

Condition 40**Odor Control Plan**

An Odor Control Plan shall be submitted for review and approval of the San Luis Obispo County Air Pollution Control District prior to commencement of grading activities which shall be incorporated as conditions of the permit issued by the County for the construction and operation of the Los Osos wastewater project. The Odor Control Plan shall contain a Complaint Response Plan to address at least the following:

- a. A public outreach plan, including operator training in the handling of complaints; a program for informing the public regarding the complaint process; periodic neighborhood surveys of performance and responsiveness to complaints; and, a complaint hotline phone number. This public outreach plan shall be in place upon startup;
- b. An odor point identification map, which will aid the wastewater system operators and the SLOAPCD by identifying potential odor sources, a description of the odor point. This identification map and related information shall be completed within the first 3 months of startup;
- c. A list of immediate responses or actions to be taken to complaints, including, but not limited to:
 1. The upstream addition of ferrous chloride (or other) injection system adjustments;
 2. On-site odor checks to identify odor sources or system malfunctions, neighborhood complaint patrol and actions to be taken;
- d. A Contingency Action Plan detailing the methods to which odor sources will be studied and a response action plan to control odors over the long term. This Plan shall be in place upon startup. Possible responses include, but are not limited to, the following:
 1. Providing additional "negative air" containment or recovery system areas;
 2. Additional treatment containment enclosure;
 3. Additional or improved odor control, dispersal and/or air movement at pump stations, wet wells and the wastewater treatment plant;
 4. Additional study of odor sources and possible solutions, which may include a dilution to threshold measurement for each potential odor source using the Bay Area Air Quality Management District's procedure outlined in their Regulation 7 "Odor Substances" 7-400 et seq and "Manual for Procedures", Volume IV, ST-1, ST-8, ST-il, 51-16 and ST-22 or SLOAPCD equivalent

Evidence of compliance:

The ODOR CONTROL AND COMPLAINT RESPONSE PLAN was generated for this project and approved by the APCD.

The conditions above were addressed in the various sections of the PLAN summarized as follows:

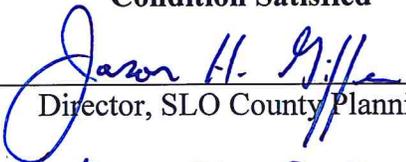
- a. "Section 10 Notifications"; and "Section 11 Complaints" along with "Odor Complaint and Investigation Form"
- b. "Section 1" – states "a complete odor point map will be completed 3 months before start up of the entire system"

- c. Responses to complaints are address in the various sections:
1. "Section 8 Chemical Additives" - discusses addition of ferric chloride among other odor control chemical additives,
 2. "Section 2 Odor Measurement"; "Section 4 Identification of Odor Sources"; "Section 6 Operational Plan for Maintenance and Monitoring"; "Section 10 Notifications"; and "Section 11 Complaints"
- d. Contingency action plan responses addressed in the following sections:
1. "Section 1" – discusses an odor control vault as on of our facilities
 2. "Section 1" – discusses headworks and bar screens will be enclosed in a building with odor control
 3. "Section 1" – discusses odor control vaults and carbon canisters
 4. "Section 2, Table 3" has a good summary list of odor compounds; "Section 5" has a summary of odor sources

Attachments:

- o Final Odor Control Plan Approval letter from APCD
- o ODOR CONTROL AND COMPLAINT RESPONSE PLAN

Condition Satisfied



Director, SLO County Planning

MAY 22, 2012

Date



Air Pollution Control District
San Luis Obispo County

May 21, 2012

Ray Dienzo, P.E.
Project Engineer - Los Osos Wastewater Project
County of San Luis Obispo Public Works
County Government Center Room 207
San Luis Obispo, CA 93408

SUBJECT: Final Odor Control Plan Approval: Los Osos Wastewater Treatment Facility

Dear Mr. Dienzo:

Thank you for your submittal of the Final Odor Control Plan (OCP) for the Los Osos Wastewater Treatment Facility. This submittal is intended to comply with the applicable Development Conditions and District Rules and Regulations.

Based upon the most recent submittal dated May 16, 2012, please consider this as written approval of the Final OCP. The District understands that the following revisions will be submitted as stated below:

1. Public Works staff will submit an Odor Point Identification map, which will aid the wastewater system operators and the SLOAPCD by identifying potential odor sources. This map and related information, including additional details relating to the Treatment Plant, shall be completed within the first three (3) months of startup.
2. Description of specific plant equipment and any applicable monitoring procedures.
3. Description of frequency of monitoring for efficiency and breakthrough for any applicable odor control equipment.

As discussed, the project will require the submittal of an Authority to Construct and subsequent District approval application prior to the construction of the system and components. If you have any questions, please contact me at (805) 781-5912.

Sincerely,

A handwritten signature in black ink, appearing to read "Karen Brooks", is written over a horizontal line.

KAREN BROOKS
Manager, Compliance and Monitoring

TJF/lmg

cc: Kate Ballantyne, Public Works
Eric Wier, Public Works
Paul Reitz, San Luis Obispo County Air Pollution Control District

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LOS OSOS WASTEWATER PROJECT

ODOR CONTROL AND COMPLAINT RESPONSE PLAN

May 16, 2012 Final

This plan is intended to comply with the San Luis County Planning Department and San Luis Obispo County Air Pollution Control District requirements for an odor control and complaint response plan for the Los Osos Wastewater Project. The plan identifies potential sources of odors and appropriate odor control techniques for minimizing off-site odors. It describes the process for receiving, handling, and reporting odor complaints.

After adoption, the plan will be communicated to the public through multiple public outreach channels including mailers, press releases, public meetings, and website postings. The public will be informed of the odor complaint handling process.

Operations and lab staff will receive initial training on this plan with periodic (annual) review. Periodic "customer surveys" of performance and responsiveness to complaints will be conducted. The plan will be reviewed annually and updated as needed.

1. DESCRIPTION OF FACILITIES

The Los Osos wastewater treatment plant provides tertiary treatment of domestic and commercial wastewater for the Los Osos wastewater service area (see attachment Exhibit A). The plant is located at *a parcel about 1500-ft north of the Los Osos Valley Road and Clark Valley Road intersection*. Bordering properties west, north, and east of the facility are used for agriculture. A cemetery is located south of the facility. The prevailing westerly winds carry any odor generated at the treatment plant towards agricultural and open space lands to the east.

The Sewer Collection system consists of following major components:

- Approximately forty-five (45) miles of gravity sanitary sewer pipes. – either SDR 35 or C900 PVC, minimum 8" diameter
- Sewer manholes – spaced 300-ft to 500-ft
- The sewer pump stations and wet wells are located throughout the community (see Table 1). Ranging from 9 gpm to 2,300gpm
- Main sewer force mains – pressure clean outs at 1,500-ft intervals, all combination air and release valves will be housed in precast vaults with activated carbon canisters for odor control
- Three (3) odor control system vaults: one at the Midtown pump station, and in two locations along Los Osos Valley Road for the 16" sewer force main that will convey all the flows to the Treatment plant (see the description of these locations on Table 2).

A complete odor point map will be completed 3 months before start up of the entire system.

Name of Pump Station	Location	Pump Station Capacity (gpm)
East Paso	18th St and Paso Robles Ave	213
East Ysabel	South Bay Blvd and Santa Ysabel Ave	168
West Paso	3rd St and Paso Robles Ave	1,549
Baywood	2nd St near El Moro	380
Lupine	Doris Ave near Lupine St	623
Solano	Solano St near Skyline Dr	168
Mid-town	Los Osos Valley Rd between Palisades and Ravenna	2,322
Mountain View	Santa Ynez Ave and Mountain View Dr	54
Sunny Oaks	Los Osos Valley Rd, near Sunny Oaks MHP	153
04A	north end of 4th St	28
07A	north end of 7th St	9
08A	north end of 8th St	13
09A	north end of 9th St	18
09B	9th St near Ramona Ave	16
09C	9th St near San Luis Ave	45
10A	north end of 10th St	22
11A	north end of 11th St	22
12A	north end of 12th St	22
13A	north end of 13th St	20
15B	15th St near Ramona Ave	17
Palisades	Palisades Ave near Library	51

1. At the Midtown Pump Station site - at LOVR between Palisades Ave and Ravenna Ave
2. At south side of LOVR about 250-ft west of Willow Road
3. At north side of LOVR near Cemetery

Septic tank decommissioning

As each residence connects to the sewer system, the existing septic tank needs to be decommissioned.

- There are approximately 4,800 sewer lateral connections to the new sewer system each with associated septic tanks.
- There are also some large community septic tanks: schools, mobile home parks, business complexes, and Bayridge Estates
- Typical decommissioning would require pumping tank and filling with sand
- Odor mitigation measures for septic tank decommissioning are summarized as follows:
 - EXPEDITED WORK. In order to minimize the duration of odor potential, pump out, demolition, and backfill should occur on the same day

- EXHAUST VENT CARBON CANNISTER. During pump out, the septic tank pumper truck shall be equipped with a carbon canister.
- ODOR NEUTRALIZING CHEMICALS. Septic tank decommissioning contractor shall have lime, liquid bleach, or other appropriate chemicals on hand to neutralize the odor potential of septic waste in the event of unforeseen problems
- NOTIFICATIONS. Residents or businesses within 300-ft of the septic tank will be notified prior to decommissioning of systems
- PERMITTING. All septic tank decommissioning work shall be permitted through the sewer lateral connection work and shall comply with this odor control plan. All future permits for septage pumping and handling shall also comply with this odor control plan.

The Wastewater Treatment Plant process will consist of the following:

- Headworks and bar screens, enclosed in a building with odor control.
- Extended aeration secondary treatment process consisting of parallel oxidation ditches and secondary clarification, designed to meet 30-day average total nitrogen limit of 7 mg/L and maximum day nitrogen limit of 10 mg/L.
- Tertiary filtration and ultraviolet disinfection designed to meet California Title 22 standards for tertiary recycled water.
- Chlorination to provide a chlorine residual for the recycled water.
- Mechanical sludge thickening and dewatering enclosed in a building with odor control.

2. DESCRIPTION AND MEASUREMENT OF ODOR

Odor Description

The major categories of offensive odors and compounds often associated with wastewater facilities are listed in Table 3. Any or all of these compounds may be found in domestic wastewater, depending on the local conditions.

<u>Compound</u>	<u>Typical Formula</u>	<u>Odor Quality</u>
Hydrogen Sulfide	H ₂ S	Rotten Eggs
Organic Sulfides	(OCH ₃) ₂ S, CH ₃ SSCH ₃	Rotten Cabbage
Mercaptans	CH ₃ SH, CH ₃ (CH ₂) ₃ SH	Skunk
Skatole	C ₈ H ₅ NHCH ₃	Fecal, Nauseating
Amines	CH ₃ NH ₂ , (CH ₃) ₃ N	Fishy
Ammonia	NH ₃	Sharp, Pungent
Diamines	NH ₂ (CH ₂) ₄ NH ₂ , NH ₂ (CH ₂) ₅ NH ₂	Decayed Flesh

The odor causing components of wastewater are small, relatively volatile molecules. These molecules are typically produced during the anaerobic decomposition of organic matter by

bacteria. The odor thresholds for the compounds listed in Table 3 vary individually. Of the compounds listed, hydrogen sulfide has the lowest odor threshold and is the easiest to identify and quantify. Because the same conditions that favor hydrogen sulfide production also favor the production of the other compounds, reducing hydrogen sulfide generation often results in a reduction in the other compounds. By investigating the conditions that favor hydrogen sulfide generation, and correcting those conditions, problems from other odors may also be eliminated.

Odor Measurement

There are various methods or techniques for odor measurement. Since most odors associated with municipal wastewater treatment plants are related to hydrogen sulfide, specific chemical measurements of hydrogen sulfide concentrations are useful in determining appropriate odor control techniques. Gas monitoring equipment (ex. Draeger portable gas monitor or Draeger tubes) are available for use, but typically are not as sensitive as the human nose. The results of specific chemical measurements of hydrogen sulfide, ammonia and mercaptans are reported in parts per million by volume (ppmV). However, since the perception of odor is subjective, these specific measurements do not always correlate directly with odor complaints. Never the less, they can be useful in locating odor sources and assessing the efficacy of corrective actions.

3. ODOR MANAGEMENT INCORPORATED IN THE FACILITY DESIGN AND SEPTIC TANK DECOMMISSIONING

Odor control and management systems incorporated into the design of the project are summarized below for Collection System, Septic Tank Decommissioning, and Wastewater Treatment Plant:

A. COLLECTION SYSTEM:

FRESH WASTEWATER. The wastewater collection system consists of gravity sewer mains that are designed with sufficient slopes to insure a minimum conveyance velocity that will prevent the deposition of solids. The estimated travel time to reach the WWTF is not expected to exceed 8 hours depending upon the travel distance and the time of day. Furthermore, the Los Osos climate is moderate and the wastewater temperature will not reach high temperatures that accelerate decomposition. Consequently, the wastewater will arrive at the wastewater treatment facility in a fresh condition with minimal decomposition of organic material.

AIR RELEASES. Submersible pump stations are provided to collect the wastewater contributed by drainage areas within the collection system and deliver the wastewater to other portions of the collection system and ultimately to the WWTF. The wastewater that arrives at the pump station wet well is expected to be fresh as previously described. The vent pipe for the wet well

is interconnected to an odor control canister (activated carbon or approved equal) to treat any potential odors that may be liberated from the pump station.

Transition manholes, where the discharges from force mains transition to gravity sewer mains and at air release vaults, where the accumulation of air at high points in force mains is released, are also equipped with odor control canisters.

B. SEPTIC TANK DECOMMISSIONING

EXPEDITED WORK. In order to minimize the duration of odor potential, pump out, demolition, and backfill should occur on the same day

EXHAUST VENT CARBON CANNISTER. During pump out, the septic tank pumper truck shall be equipped with a carbon canister.

ODOR NEUTRALIZING CHEMICALS. Septic tank decommissioning contractor shall have lime, liquid bleach, or other appropriate chemicals on hand to neutralize the odor potential of septic waste in the event of unforeseen problems

NOTIFICATIONS. Residents or businesses within 300-ft of the septic tank will be notified prior to decommissioning of systems

PERMITTING. All septic tank decommissioning work shall be permitted through the sewer lateral connections and shall comply with this odor control plan. All future permits for septage pumping and handling shall also comply with this odor control plan.

DECOMMISSIONING OF LARGE, CENTRALIZED SEPTIC SYSTEMS

Certain areas of Los Osos are served by single, large-scale septic systems that will be decommissioned as the community-wide system is completed. These systems currently serve the Baywood Heights neighborhood, as well as Sunny Oaks trailer park, among others.

1. Timeline for Decommissioning_

The conversion from centralized septic systems serving multiple properties to a community-wide sewer system is expected to occur incrementally following completion of the treatment plant as the collection systems is constructed throughout the service area. By December 2014 the entire wastewater collection and treatment system, and all associated pipelines and other fixtures, are expected to be completed. The centralized septic systems will be decommissioned immediately following connection of all previously served properties to the community system when it becomes ready to receive effluent. Each parcel served by the community-wide system will be billed thereafter for usage in accordance with the fee schedule established by the COUNTY.

2. Process of Decommissioning.

As the collection system becomes available to serve areas currently served by centralized septic systems, each individual property will be required to connect via lateral within 6 months of the collection line becoming available. Inspectors authorized by the COUNTY will inspect each parcel to determine compliance with relevant provisions of the Project permit. Once all properties are connected to the community-wide system, the centralized septic tank serving these properties will be decommissioned. The same odor mitigation measures described in Section 3.B above shall be used.

4. IDENTIFICATION OF ODOR SOURCES

Odorous air samples can be collected and analyzed as needed. The compounds and sites selected for analysis will be based on experience at the wastewater treatment plant and a review of plant operation practices. Compounds typically selected include hydrogen sulfide, methyl mercaptan, and ammonia.

Odorous compounds in the air can be evaluated in the field using Draeger portable air testing equipment and the operator's nose. This plan focuses on the collection system and septic tank decommissioning separately from the wastewater treatment facility. Separate locations throughout the WWTP will be evaluated for odor. A detailed inspection will be performed to identify the sites having the greatest potential for the generation of odors that could result in an off-site nuisance. The odor sampling will then focus on those sites. Typical sites are listed below.

Collection System

- Pump Station and Wetwells
- Sewer Manholes
- Combination Air and Release Valves
- Odor control vaults
- Construction process – unexpected trenching over odor causing areas
 - If hydrocarbon/volatile organic compound type soils are uncovered during the trenching/construction process, notify APCD and County Environmental Health immediately
 - At a minimum, cover existing stock piles and follow the procedures given by APCD and County Environmental Health

Septic Tank Decommissioning

- Each residence septic tank during the decommissioning process
- Community septic tanks: mobile home parks, schools, business complexes, and Bayridge estates

Wastewater Treatment Facility

- Grit Dumpsters

- Screenings Hopper
- Grit Basin
- Sludge Holding Tank
- Dewatering Building
- Solids Storage Area

5. SUMMARY OF ODOR SOURCES

A site inspection will be performed to identify potential odor sources. Many types of odors resulting from anaerobic activity in the wastewater are not as prevalent during cooler temperatures.

The results of the odor survey and experience at similar facilities, it appears that potential odors at the Los Osos WWTP are attributable to gaseous compounds from the influent sewage and solids treatment processes. However, these odors would be in measurable concentrations only in the local atmosphere and not likely to drift off-site.

Other potential odor sources are less likely to create an off-site nuisance, but should be managed to avoid local area odors and provide the best working conditions for exposed plant personnel. Table 4 presents a pre-construction qualitative ranking of the odor sources identified in this odor control plan assuming normal operation of unit processes. This table will be updated once the system is operational.

Table 4 Odor Sources and Qualitative Ranking Odor Study					
Source Location	Occurrence⁽¹⁾	Strength⁽²⁾	Volume⁽²⁾	Overall Ranking⁽²⁾	Off Site Potential⁽³⁾
Collection System and Septic Tank Decommissioning					
Pump Stations and Wetwells	C	H	H	H	H
Sewer Manholes	I	M	L	L	L
Combination Air and Release Valves	I	L	L	L	L
Odor Control Vaults	I	L	L	L	L
Septic Tank Pumping	I	H	H	H	H
Unexpected trenching of odor causing materials	I	L	L	L	L
Wastewater Treatment Facility					
Grit Dumpsters	C	L	L	L	N
Screenings Hopper	C	L	L	L	N
Grit Basin	C	L	L	L	N
Sludge Holding Tank	C	L	L	L	N
Dewatering Building	I	M	L	L	N
Solids Storage Area	I	L	L	L	L
⁽¹⁾ C= Continuous, I = Intermittent ⁽²⁾ H = High, M = Moderate, L=Low ⁽³⁾ H = High priority odor, M = Moderate, L=Low, N = Negligible off-site odor potential					

6. OPERATIONAL PLAN FOR MAINTENANCE AND MONITORING

System operators will continually maintain the system and will conduct a full-system assessment at least once every 6 months to ensure optimal performance. Off-site odor samples shall be collected a minimum of four times per year in areas of highest concern (see Table 1 and 2). Samples will be collected on the following four dates: September 12 (Fall season); December 12 (Winter season); March 19 (Spring season); and August 1 (Summer season).

7. ODORS DURING CONSTRUCTION ACTIVITIES

During construction activities in previously undisturbed areas, all encounters with odor causing materials must be reported to the County's construction inspector, through the hotline (see section 10), and directly to APCD.

8. ODOR CONTROL ALTERNATIVES

For this plan, odor control alternatives are broken down into three major categories: source control, cover and contain, and exhaust and treat. Source control includes operational changes, chemical addition, pH adjustment, bacterial addition, or oxygen addition to reduce the concentrations of the odorous compounds at the source. Cover and containment, includes enclosing the odor source to prevent the odors from escaping to the atmosphere in significant quantities. Exhaust and treatment, includes enclosing the odor source and exhausting and treating the odorous air.

Source Control

Operational Changes

Sometimes changes in the way certain treatment processes are operated or maintained can substantially reduce odors produced. Operational changes are usually the first step in mitigating odors because the changes are cost effective and relatively easy to implement.

Cleaning and Removing Solids

"Jetting" problematic collection system sewer lines with insufficient slope can remove odiferous solids that accumulate at low points and eddies.

Chemical Additives

Numerous chemicals can be added to the liquid treatment stream to control odors including chlorine, sodium hypochlorite, calcium chloride, hydrogen peroxide, potassium permanganate, ferrous or ferric chloride, ozone and sodium hydroxide. These chemicals control the release of hydrogen sulfide to the atmosphere in three ways: 1) by increasing the pH of the wastewater and thereby keeping the acidic hydrogen sulfide in solution, 2) by chemically oxidizing the hydrogen sulfide in the wastewater to sulfate and elemental sulfur, 3) by reducing the potential for additional hydrogen sulfide by killing the hydrogen sulfide producing bacteria.

pH Adjustment

Adjustment of pH is practiced for reduction of slime layers in sewer collection systems. Sodium hydroxide is added to collection system and headworks areas to increase the pH of the wastewater and keep the acidic hydrogen sulfide in solution. Also, high slug doses of sodium hydroxide are used to kill the slime layer in sewer lines, preventing the conversion of hydrogen sulfide to sulfuric acid. This also helps to prevent corrosion of the sewer pipe.

Bacterial Addition

Few wastewater treatment plants successfully use bacterial augmentation for odor control. Because this technology does not have proven successful experience, bacterial addition is not considered an alternative.

Oxygen Addition

Oxygen can be added to the gravity sewer upstream of the wastewater treatment plant. Usually this is accomplished by producing a high concentration of oxygen in a side stream under pressure and then releasing it to the main flow. Although technically viable, the capital and operating costs do not justify the consideration of oxygen addition as an alternative.

Cover and Contain

It is common practice to cover and contain relatively small volume, but higher strength sources of odor, at wastewater treatment plants. This type of odor control can be implemented as a short-term or long-term odor management strategy. However, there is usually some form of protection required for concrete or metal structures that are being covered, to prevent rapid and severe corrosion caused by increased hydrogen sulfide concentrations that are contained.

Odor Treatment

Absorption and Oxidation

A common method of scrubbing air with odorous compounds is to pass the air through packed tower scrubbers where it is contacted and absorbed, and reacted with a liquid scrubbing agent.

Another absorption device is the mist tower, where odorous air contacts very small droplets of scrubbing agent. Both of these systems are very effective with high removal efficiencies. However, these systems use a significant amount of chemicals and require operator attention for efficient operation.

Carbon Adsorption

Carbon adsorption is a common method for odor control. Air passes through a bed of activated carbon, and the odorous compounds are adsorbed on the carbon. This is only a physical phenomenon as the compounds are not oxidized or destroyed, only captured on the surface of the carbon. Carbon is not effective at removing all sulfur and nitrogen based compounds. Due to its limited capacity and high cost, activated carbon is usually not applied to air streams with high concentrations of hydrogen sulfide.

Soil Bed Scrubbing

Soil bed scrubbing uses biological activity that naturally occurs in soil to remove odor compounds. Air passes through a soil bed where bacteria digest contaminants and oxidize odorous chemical compounds. These systems require a large area, but have lowest operating and maintenance costs for air scrubbing. They also avoid using hazardous chemicals for oxidation of odor compounds. Several have been installed and successfully operated at wastewater facilities in California in recent years.

9. OTHER ODOR CONTROL MEASURES

Additional study of odor sources and possible solutions will be performed as needed. Viable odor control alternatives reviewed are presented below and are available for implementation, should odors develop in the future that contribute to off-site impacts. Methods to minimize in-plant, nuisance odor sources that are not likely to leave the site have also been included. The odor sources with the greatest potential for off-site impacts are related to the solids handling processes. Good housekeeping practices minimize the potential for local and off-site odors under most conditions. However, an upset in any of the solids treatment processes can result in significant odors leaving the WWTP boundary.

Grit Dumpsters - The grit dumpsters should be covered to contain odors. Additionally, calcium chloride pellets can be added as needed to minimize odor.

Screenings Hoppers - The screenings hoppers should be covered and calcium chloride pellets added to the screenings as needed to minimize odor.

Dewatering Building - The existing building ventilation system appears to be adequate to maintain the required air changes. If needed, a package odor scrubbing system or soil bed scrubber unit with point source air ducting could also be installed. This would eliminate the potential for off-site odor impacts and improve environmental conditions for operators working in the dewatering building.

Centrifuges - If hydrogen sulfide becomes a problem, chemical addition to the solids feed to reduce the hydrogen sulfide concentrations should prevent potential off-site odor impacts. Either ferrous or ferric chloride can be used. These chemicals may provide additional solids conditioning and enhance the dewatering process performance, and limit the corrosion damage to equipment and structures in the building because of hydrogen sulfide release.

Solids Storage Area - Monitor daily for odors and haul dewatered solids offsite more frequently if necessary.

Collection System - If odors are detected in the sewer collection system, the trunk lines should be dosed with sodium hydroxide. This can also be performed monthly as a preventative maintenance item in the warmer spring and summer months when anaerobic activity increases in the wastewater. Ferric chloride can also be fed to the collection system on a continuous basis to control hydrogen sulfide gas.

Odor Monitoring - Monitor gaseous hydrogen sulfide concentrations periodically throughout the WWTP, especially at the moderate and high potential off-site odor sources.

10. NOTIFICATIONS

Public Information and Notification Procedures

A. Hotline and Website. A public complaint/comment telephone hotline and website with

an online form shall be established upon startup of the system. An example of a complaint form is provided in section 11. Both the hotline and website will be dedicated to informing residents of the odor complaint process and allowing them to voice concerns or problems with the sewer system. Information regarding the hotline shall be posted on the website, and will be toll-free. Both hotline and website shall be accessible twenty-four hours per day. Users of either will be able to leave emergency complaints or general comments about odors and the system as a whole. Operators will be e-mailed information from the online forms and will respond in the same manner as complaints received from the hotline. All operators will be trained to effectively handle public complaints and respond to the needs of the residents. All complaints will be documented as described above in section 11.

B. Survey. To ensure proper operation of the system, and to ensure responsiveness of operator personnel, periodic surveys of area residences and businesses will be conducted. The survey will, at a minimum, measure the level of satisfaction with complaint response and overall system and personnel performance.

11. COMPLAINTS

The following procedure is used when responding to an odor complaint in any of the Department's wastewater systems.

During normal work hours, odor complaints should be made to the Water Quality Lab, 805-781-5111. After hours, the complaint should be made to Advantage Alarm Company ###-###-####. If the odor complaint is received at another number (e.g. Public Works switchboard) during normal working hours, direct the complainant to the Water Quality Lab. After hours, complainants should call Advantage Answering Plus who will contact the operator on call. Lab (or Operations) staff will take the following actions:

1. Initiate an "Odor Complaint and Investigation Form" (see attached). Record:
 - Name of person receiving complaint
 - Date and time of complaint
 - Name of complainant
 - Complainant contact information
 - Date, time, and location where odor was noted
 - Description of the odor
2. Immediately (within 4 hours) notify the APCD by phone. If no one answers, leave a message on the APCD's answering machine or fax a copy of the complaint to the APCD's fax machine.
 - APCD phone number: (805) 781-5912

- APCD fax number: (805) 781-1002

Note on the Odor Complaint and Investigation Form the name of the person making contact with the APCD and well as the date, time, and type of APCD contact made. If voice contact was made, record the name of the person contacted.

Notification of the APCD within four hours is critical, even if it is after normal work hours, on a weekend, or on a holiday, as it potentially provides us with some regulatory relief.

3. If not already done, inform the appropriate Wastewater Systems Superintendent, Assistant Superintendent, or operator on duty of the complaint. The operator on duty is listed on the daily operations schedule.
4. If not already done, notify John Beaton or Ken Pang at the Water Quality Lab and Dean Benedix or Doug Bird at the Utilities Office.
5. Ensure that the Lab and the affected North, South, or Coastal Operations office have a copy of the complaint. Fax copies as needed.
6. Referencing the complainant information, Operations personnel investigate the complaint.
 - Is the odor still evident? If so, is the odor emanating from this facility? If so, what is the likely cause of the odor?
 - If the odor is no longer present, could it have come from the facility? If so, what was the likely cause of the odor?
7. Identify the problem, and coordinate corrective actions with the Wastewater System Superintendent or Assistant Superintendent as appropriate. Corrective actions may include (but are not limited to):
 - Aeration and/or flow adjustment
 - Modification of a treatment process or adjustment of treatment equipment
 - Placing additional aeration basins, clarifiers, ponds or other treatment facilities on-line
 - Recycling flows for additional treatment as needed
 - pH adjustment
 - Chemical injection of ferrous chloride, calcium chloride or other chemical upstream (or at the site) of the odor
 - Increased chlorination
 - Removal of sludge
 - Repair or replacement of broken equipment
 - Cleaning facilities
 - Installation of an odor filter on sludge pumping truck
 - Covering odor source
 - Adjustment of ventilation
 - Providing additional negative air containment or recovery system areas
 - Replacement of odor control media
 - Notifying APCD and County Environmental Health immediately during encounters with unexpected odor causing materials during construction
8. Record investigation results and corrective actions on the complaint form.
9. Route a copy of the completed form to the Water Quality Lab for follow-up reporting to the APCD and the complainant.

Wastewater Facility Odor Complaint and Investigation Form

Date Complaint Received: _____
 Time Complaint Received: _____
 Complaint Received By: _____
 Complainant Name: _____
 Complainant Address: _____

Follow instructions as listed in the Wastewater Facility Odor Response Plan. Send a copy of the completed report to the Water Quality Lab for final reporting. Use back of form as necessary.

Complainant requests follow-up report? No
 Yes
 If yes, follow-up date: _____
 Follow-up by: _____

Description of Odor:

Wastewater Facility: CSA-18, Country Club Estates (South County Operations)
 CSA-7, Oak Shores (North County Operations)
 Los Osos WWTP (Coastal Operations)

The Air Pollution Control District (APCD) must be notified by phone or fax within four hours of receipt of odor complaint!

APCD Notified By: _____ Name of APCD Person Notified: _____
 APCD Notification Date: _____ Type of Notification Phone (781-5912)
 Fax (781-1002)
 APCD Notification Time: _____

Public Works Staff Notification and Investigation - Notify and fax copy of complaint to Lab and Utilities Offices.
Notify and fax copy to Operations staff. (Original complaint form can go to Operations.)

Water Quality Lab (Fax 781-1068)
 John Beaton Phone 781-5109
 Cell 235-4085
 Ken Pang Phone 781-1575
 Other _____

Utilities Office (Fax 788-2182)
 Dean Benedix Phone 781-5267
 Cell 441-1237
 Doug Bird Phone 781-5116
 Cell 459-1230
 Other _____

South County Operations (Fax 473-7154)
 Ron Coleman Phone 473-7153
 (Superintendent) Cell 710-2020
 Joe Phillippe Phone 473-7175
 (South County) Cell 710-2021
 Other _____

North County Operations (Fax 438-5014)
 Charlie Berna Phone 438-5349
 (North County) Cell 678-3811
 LOWWTP Chief Operator Phone ###-####
 (Coastal) Cell ###-####
 Coastal Operations (Fax ###-####)

Investigation Findings: (Note weather, wind speed and direction, unusual operating conditions, etc.)

Corrective Actions:

Date of final report to APCD: _____ Final report completed by: _____

WQI V:WQF Form and Template/Odor Complaint Form 2012-02-14, 8/28/08, JEB