KINGS SUBBASIN COORDINATION AGREEMENT

THIS KINGS SUBBASIN COORDINATION AGREEMENT ("Coordination Agreement" or "Agreement") is made effective as of the date of execution by the last of the GSA Parties by, between and among the groundwater sustainability agencies ("GSAs") within the Kings Subbasin; namely, the Central Kings GSA, James GSA, Kings River East GSA, McMullin Area GSA, North Fork Kings GSA, North Kings GSA and the South Kings GSA (referred to individually as a "GSA Party," and collectively as the "GSA Parties").

PREAMBLE

The GSA Parties each agree that by executing this Agreement, they are committing to the other GSA Parties to carry out the actions specified in this Coordination Agreement in good faith, and in a manner consistent with their individual responsibilities to comply with the California Sustainable Groundwater Management Act of 2014 ("SGMA");

RECITALS

This Coordination Agreement is made with reference to the following facts:

WHEREAS, each of the GSA Parties is a Groundwater Sustainability Agency ("GSA"), as the same is defined in the SGMA, and collectively, they provide GSA coverage of the entire Tulare Lake Hydrologic Region, San Joaquin Valley Groundwater Basin, Kings Subbasin; identified in California Department of Water Resources ("DWR") Bulletin 118 as Basin Number 5-22.08 ("Subbasin"); and

WHEREAS, the Kings Subbasin includes multiple GSAs that intend to manage the Subbasin through the development and implementation of multiple Groundwater Sustainability Plans ("GSPs"); and

WHEREAS, the SGMA requires GSAs in all basins that are managed by more than one GSP to enter into a Coordination Agreement (Cal. Water Code section 10727(b)(3)) to provide the appropriate coordinated methodologies to allow for the multiple GSPs to successfully manage the Subbasin in a manner compliant with the SGMA; and

WHEREAS, more specifically, consistent with the requirements of SGMA (Cal. Water Code section 10727.6), the Coordination Agreement must contain provisions ensuring that each of the GSPs utilizes the same data and methodologies within the basin for (a) groundwater elevation data; (b) groundwater extraction data; (c) surface water supply; (d) total water use; (e) change in groundwater storage; (f) water budget; and (g) sustainable yield; and

WHEREAS, the California Code of Regulations (Title 23, section 357.4) further specifies that agencies intending to develop multiple GSPs shall enter into a Coordination Agreement to ensure that: (a) the GSPs are developed and implemented utilizing the same data and methodologies; (b) elements of the GSPs necessary to achieve the sustainability goal for the basin are based upon consistent interpretations of the basin setting; and (c) the Coordination Agreement shall be submitted to DWR along with the GSPs for review; and

WHEREAS, in recognition of the need to sustainably manage the groundwater within the Kings Subbasin, the GSA Parties desire to enter into this Coordination Agreement between and among their individual GSAs; and

WHEREAS, the GSA Parties acknowledge that nothing contained in this Coordination Agreement determines or alters surface water rights, including but not limited to existing Pre-1914 and licensed water rights of the Kings River Water Association member units, or groundwater rights under common law or any other provision of law that determines or grants surface water rights, in accordance with California Water Code 10720.5 (b).

NOW, THEREFORE, in consideration of the Recitals, which are deemed true and correct and incorporated herein, and of the mutual promises, covenants, terms and conditions set forth herein, the GSA Parties agree as follows:

SECTION 1 – DEFINITIONS

1.1 "Coordinated Plan Expenses" shall mean any authorized expenses incurred by the Coordination Workgroup or the Plan Manager for the purpose of implementing the Coordination Agreement.

1.2 "Coordination" shall mean the integration and synchronization of the efforts of the individual GSA Parties so as to provide coordinated action in the pursuit of a common basin goals under the enabling SGMA statutes.

1.3 "Coordination Agreement" shall mean this Agreement, which is entered into pursuant to and intended to be consistent with Water Code sections 10721 subdivision (d), 10727.6 and California Code of Regulations, Title 23, section 357.4.

1.4 "Coordination Workgroup" shall mean the Workgroup of GSA Representatives established pursuant to this Coordination Agreement.

1.5 "GSA" shall mean a groundwater sustainability agency as defined by Water Code section 10721, subdivision (j) established in accordance with Water Code sections 10723 *et seq.* and "GSAs" shall mean more than one such groundwater sustainability agency. Each GSA Party is a GSA.

1.6 "GSP" shall mean a groundwater sustainability plan as defined by Water Code section 10721, subdivision (k), and "GSPs" shall mean more than one such plan.

1.7 "GSA Alternate Representative," "Alternate Representative," or "Alternate" and their plural forms shall mean an alternate member of the Coordination Workgroup selected to represent the GSA in accordance with **Exhibit "A"** and Section 4.1.2-4.1.4 of this Coordination Agreement who shall serve in the absence of the respective GSA Representative and shall be entitled to cast the vote for the absent GSA Representative.

1.8 "GSA Party" or "GSA Parties" shall mean a Groundwater Sustainability Agency or in the plural, two or more Groundwater Sustainability Agencies within the Kings Subbasin that is (are) a signatory to this Coordination Agreement.

1.9 "GSA Representative" or "Representative" and their plural forms as appropriate shall mean a member of the Coordination Workgroup selected to represent the GSA in accordance with **Exhibit "A"** and Sections 4.1.2 – 4.1.4 of this Coordination Agreement.

1.10 "Interbasin Agreements" shall mean any voluntary agreement entered into by a GSA, GSAs or a Coordination Workgroup with a GSA, GSAs or a Coordination Workgroup in any adjacent basin in order to better establish understanding regarding fundamental elements of the GSPs of any of the contracting GSA, GSAs, or Coordination Workgroups as the same may relate to enhanced sustainable groundwater management between the basins; all as more specifically set forth at Title 23 Cal. Code Regs section 357.2(a) through (d).

1.11 "Plan Manager" shall mean an entity or individual, appointed at the pleasure of the Coordination Workgroup, or as provided in Section 4.2 of this Coordination Agreement, to perform the role of the Plan Manager to serve as the point of contact to DWR, consistent with Title 23 Cal. Code Regs. section 351, subdivision (z).

1.12 "Service Providers" shall mean engineers, hydrogeologists, hydrologists, economists, technicians, attorneys or other professional service providers hired by the GSA Parties to provide assistance in accordance with this agreement.

1.13 "SGMA" shall mean the California Sustainable Groundwater Management Act of 2014, as amended from time to time, commencing at Water Code section 10720, together with its implementing regulations applicable to Groundwater Sustainability Plans, set forth at California Code of Regulations, Title 23, Division 2, Chapter 1.5, Subchapter 2.

1.14 "Subbasin" shall mean the Kings Subbasin (Basin Number 5-022.08, DWR Bulletin 118, Interim Update 2016) within the Tulare Lake Hydrologic Region.

1.15 "Technical Memoranda" shall mean the memoranda prepared by and/or for the Coordination Workgroup and includes the data and methodologies for assumptions identified in Water Code section 10727.6 used to prepare the coordinated GSPs. Individually, the memoranda shall be referred to as a "Technical Memorandum."

SECTION 2 – GENERAL OBLIGATIONS AND LIMITATIONS OF AGREEMENT

2.1 Obligation to Coordinate

The GSA Parties to this Coordination Agreement agree to work cooperatively and collaboratively to meet the coordination requirements of the SGMA and this Coordination Agreement. Each GSA Party to this Coordination Agreement is a GSA and acknowledges that it is bound by the terms of this Coordination Agreement as an individual GSA Party. However, it is further understood and agreed that in order to bind or otherwise obligate a GSA Party on any matters affecting its individual rights, responsibilities and obligations under SGMA, or any

recommendations received by it arising from the terms and conditions contained in this Agreement (including any proposed future amendments hereto), that GSA Party's governing body must take final action at public meeting(s) and hearing(s) consistent with Water Code section 10728.4 regarding GSPs.

2.1.1 Obligation to Appoint Representatives and Alternatives

Each GSA Party understands its coordination participation, as more fully set forth in Section 4 of this Coordination Agreement, is based on representation through and by its individual designated GSA Representative. It is the responsibility and obligation of each GSA Party under this Coordination Agreement to appoint and authorize its respective GSA Representative and/or its Alternate Representative. Each GSA Party shall appoint and authorize one Representative and one Alternate to participate in coordination functions as described herein, and to facilitate timely and informed input and direction to the Coordination Workgroup and the Plan Manager.

By execution of this Coordination Agreement, each GSA Party confirms the authority of its GSA Representative and Alternate to provide input and direction to the Coordination Workgroup and the Plan Manager on behalf of that GSA Party, and each GSA Party understands that the Coordination Workgroup and the Plan Manager may undertake further consideration or conduct further analysis on the basis of that input and direction.

2.1.2 Non-Entity Status

The GSA Parties acknowledge and agree that this Coordination Agreement is entered into pursuant to the authorities referenced in Section 1.3 hereof, and that execution hereof does not act to create a legal entity separate and apart from the individual GSA Parties; that nothing contained in this Agreement is intended to create the power to sue or be sued, to enter into contract, or to enjoy the benefits or accept the obligations of a legal entity.

2.1.3 Implementation of Individual GSPs

Except as otherwise provided herein, this Coordination Agreement does not in any manner affect each GSA Party's responsibility to develop, approve and implement its respective individual GSP in accordance with the requirements of the SGMA.

2.2 No Adjudication Actions or Alternate Plans in the Subbasin

In accordance with the Title 23, California Code of Regulations section 357.4(f), the GSA Parties acknowledge that, as of the date of this Coordination Agreement, no area of the Subbasin is subject to (1) an adjudication action pursuant to Water Code section 10721(a), or (2) an alternative groundwater management plan submitted pursuant to Water Code section 10733.6.

2.3 No Restrictions on Interbasin Agreements

Nothing in this Coordination Agreement shall prevent any GSA Party or GSA Parties from entering into interbasin agreements with an Agency or individual parties within an adjacent Subbasin, or any other relevant Subbasin, so long as such interbasin agreements are not in direct

conflict with or otherwise prevent compliance with this Coordination Agreement or compliance with the SGMA.

SECTION 3 – FINANCIAL MATTERS

3.1 Coordination Expenses

Each GSA Party shall bear its own costs associated with activities performed under this Coordination Agreement. No GSA Party shall incur debts, liabilities or obligations on behalf of any other GSA Party unless provided for in a separate agreement.

3.2 Contracting for Services

The GSA Parties shall contract with all Service Providers, including the Plan Manager, directly in their capacity as individual GSAs. Nothing in this Coordination Agreement shall be construed to create a fiscal agent relationship between the individual GSA Parties or between the GSA Parties and the Plan Manager or any other individuals or entities unless further set forth in a separate written agreement.

3.3 Arrangements for Cost Sharing

When the GSA Parties agree to perform activities that involve a financial obligation under this Coordination Agreement, the GSA Parties may enter into a cost-sharing arrangement or separate cost sharing agreement(s) as a part of approving and undertaking the activity.

3.4 Incorporation of Cost Sharing Agreements

Any cost sharing agreement executed by all of the GSA Parties shall be incorporated into this Coordination Agreement for the purposes of Section 13.1.2. No other cost sharing agreements or arrangements shall be incorporated into the Coordination Agreement for the purposes of Section 13.1.2.

SECTION 4 – RESPONSIBILITIES FOR KEY FUNCTIONS

4.1 Coordination Workgroup

4.1.1 The GSA Parties have established a Coordination Workgroup to provide an informal forum for the GSA Parties to direct the Plan Manager and Service Providers on the development and coordination of data and methodologies to support the technical assumptions and information in each GSP, as provided in the SGMA, and to satisfy the coordination and annual reporting obligation in the years following initial GSP adoption.

4.1.2 The Coordination Workgroup will consist of one GSA Representative identified on **Exhibit "A,"** attached hereto and incorporated herein by this reference, as said **Exhibit "A"** may be modified from time to time. Each GSA Representative shall have one Alternate Representative authorized to participate in the absence of the GSA Representative.

4.1.3 Individuals serving as GSA Representatives and Alternate Representatives shall be selected and appointed by each respective GSA Party in the sole and absolute discretion of the respective GSA Party, and such appointments shall be effective upon providing written notice to the Plan Manager and to each of the other GSA Representatives listed on **Exhibit "A"**.

4.1.4 The Coordination Workgroup will recognize each GSA Representative and GSA Alternate Representative until such time as a GSA Party may provide written notice of removal and replacement of the Representative or Alternate to the Plan Manager and to every other GSA Representative designated on **Exhibit "A."** Each GSA Party shall promptly fill any vacancy created by the removal of such Representative or Alternate Representative so that each GSA Party shall have the number of validly designated Representatives and Alternate Representatives specified on **Exhibit "A".**

4.1.5. Informal meeting notes of the meetings of the Coordination Workgroup will be prepared and maintained as set forth in Section 4.5.3.

4.2. Plan Manager

The Coordination Workgroup shall appoint, by unanimous consent, a Plan Manager, who may be a consultant hired by the GSA Parties pursuant to the Coordination Agreement or a public agency serving as or participating in a GSA that is a GSA Party to this Coordination Agreement. In accordance with the Title 23, California Code of Regulations Section 357.4(b)(1) the Plan Manager shall serve as the point of contact for DWR as specified by the SGMA (section 1.11 above). The Plan Manager has no authority to make policy decisions or represent the Coordination Workgroup without the prior unanimous consent of the Coordination Workgroup. The Plan Manager has no authority to bind or otherwise create legal obligations on behalf of the Coordination Workgroup. The Plan Manager is obligated to disclose all substantive communications he/she transmits and receives in his/her capacity as Plan Manager to the Coordination Workgroup. The Plan Manager serves at the pleasure of the GSA Parties, shall serve until he/she resigns or is otherwise replaced by unanimous consent of the Coordination Workgroup and shall have a separate written agreement with each GSA Party. The Plan Manager is identified in **Exhibit "A"**.

4.3 Coordination Workgroup Role and Limitations

4.3.1 Workgroup Role

In an effort to further the effective coordination of the GSA Parties under this Coordination Agreement, the Coordination Workgroup is convened to research, consider, and otherwise forward unanimous recommendations to each individual GSA Party's Board of Directors, subject to the ultimate formal approval of each said GSA Party's GSA Board of Directors, for the following enumerated items:

(a) Technical Memoranda for the SGMA required GSP elements described in Water Code section 10727.6, subdivisions (a) through (g) and Sections 8 through 10 of this Coordination Agreement, including the technical data and methodologies, as further collectively approved by the individual GSA Parties, in the GSA Parties' respective GSPs.

(b) Following the submittal to and approval of the GSPs and this Coordination Agreement by DWR, recommendations for ongoing review and updating of the Technical Memoranda as needed; for assuring submittal of annual reports; for providing five-year assessments and for any needed revisions to the Coordination Agreement; and for providing review and assistance with coordinated projects and programs.

(c) Review and recommendation for approval of annual estimates of Coordinated Plan Expenses presented by the Plan Manager and any updates to such estimates; provided, that such estimates or updates with supporting documentation shall be circulated to all GSA Parties in advance of the meeting at which the Coordination Workgroup will consider the annual estimate and within an adequate timeframe for GSA Representatives to present to their respective GSA Party Board of Directors for consideration and approval.

(d) Provide input and direction to the Plan Manager in the performance of its duties in conformance with the SGMA.

4.3.2 Limitations

It is the intent of the GSA Parties that every effort be made to achieve a consensus on the items to be recommended by the Coordination Workgroup for individual GSA Board consideration. The Coordination Workgroup shall be limited in scope to this intended result. When the terms of this Coordination Agreement or applicable law require the approval of a GSA Party, that approval shall be evidenced as indicated in Section 5 of this Agreement.

4.4 Ad Hoc Sub-Workgroups

The Coordination Workgroup may informally organize ad hoc sub-workgroups. Such ad hoc sub-workgroups may include qualified individuals possessing the knowledge and expertise to assist the Coordination Workgroup, consistent with the Coordination Agreement, on specific topics identified by the Coordination Workgroup. Individuals participating in ad hoc sub-workgroups need not be GSA Representatives or Alternate Representatives.

4.4.1 Work of Ad Hoc Sub-Workgroups

Tasks assigned to ad hoc sub-workgroups, or staff made available by the GSA Parties, may include more specific technical assistance to the Coordination Workgroup concerning development of recommendations for technical data, supporting information or documentation, and/or recommendations on matters of interest to the Coordination Workgroup, from time to time.

4.5 Coordination Workgroup Meetings

4.5.1 Timing and Notice

Any two GSA Representatives or, more typically, the Plan Manager, may call meetings of the Coordination Workgroup as needed to carry out the activities described in this Coordination Agreement. The Coordination Workgroup may, but is not required to, set a date for regular meetings for the purposes described in this Coordination Agreement. It is agreed and understood

that, in the interest of cooperation and overall efficiency, every effort will be made to schedule meetings of the Coordination Workgroup at such times and places as will result in the ability of each GSA Party to have a GSA Representative present at the meeting.

4.5.2 Effective Participation

In order to provide timely and comprehensive consideration in its role as a Coordination Workgroup of items included within its scope, it is agreed that every effort will be made to have at least one of the GSA Representatives from every GSA Party listed on **Exhibit "A"** present for purposes of holding a Coordination Workgroup meeting. It is understood and agreed that the intent of the GSA Parties is to reach a consensus on all matters considered by the Coordination Workgroup for recommendation forward to each GSA Party's Board of Directors for final consideration. The GSA Representatives from every GSA Party listed on **Exhibit "A"** must be present at a meeting, or may provide a written communication in advance of the meeting, of the absent GSA Party's position on the item being considered to the Coordination Workgroup and/or the Plan Manager should the GSA be unable to have their Representative present, for any Coordination Workgroup attempt to reach consensus for a final recommendation on a matter described in section 4.3.1 to take place.

4.5.3 Informal Meeting Notes

The Plan Manager shall keep and prepare informal meeting notes of all Coordination Workgroup meetings. Notes of ad hoc sub-workgroup meetings shall be kept by the Plan Manager or Plan Manager's appointee. All Coordination Workgroup meeting notes and ad hoc sub-workgroup meeting notes shall be maintained by the Plan Manager as Coordination Workgroup records and shall be available to the GSA Parties.

SECTION 5 – APPROVAL BY INDIVIDUAL PARTIES

5.1 Whether by operation of law or by action of the Kings Subbasin under the terms of this Coordination Agreement any recommendation, action, position or agreement of this Subbasin requires separate written approval by each of the GSA Parties, and such approval shall be evidenced to the other GSA Parties, in writing, by providing a copy of the Resolution, Motion, or Minutes of the formal action taken by each of their respective Boards of Directors to the Plan Manager of the Coordination Workgroup.

SECTION 6 – EXCHANGE OF DATA AND INFORMATION

6.1 Exchange of Information

In accordance with Title 23, California Code of Regulations Section 357.4(b)(2) of the GSP Regulations, the GSA Parties acknowledge and recognize that for this Coordination Agreement to be effective in promoting basin-wide groundwater sustainability and compliance with the SGMA and the basin level coordinating and reporting regulations, the GSA Parties will have an affirmative obligation to exchange certain minimally necessary information among and between the other GSA Parties. The GSA Parties agree that they shall only use the information exchanged amongst them for the purposes set forth in this Agreement.

6.2 No Duty of Confidentiality

All Parties are public agencies and each Party acknowledges that any exchanged information is subject to the provisions of the California Public Records Act and a duly issue subpoena or court order. Each GSA Party shall be responsible for determining whether the information minimally necessary from its GSA to comply with the data and methodologies coordination and subsequent annual coordinated reporting of basin level data to DWR, as further set forth in this Coordination Agreement and in **Exhibit "B"** attached hereto, is subject to any non-disclosure or privacy restrictions. It shall be the responsibility of each individual GSA Party to take such steps and employ such measures as it deems necessary to configure the information in a form that satisfies its privacy concerns while otherwise complying with its statutory and regulatory obligations under this Coordination Agreement. This Coordination Agreement imposes no duty or obligation upon any GSA Party, nor its agents, contractors or other professional associates, for the protection of the information provided by other GSA Parties in satisfying the minimal coordination and reporting requirements under the SGMA and the regulations.

6.3 Voluntary Exchange of Information

Nothing in this Coordination Agreement shall be construed to prohibit any GSA Party from voluntarily exchanging information with any other GSA Party by any other mechanism separate from the Coordination Workgroup.

6.4 Public Records Act Requests

The GSA Parties agree that the Coordination Workgroup is not a public agency and shall take all appropriate actions to ensure the non- public agency status of the Coordination Workgroup when receiving any data requests under the Public Records Act or otherwise. As such, the Plan Manager is not authorized to accept or respond to any Public Records Act request, and may, but is not obligated to, refer the requesting party to one or more of the GSA Parties.

SECTION 7 – COORDINATED DATA MANAGEMENT SYSTEM

7.1 In accordance with the Title 23, California Code of Regulations Section 357.4(e), the GSA Parties are developing and will maintain a coordinated data management system that is capable of storing and reporting information relevant to and in compliance with the SGMA reporting requirements, the coordinated monitoring network of the Subbasin and the coordinated implementation of the GSA Parties' GSPs.

7.2 The GSA Parties likewise agree to develop and maintain the data required for the Basin data management system to provide the minimum required annual reporting information, as well as other pertinent information determined necessary by the Coordination Workgroup. Each GSA shall provide data in a format compatible with the Basin Data Management System. After providing the Coordination Workgroup with data from the individual GSPs, the Coordination Workgroup will cause the data to be stored and managed in a coordinated manner among the GSA Parties and reported to DWR periodically, as required. A description of the Data Management System is included in **Exhibit "B"**.

SECTION 8 – METHODOLOGIES AND ASSUMPTIONS

8.1 SGMA Coordination Requirements

Pursuant to the SGMA, this Coordination Agreement must demonstrate that the individual GSAs intending to develop and implement multiple GSPs pursuant to Water Code section 10727(b)(3) have coordinated with the other GSAs preparing a GSP within the Subbasin to ensure that the GSPs utilize the same data and methodologies for the following assumptions used in developing the GSPs: (1) groundwater elevation; (2) groundwater extraction data; (3) surface water supply; (4) total water use; (5) changes in groundwater storage; (6) water budgets; and (7) sustainable yield. (Water Code Section 10727.6.)

8.2 Coordination during GSP Development

During development of the individual GSPs, the GSA Parties have developed common methodologies and assumptions for the required plan elements listed in Water Code section 10727.6. This development was facilitated through research, analysis and discussion within the Coordination Workgroup. Once consensus was achieved at the Coordination Workgroup, the recommendations of the Coordination Workgroup were forwarded to the individual GSA Party's Board of Directors for further consideration and approval as part of their GSPs. The final approved set of data gathering, storage and analysis criteria, along with the approved methodologies associated with each required item specified in Water Code section 10727.6 specified above in section 7.1 of this Agreement, is attached to this Coordination Agreement as **Exhibit "B,"** and incorporated into each GSP and in this Agreement as if originally set out in full. Generally, the basis upon which the methodologies and assumptions were developed includes, but shall not be limited to, collection of existing relevant data/information, consideration of applicable best management practices, methodologies considered as standard accepted practices in the water and groundwater industries and/or best modeled or projected data available and may include consultation with the DWR, as appropriate.

8.3 Description of Data and Methodologies

The data and methodologies for assumptions described in Water Code section 10727.6 and Title 23, California Code of Regulations Section 357.4 for preparation of coordinated plans, in addition to **Exhibit "B"** as set forth above, is further supported by applicable relevant Technical Memoranda prepared by the Coordination Workgroup, and recommended to the individual GSA Parties for each of the elements discussed in Sections 8, 9, and 10 of this Coordination Agreement. The data and methodologies required for coordination are subject to the unanimous consent of the Coordination Workgroup and all GSA Parties' Boards of Directors, and have been incorporated to this Coordination Agreement and incorporated into each GSA Party's GSP, as appropriate. The Technical Memoranda created pursuant to this Agreement have been utilized by the GSA Parties during the development and implementation of their GSPs in order to assure coordination of the GSPs in compliance with the SGMA. The GSA Parties acknowledge that this Coordination Agreement is required to be submitted to DWR along with each GSA's completed GSP to ensure that each GSP has included the information developed in **Exhibit "B".**

SECTION 9 – MONITORING NETWORK

9.1 In accordance with the Title 23, California Code of Regulations Section 357.4(b)(3)(A), the GSA Parties hereby agree to coordinate the development and maintenance of a Subbasin monitoring network through the coordination of the respective GSA monitoring networks established pursuant to the GSA Parties' GSPs. The description of the Subbasin monitoring network includes monitoring objectives, protocols, and data reporting requirements specific to enumerated sustainability indicators. Each GSA Party's network facilitates the collection of data in order to adequately characterize groundwater and related surface water conditions in the Subbasin and reasonably evaluate changing conditions that occur from implementation of the individual GSPs. Each GSA Party's GSP describes the GSA monitoring network's objectives as they relate to the Subbasin as well as their individual GSA area as required by the regulations, including, but not limited to, an explanation of coordinated network development and implementation to monitor groundwater and related surface conditions, and the interconnection of surface water and groundwater.

9.2 Each GSA Party has provided and shall continue to provide to the Coordination Workgroup, at a minimum, all relevant required data and information for their respective representative monitoring sites established in accordance with Title 23, California Code of Regulations, Section 354.36, as amended from time to time. A description of the groundwater elevation data and monitoring network has been included in **Exhibit "B"** in accordance with the Title 23, California Code of Regulations Section 357.4(b)(3)(A).

SECTION 10– COORDINATED WATER BUDGET

10.1 In accordance with the Title 23, California Code of Regulations Section 357.4(b)(3)(B), the GSA Parties hereby agree to prepare a single coordinated water budget for the Subbasin for use in the individual GSA Party's GSP. The water budget includes those elements required by Title 23, California Code of Regulations, Section 354.18, including groundwater extraction data, surface water supply, total water use, and change in groundwater in storage.

10.2 In accordance with the Title 23, California Code of Regulations Section 357.4(b)(3)(C), the GSA Parties have utilized and will continue to utilize the coordinated water budget to determine the sustainable yield for the basin. The determination of sustainable yield is supported by a description of the undesirable results for the basin, and an explanation of how the minimum thresholds and measurable objectives defined by each GSP relate to those undesirable results, based on information described in the basin setting. A description of the Coordinated Water Budget is included in **Exhibit "B".**

SECTION 11 – ADOPTION AND USE OF THE COORDINATION AGREEMENT

11.1 Coordination of GSPs

In accordance with the Title 23, California Code of Regulations Section 357.4(c), this section has been included to provide clarification of how the GSPs implemented together satisfy the requirements of SGMA and are substantially compliant with Title 23, California Code of Regulations. Each GSA Party acknowledges that it is responsible to ensure that its own GSP

complies with the statutory requirements of the SGMA. The GSA Parties further acknowledge the existence of more than one GSA within the Kings Subbasin and the related requirements of the California Water Code and the California Code of Regulations to coordinate among the multiple GSAs within the Subbasin. It is the intent of the GSA Parties that, through development and execution of this Coordination Agreement and the implementation of their collective GSPs within the Subbasin, that they shall satisfy the requirements of sections 10727.2 and 10727.4 of the Water Code, and that when taken together as a whole, they shall provide a detailed description of how the Subbasin will timely achieve sustainability and be managed sustainably into the future. As described in this Agreement and the Exhibits, the GSA Parties have developed their respective GSPs using common data and methodologies. The GSA Parties have coordinated development of their GSPs prior to GSP submittal. Each GSP within the basin is using the same GSP outline structure, and includes common language describing the basin where appropriate.

11.2 GSP and Coordination Agreement Submission

In accordance with the Title 23, California Code of Regulations Section 357.4(d), the GSA Parties agree to submit this Coordination Agreement and their respective GSPs to DWR through the Coordination Workgroup and Plan Manager, in accordance with all applicable requirements.

SECTION 12 – MODIFICATION AND TERMINATION

12.1 Modification or Amendment of **Exhibit "A"**

The GSA Parties agree that **Exhibit "A,"** except for the withdrawal of GSA Parties to this Agreement, may be updated by written direction from the GSA Parties from time to time. Upon such modification, the updated **Exhibit "A"** shall be attached to this Agreement as a replacement to the previously existing **Exhibit "A."** Upon such attachment, the updated "**Exhibit "A"** shall become a part of this Coordination Agreement without further approval being required. The Plan Manager shall provide notice of such change to all GSA Representatives.

12.2 Modification or Amendment of **Exhibit "B"**

The GSA Parties agree that **Exhibit "B"** may be updated by written direction from the GSA Parties and consensus of the Coordination Workgroup, followed by approval of each individual GSA Party's Board of Directors from time to time without the necessity of amending the main body of the Agreement. Upon such modification, the updated **Exhibit "B"** shall be attached to this Agreement as a replacement to the previously existing **Exhibit "B."** Upon such attachment, the updated "**Exhibit "B"** shall become a part of this Coordination Agreement. The Plan Manager shall provide notice of such change to all GSA Representatives.

12.3 Amendment for Compliance with Law

Should any provision of this Coordination Agreement be determined to be not in compliance with legal requirements under circumstances where amendment of the Agreement to include a provision addressing the legal requirement will cure the non-compliance, the GSA Parties agree to promptly prepare and approve such amendment.

12.4 Modification or Amendment of Coordination Agreement

Except as provided in Sections 12.1 and 12.2, the GSA Parties hereby agree that this Coordination Agreement may be supplemented, amended, or modified only by a writing approved by each individual GSA Party's Board of Directors and signed by the GSA Parties.

SECTION 13 – WITHDRAWAL, TERM, AND TERMINATION

13.1 Withdrawal

13.1.1 Any GSA Party may withdraw from this Coordination Agreement upon providing the Plan Manager and all other remaining GSA Parties with at least one (1) year's written notice of such withdrawal. Such a withdrawal from this Coordination Agreement shall not cause or require termination of this Coordination Agreement.

13.1.2 Any GSA Party who withdraws shall remain obligated for Coordinated Plan Expenses as provided in any then-existing separate cost sharing agreement.

13.2 Term

This Coordination Agreement, as modified from time to time pursuant to Section 12, shall continue for a term that is coterminous with the requirements of the SGMA, as the same may be modified, from time to time.

13.3 Termination

This Coordination Agreement shall terminate if the requirements of SGMA no longer apply to the GSA Parties or if the requirements of SGMA no longer require a Coordination Agreement. This Coordination Agreement may also be terminated upon the unanimous written consent of the GSA Parties.

SECTION 14 – WATER RIGHTS

14.1 Acknowledgement of Water Code Section 10720.5

The GSA Parties acknowledge that pursuant to Water Code Section 10720.5(a), that SGMA does not modify rights or priorities to use or store groundwater consistent with Section 2 of Article X of the California Constitution, except as so provided in said subsection. The GSA Parties further acknowledge that pursuant to Water Code Section 10720.5(b), SGMA does not determine or alter surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights. Water rights may be determined in an adjudication action as described in Water Code Section 10720.5(c). Any dispute involving water rights including without limitation as to priority of water rights shall be separately resolved based upon applicable law before a proper judicial, administrative or enforcement forum, and is

specifically excluded from the provisions of this Agreement, including without limitation, Section 15 below.

SECTION 15 – RESOLUTION OF CONFLICTS

15.1 Procedure for Resolving Conflicts or Disputes

In accordance with Title 23, California Code of Regulations Section 357.4(b)(2) of the GSP Emergency Regulations, the GSA Parties have identified procedures for resolving conflicts between Parties. In the event that any conflict or dispute arises between or among the GSA Parties relating to the enforcement or interpretation of any term, covenant or condition of this Agreement or the rights and obligations arising from this Agreement ("Dispute"), the aggrieved GSA Party or GSA Parties ("Aggrieved GSA Party") shall provide written notice, sufficiently detailing the basis upon which the Dispute is alleged to exist, to the other GSA Parties. Within fifteen (15) days after such written notice, the GSA Parties shall meet and confer and/or commence an attempt in good faith to resolve the Dispute through informal means. If the GSA Parties cannot agree upon a resolution of the Dispute within thirty (30) days following the provision of written notice specified above, the Dispute shall be submitted to mediation as provided in Section 15.2.

15.2 Mediation

Upon expiration of thirty (30) days as described in Section 15.1, the Aggrieved GSA Party shall initiate mediation by notifying all GSA Parties in writing of the Dispute, the informal attempts to resolve the Dispute pursuant to Section 15.1, and the initiation of mediation. The notice shall be submitted no later than thirty (30) days from the expiration date outlined in Section 15.1. A mediator shall be selected that is mutually agreeable to the GSA Parties. The GSA Parties shall: (i) mediate in good faith; (ii) exchange all documents which each believes to be relevant and material to the issue(s) in the Dispute; (iii) exchange written position papers stating their position on the Dispute and outlining the subject matter and substance of the anticipated testimony of persons having personal knowledge of the facts underlying the Dispute; and (iv) engage and cooperate in such further discovery as the disputing GSA Parties agree or mediator suggests may be necessary to facilitate effective mediation. Each GSA Party that is a party to the mediation shall bear its own costs, fees and expenses of the mediation. Venue of the mediation shall be a mutually agreeable city within Fresno County, California or as otherwise agreed to. Should the GSA Parties be unable to resolve the Dispute through the mediation process, any GSA Party may seek legal or other relief as they may deem appropriate.

SECTION 16 – GENERAL PROVISIONS

16.1 Authority of Signers

The individuals executing this Coordination Agreement represent and warrant that they have the authority to enter into this Coordination Agreement and to legally bind the GSA Party for whom they are signing to the terms and conditions of this Coordination Agreement.

16.2 Governing Law

The validity and interpretation of this Coordination Agreement will be governed by the laws of the State of California.

16.3 Severability

Except as provided for cure by amendment in Section 12.2, if any term, provision, covenant, or condition of this Coordination Agreement is determined to be unenforceable by a court of competent jurisdiction, it is the GSA Parties' intent that the remaining provisions of this Coordination Agreement will remain in full force and effect and will not be affected, impaired, or invalidated by such a determination.

16.4 Counterparts

This Coordination Agreement may be executed in any number of counterparts, each of which will be an original, but all of which will constitute one and the same agreement.

16.5 Good Faith

The Parties agree to exercise their best efforts and utmost good faith to effectuate all the terms and conditions of this Coordination Agreement and to execute such further instruments and documents as are reasonably necessary, appropriate, expedient, or proper to carry out the intent and purposes of this Coordination Agreement.

16.6 Construction and Interpretation.

This Agreement has been developed through negotiation and each of the GSA Parties has had a full and fair opportunity to review and make suggestions to revise the terms of this Agreement. As a result, the normal rule of construction that any ambiguities are to be resolved against the drafting GSA Parties shall not apply in the construction or interpretation of this Agreement.

16.7 Indemnity

No GSA Party, nor any director, officer or employee of a GSA Party, shall be responsible for any damage or liability occurring by reason of anything done or omitted to be done by another GSA Party under or in connection with this Coordination Agreement. The GSA Parties further agree, pursuant to Government Code section 895.4, that each Party shall fully indemnify and hold harmless each other GSA Party and its agents, directors, officers, employees and contractors from and against all claims, damages, losses, judgments, liabilities, expenses and other costs, including litigation costs and attorney fees, arising out of, resulting from, or in connection with any work delegated to or action taken or omitted to be taken by such GSA Party under this Coordination Agreement.

16.8 Entire Agreement

This Agreement constitutes the entire agreement among the GSA Parties and supersedes all prior agreements and understandings, written or oral.

IN WITNESS WHEREOF, the GSA Parties have executed this Agreement as of the date of the last signature hereto.

CENTRAL KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By Phillip G. Desatoff

Date: 11/15/19

JAMES GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

KINGS RIVER EAST GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

MCMULLIN AREA GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH FORK KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

SOUTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

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CENTRAL KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

JAMES GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____
STEVEN P. STADLER, EXECUTIVE DIR.

Date: DECEMBER 12, 2019

KINGS RIVER EAST GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

MCMULLIN AREA GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH FORK KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

SOUTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

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By _____

Date: _____

JAMES GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

KINGS RIVER EAST GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: 11/21/2019

MCMULLIN AREA GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH FORK KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

SOUTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

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CENTRAL KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

JAMES GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

KINGS RIVER EAST GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

MCMULLIN AREA GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____
MATTHEW H. HURLEY, Gen. Mgr.

Date: 11/6/2019

NORTH FORK KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

SOUTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

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CENTRAL KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

JAMES GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

KINGS RIVER EAST GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

MCMULLIN AREA GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH FORK KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: 11-22-2019

NORTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

SOUTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

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CENTRAL KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

JAMES GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

KINGS RIVER EAST GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

MCMULLIN AREA GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH FORK KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By Gary R. Serrato

Date: Oct 24, 2019

SOUTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

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IN WITNESS WHEREOF, the GSA Parties have executed this Agreement as of the date of the last signature hereto.

CENTRAL KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

JAMES GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

KINGS RIVER EAST GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

MCMULLIN AREA GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH FORK KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

NORTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: _____

SOUTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

By _____

Date: 12/20/2019

EXHIBIT "A"

GSA DESIGNATED REPRESENTATIVES AND SUBBASIN PLAN MANAGER

DATED: 1/8/25

CENTRAL KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

Representative: Phil Desatoff

Alternate: Michael Carbajal

JAMES GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

Representative: Manny Amorelli

Alternate: William Carvalho

KINGS RIVER EAST GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

Representative: Chad Wegley

Alternate: Jack Brandt

MCMULLIN AREA GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

Representative: Matt Hurley

Alternate: Cristel Tufenkjian

NORTH FORK KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

Representative: Justin Mendes

Alternate: Mark McKean

NORTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

Representative: Kassy Chauhan

Alternate: Bill Stretch

SOUTH KINGS GROUNDWATER SUSTAINABILITY AGENCY, a public agency of the State of California

Representative: Josh Rogers

Alternate: Karnig Kazarian

The PLAN MANAGER is:

Name: Ronnie Samuelian

Agency/Entity: Provost & Pritchard

Exhibit "B"
To the Kings Subbasin Coordination Agreement

The GSAs may update and modify the processes described in this exhibit as new preferred methods are identified, additional data is gathered, or reporting requirements change. Updates to the methods or information will be subject to agreement by GSAs under the terms of this agreement and documented in Basin annual reports and GSP updates.

I. Sustainability Goal

The sustainability goal of the Kings Basin and each GSA is to ensure that by 2040 the basin is being managed to maintain a reliable water supply for current and future beneficial uses without experiencing undesirable results. This goal will be met by balancing water demand with available water supply to stabilize declining groundwater levels without significantly and unreasonably impacting water quality, land subsidence, or interconnected surface water. The goal of the basin is to correct and end the long-term trend of a declining water table understanding that water levels will fluctuate based on the season, hydrologic cycle, and changing groundwater demands within the basin and its proximity.

II. Description of Monitoring Networks

The GSAs within the Kings Basin have established three monitoring networks within each GSA for water level, water quality and subsidence.

The objectives of the various monitoring programs include the following:

1. Establish a baseline for future monitoring.
2. Provide warning of potential future problems.
3. Use data gathered to generate information for water resources evaluation.
4. Help to quantify annual changes in water budget components.
5. Develop meaningful long-term trends in groundwater characteristics.
6. Provide comparable data from various locales within the Plan Area.
7. Demonstrate progress toward achieving measurable objectives described in the Plan.
8. Monitor changes in groundwater conditions relative to minimum thresholds.
9. Monitor impacts to the beneficial uses or users of groundwater.

The water level monitoring network utilizes existing wells that have been historically monitored for groundwater level as much as possible. The GSAs are planning to locate additional monitor wells in areas with limited data, and these will be added to the network. Changes to the water level monitoring network and a map of the current water level monitoring network Sustainable Management Criteria wells will be included in the

current Annual Report. Each GSA discusses their individual monitoring networks in their respective GSP. The groundwater elevation measurements are collected every March and October to provide data on the seasonal high and seasonal low groundwater conditions. Each GSA provides the water level data to the Plan Manager for the Basin for inclusion in the Data Management System and annual reports. These wells along with additional wells are used for groundwater storage calculations.

Groundwater quality reporting by community water systems and non-community public supply wells is a requirement of California Code of Regulations (CCR) Title 22, and the GSAs rely on this data for groundwater quality monitoring, and may supplement with results from test conducted by the GSAs when public water system data is unavailable. Community and other public supply wells are already being routinely monitored for a wide range of contaminants, including the chemicals of concern, by the water purveyors under Title 22. The publicly available groundwater quality data from selected representative wells is obtained annually and evaluated against sustainable management criteria. Locations were selected to be representative of large and small communities dependent on groundwater and to spatially cover each GSA. The representative groundwater quality monitoring network is shown in each GSA's GSP, and is evaluated and revised as needed. Changes to the monitoring network and a map of the current groundwater quality monitoring network will be included in the current Annual Report.

Land subsidence is limited primarily to the western portion of the Subbasin. Land subsidence is primarily monitored using DWR-provided remote sensing data and cross-checked with data from existing land subsidence survey benchmarks. The benchmark monitoring network includes benchmark surveying at least every 7 miles with records dating back to 2010. This spatial and temporal network is adequate and designed with the flexibility to increase measurement frequency or decrease benchmark spacing if more data is warranted. DWR-provided remote sensing data is used to fill in gaps between the surveyed benchmarks and the data from the subsidence survey benchmarks is used to verify the DWR-provided data. The GSAs also track land subsidence points just outside of their boundaries to see if subsidence is encroaching into the area. A map of the land subsidence monitoring network is included in each GSA's GSP and any changes will be reported in the current Annual Report.

III. Description of Coordinated Data Management System

The GSAs have developed a Data Management System (DMS) to share data and store the necessary information for annual reporting. The GSAs hired a consultant to build a user-friendly accessible database that standardizes the basin-wide data and allows GSA representatives to input their data and use basic tools for viewing, exporting or printing information for their GSA or the Subbasin. The DMS is a web-based software hosted on a cloud server. The DMS is the single repository for data aggregation and analysis for the Subbasin, and generates the required information for annual reporting to DWR. GSA representatives have access to all data in the DMS. The DMS currently includes the necessary elements required by the regulations, including:

- Well location and construction information (where available)
- Water level readings and hydrographs including water year type
- Seasonal groundwater elevation contours
- Estimated groundwater extraction by category
- Total water use by source
- Estimate of groundwater storage change, including map and tables of estimation
- Graph with Water Year type, Groundwater Use, Annual Cumulative Storage Change

The DMS also includes basic data layers for refences including GSA boundaries, topographic information, landuse, streets, aerial imagery, geologic information and specific yield information. Additional items may be added to the DMS in the future as needed or required.

Data is entered into the DMS by each GSA. Much of the data is then aggregated and summarized for reporting to DWR. Groundwater contours are prepared outside of the DMS because of the need to evaluate the integrity of the data collected and generate a static contour set that has been reviewed for quality assurance and will not change once approved. Groundwater storage calculations are performed outside of the DMS in accordance with the method described in the GSPs, then the results of those calculations are uploaded to the DMS for annual reporting and trend monitoring. Since most of the pumping in the GSA (and the Subbasin) is not currently measured, the groundwater pumping estimates are also calculated outside of the DMS using the agreed basin-wide water budget approach then uploaded to the DMS for annual reporting and trend analysis. Surface water deliveries are maintained by the surface water agencies in separate existing systems, and each GSA submits an aggregate total to the DMS. A description of how the DMS addresses each required element of a DMS

and annual reporting requirements is included in the GSP and listed in the table below. GSAs may choose to have their own separate system for additional analysis.

DMS Annual Reporting Requirements

Regulation	Requirement	Input to DMS
356.2(b)(1)(B)	Hydrographs incl water year type from Jan 2015	Generated in DMS from water level data input by GSAs
356.2(b)(1)(A)	GW Elevation Contours (spring & fall)	Generated outside DMS using data from DMS then contour lines uploaded into DMS
356.2(b)(2)	GW extraction by water use sector incl method of determination and map	Determined outside DMS. Total use by sector input by each GSA then summarized for basin in DMS
356.2(b)(3)	Surface Water use by source	Total by GSA input to DMS and summarized for basin in DMS
356.2(b)(4)	Total Water use by sector	DMS summary table of water supplies by sector per GSA
356.2(b)(5)(A)	Change in GW Storage map	Calculated outside DMS from contour data using basin-wide method then total per GSA input into DMS
356.2(b)(5)(B)	Graph with Water Year type, GW use, annual & cumulative GW Storage change	DMS generated basin total graph using data in DMS

IV. Overdraft Mitigation Responsibility for Each GSA

The GSAs have agreed to an initial target overdraft volume for each GSA to include in their respective GSPs along with projects and management actions to mitigate for that volume. A table showing the total for each GSA is included below. Although specific values are identified, there is a significant margin of error in calculating both storage change and boundary flows. The overdraft estimates are only for the unconfined aquifer and do not include any external boundary flow estimates, from either the unconfined or confined aquifer, as the GSAs need to further evaluate how these external boundary flows are going to be addressed with the neighboring basin GSAs. The initial values do not consider James pumping in McMullin GSA. The GSAs agree to evaluate and adjust these values regularly in future years as additional information is collected and estimates of storage change are updated.

GSA	Proposed Initial Responsibility (AF)
Central/South	-7,100
James	16,700
Kings River East	-11,000
McMullin	-91,100
North Fork	-50,300
North Kings	20,800
Total	**-122,000**

V. Description of Kings Subbasin Coordinated Water Budget

As provided for in SGMA, coordinated water budgets were prepared by Kings Subbasin Groundwater Sustainability Agencies (GSA). The water budgets quantify the components of water supply and use along with change in groundwater in storage. The coordinated water budgets can be used as tools in numerous aspects of groundwater sustainability management including:

- Determining Sustainable Yield
- Identifying Overdraft
- Identifying beneficial groundwater uses
- Identifying data uncertainties and monitoring needs
- Quantifying the effects of proposed projects and management actions
- Supporting development of sustainable management criteria

In developing the initial Groundwater Sustainability Plans (GSP), the Kings Subbasin GSAs regularly coordinated and used consistent approaches to groundwater budget development. The methods used in the initial GSPs are described generally below and may vary somewhat depending on what kind of water budget (historical, current or projected) is being discussed. The Kings Subbasin GSAs intend on continuing to coordinate in development of water budgets in the future and will revise this exhibit as necessary to meet future management needs and data availability.

The historical, current and projected water budgets for the Kings Subbasin were developed directly from measured and estimated data. A numerical model has not been used for development of the water budgets due to documented deficiencies with currently available groundwater models, including an existing numerical model of the Kings Susbasin, limited data availability for model development purposes and limited time available for refinement, calibration and validation of a model. The use of an analytical water budget (spreadsheet) has the advantage of clearly showing the origin of data used for the water budget, unlike data from a numerical model which lacks both a clear origin or computational history. Overall, the GSAs in the Kings Basin mutually agreed that an analytical water budget would be a more practical and useful tool, at least initially, and therefore offer greater value in managing groundwater. Much of the data developed as part of the analytical water budget will be used as model input if the existing Kings Subbasin numerical model is updated in the future.

The Kings Subbasin Coordinated Water Budgets quantify the following information in accordance with SGMA §354.18 (b):

(1) Total Surface water entering or leaving the subbasin

(2) Inflows to the groundwater system by water source type, including subsurface groundwater inflow and infiltration of precipitation, applied water, and surface water systems, such as lakes, streams, rivers, canals, springs and conveyance systems.
(3) Outflows from the groundwater system by water use sector, including evapotranspiration, groundwater extraction, groundwater discharge to surface water sources, and subsurface groundwater outflow.
(4) The change in the annual volume of groundwater in storage between seasonal high conditions.
(5) Identification of overdraft over a period of years during which water year and water supply conditions approximate average conditions.
(6) The water year type associated with the annual supply, demand, and change in groundwater stored
(7) An estimate of sustainable yield for the basin.

The water budget information listed above is described first for the historical water budget, which covers a recent period of at least ten years, that includes normal, wet and dry years. This historical period is selected by the Kings Subbasin to achieve close to average surface water delivery amounts during the period compared to long term records, since average surface water deliveries would equate to average groundwater pumping.

Total Surface Water

During the historical water budget period, records were available for most surface water supplies entering or leaving the Kings Subbasin. Records of the largest surface water amounts (Kings River diversions) from major divertors were summarized for each GSA for the historical period for irrigation and municipal purposes, and for recharge. The Kings River diversion records were headgate diversions, so canal losses were also included. Records of smaller Kings River and San Joaquin River diversions were estimated based on crop acreage amounts and evapotranspiration estimates. Precipitation to each Kings Subbasin GSA was estimated based on available precipitation records. Lesser amounts of surface water derived from minor streams were estimated based on limited available direct measurements and correlations with other small watersheds based on watershed areas and average precipitation amounts.

Groundwater System Inflows

Groundwater system inflows are not directly measured for the most part and were estimated directly (where possible) or based on related parameters. The largest groundwater system inflow in the Kings Subbasin, deep percolation of irrigation water, was quantified based on estimated water use and irrigation efficiencies, with deep percolation computed as the difference between estimated total applied water and evapotranspiration of applied water. Water use for the historical period was estimated

based on unit evapotranspiration of applied water and land use interpolated from available DWR crop survey information for the historical period. The unit evapotranspiration of applied water estimates for the historical period were based on DWR estimates of unit water use developed for Detailed Analysis Units as background information for the California Water Plan.

Deep percolation of municipal and industrial water was estimated based on applied water use with reductions for evapotranspiration of applied water and allowance for recharge of treated wastewater. Seepage to groundwater of irrigation conveyance and reservoirs was estimated based on limited investigations of channel seepage in Kings Subbasin irrigation districts, with loss estimates applied to total diversion amounts.

Lesser amounts of groundwater inflows (from precipitation, subsurface inflow, river seepage and minor streams) were all estimated. Groundwater percolation from precipitation was estimated based on total precipitation using procedures from the United States Geologic Survey to estimate the portion of total precipitation that results in groundwater recharge. Subsurface inflows to GSAs were determined for the unconfined aquifer based on gradients from groundwater contour maps each year and groundwater transmissivities for boundaries between GSAs and with other Subbasins. Total minor stream flows were reduced by runoff outside of the Subbasin to quantify recharge from that source.

Groundwater System Outflows

The largest quantity of groundwater system outflows in the Kings Subbasin is groundwater pumping. Groundwater pumping for irrigation is not directly measured for the most part and was estimated based on crop consumptive use, crop acreages and irrigation efficiencies, with adjustments for cropland surface water deliveries. The data used for the crop consumptive use estimates was primarily from DWR sources, as described in the Outflows from Groundwater System section of the GSPs. Records of groundwater pumping for municipal uses were obtained from municipal agencies when available and estimates for individual domestic pumpers were estimated based on population and approximate unit use. Unconfined aquifer subsurface outflows from GSAs were estimated using the same procedure previously described for use in estimating unconfined subsurface inflows. Confined aquifer subsurface outflows to adjacent subbasins were estimated in a similar manner as the unconfined aquifer outflows. There is limited data available to estimate confined aquifer flows, and the GSAs will continue to work to gather data to better understand confined aquifer conditions.

Change in Groundwater Storage

Differences in groundwater inflows and outflows result in changes to groundwater storage, either in the unconfined aquifer or the confined aquifer. The larger amount of

groundwater storage change in the Kings Subbasin occurs in the unconfined zone. This unconfined groundwater storage change was estimated annually for Kings Subbasin GSAs based on changes in yearly groundwater contour maps and specific yields estimates. Confined groundwater storage change was less common in the Kings Subbasin, occurring only in confined zones on the western side of the subbasin. Confined groundwater storage change was not quantified because of lack of confined groundwater level data, but estimates were made for several GSAs based on surface land subsidence estimates.

Overdraft

Overdraft is defined as groundwater storage change during a period when groundwater extractions exceed groundwater recharge. An initial estimate of overdraft was based on estimated storage change (unconfined and confined) for the historical period, which had approximately average water supply conditions. In GSAs with changing land use, the computed change in groundwater storage for current conditions can be adjusted upwards or downwards based on current water use estimates.

Water Year Types

Water year types were identified for the Kings Subbasin based on review of historical diversion records for the period 1955 through the present. Kings River diversions to Kings Subbasin GSAs (which are the primary water supply source to the Kings Subbasin) were tabulated and segregated into three categories – Dry, Normal and Wet. Wet Year types were defined as years when Kings River diversions were greater than 125% of the long-term average and Dry Year Types were defined as years when Kings River diversions were less than 75% of the long-term average. Normal years occurred when Kings River diversions were between 75% and 125% of the long-term average. Water supply parameters for the historical period were grouped into the water year types and 50-year averages summarized in the water budget.

Sustainable Yield

Sustainable yield is a level of groundwater use that avoids undesirable results for sustainability indicators in the groundwater basin. It is determined by a water budget with no ongoing storage change under average conditions, along with localized review for areas with potential undesirable results.

Current Water Budget

The current water budget was developed to represent groundwater conditions for current levels of water supply and water use on a long-term average basis. For the Kings Subbasin, Kings River water supplies during a historical average period were used as the

basis for the current water budget. The water supply estimates for sources with regulatory changes, such as the CVP Friant Kern Canal, were adjusted based on available operations studies. Other water supply amounts were left the same as historical amounts for the current water budget.

The major changes for the current water budget were made to water use. Estimated irrigation and municipal and industrial water use estimates were updated to current levels based on the most recent land use and population estimates. For irrigation water use, unit water use amounts for the historical period obtained from DWR were used together with the most recent land use data to develop an updated current water use estimate. This current irrigation water use estimate was then used to compute related factors, such as deep percolation of irrigation water and groundwater pumping. Municipal and industrial water use was similarly updated based on unit per capita water use rates and more recent population estimates. Other water use parameters were kept the same as for the historical period.

Groundwater storage change for the current water budget was estimated directly through the water budget itself. A computation of actual groundwater storage change for a recent historical period would not correspond to average conditions, and one-year storage change estimates are subject to a greater degree of uncertainty than long-term storage change estimates due to uncertainties in factors such as the time lag for recharge to impact the aquifer.

Projected Water Budget

Projected water budgets for the Kings Subbasin for early future (2040) and late future (2070) were estimated similarly to the current water budget, with additional adjustments to reflect climate change conditions and management practices.

Water supplies for the Kings Subbasin were reviewed for climate change effects on runoff patterns and ultimately most were left unchanged. The climate change projections for Kings River runoff show a very slight increase in total runoff with a relatively large shift in the timing of runoff. Runoff (presumably from rainfall) increased significantly in the winter and early spring and was reduced in late spring and summer. Due to the lack of analytical ability to quantify the effects of these changes, along with the ability of Kings Subbasin water managers to accommodate changes in runoff timing through storage in Pine Flat Reservoir and other management actions, the historical water supplies from the Kings River were assumed to remain consistent into the future.

Water supplies for the Friant Kern Canal were updated for early future and late future climate conditions based on DWR CALSIM projections with climate change, as adjusted by the Friant Water Authority.

No change was made to water supply from precipitation for early future and late future climate conditions. The climate change projections indicate a very slight increase in precipitation during the November through April rainfall season. Based on the slight precipitation increase and the generally negligible effect of precipitation on overall water supply, the historical estimates of precipitation were used for future projections. Other water supply components were similarly left unchanged from historical levels.

The climate change forecasts indicate that the major change for projected water conditions is likely to occur through increased evapotranspiration. Projected evapotranspiration rates from climate change models were estimated for Kings Subbasin GSAs and showed increases for early future and late future levels. While increased evapotranspiration rates appear to result in direct increases for perennial crops, USBR analyses indicate that for annual crops they result primarily in a shift in crop timing without an overall water use increase. To account for these differences, the increased evapotranspiration rates were used to adjust perennial crop unit water use rates while unit water use rates for annual crops were left constant.

Groundwater storage change for the projected water budgets was determined directly through the water budget. In addition to the historical water use and water supply components, the projected water budgets also include estimates of supply projects and management actions that are planned for implementation by Kings Subbasin GSAs. These anticipated projects and management actions show sustainability for the early future (2040) water budgets as well as sustainability for the late future (2070) water budgets.