STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF MAY 4-5, 2011
Prepared on April 8, 2011

ITEM NUMBER: **13**

SUBJECT: **Waste Discharge Requirements for the County of San Luis Obispo, Los Osos Water Recycling Facilities, San Luis Obispo County (Order No. R3-2011-0001)**

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KEY INFORMATION

Facility Name	Los Osos Water Recycling Facility
Facility Owner:	County of San Luis Obispo
Location:	2300 Los Osos Valley Road, Los Osos, CA 93402
Discharge Type:	Municipal/Domestic
Design Capacity:	1.2 MGD Annual Average
Treatment Type:	Extended Aeration with Tertiary Filtration
Disposal:	Leachfield, urban reuse, and agricultural reuse
Recycling:	Future plans, but Discharger has not yet developed Engineering Report
This Action:	**Adopt Order No. R3-2011-0001**

SUMMARY

The County of San Luis Obispo (County) proposes to construct a wastewater collection, treatment, disposal and recycling system to serve the communities of Los Osos and Baywood Park. The Los Osos Water Recycling Facility (WRF) is intended to replace individual septic system and thereby result in residents' compliance with an onsite wastewater system prohibition set forth in Resolution No. 83-13 found in the Water Quality Control Plan (Basin Plan) for the Central Coast Region. The proposed Waste Discharge Requirements Order (Order) is specific to the treatment, disposal, and reuse of wastewater at the Los Osos WRF.

PURPOSE

The design and construction of the wastewater treatment system for the community of Los Osos has been a controversial issue for nearly three decades. Acting with authority granted by AB 2701[1], the County plans to design and construct a community-wide wastewater treatment facility capable of 1) addressing the current water quality issues, 2) allowing an opportunity for urban and agricultural water reuse, and 3) providing a major step in water balance in the Los Osos groundwater basin. The County is eager to obtain waste discharge requirements from the Central Coast Water Board as such requirements will facilitate funding from the State Water Board and allow final design work on the wastewater collection, treatment, disposal and recycling facilities.

[1] ftp://leginfo.public.ca.gov/pub/05-06/bill/asm/ab_2701-2750/ab_2701_bill_20060920_chaptered.pdf

DISCUSSION

The Setting – The Los Osos/Baywood Park area of San Luis Obispo County is located on the southern edge of Morro Bay National Estuary, approximately ten miles west of the City of San Luis Obispo (shown on Attachment A of proposed Order). The community has a population of approximately 15,000 people, and contains about 5,000 individual lots (many of which are only 25 or 37.5 feet wide). Throughout the community, onsite septic systems are used for treatment and disposal of wastewater. Because many of the lots are too small for conventional leachfields, deeper seepage pits are frequently used for wastewater disposal. Depth to groundwater varies throughout the community; however, in shallow areas many of the seepage pits and leach fields discharge directly to groundwater.

Treatment Facilities - The proposed treatment facility will be located at 2300 Los Osos Valley Road. The proposed treatment system consists of bar screens, secondary treatment (parallel oxidation ditches), secondary clarification, tertiary filtration, and ultraviolet disinfection. Solids will be thickened then mechanically dewatered and disposed of at an approved biosolids disposal site. The facility will also include a septage receiving holding tank to meter septage into the wastewater treatment process. The septage holding tank will be used only for sources within the Los Osos area that are not served by the community wastewater treatment facility. The treatment plant's annual average flow design capacity is 1.2 million gallons per day. A diagram of the treatment processes is shown on Attachment B of the Order.

Disposal and Reuse - Treated municipal wastewater will be discharged to leachfields, urban landscape irrigation, and agricultural irrigation (disposal and reuse areas are depicted on Attachment C). The Discharger included a list of areas proposed for disposal in its report of waste discharge application.

- Discharge Point 1: agricultural reuse irrigation at 25 different locations.
- Discharge Point 2: Broderson leach field.
- Discharge Point 3: Bayridge Estates leach field at two locations.
- Discharge Point 4: urban reuse irrigation at 10 different locations.

Details of the Discharger's reuse program are not yet available; therefore, general reclamation requirements are included in this Order as guidance for development of that program and may be updated and/or revised to address reuse program specifics. Central Coast Water Board staff will propose master reclamation permit requirements for consideration and adoption at a later Water Board meeting in accordance with Section 13523.1 of the California Water Code. The master reclamation permit will regulate the distribution and use of the produced Title 22 tertiary treated and disinfected recycled water. Furthermore, the master reclamation permit will include the County's complete engineering report (developed pursuant to Title 22) and will identify reuse locations, associated management practices, monitoring, and reuse agreements. The County will not be authorized to provide recycled water until the Water Board adopts separate reclamation requirements.

Recycled water reuse agreements between the County and the urban and agricultural users are mandatory conditions for project funding execution and construction.

Specifically, Condition No. 11 of the August 30, 2010 U.S. Department of Agriculture Letter of Conditions identifies conditions to be satisfied prior to loan/grant closing or before constriction begins. Condition No. 11 (Urban Purchase Contracts) states, "the project involves the disposal of [recycled] water on private land, and you must have written contracts to accept this treated water are to be reviewed and concurred in by USDA Rural Development. Such requirements are subject to the requirements of RUS Instruction 1780.62."

General Groundwater Characteristics - The Los Osos Basin covers approximately 10 square miles, of which approximately 6.7 square miles underlie Los Osos, Baywood Park, and the Los Osos Creek Valley. The groundwater basin is bounded to the north, east, and south by relatively impermeable bedrock formations and to the west where the aquifers crop out on the ocean floor. The fresh water portion of the basin is defined by the saltwater/fresh water interface, which has moved onshore. In the deepest portions of the basin, the fresh water-bearing deposits extend to depths of approximately 700 feet below sea level. Previous studies have identified six aquifer zones in the Los Osos Basin, which include the unconfined alluvial aquifer in the Los Osos Creek Valley and five interbedded aquifer zones designated as Zones A through E. The aquifer zones include: 1) the unconfined perched aquifer (Zone A), 2) the upper transitional aquifer (Zone B), 3) the upper main supply aquifer (Zone C), and the lower aquifers (Zones D and E). The upper and lower aquifer systems are separated by a regional aquitard that averages approximately 50 feet in thickness[2].

Water Production and Seawater Intrusion - Domestic water supply for the Los Osos community is provided by three main water purveyors: Golden State Water Company (GSWC), Los Osos Community Services District (LOCSD), and S and T Mutual Water Company (S&T). Additional drinking and irrigation water comes from individual private wells, mostly in outlying rural areas. Under supervision of San Luis Obispo County Superior Court, the three main water purveyors and the county entered into an Interlocutory Stipulated Judgment (ISJ) on August 5, 2008. The ISJ allows for the parties to cooperatively assess, develop, and implement a plan to address water rights and use in the Los Osos Basin. The County's participation in the ISJ working group allows coordinated efforts between the construction of the wastewater project and water management in Los Osos.

The ISJ working group notified the public of its efforts through the May 5, 2010 Los Osos Groundwater Basin Plan Update. The May 2010 update included a discussion of Los Osos Basin characteristics, the basin's safe yield, and current seawater intrusion. The update also included various activities that the ISJ working group will investigate and consider to balance the basin. Further, the ISJ working group plans to incorporate these actions as part of a subsequent Los Osos Groundwater Basin Management Plan (BMP). According to the May 2010 update, the seawater wedge has extended into the lower aquifer through "fingers" at a rate of 700 feet per year. These conclusions were based on data from 2005 through 2010. The May 2010 Los Osos Groundwater Basin Plan Update is available at the following website:

http://www.losososcsd.org/Library/Document%20Library/groundwaterbasinupdate5-4-2010[1].pdf

[2] Cleath & Associates, Sea Water Intrusion Assessment and Lower Aquifer Source Investigation of the Los Osos Valley Groundwater Basin, San Luis Obispo County, California, Prepared for the Los Osos Community Services District, Dated October 2005.

Water Board staff recognizes that wastewater management in combination with groundwater basin management, conservation practices, and water reuse constitute the model for new wastewater projects within the Central Coast Region as well as the state. The proposed Order supports the wastewater management and reuse components of comprehensive water quality management in Los Osos.

PROPOSED REQUIREMENTS

Consistent with Water Code, Division 7, including sections 13263 and 13523, the proposed Order is based on Title 22 of the California Code of Regulations, Basin Plan requirements and recommendations, and staff's professional judgment. It is consistent with comparable discharge requirements within the Central Coast Region and designed to protect water quality for existing and anticipated beneficial uses of surface waters and groundwater in the vicinity of the discharge.

Prohibitions and Effluent Limitations - Proposed prohibitions limit the discharge to wastewater receiving full treatment and disposed of at designated disposal and reuse areas depicted on Attachment C of the Order. Effluent limitations are based on the design capacity of the treatment facilities (1.2 million gallons per day) and constituent concentrations common for subsurface disposal (settleable solids, suspended solids and biochemical oxygen demand) to ensure long-term function of the disposal system. An effluent limitation for nitrogen of 7 mg/L as N monthly average and 10 mg/L as N daily maximum is proposed to ensure protection and ultimate restoration of underlying groundwater. The state drinking water standard for nitrate is 10 mg/L as N. Effluent concentrations of 7 mg/L as N will eventually lead to restoration of groundwater to drinkable quality with some margin of safety (due to effluent limit being lower than drinking water limit, and dilution with other sources of groundwater).

Recycled Water Specifications - The County ultimately plans to reuse treated wastewater for urban and agricultural irrigation. Therefore, recycled water specifications are included in the proposed Order in accordance with Water Code section 13523. Recycled water specifications are based on Title 22, Division 4, Chapter 3 of the California Code of Regulations and designed to protect water quality and public health. The facility is design to meet recycled water specifications of 2.2 most probable number per 100 liters for total coliform. Meeting these recycled water specification will protect water contact beneficial use objectives as well as public health standards for unrestricted recycled water use. Details of the County's recycled water project are not yet complete. In accordance with Title 22 requirements, the proposed Order requires an engineering report on the production, distribution and use of recycled water (required by Title 22 and describing the reuse project entirely) be submitted for approval of the Executive Officer after consultation with State Department of Public Health prior to reuse activities.

Once the engineering report is approved, with consultation by the State Department of Public Health, staff anticipates recommending master reclamation requirements to regulate the end use of the recycled water. A proposed master reclamation permit will require review and approval at a subsequent Water Board meeting.

Receiving Water Limitations – Groundwater is the receiving water for the proposed discharge. As described above, much of the shallow zone of the Los Osos groundwater basin is degraded by excess nitrate. The proposed community wastewater treatment system is specifically designed to reduce nitrate loading to groundwater and reduce nitrate levels in the long term. Receiving water limitations in the proposed Order do not

allow the discharge to degrade groundwater compared to historical (pre-discharge) conditions. Surface water impacts are addressed by the prohibition of runoff, overflow or any other discharge to areas other than approved disposal and reuse sites (Prohibitions A.1 and A.2.). Surface waters will be further protected by the long-term restoration of groundwater, which ultimately discharges to surface waters of Morro Bay and creeks tributary to Morro Bay.

Provisions – The proposed Order requires compliance with a monitoring and reporting program and the Water Board's standard provisions for waste discharge requirements. Provisions regarding proper disposal of biosolids, nuisance prevention and public safety are also included in the proposed Order. The Order requires the development of a strategy to develop and implement an onsite wastewater management plan to ensure ongoing operations, maintenance and monitoring of onsite systems within the unsewered areas of the community, which also include areas within the PZ. The Order also requires the County to participate in a basin-wide stakeholder group that will develop and implement a salt and nutrient management plan as required by the State Water Board's Recycled Water Policy.

Central Coast Water Board staff proposes a provision that is consistent with Post-Construction Condition No. 88 from the Coastal Development Permit (No. DRC2008-00103). This condition states that "the County shall evaluate and, where appropriate, assist property owners in the implementation of opportunities to re-use existing septic tank effluent disposal systems (e.g., leach fields) to filter and percolate stormwater runoff. Prior to the connection of individual properties the County shall, at the consent of the landowner, evaluate whether existing on site wastewater disposal facilities have adequate capacity and depth to groundwater to accommodate and percolate stormwater runoff, and if so, provide site-specific recommendations on how to connect such a system."

Monitoring Requirements – The proposed Order includes a monitoring and reporting program to ensure ongoing protection of water quality and compliance with specified requirements. Requirements include daily, weekly, and monthly effluent and recycled water monitoring, and semiannual and annual groundwater monitoring. Submittal of self-monitoring reports is required monthly with an annual summary report due January 30th of each year.

The following table presents the most recent groundwater quality data available from wells screened in the uppermost aquifer in Los Osos. Well locations are depicted on Attachment D. Similar to historical data, the monitoring data continue to show groundwater impaired by nitrate (17 wells exceed the Maximum Contaminant Level (MCL) of 10 mg/L as N for drinking water and one well is at the MCL). Four wells have concentrations approaching the MCL. As indicated above, historically, shallow groundwater was the predominant source of domestic supply for Los Osos. However, due to nitrate contamination in the shallow zones, groundwater production has shifted to the better quality, deeper zones.

Los Osos Upper Aquifer Groundwater Quality

Well ID #	Depth to Water (ft)	Nitrate as N (mg/L)	Sample Date	Well ID #	Depth to Water (ft)	Nitrate as N (mg/L)	Sample Date

Well ID #	Depth to Water (ft)	Nitrate as N (mg/L)	Sample Date	Well ID #	Depth to Water (ft)	Nitrate as N (mg/L)	Sample Date
7K	51.17	**11**	10/26/2006	**17F4**	na	0.6	10/26/2006
7L3	36.46	**23**	10/24/2006	**17N4**	20.75	5.6	10/25/2006
7N1	6.25	**29**	10/18/2006	**18A**	na	**11**	10/26/2006
7Q1	2.67	**21***	10/18/2006	**18B1**	17.83	7.0	10/26/2006
7R1	21.0	**13**	10/26/2006	**18C1**	16.21	**14**	10/24/2006
8N2	34.35	1.2	10/27/2006	**18E1**	24.0	7.9	11/1/2006
8Ma	39.83	4.2*	10/25/2006	**18F1**	95	5	5/8/2006
8Mb	40.17	**18***	10/25/2006	**18J6**	19.50	1.9*	10/19/2006
13F1	15	**19**	4/6/2006	**18L3**	38.58	5.9	10/20/2006
13G	39.33	**10**	10/18/2006	**18L4**	19.52	**14**	10/24/2006
13H	25.79	2.6*	10/19/2006	**18N1**	72.63	**20**	10/27/2006
13L5	21.50	**11***	10/20/2006	**18R1**	10.50	**18**	11/1/2006
13Q1	83.58	**18**	10/27/2006	**20B**	na	6.0	10/25/2006
17D	na	**17**	10/24/2006	**21D**	10.25	4.8	10/25/2006
17E9	91.50	**13**	10/31/2006	**24A**	154.2	**11**	10/31/2006

Data Source: Cleath and Associates Los Osos Nitrate Monitoring Program, October 2006
* - other form of nitrogen detected
na – Data not available at time of report preparation

ENVIRONMENTAL SUMMARY

The County certified a final Environmental Impact Report (EIR) on September 29, 2009, for the construction and operation of a sewage treatment and water recycling facility.

The EIR did not identify any potentially significant environmental effects with respect to the adoption of these waste discharge requirements and within the jurisdiction of the Central Coast Water Board. Specifically, the EIR identifies no impacts with respect to groundwater quality and water supply (EIR Table Q.2-1, Section 5.2) and no impacts with respect to drainage and surface water quality (EIR, Table Q.2-1, Section 5.3). The EIR explained that the County would need to obtain a Clean Water Act Section 404 permit and a Clean Water Act Section 401 Water Quality Certification for potential adverse effects on federally protected wetlands during construction. The Central Coast Water Board will consider water quality certification in a separate regulatory process, which is not subject to the requirements of this Order.

The Central Coast Water Board is a responsible agency pursuant to CEQA (CEQA Guidelines Section 15096). The Central Coast Water Board has considered the EIR and makes its own conclusions in this Order on whether and how to approve the waste discharge requirements for the project. Since the EIR has not identified any potentially significant environmental effects within its jurisdiction, Water Board is not required to make any specific finding pursuant to CEQA Guidelines 15096. The proposed waste discharge requirements will result in improved water quality in the Los Osos Basin since they require advanced tertiary treatment that will remove nitrate and bacteria, among other constituents, to concentrations below applicable water quality objectives, and because discharges from individual onsite systems that have polluted groundwater and contaminated surface water will cease upon completion of the facility.

BACKGROUND

Water Quality Impacts – Impacts to beneficial uses of groundwater underlying the community of Los Osos are attributed to the inadequate treatment and disposal of wastewater. The community's drinking water source is the Los Osos groundwater basin. Currently, nitrate concentrations in the shallow groundwater aquifer exceed the drinking water standard (10 milligrams per liter [mg/L] as nitrogen). The use of the shallow aquifer is currently limited primarily to non-domestic supply or irrigation. As a result, domestic water supply is pumped from the deeper aquifer, which creates an additional water quality problem by increasing seawater intrusion. Furthermore, continued septic tank discharges into the shallow aquifer have led to higher groundwater elevations (flooding) in certain areas during wet years.

Surfacing groundwater, especially during the wet season, creates a public health threat by exposing the public to inadequately treated wastewater. In various locations of the community, surfacing water (groundwater mixed with wastewater) is pumped into roadside ditches and storm drains, which then flow into Morro Bay. In areas with poor drainage the surfacing water remains ponded until it either evaporates or the groundwater table declines. Increased bacteria loading to Morro Bay has resulted in the closure of specific shellfish harvesting parcels by the State Department of Public Health. Most closures are temporary and are rescinded once water quality conditions improve. However, these temporary closures have affected the local shellfish harvesting companies, and clearly reflect impacts to shellfish harvesting beneficial uses within the Morro Bay. Studies indicate that bacteria are generated from multiple sources (birds, livestock, domestic animals, and human). More specifically, human were found to be the greatest single source (40%) of total *E. coli* strains found in samples from seeps located along the fringe of Los Osos/Baywood Park areas.[3] Los Osos and Chorro Creeks are the largest sources of fresh water to Morro Bay. In samples from Los Osos Creek, human E.coli DNA strains had the second largest (next to avian DNA) contribution at 17%.

In May 2006, staff of the Central Coast Water Board sampled shallow groundwater seeps located on the Los Osos shoreline into Morro Bay. The samples contained total coliform bacteria concentrations as high as 2,419 most probable number per liter[4][5].

Discharge Prohibition - The Central Coast Water Board identified the high-density use of septic systems in Los Osos/Baywood Park as a problem prior to 1971. At that time the Central Coast Water Board encouraged the County to develop a solution to address water quality and public health problems due to inadequate septic system treatment and disposal. However, the County's efforts were unsuccessful.

In 1983, the Central Coast Water Board adopted Resolution No. 83-13, which prohibited discharges of waste from individual and community onsite wastewater treatment systems within the urbanized area of Los Osos/Baywood Park (Prohibition Zone). Consequently, the County planned to design and construct a wastewater collection, treatment, and disposal system that would eliminate the need for individual and community onsite wastewater treatment systems by the prohibition effective date of November 1, 1988. The County failed to make significant progress toward planning and constructing the community wastewater system by the effective date of the prohibition.

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[3] Kitts, Christopher, Mark N. Moline, Andrew Schaffner, Mansour Samadpour, Katie McNeil, and Shanta Duffield. *Identifying the Source of Escherichia Coli Contamination to Shellfish Growing Areas of Morro Bay Estuary*. Tech. San Luis Obispo, 2002.

[4] The Basin Plan water quality objective states: Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 2000/100 ml, nor shall more than ten percent of samples collected during any 30-day period exceed 4000/100 ml.

[5] Samples were collected on May 16, 2006 and results read on May 17, 2006. Analyses was performed May 16, 2006, using Colilert method for total coliform and E. coli bacteria.

After the prohibition took effect, the Central Coast Water Board issued cease and desist Orders to the County and some multi-family housing projects within the Prohibition Zone. The cease and desist Orders included time schedules to comply with the final terms of the prohibition to cease discharging. The County has implemented a building moratorium in the Prohibition Zone since 1988.

On March 31, 2000, the Central Coast Water Board adopted Order No. R3-2000-0012, granting exemptions for septic system discharges from the Bayview Heights and Martin Tract areas. At that time, these areas were not proposed to be connected to the proposed community sewer system due to disproportionate cost, and provided the remainder of the community was sewered, the Bayview Heights and Martin Tracts (alone) were not expected to contribute to water quality degradation. In addition, the overall density of development in the Bayview Heights and Martin Tracts is one acre per onsite system, meeting the minimum lot size criteria specified in the Basin Plan. In Order to preserve the overall lot size density, subdivision of existing parcels is prohibited by Order No. R3-2000-0012 unless the resulting parcels are served by the community sewer system.

COMMUNITY WASTEWATER PROJECT HISTORY

Initial County Wastewater Project - After years of delays due to litigation and multiple alternative studies, the County Board of Supervisors voted to proceed with the Los Osos community wastewater project in October 1995. Central Coast Water Board staff reviewed the proposed project and found it acceptable for addressing water quality problems in the community. The County then proceeded with design, environmental review and permitting of the project. The community sewer system was on schedule to begin construction in 1997. However, the project's progress was halted due to appeals of the coastal development permit to the California Coastal Commission. The Coastal Commission allowed the Los Osos community to form a community services district to take control of the wastewater project.

Los Osos CSD Wastewater Project - In November 1998, the Los Osos voters formed a community services district (CSD) to replace the County as the governing body for community services (mainly water and wastewater management). The CSD abandoned the County's proposed wastewater project and initiated redesign, and redeveloped a revised project for wastewater collection, treatment, and disposal.

The Los Osos CSD ultimately submitted its community wastewater project for Central Coast Water Board staff review, and on February 7, 2003, the Central Coast Water Board adopted waste discharge requirements for the project. In 2004, the County issued its coastal development permit for the CSD project, and in August 2004 (after full appeal hearing) the California Coastal Commission issued its coastal development permit. Each permit was challenged by citizen groups through the courts and the permits were upheld.

The CSD requested bids, awarded three contracts (two for collection system areas and one for the treatment plant), and construction began in August 2005. In September 2005, a recall election replaced three CSD board members with board members who opposed the project under construction. The CSD issued temporary stop work Orders to all three contractors on October 3, 2005. Construction of the wastewater treatment facility stopped, and the CSD subsequently defaulted on its State Revolving Fund low-interest loan.

Succeeding County Wastewater Project - On September 20, 2006, Assembly Bill 2701 (AB 2701) was approved by the Governor. AB 2701 allowed the County to undertake efforts necessary to design and construct a community wastewater treatment facility for Los Osos/Baywood Park prohibition area.

The County immediately began the conceptual design and environmental review of the currently proposed project. The County conducted technical studies and provided the public an opportunity to review and comment on technical documents related to the community wastewater treatment project. The County released its draft environmental impact report (EIR) on November 14, 2008, and certified its final EIR and adopted a coastal development permit on September 29, 2009.

Shortly after the final EIR and permit approval, 23 parties appealed the Board of Supervisors' actions to the Coastal Commission. At its January 14, 2010 hearing, the Coastal Commission found that the appeals raised substantial issues with the project and required a *de novo* hearing. The Coastal Commission unanimously approved the newly conditioned permit and final EIR at its June 11, 2010 *de novo* hearing. County staff submitted its report of waste discharge to the Central Coast Water Board on August 16, 2010, in accordance with Section 13260 of the California Water Code.

COMPLIANCE HISTORY

Los Osos CSD Cease and Desist Orders – On May 21, 1999, the Central Coast Water Board adopted updated cease and desist Orders for four on-site wastewater systems located within the Basin Plan prohibition zone that are owned and operated by the Los Osos CSD. CDOs previously issued to the County were updated to reflect the newly formed CSD as owner of the wastewater facilities and incorporated an updated project implementation schedule. The CDOs were issued to achieve full compliance with the Basin Plan Prohibition and were specific to the Bayridge Estates (No. 99-53), Los Osos CSD Water Division (No. 99-54), Los Osos Fire District (No. 99-55), and the Vista Del Oro Estates (No. 99-56). Each CDO contained compliance schedules to achieve full compliance with the Basin Plan Prohibition. Milestone dates specified in the cease and desist Orders were based on significant and measurable steps in the project.

Delays due to re-evaluating project alternatives, permit appeals, court challenges, and the CSD's halting the project under construction resulted in violations of the CDO milestones. The cease and desist Orders are still in effect.

Time Schedule Order - The Central Coast Water Board adopted Time Schedule Order No. 00-131 at its October 27, 2000 public meeting. The time schedule Order, based on Section 13308 of the Water Code, is similar to a time schedule Order issued to the County in 1996. The time schedule Order contains a date-specific compliance schedule and a dollar amount to be assessed for each day the CSD failed to meet the schedule milestones. The penalty amount specified in Order No. 00-131 is the maximum allowable amount of $10,000 per day. Time Schedule Order No. 00-131 includes the following compliance dates:

Task	Completion Date
Circulate draft EIR	12/15/00
Final CEQA document	04/01/01
Form assessment district or comparable financing for wastewater system	07/29/01

Task	Completion Date
Complete approved design plans	07/15/02
Submit County Use and Coastal Development permits	07/15/02
Begin construction	09/06/02
Complete construction	08/30/04

Note: Status Reports due quarterly and two weeks after each above date.

On October 6, 2005, the Central Coast Water Board adopted Administrative Civil Liability Order No. R3-2005-0137 penalizing the CSD $6.6 million due to its failure to complete and implement the community wastewater management plan.

Individual Cease and Desist Orders - In December 2006 and May 2007, the Central Coast Water Board adopted 13 cease and desist Orders requiring the recipients to meet the requirements of Resolution No. 83-13 by ceasing the use of their septic systems if the county fails to construct a community-wide wastewater system. Water Board enforcement staff also entered into settlement agreements with 25 additional Los Osos homeowners with terms similar to those of the cease and desist Orders. Several Order recipients filed petitions with the State Water Resources Control Board (State Water Board) challenging the cease and desist Orders. The State Board denied the petitions and the recipients subsequently sued in San Luis Obispo County Superior Court to overturn the Orders. On December 28, 2010, the court issued an Order denying the petitioners' case, stating that the cease and desist Orders "are supported by substantial evidence, and that the hearings were conducted in the manner required by law." The court also found that the "Regional Board went out of its way to provide due process of law, allowing affected residents a reasonable opportunity to speak their minds and present exculpatory evidence." The Orders and settlements require maintenance of the on-site systems (including pumping every three years, consistent with standard conservative maintenance recommendations) and connection to the sewer system once it is available.

PUBLIC NOTIFICATION

In a hearing notice dated February 9, 2011, Central Coast Water Board staff notified the Discharger and all known interested parties of its intent to recommend waste discharge requirements for the LOWRF. The notice provided interested agencies and individuals with a copy of the proposed Order and an opportunity to submit written views and comments by March 11, 2011. Staff carefully reviewed all comments. Staff responses are focused on comments specific to the proposed Order. While all comments are incorporated into the administrative record, staff has not responded here to comments beyond the scope of the Water Board's jurisdiction.

The following interested persons provided comments on or before the March 11, 2011 comment deadline:

- John Waddell, County of San Luis Obispo
- Dan Gilmore, Los Osos Community Services District
- Kurt Souza, California Department of Public Health
- Patrick Vowell, Golden State Water Company
- Julie Tacker and Jeff Edwards
- Al Barrow
- Piper Reilly

- Keith Wimer, Los Osos Sustainability Group
- Shaunna Sullivan, Sullivan & Associates
- Linde Owen
- Jeff El-Hajj, Angel Law

COMMENTS AND RESPONSES

County of San Luis Obispo – The Discharger submitted comments specific to the Provision G.7 of Order No. R3-2011-0001. Provision G.7 requires the Discharger to "submit a strategy identifying its approach to develop and implement an onsite wastewater management plan for compliance with the Basin Plan."

1. It is the County's understanding that Provision G.7. is not applicable "because it is outside the scope of the special legislative authority that authorizes the County to build the Project." Additionally Assembly Bill 2701 authorizes the County to construct and operate a community wastewater collection and treatment system within the area known as the prohibition zone, but preserves all of the other existing powers of the Los Osos Community Services District."

Staff Response 1: Although staff understands that Assembly Bill 2701 only authorizes the County to construct and operate the LOWFR, staff does not propose to change language in Provision G.7. The language requires the submittal of a strategy to develop an onsite management plan in accordance with Section VIII.D.3.g.(14) of the Basin Plan. Further, this provision allows the County to identify and coordinate with the appropriate departments and external agencies to address onsite wastewater systems within the Los Osos Community. The County remains the permitting authority for septic systems within the Community Services District's jurisdiction and is required by the Basin Plan to develop the plan. Also, staff understands that a draft plan may already exist, which was developed by the county with assistance of CSD and Water Board staff. This provision is intended to start the discussion of long-term onsite wastewater management in the area and continued groundwater basin water quality improvements.

Los Osos Community Services District – The Los Osos CSD submitted comments regarding receiving water requirements, onsite management plan implementation, and setback criteria for wastewater discharges.

1. "If the project is successful in improving the quality of groundwater with respect to nitrate and other constituents, will the receiving water requirements change?"

Staff Response 2: Staff anticipates that, through the construction and operation of the LOWRF, in combination with water conservation, water production management, and recycled water reuse, groundwater quality will improve. Staff also anticipates that the effluent limitations will need to remain at the proposed levels to maintain water quality. The proposed requirements are based on the state maximum contaminant level (MCL) for drinking water and current technologies for efficient nitrogen treatment. However, staff cannot anticipate future changes to water quality standards or regulations that may require modifications to the effluent limitations. No changes are proposed.

2. Regarding Provision G.7. of the WDR, "While a [onsite wastewater management plan] plan and a strategy is simple enough to develop, implementation and enforcement may be more challenging. It is not clear what process or mechanism might be utilized to ensure cooperation and compliance by property owners outside the prohibition zone"

Staff Response 3: Provision G.7. is based on Section VIII.D.3.g.(14). of the Basin Plan. In Order to continue efforts to improve groundwater in the Los Osos basin, staff anticipates combined activities of the County and external agencies involved in the management of onsite wastewater systems in the Los Osos Community. The proposed Order does not explicitly require the County to develop an onsite management plan, but does require the development of a strategy to identify agencies and programs that will facilitate the adequate management of onsite wastewater systems in Los Osos. The plan will need to specify ordinances and regulatory programs to ensure proper permitting and operation of onsite systems. No changes are proposed.

3. "Item A.4. prohibits the discharge of wastewater within 150 feet of any well used for domestic or irrigation of food crops. While the prohibition makes sense for domestic supply wells, it does not seem to make sense for wells used to irrigate food crops."

Staff Response 4: The prohibition to discharge wastewater 150 feet from any well used for domestic supply or irrigation of food crops is predicated on the fact that wells are potential conduits to groundwater aquifers. In Order to protect groundwater aquifers the proposed Order prohibits the discharge of any wastewater in areas that have a higher potential to introduce wastes to groundwater. Upon further review, Title 22, Division 4, Chapter 3, Article 4, Section 60310 (d) requires a 100-foot setback from domestic water supply wells for disinfected tertiary treated recycled water. Staff has changed Section A.4 to reflect 100-foot setback instead of 150-foot setback. .

California Department of Public Health (CDPH) – CDPH submitted edits specific to recycled water specification language and recycled water monitoring.

1. "Page 14, Section C.4 and C.6 should be combined or C.6 needs to include the language in Title 22 for alternative disinfection, such as UV. Please add section 60301.230 (a) (2) to the Order. Also, after the addition, please add that on-site validation testing of the alternative disinfection process must be completed. The testing protocol and final testing results need to be reviewed and approved by RWQCB and CDPH."

2. "Page 14, Section C.5. could include the turbidity requirements for sand filtration; this paragraph is limited to membrane filtration only."

3. "The Monitoring and Reporting Program, Page 2, footnote (1) should include the turbidity requirements for membrane filtration; this is limited to sand filtration."

4. "The Monitoring and Reporting Program, Page 2, footnote (2) includes chlorine monitoring which is not included in the Table 3."

5. "The Monitoring and Reporting Program, Page 2, Table 3 needs to include monitoring for the disinfection process to achieve disinfected tertiary recycled water. Either CT (chlorine concentration and time) or the UV system would have to be monitored continuously, analyzed daily and reported monthly. I think a generic statement about the continuous and daily monitoring required will be determined based upon the validation testing and unit that is selected."

6. CDPH would like to add Total Organic Carbon to the Annual groundwater monitoring on page 3 of the Monitoring and Reporting program.

Staff Response 5: Staff agrees with CDPH's suggested edits to the proposed Order and monitoring program. These changes will add consistency within the proposed Order and with Title 22 recycled water requirements. Sections of the proposed Order associated with the comments above have been changed.

Golden State Water Company – GSWC submitted comments regarding additional monitoring for chemicals of emerging concern (CECs) to the monitoring and reporting program. GSWC also requested the addition of monitoring up-gradient and down-gradient wells.

1. "CEC indicator monitoring requirements set forth in the CEC Advisory Panel's final report should be incorporated in to the monitoring program in the Los Osos WDR."

Staff Response 6: Staff agrees in part with this comment. Section 7.b.4. of the 2009 State Recycled Water Policy states,

> "Permits or requirements for landscape irrigation projects shall include, in addition to any other appropriate recycled water monitoring requirements, recycled water monitoring for CECs on an annual basis and priority pollutants on a twice annual basis. Except as requested by CDPH, State and Regional Water Board monitoring requirements for CECs shall not take effect until 18 months after the effective date of this Policy. In addition, any permits shall include a permit reopener to allow incorporation of appropriate monitoring requirements for CECs after State Water Board action under paragraph 10(b)(2)."

The Recycled Water Policy became effective May 14, 2009, so the provision quoted above must be implemented. However, the Advisory Panel's specific recommendations apply only to recycled water used for groundwater recharge. Table 3 of the Monitoring and Reporting Program has been modified to include recycled water monitoring for CECs.

2. "We suggest that where infeasible to use existing wells up-gradient and down-gradient for water quality monitoring purposes, there be a requirement that the County install monitoring wells specifically for that purpose."

Staff Response 7: Staff agrees that adequate disposal area monitoring is vital to assess the disposal site integrity and ensure that receiving water is protected. Staff has added Provision G.11 of the Order that requires the Discharger to develop a upgradient groundwater monitoring work plan for both discharge locations (Broderson and Bayridge leach fields). The work plan will be due to Water Board staff by February 3, 2012.

Ms. Shaunna Sullivan – Ms. Sullivan submitted comments regarding various issues for clarification, such as Resolution No. 83-13 language, recycled water requirements, onsite management plan, groundwater maps, as well as other topics.

1. "Although you have recently renamed the plant as a recycling plant rather than a discharge facility, the recycling component is missing from the proposed project as well as from your discharge permit requirements."

Staff Response 8: Recycled water specifications are proposed in Section C of the proposed Order. While the Order as proposed only authorizes discharges to the Broderson and Bayridge disposal fields, the Order is set up to allow the Discharger to

produce recycled water. Once the Discharger has developed an engineering report that identifies specific areas for recycled water reuse and associated practices, then staff will propose a master reclamation permit for later adoption by the Water Board, pursuant to Section 13523.1 of the Water Code. No changes are proposed.

2. "I object to the last paragraph of page 5 and the table on page 6 with regard to the nitrate data to justify this project. The table includes apparent "cherry-picked" data dating back to various selected dates in 2006 indicating that 17 wells on those specified dates exceeded the maximum contaminant levels (MCL) of 10 mg/L as N. What the staff report fails to state is that the same table reflects 13 wells were at or below the required MCL. The staff report also fails to reflect information derived from the "Los Osos Nitrate Monitoring Program of April 2005" prepared for the Los Osos Community Services District by Cleath and Associates."

Staff Response 9: Finding No. 9, Table 1 includes a subset of the most recent data collected by the CSD. The complete data indicate 17 wells had nitrate concentrations above the drinking water maximum contaminant level (MCL) of 10 milligrams per liter (mg/L) as N, one well had a nitrate concentration at the MCL, and 12 wells had nitrate concentrations below MCLs. The purpose of Table 1 is to demonstrate that the most recent nitrate data indicate wells are still contaminated with elevated nitrate concentrations and do not meet state drinking water standards. No changes are proposed.

Staff agrees that on page 11 of the April 2005 Los Osos Nitrate Monitoring Program developed by Cleath and Associates, the author concludes that "the number of monitoring network wells with water quality in excess of the NO3-N, drinking water standards, 10 mg/L has declined from 14 wells in October 2004 to 12 wells in April 2005." No changes are proposed.

3. "As set forth in The Cease and Desist Orders based on 83-13 your Board issued in 2006 'Discharges from individual and community sewage disposal systems are prohibited effective November 1, 1988 in Los Osos/Baywood Park are depicted in the prohibition boundary map included as Attachment A of Resolution 83-13'. There was no requirement that the discharges be waste discharges. If all discharges are prohibited, then clearly this project is also prohibited by Resolution 83-13."

Staff Response 10: Staff agrees that the Order should clarify that the Water Board is granting an exemption from the waste discharge prohibition. Therefore staff has added a provision to the proposed Order providing an exception in accordance with Section VIII.3.j (Subsurface Disposal Exemptions) of the Basin Plan. The following language will be added as Provision G.9. to the WDR.

Discharges of waste in compliance with this Order are exempt from the prohibition of waste discharges established by Resolution No. 83-13 in accordance with Section VIII.3.j of the Basin Plan.

4. "With regard to A2 and A3 prohibiting any overflow, over-spray, or run-off, **partially** treated waste water is this the prohibition that would subject Los Osos to mandatory fines in the event of an accidental overflow or discharge?"

Staff Response 11: Section A.3. prohibits the discharge of untreated or partially treated wastewater. Partially treated wastewater is wastewater that does not comply with effluent limitations adopted in this Order. Mandatory penalties for violations of effluent

limitations apply only to NPDES permits, which this Order is not. Though effluent limitation violations are subject to Water Board enforcement, including administrative liability, the Water Board is not required to issue mandatory penalties for accidental overflows or discharges. No changes are proposed.

5. "I also request that the staff and Board's Order regarding the history be accurate and include the prior failures of proposed systems to recharge the basin."

Staff Response 12: Staff included a brief discussion in the Staff Report identifying previous projects proposed to address problems in Los Osos. The purpose of the staff report is to discuss, primarily, the County's proposed project. The staff report includes a brief discussion of the project's history, but does not include project details for the last 30 years.

6. "With regard to the recycled water specifications, why not include the MCL water nitrate limitations in that table? It would offer to be more important for human health and safety to use MCLs for recycled water rather than for discharge levels for discharge into the groundwater."

Staff Response 13: The effluent limitations in the proposed Order are consistent with state recycled water standards (MCLs) for nitrogen. Staff does not propose separate recycled water limitations for nitrogen when the Discharger will be held to effluent limitations. No changes are proposed.

7. "It is a little unclear to me whether that is the recommendations on Page 5 that the Order require the development and a strategy to develop and implement an on-site wastewater management plan for **unsewered** areas of the community. It also requires the development and implementation of salt and nitrate management plan. The cost of compliance with these Orders apparently benefits areas outside the prohibition zone that have not yet been charged with the cost of this project."

Staff Response 14: Provisions G.6 and G.7 of the Order require the Discharger to "participate in the development, implementation, and monitoring of the salt and nutrient management plan" and submit a "strategy indentifying its approach to develop and implement an onsite wastewater management plan." Development and implementation of the salt and nutrient management plan as well as an onsite wastewater management plan are crucial to ensure long-term water quality improvement and protection to the Los Osos groundwater basin. Both management plans are also required elsewhere (for example, by the Basin Plan or the Recycled Water Policy) and are included in the proposed Order for emphasis and improved enforceability. They will require the participation from multiple stakeholders and are considered iterative documents. No changes are proposed.

8. "This facility will also include a septic receiving holding tank and meter septic into the waste water treatment process. Can you explain the staff report statement on Page 2 that the septage holding tank will be used only for sources within the Los Osos area that and are not served by the wastewater treatment facility. Will you provide further clarification of what this is and who will pay for it and who will benefit from it?"

Staff Response 15: The Discharger proposed to include a septage receiving element to its wastewater treatment system. Septage management in the county has been an ongoing problem with respect to disposal and receiving facilities. Most private septic pumping companies have to haul and dispose of septage out of the county. The

purpose for receiving septage at the LOWRF is to adequately manage all wastewater produced in the Los Osos area. The county will recoup its costs of septage treatment and disposal at the wastewater treatment facility by collecting disposal fees from pumpers. No changes are proposed.

9. "I object to the environmental summary the water board need not make any specific findings pursuant to CEQA guidelines. Your agency has failed to comply with the requirements of *California Public Resource Code* § 21080.5 and 23 C.C.R. 3775(a) through 3782."

Staff Response 16: As noted on page 6 of this staff report, "since the EIR has not identified any potentially significant environmental effects within the jurisdiction, Water Board is not required to make any specific finding pursuant to CEQA Guidelines 15096." Furthermore, "the EIR did not identify any potentially significant environmental effects with respect to the adoption of these waste discharge requirements and within the jurisdiction of the Central Coast Water Board. Specifically, the EIR identifies no impacts with respect to groundwater quality and water supply (EIR Table Q.2-1, Section 5.2) and no impacts with respect to drainage and surface water quality (EIR, Table Q.2-1, Section 5.3)." No changes are proposed. In addition, Public Resources Code section 21080.5 and 23 CCR sections 3775(a) through 3782 do not apply to the action of the Water Board to adopt waste discharge requirements. Those cited sections apply to certified regulatory programs, such as basin planning.

10. "Environmental justice and economic impacts on the community have not been properly addressed."

Staff Response 17: Environmental justice and economic impacts to the community were considered in the EIR prepared for the project. In addition, the Water Board considers community and economic impacts when developing water quality objectives and designating beneficial uses identified in the Basin Plan pursuant to Section 13241 of the Water Code. The proposed Order identifies specific discharge specifications for the treatment process proposed by the Discharger, which are consistent with the Basin Plan and protective of beneficial uses. These considerations were also of paramount importance to the Discharger as it developed its proposal. No changes are proposed.

Ms. Julie Tacker and Mr. Jeff Edwards – Ms. Tacker and Mr. Edwards submitted comments regarding components of the LOWRF treatment system and disposal, affordability, as well as seawater intrusion.

1. "The 'Los Osos Water Recycling Facility' appears to be a misnomer based on the facts related to the project and its actual function. To date the Broderson and Bayridge locations are the only known sites where 'recycled' water is intended to be discharged. The original concept was to use these sites during periods of wet weather. There is no established location for disposal of 'recycled' water during the balance of the year. This means that these sites will be subject to receipt of treated effluent throughout the entire year."

Staff Response 18: The proposed Order allows disposal of Title 22 tertiary treated and disinfected wastewater at the Broderson and Bayridge leach field locations. The Order also allows the Discharger to produce recycled water for later reuse. The Discharger is currently establishing reuse agreements with both urban and agriculture land owners. Prior to using recycled water, the Discharger will be required to develop an engineering

report in accordance with Title 22 requirements as well as apply for a master reclamation permit through our agency.

2. "Your proposed Order No. R3-2011-0006 raises questions about farmer's willingness to accept any water that has constituents that may be new to them. There is also the question of compliance with the Order and how it will effect their overall operation. The already expensive LOWRF cannot pay for farmers to take the water or facilitate their compliance with the Order."

Staff Response 19: The Discharger is currently discussing reuse agreements with various farmers. So far there are no indications that the local farmers will refuse the use of recycled water. There are other examples in the central coast region that demonstrate recycled water use for agricultural operations. No changes are proposed.

3. "Most importantly, the Los Osos Groundwater Basin is under serious threat of seawater intrusion; the ag reuse component of the project does little to nothing to offset groundwater pumping needed for domestic supplies. In other words, there is no plan to use water under agricultural properties for community supply purposes, often called "ag exchange.'"

Staff Response 20: With respect to the relationship between the LOWRF proposed discharges and seawater intrusion, staff understands that the construction and operation of the LOWRF is one of the vital steps in mitigating seawater intrusion. The reuse component of the overall project will provide a relief for water production from the lower groundwater aquifer. It has been documented through various seawater intrusion studies and Appendix D of the County's EIR that increased water production from the lower aquifer is a main factor in the increased rate of seawater intrusion. Agricultural and urban reuse within the Los Osos area will offset the amount required to supply internal and external water supply needs. No changes are proposed.

4. Infrastructure to urban reuse sites was not considered as part of the project or permitted under the Coastal Development permit. No CEQA analysis was done and no funding has been allocated for such additions to the project

Staff Response 21: According Section 1.3.1 of the September 2009 San Luis Obispo County CEQA Findings Document for the Final EIR, all urban reuse sites are within the areas served by the wastewater collection system, construction of which has already been evaluated through the CEQA process. More specifically this section states, "as documented in the project's Environmental Impact Report, all pipeline routes have been previously surveyed as part of the wastewater project." Staff agrees with the County's CEQA findings and does not require additional information regarding reuse infrastructure. No changes are proposed.

5. "Sea Pines Golf Resort, the largest turf area in the community, uses upper aquifer water for irrigation and was not considered as part of the project. The only infrastructure approved by the Coastal Commission was a trunk line to Broderson."

Staff Response 22: Staff understands that the County has approached the Sea Pines/Monarch Grove homeowners association to discuss the idea of connecting to the community system and allowing recycled irrigation at the Sea Pines Golf course. County staff would be better to provide details of these efforts. No changes are proposed.

6. "Urban reuse should be avoided altogether to allow for the alternative use of upper aquifer water, this use of non-potable upper aquifer water is cost effective."

   "Urban reuse on school turf sites additionally concerns our family; with well known common weather conditions in Los Osos, mainly summertime fog, there is little time for evaporation to take place until very late into the afternoon. One school uses their turf area as a retention basin; there is little need for irrigation."

Staff Response 23: Recycled water use is a vital step to reducing water production rates and ultimately mitigating seawater intrusion. Recycled water irrigation is regulated by Title 22, which is written specifically to protect public health. The Discharger's subsequent recycled water reuse plan will be required to include provisions that satisfy Title 22 requirements. Furthermore, Section C of the proposed Order requires the Discharger to comply with Title 22 recycled water specifications in compliance with the California Water Code Section 13523 as well as Title 22 recycled water standards for the production of recycled water. No changes are proposed.

7. "The report often refers to reduction in groundwater levels due to the implementation of the LOWRF; in fact the Coastal Development Permit prohibits drops in groundwater levels due to habitat concerns."

Staff Response 24: Staff agrees that existing septic system percolation will no longer exist after the LOWRF come on line. However, the County's EIR further discusses that the hydrologic deficit in the upper aquifer will be offset by the discharges at the Broderson and Bayridge leach fields. The October 2008 Hopkins Report states that the "effluent disposal at Broderson is designed to rebalance the hydrologic budget in the aquifer zones that provide a supply to the overlying beneficial uses." No changes are proposed.

8. "We request that the DWR prohibit any land application of sludge."

Staff Response 25: Biosolids disposal is regulated by Title 40, Part 503 of the Code of Federal regulations. The Discharger is required to comply with these federal regulations, which will be protective of public health and environmental quality. No changes are proposed.

9. "We further request that with any approval of DWR's that the 45 individual Cease and Discharge Order's immediately be rescinded."

Staff Response 26: The referenced cease and desist Orders (CDOs) are not associated with the adoption of the Order. They are subject to litigation that is handled by the Office of the Attorney General. Staff does not propose the rescission of these enforcement Orders as a component of the adoption of this Order. The CDOs will become moot upon connection of the affected properties to the LOWRF. No changes are proposed.

Mr. Al Barrow – Mr. Barrow submitted comments regarding project affordability, seawater intrusion, collection system exfiltration, and CEQA, among other issues. Mr. Barrow submitted his comments along with attachments from Mr. Robert Pickney, Adenus Group; Bill Cagle, Orenco System, Inc., and Susan K. Ladner, U.S. Department of Agriculture.

1. "Estimated Cost for a Decentralized Wastewater System for the Los Osos Wastewater Project." – via October 15, 2009 email from Robert Pickney, Adenus Group.

Staff Response 27: The propose Order specifically prescribes discharge specifications for the proposed treatment process. Selection of the treatment processes and accompanying financing are the responsibility of the Discharger. No changes are proposed.

2. "The environmental impacts of a conventional gravity system on the groundwater in the basin have been ignored in the engineering studies. All gravity collection systems develop leaks and breaks as the system ages. A study of nearby communities will show a continuous exfiltration of raw sewage into the ground water." - via October 15, 2009 email from Robert Pickney, Adenus Group.

Staff Reponses 28: The Discharger proposes a gravity system for the collection of wastewater. The efficiency and reliability of gravity collection systems have been well established. Furthermore, this system will be new and will have minimal to no exfiltration. Deterioration to the collection system may occur over time. However, the Discharger will be required to develop and implement a sanitary sewer management plan (refer to Finding No. 28 of this Order), which requires routine maintenance and replacement as deficiencies are encountered. If exfiltration were to occur, the rate of exfiltration would be negligible as compared to the existing septic discharges. No changes are proposed.

3. "The RWQCB has left the seawater intrusion problem in the hands of our water purveyors and the County of San Luis Obispo (County) which are now a part of the ISJ Working Group. The ISJ Working Group is working under the auspices of the Interlocutory Stipulated Judgment in the Los Osos Groundwater Basin (Basin) adjudication to draft and implement a Basin Management Plan (BMP)."

Staff Reponses 29: Although the Water Board agrees that seawater intrusion is a serious threat to the water supply of the community, the Board has very little, if any, authority to directly address seawater intrusion. Staff is confident that the combination of the operations of the LOWRF, community-wide water conservation, and recycled water reuse will ultimately reduce seawater intrusion. Staff continues to work with and encourage the ISJ working group to quickly implement water management practices to develop management practices that will reduce seawater intrusion rates. No changes are proposed.

4. "We have liquefaction conditions throughout the Prohibition Zone and are on a 6.8 Los Osos fault and 0 miles offshore is the Hosgri Fault 7.3 magnitude potential."

Staff Response 30: This potential impact was discussed in the Appendix D (and referenced documents) of the County EIR. Further, the Discharger, as part of its enrollment under the General Waste Discharge Requirements for Sanitary Sewer Management, will be required to develop an emergency response plan that will address emergency issues with the collection system. No changes are proposed.

5. "I include by reference Edo McGowan's comment letter March 1, 2011 SWRCB meeting on the constituents of wastewater effluent from treatment plants that is planned to be DISCHARGED into our drinking water aquifer supply and the local

farmland and wetlands. No discharge permit should be allowed until all these issues are resolved."

Staff Response 31: It is staff's understanding that the SWRCB Division of Water Quality, Department of Public Health, and the USEPA all have been contacted by Dr. McGowan about this issue and research is being conducted on this issue. Effluent and recycled water will meet all current regulations and standards. No changes are proposed.

Mr. Keith Wimer – Mr. Wimer submitted comments mainly regarding seawater intrusion, hydrologic deficit as a result of the cessation of septic percolation, decentralized systems, well-head treatment of nitrates, and the development of a supplemental EIR.

1. "Of major concern to the Los Osos Sustainability Group (LOSG) is that the proposed "reuse/disposal" program does not mitigate for the project. The program fails to provide a means for groundwater flows to be restored to wetlands and creeks, it fails to provide a way to mitigate for seawater intrusion as Broderson leach fields are being tested--or if they fail to perform as planned—and it fails to account for uncertainties (e.g., related to basin modeling and accelerating seawater intrusion)."

Staff Response 32: According to Appendix D of the County's EIR, cessation of the existing septic percolation flows will create a hydrologic deficit in the perched aquifer zone. The October 2008 Hopkins Report states, "effluent disposal at Broderson is designed to rebalance the hydrologic budget in the aquifer zones that provide a supply to the overlying beneficial uses." In addition, the agricultural and urban reuse program is designed to supplement existing water supply demand, thus reducing the amount of water produced from the lower aquifer. This reduction in lower aquifer water production will reduce seawater intrusion rates.

Many tests have been conducted at the Broderson disposal area to determine the site's conditions (i.e., depth to groundwater, subsurface infiltrations rates, and groundwater movement). Based on these studies, the LOCSD modified the existing Los Osos Basin groundwater flow model, which concluded that disposal at a rate of "896 AFY could be disposed without any excessive mounding at the site." Further, according to the 2003 *Simulated Effects of a Proposed Sewer Project on Nitrate Concentrations in the Los Osos Valley Groundwater Basin* by Gus Yates and Derrrick Williams, the change in nitrate concentrations will be gradual over time and the removal of septic system recharge in the prohibition area and the return of treated effluent with a reduced nitrate concentration to the Broderson site will result in improved water quality.

Lastly, groundwater modeling conducted by Cleath and Associates in 2008 indicated that the discharges at the Broderson site will restore groundwater levels in the upper aquifer system to elevations that are comparable to existing conditions. No changes are proposed.

2. "Its stated environmental objective is to 'alleviate contamination—primarily nitrates' but the EIR states that nitrate levels in the upper aquifer average 10 mg/l (drinking water standards) now, and the project will reduce nitrates only 1.7 mg/l over 30 years. A water quality test in 2005 concluded nitrates were 'close to equilibrium conditions under the current land uses and septic system discharges.'"

Staff Response 33: Staff agrees that the primary goal of the LOWRF is to address the nitrate contamination due to existing septic discharges. Although the 2005 Cleath and

Associates Los Osos Nitrate Monitoring Program concluded that "water quality trends are interpreted to indicate the general mineral concentrations in shallow groundwater are close to equilibrium conditions under the current land uses and septic discharges, which have been relatively stable since the 1980's," this equilibrium is a state of contamination. Data in Tables 3, 4, and 5 of the Cleath and Associates report indicate wells with nitrate concentrations above the drinking water standard. Therefore, current land use and septic discharges, even at equilibrium, yield an exceedance of nitrate in some wells, which does not comply with water quality standards.

3. "Concerns about the potential for surfacing septic system effluent or seeps to the estuary threatening resources and human health can be addressed with a much smaller decentralized project, integrated with septic system and storm water management plans. Further, purveyors are planning to treat upper aquifer water for nitrates before delivery."

Staff Response 34: The proposed Order establishes discharge requirements for a project proposed by the county after years of alternatives study and after adoption of an EIR that identifies the impacts of the proposed and alternative projects. Further evaluation of alternatives is not appropriate in this forum. That purveyors have to treat water before service is a result of septic system use, and the responsibility for that contamination fairly resides with the Dischargers of the waste, not the users of the water (even though in this case the users are in most cases also Dischargers). See also Staff Response 35.

4. "Well-head treatment of nitrates in Los Osos is more cost-effective than treating nitrates with a wastewater project. Property owners should not have to pay twice for treating the water nor should they have to pay for the most costly option."

Staff Response 35: Discharge of waste to waters of the state is a privilege, not a right, and if such discharges degrade water quality, the Water Board has the responsibility to require corrective action. Abandonment of the aquifer to continual pollution is not an option. Staff agrees that well-head treatment in combination with the construction and operation of the LOWRF, local water conservation, water production management, and recycled water reuse will facilitate a reduction of nitrate concentrations in the upper aquifer. No changes are proposed.

Ms. Piper Reilly – Ms Reilly submitted comments (quite some time ago) primarily regarding exfiltration, infiltration, dewatering for the collections lines, and seawater intrusion. Staff has reviewed these comments and offers the following responses.

1. "Gravity collection is far more problematic and hazardous than low pressure collection. With over twenty thousand joints, in these Baywood fine sands, on multiple fault lines, leakage is probable even with proper maintenance. Such leakage would be hard to detect and harder to find the exact location of no less reach when the depths of these large diameter pipes can be more than 20 feet."

Staff Reponses 36: See staff response 28. No changes are proposed.

2. "I could not find the costs and impacts of sea/ground water infiltration into the gravity sewer line. Such infiltration will adversely impact beneficial reuse, sea water intrusion mitigation, and crop irrigation. These critical issues are of primary concern to the Coastal Commission in their upcoming de novo hearing on the LOWWP. Sea water contains approximately 35,000 mg/L Total Dissolved Solids including approximately

18,000 mg/L of Chlorides. It is documented that nitrifying and denitrifying bacteria are inhibited with increased concentrations of chlorides. (From EPA Guidance Manual for Preventing Interference at POTW's, Table 2-1.) A high tide during low flow conditions could easily produce conditions toxic to both nitrifiers and de-nitrifiers. High chloride effluent would also limit the beneficial reuse of treated effluent for crop irrigation."

Staff Response 37: Inflow and infiltration are factors that are calculated in the design of a wastewater treatment facility. However, staff anticipates that little to no inflow or infiltration will be generated from a new collection system. The county proposes to use sealed joints in areas that could be saturated.

Even if infiltration were to occur, there is no indication that shallow groundwater contains high levels of salts, even along the bay. According to the April 2005 Cleath and Associates Los Osos Nitrate Monitoring Program, shallow wells had an average of 333 mg/L of total dissolved solids, which is considerably less than seawater concentrations. Furthermore, 17 wells tested for the May 4, 2010 ISJ Working group, Los Osos Groundwater Basin Update (Exhibit B), demonstrated average concentrations of TDS at 580 mg/L, which is not comparable to seawater.

3. "Dewatering of the trenches during installations and those effects on sea water intrusion have also been ignored."

Staff Response 38: Staff disagrees with the comment. Dewatering activities associated with collection pipe trenching will be conducted in a manner that allows the encountered water to be disposed of to land located over the basin. Dewatering activities will be regulated by the Stormwater General Permit for Construction Activities, which will require the development and implementation of a stormwater pollution prevention plan identifying best management practices associated with dewatering. No changes are proposed.

4. "Despite decades of degradation to our aquifers by unaddressed sea water intrusion, (threatening our only potable water supply), nitrogen has been a focal point for the groundwater quality because potable use of the shallow aquifer currently requires treatment to reduce nitrogen and/or the blending of water from deeper aquifers with the intent of diluting the nitrogen concentrations."

Staff Response 39: Staff agrees with this comment and further highlights that the treatment and/or blending of shallow water to comply with safe drinking water standards are not sustainable solutions to the existing pollution problem. With respect to seawater intrusion, staff concurs with the Discharger that the construction and operation of the LOWRF in combination with water conservation, water production management, and recycled water reuse will reduce current seawater intrusion rates. No changes are proposed.

Ms. Linde Owen – Ms. Owen submitted comments regarding seawater intrusion, nitrate concentrations in the upper aquifer, collection system types, and collection system exfiltration. Staff offers the following responses.

1. "Currently the overwhelming pollution in the Los Osos Groundwater Basin is salt water intrusion, not nitrates. Well-head treatment will be addressing nitrate removal and the overall basin reading for nitrate pollution are less than a mg over drinking standard."

Staff Response 40: See Staff Response 35. No changes are proposed.

2. "The damage from not addressing Salt Water Intrusion red flags is far more serious than minimally elevated nitrate pollution. This project was NOT DESIGNED to address SWI and puts our future supply at risk by letting water purveyors decide what actions will be taken rather than having the CCRWCQB address the crisis with their responsible oversight to our surface and ground waters."

Staff Response 41: Staff agrees that seawater intrusion is an urgent matter. Furthermore, staff concurs with the Discharger that the project was designed with seawater intrusion in mind and that the construction and operation of the LOWRF in combination with water conservation, water production management, and recycled water reuse will reduce the current seawater intrusion rates. Seawater intrusion reduction will require a multi-agency approach. As explained at the May 2009 and February 2011 Water Board public meeting, the Central Coast Water Board does not have authority to directly address the issue of water balance and seawater intrusion within the Los Osos basin because it cannot regulate the use of water. No changes are proposed.

3. "There is a basic incompatibility for conventional Gravity systems with the paradigm of water conservation, as well as a zero tolerance for sewer spills and overflows to protected waters. A low pressure [septic tank effluent pump] STEP system that reliably delivers the wastewater, does not surcharge manhole openings during storm activity, retains and digests the sludge onsite in STEP tanks, & works in a 21st century model of holistic sustainable systemic technology. STEP costs less, allows source control (sequesters & concentrates toxic compounds for safe treatment & disposal at its source), avoids spills, cleanup, & costly FINES, as well as eliminating expensive pump stations. STEP/STEG technology lowers treatment costs overall, lowers maintenance and energy costs, and is much less complex to install."

Staff Response 42: See Staff Response 34.

Angel Law – Angel Law submitted comments requesting further CEQA review and subsequent development of a supplemental EIR (SEIR) based on new significant information, specifically concerning increased seawater intrusion rates in the lower aquifer as well as the potential of seawater intrusion in the upper aquifer once septic percolation flows are ceased. According to the comment letter, the new information regarding seawater intrusion rates was developed after the certification of the County's Final EIR.

1. "For the reasons set forth below [seawater intrusion rates in lower aquifer and potential seawater intrusion in the upper aquifer], and based on the additional information contained in the attached addendum and exhibits, we request that before the CCRWQCB takes any action approving the draft WDRs, it Order preparation and public circulation of a subsequent or supplemental environmental impact report (**SEIR**), and consider the information in that SEIR. Such a course of action is mandated by the California Environmental Quality Act (**CEQA**) (Pub. Res. Code § 21000 et seq.) and the State CEQA Guidelines (**Guidelines**) (Cal. Code Regs., tit. 14, § 15000 et seq.), among other things, due to new information of substantial importance that was not known -- indeed, did not exist -- and could not reasonably have been known and considered in 2009, when the County certified the environmental impact report (**EIR**) for the LOWRF project."

Staff Response 43: Staff disagrees with this assertion and further adds that the environmental evaluation contained in Appendix D of the Final EIR assesses the potential impacts of seawater intrusion associated with the development of this project. In addition, the facts surrounding seawater intrusion rates in the lower and upper aquifers are known and do not require additional analysis in a SEIR. Staff does not agree that that comments raise "new significant information" as identified in Section 21166 and Guidelines Section 15162 and 15163. No changes are proposed.

2. "Additional independent expert review of the Plan Update by Mr. Eugene Yates, a hydrogeologist, confirms that the recently discovered substantially accelerating seawater intrusion into the basin is an "extremely urgent" problem that requires urgent action, including 500 AFY of reduced pumping from the urban compartment. Yates also recommended the review of a wide range of mitigation options to address changes in basin conditions, given that the LOWRF project, in conjunction with the increased pumping from the upper aquifer may induce seawater intrusion *in the upper aquifer*. Yates opined that accelerating seawater intrusion makes the LOWRF project's recycled water reuse program -- viewed as key mitigation for the LOWRF -- outdated, and may indeed make it nonviable."

Staff Response 44: This comment is addressed in Staff Response 32. No changes are proposed.

3. "The CCRWQCB staff report asserts that the CCRWQCB has no duty to make specific findings pursuant to Guidelines section 15096, subdivision (h), because the EIR did not identify any potentially significant impacts within the CCRWQCB's jurisdiction. This conclusion is unsupported, in light of both the new information discussed above, and previous information contained in the 2009 EIR itself, which identifies project impacts to federally regulated waters as potentially significant. Those impacts are within the CCRWQCB's jurisdiction. Specifically, construction of pipelines that will be suspended over two federally regulated creeks (Los Osos Creek and Warden Creek) will result in construction impacts to these creeks. As such, the County may have to obtain (a) a Clean Water Act section 401 Water Quality Certification from the CCRWQCB; and (b) a Clean Water Act section 404 permit from the U. S. Army Corps of Engineers, necessary for discharges of dredged or fill material into the federally regulated creeks. Both the staff report and the WDRs fail to describe and evaluate this potentially significant impact. Further, despite the EIR's identification of this potentially significant impact, the WDRs contain no findings regarding the project's effects on federally regulated waters, or potentially feasible alternatives or mitigation measures which would avoid or substantially lessen the effects."

Staff Response 45: Finding No. 24 of the proposed Order states, "The EIR explained that the County would need to obtain a Clean Water Act Section 404 permit and a Clean Water Act Section 401 (Water Quality Certification) for potential adverse effect on federally protected wetlands." The construction of pipeline crossings as a result of the project will be covered appropriately under a water quality certification (Clean Water Act Section 401) and is not proposed to be regulated by this Order. Staff understands that the construction and operation of the LOWRF will not affect federally regulated waters. In fact, the Final EIR and associated studies find that there will be a beneficial impact to local waterways as a result of the LOWRF. No changes are proposed.

4. "The CCRWQCB staff report states that the County "included a list of areas proposed for disposal in its report of waste discharge application." (Staff report at 2;

proposed WDRs at 2.) But these areas remain unspecified, and the list is not disclosed, let alone discussed in the staff report or the WDRs. The list appears to be nonbinding anyway. We are told, indeed, that "Details of the Discharger's reuse program are not yet available[,]" and that the reuse program has yet to be developed. (*Id*.)6 The long and the short of it is: except for the Broderson leach field (DischargePoint 2) and (perhaps) the two locations of the Bayridge Estates leach field (Discharge Point 3), the CCRWQCB is being requested to approve WDRs for many unspecified discharge locations, that is, without knowing where much of the wastewater the discharges of which it must permit will be discharged."

Staff Response 46: Staff agrees that the reuse locations are unspecified at this time. However, the proposed Order only allows the disposal of treated wastewater at the Broderson and Bayridge leach fields. The proposed Order establishes requirements for production of Title 22 tertiary treated and disinfected recycled water, but the Discharger will not be authorized to provide recycled water until it applies for and receives separate Water Board authorization.

The project includes a recycled water reuse element and proposes various agriculture and urban reuse locations. The County is currently in the process of establishing reuse agreements with the agricultural and urban land owners. Furthermore, the County is required to establish these agreements in Order to receive funding to construct the LOWRF, which is a condition associated with the U.S. Department of Agriculture and State Water Board funding commitments. According to Section C.1. of the Order, the County will be required to develop an "engineering report," which will identify an appropriate recycled water reuse program. Staff anticipates the subsequent adoption of a Master Reclamation Permit for the County's recycled water reuse program, which will identify, at a minimum, locations for reuse, reuse agreements, and recycled water best management practices. No changes are proposed.

5. "It [recycled wastewater] contains antibiotic resistant genes (**ARGs**) and contaminants of emerging concern (**CECs**). CECs include persistent organic pollutants (e.g., chemicals used in flame retardants; pharmaceuticals and personal care products; veterinary medicines; endocrine disrupting chemicals (e.g. synthetic estrogens and androgens affecting hormonal functions in aquatic organisms); and nanomaterials (e.g., carbon nanotubes)."

Staff Response 47: It is staff's understanding that State Water Board, Department of Public Health, and USEPA have been contacted by Dr. McGowan regarding his recycled wastewater research. Staff is not aware of any final determination regarding his research findings. However, the proposed Order does include CEC monitoring for recycled watering. This language will be consistent with Section 7.b.4 of the 2009 State Recycled Water Policy. Use of recycled wastewater will comply with all current regulations and standards.

6. "But environmental review and approval of the production, distribution and use of recycled water -- an integral element of the LOWRF project -- cannot be so segregated from the project, deferred to the future and delegated away by the permitting agency's decisionmaking body."

Staff Response 48: Staff is proposing this Order to establish waste discharge requirements for the disposal of treated waste at the Broderson and Bayridge leach field locations and the production of recycled water in accordance with Section 13260 of the California Water Code. Subsequently, staff will propose a Master Reclamation Permit

that will allow the Discharger to distribute and manage the reuse of the produced Title 22 tertiary treated and disinfected recycled water.

RECOMMENDATION

Adopt Order No. R3-2011-0001 as proposed.

ATTACHMENTS

1. WDR Order No. R3-2011-0001 with Monitoring and Reporting Program
2. Central Coast Water Board Standard Provisions, 1984
3. Modifications and Updates from Order No. R3-2003-0007 to Order No. R3-2011-0001
4. March 1, 2011, County of San Luis Obispo County response to the Citizens for a Sustainable Community Request for Additional Environmental Review.
5. Agency and Public Comments on the draft Waste Discharge Requirements - March 11. 2011

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