AGENDA
IRVINE RANCH WATER DISTRICT
WATER BANKING COMMITTEE
MONDAY, FEBRUARY 1, 2016

CALL TO ORDER **3:00 p.m.** Committee Room, Second Floor, District Office
15600 Sand Canyon Avenue, Irvine, California

ATTENDANCE
Committee Chair: Peer Swan _____
Member: Douglas Reinhart _____

ALSO PRESENT

| | | | |
|---|---|---|---|
| Paul Cook | _____ | Kellie Welch | _____ |
| Rob Jacobson | _____ | Patrick Sheilds | _____ |
| Ray Bennett | _____ | Paul Weghorst | _____ |
| Jo Ann Corey | _____ | Dane Johnson | _____ |
| Fiona Sanchez | _____ | Christine Compton | _____ |
| _____ | _____ | _____ | _____ |

## COMMUNICATIONS

1. Notes: Weghorst
2. Public Comments
3. Determine the need to discuss and/or take action on item(s) introduced that came to the attention of the District subsequent to the agenda being posted.
4. Determine which items may be approved without discussion.

## INFORMATION

5. WATER BANKING PROJECT FACILITIES AND CAPACITIES OVERVIEW – JOHNSON/WELCH/SANCHEZ/WEGHORT

   Recommendation: Receive and file.

## ACTION

6. TERMS FOR A ONE YEAR RECHARGE PROJECT FOR STOCKDALE WEST

   Recommendation: Staff recommends that the Committee authorize staff to finalize terms with BVWSD for a one year recharge project on Stockdale West and authorize staff to work with legal counsel and BVWSD to prepare an agreement for consideration by the Board of Directors.

**ACTION - Continued**

7. ADDENDUM NO.2 TO THE STRAND RANCH INTEGRATED BANKING PROJECT FINAL ENVIRONMENTAL IMPACT REPORT

   Recommendation: That the Board approve Addendum No. 2 to the Strand Ranch Integrated Banking Project Final Environmental Impact Report including the determinations set forth in Addendum No. 2, approve the modification to the project; and direct staff to file a Notice of Determination with the County of Orange and Kern County Clerks/Recorders and State Clearinghouse.

8. EVALUATION OF MATUK WELL SITE FOR DROUGHT RELIEF PROJECT WELL

   Recommendation: That the Board approve the location of the sixth Rosedale Drought Relief Project well at the Matuk site.

9. UPDATE ON EATON PROPERTY PURCHASE

   Recommendation: That the Board provide input on the background information paper related to IRWD's land ownership in Palo Verde Irrigation District.

**OTHER BUSINESS**

10. A. Directors' Comments

    B. Adjourn

Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the above-named Committee in connection with a matter subject to discussion or consideration at an open meeting of the Committee are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Committee less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Committee Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available at the entrance of the meeting room at the District Office.

The Irvine Ranch Water District Committee Room is wheelchair accessible. If you require any special disability-related accommodations (e.g., access to an amplified sound system, etc.), please contact the District Secretary at (949) 453-5300 during business hours at least seventy-two (72) hours prior to the scheduled meeting. This agenda can be obtained in an alternative format upon written request to the District Secretary at least seventy-two (72) hours prior to the scheduled meeting.

February 1, 2016
Prepared by: D. Johnson/K. Welch
Submitted by: F. Sanchez/P. Weghorst PAW
Approved by: Paul Cook

WATER BANKING COMMITTEE

WATER BANKING PROJECT
FACILITIES AND CAPACITIES OVERVIEW

SUMMARY:

Staff has prepared a summary table of the storage, recharge and recovery capacities of existing and planned IRWD water banking projects including capacities available to IRWD in the Kern Water Bank. A table that provides a quarterly update on Strand Ranch recovery and recharge operations and the balance of the stored water in the Kern Water Bank has also been prepared. These tables are provided as Exhibits "A" and "B", respectively. It is anticipated that water will be available for recharge later in the year. Staff will update the Committee in future reports as recharge occurs.

A map depicting project wells and pipelines and a map showing Cross Valley Canal turn-out locations have also been prepared. These maps are provided as Exhibits "C" and "D", respectively. The four exhibits are provided for the Committee's reference.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

Exhibit "A" – Recharge, Storage and Recovery Capacities of Existing and Proposed Water Banking Projects
Exhibit "B" – Strand Ranch Storage, Recharge and Recovery Operations Update
Exhibit "C" – Map of Water Banking Project Wells and Pipelines
Exhibit "D" – Map of Cross Valley Canal Turnouts

# Exhibit "A"

**TABLE 1**
**Current and Anticipated Water Banking Projects**
**Recharge, Storage and Recovery Capacities**
**February 2, 2015**

| WATER BANKING PROJECT | OWNERSHIP AND WELL INFO | | | ALLOCATED CAPACITY (AF) | | | | | 1st PRIORITY RECOVERY CONDITIONS (CFS) | | 2nd PRIORITY RECOVERY CONDITIONS (CFS) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | IRWD OWNED | WELLS EXISTING | WELLS PROPOSED | TOTAL STORAGE CAPACITY | ANNUAL RECHARGE 1ST PRIORITY | ANNUAL RECHARGE 2ND PRIORITY | ANNUAL RECOVERY 1ST PRIORITY | ANNUAL RECOVERY 2ND PRIORITY | RECOVERY CAPACITY AS PLANNED[1] | RECOVERY CAPACITY CURRENT CONDITIONS[2] | RECOVERY CAPACITY AS PLANNED | RECOVERY CAPACITY CURRENT CONDITIONS |
| Strand Ranch | Yes | 7 | - | 50,000 | 17,500 | - | 17,500 | - | 40.0 | 23.0 | - | - |
| Stockdale West | Yes | - | 3 | 26,000 | 27,100 | - | 11,250 | - | 16.5 | - | - | - |
| Stockdale East | No | - | 2 | - | - | 19,000 | - | 7,500 | - | - | 10.0 | - |
| IRWD Acquired Storage Account[3] | No | - | - | 50,000 | - | - | - | - | - | - | - | - |
| Drought Relief Project Wells | No | - | 3 | - | - | - | - | - | 16.5 | - | - | - |
| Kern Water Bank Storage Account[5] | No | - | - | 9,495 | 3,200 | - | 6,330 | - | - | - | - | - |
| **TOTALS** | | **7** | **8** | 135,495 | 47,800 | 19,000 | 35,080 | 7,500 | 73.0 | 23.0 | 10.0 | 0.0 |
| Partner Capacities[4] | | | | 38,000 | - | - | 9,583 | - | 35.5 | 35.5 | - | - |
| IRWD Capacities | | | | 97,495 | - | - | 25,497 | - | 37.5 | 0.0 | - | - |
| IRWD's recovery ***during*** 6 month partner recovery period (AF) | | | | | | | | | 13,500 | 0.0 | - | - |
| IRWD's recovery ***after*** 6 month partner recovery period (AF) | | | | | | | | | 11,997 | 25,497 | - | - |
| **TOTALS (AF)** | | | | | | | | | 25,497 | 25,497 | - | - |
| Number of months needed to recover IRWD's total AF after partners' recovery (Assumes IRWD has use of total recovery capacity after partners' recovery) | | | | | | | | | 11.5 | 17.6 | - | - |

[1] Based on designed Strand recovery capacity assuming 370' bgs. Assumes 5.5 cfs for each of the Stockdale West and Drought Relief wells. Assumes partners' water is recovered over 6 months.

[2] Current Conditions for Strand at 430' bgs.

[3] IRWD has use of Acquired Storage and Drought Relief Project wells until January 12, 2039, unless the term of the agreement is extended.

[4] One half of storage capacity at Stockdale West and Strand Ranch will be allocated for partners.

[5] Kern Water Bank capacities based on 6.58% of Dudley Ridge Water District's 9.62% share of the Kern Water Bank. Annual recharge amount is based on an average of recharge rates for high and low groundwater level conditions.

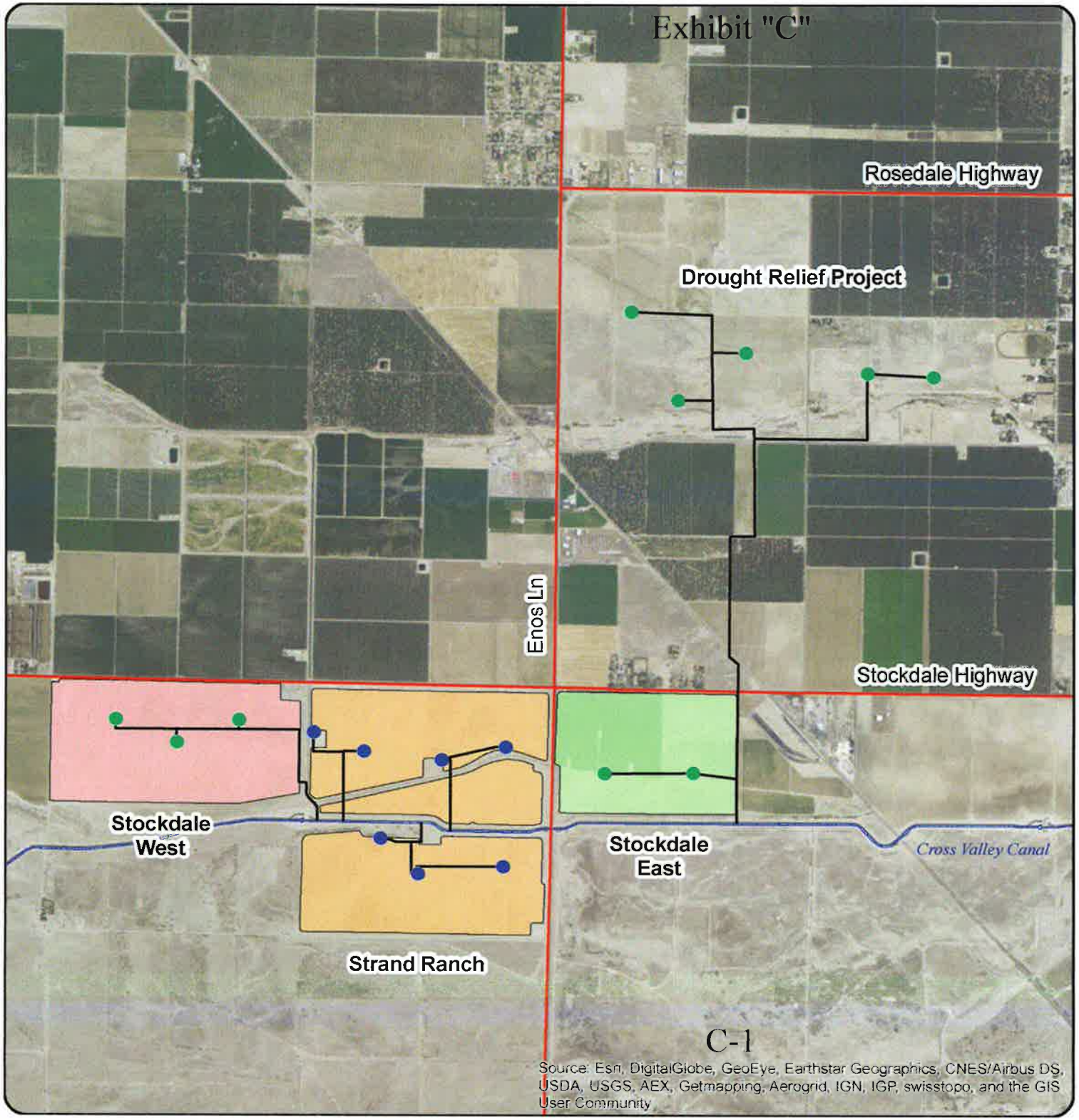
# Exhibit "B"

**TABLE 2**
**Water Banking Recovery & Recharge Operations**
February 2, 2016

| TRANSACTIONS | WATER BANKING ENTITY | | | | | |
|---|---|---|---|---|---|---|
| | IRWD | | BUENA VISTA (BVWSD) | CARPINTERIA VALLEY (CVWD) | ANTELOPE VALLEY EAST KERN (AVEK) | DUDLEY RIDGE WATER DISTRICT (DRWD)[3] |
| | SWP[1] | NON-SWP[2] | NON-SWP | SWP | SWP | SWP |
| **BEGINNING WATER IN STORAGE 2015 (AF)** | | | | | | |
| Total Kern Water Bank | - | 4,084 | - | - | - | - |
| Total MWD System[5] | 5,474 | - | - | - | - | - |
| Total Kern County | 3,102 | 9,675 | 4,341 | 413 | - | 474 |
| **TOTAL STORED WATER (1/1/2015)** | 8,576 | 13,759 | 4,341 | 413 | - | 474 |
| **(RECOVERY) AND RECHARGE IN 2015 (AF)** | | | | | | |
| CVWD | - | - | - | (413) | - | - |
| BVWSD | - | - | (4,341) | - | - | - |
| Kern Water Bank | - | 284 | - | - | - | - |
| 2015 SWP Allocation[5] | 175 | - | - | - | - | 175 |
| Reserve Water Available in 2015[6] | 73 | - | - | 16 | 57 | - |
| **TOTAL 2015 TRANSACTIONS** | 248 | 284 | (4,341) | (397) | 57 | 175 |
| Total Kern Water Bank | - | 4,368 | - | - | - | - |
| Total MWD System | 5,649 | - | - | - | - | - |
| Total Kern County | 3,175 | 9,675 | - | 16 | 57 | 649 |
| **TOTAL STORED WATER (1/1/2016)** | 8,824 | 14,043 | - | 16 | 57 | 649 |
| **(RECOVERY) AND RECHARGE IN 2016 (AF)** | | | | | | |
| Recharge | TBD | TBD | - | - | - | - |
| Kern Water Bank | - | - | - | - | - | - |
| 2016 SWP Allocation (initial 16%)[5] | 140 | - | - | - | - | 140 |
| **TOTAL ESTIMATED 2016 TRANSACTIONS** | 140 | - | - | - | - | 140 |
| Total Kern Water Bank | - | 4,368 | - | - | - | - |
| Total MWD System | 5,789 | - | - | - | - | - |
| Total Kern County | 3,175 | 9,675 | - | 16 | 57 | 789 |
| **TOTAL ESTIMATED STORED WATER (1/1/2017)** | 8,964 | 14,043 | - | 16 | 57 | 789 |

**NOTES:**
-Water in storage has been adjusted to account for losses.
-MWD = Metropolitan Water District of Southern California.
[1] IRWD's SWP includes 229 AF from CVWD that stays in Kern County.
[2] IRWD's Non-SWP total includes 2,842 AF of Kern County Water Agency Article 21 Water.
[3] DRWD water supply will be returned by MWD to IRWD's Jackson Ranch.
[5] MWD is storing IRWD's 2013-2015 SWP allocation (948 AF) and assumes MWD will store 2016 SWP allocation amounts in MWD's system and not at Strand Ranch.
[6] 4% of banked water is placed into a reserve to account for actual or potential losses. The reserve water may be purchased within 3 years following the end of the calendar year in which the water was banked. If the water is not purchased at the end of 3 years, it is made available for recovery.

Exhibit "C"




IRVINE RANCH WATER DISTRICT

## Location Map:
## IRWD Water Banking Projects
## Wells and Turn-in Pipelines

***MAP FEATURES***

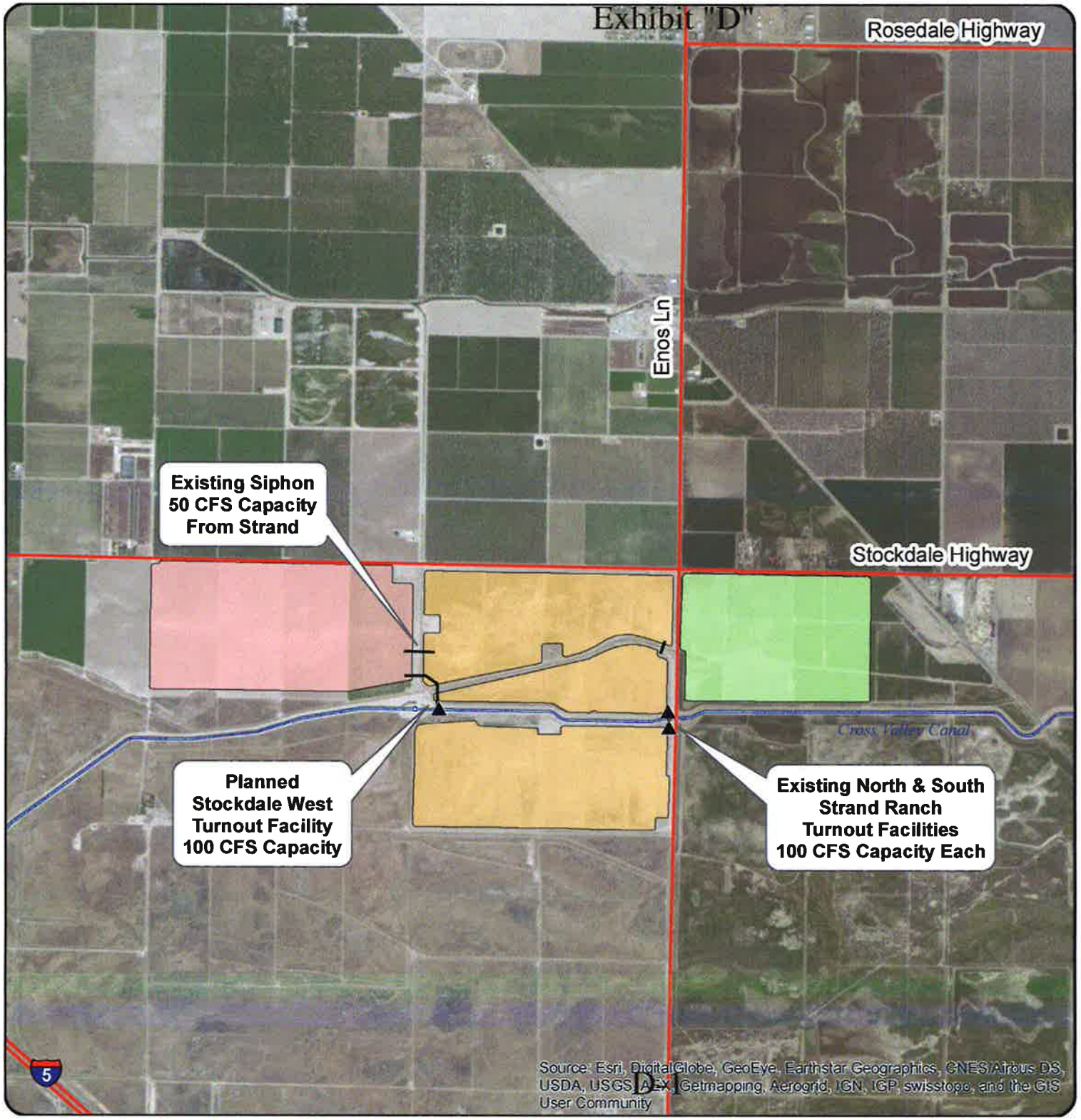
- Existing Extraction Well
- Planned Extraction Well
- Well Discharge Pipelines
- Stockdale East
- Stockdale West
- Strand Ranch

This figure shows the location of IRWD's water banking project sites as well as existing and proposed extraction wells.

N

0 0.25 0.5 1 Miles

NAD 83 State Plane Zone 5 (feet)
Central Meridian: -118




IRVINE RANCH WATER DISTRICT

## Location Map:
## IRWD Water Banking Projects
## Turnout Facilities

**MAP FEATURES**

- Turnouts
- Stockdale East
- Stockdale West
- Strand Ranch

This figure shows the location of existing and anticipated pipelines and turnout facilities.

N

0 0.25 0.5 1 Miles

NAD 83 State Plane Zone 5 (feet)
Central Meridian: -118

February 1, 2016
Prepared By: K. Welch/F. Sanchez
Submitted By: P. Weghorst
Approved By: Paul Cook

WATER BANKING COMMITTEE

TERMS FOR A ONE YEAR RECHARGE PROGRAM AT
STOCKDALE WEST INTEGRATED BANKING PROJECT

SUMMARY:

In December 2010, the District purchased the 323 acre Stockdale West property located adjacent to the Strand Ranch. In 2011, IRWD implemented a one-year Pilot Project for the construction of recharge basins on the Stockdale West property and also entered into a one-year agreement with Buena Vista Water Storage District (BVWSD) to utilize the basins to recharge high flow Kern River water available to BVWSD. With wet weather conditions predicted this year, staff proposes to maximize the recharge of high flow Kern River water by utilizing the Stockdale West recharge basins. Staff recommends that the Committee authorize staff to finalize terms with BVWSD for a one year recharge program on the Stockdale West property and to work with legal counsel and BVWSD to prepare an agreement for consideration by the Board of Directors.

BACKGROUND:

In 2010, IRWD and BVWSD entered into a long-term Agreement for Water Acquisition by Irvine Ranch Water District from Buena Vista Water Management Program (Exchange Agreement) for an exchange program at the Strand Ranch Integrated Banking Project. The Exchange Agreement allows BVWSD to recharge up to 17,500 AF of high flow Kern River water per year on the Strand Ranch with IRWD receiving 50% of the water, less a share of the losses.

2011 Stockdale West Pilot Project:

Following IRWD's purchase of the Stockdale West property in December 2010, IRWD implemented a Pilot Project on the Stockdale West to determine the recharge capabilities of the property and to assist in evaluating the feasibility and physical limits of a long-term water banking program for the Stockdale West.

The Pilot Project involved the construction of four recharge basins and a 54-inch siphon under the Rosedale Intake Canal to allow recharge water to flow from the Strand Ranch to the Stockdale West basins. In August 2011, IRWD and BVWSD entered into an agreement providing for BVWSD's use of the Pilot Project facilities to capture high flow Kern River water. Under this agreement, recharge was limited to 10,000 AF over a one year period augmenting the recharge of 17,500 AF of BVWSD water on the Strand Ranch. The Pilot Project was operated under the terms and conditions of the existing long term Water Banking and Exchange Agreement between Rosedale-Rio Bravo Water Storage District (Rosedale) and IRWD for the

Strand Ranch. BVWSD recharged an additional 3,268 AF of high flow Kern River water under the Pilot Project.

Stockdale Integrated Banking Project:

In December 2015, the Board approved the Final Environmental Impact Report (EIR) for the Stockdale Integrated Banking Project which provides for the Stockdale West property to be developed and operated as a fully functioning water banking facility, including construction of conveyance facilities and three extraction wells. The Board also approved the Water Banking and Exchange Agreement between Rosedale and IRWD that provides for the use and operation of the Stockdale Integrated Banking Project facilities (Stockdale Operating Agreement).

Proposed One Year Recharge Program:

In anticipation of wet weather conditions expected in the Kern River Basin, BVWSD has expressed an interest in utilizing the Stockdale West basins for recharging high flow Kern River water. In response to this request, staff has prepared a draft term sheet which provides for a one year recharge program with BVWSD as shown in Exhibit "A". Key proposed terms include:

- BVWSD may recharge and store up to 20,000 AF over a one year period augmenting the 17,500 AF of recharge allowed on Strand Ranch;
- The high flow Kern River water would be stored on a 2 for 1 basis consistent with the Exchange Agreement;
- BVWSD water would be stored in a Stockdale West storage account;
- The banked water shall be recovered within BVWSD's existing recovery limit of 6,667 AF per year (approximately 1,667 AF per month) consistent with the Exchange Agreement. At IRWD's discretion, additional recovery capacity may be available to BVWSD upon request; and
- If BVWSD requests return of the banked water prior to the start-up operations of the Stockdale West recovery facilities then water would be recovered from the Strand Ranch.

All other terms for the proposed Recharge Project would be consistent with the Exchange Agreement and it would operate under the terms and conditions of the Stockdale Operating Agreement.

Coordinating Recharge with Well Construction:

In early March 2016, staff expects to award a contract for the construction of the Stockdale West recovery facilities including drilling, constructing and equipping three wells and associated conveyance facilities. Initially, three well pads will be constructed on the property to be completed by the end of April 2016. BVWSD could have high flow Kern River available for delivery to the Strand Ranch starting in April 2016, with the bulk of the water available over the

summer. Recharge water for the Stockdale West facilities will be conveyed from the Strand Ranch to the Stockdale basins using the existing syphon which is limited to about 50 cubic feet per second (cfs) of flow. Staff anticipates that the Strand Ranch north and south basins could fill in April and then flows will be diverted from the Strand Ranch to the Stockdale basins starting in May 2016.

FISCAL IMPACTS:

The total cost of IRWD's share of the water under the proposed recharge program is estimated to range from $50 to $85 per AF depending on recovery costs. Pursuant to the Exchange Agreement, if after year four BVWSD has not recovered its water, IRWD shall compensate BVWSD for additional water transferred from BVWSD to IRWD in excess of 50% at BVWSD's then current State Water Project Table A Variable Operations, Maintenance, Power and Replacement unit cost rate for water. The current estimated cost of the additional water is approximately $27 per AF.

ENVIRONMENTAL COMPLIANCE:

In compliance with CEQA, the California Public Resources Code Section 21000 et. seq., and per the California CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3, Rosedale as lead agency filed a Notice of Determination for the Stockdale Integrated Banking Project Final EIR with the County of Kern on December 8, 2015, and with the State Clearinghouse on December 9, 2015. IRWD, as a responsible agency, filed a Notice of Determination with the County of Orange on December 14, 2015, with the California State Clearinghouse on December 15, 2015, and with the County of Kern on December 21, 2015. The banking of BVWSD high flow Kern River water available from BVWSD's pre-1914 water rights is consistent with the sources evaluated in the Stockdale Final EIR. A Final EIR for the Buena Vista Water Management Project (BVWMP) was prepared, certified and the project approved by BVWSD. The BVWMP Final EIR covers the delivery of BVWSD high flow Kern River water to water banking facilities such as the Strand and Stockdale Integrated Banking Projects and including Rosedale facilities.

RECOMMENDATION:

Staff recommends that the Committee authorize staff to finalize terms with BVWSD for a one year recharge program on the Stockdale West and authorize staff to work with legal counsel and BVWSD to prepare an agreement for consideration by the Board of Directors.

EXHIBITS:

Exhibit "A" – Draft Terms for a One-Year Recharge Program for Stockdale West

**DRAFT**

**Terms for a One-Year Recharge Program to Augment Recharge Under the Agreement Between Irvine Ranch Water District and Buena Vista Water Storage District Using Stockdale West Recharge Facilities**

## GENERAL TERMS

| | |
|---|---|
| Entities: | Irvine Ranch Water District (the "IRWD"); Buena Vista Water Storage District (the "BV") |
| Description: | IRWD and BV seek to carry out a one-year recharge program ("Recharge Program") to augment the recharge capacities under the IRWD Water Exchange Program established in the long-term Agreement for Water Acquisition by IRWD from BV Water Management Program that was executed on December 22, 2010 ("IRWD/BV Exchange Agreement"). Recharge would be augmented through the delivery of high flow Kern River water to IRWD's Stockdale West property on a 2-for-1 basis consistent with the IRWD/BV Exchange Agreement as described in this term sheet ("Term Sheet"). Capitalized terms used herein and not otherwise defined shall have the same meanings as are given to such terms in the IRWD/BV Exchange Agreement. |
| Effective Date: | _____, 2016 (the "Effective Date"). |
| Term: | One year from the Effective Date, terminating on _____, 2017. |
| Stockdale West: | IRWD has constructed recharge facilities at its Stockdale West property in Kern County, California. These facilities consist of approximately 259 acres of recharge basins and appurtenant facilities to convey water to the Stockdale West property from the Strand Ranch Integrated Banking Project and the Rosedale Intake Canal. By augmenting recharge abilities under the IRWD/BV Exchange Agreement, the Recharge Program will provide improved water management and reliability. The Recharge Program will not include recovery wells on Stockdale West. |
| Exchange Program: | The IRWD/BV Exchange Agreement provides for storage of high flow Kern River water on a 2-for-1 basis consistent with the BV Water Management Program that includes a Water Exchange Program that allows BV to more effectively and beneficially manage BV's water resources. The IRWD/BV Exchange Agreement allows BV to supply up to 17,500 AF of water in any given year for recharge at the Strand Ranch |

Integrated Banking Project and provides for IRWD to return fifty percent (50%) of the water less losses at a rate of no more than 6,667 AF in any given year. As consideration, the remainder of the water is deemed transferred to IRWD with provisions for additional transfers that are dependent on time length of storage. The IRWD/BV Exchange Agreement has a term through January 13, 2039, extendable by the parties.

Non-Binding Effect: This Term Sheet is intended to be a statement of the terms of the proposed transaction. It is subject to the execution of a letter agreement ("Letter Agreement") by IRWD and BV inclusive of the terms and conditions set forth herein.

General Expenses: Each party shall be responsible for its own fees and expenses arising out of the negotiation and execution of agreements related to this transaction, obtaining necessary approvals, and the like.

CEQA Compliance: Both parties shall comply with CEQA and cooperate with one another with respect to CEQA compliance for the proposed Recharge Program. BV was the lead agency with respect to CEQA compliance for its BV Water Management Program, which included the Water Exchange Program, and adopted a Final Environmental Impact Report (EIR) on January 12, 2010. IRWD was a responsible agency with respect to CEQA compliance for the Stockdale Integrated Banking Project, including the delivery of high flow Kern River water from BV to the Stockdale West, and adopted a Final EIR on December 14, 2015. IRWD was a responsible agency with respect to CEQA compliance for the Strand Ranch Integrated Banking Project, and adopted a Final EIR on May 27, 2008. BV and IRWD shall each be responsible for all fees and costs associated with future or additional CEQA compliance regarding its participation in the Recharge Program, whether incurred by IRWD or BV, including litigation expenses if any.

Permit Costs: As provided in the IRWD/BV Exchange Agreement (Section 1(F)). However, no permit costs are expected for the Recharge Program.

Water Rights: As provided in the IRWD/BV Exchange Agreement (Section 1(G); Section 3(B) (ii) (4)).

## RECHARGE AUGMENTATION TERMS

| | |
|---|---|
| Source of Water: | As provided in the IRWD/BV Exchange Agreement (Section 2(A)(i)). |
| Quantity: | Up to 20,000 additional acre-feet (AF) of water during the one year term hereof ("Augmentation Water"), to augment the 17,500 AF of supply that BV is allowed to supply to the Strand Ranch Integrated Banking Project as specified in the IRWD/BV Exchange Agreement. The Augmentation Water is to be stored at in an account within the Stockdale Integrated Banking Project within the estimated storage capacity of 26,000. The Recharge Program storage capacity dedicated in the Stockdale Integrated Banking Project is for the Recharge Program only and will not increase the dedicated storage capacity amount as specified in the IRWD/BV Exchange Agreement. The Recharge Program shall not augment or increase the existing annual recovery capacity of 6,667 AF as provided in the IRWD/BV Exchange Agreement. |
| Quality: | As provided in the IRWD/BV Exchange Agreement (Section 2(A)(iii)). |
| Availability: | As provided in the IRWD/BV Exchange Agreement (Section 2(A)(IV)). |
| Delivery Points: | As provided in the IRWD/BV Exchange Agreement (Section 2(A) (v)). Notwithstanding that recharge of the Augmentation Water will occur on the Stockdale West property, the location of storage, recovery, return and delivery points shall be the same as for water other than Augmentation Water. |
| Other Terms: | Except where otherwise specified above or the context requires otherwise, all terms and conditions of the IRWD/BV Exchange Agreement are incorporated and will apply to this Term Sheet, the Letter Agreement and disposition of the Augmentation Water including without limitation the return of water to BV, consideration to be provided to IRWD, construction of facilities, indemnifications and duties related to the operation, maintenance, power and repairs. For the purpose of this Term Sheet and the Letter Agreement, such terms and conditions of the IRWD/BV Exchange Agreement shall be read and construed as though references therein to the Agreement or the words "herein," "hereof," and the like were to this Term Sheet and the Letter Agreement, and references to water included the Augmentation Water. |

February 1, 2016
Prepared by: J. Corey/K. Welch
Submitted by: F. Sanchez/P. Weghorst
Approved by: Paul Cook

WATER BANKING COMMITTEE

ADDENDUM NO. 2 TO THE STRAND RANCH
INTEGRATED BANKING PROJECT
FINAL ENVIRONMENTAL IMPACT REPORT

SUMMARY:

A minor modification is proposed to the project description for the Strand Ranch Integrated Banking Project which would increase the limit on instantaneous rate of recovery of water. Environmental review has been completed for the proposed modification. Staff recommends that the Board approve the proposed modification and approve Addendum No. 2 to the Final Environmental Impact Report (FEIR).

BACKGROUND:

In 2008, IRWD prepared and certified a FEIR for the Strand Ranch Integrated Banking Project. The project, as described in the FEIR, involved construction and operation of groundwater recharge basins and production wells at IRWD's Strand Ranch property in Kern County. The project includes a limit on groundwater extraction of 17,500 acre-feet (AF) per year from any combination of up to nine wells onsite at Strand Ranch and up to three offsite wells (project wells). The project wells would be designed to pump groundwater at a rate of approximately 5 cubic feet per second (cfs). The description of project operations states that project wells would be limited to a combined instantaneous rate of 36 cfs to 40 cfs. Staff proposes to modify the project description to remove the limit on instantaneous recovery rate while maintaining the overall recovery limit of 17,500 AF per year. The proposed modification would only affect the operating criteria for groundwater wells. It would provide flexibility for the simultaneous operation of all project wells, and would not result in any new significant impacts.
The modeling and technical analysis provided in the FEIR is sufficient and supports the proposed modification.

Addendum No. 2:

Environmental review has been completed for the proposed modification to the project as described above and Addendum No. 2 to the FEIR has been prepared. There are no substantial changes to the project that would require major revisions to the FEIR due to new significant environmental effects or a substantial increase in the severity of impacts identified in the FEIR. A copy of Addendum No. 2 is attached as Exhibit "A".

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Section 15164 of the State of California Environmental Quality Act (CEQA) Guidelines provides for the preparation of an addendum to a previously certified EIR by a lead agency or a responsible agency if some changes or additions to the project are necessary but none of the conditions described in CEQA calling for preparation of a subsequent EIR have occurred. Based on the information and analysis conducted in the proposed Addendum No. 2, the conclusion section of the Addendum sets forth the proposed determinations by the District that none of such conditions have occurred. The proposed modification would not change the regulatory framework, impact discussion, mitigation measures or conclusions as described in the FEIR.

RECOMMENDATION:

That the Board approve Addendum No. 2 to the Strand Ranch Integrated Banking Project Final Environmental Impact Report including the determinations set forth in Addendum No. 2, approve the modification to the project and direct staff to file a Notice of Determination with the Counties of Orange and Kern as well as the State Clearinghouse.

LIST OF EXHIBITS:

Exhibit "A" – Addendum No. 2 to the Strand Ranch Integrated Banking Project Final Environmental Impact Report

Exhibit "A"

# ADDENDUM NO. 2
# Strand Ranch Integrated Banking Project Final EIR

## 1. Introduction

This document is Addendum No. 2 to the Final Environmental Impact Report (EIR) prepared by Rosedale-Rio Bravo Water Storage District (Rosedale) and Irvine Ranch Water District (IRWD) for the Strand Ranch Integrated Banking Project. The Final EIR evaluated the potential environmental effects of the Project, which proposed construction of groundwater banking facilities at Strand Ranch, including recharge basins, conveyance channels, and recovery wells. The Final EIR was certified on May 27, 2008 by Rosedale's Board of Directors, which acted as the Lead Agency pursuant to the California Environmental Quality Act (CEQA) (*CEQA Guidelines* (Title 14, California Code of Regulations, Section 15300 et. seq.) §15090). The Final EIR was approved on May 27, 2008 by IRWD's Board of Directors, which acted as the Responsible Agency. A Notice of Completion for the Final EIR was filed with the county clerks of both Kern County and Orange County.

IRWD is proposing to make changes to the project description for the Strand Ranch Integrated Banking Project. Under CEQA, an addendum may be prepared when minor modifications are proposed for a project that has already been approved and when no additional significant environmental impacts would result (*CEQA Guidelines*, §15164, 15162, 15163). This Addendum No. 2 evaluates whether any new significant impacts would result from implementation of the proposed modification.

## 2. Purpose of Addendum

Under CEQA, the lead agency or a responsible agency shall prepare an addendum to a previously-certified EIR if some changes or additions are necessary to the prior EIR, but none of the conditions calling for preparation of a subsequent or supplemental EIR have occurred (*CEQA Guidelines* §15164). Once an EIR has been certified, a subsequent EIR is only required when the lead agency or responsible agency determines that one of the following conditions has been met:

(1) Substantial changes are proposed in the project, or substantial changes occur with respect to the circumstances under which the project is undertaken, which require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects (CEQA Guidelines §15162(a)(1), (2));

(2) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:

a. The project will have one or more significant effects not discussed in the previous EIR;

b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;

c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative (*CEQA Guidelines* §15162(a)(3)).

If one or more of the conditions described above for a subsequent EIR exist, but only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation, then the lead agency may prepare a supplement to an EIR, rather than a subsequent EIR (*CEQA Guidelines* §15163(a)).

CEQA recommends that a brief explanation of the decision to prepare an addendum rather than a subsequent or supplemental EIR be included in the record (*CEQA Guidelines* §15164(e)). This Addendum has been prepared because the proposed modifications to the Strand Ranch Integrated Banking Project do not meet the conditions for a subsequent or supplemental EIR. This Addendum explains why the proposed modifications would not result in new significant environmental effects or result in a substantial increase in the severity of previously-identified significant effects. There is no new information that would show that the proposed modifications would have new effects or more severe effects on the environment. The proposed modifications would not have any adverse environmental effects and would not change the conclusions of the previously-certified Final EIR.

An addendum does not need to be circulated for public review, but rather can be attached to the final EIR (*CEQA Guidelines* §15164(c)). Prior to initiating the modified Project, the IRWD Board of Directors will consider this Addendum together with the Final EIR and make a decision regarding the modified Project (*CEQA Guidelines* §15164(d)).

# 3. Integrated Banking Project Overview

Rosedale as the CEQA Lead Agency, in consultation with IRWD as a Responsible Agency, prepared and certified the Final EIR for the Strand Ranch Integrated Banking Project in 2008. The purpose of the Project was twofold: to augment the recharge and extraction capacity of Rosedale's Groundwater Storage, Banking, Exchange, Extraction and Conjunctive Use Program (Conjunctive Use Program), and to provide water supply reliability and redundancy to IRWD

customers. Rosedale and IRWD proposed to develop groundwater banking facilities on the Strand Ranch for use by both districts. Facilities would be constructed to recharge and recover up to 17,500 acre feet per year (afy) for IRWD. When not in use by IRWD, the facilities could also be used by Rosedale to serve its existing commitments.

Strand Ranch is located in western Kern County, California. Strand Ranch is owned by IRWD and consists of approximately 611 acres of land six miles west of the City of Bakersfield. The Project integrates Strand Ranch into Rosedale's existing Conjunctive Use Program. In accordance with the Project as described in the Final EIR, groundwater banking facilities, including recharge basins, conveyance channels, pipelines and seven recovery wells have been developed on Strand Ranch. In addition, the Project includes up to three additional offsite wells within the Rosedale service area, as shown in Figure 2-4 of the Final EIR; these wells, although not yet built, will provide operational flexibility to achieve the extraction goals of the Project..

The Project provides the flexibility to pump from any combination of the onsite Strand Ranch wells and three offsite wells. Recovery operations from the onsite and offsite wells are limited to a combined rate of 36 cubic feet per second (cfs) with the following exception: Rosedale has the ability to increase the combined rate of recovery to 40 cfs as required to meet mitigation requirements (Final EIR, Page 2-17). As an example, this could occur in response to a request from a neighboring property to limit recovery operations on Strand Ranch to a certain period of time.

# 4. Proposed Modifications to Project Description

## Recovery Facilities

IRWD is proposing to modify the Project to eliminate the restriction of a combined recovery rate of 36 cfs from both onsite and offsite wells. The modification would not change the annual extraction limit of 17,500 afy for IRWD. The modification would allow simultaneous operation of all wells onsite at Strand Ranch and the three offsite wells. This modification will not result in any new potentially significant impacts, and thus this Addendum is being prepared.

# 5. Analysis of Potential Environmental Impacts Associated with the Proposed Modifications

The proposed modification would not alter the construction or location of any project facilities. Therefore, the proposed modifications would not change the environmental setting, regulatory framework, impact discussion, mitigation measures, or significant conclusions for the following resource areas as currently described in the Final EIR: Aesthetics; Agricultural Resources; Air Quality; Biological Resources; Cultural Resources; Geology, Soils and Mineral Resources; Hazards and Hazardous Materials; Land Use, Planning and Recreation; Noise; Transportation and Traffic; and Utilities and Public Services. The proposed modification would only affect the operating criteria for groundwater wells. Thus, the analysis for this Addendum is focused on potential environmental impacts to Hydrology, Groundwater Resources and Water Quality, specifically impacts to groundwater resources associated with operation of recovery facilities.

# Hydrology, Groundwater Resources, and Water Quality

## Recovery Facilities

The Final EIR analyzes the potential for Project operations to affect groundwater levels at neighboring wells during periods of recovery (Impact 3.8-1). Under Impact 3.8-1, the Final EIR describes the results of groundwater modeling conducted for the Project to assess the potential for operation of the Strand Ranch wells to affect neighboring groundwater extraction wells. The groundwater modeling report includes both a 7-well pumping scenario for wells on Strand Ranch and a 3-well pumping scenario for offsite wells. The modeling assumes individual well capacities of 5 cfs.

The 7-well pumping scenario assumes that pumping occurs continuously over a 250-day period, which is required to achieve the maximum annual production of 17,500 acre-feet. The 7-well scenario concludes that temporary drawdown of between 3 to 29 feet would occur at land sections with neighboring Kern Water Bank Authority (KWBA) wells; the highest drawdown potential would occur at two KWBA wells immediately adjacent to the Strand Ranch property.

The 3-well pumping scenario concludes that temporary drawdown of less than one foot would result at neighboring KWBA wells. As a result the Final EIR concludes that, given the average depth of the KWBA wells (900 feet) and the historic groundwater fluctuations in the region (up to 140 feet), the Project's potential to lower water surface elevations by up to 29 feet would not significantly impact the function of neighboring wells.

The proposed modification would allow simultaneous pumping of all onsite Strand Ranch wells and the three offsite wells, eliminating the combined recovery restriction of 36 cfs. This proposed modification is already modeled as part of the Strand Ranch Well Placement and Drawdown Analysis provided in Appendix F of the Final EIR. The analysis includes simultaneous pumping of all wells, represented by both the 7-well pumping scenario and the 3-well pumping scenario. Based on the analysis, Chapter 3.8 of the Final EIR states that:

> "Under a scenario of both sets of wells pumping simultaneously, the effect at the KWBA wells due to pumping from the seven Strand Ranch wells and three Rosedale wells would still be within the one to 29 feet range. This small range of impact on water surface elevations on adjacent wells would not result in a loss of the KWBA to perform recharge and recovery options." (Final EIR, page 3.8-1)

The analysis conducted in the Final EIR therefore supports the proposed modification by IRWD and does not present any new impacts to resources in the project area. Simultaneous pumping of onsite and offsite wells would not result in additional drawdown and would not have additional impacts to neighboring wells.

In addition, as stated in the Final EIR, the temporary impacts to neighboring wells would be subject to the existing commitments and conditions of Rosedale's Memorandum of Understanding (MOU) with adjoining entities. The MOU provides guidelines for operation and

monitoring of Rosedale's groundwater banking programs. The MOUs allow for Rosedale to operate its Conjunctive Use Program to achieve maximum water storage and withdrawal benefits, while also avoiding, eliminating, or mitigating adverse impacts to the groundwater basin and to the operation of other groundwater banking programs in the Kern Fan area. Potential mitigation measures are identified in the MOU; and groundwater recovery operations at Strand Ranch would adhere to the requirements of Rosedale's current MOU.

Since certification of the Final EIR, Rosedale has developed the *Long Term Project Recovery Operations Plan Regarding Rosedale-Rio Bravo Water Storage District Projects* (Long Term Operations Plan), which implements the provisions of the MOU and is provided in **Appendix A**. The Project will be operated in accordance with the Long Term Operations Plan, the purpose of which is to designate specific measures to be employed to "prevent, eliminate or mitigate significant adverse impacts" resulting from project operations. A general description of the primary components of the Long Term Operations Plan is as follows:

### A. Establish a Protocol for Monitoring and Reporting Groundwater Conditions:

- Conduct monitoring of groundwater conditions during years that recovery is expected from a Rosedale project, in addition to the monitoring conducted by the Kern Fan Monitoring Committee; report current groundwater levels monthly to the Rosedale Board of Directors; and make reports available to the public on Rosedale's website.
- Regularly update Rosedale's Groundwater Model to actual conditions; use the Model to predict future groundwater conditions; report modeling results to the Rosedale Board of Directors; and make modeling results available to the public on Rosedale's web site.
- Recovery in any calendar year shall not commence until the Model has been run for projected operations.

### B. Implement Proactive Measures

- Rosedale's Groundwater Model will be used to predict the contribution of Rosedale's projects to groundwater level declines in the area. The Model will be used to simulate and compare the No-Project Condition to the Project Condition. The No-Project Condition is the water level that would have been at any particular well location absent the Rosedale project.
- The Model will be periodically run and updated as recovery plans become known or change in any given year.
- The Model will be used to identify a negative project impact (NPI) based on the comparison of No-Project Conditions and Project Conditions, and to identify the wells at risk of impact during recovery operations.

## C. Establish Triggers and Mitigation Actions

- Mitigation measures will be implemented when a NPI is triggered in years when average water levels at specified wells[1] are more than 140 feet from the surface as measured on March 31 each year. It is expected that water levels will not decline to an extent resulting in a NPI when water levels are less than 140 feet from the surface.
- A NPI is triggered when the Model results predict that groundwater levels under Project Conditions are 30 feet deeper than No-Project Conditions at a nearby existing and operative well, and the well has (or is expected to) experience mechanical failure or other operational problems due to declining water levels. Given historical fluctuations in groundwater levels in the area when other nearby groundwater banking projects are recovering, it is expected that additional declines attributable to the proposed project beyond historic low groundwater levels could result in operational problems at some existing wells.
- Agricultural Wells. The following measures would be implemented when a NPI is triggered for an operational agricultural well:
  - When the Model predicts a NPI outside the current operating range of the pump but within the potential operating range of the well, then Rosedale will provide compensation to lower the well pump to meet the landowner's needs.
  - When the Model predicts a NPI outside the current and potential operating range of the well, then Rosedale will supply an equivalent water supply to the affected landowner from an alternate source at no greater cost; provide other acceptable mitigation to the landowner; or reduce or adjust pumping as necessary to prevent, avoid, or eliminate the NPI.
- Domestic Wells. The following measures would be implemented when a NPI is triggered for a domestic well:
  - When the Model predicts a NPI such that production ceases or is likely to cease, then Rosedale will provide compensation to implement one of the following: lower the domestic submersible pump bowl setting sufficient to restore and maintain service; provide a one-time permanent connection to the nearest water service provider; or drill and equip a new domestic well. If necessary, Rosedale will provide interim in-home water supplies until one of these actions is completed.

The Long Term Operations Plan is new information that was not known and could not have been known at the time the previous EIR was certified. However, this new information does not result in new significant environmental effects or more severe significant environmental effects. Rather this new information implements the commitments in the MOU and provides additional specificity in the form of triggers and mitigation actions for Project-related effects to neighboring wells.

[1] Wells 29S/25E-27N1&2, 29S/25E-25M1&2, 29S/26E-31H1&2, and 29S/25E-35G01 are the wells that will be used to monitor groundwater levels. These wells have been determined to be best suited for detecting fluctuations in groundwater levels due to project operations.

### Cumulative Impacts

The Final EIR concluded that the Project would have no long-term cumulative impacts to groundwater resources (Chapter 4.0). The proposed modifications would not change the conclusions of the Final EIR. There would be no cumulatively considerable impacts to groundwater associated with the proposed modifications based on the technical analysis provided in the Strand Ranch Well Placement and Drawdown Analysis, Appendix F in the Final EIR.

# 7. Conclusions

Section 15164(a) of the *Guidelines* states the following:

> "The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a Subsequent EIR have occurred."

The proposed modifications to the original Project would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Furthermore, new information associated with the proposed modifications does not indicate that the Project will have one or more significant effects not discussed in the certified EIR; that significant effects previously examined will be substantially more severe than shown in the certified EIR; that mitigation measures or alternatives previously found not to be feasible would in fact be feasible; or that mitigation measures or alternatives which are considerably different from those analyzed in the certified EIR would substantially reduce one or more significant effects on the environment. Accordingly, an addendum was prepared as opposed to a negative declaration or a subsequent environmental impact report. Rosedale and IRWD are issuing this Addendum in accordance with the *State CEQA Guidelines* (Section 15164).

February 1, 2016
Prepared by: R. Bennett/ K. Welch
Submitted by: F. Sanchez/P. Weghorst
Approved by: Paul Cook

WATER BANKING COMMITTEE

## EVALUATION OF MATUK WELL SITE FOR DROUGHT RELIEF PROJECT WELL

### SUMMARY:

The Rosedale Drought Relief Project (Project) will allow IRWD, Rosedale and Castaic Lake Water Agency (CLWA) to benefit from additional groundwater recovery and conveyance capacities. IRWD and CLWA will share the capacities of six of the Project wells, five of which have already been constructed at the Superior West Wellfield. Rosedale was unable to acquire a site for the sixth well within the vicinity of the existing five wells and has proposed the Matuk well site located near the Hondo Chemical Facility. This facility was historically used to manufacture and store non-soluble carbon black, store crude oil in above-ground tanks, and store and process fly ash, sulfur and gypsum. Currently the Hondo Facility is being used to process gypsum into soil amendments for agricultural purposes and almost all the other chemicals have been removed. A professional evaluation and risk assessment of the Hondo Facility has been completed by Thomas Harder & Company (Harder). This assessment has concluded that the facility poses minimal risk to groundwater quality both beneath the Hondo Facility and at the proposed Matuk well site. Staff recommends the Committee approve the location of the Matuk well site.

### BACKGROUND:

The Rosedale Drought Relief Project includes the design and construction of six wells and associated conveyance facilities within the Rosedale-Rio Bravo Water Storage District service area. The Project will provide additional recovery and conveyance capacities for IRWD and CLWA. Five of these wells have been constructed at the Superior West Wellfield shown on Exhibit "A". Additional project wells are being constructed for Rosedale's use in another location.

The cost sharing agreement for the Project that was executed in March 2015, states that Rosedale owns five of the six sites for wells to be constructed for IRWD and CLWA. It also specifies that Rosedale is responsible for acquiring a sixth site, anticipated to be at no cost. After several attempts, Rosedale was unable to secure a sixth site within the Superior West Wellfield area. In the process, Rosedale was successful in acquiring the Matuk property for constructing a portion of the Project's Central Intake Pipeline. Matuk is located north of Stockdale Highway and Rosedale's Stockdale East property and downgradient from the Hondo Facility as shown on Exhibit "A". The Hondo Facility was historically used to manufacture and store non-soluble carbon black, store crude oil in above-ground tanks and store and process fly ash, sulfur and gypsum. Upon acquisition of the Matuk site, Rosedale began evaluating the property for the location of the sixth well. IRWD also began assessing the Matuk property and expressed concern that the water quality under Matuk could be impacted by activities at the Hondo Facility.

In August 2015, Rosedale analyzed the water quality from two nearby (shallow) private wells that are located downgradient of the Hondo Facility and found no detectable groundwater contamination. In September 2015, Rosedale deemed the Matuk property as adequate for the location of the sixth well. IRWD and CLWA were asked by Rosedale to approve a contract change order for the additional costs of locating and zone testing the sixth well at the Matuk site in the amount of $155,000. The cost estimate is included as Exhibit "B".

CLWA approved the location of the Matuk site while IRWD continued to have concerns about the potential for water quality impacts from the Hondo Facility. Rosedale asked IRWD staff to support the potential rejection of the Matuk site with a technical study.

Evaluation of Potential Risk to Matuk Well Site:

On December 1, 2015, IRWD contracted with Harder, to review and document all available data related to the Hondo Facility and to prepare a technical memorandum documenting its evaluation and risk assessment of locating a well at the Matuk site. The focus of the evaluation was to assess the risk that Hondo Facility poses to groundwater quality. Harder prepared the technical memorandum that is included as Exhibit "C". The memorandum includes the following:

- The history of the Hondo Facility;
- The nature of the chemicals and materials historically stored at the site;
- List of constituents of concern identified by the Kern County Environmental Health Services Department (KCEH);
- Borehole and monitoring well locations;
- Results of the analytical soil and groundwater testing from both onsite and offsite wells;
- Conclusions regarding the risk the Hondo Facility poses to future groundwater quality to a well located on the Matuk site; and
- Recommended design considerations for the proposed sixth well in the context of the Hondo Facility investigation.

*Chemical Removal and Monitoring:*

In 2007, the KCEH ordered the operators of the Hondo Facility to remove the stored chemicals and to cease future storage of these materials in unlined earthen impoundments on the property. Hondo was also ordered to conduct subsurface site investigations to determine if the soil and groundwater beneath the site had been adversely impacted by leaching of any materials. As ordered, Hondo installed nested monitoring wells on site and continued yearly monitoring, and collection and analysis of groundwater samples. In 2008 groundwater levels dropped below the bottom of the monitoring wells. In 2011, Hondo constructed two deeper wells for monitoring water quality. Due to the recently declining groundwater levels, the most recent groundwater samples were taken in September 2013. Harder has identified that all constituents of concern were at non-detect levels, though the data indicate the possibility of elevated total dissolved solids (TDS) in the shallow aquifer under the Hondo Facility.

Based on the evaluation of all available data, Harder has concluded that the Hondo Facility poses a minimal risk to groundwater quality both beneath the site and at the down gradient Matuk well

site. Harder has indicated that elevated TDS levels in the shallow aquifer can be addressed by constructing the sixth well with a 300-ft annular seal and perforating the casing only below approximately 400 feet below ground surface. Harder's recommendations are consistent with the current well design for the sixth well and the design of the other five Superior West wells that have been constructed. Staff has conducted a review of Harder's evaluation and findings and recommends approving the proposed Matuk well site for the sixth Project well.

FISCAL IMPACTS:

Project No. 11812/6023, Rosedale Drought Relief Project Facilities Project, is included in the FY 2015-16 Capital Budget. The Project has adequate contingency funds to accommodate IRWD's $77,500 share of the $155,000 change order to locate the sixth Project well at the Matuk site.

ENVIRONMENTAL COMPLIANCE:

The construction and operation of the six Superior wells was included in the Rosedale Master Environmental Impact Report (EIR) and the Strand Ranch Integrated Banking Project EIR. The construction and operation of the remaining Project facilities including the Central Intake Pipeline and the CVC Tie-in facilities were included in the Stockdale Integrated Banking Project EIR that was approved by both the Rosedale and IRWD Boards in December 2015. These environmental documents have been developed in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq. and the State CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3.

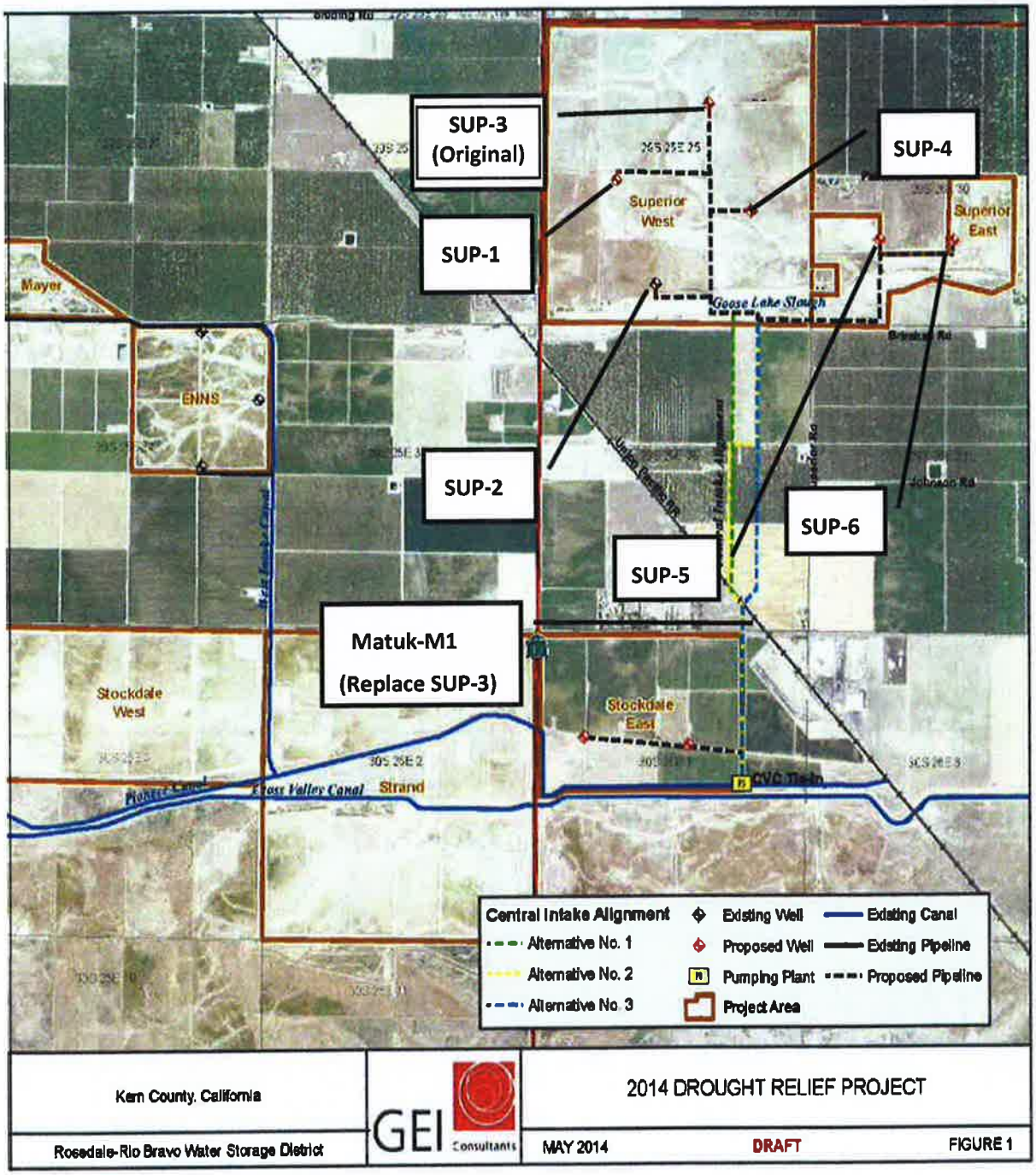
RECOMMENDATION:

That the Committee approve the location of a sixth Rosedale Drought Relief Project well at the Matuk site.

LIST OF EXHIBITS:

Exhibit "A" – Location Map: Drought Relief Project
Exhibit "B" – Cost Estimate for Superior Well Relocation, Deep Pilot Borehole and Zone Testing
Exhibit "C" – Technical Memorandum for the Hondo Chemical Facility (Thomas Harder & Co., January 19, 2016)

Exhibit "A"


SUP-3
(Original)
SUP-4
SUP-1
SUP-2
SUP-6
SUP-5
Matuk-M1
(Replace SUP-3)
Superior
West
Superior
East
Mayer
ENNS
Goose Lake Slough
Stockdale
West
Stockdale
East
Strand
Central Intake Alignment
Alternative No. 1
Alternative No. 2
Alternative No. 3
Existing Well
Proposed Well
Pumping Plant
Project Area
Existing Canal
Existing Pipeline
Proposed Pipeline
Kern County, California
Rosedale-Rio Bravo Water Storage District
GEI Consultants
2014 DROUGHT RELIEF PROJECT
MAY 2014
DRAFT
FIGURE 1

# EXHIBIT "B"

TO: Dan Masnada, Castaic Lake Water Agency (CLWA)
Paul Cook, Irvine Ranch Water District (IRWD)

FROM: Dan Bartel, Rosedale-Rio Bravo Water Storage District (RRBWSD)

DATE: September 15, 2015

RE: 2014 Drought Relief Project – Constructing and Developing of Banking Recovery Wells: Superior 3 Relocation and Deep Pilot Borehole and Zone Testing

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Per 2.e.ii of the Cost Sharing Agreement RRBWSD has proposed relocation of well Superior 3 Site to a parcel (APN 104-292-14) recently acquired by RRBWSD just north of Stockdale Highway and the Stockdale East Project (see attached maps) to be designated as Matuk 1 (M1) Site. This site is recommended as a suitable alternative in response of the lack of success in securing the original Superior 3 from the property owner. Previously RRBWSD has transmitted site evaluation information including, but not limited to, Thomas Harder's revised impact analysis and water quality information. Because the site is not in close proximity to the other Superior wells, zone testing is recommended as well as additional site development costs required by the Contractor which represent a material change per 2.e.iii.

This memo documents the estimated price change associated with the relocation and increase in the Superior 3 Site (now M1) pilot borehole depth and zone testing. Through pricing established in the proposal provided by Best Drilling and Pump via response to Construction Memo No.10 (M1 Relocation). The following Additive Bid Items would be incorporated into the Contract with the estimated quantities for the additional work at M 1 Site shown:

| Item and Description | Unit | Unit Price | Est.Quantity | Total Price |
|---|---|---|---|---|
| 1. Bid Item No. 1<br>Mobilization | LS | $15,000.00 | 1 | $15,000.00 |
| 2. Bid Item No. 2<br>Demobilization | LS | $10,000.00 | 1 | $10,000.00 |
| 3. Bid Item No. 3<br>Develop and provide water supply | LS | $30,000.00 | 1 | $30,000.00 |
| 4. Bid Item No. 4<br>Environmental compliance and permitting | LS | $ 5,000.00 | 1 | $5,000.00 |
| 5. Bid Item No. 5<br>Prepare, maintain and restore access routes | LS | $ 5,000.00 | 1 | $5,000.00 |
| 6. Additive Bid Item No. 36<br>Zone Testing- 3 Zones 1 Well | EA | $70,000.00 | 1 | $70,000.00 |

| | | | | | |
|---|---|---|---|---|---|
| 7. Additive Bid Item No. 37 | | | | | |
| Add Zone Testing on Existing Test | EA | $20,000.00 | | 1 | $20,000.00 |
| 8. Additive Bid Item No. 48 | | | | | |
| Zone Testing Pumping and Airlifting | HR | $ 350.00 | | TBD | TBD |

Therefore, the total expected increased contract cost of the M1 Relocation, Drilling to 800'and Zone Testing (4 zone tests) will be $155,000 (includes all applicable taxes, markups, shipping and handling) and all costs associated with Additive Bid Item No. 48 associated with the time of zone test pumping and airlifting.

The above is priced for four zone tests. In the event that both IRWD and CLWA agree to include additional zone tests, or drill past 800' the following prices would be in effect:

| Item and Description | Unit | Unit Price | Est.Quantity | Total Price |
|---|---|---|---|---|
| 9. Additive Bid Item No. 45 | | | | |
| Drill Pilot Hole to 18-inch max. Diameter | LF | $ 80.00 | 300 | $24,000.00 |
| 10.Additive Bid Item No. 46 | | | | |
| Drill Pilot Hole to 18-inch max. Diameter | LF | $ 105.00 | 300 | $31,500.00 |
| 11.Additive Bid Item No. 47 | | | | |
| Zone Testing below 1000' | EA | $30,000.00 | 1 | $30,000.00 |

These quantity adjustments will be reflected in subsequent Progress Estimates. Upon completion of the contracted work, a contract modification memo will be provided for field verified quantities, to indicate the final quantity adjustments.

CLWA

_____ Date: _____

(Signature)

IRWD

_____ Date: _____

(Signature)

EXHIBIT "C"

# Technical Memorandum

**DRAFT**

**To:** Ms. Kellie Welch
Irvine Ranch Water District

**From:** Thomas Harder, P.G., CH.G.
Thomas Harder & Co.

**Date:** 19-Jan-16

**Re:** Documentation of the Hondo Chemical Site

## 1. Introduction

This Technical Memorandum (TM) documents current and potential future groundwater quality impacts associated with the Hondo Chemical Site (Hondo), located approximately 1,500 ft southwest (upgradient) of Rosedale-Rio Bravo Water Storage District's (RRBWSD's) proposed M1 well site (see Figure 1). The M1 well site is a proposed replacement site for SUP-3, one of nine production wells that are part of RRBWSD's Drought Relief Project (DRP), of which Irvine Ranch Water District (IRWD) is a partner. Thomas Harder & Co., (TH&Co) reviewed background documents, data, and reports associated with the Hondo site to evaluate whether it poses a risk to groundwater quality, both now and in future, particularly as it relates to the proposed M1 Well Site

### 1.1. Purpose and Scope

The purpose of this work is to document the findings of our review of reports and data for the Hondo site. The scope of work for this TM analysis includes describing:

1. The history of the Hondo site including its current use and operational status.
2. The nature of the chemicals and materials historically stored at the site.
3. A list of constituents of concern identified for the Site.
4. The subsurface site investigations that have been conducted including a site map showing the areas of concern and the borehole and monitoring well locations.
5. A list of the chemical constituents that were tested in the soil and groundwater samples.

6. Results of soil analytical testing.
7. Results of groundwater analytical testing.
8. Conclusions regarding the risk that the Hondo site poses to future groundwater quality at the proposed M1 well site.
9. Recommendations for the M1 well design in the context of the findings from the Hondo site investigation.

## 1.2. Types and Sources of Data

TH&Co reviewed numerous background reports, regulatory inspection reports and correspondence, site photographs, and soil and groundwater quality data. Key reports include:

- Central Sierra Environmental, 2007. Preliminary Groundwater Assessment Work Plan for the Hondo Inc. Facility, 20807 Stockdale Highway, Bakersfield, California. Dated September 12.
- Environmental Processes, 2008a. Preliminary Groundwater Assessment Report, Hondo, Inc., 20807 Stockdale Highway, Bakersfield, California. Dated June 9.
- Environmental Processes, 2008b. Expanded Groundwater Assessment Work Plan for the Hondo, Inc. Facility, 20807 Stockdale Highway, Bakersfield, California. Dated September 18.
- Mark Magargee, 2013. 2013 Annual Groundwater Monitoring Report at the Hondo, Inc. Facility. Dated October 14, 2013.

A chronological history of the Hondo site from Kern County Environmental Health Services Department (KCEH) is provided in Attachment A.

# 2. Site Background

## 2.1. Site History

The site on which Hondo Chemical Inc. is located has historically been used to manufacture and store carbon black, store crude oil in above-ground tanks, and store and process fly ash, sulfur, and gypsum. The site was originally developed in 1965 to manufacture and store carbon black, a compound derived from the burning of molasses and used to color automobile tires (Central Sierra Environmental, 2007). The site was leased to Witco Oil Company from 1975 through 1988, who erected three above-ground crude oil storage tanks located along the railroad spur on the southwest part of the site. At the time their lease ended in 1988, Witco Oil Company removed the above-ground tanks. The site was purchased by Hondo Chemical Co. in the same year.

Since 1988, Hondo Chemical, Inc. has used the site to store fly ash from coal fired cogeneration plants, sulfur from geothermal and natural gas production operations, and gypsum (i.e. wallboard) from building construction wastes. Prior to approximately 2006, water for mixing with the fly ash was supplied by three onsite wells. Between 2006 and 2008, Hondo also received cogeneration plant cooling water and oil field drilling mud for mixing fly ash in unlined mixing impoundments.

During a site inspection by KCEH in March 2007, inspectors determined that Hondo Chemical, Inc. was accepting and impounding liquid wastes that appeared to be contaminated with petroleum products. Hondo was issued a cease and desist order in May 2007 (KCEH, 2007; Notice and Order No. 974-07-01; see Attachment B) and ordered not to accept and store liquid wastes in "unlined earthen ponds, lagoons, ditches or other impoundments at the facility." Hondo was further ordered to conduct a subsurface site investigation to determine if the soil and groundwater beneath the site had been adversely impacted by leaching of liquid wastes in the unlined impoundments. In August 2007, KCEH inspectors collected surface soil samples from from the fly ash stockpiles (see Attachment C).

Hondo's consultant conducted a drilling and testing program in December 2007 and January 2008. During that time, twelve boreholes (BH-1 through BH-12) and four monitoring wells (MW-1 through MW-4) were drilled and tested at the site (see Figure 2 and Section 3). Well construction details are provided in Table 1. Although the monitoring wells were originally constructed with perforations below the groundwater surface, by April 2008 when the first groundwater samples were collected, the groundwater level had dropped below the bottom of Wells MW-1 and MW-3. Laboratory reports for soil samples analyzed during the initial subsurface investigation are provided in Attachment D. Laboratory reports for groundwater quality samples collected and analyzed from onsite wells are provided in Attachment E.

Because some of the monitoring wells from the initial investigation were not deep enough to enable collection of groundwater samples, KCEH ordered the drilling and construction of nested monitoring wells with shallow, intermediate and deep screen intervals. In October 2008, the first intermediate well (MW-5) was constructed to a depth of approximately 150 ft below ground surface (bgs). However, the well was dry and KCEH temporarily suspended the drilling of additional monitoring wells until groundwater levels stabilized or recovered (KCEH letter dated January 9, 2009).

Based on the dates from groundwater quality laboratory reports (Attachment E), it appears that deep wells MW-7 and MW-8 were drilled and constructed in or around September 2010 (see Figure 2). Wells MW-6, MW9 and MW-10 were drilled and constructed in or around February 2011. It is assumed that groundwater samples were collected from the wells for laboratory analysis at the time of construction. Groundwater samples were collected for laboratory analysis from Wells MW-6 through MW-10 again in December 2011 (see Section 2.3 for constituents of concern and Section 3 for results of laboratory analyses).

In October 2012, KCEH rescinded Notice and Order No. 974-07-01 that had been issued in May 2007, indicating that Hondo Chemical Company had complied with all directives (see Attachment F). The October 2012 letter indicates that Hondo Chemical Inc. is still required to maintain the onsite monitoring wells and collect and analyze groundwater samples on an annual basis. A June 2012 site inspection report indicated that as of that time, approximately 800 cubic yards of fly ash remained onsite. A later site inspection report from July 2013 indicated that approximately 100 cubic yards of fly ash remained onsite as of that date. Since 2013, KCEH is only monitoring carbon black stockpiles that remain on the site, which are in the process of being removed.

Groundwater samples were last collected from monitoring wells on the site (MW-1 through MW-4 only) in September 2013.

## 2.2. Chemicals and Materials Historically Stored Onsite

The types of materials of concern that have historically been stored at the Hondo site are industrial liquids including oil field wastes, fly ash and carbon black.

The 2007 Notice and Order (KCEH, 2007) describes the industrial liquids observed at the Hondo site in 2007 as "petroleum-contaminated water with a high concentration of Total Dissolved Solids (TDS) typical of saltwater coproduced from oil fields." Laboratory reports of water samples collected from surface impoundments at the site were not in the data provided by KCEH.

The only surface sample in which petroleum-related contaminants were detected was a sample collected by KCEH on August 31, 2007 and labeled "Waste Oil." This sample was analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and total petroleum hydrocarbons (TPH). VOC constituents detected included benzene, toluene, ethylbenzene, xylenes, isopropylbenzene, naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. SVOC constituents detected included 2-methylnapththalene and phenanthrene. The TPH concentration of the sample was 780,000 milligrams per kilogram (mg/kg). KCEH notes indicate that this sample consisted of waste oil and appears to have been collected from the bottom of a sump or waste oil tank.

Fly ash is typically a residue byproduct of coal combustion. The contents vary but generally contain high concentrations of silicon dioxide, aluminum oxide and calcium oxide. Fly ash can also contain any of a number of trace metals including (but not limited to) arsenic, boron, beryllium, chromium, lead and mercury. It should be noted that fly ash is a breathing hazard and not generally considered a groundwater contaminant as metals do not easily migrate in the shallow unsaturated subsurface.

Carbon black is a compound derived from the burning of molasses or heavy petroleum products. It consists primarily of carbon but can also contain polyaromatic hydrocarbons. Carbon black is an inhalation hazard and is not considered a groundwater contaminant as it does not dissolve in water.

## 2.3. Constituents of Concern

Constituents of concern on the Hondo site, as identified by KCEH, include:

- VOCs (includes benzene, toluene, ethylbenzene, and xylenes (BTEX))
- Total Dissolved Solids (TDS)
- Total Petroleum Hydrocarbons (TPHs)
- Metals
- Sodium
- Chloride

# 3. Results of Subsurface Investigations

## 3.1. Onsite Subsurface Soil Analytical Results

A total of sixty soil samples were collected at various depths in 16 boreholes at the site between December 2007 and January 2008 (see Figure 2). Soil samples were collected at depths of 5, 20, 40, 60, 80 and 100 ft bgs in boreholes drilled for monitoring wells MW-1 through MW-4 (see Table 2). Soil samples were collected in boreholes B-1 through B-12 at depths of 5, 20, and 40 ft bgs. Each soil sample was analyzed for VOCs by EPA 8260B, purgeable aromatics and TPH, chloride, pH, electrical conductivity (EC), and metals by EPA 6010B. Laboratory analytical results from subsurface soil samples collected during borehole/monitoring well drilling are summarized in Table 2 and laboratory reports are provided in Attachment D.

The only VOCs detected in subsurface soil samples were very low levels of naphthalene and 1,2,4-trimethylbenzene. These constituents were detected in the 5 ft bgs sample from Borehole B-10 at concentrations of 0.001 mg/kg and 0.0013 mg/kg, respectively. It is noted that these concentrations are below the Practical Quantitation Limit (PQL) for the analysis, which is below the level that they can be reliably reported. As such, the results are considered estimated. Naphthalene and 1,2,4-trimethylbenzene were not detected in the 20-ft and 40-ft samples in B-10.

Although TPH as diesel was not detected in most of the subsurface soil samples, it was detected in nine samples at relatively low concentrations ranging from 4.2 mg/kg to 140 mg/kg (see Table 2). Of the samples with detected TPH, the highest concentrations were detected in the 5-ft samples. The deepest detected TPH concentrations were in B-8 at 40 ft bgs (4.2 mg/kg) and B-12 at 40 ft bgs (5.3 mg/kg). The concentrations are below criteria specified in the California State Water Resources Control Board (SWRCB) Low-Threat Underground Storage Tank Closure Policy (SWRCB, 2012).

Soil metals concentrations are generally typical for native soil in the central valley of California (United States Geological Survey, 1984). Nickel and vanadium concentrations in the 5-ft samples from B-11 and B-12 appear elevated relative to typical native soils for the area. However, none of the metals concentrations exceed California Code of Regulations Title 22 Total Threshold Limit Concentrations (TTLCs).

Soil salinity (sodium and chloride) concentrations detected in the upper 40 ft of soils beneath the Hondo site are the only levels that may exceed California Regional Water Quality Control Board – Central Valley Region criteria for protection of groundwater resources. Elevated salinity in the soil, if leached to the groundwater, could result in higher TDS concentrations in the vicinity of the site than otherwise would occur.

## 3.2. Groundwater Analytical Results from Onsite Monitoring Wells

Groundwater samples collected from the onsite monitoring wells since 2008 have been analyzed for VOCs (EPA 8260), TPH, metals, general minerals, and physical properties including TDS, salinity, and EC. No VOCs or TPH have been detected in any of the onsite groundwater samples collected between 2008 and 2013 (see Table 3). Groundwater samples collected from MW-2 and MW-4 in 2008 showed elevated concentrations of aluminum, arsenic, iron, and manganese. However, the turbidity of the September 2008 water samples collected were 340 Nephelometric Turbidity Units (NTUs) and 800 NTUs in MW-2 and MW-4, respectively. High metals concentrations can occur when the samples are turbid and these elevated metals results are suspect. Aluminum, arsenic, iron, and manganese were not detected in groundwater samples collected from the same wells in 2013. TDS concentrations of groundwater samples generally range from 150 mg/L to 340 mg/L. TDS concentrations in samples collected from MW-2 and MW-4 in 2008 were 490 mg/L and 730 mg/L, respectively. However, subsequent analyses of samples from these wells have shown significantly lower TDS concentrations.

One sample collected from MW-2 in 2008 detected nitrate at a concentration (72 mg/L), which exceeds the maximum contaminant level (MCL) of 45 mg/L (see Table 3). Analysis of a sample collected in 2013 showed a concentration of 16 mg/L, which is below the MCL. The nitrate in groundwater is likely a regional issue associated with agricultural operations on adjacent land.

## 3.3. Offsite Private Well Groundwater Sampling

Groundwater samples from two off-site, active private wells were collected to document groundwater quality downgradient of the Hondo site (See Figure 2). One set of groundwater samples was collected from a domestic well in July 2015 and one set was collected from an agricultural well in August 2015. Groundwater samples from these wells were analyzed for VOCs, TPH, metals, general minerals, and general physical properties. Laboratory results are summarized in Table 3. Laboratory reports are provided in Appendix G.

Results of the analyses of offsite groundwater samples did not detect VOCs or TPH. None of the metals concentrations exceed regulatory standards. The TDS concentrations of the samples from offsite wells ranged from 290 mg/L to 380 mg/L.

## 4. Conclusions and Recommendations

Based on the reports and data reviewed for this document, it is concluded that the Hondo site poses a minimal risk to groundwater quality both beneath the site and at the downgradient M1 well. The only risk foreseen from the data reviewed is the possibility of elevated TDS concentrations in shallow groundwater beneath and downgradient of the Hondo site. This risk can be addressed at the proposed M1 well by designing it with a deep 300-ft annular seal and perforating the casing solely in the deep aquifer (below approximately 400 ft bgs). As the other DRP Superior wells are similarly designed, this should be easily implemented.

## 5. References

California State Water Resources Control Board, 2012. Low Threat Underground Storage Tank Case Closure Policy. Dated August 17, 2012.

Central Sierra Environmental, 2007. Preliminary Groundwater Assessment Work Plan for the Hondo Inc. Facility, 20807 Stockdale Highway, Bakersfield, California. Dated September 12.

Environmental Processes, 2008a. Preliminary Groundwater Assessment Report, Hondo, Inc., 20807 Stockdale Highway, Bakersfield, California. Dated June 9, 2008.

Environmental Processes, 2008b. Expanded Groundwater Assessment Work Plan for the Hondo, Inc. Facility, 20807 Stockdale Highway, Bakersfield, California. Dated September 18, 2008.

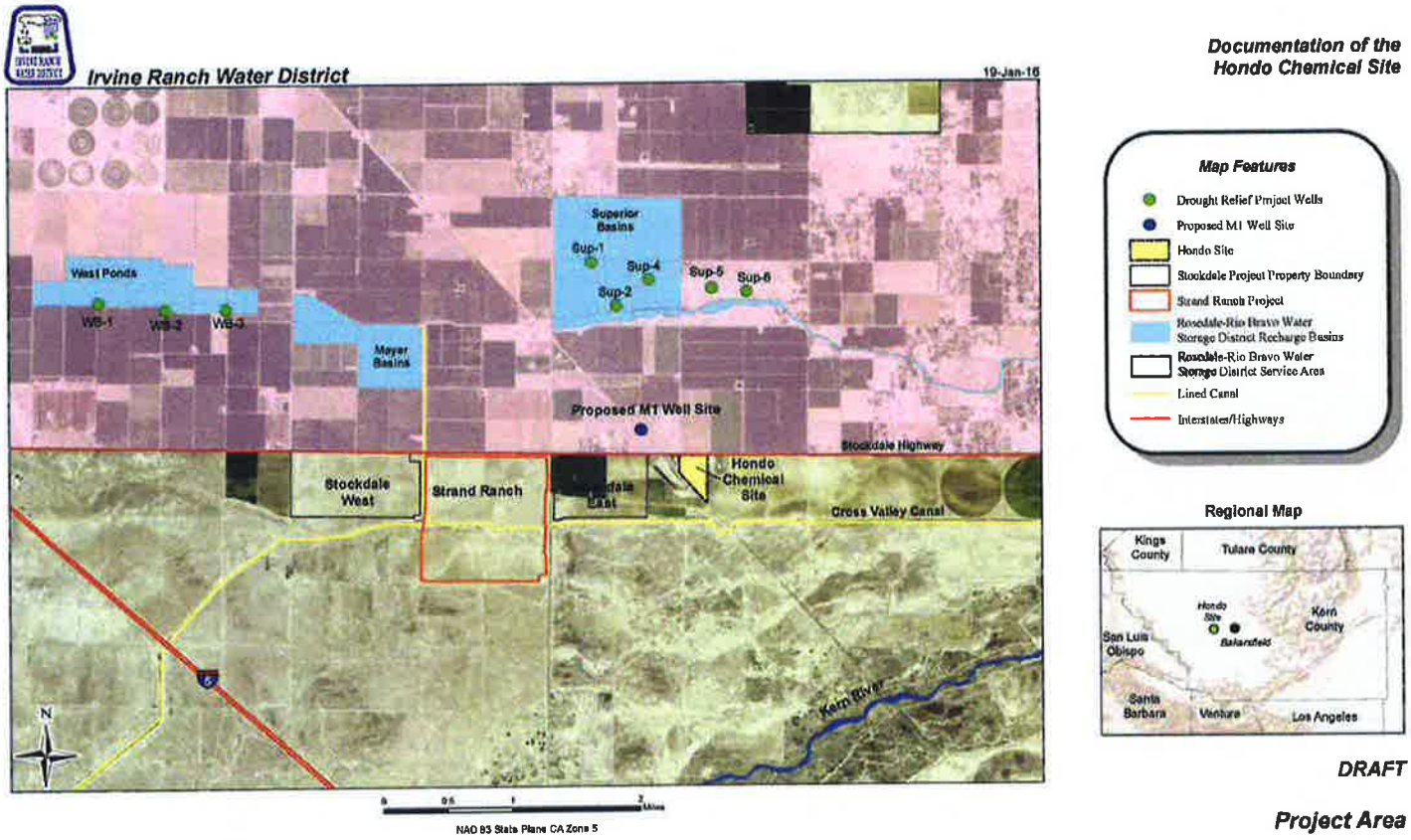
KCEH, 2007. Notice and Order 874-07-01. Hondo Chemical, Inc. Operation of a Solid Waste Facility without a Solid Waste Facilities Permit. Dated May 14, 2007.

Mark Magargee, 2013. 2013 Annual Groundwater Monitoring Report at the Hondo, Inc. Facility. Dated October 14, 2013.

United States Geological Survey, 1984. Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States. Professional Paper 1270.

# Figures

**Documentation of the Hondo Chemical Site**




***DRAFT***

***Project Area***

**Figure 1**

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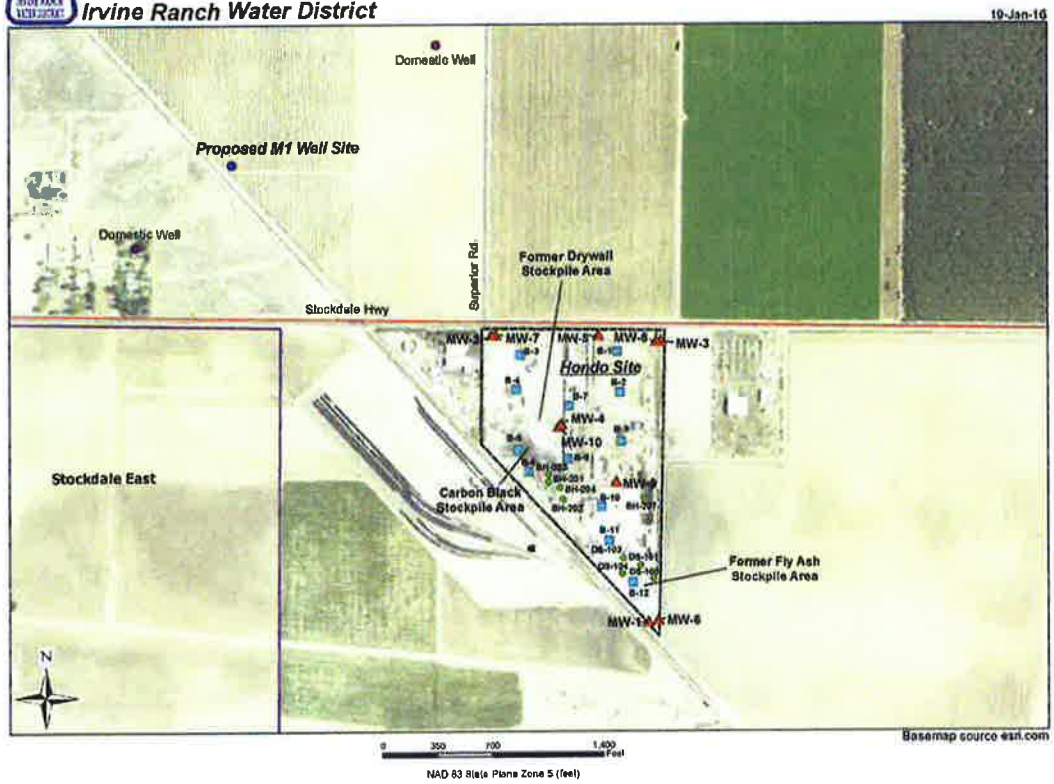


**Map Features**

- Borehole Location (Approximate)
- Monitoring Well (Approximate)
- Surface Soil Sampling Locations (KCEH)
- Proposed M1 Well Site
- Private Well Sampled for Water Quality Analysis
- Hondo Site
- Stockdale Boundary
- Highway/Road

Note: Disposal locations from Kern County Environmental Health Services, Hondo Chemical Inc Site Map, dated July 15, 2011.

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***Hondo Site***

**Figure 2**

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# Tables

## Well Construction Summary

| Well Name | Date Completed | Well Depth (ft bgs)[1] | Casing Diameter (in) | Perforation Interval | Material |
|---|---|---|---|---|---|
| MW-1 | 5-Jan-08 | 120 | 4 | 70 - 120 | PVC |
| MW-2 | 10-Jan-08 | 120 | 4 | 70 - 120 | PVC |
| MW-3 | 18-Jan-08 | 120 | 4 | 70 - 120 | PVC |
| MW-4 | 22-Jan-08 | 120 | 4 | 70 - 120 | PVC |
| MW-5 | 31-Oct-08 | 150 | NA | 100 - 150 | NA |
| MW-6 | NA[2] | NA | NA | NA | NA |
| MW-7 | 15-Jun-10 | 270 | 4.5 | 210 - 270 | PVC |
| MW-8 | 21-Jun-10 | 270 | 4.5 | 210 - 270 | PVC |
| MW-9 | 23-Jun-10 | 270 | 4.5 | 210 - 270 | PVC |
| MW-10 | 14-Feb-11 | 270 | 4.5 | 210 - 270 | PVC |
| MW-11 | 8-Feb-11 | 270 | 4.5 | 210 - 270 | PVC |

***Notes:***

[1] ft bgs = Feet below ground surface

[2] NA = Not Available

**Table 2**
**DRAFT**

## Hondo Site Subsurface Soil Analysis

| Borehole | Depth (ft bgs)[1] | Sample Date | VOCs[1] | | | TPH[6] | | Metals | | | Chloride (mg/kg) | Salinity (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Naphthalene (mg/kg)[2] | 1,2,4-Trimethylbenzene (mg/kg) | Other (mg/kg) | Diesel (mg/kg) | Other (mg/kg) | Sodium (mg/kg) | Nickel (mg/kg) | Vanadium (mg/kg) | | |
| MW-1 | 5 | 11-Dec-07 | <0.0050[4] | <0.0050 | ND[5] | <10 | ND | 120.0 | 3.1 | 19.0 | 9.6 | 16.0 |
| MW-1 | 20 | 11-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 130.0 | 7.4 | 32.0 | 5.8 | <10 |
| MW-1 | 40 | 11-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 230.0 | 7.9 | 31.0 | 6.3 | 10.0 |
| MW-1 | 60 | 11-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 110.0 | 5.0 | 25.0 | 6.2 | 10.0 |
| MW-1 | 80 | 12-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 210.0 | 8.9 | 28.0 | 8.0 | 13.0 |
| MW-1 | 100 | 12-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 54.0 | 2.3 | 13.0 | 4.6 | <10 |
| MW-2 | 5 | 13-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 180.0 | 8.7 | 39.0 | 8.6 | 14.0 |
| MW-2 | 20 | 13-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 73.0 | 2.7 | 15.0 | 4.7 | <10 |
| MW-2 | 40 | 13-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 130.0 | 5.8 | 24.0 | 3.2 | <10 |
| MW-2 | 60 | 13-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 130.0 | 6.5 | 39.0 | 7.5 | 12.0 |
| MW-2 | 80 | 13-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 140.0 | 10.0 | 29.0 | 8.5 | 14.0 |
| MW-2 | 100 | 13-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 99.0 | 3.0 | 22.0 | 12.0 | 19.0 |
| MW-3 | 5 | 18-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 63.0 | 6.0 | 32.0 | 2.2 | <10 |
| MW-3 | 20 | 18-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 320.0 | 12.0 | 36.0 | 3.9 | NA[7] |
| MW-3 | 40 | 18-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | <120 | 3.0 | 12.0 | 3.0 | <10 |
| MW-3 | 60 | 18-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | <120 | 2.9 | 16.0 | 6.5 | 11.0 |
| MW-3 | 80 | 18-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 45.0 | 5.1 | 31.0 | 76.0 | 120.0 |
| MW-3 | 100 | 18-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 30.0 | 7.9 | 26.0 | 5.9 | <10 |
| MW-4 | 5 | 19-Dec-07 | <0.0050 | <0.0050 | ND | 53.0 | ND | 120.0 | 5.3 | 24.0 | 46.0 | 75.0 |
| MW-4 | 20 | 19-Dec-07 | <0.0050 | <0.0050 | ND | 10.0 | ND | 220.0 | 19.0 | 38.0 | 93.0 | 150.0 |
| MW-4 | 40 | 20-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 530.0 | 6.1 | 26.0 | 840.0 | 1,400.0 |
| MW-4 | 60 | 19-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 190.0 | 14.0 | 18.0 | 21.0 | 35.0 |
| MW-4 | 80 | 20-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 240.0 | 3.5 | 19.0 | 230.0 | 390.0 |
| MW-4 | 100 | 20-Dec-07 | <0.0050 | <0.0050 | ND | <10 | ND | 66.0 | 1.9 | 14.0 | 7.4 | 12.0 |
| B-1 | 5 | 2-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 450.0 | 5.5 | 21.0 | 110.0 | 190.0 |
| B-1 | 20 | 2-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 140.0 | 3.3 | 15.0 | 28.0 | 47.0 |
| B-1 | 40 | 2-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 150.0 | 8.0 | 27.0 | 71.0 | 120.0 |
| B-2 | 5 | 2-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 960.0 | 6.0 | 28.0 | 46.0 | 76.0 |
| B-2 | 20 | 2-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 200.0 | 10.0 | 29.0 | 76.0 | 130.0 |
| B-2 | 40 | 2-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 250.0 | 20.0 | 36.0 | 28.0 | 46.0 |

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## Hondo Site Subsurface Soil Analysis

| Borehole | Depth (ft bgs)[1] | Sample Date | VOCs[2] | | | TPH[3] | | Metals | | | Chloride (mg/kg) | Salinity (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Naphthalene (mg/kg)[4] | 1,2,4-Trimethylbenzene (mg/kg) | Other (mg/kg) | Diesel (mg/kg) | Other (mg/kg) | Sodium (mg/kg) | Nickel (mg/kg) | Vanadium (mg/kg) | | |
| B-3 | 5 | 2-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 2,100.0 | 6.4 | 30.0 | 13.0 | <30 |
| B-3 | 20 | 2-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 170.0 | 15.0 | 30.0 | 6.5 | <30 |
| B-3 | 40 | 2-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 120.0 | 7.2 | 28.0 | 4.1 | <30 |
| B-4 | 5 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 2,700.0 | 7.5 | 33.0 | 28.0 | 45.0 |
| B-4 | 20 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 140.0 | 11.0 | 32.0 | 11.0 | <30 |
| B-4 | 40 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 85.0 | 3.4 | 11.0 | 10.0 | <30 |
| B-5 | 5 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 630.0 | 4.6 | 24.0 | 660.0 | 1,100.0 |
| B-5 | 20 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 1,900.0 | 4.4 | 29.0 | 2,100.0 | 3,400.0 |
| B-5 | 40 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 270.0 | 12.0 | 22.0 | 79.0 | 130.0 |
| B-6 | 5 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 1,500.0 | 5.5 | 29.0 | 79.0 | 130.0 |
| B-6 | 20 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 2,000.0 | 2.8 | 21.0 | 1,900.0 | 3,100.0 |
| B-6 | 40 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 5,900.0 | 11.0 | 32.0 | 5,400.0 | 8,800.0 |
| B-7 | 5 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 150.0 | 5.9 | 26.0 | 280.0 | 460.0 |
| B-7 | 20 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 140.0 | 7.0 | 27.0 | 15.0 | <30 |
| B-7 | 40 | 3-Jan-08 | <0.0050 | <0.0050 | ND | <10 | ND | 110.0 | 3.6 | 16.0 | 7.0 | <30 |
| B-8 | 5 | 2-May-08 | <0.0050 | <0.0050 | ND | <10 | **67 | 1,400.0 | 6.5 | 34.0 | 53.0 | 87.0 |
| B-8 | 20 | 2-May-08 | <0.0050 | <0.0050 | ND | <10 | ND | 1,500.0 | 20.0 | 41.0 | 55.0 | 90.0 |
| B-8 | 40 | 2-May-08 | <0.0050 | <0.0050 | ND | <10 | ND | 130.0 | 4.7 | 15.0 | 5.4 | <30 |
| B-9 | 5 | 2-May-08 | <0.0050 | <0.0050 | ND | <10 | ND | 75.0 | 2.0 | 13.0 | 5.3 | <30 |
| B-9 | 20 | 2-May-08 | <0.0050 | <0.0050 | ND | <10 | ND | 720.0 | 24.0 | 39.0 | 860.0 | 1,400.0 |
| B-9 | 40 | 2-May-08 | <0.0050 | <0.0050 | ND | <10 | ND | 140.0 | 6.8 | 34.0 | 8.7 | <30 |
| B-10 | 5 | 2-May-08 | 0.0010* | 0.0013* | ND | 15.0 | ND | 2,000.0 | 4.0 | 13.0 | 2,000.0 | 3,300.0 |
| B-10 | 20 | 2-May-08 | <0.0050 | <0.0050 | ND | <10 | ND | 500.0 | 3.6 | 22.0 | 560.0 | 920.0 |
| B-10 | 40 | 2-May-08 | <0.0050 | <0.0050 | ND | <10 | ND | 200.0 | 6.6 | 27.0 | 29.0 | 47.0 |
| B-11 | 5 | 3-May-08 | <0.0050 | <0.0050 | ND | 140.0 | ND | 4,100.0 | 640.0 | 430.0 | 460.0 | 770.0 |
| B-11 | 20 | 3-May-08 | <0.0025 | <0.0025 | ND | 4.7 | ND | 1,200.0 | 3.8 | 21.0 | 970.0 | 1,600.0 |
| B-11 | 40 | 3-May-08 | <0.0050 | <0.0050 | ND | <10 | ND | 2,600.0 | 18.0 | 41.0 | 2,100.0 | 3,500.0 |
| B-12 | 5 | 3-May-08 | <0.0050 | <0.0050 | ND | 59.0 | ND | 4,600.0 | 520.0 | 380.0 | 1,800.0 | 3,000.0 |
| B-12 | 20 | 3-May-08 | <0.0050 | <0.0050 | ND | ND | ND | 990.0 | 14.0 | 19.0 | 720.0 | 1,200.0 |
| B-12 | 40 | 3-May-08 | <0.0050 | <0.0050 | ND | 5.3 | ND | 4,100.0 | 14.0 | 34.0 | 2,900.0 | 4,900.0 |

## Hondo Site Subsurface Soil Analysis

| Borehole | Depth (ft bgs)[1] | Sample Date | VOCs[3] | | | TPH[6] | | Metals | | | Chloride (mg/kg) | Salinity (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Naphthalene (mg/kg)[2] | 1,2,4-Trimethylbenzene (mg/kg) | Other (mg/kg) | Diesel (mg/kg) | Other (mg/kg) | Sodium (mg/kg) | Nickel (mg/kg) | Vanadium (mg/kg) | | |

***Notes:***

[1] ft bgs = Feet below ground surface
[2] mg/kg = Milligrams per Kilogram
[3] VOCs = Volatile Organic Compounds
[4] <0.0050 = Constituent not detected above the indicated detection limit
[5] No constituents detected above their respective detection limits
[6] TPH = Total Petroleum Hydrocarbons
[7] Not Analyzed
* Result was detected below the practical quantitation limit and is, therefore, estimated.
** TPH as motor oil

## Hondo Site Water Analysis

| Well | Well Depth (ft bgs)[1] | Sample Date | VOCs[2] (µg/L)[3] | TPH[4] | Metals | | | Calcium (mg/L) | Nitrate as $NO_3$ (mg/L) | pH | Chloride (mg/L) | TDS[5] (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Aluminum (mg/L)[5] | Iron (mg/L) | Arsenic (mg/L) | | | | | |
| MW-1 | | 25-Sep-13 | ND[6] | ND | <0.05[7] | <0.1 | <0.002 | 44.0 | 15 | 7.96 | 32 | 220 |
| MW-2 | | 8-Apr-08 | ND | ND | 4.8 | 5.9 | 0.0023 | 96.0 | 72 | 7.94 | 58 | 490 |
| MW-2 | | 25-Sep-13 | ND | ND | <0.05 | <0.1 | <0.002 | 2.8 | 16 | 10.2 | 47 | 250 |
| MW-3 | | 25-Sep-13 | ND | ND | <0.05 | <0.1 | 0.0035 | 26.0 | 11 | 8.3 | 34 | 150 |
| MW-4 | | 8-Apr-08 | ND | ND | 21 | 32 | 0.024 | 52.0 | 16 | 7.4 | 250 | 730 |
| MW-4 | | 25-Sep-13 | ND | ND | <0.05 | <0.1 | <0.002 | 3.9 | 21 | 9.95 | 41 | 190 |
| MW-5 | | 25-Sep-13 | ND | ND | <0.05 | <0.1 | <0.002 | 55.0 | 16 | 8.21 | 48 | 270 |
| MW-6 | | 25-Feb-11 | ND | ND | <0.05 | <0.1 | <0.002 | 48.0 | 12 | 7.8 | 34 | 230 |
| MW-6 | | 25-Feb-11 | ND | ND | 0.23 | 0.48 | <0.002 | <0.050 | 12 | 7.8 | 34 | 230 |
| MW-6 | | 29-Dec-11 | ND | ND | <0.05 | 0.14 | 0.0029 | 40.0 | 11 | 7.6 | 41 | 250 |
| MW-7 | 270 | 21-Sep-10 | ND | ND | NA[8] | NA | <0.002 | NA | NA | 8.5 | 36 | NA |
| MW-7 | 270 | 21-Sep-10 | ND | ND | 0.54 | 0.18 | <0.02 | 58.0 | NA | 8 | 37 | 340 |
| MW-7 | 270 | 29-Dec-11 | ND | ND | <0.05 | <0.1 | 0.002 | 56.0 | 16 | 7.68 | 32 | 260 |
| MW-8 | 270 | 20-Sep-10 | ND | ND | NA | NA | <0.002 | NA | NA | 7.7 | 32 | NA |
| MW-8 | 270 | 20-Sep-10 | ND | ND | 0.18 | <0.1 | <0.02 | 77.0 | NA | 7.7 | 33 | 330 |
| MW-8 | 270 | 29-Dec-11 | ND | ND | 0.25 | <0.1 | 0.0026 | 8.3 | 17 | 8.88 | 28 | 260 |
| MW-9 | 270 | 25-Feb-11 | ND | ND | 0.68 | 0.41 | <0.002 | 55.0 | 19 | 7.83 | 30 | 270 |
| MW-9 | 270 | 25-Feb-11 | ND | ND | 0.68 | 0.41 | <0.002 | 60.0 | 19 | 7.83 | 30 | 270 |
| MW-9 | 270 | 29-Dec-11 | ND | ND | <0.05 | <0.1 | <0.002 | 48.0 | 16 | 7.47 | 31 | 240 |
| MW-10 | 270 | 25-Feb-11 | ND | ND | 0.27 | 0.23 | <0.002 | 57.0 | 16 | 7.64 | 29 | 260 |
| MW-10 | 270 | 25-Feb-11 | ND | ND | 0.27 | 0.23 | <0.002 | 59.0 | 16 | 7.64 | 29 | 260 |
| MW-10 | 270 | 29-Dec-11 | ND | ND | 0.055 | 0.2 | <0.002 | 54.0 | 14 | 7.55 | 30 | 250 |
| Offsite Private Well 1 | | 31-Jul-15 | ND | ND | NA | <0.05 | <0.05 | 72.0 | 38 | 7.69 | 49 | 380 |
| Offsite Private Well 2 | | 3-Aug-15 | ND | ND | NA | <0.05 | <0.05 | 57.0 | 24 | 7.97 | 33 | 290 |

## Hondo Site Water Analysis

| Well | Well Depth (ft bgs)[1] | Sample Date | VOCs[2] (µg/L)[3] | TPH[4] | Metals | | | Calcium (mg/L) | Nitrate as $NO_3$ (mg/L) | pH | Chloride (mg/L) | TDS[5] (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Aluminum (mg/L)[5] | Iron (mg/L) | Arsenic (mg/L) | | | | | |
| | | | | | | | | | | | | |

***Notes:***

[1] ft bgs = Feet below ground surface
[2] VOCs = Volatile Organic Compounds
[3] µg/L = Micrograms per Liter
[4] TPH = Total Petroleum Hydrocarbons
[5] mg/L = Milligrams per Liter
[6] Not Detected
[7] <0.050 = Constituent not detected above the indicated detection limit
[8] NA = Not Analyzed

# Attachment A

## Chronological Activities

# KCEHSD Hondo's Site Visit and Related Chronological Activities (2001 to 2012)

Updated by Charlie Bauer on Wednesday, January 4, 2012

- July 2001 – KCEHSD ER Team responded to a sulfur fire at the Hondo facility.
- October 15, 2001 – KCEHSD ER Team responded to a sulfur fire at the Hondo facility
- May 30, 2004 – KCEHSD ER Team responded to a hydrogen sulfide complaint at the Hondo facility
- February 14, 2006 – KCEHSD ER Team responded to a chemical fire at the American Biofuels located on the Hondo property.
- August 2, 2007 – KCEHSD ER Team responded to a sulfur fire at the Hondo facility.
- March 1, 2007 – KCEHSD aerial survey of the Hondo facility.
- March 2, 2007 – LEA Site Inspection. Violation, PRC 44002 Operator Authorized by Solid Waste Facility Permit.
- Mary 14, 2007 – LEA Notice and Order #874-07-01 issued.
- May 15, 2007 – LEA hand-delivered Notice and Order #874-07-01 to the Hondo Inc facility.
- June 27, 2007 – KCEHSD Compliance Review of Notice and Order 874-07-01, Administration of Civil Penalties.
- July 3, 2007 – KCEHSD Compliance Review of Notice and Order 874-07-01 Administration of Civil Penalties.
- July 6, 2007 – Site Restoration Work Plan submitted to EHS from Central Sierra Environmental.
- July 16, 2007 – LEA Site Inspection. Violation, PR 44002 Operator Authorized by Solid Waste Facility Permit.
- August 6, 2007 – KCEHSD accepted Hondo's Site Restoration Work Plan, submitted July 6, 2007.
- August 24, 2007 – LEA Site Inspection. Violation, PRC 44002 Operator Authorized by Solid Waste Facility Permit.
- August 28, 2007 – KCEHSD Compliance Review of Notice and Order 874-07-01 Administration of Civil Penalties.
- August 31, 2007 – KCEHSD HazMat team sampling event for fly ash and oil semisolids.
- September 13, 2007 – KCEHSD received the results of the sampling event from Zalco Laboratories, Inc. The lab results indicated that the fly ash was not hazardous.
- September 13, 2007 – KCEHSD received the Preliminary Groundwater Assessment Work Plan for the Hondo Inc facility
- September 25, 2007 – LEA Site Inspection. Violation, PRC 44002 Operator Authorized by Solid Waste Facility Permit.
- October 8, 2007 – KCEHSD received a letter from Jess Karr requesting the lien placed on his 20807 Stockdale Hwy property be removed and that a bond to be held in escrow of $100,000 is acceptable by KCEHSD.
- October 11, 2007 – KCEHSD aerial survey of the Hondo facility.

- October 11, 2007 – LEA facility inspection. Violation, PRC 44002 Operator Authorized by Solid Waste Facility Permit.

## KCEHSD Hondo's Site Visit and Related Chronological Activities (2001 to 2012)

Updated by Charlie Bauer on Wednesday, January 4, 2012

- October 12, 2007 – LEA facility inspection to the southeast corner of the ash pile to the liquids storage area. Purpose of the visit was to take photos and to determine size and extent of liquids located within the fly ash. The pH of the greenish colored liquids was taken at this time by the LEA and was found to be 13.0.
- October 22, 2007 – KCEHSD rejected the Preliminary Groundwater Assessment Work Plan for the Hondo Inc. facility.
- October 25, 2007 – KCEHSD received a letter from Jess Karr. The letter has 11 points that Jess Karr is or is proposing to do to bring his facility into compliance.
- October 29, 2007 – KCEHSD received a letter from Hondo. The letter explained the status of the incoming water as well as the status of the fly ash.
- November 12, 2007 – KCEHSD met with Mark Magargee, PG, consultant for Hondo Chemical regarding changes in groundwater monitoring and soil sampling work plans. A letter was sent to Jess Karr and Mark Magargee stating the current goals for the site characterization and sampling.
- November 13, 2007 – KCEHSD mailed a letter to Hondo Inc. regarding approval of the Site Restoration Work Plan dated 07/06/2007.
- November 27, 2007 – KCEHSD mailed a letter to Hondo Inc. regarding the approval of the Preliminary Groundwater Assessment Work Plan.
- November 28, 2007 - LEA facility inspection. Violation, PRC 44002 Operator Authorized by Sold Waste Facility Permit.
- December 4, 2007 – KCEHSD received an application for four monitoring wells to be constructed on the Hondo property.
- December 6, 2007 – KCEHSD approved the installation of the four groundwater monitoring wells at the Hondo property.
- December 11, 2007 – LEA on site observing first groundwater well installation MW-1. Melton Drilling went down to 35' below ground surface before losing the drilling bit in the bore hole.
- December 12, 2007 – LEA on site observing installation of the groundwater monitoring well MW-1. Melton Drillers were unable to use a 10" auger so they reverted to a 6" auger. They drilled down to 100' bgs until they ran out of additional auger.
- December 13, 2007 – LEA on site observing MW-1 installation. Ground water was encountered at 105' bgs. Driller drilled down to 10' bgs. Soil samples were taken every five feet.

- December 14, 2007 – LEA on site observing MW-2 (NW corner of property) installation. Soil samples were taken every five feet. First ground water zone was encountered t 70' to 85' bgs. Second groundwater zone encountered from 90' to 105' bgs.
- December 18, 2007 – LEA on site observing MW-3 (NE corner of property) installation. Soil samples were taken every five fee. First groundwater zone (perched) was encountered at 25' to 30' bgs. Second groundwater zone encountered from 65' to 76' bgs. Third groundwater zone was encountered at 100'bgs.

## KCEHSD Hondo's Site Visit and Related Chronological Activities (2001 to 2012)

Updated by Charlie Bauer on Wednesday, January 4, 2012

- December 19, 2007 – LEA on site observing completion of MW-3 (NE corner of property) installation. Third ground water zone was encountered from 100' to 105' bgs. Driller began drilling MW-4 (approximate center of the property).
- December 20, 2007 – LEA on site observing completion of MW-4 (approximate center of the property). First groundwater zone was encountered from 70' to 80' bgs. Second groundwater zone encountered from 100' to 110' bgs.
- December 27, 2007 – LEA facility inspection. Violation, PRC 44002 Operator Authorized by Solid Waste Facility Permit.
- January 2, 2008 – LEA on site observing soil boring and soil sampling at various locations. Soil borings were extended down to 40' bgs with soil samples taken every 5'. Soil borings (SB-1 through SB-3) were completed today.
- January 3, 2008 – LEA on site observing soil boring and soil sampling at various locations. Soil borings were extended down to 40" bgs with soil samples taken every 5'. Soil borings (SB-4 and SB-5) were completed today.
- January 3, 2008 – KCEHSD received a letter from Central Sierra Environmental regarding Site Restoration Plan Implementation Status update for the Hondo Inc. facility located at 20807 Stockdale Hwy., Bakersfield.
- January 7, 2008 – KCEHSD mailed a letter drafted by Brian Pitts regarding the status of offsite transportation of liquids, fly ash, and petroleum-contaminated soils.
- January 9, 2008 – KCEHSD received a letter from Jess Karr, owner of Hondo Inc., regarding the usage of remaining stored tank water to be used on hardened fly ash as a softening liquid.
- January 9, 2008 – LEA on site observing installation of casing on MW-3 (NW corner of property). 4" well casing broke and stuck in hole.
- January 10, 2008 – LEA on site observing installation of casing on MW-1 (NW corner of property). 4" Well casing and gravel pak installed and bentonite seal.
- January 15, 2008 – LEA on site observing installation of casing on MW-1 (SE corner of property). 4" Well casing and gravel pak installed and bentonite seal.
- January 17, 2008 – LEA onsite observing installation of casing on MW-3 (NE corner of property). Welling casing and gravel pak not installed today.

- January 22, 1008 – KCEHSD mailed a letter to Jess Karr of Hondo Inc., denying permission to use the on site water to condition fly ash because the water has not been characterized.
- January 25, 2008 – Charles Bauer of the LEA spoke with Jess Karr over the phone requesting a time to meet with Jess to perform the LEA monthly facility inspection. Jess said that today was a bad day because he was having a bar-b-que for his employees. Monday would be a better day. The LEA will inspect Hondo on Monday, January 28, 2008.

## KCEHSD Hondo's Site Visit and Related Chronological Activities (2001 to 2012)

Updated by Charlie Bauer on Wednesday, January 4, 2012

- January 25, 2008 – Charles Bauer of the LEA spoke with Mark Magargee of Central Sierra Environmental over the phone requesting an updated work performed to date on the Hondo property. Mark said he would get that to me prior to my visit with Mr. Jess Karr on Monday, January 28, 2008.
- January 28, 2008 – LEA facility inspection. Violation, PRC 44002 Operator Authorized by Solid Waste Facility Permit. Charles Bauer, REHS inspected the facility with Jess Karr. No new liquids appeared to be onsite. Mr. Karr still would like to use the formation water received from Plains Exploration for softening of the ash for on-site processing. I informed Mr. Karr to refer to the letter that Mr. Pitts sent to him dated January 22, 2008. I reminded him that he needed to characterize the water as to the TDS and EC and to have Mark Magargee of CSE sample the water and have it analyzed by a certified lab as to its chemical quality. Mr. Karr felt that the formation water would not pass as being acceptable to apply to the ash. Mr. Karr also informed me that 100 truckloads of fly ash had left the site during January 2008. I informed him that he needs to document where the ash is going. He said that he would have that information to KCEHS by February 14, 2008.
- June 9, 2008 – Preliminary Groundwater Assessment Work Plan submitted to EHS (Environmental Processes)
- July 23, 2008 – EHS Response to Hondo's Fly Ash Processing and Disposition Work Plan. Letter from Brian Pitts to Hondo.
- July 25, 2008 – Interoffice memorandum from Brian Pitts to Chuck Lackey regarding additional work required by Hondo.
- September 29, 2008 – Expanded Groundwater Assessment Work Plan (GWAWP) submitted to EHS.
- October 27 to 29, 2008 – Melton Drillers on site drilling groundwater monitoring wells.
- November 17, 2008 – EHS Approval of Expanded Groundwater Assessment Work Plan (Environmental Processes)
- November 27, 2008 – EHS Preliminary Groundwater Assessment Work Plan letter from Brian Pitts.

- December 20, 2008 – Addendum to the Expanded Groundwater Assessment Work Plan submitted to EHS (Environmental Processes).
- January 12, 2009 – Letter from Hondo to EHS regarding status of liquids and solids remaining onsite. Also rescinding of Cease and Desist Order Request.
- February 13, 2009 – EHS response letter to Hondo's request to Rescind Cease and Desist Order and proposal to import non-hazardous liquid waster (Brine) for treatment.
- February 24, 2009 – Letter from Hondo to EHS regarding using saltwater for production of Lipid Producing Algae.
- December 14, 2009 – Letter from Hondo to EHS regarding Chuck Lackey's letter to Hondo dated July 14, 2009.

## KCEHSD Hondo's Site Visit and Related Chronological Activities (2001 to 2012)

Updated by Charlie Bauer on Wednesday, January 4, 2012

- March 8, 2010 – Letter received from Jess Karr regarding a proposal for installation of additional groundwater monitoring wells (MW-1 deep through MW-5 deep). According to this proposal, the wells will be completed within the saturated portion of the underlying aquifer. KCEHSD is in agreement with the proposal's concept.
- May 20, 2010 – No additional groundwater monitoring wells have been installed as of this date.
- September 25, 2010 – Finished installing and sampling groundwater monitoring well 4
- January 21, 2011- Rick Redfairin drilled monitoring well No. 5 approximately 150 feet north from agreed upon location
- January 27, 2011- Monthly LEA Facility Inspection.
- February 16, 2011- Sulfur fire, Environmental Health's Emergency Response team responded.
- February 17, 2011 – HMBP inspection by EH CUPA inspectors and Kern Co. Fire.
- February 25, 2011 – Notice of Violation and Order to Correct mailed to Hondo, Chemical from CUPA.
- February 28, 2011- Monthly LEA Facility Inspection.
- March 15, 2011- Monthly LEA Facility Inspection.
- April 04, 2011- Monthly LEA Facility Inspection.
- April 12, 2011 Kern County Board of Supervisors ordered Jess Karr to remove all fly ash material from the property under the following schedule: 5,200 tons before October 1, 2011; a total of 10,400 Tons before January 1, 2012; and a total of 15,600 Tons before April 1, 2012 with all remaining fly ash to be removed from the site by July 1, 2012.
- April 12, 2011 - Hondo, Chemical corrected all CUPA violations form February 25, 2011 NOV.
- May 18, 2011- Monthly LEA Facility Inspection.
- June 15, 2011- Monthly LEA Facility Inspection.
- July 20, 2011 – Kern County Environmental Health Solid Waste Program requested from Cal Recycle that Hondo be issued a SWIS (Solid Waste Information System) Number for a disposal site.
- July 21, 2011- Monthly LEA Facility Inspection.

- August 01, 2011 Cal Recycle issued Hondo Chemical a SWIS Number (15-AA-0398).
- August 19, 2011- Monthly LEA Facility Inspection.
- September 15, 2011- Monthly LEA Facility Inspection.
- October 25, 2011 – Monthly LEA Facility Inspection - Jess Karr has removed 14,937 Tons since January 2011. He has met his Board of Supervisors April 12, 2011 order to remove 5,200 Tons of Fly Ash by October 1, 2011.
- November 28, 2011 – Monthly LEA Facility Inspection- Jess Karr has removed 35,835 Tons since January 2011. He has met his Board of Supervisors April 12, 2011 order to remove 10, 400 Tons before January 1, 2012.
- December 01, 2011 – EH issued a letter to Hondo, Chemical for failure to perform quarterly groundwater sampling and testing on Hondo's five deep groundwater monitoring wells. Environmental Health ordered Mr. Jess Karr to sample and test all five monitoring wells prior to December 31, 2011.

## KCEHSD Hondo's Site Visit and Related Chronological Activities (2001 to 2012)

Updated by Charlie Bauer on Wednesday, January 4, 2012

- December 01, 2011 – EH issued a letter to Hondo, Chemical to Cease and Desist mixing fly ash with carbon black and shipping the blend off site to dairies without first determining the suitability of carbon black to be used in dairies.
- December 28, 2011- Monthly LEA Facility Inspection.
- December 29, 2011- Groundwater Sampling of Five Deep Monitoring Wells (MW-6, MW-7, MW-8, MW-9, MW-10). John R. Wilson, Civil Engineer was the sampler. Charlie Bauer, PG, REHS witnessed the groundwater sampling. Jess was ordered in 2010 to sample on a quarterly basis, but only sampled once for the calendar year of 2011.
- October 22, 2012- Rescission of Notice and Order No. 874-07-01. Hondo Chemical Inc. SWIS No. 15-AA-0398
- October 14, 2013- 2013 Annual Groundwater Monitoring Report at the Hondo, Inc. Facility 20807 Stockdale Highway, Bakersfield, California

# Attachment B

## Notice and Order No. 874-07-01

ENVIRONMENTAL HEALTH SERVICES DEPARTMENT
MATTHEW CONSTANTINE, R.E.H.S., Director
2700 "M" STREET, SUITE 300
BAKERSFIELD, CA 93301-2370
Voice: (661) 862-8700
Fax: (661) 862-8701
TTY Relay: (800) 735-2929
e-mail: eh@co.kern.ca.us

RESOURCE MANAGEMENT AGENCY
DAVID PRICE III, RMA DIRECTOR
Community and Economic Development Department
Engineering & Survey Services Department
Environmental Health Services Department
Planning Department
Roads Department

**Notice and Order 874-07-01**

**Hondo Chemical Inc.**

**TO:** Mr. Jess Karr, President
Hondo Chemical Inc.
20807 Stockdale Hwy.
Bakersfield, CA 93314

**IN THE MATTER OF:** Operation of a Solid Waste Facility without a Solid Waste Facilities Permit

**ISSUSING AGENCY:** Kern County Environmental Health Services Department
Local Enforcement Agency
2700 M Street, Suite 300
Bakersfield, CA 93301

**DATE OF ISSUANCE:** May 14, 2007

**FINDINGS:**

Hondo Chemical Inc. (hereafter referenced as "Hondo"), located at 20807 Stockdale Highway, Bakersfield, California, is owned and operated by Jess Karr, doing business as Hondo Chemical Incorporated (or Unico LLC). Hondo accepts, for profit, materials that include petroleum-contaminated soil, fly ash, and petroleum-contaminated liquids such as oilfield-produced water and "tank bottoms."

Kern County Environmental Health Services Department, is the Local Enforcement Agency ("LEA") for the California Integrated Waste Management Board ("CIWMB") and has authority to issue and enforce orders pertinent to solid waste management. Laws pertinent to solid waste management are found in the California Public Resource Code (PRC), Division 30, Sections 40000 et. seq. Title 14 of the California Code of Regulations regulate management of nonhazardous ash (Sections 17375 et seq.) and nonhazardous petroleum-contaminated soil (Sections 17360 et seq.). Liquid waste is a subset of solid waste (PRC, Section 40191(a)) and is within the purview of the LEA

The Kern County Environmental Health Services Department performed an aerial survey of the Hondo site on March 1, 2007. That survey revealed significant volumes of light-colored solid material, later identified as fly ash, stored on site. It also revealed several large impoundments of liquid.

Staff from Kern County Environmental Health Services Department inspected the site on March 2, 2007. Samples were collected during the inspection and Jess Karr was interviewed about the

practices at the facility. Hondo has a large volume of fly ash that has been stored on site for over one year.

Hondo also has petroleum-contaminated soil that has been on site for over one year. Hondo is depositing unknown volumes of liquid industrial-waste into unlined impoundments; Karr identified those liquids as coming from various oil companies and co-generation facilities. Karr said their practice is to store liquid for later use to mix with and condition ash. Analyses of the liquids sampled that day reveal it to be petroleum-contaminated water with a high concentration of Total Dissolved Solids (TDS) typical of salt water co-produced from oil fields.

Hondo was issued a written inspection report and was advised against placing liquid industrial-waste into unlined impoundments. Karr agreed to "cease receipt of oily liquids or solid waste" and was given a copy of the Title 14 regulations.

An aerial survey completed on May 10, 2007 revealed liquid was still being stored in impoundments.

The LEA has determined the following conditions exist in the matter of the referenced facility:

1. Hondo has been holding fly ash on site for more than one year making the practice "disposal." This disposal has been done without authority granted by a Solid Waste Facilities permit.

2. Hondo has been holding petroleum-contaminated soil on site for more than one year making the practice "disposal." This disposal has been done without authority granted by a Solid Waste Facilities permit.

3. Hondo places liquid industrial-waste into unlined impoundments and onto the ground in a use constituting disposal. This disposal has been done without authority granted by a Solid Waste Facilities permit or a waste-discharge permit from the Regional Water Quality Control Board (RWQCB).

4. Hondo overlies an aquifer being actively recharged with potable water and is adjacent to the Kern Water Bank. Hondo's practice of placing liquid industrial-waste into impoundments poses a credible and unacceptable risk to the underlying aquifer.

5. An unknown quantity of solid waste (including liquid) has been disposed at the facility.

6. Hondo has mixed ash with petroleum-contaminated liquid having a high TDS liquid (salt water) content.

The Kern County Environmental Health Services Department acting as the LEA has the authority to order persons who are in violation of the aforementioned sections of Public Resources Code and Title 14, California Code of Regulations, to cease and desist any improper action, to clean up any solid waste, to abate the effects thereof, and to take any other necessary remedial action pursuant to Public Resources Code, Sections 45005 and 45011.

**Violations:**

Hondo is in violation of the following Statutes and Regulations:

1. Hondo is operating a solid waste facility without a Solid Waste Facilities Permit per Public Resources Code, Section 44002.

2. Hondo failed to comply with Standardized Nonhazardous Ash Solid Waste Facility requirements as set forth in Title 14, CCR, Sections 18105.1 through 18105.11.

3. Hondo failed to comply with Nonhazardous Petroleum Contaminated Soil requirements as set forth in Title 14, CCR, Sections 18105.1 through 18105.11.

**THEREFORE, PURSUANT TO PUBLIC RESOURCES CODE SECTION 45000, YOU ARE ORDERED:**

1. Immediately cease and desist receiving ash and petroleum-contaminated soil at the facility.

2. Immediately cease and desist disposing or otherwise placing industrial-waste liquids onto the ground or into unlined earthen ponds, lagoons, ditches or other impoundments at the facility. Liquids deemed necessary for a process may be placed into liquid-tight tanks for storage prior to being used in a process. Free-standing industrial-waste liquids are not allowed at the site (does not apply to storm-water).

3. By June 22, 2007, submit a Site Restoration Work Plan to the LEA proposing methods to evaluate data, gather additional data as necessary, remove all accumulated solid waste, and restore the property to its original condition and natural grade. The Site Restoration Work Plan is subject to the following conditions:

    A. The Site Restoration Work Plan shall be certified by a registered engineer or a certified engineering geologist.

    B The Site Restoration Work Plan shall detail the methodology for determining

the horizontal and vertical extent of all contamination above the groundwater.

C. If contaminant concentrations exceed current health-based action levels and/or if the Kern County Environmental Health Services Department determines that the contaminants released pose a potential threat to human health and/or the environment, the Owner/Operator or respondent shall prepare a Risk Assessment for the contaminants of concern to evaluate potential exposure for personnel and surrounding residents.

D. Concurrent with the submission of a Site Restoration Work Plan, the Owner/Operator or Respondent shall submit to the Kern County Environmental Health Services Department a Health and Safety Plan written by a qualified safety professional.

4. Within 30 days of approval by the Kern County Environmental Health Services Department, the Owner shall initiate the approved Site Restoration Work Plan.

5. All Site Restoration activities are to be completed within 365 days of the date of this order.

6. A ground water assessment per RWQCB standards may be required by the LEA or RWQCB to assess Hondo's liquid-disposal practices impact on the underlying aquifer; lead-agency designation for this requirement will be determined at a later date.

7. Every three months after initiation of restoration, submit a written report to the Kern County Environmental Health Services Department, verifying the origin, method of transport, and tonnage of all wastes removed and the location of disposal or transfer. A final report, summarizing all activities shall be submitted within 30 days following completion of restoration.

8. By June 15, 2007, provide to Kern County Environmental Health Services Department a list of all customers (with addresses, dates, and sources) that sent liquid industrial-waste to Hondo.

9. By June 15, 2007 Hondo is to provide a surveyed estimate of current volumes of fly ash and petroleum-contaminated soil at the site. This estimate is to be supported by recorded volumes of ash and petroleum-contaminated soil brought into the site.

10. By June 15, 2007 Hondo is to provide a list businesses that sent fly ash to Hondo. Hondo is to also describe the quality assurance and quality control procedures used to characterize the fly ash received.

11. Provide the Kern County Environmental Health Services Department and its representatives access at all times to the disposal site and permit such persons to inspect and copy all records, files, photographs, documents, weight receipts and/or manifests, including all sampling and monitoring data, that pertain to work undertaken pursuant to this Notice and Order and that are within the possession or under the control of the Owner or its contractors or consultants.

12. All actions taken pursuant to the requirements of this Notice and Order shall be undertaken in accordance with the requirements of all local, state, and federal laws and regulations. The Owner shall obtain or cause its representatives to obtain all permits and approvals necessary under such laws and regulations.

13. This cease and desist order shall remain in effect until the operator completes restoration and complies with Standardized Nonhazardous Ash Disposal Facility and Standardized Nonhazardous Petroleum Contaminated Soil Facility requirements and has obtained Solid Waste Facilities Permits for both operations (if they continue).

**PLEASE TAKE FURTHER NOTICE THAT PURSUANT TO PUBLIC RESOURCES CODE SECTIONS 45000, 45011, 45023, AND 48023.5,** if the above actions are not completed or requirements complied with by the specified dates, the Kern County Environmental Health Services Department may:

1. Petition the Superior Court for injunctive relief to enforce this order and to seek civil penalties not to exceed ten thousand dollars ($10,000) for each day of violation occurring after the specified date.

2. Seek administrative civil penalties up to five thousand dollars ($5,000) for each violation of a separate provision or, for continuing violations, for each day that violation continues, not to exceed $15,000 per violation in any one calendar year, against any person who intentionally or negligently violates any provision of this chapter or any applicable solid waste statute or regulation.

3. Contract for corrective action(s) and to be reimbursed for the amount the Department expends, including but not limited to, a reasonable amount for contract administration and an amount equal to the interest that would have been earned on the expended funds.

4. Request the California Integrated Waste Management Board to expend available funds to perform any cleanup, abatement or remedial work needed to protect public health and safety or the environment pursuant to Public Resources Code, Section 48020. If the California Integrated Waste Management Board expends funds to perform any cleanup, abatement, or remedial work, the California Integrated Waste Management Board may seek repayment from responsible parties pursuant to Public Resources Code, Section 48020 et seq. Moreover, funds so expended by the California Integrated Waste Management Board constitute a lien upon the real property owned by any responsible party that is subject to the remedial action, pursuant to Public Resources Code, Section 48023.5.

The Kern County Environmental Health Services Department is not liable for injuries or damages to persons or property resulting from acts or omissions by Respondents or related parties in carrying out activities pursuant to this Notice and Order, nor shall the LEA be held as a party to any contract entered into by Respondents or their agents in carrying out activities pursuant to the Notice and Order.

Nothing in this Notice and Order shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of past, current, or future operations of Hondo or its owner. Notwithstanding compliance with the terms of this Notice and Order, Hondo or its owner may be required to take further actions as are necessary to protect public health or welfare or the environment.

This Notice and Order is supported by the accompanying declaration of William O'Rullian.

This Notice and Order does not relieve the owner from complying with any other local, state and federal requirements.

This Notice and Order may be amended only in writing by an appropriate representative of the Kern County Environmental Health Services Department.

This Notice and Order supersedes any notice of violation/warning, if applicable, or any previous notice and order letters to Hondo Chemical Inc.

5/14/07
Date

Matthew Constantine, Director
ENVIRONMENTAL HEALTH SERVICES DEPARTMENT

**Right to Appeal**

Be advised that the owner/operator to whom an enforcement order has been issued by the enforcement agency may appeal the contents of the order to the Solid Waste Independent Hearing Panel in accordance with Section 44310 et seq. of the Public Resources Code.

**DECLARATION**

I declare under penalty of perjury that the following is true and correct:

1. I am duly employed as a Registered Environmental Health Specialist of the Kern County Environmental Health Services Department.

2. I am informed and believe that the findings of Notice and Order 874-07-01 are correct. The basis of my information and belief is from review of reports and interview of staff who inspected the Hondo Chemical Inc. disposal site.

Executed at 2700 M Street, Suite 300, Bakersfield, CA 93301 on May 14, 2007

Brian Pitts, Chief Registered Environmental Health Specialist
Kern County Environmental Health Services Department

WO:bp

Cc: Russel Walls, Regional Water Quality Control Board, Central Valley
Erica Weber, California Integrated Waste Management Board
Mary Madison Johnson, California Integrated Waste Management Board
Greg Pulskamp, Kern County District Attorney
John Mitchell, Kern County District Attorney
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# Attachment C

## Laboratory Results for Surface Soil Samples Collected by KCEH, August 31, 2007

February 1, 2016
Submitted by: P. Weghorst
Approved by: Paul Cook

WATER BANKING COMMITTEE

## UPDATE ON EATON PROPERTY PURCHASE

### SUMMARY:

The purchase agreement for IRWD's purchase of the Eaton Property in Palo Verde Irrigation District (PVID) requires the seller to remove approximately a one-acre site from the parcels prior to closing. Staff will provide an update on the status of the removal of this site. Other potential opportunities related to IRWD's purchase of land in PVID will also be discussed. Finally, staff will review with the Committee background information that can be used in response to inquiries about IRWD's land purchase in PVID. Staff recommends that the Committee provide input on the background information.

### BACKGROUND:

On January 11, 2016 the Board approved the purchase of the 616 acre Eaton Property within PVID. This purchase will become another element of IRWD's long-term program to increase water supply reliability for its customers during droughts and other potential water supply interruptions.

A key term in the Eaton Property purchase agreement calls for the seller to remove an approximate one-acre site from one of the parcels to be purchased by IRWD prior to the close of escrow. The removal will make the one-acre site a separate legal parcel from the land to be purchased. The seller must provide a recorded parcel map showing the removal of this site from the land to be purchased. Staff will update the Committee on the status of the seller's parcel separation efforts and provide an approximate date for closing on the property.

### Background Information:

In anticipation of receiving public inquiries into the purpose of IRWD's purchase of the Eaton Property, staff has prepared a paper that provides background on the purchase. This paper is provided as Exhibit "A". At the Committee meeting, staff will present the background information contained in the paper. Staff recommends that the Committee provide input on the information provided.

### FISCAL IMPACTS:

None.

### ENVIRONMENTAL COMPLIANCE:

Any new lands purchased for water supply purposes would be subject to compliance with the California Environmental Quality Act of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., and the State CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3. Staff has filed a Notice of Exemption for the

purchase of the Eaton Property within the Counties of Orange and Riverside. The Notice of Exemption states that the District is not presently contemplating changes in the existing use of the land and therefore no environmental impacts associated with the property acquisition are expected. The Notice of Exemption states that the District specifically conditions any proposed future change in use of the Property on subsequent CEQA compliance actions.

RECOMMENDATION:

That the Committee provide input on the background information paper related to IRWD's land ownership in Palo Verde Irrigation District.

LIST OF EXHIBITS:

Exhibit "A" – Draft Background on Irvine Ranch Water District Land Ownership within the Palo Verde Irrigation District

# EXHIBIT "A"

**DRAFT**

**Background on**
**Irvine Ranch Water District**
**Land Ownership within the Palo Verde Irrigation District**

Irvine Ranch Water District (IRWD) has purchased property in Riverside County that is located within the Palo Verde Irrigation District (PVID). Ownership of this land will become another element of IRWD's long-term program to increase water supply reliability for its customers during droughts and other potential water supply interruptions.

How can IRWD increase its water supply reliability by owning land in PVID?

- PVID, located in Riverside and Imperial Counties and adjacent to the Colorado River, has highest priority rights to water from the Colorado River in California. These priority rights will insolate PVID from being impacted by any future Colorado River supply shortages.

- As an owner of land within PVID, IRWD will participate in water conservation programs implemented by Metropolitan Water District of Southern California (MWD) and PVID, such as land fallowing, which can make water available for other uses.

- Because MWD holds the rights to any Colorado River water that is conserved within PVID, water conserved from the land owned by IRWD will benefit the MWD service area which includes IRWD.

- In the future, IRWD would work with MWD and Municipal Water District of Orange County (MWDOC) to develop mutually beneficial agreements through which IRWD would receive increased water supply reliability during periods of drought and supply interruptions in consideration of water conserved on IRWD land in PVID.

What are IRWD's plans for property purchased within PVID?

- Land purchased in early 2016 by IRWD within PVID consists of approximately 600 acres and is actively farmed by a tenant farmer.

- MWD and PVID have a land fallowing program through which water conserved when farm land is temporarily taken out of production is available to MWD; water conserved improves MWD's water supply reliability and landowners that fallow benefit financially.

- Approximately 250 acres of IRWD's 600 acres within PVID can be called upon to be fallowed in the existing MWD / PVID fallowing program.

- In the ***near term***, the land purchased by IRWD in the PVID service area would continue to be farmed essentially as it is today.
  - Tenant farm leases, which generate income for IRWD, would be maintained on the property and the farming operations would be supervised by District staff and consultants.
  - As a participant in the existing MWD / PVID fallowing program, IRWD, as a landowner, will receive fallowing payments from MWD.

- In the ***long term***, IRWD-owned land within PVID would be utilized as follows:
  - Continue to cultivate the land through tenant farm leases.
  - As a land owner, IRWD would participate in any new fallowing and other water conservation programs developed and implemented by MWD and PVID.
  - IRWD would work with MWD and MWDOC to develop mutually-beneficial programs and agreements through which IRWD would receive increased water supply reliability during periods of drought and supply interruptions in exchange for water conserved on IRWD-owned lands in PVID.

Why does IRWD's investment in property located within PVID make financial sense?

- No new infrastructure investment is necessary for IRWD to participate in the MWD / PVID fallowing program or future fallowing or on-farm conservation programs.

- Potential water supply reliability benefits associated with owning land in the PVID service area are significantly more cost-effective than other projects such as seawater desalination.

- In the event that water supply reliability benefits are not realized, IRWD retains the ability to sell its land at fair market value and pursue other water supply reliability opportunities.