



CALIFORNIA DEPARTMENT OF WATER RESOURCES

# SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

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June 3, 2021

Mr. John Diodati, Interim Director  
County of San Luis Obispo  
Department of Public Works  
976 Osos Street, Room 206  
San Luis Obispo, CA 93408

RE: Paso Robles Area Subbasin - 2020 Groundwater Sustainability Plan

Dear John Diodati,

The City of Paso Robles Groundwater Sustainability Agency (GSA), the Paso Basin - County of San Luis Obispo GSA, the San Miguel Community Services District GSA, and the Shandon - San Juan GSA (collectively, the GSAs) jointly submitted the Salinas Valley Groundwater Basin Paso Robles Area Subbasin (Paso Robles Subbasin or Subbasin) Groundwater Sustainability Plan (GSP or Plan) to the Department of Water Resources (Department) for evaluation and assessment as required by the Sustainable Groundwater Management Act (SGMA).<sup>1</sup> This letter is intended to initiate consultation between the Department and the Paso Robles Subbasin GSAs in advance of issuance of a determination described under the GSP Regulations.<sup>2</sup>

Department staff recognize the significant effort that went into development of the first GSP for the Subbasin. Staff also encourage the GSAs to continue implementing aspects of the GSP, particularly increasing understanding of, and developing sustainable management criteria for, the principal Alluvial Aquifer and implementing projects and management actions to address overdraft, which will be necessary to achieve the Subbasin's sustainability goal.

Department staff have completed an initial review of the GSP and have identified deficiencies which may preclude the Department's approval.<sup>3</sup> Consistent with the GSP Regulations, Department staff are considering corrective actions<sup>4</sup> that the GSAs should review to determine whether and how the deficiencies can be addressed. The deficiencies and corrective actions are explained in greater detail in Attachment 1, but in general are related to the need to define sustainable management criteria in the

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<sup>1</sup> Water Code § 10720 *et seq.*

<sup>2</sup> 23 CCR Division 2, Chapter 1.5, Subchapter 2.

<sup>3</sup> 23 CCR §355.2(e)(2).

<sup>4</sup> 23 CCR §355.2(e)(2)(B).

manner required by SGMA and the GSP Regulations, and to the development of sustainable management criteria for depletions of interconnected surface water.

The Department has the authority to determine the GSP is incomplete and, if it does so, the deficiencies precluding approval will need to be addressed within a period of time not to exceed 180 days from the determination, which would be issued no later than January 31, 2022. Prior to making that determination, and after you review the contents of this letter, Department staff will contact you to discuss the deficiencies and consult with you regarding the amount of time needed by the GSAs to address the potential corrective actions.

If you have any questions, please don't hesitate to contact the Sustainable Groundwater Management Office staff by emailing [sgmps@water.ca.gov](mailto:sgmps@water.ca.gov).

Thank you,

A handwritten signature in black ink, appearing to read "Craig Altare". The signature is fluid and cursive, with the first name "Craig" being more prominent than the last name "Altare".

Craig Altare, P.G.  
Supervising Engineering Geologist  
Groundwater Sustainability Plan Review Section Chief

Attachment:

1. Potential Corrective Actions

## Potential Corrective Actions

Department staff have identified deficiencies in the GSP which may preclude its approval. Consistent with the GSP Regulations, Department staff are considering corrective actions that the GSAs should review to determine whether and how the deficiencies can be addressed. The deficiencies and corrective actions are explained below, including an explanation of the general regulatory background, the specific deficiency identified in the GSP, and the specific actions to address the deficiency. The specific actions identified are potential corrective actions until a final determination is made by the Department.

### **Potential Corrective Action 1. Provide justification for, and effects associated with, the sustainable management criteria for groundwater levels**

The first potential corrective action relates to the GSP's lack of explanation and justification for selecting sustainable management criteria for groundwater levels, particularly the minimum thresholds and undesirable results, and the effects of those criteria on the interests of beneficial uses and users of groundwater.

#### **Background**

SGMA defines sustainable groundwater management as the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.<sup>5</sup> The avoidance of undesirable results is thus explicitly part of sustainable groundwater management, as established by SGMA, and critical to the success of a GSP. Accordingly, managing a basin solely to eliminate overdraft within 20 years does not necessarily mean that the basin has done all that is required to achieve sustainable groundwater management. To achieve sustainable groundwater management under SGMA, the basin must experience no undesirable results by the end of the 20-year GSP implementation period and be able to demonstrate an ability to maintain those defined sustainable conditions over the 50-year planning and implementation horizon.

The definition of undesirable results is thus critical to the establishment of an objective method to define and measure sustainability for a basin. As an initial matter, SGMA provides a qualitative definition of undesirable results as "one or more" of six specific "effects caused by groundwater conditions occurring throughout the basin."<sup>6</sup> SGMA identifies the effects related to chronic lowering of groundwater levels as those "...indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon."

It is up to GSAs to define, in their GSPs, the specific significant and unreasonable effects that would constitute undesirable results and to define the groundwater conditions that would produce those results in their basins.<sup>7</sup> The GSA's definition needs to include a

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<sup>5</sup> Water Code § 10721(v).

<sup>6</sup> Water Code § 10721(x).

<sup>7</sup> 23 CCR § 354.26.

description of the processes and criteria relied upon to define undesirable results and must describe the effect of undesirable results on the beneficial uses and users of groundwater. From this definition, the GSA establishes minimum thresholds, which are quantitative values that represent groundwater conditions at representative monitoring sites that, when exceeded individually or in combination with minimum thresholds at other monitoring sites, may cause the basin to experience undesirable results.<sup>8</sup>

SGMA leaves the task of establishing undesirable results and setting thresholds largely to the discretion of the GSA, subject to review by the Department. In its review, the Department requires a thorough and reasonable analysis of the groundwater conditions the GSA is trying to avoid, and the GSA's stated rationale for setting objective and quantitative sustainable management criteria to prevent those conditions from occurring. If a Plan does not meet this requirement, the Department is unable to evaluate the likelihood of the Plan in achieving its sustainability goal. This does not necessarily mean that the GSP or its objectives are inherently unreasonable; however, it is unclear which conditions the GSA seeks to avoid, making it difficult for the Department to monitor whether the GSA will be successful in that effort when implementing its GSP.

### **GSP-Specific Deficiency**

Based on its initial review, Department staff are concerned that although the GSP appears to realistically quantify the water budget and identify the extent of overdraft in the Subbasin, and while the GSP proposes projects and management actions that appear likely to eventually eliminate overdraft in the Subbasin, the GSP has not defined sustainable management criteria in the manner required by SGMA and the GSP Regulations.

1. Regarding the GSA's description of the criteria relied upon to define undesirable results<sup>9</sup> and the potential effects of undesirable results on beneficial uses and users of groundwater, on land uses and property interests, and other potential effects:<sup>10</sup> The GSP states that an undesirable result for chronic lowering of groundwater levels is one that significantly and unreasonably impacts the ability of existing domestic wells of average depth to produce adequate water for domestic purposes, causes significant financial burden to those who rely on the groundwater basin, or interferes with other SGMA sustainability indicators.<sup>11</sup> However, the GSP does not explain why those effects were selected or how the GSAs determined that they will be avoided by managing to the established criteria for chronic lowering of groundwater levels. As written, the GSP implies that some unspecified level of impacts to domestic wells of average depth would be acceptable and

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<sup>8</sup> 23 CCR § 354.28, DWR Best Management Practices for the Sustainable Management of Groundwater: Sustainable Management Criteria (DRAFT), November 2017.

<sup>9</sup> 23 CCR § 354.26(a).

<sup>10</sup> 23 CCR § 354.26(b)(3).

<sup>11</sup> Paso Robles GSP, Section 8.4.2, p. 222.

provides no detail of expected impacts to domestic wells of less-than-average depth or to other groundwater users in the Subbasin.

2. Regarding the GSP's definition of minimum thresholds:<sup>12</sup> The GSP provides insufficient detail for how it determined that the selected minimum thresholds (which are set to 30-feet below observed conditions in 2017<sup>13</sup> for all representative monitoring sites) are consistent with avoiding the undesirable results stated above. The Plan states that "[s]pecific conditions such as well depths at each [representative monitoring site] were considered when establishing the groundwater level for the initial minimum threshold."<sup>14</sup> However, no supporting information was provided and, in the absence of specific details regarding how that information was considered (e.g., the GSA's best estimate of the location and number of impacted domestic wells), the Department cannot evaluate whether the criteria are reasonable or whether operating the Subbasin to avoid those thresholds is consistent with avoiding undesirable results. The Department's expectation that impacts to domestic wells, a key component of the GSP's stated undesirable result for chronic lowering of groundwater levels, would be evaluated in the GSP is reasonable as other GSAs and interested parties in California have evaluated the effects of sustainable management criteria on well infrastructure using best available information.

### **Addressing the Deficiency**

The GSAs must provide more detailed explanation and justification regarding the selection of the sustainable management criteria for groundwater levels, particularly the undesirable results and minimum thresholds, and the effects of those criteria on the interests of beneficial uses and users of groundwater. Department staff recommend the GSAs consider and address the following:

1. The GSAs should describe the specific undesirable results they aim to avoid through implementing the GSP. If, for example, significant and unreasonable impacts to domestic wells of average depth are a primary management concern for the Subbasin, then the GSAs should sufficiently explain why that effect was selected and what they consider to be a significant and unreasonable level of impact for those average wells. In support of its explanation, the GSP should also clearly discuss and disclose the anticipated impact of operating the Subbasin at conditions protective against those effects on users of domestic wells with less-than-average depth and all other beneficial uses and users of groundwater in the Subbasin. The discussion should be supported using best available information such as using State or county information on well completion reports to analyze

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<sup>12</sup> 23 CCR §§ 354.28(b)(1), 354.28(b)(2), 354.28(b)(4), 354.28(c)(1).

<sup>13</sup> Paso Robles GSP, ES-7, p. 35.

<sup>14</sup> Paso Robles GSP, Section 8.4.4, p. 224.

the locations and quantities of domestic wells and other types of well infrastructure that could be impacted by groundwater management when implementing the GSP.

2. The GSAs should either explain how the existing minimum threshold groundwater levels are consistent with avoiding undesirable results or they should establish minimum thresholds at the representative monitoring wells that account for the specific undesirable results the GSAs aim to avoid.

Information from DWR's Household Water Supply Shortage Reporting System<sup>15</sup> indicates some domestic groundwater wells in the Subbasin have reported impacts from lowering of groundwater levels. If, after considering the deficiency described above, the GSAs retain minimum thresholds that allow for continued lowering of groundwater levels, then it is reasonable to assume that additional wells may be impacted during implementation of the Plan. While SGMA does not require all impacts to groundwater uses and users be mitigated, the GSAs should consider including mitigation strategies describing how drinking water impacts that may occur due to continued overdraft during the period between the start of Plan implementation and achievement of the Subbasin's sustainability goal will be addressed. If mitigation strategies are not included, the GSP should contain a thorough discussion, with supporting facts and rationale, explaining how and why the GSAs determined not to include specific actions or programs to monitor and mitigate drinking water impacts from continued groundwater lowering below 2015 levels.

Information is available to the GSAs to support their explanation and justification for the criteria established in their Plan. For example, the Department's well completion report dataset,<sup>16</sup> or other similar data, can be used to estimate the number and kinds of wells expected to be impacted at the proposed minimum thresholds. Additionally, public water system well locations and water quality data can currently be obtained using the State Water Board's Geotracker website.<sup>17</sup> Administrative contact information for public water systems, and well locations and contacts for state small water systems and domestic wells, can be obtained by contacting the State Water Board's Needs Analysis staff. The State Water Board is currently developing a database to allow for more streamlined access to this data in the future.

Based on the above information and other local information, and by the first five-year update, the GSAs should continue to better define the location of active wells in the Subbasin. The GSAs should document known impacts to drinking water users caused by

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<sup>15</sup> Department of Water Resources, *California Household Water Shortage Data* [website], <https://mydrywatersupply.water.ca.gov/report/publicpage>, (accessed 21 May 2021).

<sup>16</sup> Department of Water Resources, *Well Completion Reports* [website], <https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Completion-Reports>, (accessed 21 May 2021).

<sup>17</sup> State Water Resources Control Board, *GeoTracker* [website], <https://geotracker.waterboards.ca.gov/>, (accessed 21 May 2021).

groundwater management, should they occur, in annual reports and subsequent periodic updates.

**Potential Corrective Action 2. Develop Sustainable Management Criteria for the Depletions of Interconnected Surface Water Based on Best Available Information and Science.**

The second potential corrective action relates to the GSP's justification for not developing sustainable management criteria for the depletion of interconnected surface water.

**Background**

SGMA identifies six effects of groundwater conditions occurring throughout the basin that GSAs must evaluate to achieve sustainable groundwater management. The GSP Regulations refer to these effects as sustainability indicators and they are chronic lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, degraded water quality, land subsidence, and depletions of interconnected surface water.<sup>18</sup> Generally, when any of these effects are significant and unreasonable, as defined in SGMA, they are referred to as undesirable results.<sup>19</sup> SGMA requires GSAs to sustainably manage groundwater, which is defined as avoiding undesirable results for any sustainability indicator during the planning and implementation horizon.<sup>20</sup> Specifically, for each applicable indicator a GSA must develop sustainable management criteria, describe the process used to develop those criteria, and establish a monitoring network to adequately monitor conditions.<sup>21</sup>

A GSA that is able to demonstrate one or more sustainability indicators are not present and are not likely to occur in the basin is not required to develop sustainable management criteria for those indicators.<sup>22</sup> Absent an explanation of why a sustainability indicator is not applicable, the Department assumes all sustainability indicators apply.<sup>23</sup> Demonstration of applicability (or non-applicability) of sustainability indicators must be supported by best available information and science and should be provided in descriptions throughout the GSP (e.g. information describing basin setting, discussion of the interests of beneficial users and uses of groundwater).

The Department's assessment of a Plan's likelihood to achieve its sustainability goal for its basin is based, in part, on whether a GSP provides sufficiently detailed and reasonable supporting information and analysis for all applicable indicators. The GSP Regulations

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<sup>18</sup> 23 CCR § 351(ah).

<sup>19</sup> Water Code § 10721(x).

<sup>20</sup> Water Code §§ 10721(v), 10721(r).

<sup>21</sup> 23 CCR §§ 354.22, 354.32.

<sup>22</sup> 23 CCR §§ 354.22, 354.26(d), 354.28(e).

<sup>23</sup> DWR Best Management Practices for the Sustainable Management of Groundwater: Sustainable Management Criteria (DRAFT), November 2017.

require the Department to evaluate whether establishment of sustainable management criteria is commensurate with the level of understanding of the basin setting.<sup>24</sup>

The GSP Regulations require a GSP to identify interconnected surface water systems in the basin and evaluate the quantity and timing of depletions of those systems using the best available information.<sup>25</sup> As noted above, absent a demonstration of the inapplicability of the depletion of interconnected surface water sustainability indicator, GSAs in basins with interconnected surface waters must develop sustainable management criteria for those depletions as described in the GSP Regulations.

### **GSP-Specific Deficiency**

Department staff find, based on conflicting information contained in the GSP, that the GSAs do not sufficiently demonstrate that interconnected surface water or undesirable results related to depletions of interconnected surface water are not present and are not likely to occur in the Subbasin. Therefore, in the absence of a clear demonstration, the GSAs must develop initial sustainable management criteria for depletions of interconnected surface water as required by the GSP Regulations.<sup>26</sup>

The GSP states the surface water flows in the Subbasin over the period of record are “[e]phemeral” and “[t]here are no available data that establish whether or not the groundwater and surface water are connected through a continuous saturated zone” when describing current and historical groundwater conditions.<sup>27</sup> Citing such “insufficient data to determine whether surface water and groundwater are interconnected,” the GSAs accordingly do not develop sustainable management criteria.<sup>28</sup> The GSAs state “[d]efinitive data delineating any connections between surface water and groundwater or a lack of interconnected surface waters is a data gap” and provide a general schedule for surface and groundwater investigations in areas of potential interconnectivity planned over the next four years, with a \$400,000 budget.<sup>29</sup>

However, descriptions for the hydrogeological conceptual model and water budgets provided in the GSP appear to clearly indicate that interconnectivity between groundwater and surface water exists. For example, the GSP states “[n]atural groundwater discharge areas within the Plan area include ... groundwater discharge to surface water bodies.”<sup>30</sup> Additionally, groundwater model results from a study conducted by Fugro West Inc. in the Subbasin, which is a primary source for material in the GSP describing the hydrogeologic conceptual model, “indicate that stream discharge accounted for 9,700 AFY [acre-feet

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<sup>24</sup> 23 CCR § 355.4(b)(3).

<sup>25</sup> 23 CCR §§ 354.28(c)(6)(A), 354.28(c)(6)(B).

<sup>26</sup> 23 CCR §§ 354.22, 354.26(d), 354.28(e).

<sup>27</sup> Paso Robles GSP, Section 5.5, p. 144.

<sup>28</sup> Paso Robles GSP, Section 8.9, p. 255-256.

<sup>29</sup> Paso Robles GSP, Section 5.5 and Figure 10-1, p. 144 and 309.

<sup>30</sup> Paso Robles GSP, Section 4.7.2, p. 113.



per year] of outflow over the 17-year base period [from 1981 to 1997]”.<sup>31</sup> These areas have not been mapped to date; however, the GSP presents groundwater model results identifying potential areas where groundwater discharge to streams is at least 10 acre-feet per year – these areas occur primarily on the Salinas River and Estrella River that overlay the Alluvial Aquifer.<sup>32</sup> Moreover, water budgets developed using the GSP model specifically quantify groundwater discharge to rivers and streams from the Alluvial Aquifer.<sup>33</sup> For instance, during the historical period (from 1981 to 2011) rates of groundwater discharge to streams are estimated to be 7,300 acre-feet per year. Overlapping some areas of potential groundwater discharge are areas of potential groundwater dependent ecosystems (GDEs) that are yet to be verified.<sup>34</sup> The availability of such data in the GSP (i.e. hydrogeological studies and water budgets), therefore, seems to contradict the GSPs own statement that there is “no available data...”. Department staff believe the GSP model results and available historical information can serve as the basis to develop initial sustainable management criteria (as defined by the GSP and discussed below). Consequently, Department staff find that the sustainable management criteria currently presented in the GSP (i.e., not defining and establishing criteria) is not commensurate with the level of understanding of the basin setting.

The method for developing sustainable management criteria, as described in the GSP, involved setting initial minimum thresholds and measurable objectives by “[c]ombining survey results, outreach efforts, and hydrogeologic data.”<sup>35</sup> A review of the referenced survey indicates 21 percent of respondents (mostly users of domestic wells, agricultural wells, municipal water supply, and community water supply) report being negatively impacted by reduced stream flows.<sup>36</sup> Furthermore, respondents believe the health of the Salinas River (which drains the Subbasin and overlays the Alluvial Aquifer) is negatively impacted by groundwater pumping to a higher degree than direct diversions and limited releases.<sup>37</sup> Additionally, the GSP caveats the sustainable management criteria developed for other applicable indicators by stating that “[d]ue to uncertainty in the hydrogeologic conceptual model, these Sustainable Management Criteria are considered initial criteria and will be reevaluated and potentially modified in the future as new data become available.”<sup>38</sup> Nevertheless, despite survey results indicating impacts to beneficial users, available hydrogeologic data (as discussed above), and a declaration that the Plan’s initial sustainable management criteria for other applicable indicators is based on

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<sup>31</sup> Fugro West, Inc., ETIC Engineering, Inc., Cleath and Associates, Paso Robles Groundwater Basin Study Phase II-Numerical Model Development, Calibration and Application, February 2005.

<sup>32</sup> Paso Robles GSP, Figure 4-17, p. 114.

<sup>33</sup> Paso Robles GSP, Tables 6-1, 6-4, 6-6, 6-9, 6-11, and 6-13, p. 162, 166, 172, 176, 185, and 187. The same information is summarized in the Executive Summary, Table ES-1, p. 31.

<sup>34</sup> Paso Robles GSP, Figure 4-18 and Appendix C, p. 115 and 406

<sup>35</sup> Paso Robles GSP, Section 8.3, p. 221.

<sup>36</sup> Paso Robles GSP, Appendix G, p. 553.

<sup>37</sup> Paso Robles GSP, Appendix G, p. 563, p. 564 and 565.

<sup>38</sup> Paso Robles GSP, Section 8, p. 216.

known uncertainty, the GSAs do not develop sustainable management criteria for depletions of interconnected surface water.

The GSAs have provided, throughout the GSP, data and information that indicate historical, current, and future groundwater discharge to streams and rivers in the Subbasin; therefore, Department staff disagree with the GSP statement that there is “no available data...” Department staff understand that uncertainty may exist in understanding the basin setting and recognize efforts by the GSAs to fill data gaps by planning to conduct investigations and expand the monitoring network.<sup>39</sup> The information and science included in the GSP related to interconnected surface water represents, at this time, the best available to the GSAs even if the available data may be imperfect or the analysis incomplete. Therefore, Department staff believe there is sufficient data to indicate the potential of interconnected surface water in the Subbasin that warrants and requires setting initial sustainable management criteria that may be reevaluated and potentially modified as new data become available. Not developing criteria limits the ability of Department staff to assess whether the Subbasin is being, or will be, sustainability managed within 20 years.

### **Addressing the Deficiency**

The GSAs must provide more detailed information, as required in the GSP Regulations, regarding interconnected surface waters and depletions associated with groundwater use. Department staff recommend the GSAs consider and address the following:

1. Clarify and address the currently conflicting information in the GSP regarding what is known, qualified by the level of associated uncertainty, about the existence of interconnected surface water and, if applicable, the depletion of that interconnected surface water by groundwater use, including quantities, timing, and locations.<sup>40</sup>
2. If the GSAs cannot provide a sufficient, evidence-based justification for the absence of interconnected surface water, then they should develop sustainable management criteria, as required in the GSP Regulations,<sup>41</sup> based on best available information and science. Evaluate and disclose, sufficiently and thoroughly, the potential effects of the GSP’s sustainable management criteria for depletion of interconnected surface water on beneficial uses of the interconnected surface water and on groundwater uses and users.

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<sup>39</sup> Paso Robles GSP, Section 10, p. 309.

<sup>40</sup> 23 CCR §§ 354.28(c)(6)(A), 354.28(c)(6)(B).

<sup>41</sup> 23 CCR §§ 354.26, 354.28, 354.30.