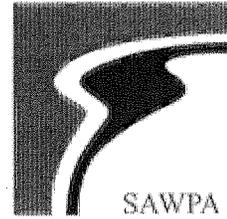


**CHINO II SARI DIRECT
USER DISCHARGE PERMIT**

SANTA ANA WATERSHED
PROJECT AUTHORITY

GENERAL MANAGER



**DIRECT USER
DISCHARGE PERMIT**

Date: February 1, 2009
Name: Chino Basin Desalter Authority
Chino II Desalter Facility
Address: 11251 Harrel Street
Mira Loma, CA 91752
Attention: Mr. Scott Burton

REFERENCE: ISSUANCE OF DIRECT USER DISCHARGE PERMIT TO THE CHINO BASIN
DESALTER AUTHORITY FOR THE CHINO II DESALTER FACILITY BY THE
SANTA ANA WATERSHED PROJECT AUTHORITY

PERMIT NO. 4D-06-S57

NAICS NO. 221310

Dear Mr. Burton:

The enclosed permit issues pollutant limitations for the industrial wastewater to be discharged from the Chino II Desalter Facility located at 11251 Harrel Street, Mira Loma, CA to the Santa Ana Regional Interceptor (SARI) Reach IV- D, for disposal. All discharges of wastewater generated at this location, and actions reports relating thereto, shall be in accordance with the terms and conditions of this permit and SAWPA Ordinance No. 5.

If you wish to appeal or challenge any discharge limitations, pretreatment requirements, or conditions imposed in this permit, a petition shall be filed for modification or reissuance of this permit in accordance with the requirements of SAWPA Ordinance No. 5 - Article 621.0, within 10 working days of the date of issuance.

“It is hereby certified that this permit was prepared based on information provided by a combination of one or more of the following sources: the user’s permit application, facts obtained during field inspections of the user’s wastewater generating activities, and additional information obtained from the user.”

Celeste Cantú
General Manager
Santa Ana Watershed Project Authority

Issued on February 1, 2009 By:

Santa Ana Watershed Project Authority
c/o Western Municipal Water District
P.O Box 5286
Riverside, CA 92517-5286

DIRECT USER DISCHARGE PERMIT NO. 4D-06-S57

Company Name and Address: Chino Basin Desalter Authority
11251 Harrel Street
Mira Loma, CA 91752

Facility Contact: Todd Minten (951) 681-7362
CDA Representative: Scott Burton (909) 395-2682

Mailing Address: 11251 Harrel Street
Mira Loma, CA 91752

In accordance with the provisions of SAWPA Ordinance No. 5, the above listed agency (permittee) is hereby authorized to discharge industrial wastewater from 11251 Harrel Street., Mira Loma, CA to the **SARI System**, in accordance with the discharge limitations, monitoring requirements, and other conditions set forth in this permit. Compliance with this permit does not relieve the permittee of its obligation to comply with SAWPA's and the Orange County Sanitation District (OCSD) wastewater regulations, all pretreatment regulations, standards or requirements under local, State and Federal laws, including any such laws, regulations, standards, or requirements that may become effective during the term of this permit. OCSD is the owner operator of the Publicly Owned Treatment Works (POTW) and is recognized as the Control Authority by Federal Regulation 40CFR 403.12(a).

Noncompliance with the terms and conditions of this permit shall constitute a violation of the requirements of SAWPA Ordinance No. 5, and shall subject the permittee to applicable enforcement actions.

This permit shall become effective on: February 1, 2009

and shall expire at midnight on: January 31, 2011

The permittee shall not discharge any industrial wastewater after the date of expiration. If the permittee wishes to continue discharging wastewater to the SARI System after the expiration date, an application must be filed for reissuance of this permit in accordance with the requirements of SAWPA Ordinance No. 5.

BY: _____



Celeste Cantú
General Manager

February 1, 2009

PART 1 - DISCHARGE REQUIREMENTS

- A. During the period of **February 1, 2009, to midnight of January 31, 2011**, the permittee is authorized to discharge the industrial wastewater specified in **Part 1-C**, through the sample location, listed below, to the SARI System.

Outfall Location(s)	Description:
001	Fifteen (15) inch sewer lateral located at 11251 Harrel Street on the East side of the property, which discharges into the District's sewer system and is tributary to the Etiwanda Metering Station connection the SARI.
002	Eight (8) inch sewer lateral located at 11251 Harrel Street on the West side of the property, which discharges into the District's sewer system and is tributary to the Wineville Metering Station connection to the SARI.

Sample Location(s)	Description:
001	Manhole in Jurupa Community Service District (JCSD) service yard Northeast of fuel tanks.
002	Flow Monitoring Manhole on West side of JCSD service yard.

- B. During the period of **February 1, 2009, to midnight of January 31, 2011**, the industrial wastewater discharged from this location, shall not exceed the discharge limitations specified in the Discharge Limitation Table (page 4).
- C. **The Chino Basin Desalter Authority is permitted to discharge high strength brine wastewater from the reverse osmosis and ion exchange units at the Chino II Desalter Facility to the SARI connection which discharges to the SARI System.**
1. Chino Basin Desalter Authority is required to utilize the equalization tank downstream of the ion exchange unit that discharges to the Wineville Metering Station SARI connection to ensure there is continuous discharge.
 2. The wastewater(s) discharged from the permitted processes are required to meet the discharge requirements specified in the Discharge Limitation Table (page 4).
 3. The Chino Basin Desalter Authority is required to notify the SAWPA representative of any planned process changes or other modifications which will alter the amount of or pollutant strength of any wastewater which is discharged to the SARI System, 30 days prior to the actual implementation of the changes.

DISCHARGE LIMITATION TABLE
For Sample Locations 001 & 002

POLLUTANT	LOCAL LIMIT Daily Maximum (mg/L)	CATEGORICAL LIMIT, (mg/L)		DAILY MAXIMUM (Lbs./Day)	MONTHLY AVERAGE (Lbs./Day)
		Maximum for any 1 day	Monthly Average Shall Not Exceed		
Flow (Continuously)	1.80 MGD	-	-	-	-
pH ¹	6.0 - 12.0	-	-	-	-
Biological Oxygen Demand -BOD	-	-	-	15,000	10,000
Total Suspended Solids - TSS	-	-	-	-	-
Arsenic	2.0	-	-	-	-
Cadmium (Total)	1.0	-	-	-	-
Chromium (Total)	2.0	-	-	-	-
Copper (Total)	3.0	-	-	-	-
Lead (Total)	2.0	-	-	-	-
Mercury	0.03	-	-	-	-
Nickel (Total)	10.0	-	-	-	-
Silver (Total)	5.0	-	-	-	-
Zinc (Total)	10.0	-	-	-	-
Cyanide (Total)	5.0	-	-	-	-
Cyanide (Amenable)	1.0	-	-	-	-
Polychlorinated Biphenyls	0.01	-	-	-	-
Pesticides	0.01	-	-	-	-
Total Toxic Organics	0.58	-	-	-	-
Sulfide (Total)	5.0	-	-	-	-
Sulfide (Dissolved)	0.5	-	-	-	-
Oil/Grease (Mineral/Petroleum)	100.0	-	-	-	-

¹ pH equals the negative log of the hydrogen ion concentration.

PART 2 - MONITORING REQUIREMENTS

A. From the period beginning on the effective date of the permit until midnight on January 31, 2011, the permittee shall monitor the wastewater to be discharged to the SARI System from the designated sample locations (001 & 002) stated in Part 1, for the following pollutants, at the indicated frequency. All required monitoring shall be completed within the **FIRST MONTH OF THE, SECOND, AND FOURTH QUARTERS**, (April, and October), to ensure meeting reporting requirements.

POLLUTANT	FREQUENCY	SAMPLE TYPE
Flow	Continuously	Flow Meter
pH ¹	Semi-Annual	Grab
Biological Oxygen Demand - BOD	Semi-Annual	Composite
Total Suspended Solids - TSS	Semi-Annual	Composite
Arsenic	Semi-Annual	Composite
Cadmium	Semi-Annual	Composite
Chromium (Total)	Semi-Annual	Composite
Copper	Semi-Annual	Composite
Lead	Semi-Annual	Composite
Mercury	Semi-Annual	Composite
Nickel	Semi-Annual	Composite
Silver	Semi-Annual	Composite
Zinc	Semi-Annual	Composite
Cyanide (Total)	N/A	N/A
Cyanide (Amenable)	N/A	N/A
Polychlorinated Biphenyls	N/A	N/A
Pesticides	N/A	N/A
Total Dissolved Solids	Semi-Annual	Composite
Sulfide (Total)	Semi-Annual	Grab
Sulfide (Dissolved)	Semi-Annual	Grab
Oil and Grease (Mineral/Petroleum)	N/A	N/A
Total Hardness	Semi-Annual	Composite
Volatile Suspended Solids - VSS	Semi-Annual	Composite
Silica	Semi-Annual	Composite

¹ pH equals the negative log of the hydrogen ion concentration.

PART 2 - MONITORING REQUIREMENTS (Cont.)

- B.** All handling and preservation of collected samples and laboratory analyses of samples shall be performed in accordance with 40 CFR, Part 136, and amendments thereto unless specified otherwise in the monitoring conditions of this permit. If the Direct Discharger chooses to perform self monitoring, in lieu of a contracted laboratory, a report detailing the sample collection and preservation procedures must be submitted to **SAWPA** for review and approval. Samples collected by the Direct Discharger prior to **SAWPA** approval of the SOP will be considered invalid.

- C.** Monitoring of the industrial wastewater discharged from the Chino II Desalter Facility shall be conducted at the sampling location described in Part 1.

**SANTA ANA WATERSHED PROJECT AUTHORITY
CHINO II DESALTER SARI CONNECTION
11251 Harrel St.
Mira Loma, CA 91752**

See copy of facility site plan

PART 3 - REPORTING REQUIREMENTS

A. MONITORING REPORTS

All required monitoring results shall be summarized and reported on a **DIRECT DISCHARGER MONITORING REPORT FORM provided by SAWPA**. This report form shall indicate the compliance status and concentration and/or mass value of all pollutants in the wastewater for which sampling and analyses were performed. The Monitoring Report Form includes the following:

- a. **Certified Laboratory Report**
- b. **Flow Monitoring Report Form**
- c. **Signed Certified Statement Form**

All applications, reports, or information submitted to **SAWPA** must include a **Signed Certified Statement**.

All required Semi-Annual, monitoring reports shall be submitted to SAWPA no later than the last day of the second month of the Second, and Fourth Quarter (May, and November). Failure to submit the required Reporting Forms shall result in the permittee being in violation of their Direct User Discharge Permit. Any incomplete monitoring results shall be returned to the permittee for completion. If the monitoring results are not submitted within 30 days of the due date, the permittee shall be considered in Significant Noncompliance (SNC) and a Notice of Violation (NOV) will be issued. **If no flow of wastewater effluent to the SARI System occurred during the monitoring period, a letter stating this fact shall be submitted to SAWPA in lieu of the required monitoring report.**

B. ADDITIONAL MONITORING

If the permittee monitors any pollutant more frequently than required by this permit, the permittee shall use test procedures prescribed in 40 CFR, Part 136, or amendments thereto, or otherwise approved by EPA or as specified in this permit. The results of such monitoring shall be reported as required in Part 3A above. All additional monitoring reports for samples collected during each quarter are required to be submitted to **SAWPA** no later than the last day of the specific quarter (March, June, September, December).

C. AUTOMATIC RESAMPLING

If the results of the permittee's wastewater analyses indicate a violation has occurred, the permittee must:

1. Notify **SAWPA** of the violation within 24 hours of receiving such results from the laboratory.
2. Repeat the sampling and analysis of the pollutant(s) found to be in violation, and submit in writing, within 30 days of the first violation, the results of this second analysis along with the reason(s) for the pollutant violation(s), and corrective actions that will be completed to avoid non-compliance with the wastewater discharged to the SARI System.

PART 3 - REPORTING REQUIREMENTS (Cont.)

D. ACCIDENTAL DISCHARGE REPORT

The permittee shall notify SAWPA immediately upon occurrence of an accidental discharge of substances prohibited by SAWPA Ordinance No. 5 (Article 523.0), or any slug loads or spills that may commingle with the wastewater which is discharged to the SARI System. In the event of a spill, Orange County Sanitation District (OCSD) shall be notified immediately by telephone at one of the following: **RWQCB Office (951) 782-4130, RWQCB Fax (951) 781-6288, OCSD Control Center (714) 593-7025, OCSD Source Control Manager (714) 593-7410 and Western Municipal Water District (WMWD) shall be notified at (951) 789-5000 or the 24 Hour Emergency Number (951) 789-5109. During normal business hours, SAWPA shall be notified by telephone at (951) 354-4220.** A written report detailing the date and time of the discharge, location of discharge, the type of waste, including concentration and volume, and any corrective actions taken must be received by WMWD within five (5) working days of the spill. The notification of the accidental release, in accordance with this section, does not relieve the permittee from the reporting requirements of local, State, or Federal laws. The report shall specify the following:

1. Description and cause of the upset, slug or accidental discharge, the cause thereof, and the impact on the permittee's compliance status. The description shall also include the location of the discharge, type, concentration and volume of waste.
2. Duration of noncompliance including exact dates and times of noncompliance, and if noncompliance continues, the time by which compliance is reasonably expected to occur.
3. All steps taken or to be taken to reduce, eliminate, and prevent recurrence of such an upset, slug, accidental discharge, or other conditions of noncompliance.

E. All reports required by this permit shall be submitted to the Santa Ana Watershed Project Authority at the following address:

**Santa Ana Watershed Project Authority
c/o Western Municipal Water District
Attention: Pretreatment Division
P.O Box 5286
Riverside, CA 92517-5286**

PART 4 - STANDARD CONDITIONS

A. GENERAL PROHIBITIONS

Permittee is required to comply with the general prohibitions and limits on discharges set forth in Article 2 of SAWPA's Ordinance:

1. Prohibited Discharges
2. Prohibition on Dilution
3. Limitations on Surface Runoff and Groundwater
4. Limitations on Unpolluted Water
5. Prohibition on Domestic Wastewater and Septage Waste
6. Limitations on Radioactive Waste
7. Prohibition on the Use of Grinders
8. Limitations on Point of Discharge
9. Limitations on Wastewater Strength and Characteristics
10. Prohibition on Infectious Waste
11. Limitations on Disposal of Spent Solutions and Sludges

B. CIVIL PENALTIES

Any person who violates any provision of SAWPA's Ordinance; or any permit condition, prohibition or effluent limitation; or any suspension or revocation order shall be liable for a civil penalty pursuant to Article 6 of SAWPA's Ordinance, for each day on which such violation occurs.

C. CRIMINAL PENALTIES

Any person who violates any provision of SAWPA's Ordinance or any permit condition, prohibition or effluent limit, is guilty of a misdemeanor, which upon conviction is punishable by a fine not to exceed one thousand dollars (\$1,000), or imprisonment for not more than six (6) months in jail or both. Each day in violation constitutes a new and separate violation and shall be subject to the penalties contained herein.

D. ENFORCEMENT

Specific enforcement provisions have been adopted by SAWPA to govern discharges to the SARI system by all discharge Permittees. These are outlined in Article 6 of SAWPA's Ordinance.

PART 4 - STANDARD CONDITIONS (Cont.)

E. DUTY TO COMPLY

The permittee is required to comply with all regulations and discharge limits in SAWPA's Ordinance and any attachments to this permit.

F. SEVERABILITY

The provisions of this permit are severable. If any provisions of those permit limits and/or requirements, or the application thereof, to the Permittee is held invalid, the remainder of the permit limits and/or requirements shall remain in full force and effect.

G. PERMIT TRANSFER PROHIBITIONS

Permits issued under SAWPA's Ordinance are for a specific user, for a specific operation at a specific location, and create no vested rights. Discharge permits, their concentration limits or their mass emission rates shall not be transferred for an operation at a different location.

H. PERMITS - CHANGE OF OWNERSHIP

Except as expressly authorized in writing by SAWPA, the permit shall be void upon the sale or transfer of ownership for which this permit is issued. The Permittee shall notify SAWPA in writing 60 days prior to the transfer of ownership and shall give a copy of the existing permit to the new owner or operator.

I. FEES

Member agencies shall pay to SAWPA all user charges and associated fees as outlined in Article 3 of SAWPA's Ordinance, and associated resolutions.

J. PERMIT TYPE

Class I Wastewater Discharge Permit (Direct – Non-domestic).

K. PERMIT DURATION

Class I permits, as described in Article 4 of SAWPA's Ordinance, shall be issued for a period not to exceed three years. Ninety days prior to expiration of the permit, the Permittee shall apply for renewal of the permit in accordance with Article 4 of SAWPA's Ordinance. At that time, SAWPA will review the file, determine any new or modified conditions, and then a permit may be re-issued.

PART 4 - STANDARD CONDITIONS (Cont.)

L. INSPECTION AND SAMPLING CONDITIONS

SAWPA, OCSD Western Municipal Water District (WMWD), and/or other representatives authorized by SAWPA may inspect the wastewater generating and disposal facilities and sample the discharge of any Permittee to ascertain whether the intent of the Ordinance is being met and the Permittee is complying with all requirements.

SAWPA, WMWD, OCSD, and/or other representatives authorized by SAWPA shall have the right to set up on the Permittee's property such devices as are necessary to conduct sampling or metering operations. Where a Permittee has security measures in force, the Permittee shall make necessary arrangements to insure that personnel from SAWPA, WMWD, OCSD, and/or other representatives will be permitted to enter without delay for the purpose of performing their specific responsibilities.

Persons or occupants of premises where wastewater is created or discharged shall allow SAWPA, WMWD, OCSD, and/or other representatives authorized by SAWPA reasonable access during the normal working day to all parts of the wastewater generating and disposal facilities for the purposes of inspection and sampling.

M. OTHER CONDITIONS

1. Permittee is required to comply with all regulations and discharge limits in SAWPA's Ordinance and any attachments to this permit.
2. Permittee shall maintain records of waste hauling, reclamations, wastewater pretreatment, monitoring device, recording charts, calibration reports, effluent flow and sample analysis data on the site of the wastewater generation. All records are subject to inspection and shall be copied as needed. **All records must be kept on the site of wastewater generation for a minimum period of three years.** The records retention period may be extended beyond three years in the event criminal or civil action is taken or an extensive company history is required.
3. The terms and conditions of an issued permit may be subject to modification by SAWPA during the life of the permit. The Permittee shall be informed of any change in the permit limitations, conditions or requirements at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.
4. The Permittee is hereby made aware that the strength of the wastewater discharged to the SARI may result in a surcharge fee in addition to the volumetric fee. Please check with the member agency for details regarding BOD and TSS surcharge fees.

PART 5 – SPECIAL CONDITIONS

- A. Chino II Desalter Facility is authorized to discharge high strength brine wastewater from the reverse osmosis and ion exchange units to the SARI line from the facility located at 11251 Harrel St., Mira Loma, CA 91752.
- B. Permittee shall reimburse SAWPA, WMWD, OCS D for all costs incurred as a result of any enforcement action.
- C. **EMERGENCY CONTACT LIST AND CONTINGENCY PLAN TO CEASE THE DISCHARGE TO THE SARI LINE**
 - 1. The Permittee shall provide SAWPA, on a Bi-Annual basis (January and June), a list containing the names and phone numbers of contacts who can be reached 24 hours a day in the event of an emergency with the SARI Line discharge.
 - 2. The Permittee shall develop and annually (January) submit to SAWPA a Contingency Plan to either cease discharge to the SARI Line, or reroute the discharge to the local POTW or other approved alternative.

PART 6 - COMPLIANCE SCHEDULES

A. COMPLIANCE SCHEDULE PROGRESS REPORTS

When required, compliance schedule progress reports shall be submitted at a minimum frequency of every 30 days until compliance with discharge requirements or SAWPA Ordinance No. 5 are obtained. These reports shall contain dates for pretreatment equipment design completion, building permit submittal date, construction starting date, construction updates, construction completion date, employee training completion date, date of achieving final compliance, and/or any other required information. Samples may be required to be collected to demonstrate compliance. The samples shall be collected in accordance with the requirements of this permit.

B. COMPLIANCE SCHEDULE REPORTING

No later than on the respective compliance schedule dates, the permittee shall submit to SAWPA a report including, at a minimum, whether or not it complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with the increment of progress, the reasons for delay, and the steps being taken to return the project to the schedule established. In no case shall any milestone in the compliance schedule exceed nine months.

**SARI PURCHASE AGREEMENTS
FOR CHINO I AND CHINO II**

MEMORANDUM

BOARD MEETING DATE: May 11, 2004

TO: CDA BOARD MEMBERS

FROM: CRAIG PARKER, CDA PROJECT MANAGER

**SUBJECT: PURCHASE OF SANTA ANA REGIONAL INTERCEPTOR (SARI)
CAPACITY FOR THE CHINO I DESALTER AND THE CHINO II
DESALTER**

RECOMMENDATION:

1. Authorize the purchase of SARI pipeline, treatment and disposal capacity rights from the Inland Empire Utilities Agency (IEUA) as specified below:
 - (a) 0.484 MGD pipeline and 0.75 MGD treatment and disposal capacity right for the Chino I Desalter in a not to exceed amount of \$4,140,000.00; and
 - (b) 1.62 MGD pipeline and 1.30 MGD treatment and disposal capacity right for the Chino II Desalter in a not to exceed amount of \$10,105,000.00; and
2. Authorize the CDA Treasurer to execute the agreements.

BACKGROUND:

The Chino I Desalter Expansion and Chino II Desalter Project will increase the Chino I Desalter flow capacity by five (5) million gallons per day (MGD) and the Chino II Desalter will provide a new flow capacity of 10 MGD. However, in order to produce potable water, the reverse osmosis and ion exchange technologies produce a waste stream that may not be discharged to the normal wastewater sewer due to high total dissolved solids (TDS). The SARI line will allow the discharge of the above waste stream.

ISSUES/ANALYSIS:

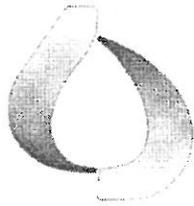
Due to IEUA having extra SARI capacity rights, IEUA has offered to sell the CDA SARI capacity rights for the Chino I Desalter and the Chino II Desalter. IEUA is offering to sell pipeline capacity rights at \$3,750,000 per MGD and treatment and disposal capacity rights at \$3,100,000 per MGD. The agreements allow the CDA to sell back the capacity to IEUA within ten years.

It should be noted that IEUA is allowing the CDA to temporarily use 0.32 MGD of additional treatment and disposal capacity rights to that purchased herein for free until

IEUA obtains additional treatment and disposal capacity rights in 2008. IEUA is able to accommodate the CDA with this temporary use due to actual flows being lower than capacity rights owned. The CDA will have the right of first purchase for up to an additional 0.32 MGD at the rate established herein when IEUA obtains additional rights in 2008.

The Santa Ana Watershed Project Authority (SAWPA) and Western Municipal Water District (WMWD) have approved the sale of the Chino II Desalter SARI capacity rights. This was necessary due to the Chino II Desalter being outside the boundaries of IEUA.

The project team has reviewed the cost associated with the purchase of the SARI capacity rights and has determined that they are justifiable.



Inland Empire
UTILITIES AGENCY

**CAPACITY TRANSFER AND SALES
AGREEMENT NUMBER: AKB04009
BY AND BETWEEN THE INLAND EMPIRE UTILITIES AGENCY
AND THE CHINO BASIN DESALTER AUTHORITY REGARDING USE OF
THE SANTA ANA REGIONAL INTERCEPTOR (SARI) PIPELINE, TREATMENT
AND DISPOSAL CAPACITY**

THIS AGREEMENT (the "Agreement"), is made and entered into this 21 day of April, 2004, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California, (hereinafter referred to as "IEUA"); and The Chino Basin Desalter Authority, a Joint Powers Authority, organized and existing in the County of San Bernardino (hereinafter referred to as "CDA") for the right to use of the SARI pipeline capacity, and treatment and disposal capacity for the Chino 1 Desalter. For purposes of this Agreement, IEUA and CDA are sometimes referred to individually as the "Party," or collectively as the "Parties."

RECITALS

WHEREAS, the CDA currently has 1.566 million gallons per day (hereinafter referred to as "MGD") of pipeline capacity rights and 1.3 MGD of treatment and disposal capacity rights in the SARI system for brine disposal purposes. The above said capacity rights are designated to the Chino 1 Desalter for discharge of brine waste water to the SARI system.

WHEREAS, IEUA owns additional SARI pipeline capacity rights, and treatment and disposal capacity rights, which IEUA has allowed the CDA Chino 1 Desalter to use for brine disposal purposes when the volume of such brine disposal has exceeded its current contracted capacity.

WHEREAS, IEUA desires to now sell to CDA for Chino 1 Desalter, 0.484 MGD of pipeline capacity rights and 0.75 MGD of treatment and disposal capacity rights in the SARI system to cover the CDA' s disposal needs due to the Chino 1 Desalter' s expansion.

NOW, THEREFORE, in consideration of the foregoing Recitals, which Recitals are incorporated herein by this reference and on the mutual covenants set forth herein, the parties agree as follows:

1. CONTACTS: Questions concerning this Agreement shall be addressed to the following points of contact for each Party.

IEUA: Pari Dezhnam
Manager of Environmental Compliance
6075 Kimball Avenue, Building B
Chino, California 91710
(909) 993-1650
Fax (909) 597-8702
pdezham@ieua.org

CDA: Tom O' Neil
Operations Manager
11201 Harrel Street
Mira Loma, California 91752
(909) 685-7434
Fax (909) 685-1153
toneil@jcsd.us

2. PURCHASE AND SALE: IEUA hereby sells, transfers, and conveys to CDA for the Chino 1 Desalter, all rights, title, and interest to **0.484 MGD** of pipeline capacity and **0.75 MGD** of treatment and disposal capacity in the SARI system. CDA agrees to purchase and accept from IEUA such rights, title and interest of IEUA in the SARI pipeline, and treatment and disposal capacity for the purchase prices listed below, in Section 3.

CDA shall be allowed to sell back to IEUA, only the capacity purchased herein, under the following conditions:

- that the CDA can demonstrate (volumetric readings) that the capacity the CDA desires to sell back to IEUA, has not been used or required for a period of one consecutive year, prior to the time of the request to sell back the capacity;
- the minimum increments for sell back will be 100,000 gallon allocations;
- the sell back price shall be the same as the purchase price designated herein, prorated accordingly; and,
- the sell back period shall be from year two to year eleven, a ten-year term.

3. PURCHASE PRICE:

A. The Purchase Price for the SARI pipeline capacity rights is established at Three Million Seven Hundred Fifty Thousand Dollars (\$3,750,000) per MGD. The Purchase Price for **0.484 MGD** of pipeline capacity rights is One Million Eight Hundred Fifteen Thousand Dollars (**\$1,815,000**).

B. The Purchase Price for the SARI treatment and disposal capacity rights is established at Three Million One Hundred Thousand Dollars (\$3,100,000) per MGD. The Purchase Price for **0.75 MGD** of treatment and disposal capacity rights is Two Million Three Hundred Twenty-Five Thousand Dollars (**\$2,325,000**).

4. COST TO DISCHARGE AND SERVICE CHARGES: Following the acquisition of the pipeline, and treatment and disposal capacity, CDA shall pay to IEUA, on a monthly basis, any costs incurred by IEUA from the Santa Ana Water Project Authority (SAWPA), for volumetric and fixed cost for said capacity, as a pass-through cost. The pass-through costs may include, but shall not be limited to, SAWPA fees for SARI system O&M, administrative and overhead costs, and all other component costs related to the SARI system as established from time-to-time by the Orange County Sanitation District (OCS D) and/or the SAWPA Commission.
5. TERMS OF PAYMENT: The Purchase Price for the capacity rights shall be paid in cash by CDA to IEUA in accordance with the following payment schedule:

- First payment of \$1,380,000.00 due thirty (30) calendar days after execution of this Agreement;
- Second payment of \$1,380,000.00 due one hundred twenty (120) calendar days after execution of this Agreement; and,
- Third payment of \$1,380,000.00 due two hundred forty (240) calendar days after execution of this Agreement.

Payment for the **pass-through costs** incurred by IEUA shall be billed monthly to CDA. CDA shall pay IEUA's invoice within thirty (30) calendar days from receipt of invoice. Late payment penalties shall apply at the interest rate of one and one-half percent (1½%) on outstanding balances per thirty (30) calendar days.

6. **QUALITY STANDARDS:** The quality of wastewater discharged by CDA into the SARI System shall at all times, comply with the quality standards mandated by OCSD and/or the SAWPA Commission.
7. **WAIVER:** The waiver of any particular breach or default shall not be deemed a waiver of any subsequent breach or default. Waiver by either Party of the time for performing any act shall not constitute a waiver of the time for performing any other act or identical act required to be performed.
8. **NOTICES:** Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Cameron B. Langner, Manager of Contracts, Procurement
and Facilities Management
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, California 91709

CDA: Larry S. Rudder, Treasurer
c/o Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, CA 91709

Any notice given hereunder shall be deemed effective in the case of personal delivery, upon receipt thereof, or, in the case of mailing, at the moment of deposit in the course of transmission with the United States Postal Service.

9. **SUCCESSORS AND ASSIGNS:** All of the terms, conditions and provisions of this Agreement shall inure to the benefit of and be binding upon the Agency, the CDA, and their respective successors and assigns. Notwithstanding the foregoing, no assignment of the duties or benefits of the CDA under this Agreement may be assigned, transferred or otherwise disposed of without the prior written consent of the Agency; and any such purported or attempted assignment, transfer or disposal without the prior written consent of the Agency shall be null, void, and of no legal effect whatsoever.
10. **INTEGRATION:** This Agreement represent the entire Agreement of the Agency and the CDA as to those matters contained herein. No prior oral or written understanding shall be of any

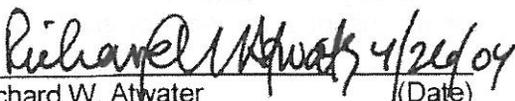
force or effect with respect to those matters covered by this Agreement. This Agreement may not be modified, altered or amended except by written mutual agreement by the Agency and the CDA.

11. COOPERATION: Each and every Party to this Agreement shall undertake every reasonable and good faith effort to assure the timely and proper performance of the terms, conditions and covenants hereof.
12. TIME IS OF THE ESSENCE: Time is of the essence of each provision of this Agreement.
13. MISCELLANEOUS PROVISIONS:
 - A. Each individual executing this Agreement on behalf of a public agency or joint powers authority represents and warrants that he or she is duly authorized to execute and deliver this Agreement on behalf of such public agency or joint powers authority in accordance with authority granted under the governance of such entity, that all conditions to the exercise of such authority have been satisfied, and that this Agreement is binding upon such entity in accordance with its terms.
 - B. If any term, provision, condition or covenant of this Agreement or the application thereof to any party or circumstances shall, to any extent, be held invalid or unenforceable, the remainder of this instrument, or the application of such term, provision, condition or covenant to persons or circumstances other than those as to whom or which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.
 - C. For the purposes of this Agreement, "cash" shall be deemed to mean cash, wired funds, cashier's check, certified check or other certified funds; unless specifically identified as "business days," the word "days" shall be deemed to mean calendar days.
14. GOVERNING LAW: This Agreement is to be governed by and constructed in accordance with the laws of the State of California and under the jurisdiction of the Superior Court of the State of California located in San Bernardino County.
15. FORCE MAJEURE: Neither party shall hold the other responsible for the effects of acts occurring beyond their control; e.g., war, riots, strikes, natural disasters.

IN WITNESS WHEREOF, the parties hereto have caused the Agreement to be entered as of the day and year written above.

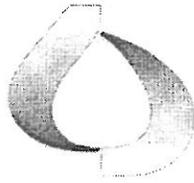
INLAND EMPIRE UTILITIES AGENCY

CHINO BASIN DESALTER AUTHORITY


Richard W. Atwater
Chief Executive Officer
General Manager

Larry S. Rudder
Treasurer

(Date)



Inland Empire
UTILITIES AGENCY

**CAPACITY TRANSFER AND SALES
AGREEMENT NUMBER: AKB04010**

**BY AND BETWEEN THE INLAND EMPIRE UTILITIES AGENCY
AND THE CHINO BASIN DESALTER AUTHORITY REGARDING USE OF
THE SANTA ANA REGIONAL INTERCEPTOR (SARI) PIPELINE, TREATMENT
AND DISPOSAL CAPACITY**

THIS AGREEMENT (the "Agreement"), is made and entered into this 21 day of April, 2004, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California, (hereinafter referred to as "IEUA"); and The Chino Basin Desalter Authority, a Joint Powers Authority, organized and existing in the County of San Bernardino (hereinafter referred to as "CDA") for the use of the SARI pipeline, and treatment and disposal capacity for the Chino 2 Desalter. For purposes of this Agreement, IEUA and CDA are sometimes referred to individually as the "Party," or collectively as the "Parties."

RECITALS

WHEREAS, the CDA Chino 2 Desalter desires to secure pipeline capacity rights and treatment and disposal capacity rights in the SARI system for brine disposal purposes.

WHEREAS, IEUA owns additional SARI pipeline capacity rights, and treatment and disposal capacity rights, which is available for transfer and sale to the CDA for the Chino 2 Desalter.

WHEREAS, IEUA desires to now sell to CDA for Chino 2 Desalter, 1.62 MGD of pipeline capacity rights and 1.30 MGD of treatment and disposal capacity rights in the SARI system to cover the CDA's disposal needs for the Chino 2 Desalter. CDA may use up to 0.32 MGD of IEUA's unused treatment and disposal capacity in addition to that purchased herein, if needed. However, upon the release of the California Institute for Women (CIW) assigned treatment and disposal capacity rights, CDA will have the right of first purchase for up to an additional 0.32 MGD at the rate established herein. Once CIW's assigned treatment and disposal capacity is released for sale, IEUA's unused treatment and disposal capacity will no longer be available for use by the CDA.

NOW, THEREFORE, in consideration of the foregoing Recitals, which Recitals are incorporated herein by this reference and on the mutual covenants set forth herein, the parties agree as follows:

1. **CONTACTS:** Questions concerning this Agreement shall be addressed to the following points of contact for each Party.

IEUA: Pari Dezhm, Manager of Environmental Compliance
6075 Kimball Avenue, Building B
Chino, California 91710
(909) 993-1650
Fax (909) 597-8702
pdezham@ieua.org

CDA: Tom O' Neil, Operations Manager
11201 Harrel Street
Mira Loma, California 91752
(909) 685-7434
Fax (909) 685-1153
toneil@jcsd.us

2. PURCHASE AND SALE: IEUA hereby sells, transfers, and conveys to CDA for the Chino 2 Desalter, all right, title, and interest to **1.62 MGD** of pipeline capacity and **1.30 MGD** of treatment and disposal capacity in the SARI system. CDA agrees to purchase and accept from IEUA such rights, title and interest of IEUA in the SARI pipeline, and treatment and disposal capacity for the purchase prices listed below, in Section 3. CDA shall have first purchase option for an additional 0.32 MGD of treatment and disposal capacity, upon the release of such capacity by CIW.

CDA shall be allowed to sell back to IEUA, only the capacity purchased herein, under the following conditions:

- i. that the CDA can demonstrate (volumetric readings) that the capacity the CDA desires to sell back to IEUA, has not been used or required for a period of one consecutive year, prior to the time of the request to sell back the capacity;
- ii. the minimum increments for sell back will be 100,000 gallon allocations;
- iii. the sell back price shall be the same as the purchase price designated herein, prorated accordingly; and,
- iv. the sell back period shall be from year two to year eleven, a ten-year term.

3. PURCHASE PRICE:

A. The Purchase Price for the SARI pipeline capacity is established at Three Million Seven Hundred Fifty Thousand Dollars (\$3,750,000) per MGD. The Purchase Price for **1.62 MGD** is Six Million Seventy-Five Thousand Dollars (**\$6,075,000**).

B. The Purchase Price for the SARI treatment and disposal capacity is established at Three Million One Hundred Thousand Dollars (\$3,100,000) per MGD. The Purchase Price for **1.30 MGD** of treatment and disposal capacity is Four Million Thirty Thousand Dollars (**\$4,030,000**).

4. COST TO DISCHARGE AND SERVICE CHARGES: Following the acquisition of the pipeline, and treatment and disposal capacity, CDA shall pay to IEUA, on a monthly basis, any costs incurred by IEUA from the Santa Ana Water Project Authority (SAWPA), for volumetric and fixed cost for said capacity, as a pass-through cost. The pass-through costs may include, but shall not be limited to, SAWPA fees for SARI system O&M, administrative and overhead costs, and all other component costs related to the SARI system as established from time-to-time by the Orange County Sanitation District (OCSD) and/or the SAWPA Commission.

5. TERMS OF PAYMENT: The Purchase Price for the capacity shall be paid in cash by CDA to IEUA in accordance with the following payment schedule:

- First payment of \$3,368,333.33 is due thirty (30) calendar days after execution of this Agreement;

- Second payment of \$3,368,333.33 is due one hundred twenty (120) calendar days after execution of this Agreement; and,
- Third payment of \$3,368,333.34 is due two hundred forty (240) calendar days after execution of this Agreement.

Payment for the **pass-through costs** incurred by IEUA shall be billed monthly to CDA. CDA shall pay IEUA's invoice within thirty (30) calendar days from receipt of invoice. Late payment penalties shall apply at the interest rate of one and one-half percent (1½%) on outstanding balances per thirty (30) calendar days.

6. QUALITY STANDARDS: The quality of wastewater discharged by CDA into the SARI System shall at all times, comply with the quality standards mandated by OCSD and/or the SAWPA Commission.
7. WAIVER: The waiver of any particular breach or default shall not be deemed a waiver of any subsequent breach or default. Waiver by either Party of the time for performing any act shall not constitute a waiver of the time for performing any other act or identical act required to be performed.
8. NOTICES: Any notice may be served upon either party by delivering it in person, or by depositing it in a United States Mail deposit box with the postage thereon fully prepaid, and addressed to the party at the address set forth below:

Agency: Cameron B. Langner, Manager of Contracts, Procurement
and Facilities Management
Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, California 91709

CDA: Larry S. Rudder, Treasurer
c/o Inland Empire Utilities Agency
P.O. Box 9020
Chino Hills, CA 91709

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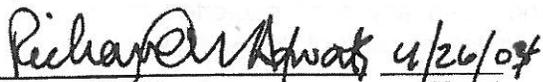
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 - B. If any term, provision, condition or covenant of this Agreement or the application thereof to any party or circumstances shall, to any extent, be held invalid or unenforceable, the remainder of this instrument, or the application of such term, provision, condition or covenant to persons or circumstances other than those as to whom or which it is held invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.
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INLAND EMPIRE UTILITIES AGENCY

CHINO BASIN DESALTER AUTHORITY

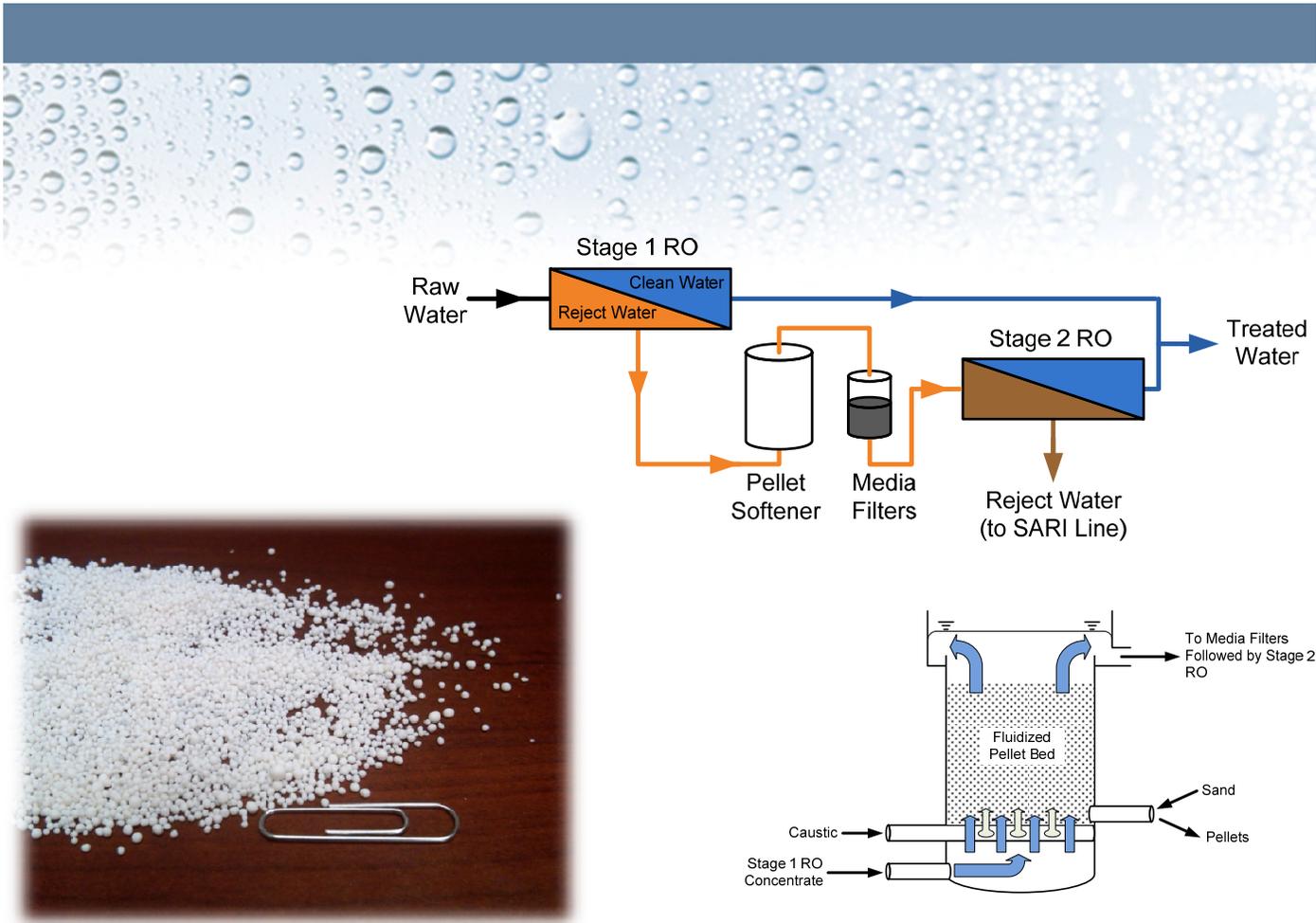

Richard W. Atwater
Chief Executive Officer
General Manager

(Date)

Larry S. Rudder
Treasurer

(Date)

PELLET MARKET SURVEY



Market Survey for the Softening Pellets to be Generated at the Chino II Desalter

Project Report

Prepared for

Western Municipal Water District
 City of Ontario
 Jurupa Community Services District
 Chino Basin Desalter Authority



October 15, 2010

MARKET SURVEY FOR THE SOFTENING PELLETS TO BE GENERATED AT THE CHINO II DESALTER

PROJECT REPORT

PREPARED FOR:

**WESTERN MUNICIPAL WATER DISTRICT
CITY OF ONTARIO
JURUPA COMMUNITY SERVICES DISTRICT
CHINO BASIN DESALTER AUTHORITY**

PREPARED BY:

WATER QUALITY & TREATMENT SOLUTIONS, INC.
LOS ANGELES, CALIFORNIA

www.WQTS.com

OCTOBER 15, 2010

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APPENDIX A – MARKET SURVEY CONTACT INFORMATION

SECTION 1.0 – INTRODUCTION

The Chino Basin Desalter Authority (CDA) is a consortium of municipalities, water districts, and water companies that manages and operates two groundwater treatment plants in southern California. The Chino I Desalter is a 12.5 million gallons per day (MGD) Ion-Exchange (IX) and Reverse Osmosis (RO) plant located in Chino, California. The Chino II Desalter is a 10 MGD IX and RO plant located in Mira Loma, California, approximately 10 miles from the Chino I Desalter.

Faced with increasing water demand, the CDA is considering expansion of the Chino II Desalter by another 10.5 MGD of RO-treated water. However, due to rising costs of surface water deliveries and high costs of waste brine disposal, the CDA is evaluating means to maximize the efficiency of the added treatment system while reducing brine disposal and operational costs. RO process efficiency is typically limited by the concentration factors that can be applied before specific minerals begin to precipitate on the surface of the membranes. With the current mineral content of the groundwater, the RO recovery is approximately 82%. The remaining 18% is disposed into the Santa Ana Regional Interceptor (SARI) line as RO concentrate waste. The approach being considered for improving the RO recovery utilizes precipitative softening to reduce the mineral content of the RO concentrate, and then utilizes a second set of RO membranes to recover some of the water in the supernatant of the softening process. This approach, which is shown schematically in Figure 1, could increase the total water recovery from 82% to as high as 97%, thereby greatly reducing the volume of brine to be disposed into the SARI line.

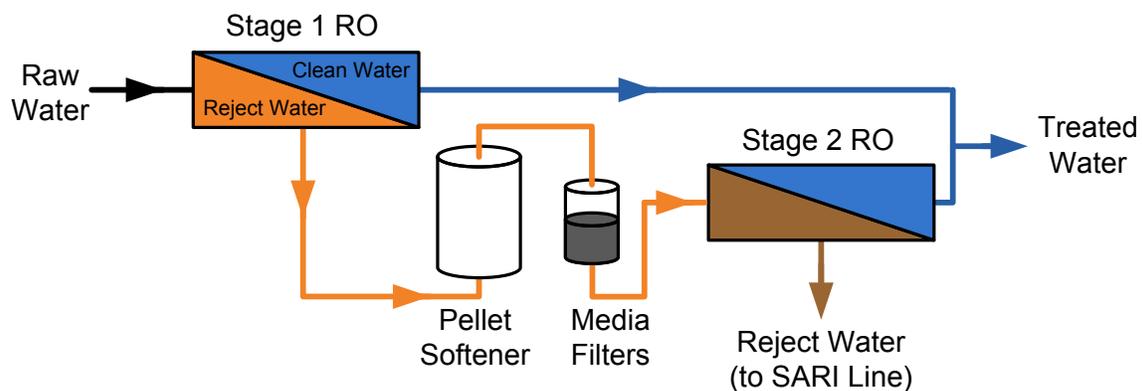


Figure 1 – First Stage RO Concentrate Softening

The precipitative softening technology being considered for RO concentrate treatment is the “pellet softening” process. The pellet softening process consists of an upflow vessel with fluidized particles introduced at the bottom of the vessel to act as the seeding nuclei onto which calcium carbonate (CaCO_3), silica (SiO_2), and other minerals will precipitate. Fine sand is commonly used as the seeding nuclei for the pellet softening process. Figure 2 shows a schematic representation of the upflow pellet softening process. Caustic soda (NaOH) and/or lime ($\text{Ca}(\text{OH})_2$) is added to the feed water to increase its pH and promote precipitation. As precipitates build up on the sand, the growing pellets eventually reach a size that can no longer

remain fluidized. Large pellets sink to the bottom of the vessel and are removed from the vessel at a certain frequency. The material and size of the seeding nuclei are not critical, as long as the particles remain fluidized in the vessel over a wide range of flow rates. Sand is typically used due to its low cost compared to other aggregates in this size range.

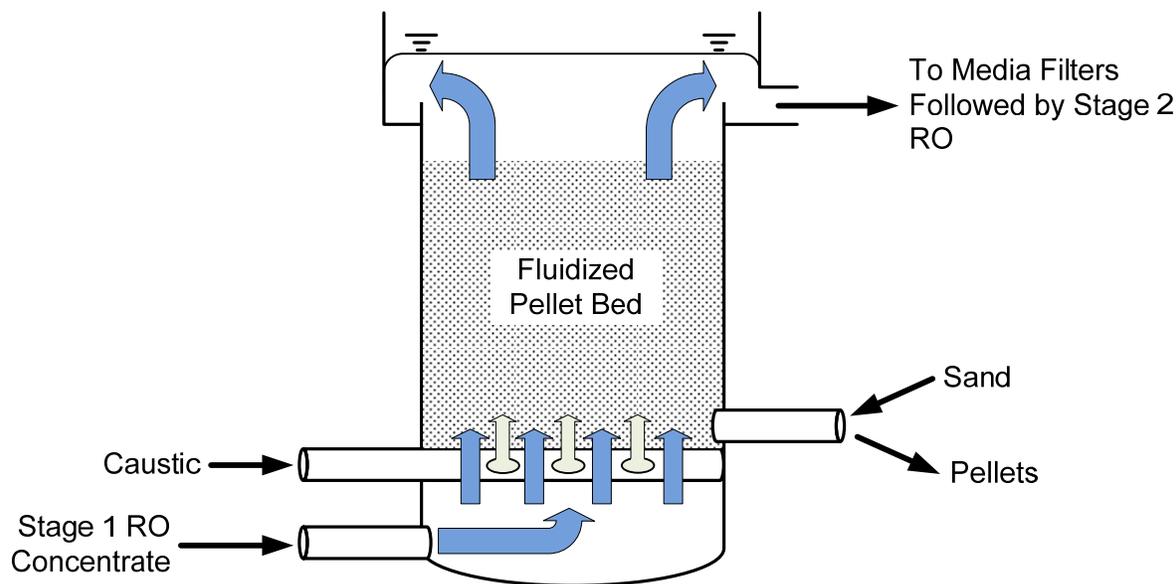


Figure 2 – Pellet Softening Schematic

The pellet softening process generates hard and durable pellets that are relatively dry and easy to handle and transport compared to thick, heavy, wet sludge produced by a conventional softening process. After its planned expansion, the Chino II Desalter is forecast to generate up to 38 tons of pellets each day. The produced pellets may be a value-added product that can be utilized in a variety of applications, thus converting a waste stream of a water treatment process into a usable commodity.

The Western Municipal Water District (WMWD), as a member of the CDA, retained the services of Water Quality & Treatment Solutions, Inc. (WQTS), to conduct a survey of the potential market for the pellets to be generated from the Chino II Desalter. The goal of the survey was to identify and analyze potential pellet users and determine the possible market value of the pellets. The survey comprised several activities, including an analysis of the physical and chemical characteristics of the pellets, a preliminary survey of potential pellet users, a more in-depth survey of a short-list of selected potential pellet users, a cost analysis, and a final analysis of the survey findings. This report presents the outcome of the market survey.

SECTION 2.0 – PELLET ANALYSIS

In preparation for the meetings with the shortlisted potential pellet users, it was important to provide them with information on the physical properties and chemical makeup of the pellets generated by the pellet softening process. The reason is that physical and chemical tolerances by users are application-specific and require appropriate analysis to ensure regulatory compliance. For example, certain metals may be strictly regulated in animal feed production, but may remain unregulated in cement formulations.

Two samples of pellets were used for this analysis: The first was collected from left-over pellets generated by the pilot testing of the pellet softening process conducted by WMWD and Carollo Engineers to treat RO concentrate at the Arlington Desalter. The second sample was obtained from an operating pellet softening system owned and operated by the Valencia Water Company to treat local groundwater. Since the pellets generated by the Arlington Desalter pilot study were significantly smaller in size than those generated by the Valencia Water Company plant, the Arlington pellets are referred to in this document as “fine pellets” and the Valencia pellets are referred to as “coarse pellets”. Figure 3 shows the relative sizes of the two pellet samples with the Arlington pellets shown on the left and the Valencia pellets shown on the right.



Figure 3 – Fine (Arlington Pilot) and Coarse (Valencia) Softening Pellets

It is important to note that the physical and chemical characteristics of the pellets are influenced by the quality of the water being treated, the chemical doses applied, and the size of the sand that is initially used to “seed” the pellets. Therefore, the analytical results obtained are meant to illustrate the variation of physical and chemical characteristics that may be encountered in practice, and do not necessarily reflect the quality of the pellets that will be produced when treating RO concentrate at the Chino II Desalter.

Section 2 – Pellet Analysis

Physical characterization of the two pellet samples was conducted by Solar Testing Laboratories, Inc. (Brooklyn Heights, Ohio). Chemical analyses were performed by MWH Laboratories (Monrovia, California), after acid digestion of the pellets in order to dissolve the precipitated material. Specific gravity analysis was performed by WQTS.

Tables 1 and 2 list the physical characteristics of the two pellet samples. Table 1 lists the values of three general physical characteristics: coefficient of curvature, specific gravity, and sand content. As shown in Figure 1, the pellets are highly round, which is confirmed by the fact that coefficient of curvature is very close to 1.0. Table 1 also shows that the sand content of the pellets is quite low; ranging from 5% and 11% by weight. Table 2 lists the results of the sieve analysis conducted on the two pellet samples, as well as the effective size (i.e., d_{10}) and the uniformity coefficient (UC) of the pellets.

Table 1 – General Physical Characteristics of the Pellet Samples

Parameter	Fine Pellets	Coarse Pellets
Coefficient of Curvature	1.05	0.98
Specific Gravity	2.4	2.6
Sand Content, by dry weight	11%	5%

Table 2 – Pellet Size Distribution of the Two Samples Analyzed

ASTM Sieve Size	Nominal Opening, mm	% Passing	
		Fine Pellets	Coarse Pellets
#4	4.751	--	100
#6	3.364	--	99.9
#8	2.385	--	99.5
#10	2.064	--	97.4
#12	1.719	--	90.9
#14	1.420	100	74.2
#16	1.201	99.6	44.2
#18	1.029	99.3	18.1
#20	0.877	97.5	2.2
#25	0.716	82.2	0.1
#30	0.589	13.0	--
#35	0.483	6.0	--
#40	0.406	3.4	--
Effective Size, d_{10} =		0.54	0.95
Uniformity Coefficient =		1.24	1.38

Table 3 lists the results of the detailed chemical analysis conducted on the two pellet samples. The pellets were first soaked in acid to dissolve the precipitated material, and then analyzed using various approved methods. The results show that calcium constitutes one third of the pellet dry weight. Unfortunately, it is not possible to measure carbonate (CO_3). Assuming that all the calcium is precipitated as calcium carbonate (CaCO_3), then CO_3 is expected to make up approximately 50% of the total dry weight of the pellets. Coupled with an average sand content of 8%, the sum of the calcium, carbonate, and sand contents represents 91% of the total weight of the pellets.

The sulfate concentration was expected to be significant. However, the use of acid to dissolve the precipitate raised the detection limit for sulfate to 1.25% of the dry weight of the pellets. The sulfate levels present in the pellets were below this detection limit. Sulfate is expected to be present as calcium sulfate (CaSO_4), which precipitates at high concentrations of calcium and sulfate.

The remaining parameters listed in Table 3 are for general cations and anions, tracer metals, and radionuclides. The majority of these constituents were below their corresponding detection limits. The trace metal content of the pellets was expected to be of significant interest to several users, especially those in the animal feed industry. Of the 20 metals listed, only seven (7) were present at detectable levels. These include aluminum, arsenic, barium, cobalt, copper, nickel, and uranium. Nevertheless, the levels of these trace metals were still very low, with barium being the highest of them (0.006% by dry weight). The presence of barium is not surprising since barium sulfate (BaSO_4) also precipitates at elevated concentrations of sulfate and barium, both of which are removed very effectively by the first stage RO process.

The radionuclides measured included radium-226, radium-228, strontium-90, and uranium. The levels measured are expressed in picocuries per gram (pCi/gr) of dry pellets. It is not clear whether the detected levels are of significance to any potential users.

Table 3 – Chemical Constituents of the Two Pellet Samples Analyzed

Parameter	Fine Pellets	Coarse Pellets
Major Cations & Anions, percent by weight of dry pellets		
Ca (Calcium)	32.7%	34.5%
CO ₃ (Carbonate) (projected)	49%	52%
K (Potassium)	0.015%	0.009%
Mg (Magnesium)	0.480%	0.093%
Na (Sodium)	0.393%	0.246%
Fe (Iron)	0.010%	0.001%
Sr (Strontium)	0.138%	0.358%
SiO ₂ (Silica)	0.393%	0.012%
SO ₄ (Sulfate)	<1.25%	<1.25%
F (Fluoride)	0.0141%	0.0055%
Trace Metals, percent by weight of dry pellets		
Ag (Silver)	<0.0000125%	<0.0000125%
Al (Aluminum)	0.005%	0.001%
As (Arsenic)	0.00011%	0.00005%
Ba (Barium)	0.006%	0.015%
Be (Beryllium)	<0.000025%	<0.000025%
Cd (Cadmium)	<0.0000125%	<0.0000125%
Co (Cobalt)	0.00008%	0.00008%
Cr (Chromium)	<0.000025%	<0.000025%
Cu (Copper)	0.00017%	0.00013%
Hg (Mercury)	<0.000001%	<0.000001%
Mn (Manganese)	<0.00005%	<0.00005%
Ni (Nickel)	0.00038%	0.00041%
Pb (Lead)	<0.0000125%	<0.0000125%
Sb (Antimony)	<0.000025%	<0.000025%
Se (Selenium)	<0.000125%	<0.000125%
Sn (Tin)	<0.001%	<0.001%
Tl (Thallium)	<0.000025%	<0.000025%
V (Vanadium)	<0.000075%	<0.000075%
Zn (Zinc)	<0.0005%	<0.0005%
U (Uranium)	0.0024%	0.0009%
Radionuclides, pCi/gr of dry pellets		
Radium-226	0.25	0.28
Radium-228	0.30	0.65
Strontium-90	<0.30	0.10
Uranium	16	6.1

SECTION 3.0 – POTENTIAL PELLET USERS

As part of this market study, a thorough survey of potential pellet users was conducted. The survey covered a diverse set of industries that already use or may potentially utilize calcium carbonate either as an additive to their product or in the treatment of their product. Calcium carbonate (limestone) is an abundant natural deposit that is used as raw material in a wide variety of applications and products including building materials, paper production, paint formulations, and food additives, among others. Various industry sectors and specific companies were identified through academic literature reviews, internet searches, and references from interviews with other potential users. Detailed contact information of interviewed companies is presented in Appendix A.

The market survey was primarily focused on the Riverside-San Bernardino region to minimize the transportation costs of the pellets from the Chino II Desalter to the potential users. Fortunately, the region contains a diverse manufacturing base, a strong agricultural sector, and a range of mining activities. Nevertheless, specialized high-value, low volume users outside the region were also considered. The criteria used to select the most likely pellet users are listed in Table 4.

Table 4 – Selection Criteria for Ideal Pellet Users

Criteria	Justification
Proximity to the water treatment plants	Minimization of transportation costs
Ability to handle up to 38 tons of pellets per day	Limited pellet storage capacity at the Chino II Desalter
Sustained long term demand for the pellets	Water treatment production is a continuous long-term venture
High tolerance for variability in pellet properties	Pellets are derived from a natural system subject to variability
Willingness to pay for the pellets	Financial viability of the pellet softening treatment depends on the ability to partially recover operational costs

This section is organized with the most likely pellet users first, followed by less promising sectors. In particular, construction materials manufacturing, limestone mining, animal feed production and cement manufacturing companies appeared to have the most interest in the softening pellets as a value-added product. Fertilizer production, biosolids supplement, abrasives applications, industrial waste neutralization, and reverse osmosis product water neutralization showed weak or nonexistent demand for the pellets.

3.1 CONSTRUCTION MATERIAL MANUFACTURING

Limestone, a sedimentary rock composed mostly of calcium carbonate, has many uses in the construction industry. While large slabs of limestone can be used as bricks, small fragments are used as aggregates for construction filler or to add bulk or change other properties of the building aggregate mixture. Fine limestone powder can also be used as an active ingredient in the production of cement (see Section 3.4). Discussions with various users revealed that calcium carbonate pellets derived from a water softening process possess desirable physical and chemical characteristics for the production of many construction materials. The quality of limestone, and the amount of processing required depends on the type of the final construction material being manufactured.

Construction material manufacturers contacted for the survey expressed interest in a wide range of pellet physical characteristics including hardness, roundness, density, moisture content, and color. Typical building blocks are made out of sand, cement and gravel with specific additives necessary for particular product qualities. For example, additives can be used to increase the strength or change the appearance of the blocks. Hardness and roundness of the pellets are important in block manufacturing as they affect the structural properties of the block. The roundness and low moisture content reduce the transportation, handling, and block manufacturing costs. Sand content of the pellets is not detrimental to these users since sand is one of the ingredients for the blocks.

The market survey concentrated on Orco Block Company, a manufacturer of cement building blocks, masonry units, paving stones, and a variety of blended bagged products, such as mortar and grout. Orco is a large building block company with six facilities throughout southern California including Riverside, Banning, Indio, Romoland, Stanton, and Oceanside. The Riverside facility, the largest plant in output and footprint, produces about 4,500 tons of building blocks (250,000 blocks) per day, and is located within three miles of the Chino II Desalter. Orco expressed strong interest in the pellets and was shortlisted for a more in-depth discussion and in-person interviews, results of which are included in Section 4.1.

3.2 LIMESTONE MINING

Limestone mining provides calcium carbonate for a range of industries and applications including building materials, animal feed supplements, and paper production, among others. Mining companies have the advantage of supplying a wide range of industries and possess extensive knowledge of the physical and chemical specifications demanded by the various users. Due to their diversified clientele, the mining companies are likely to be less susceptible to fluctuations in demand compared to cement manufacturers that ultimately produce a single end-product.

Limestone miners are interested in the softening pellets for two primary reasons. First, the pellets possess unique physical and chemical properties compared to the limestone produced at the quarry. Properties such as hardness and roundness may be in demand by some of the miners' clientele. Second, the pellets can extend the life of the limestone quarry.

Limestone mining is an important industrial and economic activity in the southern Mojave Desert. In particular, Lucerne Valley, California contains some of the most desirable limestone deposits in the western United States. The area, stretching from Hesperia to Joshua Tree, contains a number of limestone quarries. The largest local limestone miner is Specialty

Minerals Inc. (a subsidiary of Minerals Technologies), located approximately 85 miles northeast of Chino. The railroad-linked facility includes quarrying and processing operations capable of producing limestone product to the buyer's specifications. Onsite processing equipment includes grinders, dryers, and packaging equipment. The majority of the limestone demand at Specialty Minerals is from construction, roofing, and animal feed industries. The Lucerne Valley facility is one of the largest regional ground limestone production facilities.

The ultimate value of the pellets depends on finding an application that specifically requires limestone pellets with the same physical and chemical characteristics as those produced by the softeners, thereby minimizing the costly processing efforts. Specialty Minerals possesses a vast knowledge of industrial limestone applications and maintains relationships with a diverse clientele set to match the product and buyer. Specialty Minerals expressed strong interest in the pellets and was shortlisted for a more in depth discussion and in-person interviews, the results of which are included in Section 4.2.

3.3 SPECIALTY AGGREGATE PROCESSING

While large limestone mining operations, such as Specialty Minerals, possess the capacity to manufacture a wide range of limestone products, there is also a market niche occupied by specialty aggregate processors that supply low-volume, variable-demand customers who require further aggregate processing.

Specialty aggregate processors do not mine the raw materials; instead, they procure them from miners and distributors and further process them according to size, moisture content, and other factors. Specialty processors deal in many kinds of aggregates, including limestone, sand, gravel, and rock. Finished products are typically sold to local industries including roofing material manufacturing, pre-cast metal processing, roadway aggregate, filtration media, and animal feed processors.

The market survey of specialty aggregate suppliers focused on the A1-Grit Company, which is a rock and sand supplier for the roofing industry based in Riverside, California. A1-Grit is unique among all surveyed companies in that it is already familiar with calcium carbonate pellets produced from groundwater pellet softening. A1-Grit acquires the pellets generated by the Valencia Water Company's demonstration plant (the coarse pellets described in Section 2.1). Under the current pellet disposal scheme, A1-Grit sends out a single truck approximately every two weeks to collect the pellets from Valencia.

The A1-Grit website advertises a pelletized cattle and poultry feed calcium carbonate product that appears to be similar in physical and chemical characteristics to the pellets acquired from the Valencia Water Company (see Section 3.5). A1-Grit expressed interest in the physical and chemical properties of the fine pellets generated during the Arlington pilot study. A1-Grit is open to price negotiations if the Chino II Desalter pellet production can generate substantially larger quantities of pellets compared to the Valencia plant. The anticipated full-scale Chino II Desalter pellet production rate of 38 tons/day should not present operational problems for A1-Grit, since they typically process approximately 200 tons of aggregates per day according to telephone discussions with A1-Grit staff. A1-Grit forecasts a strong demand for the pellets in the near future. A1-Grit also expressed interest in exploring a mutually beneficial arrangement of selling "seeding" sand to the water treatment plants, thereby recovering some of the costs associated with pellet transportation. Overall, the specialty aggregate processing industry appears to show strong demand for the pellets.

3.4 CEMENT MANUFACTURE

Limestone is an integral component in the manufacturing of cement. Some of the largest cement manufacturing plants in California are located in western Riverside and San Bernardino counties. Cement plants are commonly sited near large natural limestone deposits that can be mined, processed, and made into cement at the same site. Since limestone deposits are finite, cement manufacturers are interested in alternative limestone sources to extend the life of their onsite deposits. Large cement manufacturers have specialized materials acquisition programs to supplement their raw material feeds.

Limestone used in the manufacture of cement does not require a certification from American Society for Testing and Materials (ASTM) or other regulatory bodies as limestone is considered a raw material. Only the finished cement product is subject to quality control testing. The quality control personnel contacted expressed interest in the physical, chemical, and handling characteristics of the pellets. Cement materials acquisition programs have rejected a wide variety of limestone products in the past. For example, calcium carbonate slurries were rejected because of the associated delivery costs, handling logistics, and water content. Fine powders were also rejected due to dust formation during handling. The softening pellets do not exhibit any of the detrimental qualities that were the basis for past limestone rejections since they have very low moisture content and do not produce dust during handling.

The sand content of pellets (8% by weight, on average) does not present a problem for cement manufacture since the limestone typically mined onsite contains about 6% sand by weight, while the final cement product is 20% sand. The additional sand used in cement production is typically imported from offsite sources. Therefore, for the cement manufacturing sector, the sand content is actually a valuable attribute of the pellets.

The market survey identified California Portland Cement of Colton, and Vulcan Materials of Corona, as the two largest cement manufacturers in the region. To save on production and transportation costs, both facilities are located adjacent to large natural limestone deposits and rail lines. Production at the California Portland Cement facility in Colton has been offline since November 2009 due to low demand, environmental pressures (the facility is surrounded by residential areas on all sides), and internal restructuring. Due to these factors, the plant may be permanently shut down. The California Portland Cement company operates another large cement facility in Mojave, which may be expanded in the event the Colton plant is permanently shut down. When fully operational, the Colton plant mined 500,000 tons of limestone per year and produced 750,000 tons of cement per year. The Colton plant could readily handle the daily pellet production from the Chino II Desalter, as the full production rate of 38 tons/day would represent only 3% of the limestone demand of the facility.

California Portland Cement recognizes the potential for softening pellets, in the event that the Colton plant operations are restarted, and the physical and chemical characteristics of the pellets satisfy their quality control requirements. In fact, California Portland Cement initially expressed interest in the Valencia Water District pellets, but the arrangement did not materialize due to the low pellet production at the Valencia demonstration plant (approximately one ton of pellets/day).

The market survey also researched small-scale, local cement manufacturers as potential users of the pellets. Rancho Readymix of Colton has the capacity to produce 1,000 tons of cement per day, and can handle the daily pellet load of 38 tons. However, this relatively small company

does not have a dedicated materials acquisition team and lacks the resources to try new raw materials in their cement blends.

Overall, cement manufacturing appears to be a promising sector for pellet utilization due to the proximity, ability to handle daily pellet production loads, and high tolerance for pellet sand content. The setback to cement manufacturing is the currently depressed state of the construction industry, which has significantly reduced demand for cement. Nonetheless, cement manufacturing demand may increase by the time the Chino II Desalter expansion is completed. Vulcan Materials did not respond to repeated requests for discussing the potential use of the pellets at their facilities.

3.5 ANIMAL FEED AND DIETARY SUPPLEMENT

Calcium is a vital dietary element for many farm animals, acting as the basic building block of bones, and contributing to healthy heart function, brain activity and muscle fitness. Calcium carbonate is often used as a dietary supplement to prevent and treat calcium deficiencies. For example, calcium carbonate is given to poultry to build strong egg shells, and to dairy cows to replace calcium exhausted during milk production.

Chino area poultry and dairy operations buy animal feeds from local animal feed mills instead of making their own mixtures on site. Brookhurst Mill of Riverside and Star Milling Company of Perris are two regional animal feed manufacturers, both using calcium carbonate in a range of products. While feed mill operations are steady consumers of calcium carbonate, their demand is relatively small compared to the anticipated pellet production at the Chino II Desalter. Brookhurst Mills buys four truckloads (approximately 65 tons) of lime per week, while Star Milling buys one truck/day (approximately 80 tons/week) of limestone grit and one truck/week (approximately 16 tons) of fine calcium powder. Comparatively, the Chino II Desalter is forecast to produce about 38 tons of pellets/day. Both mills were not willing to discuss calcium carbonate prices.

Animal feed operators were particularly interested in pellet size, chemical analyses, and price. While the heavy metal content of the pellets is a concern for the animal feed applications, the sand content is not. Both mills showed interest in conducting their own nutritional analyses on the samples and discussing chemical composition of the pellets.

The market survey also explored companies that buy animal feed from the mills. Voortman's Eggs and P&D Dairy are typical agricultural companies located in the Chino agricultural area. Voortman's Eggs, a self-described small-scale egg ranch operation in Chino, utilizes approximately two tons of calcium per day.

P&D Dairy is one of the largest dairies in the Chino-Riverside area (the cattle head count is private). P&D Dairy uses only ½ ton of limestone per day to supplement cattle diets, and does not believe that any other large dairy operations in the area would have a significantly stronger demand for the pellets. P&D Dairy does not anticipate sand content to be a problem for cattle feed applications.

The overall demand for pellets in the animal feed industry is substantially smaller than that in building materials, specialty aggregate processing, or cement manufacturing. Market research revealed a supply chain relationship between the specialty processor and the animal feed sector. The strongest demand in the animal feed sector is from the milling operations that

distribute pre-mixed feeds to poultry ranches and dairies, as the calcium carbonate demand of individual ranches and dairies is comparatively quite small.

3.6 FERTILIZER AND SOIL AMENDMENT MANUFACTURE

Calcium carbonate is used for fertilizer or soil amendment in the farming sector. Typically calcium carbonate is applied to acidic soils to raise and stabilize the pH. Southern and central California soils are generally considered pH-neutral leading, to infrequent application in the region, which is reflected in very low demand from the sector. Fertilizer mixtures typically require calcium and magnesium in equal concentrations, which prompts most manufacturers to use dolomite ($\text{CaMg}(\text{CO}_3)_2$) instead of limestone (CaCO_3). Nonetheless, dolomite usage is also minimal. Kellogg Garden Products of Ontario, California, one of the largest manufactures of fertilizers in the region, requires only 30 to 45 tons of dolomite per year. This is equivalent to a single day of pellet production at the Chino II Desalter.

The market survey showed no regional demand for limestone in the production of conventional fertilizers. According to Scott Miracle-Gro of Ontario, California, most conventional fertilizers currently in use are applied in liquid form, making the sand content of pellets unsuitable for liquid fertilizer manufacture and blending applications. On the other hand, sand content would not present problems in the direct application of the pellet to the soil, as typical California soils are classified as “sandy”.

Calcium carbonate is integral to a number of specialty gardening applications, but the required quantities are very small. Gro Power, a specialty fertilizer manufacturer in Chino, noted that calcium carbonate is used for the production of sports turf. However, the demand for sports turf is sporadic and sports fields are relatively small and do not require constant turf replacements. Limestone is also required in the production of peat moss, a common garden soil amendment product. Sun Gro Horticulture, the largest peat moss producer in the United States, uses only 3 trucks (approximately 48 tons) of limestone per year at its Bakersfield facility.

3.7 BIOSOLIDS STABILIZATION

Municipal biosolids originating from wastewater treatment plants are sometimes augmented with calcium carbonate before they are applied to agricultural lands to increase the pH of acidic soils. The practice is common in the Midwest and Atlantic states, but due to pH-neutral soils in southern and central California, the application of calcium carbonate is not necessary when disposing of biosolids. Synagro, the largest recycler of municipal organic residuals in the United States, composts Class A biowaste and then applies it to agricultural lands as a soil amendment. Synagro does not rely on calcium carbonate or other pH-stabilizing chemicals during composting or soil amendment steps in California. Synagro does not view softening pellets as a value-added product in local biosolids stabilization.

3.8 ABRASIVES AND SANDBLASTING APPLICATIONS

The application of calcium carbonate pellets in abrasives and sand blasting applications was explored due to their relatively uniform size and hardness. Calcium carbonate blasting media is used in specialty applications, but according to Crystal Mark, Inc., a specialty blaster in Glendale, the demand is very low and highly sporadic. For Crystal Mark, the demand amounts to about 400 lb of pure calcium carbonate per year.

While the pellets may possess characteristics valued in certain blasting applications, the presence of silica sand in the center makes them highly undesirable. Respirable silica is the main cause of silicosis, a lung disease marked by inflammation and scarring of the upper lungs. Abrasives and blasting media distributors in the United States stopped selling silica-based materials due to the liability risks involved, even though sand is not banned for blasting applications. GW Gillibrand, provider of the sand currently used by the Valencia Water Company's pellet softening plant, also makes sand used in sandblasting and includes mandatory respirator use warnings on the packaging in case that sand is used for sandblasting. Surface Prep Solutions, Inc., located in Paramount, California, the largest distributor of blasting media in the U.S., stated that Valencia-sized pellets are too coarse for practically all blasting applications.

3.9 INDUSTRIAL WASTE NEUTRALIZATION

Calcium carbonate could be used to neutralize acidic waste from a wide range of industrial manufacturing processes. The market survey explored rubber, steel, plastics, and janitorial chemical manufacturing companies around Riverside and the surrounding area. All of the surveyed facilities were described as "medium-size" by their respective representatives. The interviewees struggled to provide recommendations of relatively large-size output facilities in the region, although some suggested large chemical manufacturing facilities in the Los Angeles basin that are operated by multinational corporations. Below is a short summary of the local medium-sized operations and large multinational chemical manufacturers.

Rubber Production

(Mitchell Rubber, Mira Loma)

The waste treatment operation relies on a boiler system operated with soft water. Mitchell Rubber does not foresee any applications for calcium carbonate pellets in the waste or raw material streams.

Steel Processing

(Schaeffer Industries, Mira Loma)

This facility only shapes steel products. Pre-fabricated steel is supplied from out of state and China. The Schaeffer Industries representative could not identify a large steel-processing facility in the region.

Plastics and Fiberglass

(Peabody Engineering, Corona)

The Corona branch is a distribution facility. Actual plastics and fiberglass production occurs mainly in China, and in small plants in the western U.S., excluding California. The Peabody Engineering representative could not identify a large plastics manufacturing facility in the Riverside area.

Janitorial and Household Chemical Manufacture

(Chemcor and GenLabs, Chino)

These two facilities do not produce acidic waste during manufacture of a wide array of chemical household products. The operations rely on batch reactors which minimize waste and reuse any unused materials.

Industrial Chemicals Production (Brenntag, Santa Fe Springs; and Rhodia, Long Beach)

These two multinational chemical manufacturers in southern California produce large quantities of industrial chemicals including acids, bases, and oxidizers. The manufacturing processes most likely require the use of pH-balancing chemicals, but representatives from both companies would not disclose information about their waste-disposal activities and showed no interest in exploring the potential uses for the pellets.

The market survey did not find any large industrial chemical production facilities in the Riverside region that generate acidic waste. The large chemical manufacture facilities in the Los Angeles basin appeared protective of information about their processes and uninterested in the calcium carbonate pellets.

3.10 REVERSE OSMOSIS PRODUCT WATER NEUTRALIZATION

RO membranes remove alkaline minerals, such as carbonate (CO_3^{2-}) and bicarbonate (HCO_3^-), while allowing carbon dioxide (CO_2) to pass through. This results in acidic permeate water that is saturated with CO_2 . Typically, the pH of the treated water is then raised by two consecutive steps: air-stripping to remove some of the CO_2 from the water, and caustic addition if needed. While air-stripping is inexpensive, caustic soda is a very expensive chemical. Calcium carbonate pellets could be used as a substitute for caustic. The other advantage of using calcium carbonate for pH adjustment is that it also adds calcium to the water, which provides added hardness resulting in a favorable Langelier Saturation Index (LSI).

There are three types of RO treatment applications in Southern California: One application is the treatment of brackish or nitrate-contaminated groundwater (e.g., Chino Desalters). The second type of application is seawater desalination. The third type of application is tertiary wastewater treatment for groundwater injection. RO treatment of brackish groundwater does not require significant caustic addition because the treatment system is designed with a by-pass flow that contributes significantly to the pH-neutralization of the permeate water. On the other hand, RO seawater desalination and RO treatment of tertiary wastewater for groundwater injection require treatment of 100% of the flow through the RO process. Therefore, their demand for a pH-adjusting chemical is higher. One difference between the seawater desalination application and the tertiary wastewater treatment application is that the former is used to generate drinking water, while the latter does not. This is important because the use of the pellets in a drinking water plant requires that the pellets have NSF61 certification, while it is doubtful that such certification would be required for a groundwater injection system.

However, the calcium carbonate demand required to neutralize RO production is very low. For example, a 10 MGD plant that requires a 20 mg/L calcium dose (as CaCO_3) to achieve the necessary neutralization would use only one (1) ton of pellets per day. Therefore, the Chino II Desalter with its forecasted production of 38 tons/day could supply enough calcium to treat 380 MGD of RO capacity. Currently there are not enough regional RO facilities to effectively utilize such quantities of pellets for neutralization.

SECTION 4.0 – SHORTLISTED COMPANY INTERVIEWS

The market survey investigated potential demand and limitations of pellet use in a range of market segments ranging from construction materials and animal feed, to abrasives and industrial waste neutralization applications. The survey indicated that particular market segments expressed strong demand for the pellets, specifically construction material manufacturing, limestone mining, and specialty aggregate processing. Three companies were identified as good candidates for more in-depth discussion regarding pellet production and the individual company's demands for them. The discussion also included the potential monetary value of the pellets. The three companies are listed in Table 5. They include the Orco Block Company, Specialty Minerals, Inc. and A1-Grit. Face-to-face meetings were held with representatives of Orco Block Co. and Specialty Minerals, Inc. on August 3, 2010. As of the time of preparation of this report, A1-Grit did not provide a suitable time for a meeting. However, they remain a good candidate user for the pellets. This section presents the findings of the direct meetings with Orco Block and Specialty Minerals.

Table 5 – Shortlisted Companies and Selection Considerations

Company	Sector	Selection Considerations
Orco Block	Construction Material Manufacturing	<ul style="list-style-type: none"> • Large user • Close proximity • Highly tolerant of variability
Specialty Minerals	Limestone Mining	<ul style="list-style-type: none"> • Large user • Relative close proximity • Moderately tolerant of variability
A1-Grit	Specialty Aggregate Processing	<ul style="list-style-type: none"> • Already familiar with pellets • Medium-size user • Close proximity • Moderately tolerant of variability

4.1 ORCO BLOCK CO. INC. – CONSTRUCTION MATERIAL MANUFACTURING

The meeting with the Orco Block was attended by the following individuals from Orco:

Tim Mallis	Orco Architectural Engineering Department
Juan Tejada	Orco Architectural District Sales Manager
Dwayne Gleason	Orco Vice President and General Manager of the Riverside facility

Other attendees included Jack Safely of WMWD, Gary Meyerhofer of Carollo Engineers, and Issam Najm and Alex Revchuk of WQTS.

Orco Block manufactures cement building blocks, masonry units, paving stones, and a variety of blended packaged products, such as mortar and grout. According to information published on its website, Orco is one of the top-ten concrete block manufacturer in the nation. Orco owns six

Section 4 – Shortlisted Company Interviews

facilities throughout southern California including Riverside, Banning, Indio, Romoland, Stanton, and Oceanside. The Riverside facility, which includes the largest of the six plants by output and area, produces about 4,500 tons of building block (250,000 blocks) per day. The plant is located less than 3 miles from the Chino II Desalter. Orco employs seven Leadership in Energy & Environmental Design (LEED) Accredited Professionals to consult on the design of environmentally-friendly, energy-efficient buildings.

Orco showed interest in many pellet characteristics including hardness, roundness, density, low moisture content, and color. As discussed above in Section 3.1, typical blocks are made from sand, cement, and gravel with specific additives necessary for particular product qualities. Hardness and roundness of the pellets are important because they affect the structural properties of the block. The roundness and low moisture content reduce the transportation, handling, and block manufacturing costs. Since sand is one of the feedstock ingredients for the blocks, sand content of the pellets is not of concern.

Orco manufactures building blocks in three categories according to block densities: light (<105 lb/ft³), medium (105 – 125 lb/ft³), and heavy (>125 lb/ft³). Light blocks are used for decorative and veneer applications, while heavy blocks are used in construction of fence walls. Medium blocks, which represent the majority of the blocks sold by Orco, are used for load-bearing walls in buildings. The density of pellets obtained from the Valencia demonstration plant and the Arlington pilot plant exceeded 125 lb/ft³ suggesting that the pellets can be used to increase the density of blocks.

The pellets can also be used to adjust the color of building materials. Over the past decade, architectural aesthetics and green building certification programs, such as LEED, have shifted building coloration toward lighter colors. The demand for materials with a high solar reflectance index (SRI), a measure of building material's ability to reflect solar radiation, is increasing. Currently, Orco adjusts colors with purchased recycled concrete, but there are indications that as the construction industry improves during the next few years, recycled concrete will be in short supply. Therefore, there is a strong potential for an increasing market for the white-colored pellets in the upcoming years. In 2009, Orco used 12,000 tons of recycled concrete for building block color adjustment. When fully operational, the Chino II Desalter will produce approximately 38 tons of pellets per day. Therefore, the desalter pellet output can fully satisfy Orco's color adjustment requirements and should not present logistical problems for Orco, which is equipped to store and process large quantities of raw materials.

Orco manufactures many products that have specific requirements for post-consumer content for LEED certification. The use of recycled concrete also contributes to satisfying these requirements. Orco management believes that the pellets could be classified as a post-consumer product due to the fact that they are a by-product of water treatment. The management also recognized a potential positive public-relations issue in adding the pellets to Orco's products.

Orco is interested in receiving a truckload (about 16 tons) of pellets for further testing and product formulations. Orco is particularly interested in studying the ways pellets handle and flow through their various processing equipment. Orco will then add different amounts of pellets to different block formulations and will evaluate the finished products for color, strength, and durability. Orco will contact the Valencia Water Company to determine if they could receive a truckload of pellets for testing.

During the meeting Orco did not offer a price point for the pellets pending further investigation into the usability of finished products. Nonetheless, Orco disclosed that a price of \$50/ton of pellets is extremely high. Only the most processed, premium bulk construction and aggregate materials, such as expanded glass, command prices between \$42/ton and \$50/ton. Raw materials that have undergone intermediate processing, such as expanded shale, are currently sold for \$30/ton. Minimally processed materials, such as sand, are currently sold for approximately \$8/ton. All prices listed above do not include transportation costs. Based on the discussion with Orco, it is likely that the pellets could be sold at a price ranging from \$10/ton to \$20/ton, FOB Chino II Desalter.

The advantages of conducting business with Orco include:

- A wide range of products designed for a diverse range of applications
- Close proximity of the Riverside facility to the Chino II Desalter
- Capacity to receive the total pellet production quantity from the Chino II Desalter
- Other nearby Orco facilities that could receive pellets in the event of Riverside facility shutdown or regional market shifts

There are no apparent disadvantages to conducting business with Orco.

4.2 SPECIALTY MINERALS INC. – LIMESTONE MINING

The meeting with Specialty Minerals was attended by the following individuals from the company:

Mark Spurlock	Regional Sales Manager of Western Region
Darin Lindsey	Lucerne Valley Plant Manager
John Finn	Senior Account Manager

The meeting was also attended by Jack Safely of WMWD, Gary Meyerhofer of Carollo Engineers, and Issam Najm and Alex Revchuk of WQTS.

Specialty Minerals is a subsidiary of Minerals Technologies, a worldwide publicly traded specialty chemicals company, and the former mineral mining division of Pfizer Inc. In 2009 Mineral Technologies reported over \$1 billion in sales worldwide. Minerals Technologies is a resource- and technology-based company, which develops, produces and markets a range of specialty mineral, mineral-based, and synthetic mineral products. The company mainly produces and sells limestone and processed quicklime. The two products are principally used in the paper, building materials, paint and coatings, glass, ceramic, polymer, food, automotive and pharmaceutical industries. Minerals Technologies owns and operates limestone quarries and processing plants globally. According to Specialty Minerals staff, Specialty Minerals is the largest single consumer of lime worldwide, contracting from over 40 sources globally for their precipitated calcium carbonate business.

Specialty Minerals operates a large limestone quarry in Lucerne Valley, California, approximately 85 miles northeast of Chino, between Hesperia and Joshua Tree. As discussed in Section 3.2, the railroad-linked facility includes quarrying and processing operations capable of producing limestone product to a buyer's specifications. Onsite processing equipment includes grinders, dryers, and packaging equipment. The majority of the limestone demand at

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Specialty Minerals is from construction, roofing, and animal feed industries. The Lucerne Valley facility is one of the largest regional ground limestone production facilities. Supplying Specialty Minerals with softening pellets would extend the life of the quarry and supplement their production.

Samples of the fine and coarse pellets were provided to Specialty Minerals Inc. after the meeting. Specialty Minerals will evaluate the pellets during September and October, 2010 for physical and chemical characteristics according to their in-house New Process Product Development (NPPD) program. Specialty Minerals limestone products are defined by three basic characteristics: size, chemistry, and color. Their business model is based on matching the correct size, chemistry, and color of limestone requested by the buyer with raw material stocks that will require minimal processing. The softening pellets represent a unique form of limestone that was unfamiliar to the Specialty Minerals representatives.

When physically examining the pellets, the representatives remarked on the unique hardness, roundness, flowing, and rolling characteristics. Each of these characteristics may be beneficial or detrimental depending on the application. As the pellets undergo the NPPD evaluation, their unique properties will be matched with processes and products that can benefit from their utilization.

The Specialty Minerals representatives commented on the sand and moisture content of the pellets which may prove undesirable for many of their limestone buyers. On average, the softening pellets obtained from Valencia and Arlington contained 8% sand and 3% moisture content, by weight. The limestone produced at the Lucerne Valley quarry is approximately 98 percent calcium carbonate. Most Specialty Minerals limestone buyers demand very low silica content in the final product, requiring post-quarrying processing that reduces silica content to <0.1% by weight. Therefore, the pellets may require additional processing to reduce the silica content. To eliminate the sand and silica content of the pellets, Specialty Minerals proposed exploring the use of fine limestone particles to “seed” the pellets, instead of silica sand. Specialty Minerals has the capability to produce fine limestone in a size range similar to sand. Sand has typically been used in pellet softening applications due to its availability and low cost, but other seeding materials may also be used. While the cost of limestone seed is expected to be about 20% higher than sand, the potential demand for pellets without sand and silica may prove to be economically favorable. In addition, the agreement with Specialty Minerals could be negotiated such that the price of the limestone seed purchased from Specialty Minerals is equal to that of sand purchased from a third party. Future pellet softening pilot testing could compare softening efficiency using both sand and fine limestone as seeding materials.

Many industrial limestone buyers also require low moisture content in the limestone products. The Lucerne Valley quarry located in the Mojave Desert is favorable for the production of low-moisture limestone that is typically labeled 0.1% to 0.5% moisture by weight. In contrast, the pellets are generated in a water softening process that naturally produces wet pellets. Therefore, a pellet drying process is critical to attain the proper quality of the pellets and to reduce the transportation costs. Pellets can be dried using passive or active drying techniques. Passive drying typically consists of hoppers or bins with underdrains that are placed in direct sunlight to aid in evaporation. Active drying techniques require gas-powered hot air blowers and conveyance systems to continuously expose wet pellets to the air stream. Active drying systems require substantial capital investment and operational expenditures which may not be financially feasible for the pellets.

Upon preliminary overview of other physical and chemical analyses of Valencia and Arlington pellets, the representatives were not concerned with any other attributes including heavy metals and radionuclides. Nevertheless, detailed NPPD evaluation may reveal pellet constituents that are undesirable in specific applications.

Specialty Minerals is particularly excited about the pellets due to their “green” public relations potential. While the carbon footprint associated with quarrying operations is relatively small, the footprint associated with shipping limestone products is high. Therefore, Specialty Minerals and its parent company, Minerals Technologies, are particularly interested in recycling applications that can enhance the company’s positive public image.

The ultimate price of the pellets depends on finding an application that specifically requires limestone pellets with the same physical and chemical characteristics as those produced by the softeners, thereby minimizing the costly processing efforts. Specialty Minerals possesses a vast knowledge of industrial limestone applications and maintains relationships with a diverse client base to match the product and buyer. According to Specialty Minerals, the most beneficial arrangement involves a pellet buyer that does not require any post-processing, so that Specialty Minerals would be able to take possession of the pellets directly at the water treatment plant and ship them to the buyer without bringing the material to the Lucerne Valley plant. The pricing arrangement may involve an agreed minimum and any upside percentage based on revenue sharing.

Due to current limestone market prices, a pellet price of \$50 per ton may not be attainable. Based on the discussion with Specialty Minerals, it appears that the pellets may command a probable market price of \$10/ton to \$20/ton. However Specialty Minerals’ NPPD process may identify markets with higher value. This price unit price does not include freight cost, which may range from \$15/ton to \$20/ton for pellet transportation between Mira Loma and Lucerne Valley. Specialty Minerals will need to account for the transportation cost when negotiating the unit price with the CDA.

The advantages of conducting business with Specialty Minerals include:

- A wide range of products designed for diverse range of applications
- Capacity to receive the total pellet production quantity from the Chino II Desalter
- Exposure to worldwide markets
- Potential favorable Lime contracting assistance

The potential disadvantages of conducting business with Specialty Minerals include:

- Distant Lucerne Valley processing facility (85 miles)
- Pellets could potentially be undesirable due to sand (unless limestone can be used as the seed) and moisture content

4.3 A1-GRIT – SPECIALTY AGGREGATE PROCESSING

As indicated earlier, a direct face-to-face meeting with A1-Grit could not be scheduled by the time this report was prepared. However, A1-Grit remains a good candidate pellet user. Discussions with A1-Grit representatives should continue during the predesign and design of the treatment facilities. Potential disadvantages of A1-Grit compared to the other two shortlisted

Section 4 – Shortlisted Company Interviews

users include the fact that the company has only two facilities and, to our knowledge, is owned by one person who makes all business decisions for the company. This may make A1-Grit a potentially less reliable user that may stop taking pellets at any time. For this reason, A1-Grit may be a good secondary user, but not a primary user of the pellets.

SECTION 5.0 – COST ANALYSIS

One of the objectives of the market survey was to identify the monetary value of the pellets and determine its impact on the annual operating cost of the Chino II Desalter. This section compares the cost impact of three potential options for the disposal of the pellets:

- Option 1 – Landfill Disposal*
- Option 2 – Giveaway to a User*
- Option 3 – Sale of Pellets*

In conducting the financial analysis for each option, the following assumptions were made based on the information provided by the Preliminary Design Report (PDR):

- Daily Pellet Production Rate = 38 tons/day
- Operating Time = 365 days/yr
- Total Water Production from Chino I & II = 35,200 AF/yr
- CDA's "Postage Stamp" rate model spreads operating costs over the entire Total Water Production volume to provide a single O&M cost to all member agencies.

The following is a discussion of the three options and their financial impact on the project.

Option 1 – Landfill Disposal. Under this option, the pellets are considered a waste product that will need to be disposed into a municipal landfill. This means that the CDA will incur the cost of transportation to the landfill and the cost of disposal in the landfill. The Chino-Riverside area is served by two local landfills that are capable of receiving the pellets. El Sobrante Sanitary Landfill, operated by a partnership between Riverside County and Waste Management, is located in Corona, approximately 21 miles south of the Desalter along Interstate 15. The current disposal cost for "routine refuse" is \$35/ton. Mid-Valley Landfill, operated by San Bernardino County, is located in Rialto, approximately 17 miles northeast of the Desalter along State Route 210. The current disposal cost for "residential waste" is \$56/ton. Disposal costs were obtained directly from the Riverside County-Waste Management partnership staff, and the San Bernardino Department of Public Works staff.

Based on the chemical analyses conducted on the coarse and fine pellet samples, the landfill representatives did not find any reason to believe that the pellets would be classified as a "hazardous" or "hard-to-handle" waste. Nevertheless, a detailed waste material evaluation will be required prior to disposal commencement. The pellets are subject to additional fees if classified into any of the special classes described above. Neither facility offers discounts to cities or government agencies.

Two transportation companies were contacted to estimate the cost to transport the pellets to the local landfills. The discussion with these companies resulted in the understanding that the pellet transportation cost may range from \$18/ton to \$60/ton, depending on the size of the truck used and the means by which the trucks are loaded at the treatment plant and off-loaded at the landfill. With the inclusion of the transportation cost, the total disposal cost to the CDA under this option may range from \$50/ton to \$95/ton. At these unit cost values, the total annual cost for the disposal of the pellets under this option may range from \$694,000/yr to \$1.3M/yr, which translates into a unit water cost range between \$20/AF and \$37/AF.

Option 2 – Giveaway to a User. This option assumes that the CDA will pay to transport the pellets to a local user who will then take them at no additional cost. This option is defined in the PDR as the “worst case scenario”, and was modeled on the current arrangement utilized by the Valencia Water Company for the disposal of the pellets from their groundwater demonstration softening plant. Since the transportation cost will depend on the location of the user, a \$30/ton was assumed in the PDR based on the amount paid by the Valencia Water Company. At this unit cost value, the total annual cost for the disposal of the pellets under this option is projected at \$416,000/yr, which translates into a unit water cost of approximately \$12/AF.

Option 3 – Sale of Pellets. This option is based on the idea that the pellets have a market value that the CDA could utilize to off-set some of its treatment cost. Based on the discussions with the potential users contacted in this study, the unit sale price of the pellets may range from \$10/ton to \$20/ton. These values are in addition to the transportation cost that will be paid by the user. At these unit cost values, the total annual income from the sale of the pellets under this option may range from \$139,000/yr to \$277,000/yr, which translates into a unit water income (i.e., cost recovery) ranging from \$4/AF to \$8/AF.

The summary of the financial analysis is presented in Figure 4. While Options 1 and 2 represent a net cost to the CDA, Option 3 represents a net income from the sale of the pellets, which would help off-set some of the water treatment cost incurred by the CDA. If Option 3 is implemented compared to the PDR’s worst case scenario (i.e., Option 2), it represents a reduction in anticipated overall water treatment cost to the CDA ranging from \$16/AF to \$20/AF.

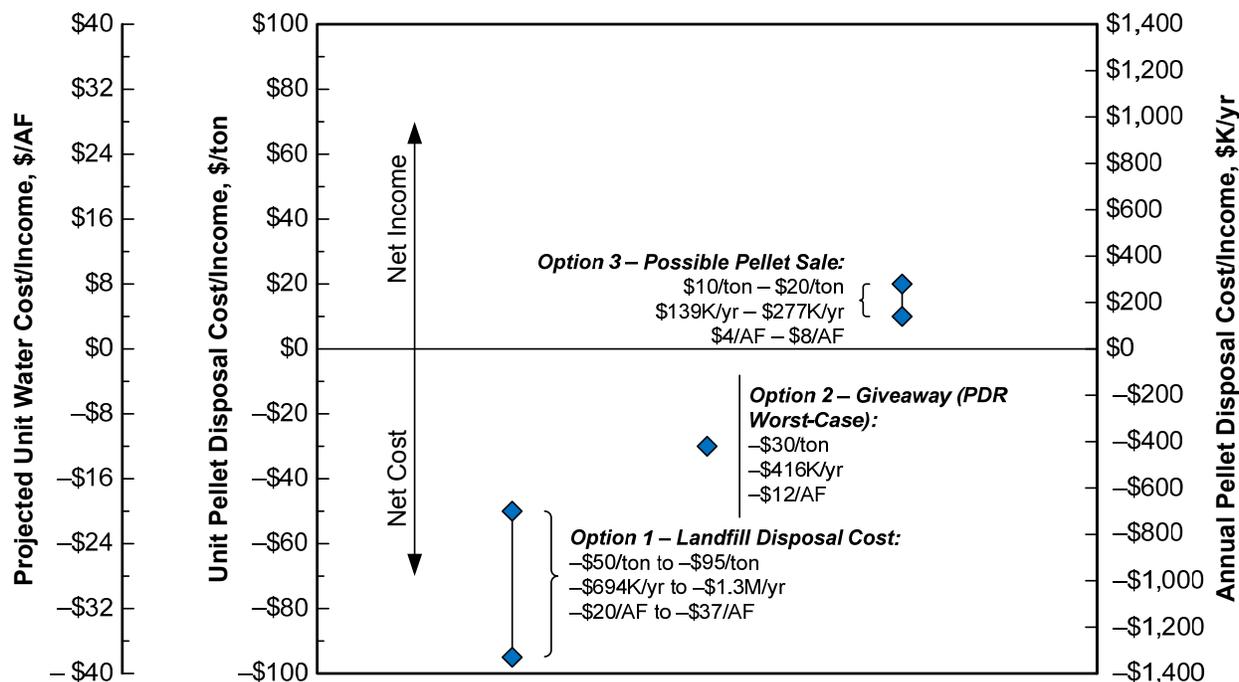


Figure 4 – Comparison between Cost/Income Options for Disposal of the Pellets
 [38 tons/day; 365 days/yr; 35,200 AF/yr Water Production from Chino I & II WTPs]

SECTION 6.0 – SUMMARY & CONCLUSIONS

6.1 SUMMARY

Pellet Characterization – Two samples of softening pellets were analyzed for physical characteristics and chemical constituents. One of the samples was obtained from pellets left over from the RO concentrate treatment pilot study conducted by Western MWD and Carollo Engineers. The other sample was obtained from an operating full-scale pellet softening plant treating hard groundwater in the Santa Clarita Valley, which is owned and operated by the Valencia Water Company. The pellets had different sizes, but similar densities and chemical constituents. The pellets were mainly comprised of calcium carbonate (83% by weight, on average), and sand (8% by weight, on average). The remainder consisted of general cations, anions, and trace metals at very low concentrations. Nevertheless, application-specific analyses will be required by potential users to identify the usability of the pellets for specific applications.

Potential Pellet Users – The market survey examined a wide range of applications and markets that already use or may potentially use calcium carbonate in their products or production plants. The suitability of the potential pellet users was evaluated using the criteria listed above in Table 4. The most suitable users identified in the survey included construction material manufacturers, limestone mining companies, and specialty aggregate processing industries.

The current slowdown of the construction industry led to the shutdown of the nearby California Portland Cement plant, the largest local cement manufacturer. The tentative restart date was recently pushed back from December 2010 to December 2011. For several reasons, there is a possibility that the plant will be shutdown indefinitely. Cement production is highly dependent on limestone, so the demand from this sector should be re-evaluated in the near future as the Chino II Desalter expansion nears completion.

Based on local farming activity, animal feed manufacturers indicated low demand for the pellets. If pellets were fully substituted for other calcium sources at the two largest regional feed mills, the mills would account for only 58% of the weekly pellet production at the Chino II Desalter. Compared to construction material manufacturing, limestone mining, and specialty aggregate processing companies that can individually accept total pellet production quantities, feed mills may pose logistical challenges in the handling of the pellets. Also, feed mills prefer their calcium feedstocks to undergo disinfection by heat treatment, a service provided by the specialty aggregate processors. Other market sectors, including fertilizer producers, biosolids processors, abrasives distributors, industrial chemical companies, and RO neutralization applications showed minimal or nonexistent demand for the pellets. Table 6 lists the market sectors and companies along with suitability for pellet buyer selection criteria.

Meetings were held with the Orco Block Company, a construction material manufacturer, and Specialty Minerals, Inc., a limestone mining company. These two companies are excellent candidate pellet users, and have expressed strong interest in receiving the material. Both companies have already initiated internal evaluations of the pellets to determine specific products and applications that may benefit from the unique properties of the pellets. The ultimate viability of the pellets for use by these companies depends on positive results from the internal pellet evaluations.

TABLE 6 – SUMMARY OF THE MARKET SECTORS

Market Sector	Company	Pellet User Selection Criteria					Notes
		Proximity	Quantity Handling	Long Term Demand	Tolerance for Quality Variability	Reliability	
Construction Material Manufacturing	Orco Block						Highly interested. Large reliable user. Moderate quality constraints.
Limestone Mining	Specialty Minerals	 85 Miles			 Sand Content Moisture Content		Highly interested. Large reliable user. Possible high quality constraints.
Specialty Aggregate Processing	A-1 Grit						Single owner. Potential to be a less reliable customer.
Cement Manufacture	California Portland Cement			 Plant Shut Down Until Dec. 2011			Low demand for cement, and environmental concerns led to plant shutdown. Possible restart in Dec 2011.
Animal Feed and Dietary Supplement	<ul style="list-style-type: none"> • Brookhurst Mill • Star Milling Co. 		 Limited				Low overall demand and prefer kiln treatment
Fertilizer and Soil Amendment	<ul style="list-style-type: none"> • Kellogg Garden Products • Scott Miracle Gro • Sun Gro 		 Limited	 No Demand	 No Demand	No information	Southern and central California soils are not acidic
Biosolids Stabilization	Synagro		 No Demand	 No Demand	 No Demand	No information	Southern and central California soils are not acidic
Abrasives and Sand Blasting	<ul style="list-style-type: none"> •Crystal Mark •Surface Prep Solutions 		 No Demand	 No Demand	 Silica Content	No information	Silica content makes pellets undesirable
Industrial Waste Neutralization (Rubber, Metal, and Plastics Production; Cleaning Chemicals, Industrial Chemicals)	<ul style="list-style-type: none"> • Mitchell Rubber • Schaeffer Industries • Peabody Eng. • Chemcor • Gen Lab • Brenntag • Rhodia 		 No Demand	 No Demand	 No Demand	No information	Medium-sized facilities do not produce acidic waste. Large facilities were secretive about their waste procedures.
Reverse Osmosis Product Water Neutralization	–		 Low			No information	Low demand, lack of NSF61 certification

Cost Analysis – Three options for pellet disposal were considered: Landfill disposal, “giveaway” to a user, and sale to a user. The cost of landfill disposal, including transportation cost, was determined at a range of \$50/ton to \$95/ton. For a production capacity of 38 tons/day, the annual disposal cost could range from \$694,000/yr to \$1.3M/yr, which translates into a unit water cost impact between \$20/AF and \$37/AF. The second option assumes that the CDA will pay for transporting the pellets to a local user, and the user will just take the pellets at no cost to the CDA or the user. This is the “worst-case” scenario assumed in the PDR. Under this option, the disposal cost, which is only the transportation cost, is reduced to approximately \$30/ton, which is equivalent to an annual cost of \$416,000/yr, or \$12/AF.

For the third option, discussions with Orco Block and Specialty Minerals suggested that the market value for the pellets could range from \$10/ton to \$20/ton, with the transportation cost being borne by the user. This translates into a potential annual income between \$139,000/yr to \$277,000/yr, which is equivalent to an income ranging from \$4/AF to \$8/AF. If this option is implemented, it represents a reduction in water cost, compared to the worst-case scenario outlined in the PDR (i.e., Option 2), between \$16/AF and \$20/AF.

6.2 CONCLUSIONS

The following conclusions were reached based on the outcome of the market survey:

1. The market survey and face-to-face meetings with potential users suggest a clear market demand for the pellets.
2. While there are no guarantees that a user will purchase the pellets, two companies, Orco Block, a construction material manufacturer, and Specialty Minerals, a limestone mining company, expressed strong interest in receiving the pellets for various monetary and non-monetary reasons.
3. Based on discussions with Orco Block and Specialty Minerals, the sale price of the pellets may range from \$10/ton to \$20/ton, excluding transportation cost which would be paid for by the user.
4. Either Orco Block or Specialty Minerals is able to take the entire 38 ton/day pellet production from the Chino II Desalter.
5. Further testing of actual Chino II Desalter pellets will be necessary to determine their suitability for each end user.

Based on the results of the market survey, it is clear that there are multiple viable pellet users. There are two possible financial models for the sale of the pellets. One model is based on a long-term contractual agreement with a single user. The other model is based on setting up purchase agreements with multiple users. The following are brief discussions of each model, and its advantages and disadvantages.

Under the “single-user” model, the CDA could enter into a multi-year agreement with a specific user to receive all the pellets from the Chino II Desalter. This type of contract may be of interest to the user because it secures them a reliable high-volume supply of the pellets that could justify making internal investments at their facilities to accommodate the pellets into their products. Moreover, with a long-term agreement, a wholesale user such as Orco Block or Specialty Minerals may be more inclined to invest the necessary time and money to market the pellets to specific retail end-users, and enter into a profit-sharing arrangement with the CDA. In addition,

the user must commit to purchasing the entire amount of pellets produced from the plant. The downside to the single-user agreement is that it locks the CDA into a single private user. This leaves the CDA vulnerable to the market fluctuations of that user's products, and may make other potential users uninterested in having future agreements with the CDA. To overcome these concerns, the contractual agreement between the CDA and the user could include specific clauses that protect the CDA against the user's market fluctuations. The contract could also include a termination clause that provides ample time for the CDA to negotiate and execute an agreement with another user before the contract is terminated.

If the CDA is not interested in the single-user model, or if a single-user agreement could not be executed to CDA's satisfaction, a multiple-user model could be utilized. Under this model, the CDA enters into purchase agreements with no less than two users (or buyers). The agreements simply set the logistical and financial terms for obtaining and purchasing the pellets from the CDA. This approach avoids having the CDA locked into a single pellet buyer, and helps protect the CDA against fluctuations in the market demands of an individual buyer. The ideal buyers are ones that satisfy the following criteria:

1. Buyers are in different industry sectors to help protect the CDA against fluctuations in the market of any specific buyer.
2. At a minimum, the number and capacity of buyers should be as follows:
 - a. Two buyers, each with ready demand of greater than 38 tons/day
 - b. Three buyers with the combined demand of any two of them being greater than 38 tons/day
3. Buyers are local to reduce transportation costs and maximize pellet value.
4. Buyers can readily receive truckloads of pellets on a daily basis.
5. Buyers are tolerant of variability in the quality and quantity of pellets.
6. Buyers produce a wide range of products or sell to a diverse user base.

The disadvantages of a multiple-user model are as follows:

1. The CDA would incur higher management costs for the coordination, billing, collection, and general paperwork for having multiple buyers instead of only one user.
2. Multiple buyers who cannot count on the steady, long-term supply of the pellets may be less willing to make changes at their facilities to accommodate the pellets, or invest in marketing the pellets to potential retail users.
3. It is possible that a single user may be willing to pay a higher price for the pellets if that user is guaranteed the full supply of pellets, instead of a potentially uncertain partial supply of the pellets.

APPENDIX A

MARKET SURVEY CONTACT INFORMATION

Market Sector	Company	Address	Contact
Construction Material Manufacturing	Orco Block	4510 Rutile St., Riverside, CA 92509	Tim Mallis 951-818-6724 tim.orco@.com www.orco.com
Limestone Mining	Specialty Minerals	6565 Meridian Rd., Lucerne Valley, CA 92356	Darin Lindsey 760-248-5363 John Finn 714-473-8744 www.mineralstech.com
Specialty Aggregate Processing	A-1 Grit	1901 Massachusetts Ave., Riverside, CA 92507	Louis Moldina 800- 266-4748 a1grit@aol.com www.a1grit.com
Cement Manufacture	California Portland Cement	695 South Rancho Ave., Colton, CA 92324	Jerry Farr 909-430-2757 jfarr@calportland.com www.calportland.com
Cement Manufacture	Vulcan Materials	1709 Sherborn Street, Corona, CA 92879	951- 278-3077 www.vulcanmaterials.com/corona
Cement Manufacture	Rancho Ready Mix	1150 South Rancho Ave., Colton, CA 92324	Pat Dempsey 909-825-3611 pat@ranchoreadymix.com www.ranchoreadymix.com
Animal Feed and Dietary Supplement	Brookhurst Mill	3315 Van Buren Blvd, Riverside, CA 92503	Kathy Etroccoli 951-688-3511 x226 ketroccoli@aol.com www.brookhurstmill.com
Animal Feed and Dietary Supplement	Star Milling Co.	24067 Water St. Perris, CA 92572	Grant Gilman 951-657-3143 www.starmilling.com
Dairy Operation	P & D Dairy	8919 Merrill Ave., Chino, CA 91710	Steve Lindersmith 909-930-9390 slindersmith@yahoo.com
Egg Ranch	Voortman's Egg Ranch	13960 South Grove Ave., Ontario, CA 91762	Eddie Voortman 909-465-1319
Fertilizer and Soil Amendment	Kellogg Garden Products	8605 Schaefer Ave., Ontario, CA 91761	Andrew Godfrey 800-232-2322 x8021 www.kelloggarden.com
Fertilizer and Soil Amendment	Scott Miracle Gro	915 East Grevillea Ct., Ontario, CA 91761	Matt Grossbauer 909-947 1133
Fertilizer and Soil Amendment	Sun Gro Horticulture	2101 Whisler Rd, McFarland, CA 93250	Shiv Redi 888-797-7328 shivr@sungro.com www.sungro.com
Fertilizer and Soil Amendment	Gro Power	15065 Telephone Ave., Chino, CA 91710	Jack Anberg 562-754-0415 www.gropower.com

Market Sector	Company	Address	Contact
Biosolids Stabilization	Synagro	1800 Bering Dr. #1000, Houston, TX 77057	Lauri Loader 909-322-0388 lloader@synagro.com www.synagro.com
Abrasives and Sand Blasting	Crystal Mark	613 Justin Ave., Glendale, CA 91201	Keith Swan 800-659-7926 x229 sales@crystalmarkinc.com www.crystalmarkinc.com
Abrasives and Sand Blasting	Surface Prep Solutions	13900 Orange Ave., Paramount, CA 90723	Chris Damiano 310-270-6470 chris.damiano@surfceprepsolutions. com www.surfceprepsolutions.com
Industrial Waste Neutralization – Rubber Production	Mitchell Rubber	10220 San Sevaine Way, Mira Loma, CA 91752	Norman Capari 626-961-9711 www.mitchellrubber.com
Industrial Waste Neutralization – Metal Production	Schaeffer Industries	3030 Dulles Dr., Mira Loma, CA 91752	George Schaeffer 951-681-1000 info@sisteel.com www.sisteel.com
Industrial Waste Neutralization – Plastic and Fiberglass Production	Peabody Engineering	13435 Estelle St, Corona, CA 92879	Bryan Foust 951-734-7711 www.etanks.com
Industrial Waste Neutralization – Household Chemicals Production	Chemcor	13770 Benson Ave., Chino, CA 91710	Frank Tarquin 909-590-7234 www.chemcorchemicals.com
Industrial Waste Neutralization – Household Chemicals Production	Gen Lab	5568 Schaefer Ave., Chino, CA 91710	Solaiman Jonatan 909-591-8451 www.genlabscorp.com
Industrial Waste Neutralization – General Chemicals Production	Brenntag	10747 Patterson Pl., Santa Fe Springs, CA 90670	John Lucero 562-777-9310 www.brenntag.com
Industrial Waste Neutralization – General Chemicals Production	Rhodia	20720 S. Wilmington Ave., Long Beach, CA 90810	Fred Belledin 310-637-8080 www.rhodia.com