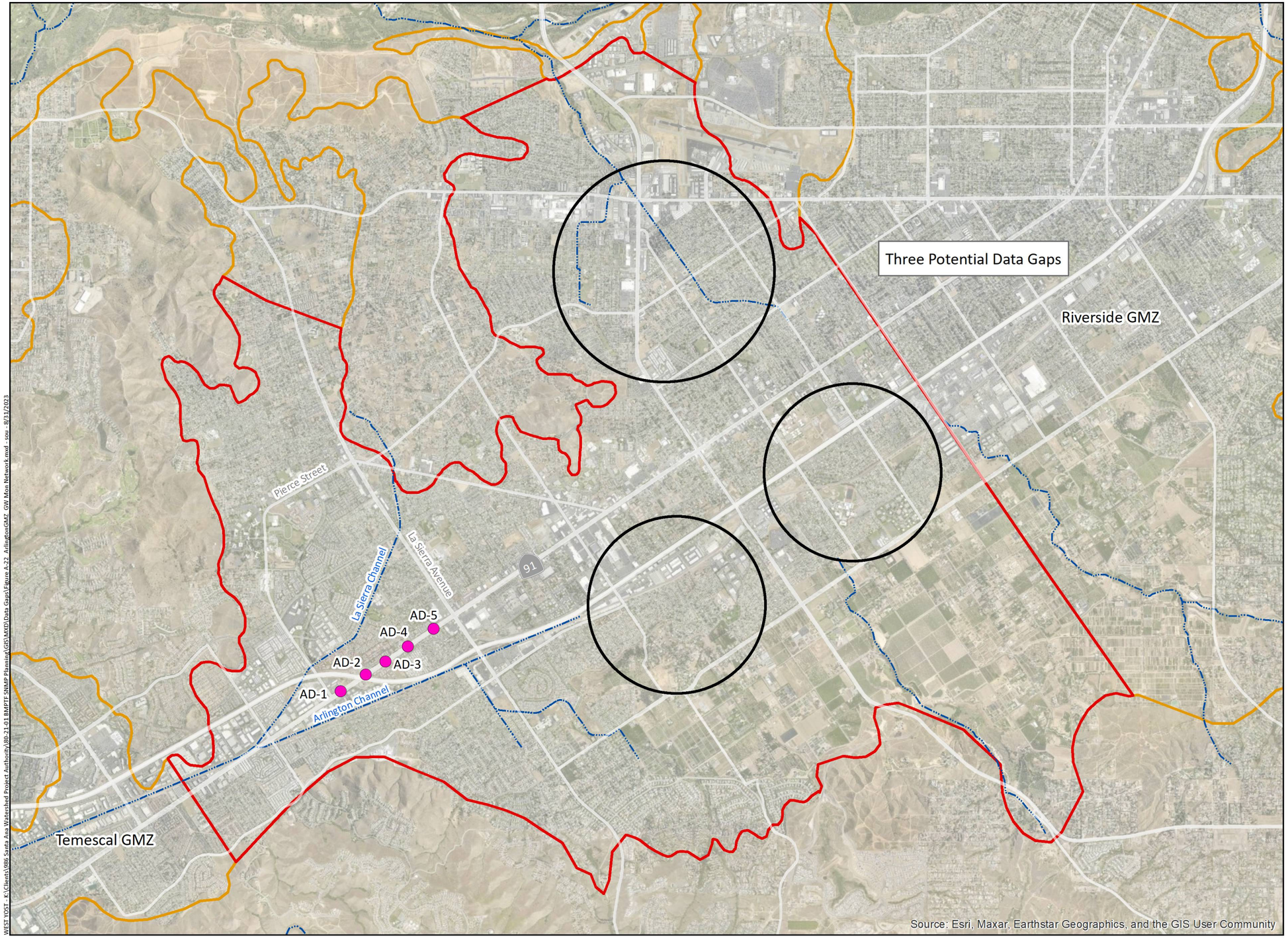
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Riverside D GMZ

Figure A-21



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

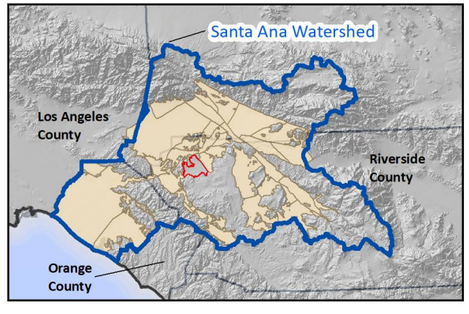
- Western Municipal Water District

Groundwater Management Zone (GMZ)

- Arlington
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

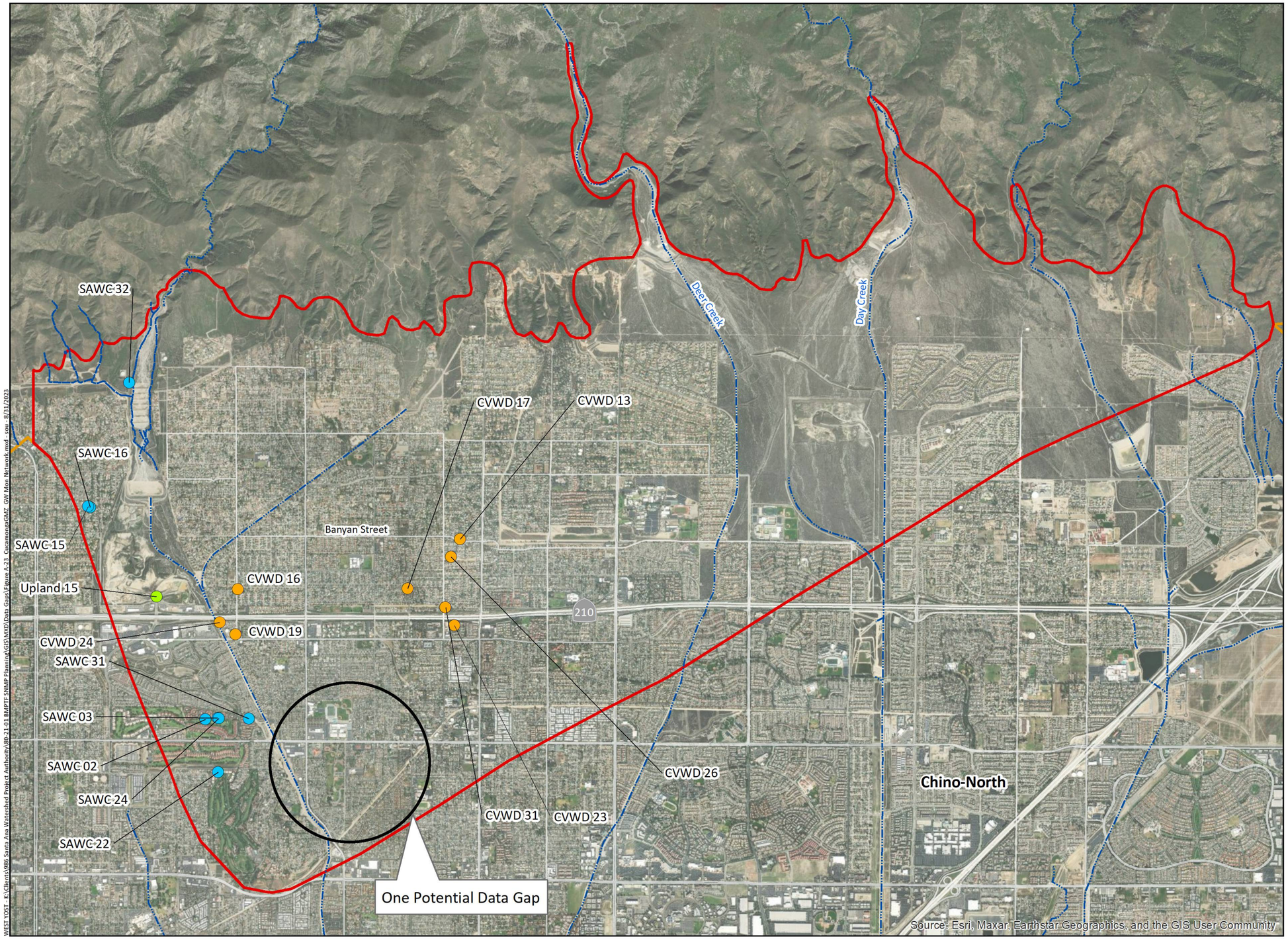
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Arlington GMZ

Figure A-22



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

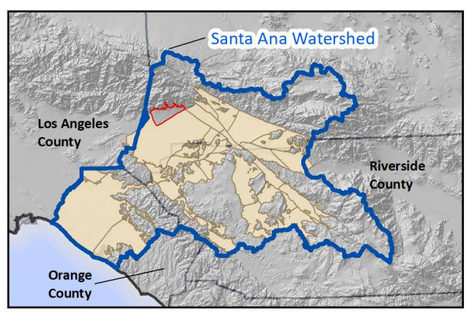
- City of Upland
- Cucamonga Valley Water District
- San Antonio Water Company

Groundwater Management Zone (GMZ)

- Cucamonga
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

N

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

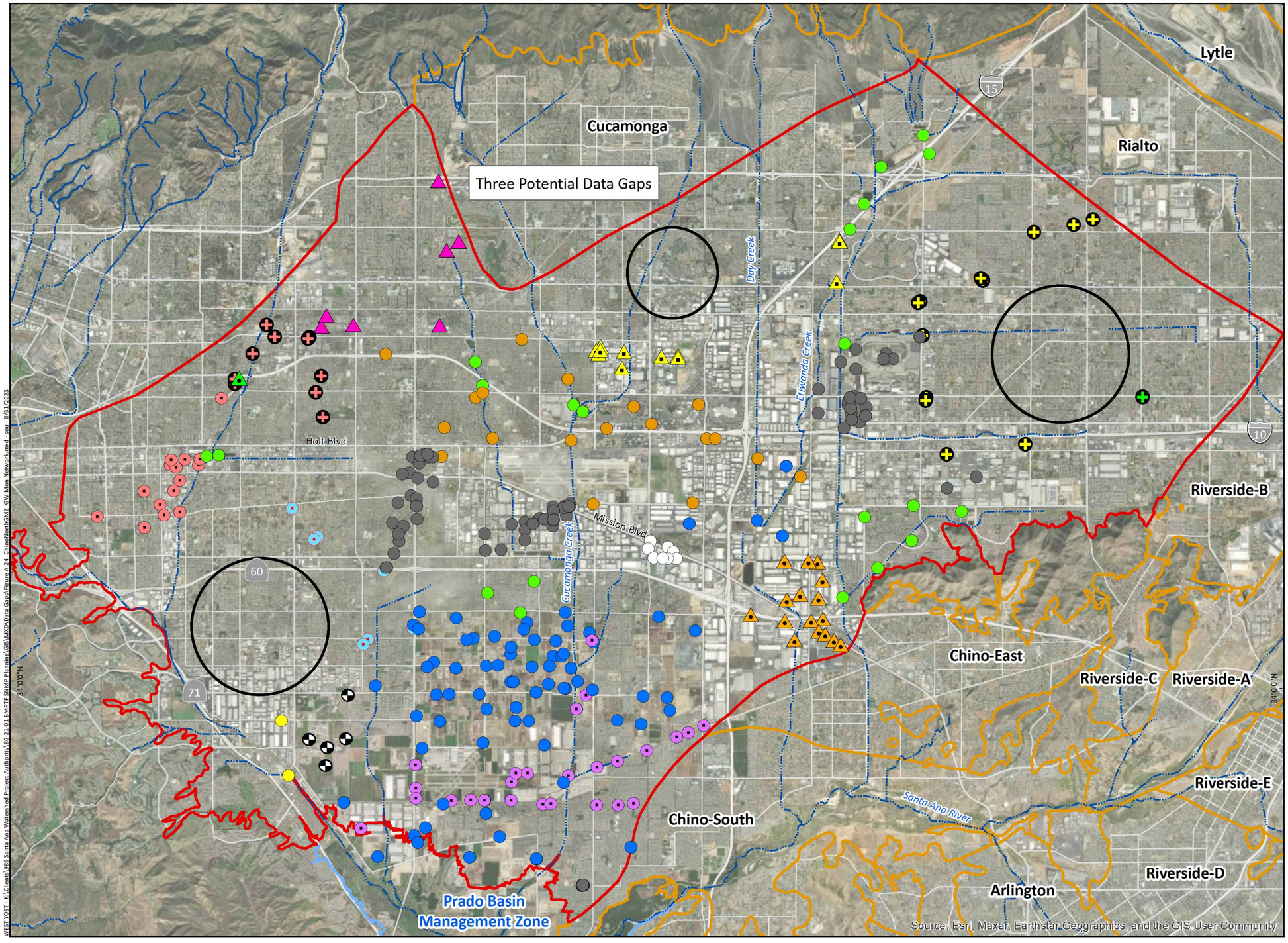
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Cucamonga GMZ

Figure A-23



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

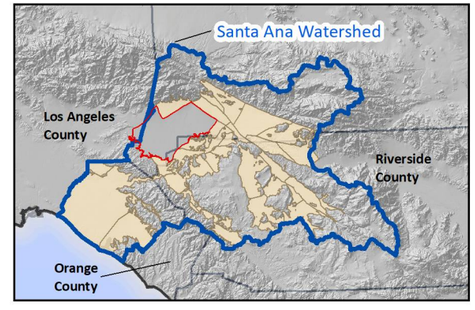
- Chino Basin Watermaster
- Inland Empire Utilities Agency
- Chino Basin Desalter Authority
- City of Chino
- City of Pomona
- City of Chino Hills
- City of Ontario
- City of Upland
- Cucamonga Valley Water District
- Golden State Water Company
- Jurupa Community Services District
- Fontana Water Company
- Marygold Mutual Water Company
- Monte Vista Water District
- California Institution for Men
- County of San Bernardino Landfill
- Responsible Parties for Clean-Up Site

Groundwater Management Zone (GMZ)

- Chino-North
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

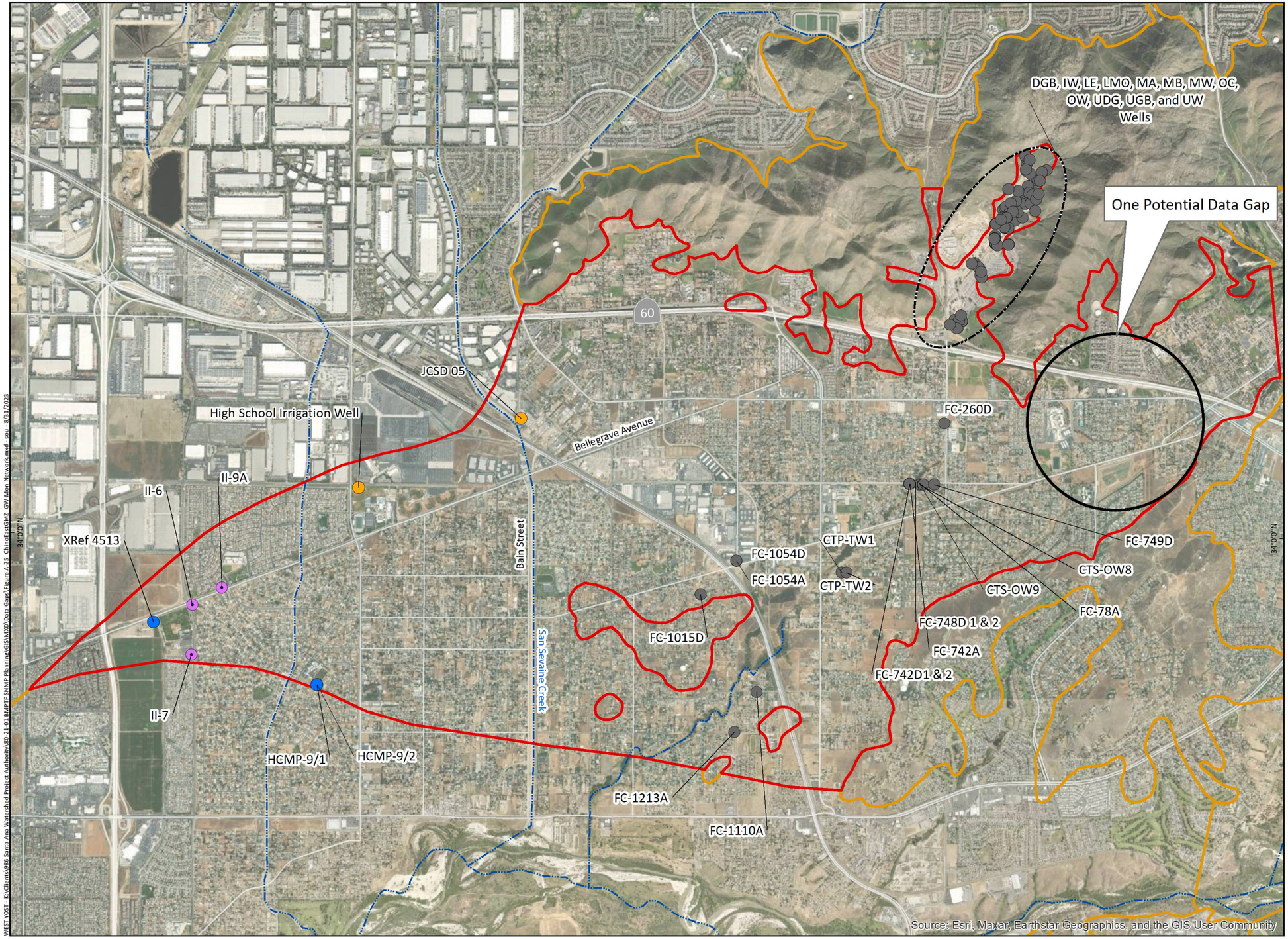
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Chino-North GMZ

Figure A-24



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

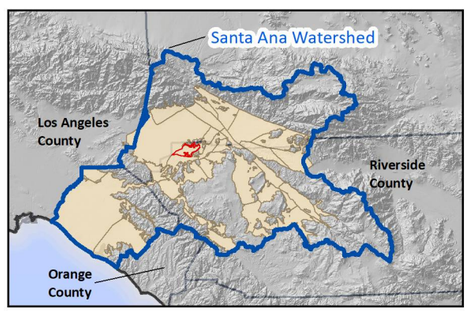
- Jurupa Community Services District
- Chino Basin Watermaster
- Inland Empire Utilities Agency
- Chino Basin Desalter Authority
- Responsible Parties for Clean-Up Site

Groundwater Management Zone (GMZ)

- Chino-East
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

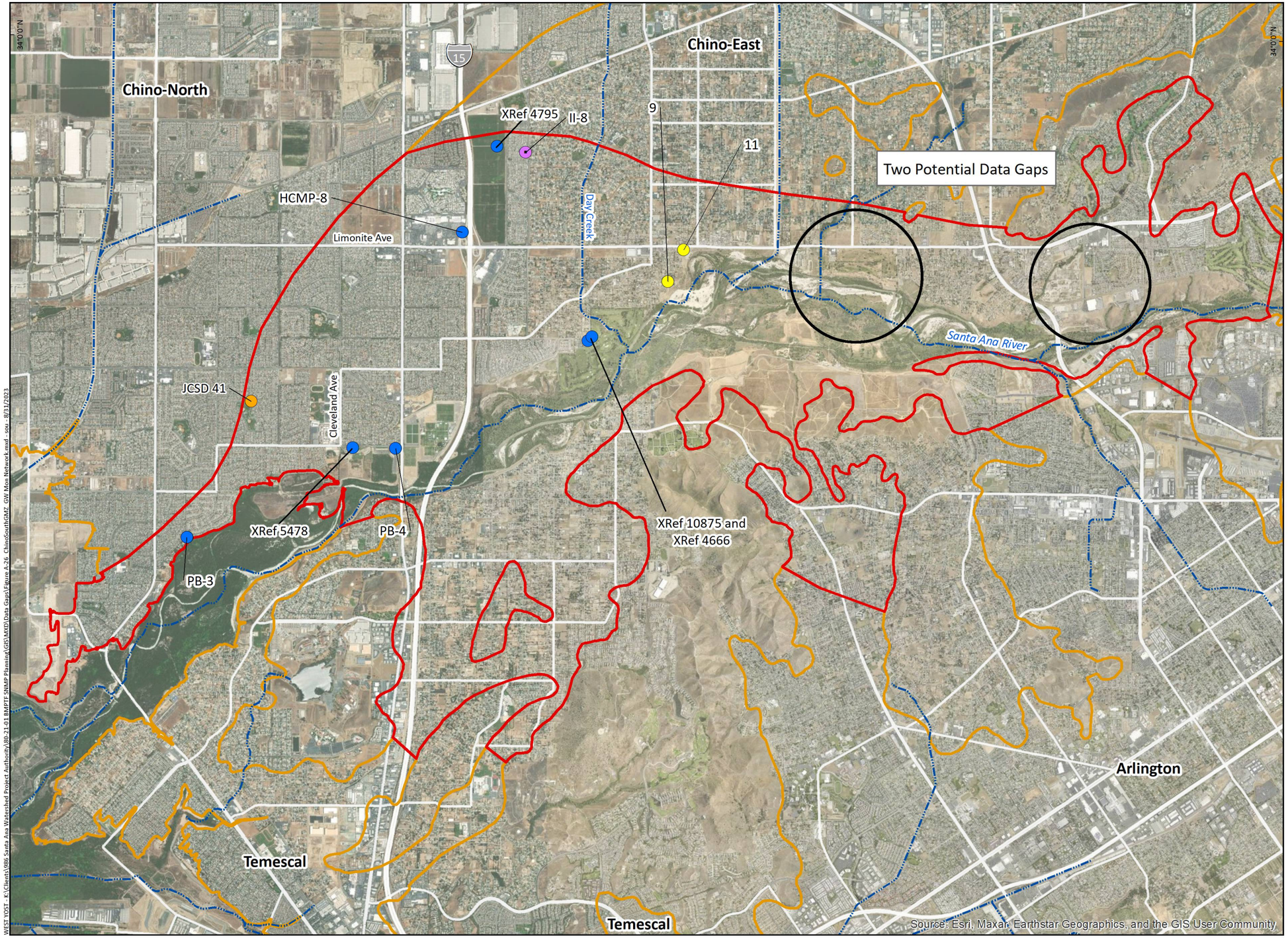
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Chino-East GMZ

Figure A-25



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

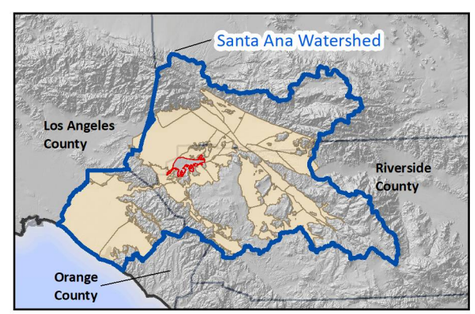
- Jurupa Community Services District
- Chino Basin Watermaster
- Chino Basin Desalter Authority
- Santa Ana River Water Company

Groundwater Management Zone (GMZ)

- Chino-South
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

N

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Chino-South GMZ

Figure A-26

Wells in the Groundwater Monitoring Network
(Monitoring Agency)

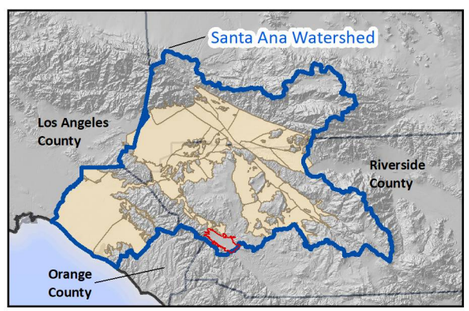
- Elsinore Valley Municipal Water District

Groundwater Management Zone (GMZ)

- Elsinore
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:
WEST YOST

0 2 Miles
0 3 Km

Prepared for:
Santa Ana Watershed Project Authority
Basin Monitoring Program Task Force
Data Gap Framework
SAWPA

Identification of Potential Data Gaps
Elsinore GMZ

Figure A-27

Wells in the Groundwater Monitoring Network

(Monitoring Agency)

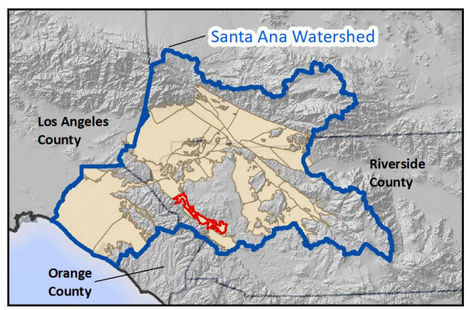
- Responsible Parties for the Upper Temescal Valley SNMP
- Temescal Valley Water District
- City of Corona
- Bedford-Coldwater GSA

Groundwater Management Zone (GMZ)

- Upper Temescal Valley
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

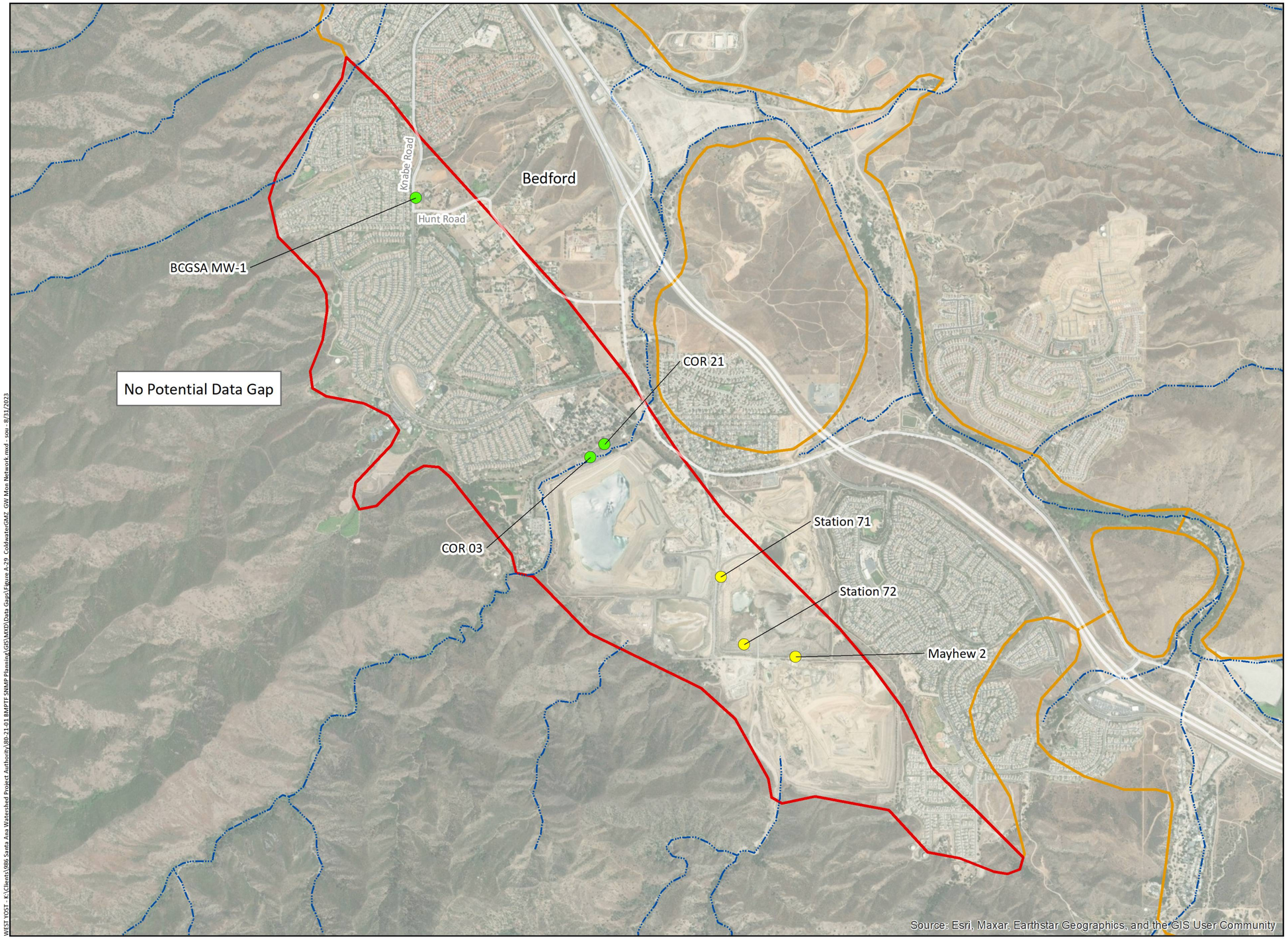
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Upper Temescal Valley GMZ

Figure A-28



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

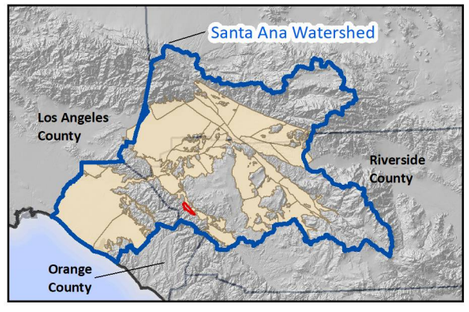
- City of Corona
- Elsinore Valley Municipal Water District

Groundwater Management Zone (GMZ)

- Coldwater
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 1 Miles

0 1 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

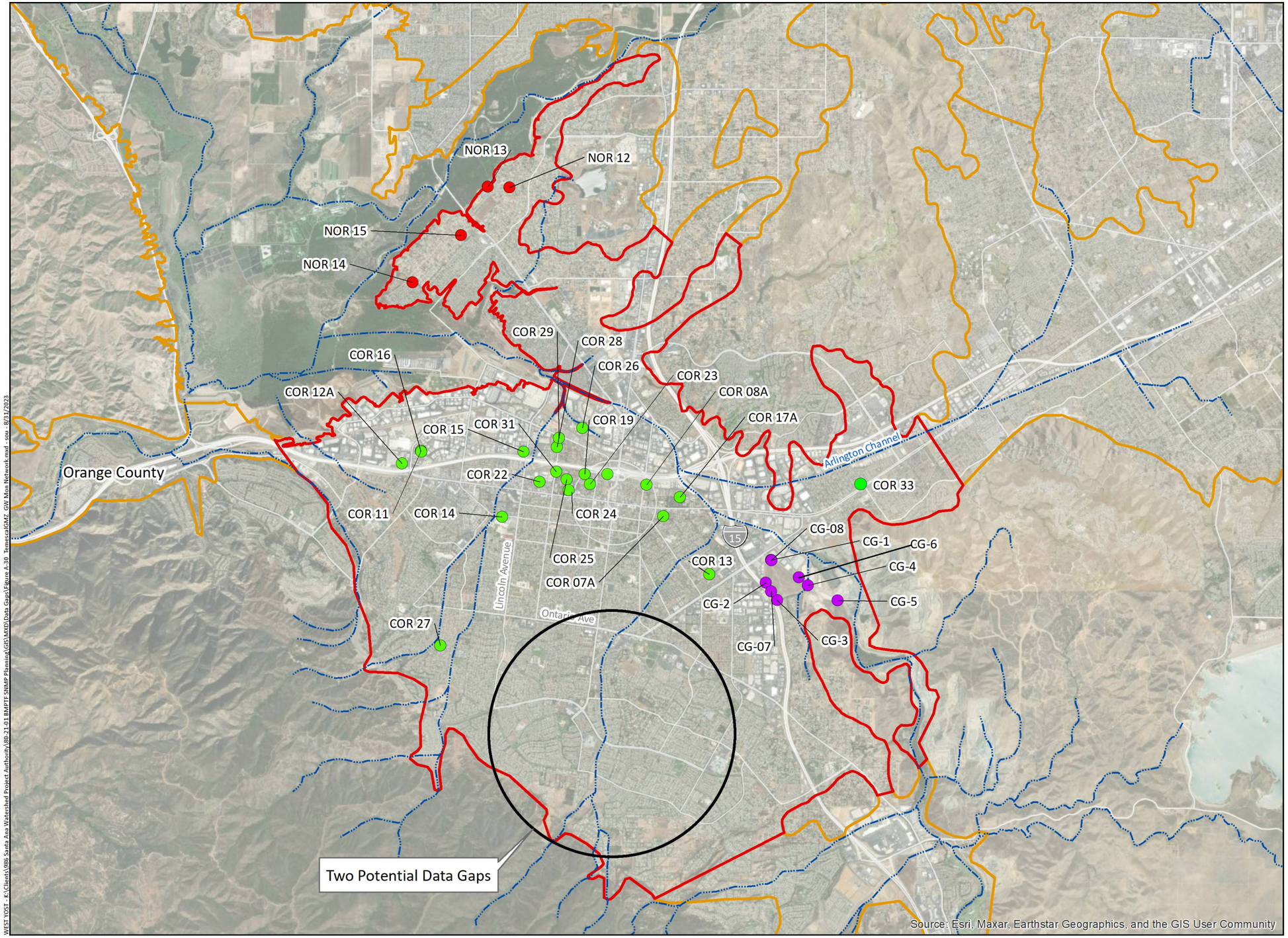
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Coldwater GMZ

Figure A-29



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

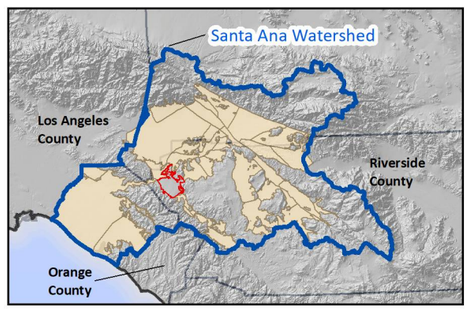
- City of Corona
- City of Norco
- Riverside County Waste Management

Groundwater Management Zone (GMZ)

- Temescal
- Other GMZ

Other Features

- Streams and Flood Control Channels



WEST YOST K:\Clients\986 Santa Ana Watershed Project Authority\380-21.01 BMPTF-SNMP Planning\GIS\MXD\Data Gaps\Figure A-30_TemescalGMZ_GW Mon Network.mxd - cou - 8/31/2023

Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

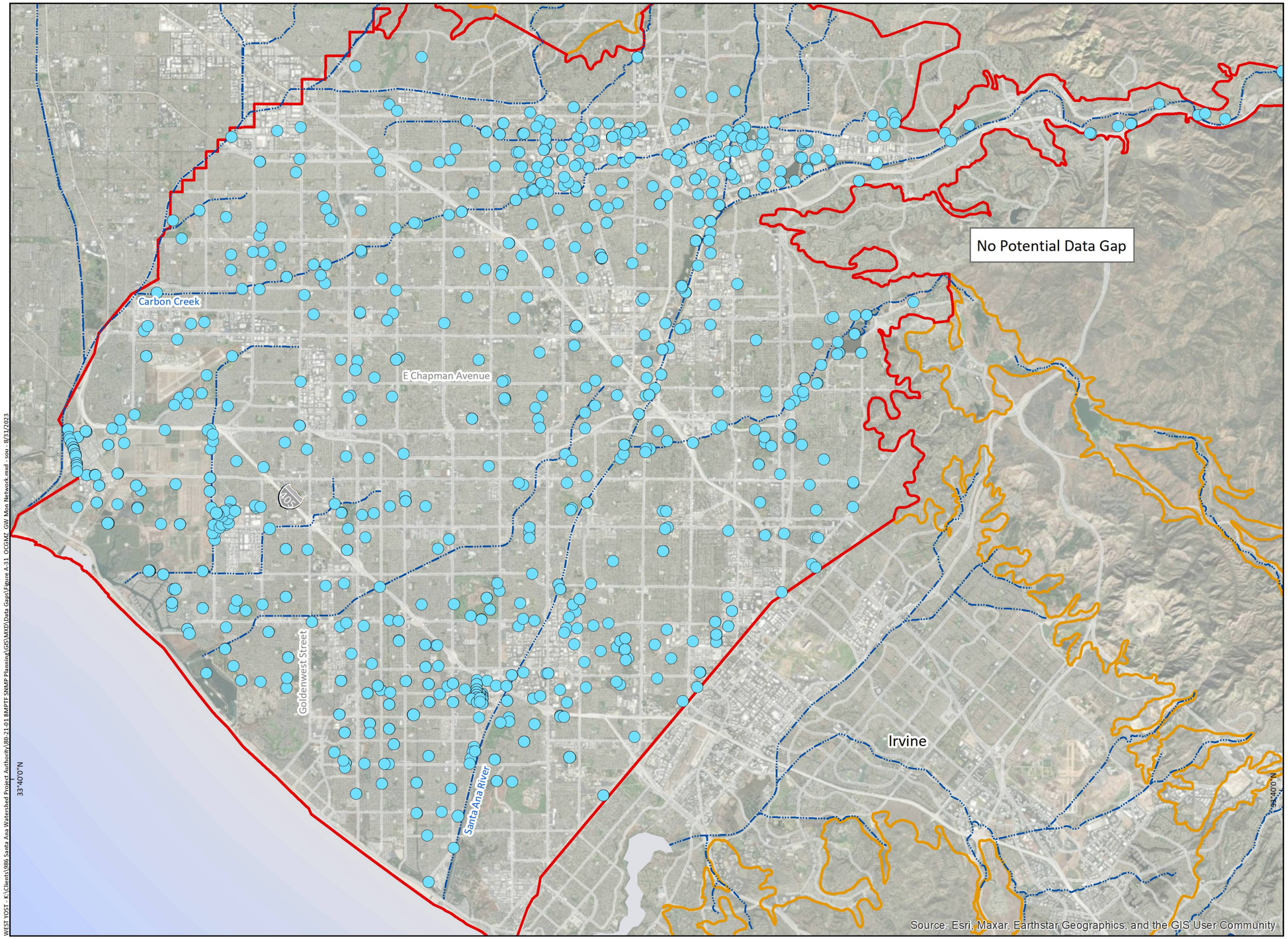
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Temescal GMZ

Figure A-30



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

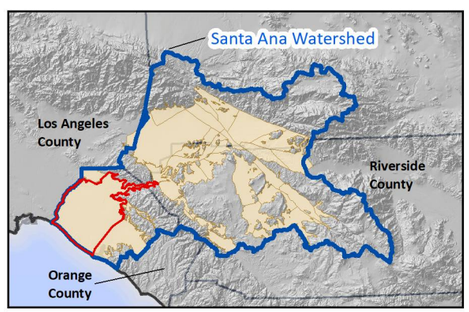
- Orange County Water District

Groundwater Management Zone (GMZ)

- Orange County
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

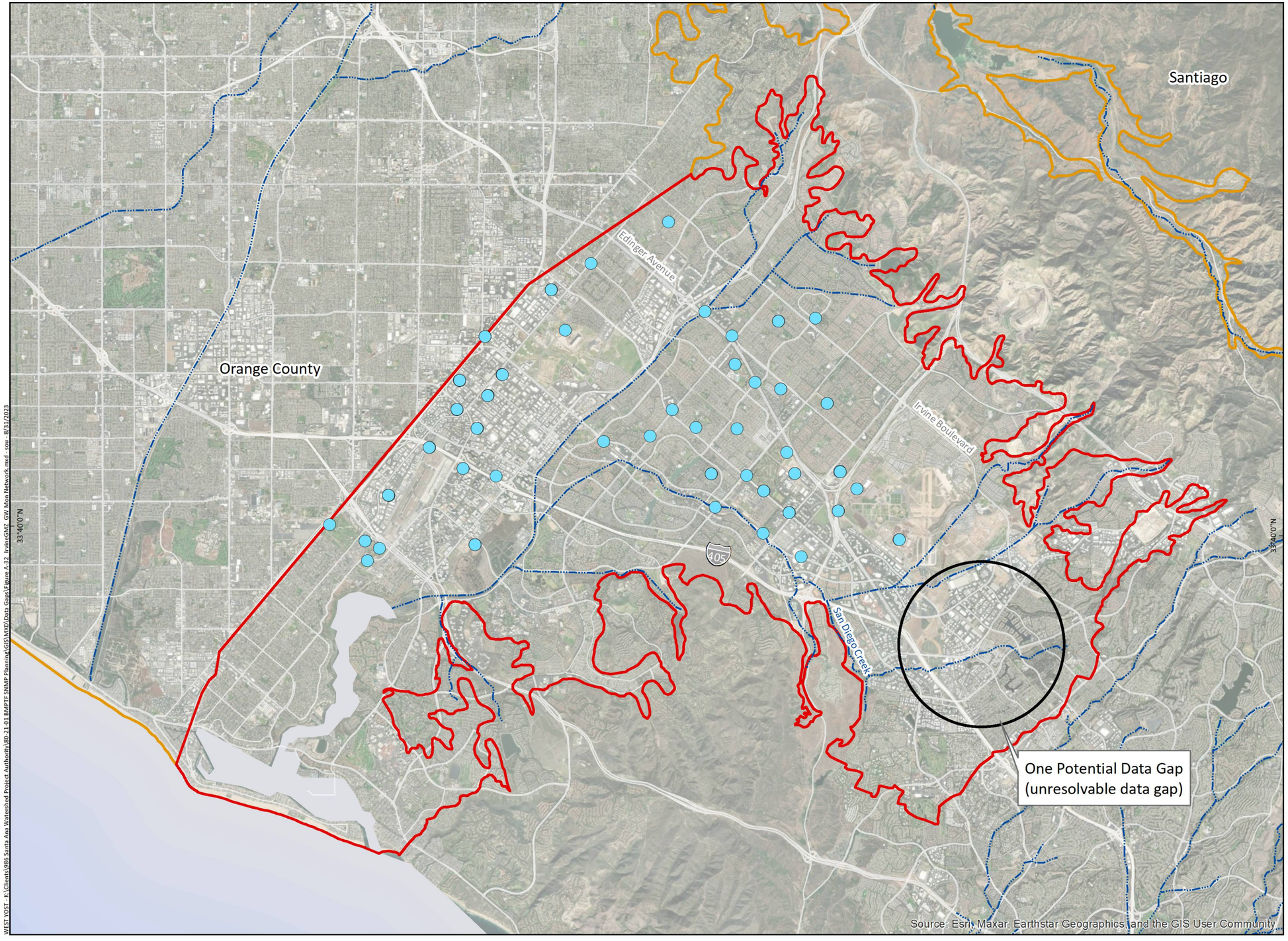
Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Orange County GMZ

Figure A-31



Wells in the Groundwater Monitoring Network

(Monitoring Agency)

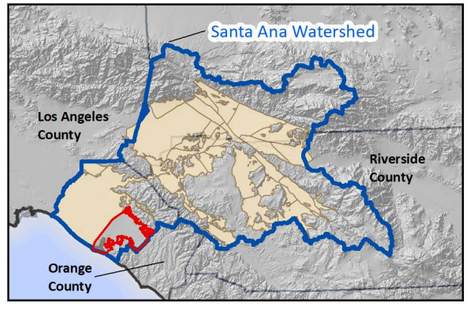
- Orange County Water District

Groundwater Management Zone (GMZ)

- Irvine
- Other GMZ

Other Features

- Streams and Flood Control Channels



Prepared by:

WEST YOST

0 2 Miles

0 3 Km

Prepared for:

Santa Ana Watershed Project Authority

Basin Monitoring Program Task Force

Data Gap Framework

SAWPA

Identification of Potential Data Gaps

Irvine GMZ

Figure A-32