

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF FEBRUARY 6, 2004

Prepared on December 19, 2003

ITEM NUMBER: 17

SUBJECT: Request for Connection Ban Exemptions for Critical Facilities;
Cease and Desist Order No. R3-2002-0105, City of Hollister, San
Benito County

KEY INFORMATION

Discharger: City of Hollister
Location: 375 Fifth Street, Hollister, CA 95023, San Benito County
Type of Discharge: Treated domestic, commercial, and industrial wastewater and tomato cannery
wastewater (Undisinfected, facultative pond systems with
percolation/evaporation disposal)
Permitted Capacity: Domestic Plant: 2.69 million gallons per day (MGD) domestic, commercial,
and industrial wastewater
Industrial Plant: 0.18 MGD domestic, commercial and industrial wastewater
(canning season); 1.72 MGD domestic, commercial, and industrial wastewater
and storm water (non-canning season); 3.5 MGD tomato cannery wastewater
(canning season)
Existing Orders: Waste Discharge Requirements Order No. 87-47 (Domestic Plant), Waste
Discharge Requirements Order No. 00-020 (Industrial Plant), Cease and
Desist Order R3-2002-0105, Administrative Civil Liability Order No. R3-
2002-0097

SUMMARY

The City of Hollister (hereafter Discharger) owns and operates two wastewater treatment facilities: the Domestic Wastewater Treatment Plant (Domestic Plant) and Industrial Wastewater Treatment Plant (Industrial Plant). These facilities treat municipal wastewater flows from residential, commercial, industrial, and institutional sources, as well as seasonal process water from a tomato cannery.

On September 19, 2002, the Regional Board adopted Cease and Desist Order (CDO) No. R3-2002-0105 (Attachment 1) to institute a formal sewer connection ban and specify various milestones for the Discharger to meet in developing and implementing an effective Long-Term Wastewater Management Program.

On January 5, 2004, the Discharger submitted a formal connection ban exemption request for three "critical facilities" within the City consisting of 1) City of Hollister Fire Station #2, 2) the San Benito High School campus expansion, and 3) the Hazel Hawkins Hospital Surgical Center (Attachment 2).

BACKGROUND

Connection Ban

The City violated provisions of its waste discharge requirements for each facility in 2002, including influent flow limitation exceedances, seepage of treated wastewater to the San Benito River channel, and failure of a disposal pond levee.

resulting in discharge of approximately 15 million gallons of treated wastewater to the San Benito River channel. These violations, in conjunction with delays in developing a long-term solution to wastewater issues and the Discharger's implementation of an emergency building moratorium as outlined in CDO No. R3-2002-0105 (Attachment 1), indicated the Discharger was unable to adequately treat and dispose of current wastewater flows in compliance with its waste discharge requirements. Therefore, issuance of building permits resulting in additional connections to the sewer system would increase demand on wastewater treatment and disposal capacity, cause continuing violations of waste discharge requirements, and threaten to cause a condition of pollution or nuisance as defined in Section 13050 of the Porter-Cologne Water Quality Control Act.

On May 6, 2002, the Hollister City Council adopted an urgency ordinance suspending issuance of building permits for new construction resulting in additional connections to the sewer system. The ordinance cited concerns regarding inaccurate flow metering, the 15 million gallon spill to the San Benito River channel, and delays in meeting milestones in WDR Order No. 00-020. The ordinance was adopted by the City Council for immediate protection of the public health, safety, and welfare. On May 13, 2002, the Hollister City Council directed City staff to prepare a more formal ordinance than the urgency ordinance described above. On May 20, 2002, the Hollister City Council adopted Ordinance No. 974, suspending issuance of building permits for new construction in the City. This includes 1) construction of new commercial, residential, or industrial buildings which require connection to the City sewer system, 2) construction of new dwelling units, and 3) building additions that include installation of a new plumbing fixture unit.

On May 31, 2002, the Regional Board Executive Officer issued Cleanup or Abatement Order No. R3-2002-0082 to the Discharger, requiring abatement of potential effects of additional domestic wastewater flow to the Domestic or Industrial Wastewater Treatment Facilities. Order R3-2002-0082 required the Discharger to keep in effect its self-imposed building permit moratorium and imposed additional requirements related to

issues at both the Domestic and Industrial Wastewater Treatment Facilities.

On September 19, 2002, the Regional Board adopted Cease and Desist Order No. R3-2002-0105, which replaced Cleanup or Abatement Order R3-2002-0082. As authorized by Section 13301 of the California Water Code, CDO No. R3-2002-0105 restricts additional domestic wastewater flow to the City's collection system by ordering a formal connection permit moratorium. This prevents the Discharger from lifting its self-imposed building moratorium adopted by the City Council on May 13, 2002. CDO No. R3-2002-0105 also requires a quarterly certification by the City Manager documenting no connections to the sewer system were allowed during the previous quarter.

Connection Ban Exemption Request

CDO No. R3-2002-0105 states in part:

"The intent of this Order is to limit such volume (of new discharges into the Discharger's community sewer system) to zero. As such, if the Discharger can demonstrate a particular project will result in no net increase in wastewater flows, it may petition the Regional Board on a case-by case basis for connection ban exemptions."

The Discharger is formally requesting connection ban exemptions for three institutional facilities as follows:

- City of Hollister Fire Station #2
- San Benito High School campus expansion
- Hazel Hawkins Hospital Surgical Center

Based on offsets in wastewater flow due to the replacement of existing plumbing fixtures with low flow fixtures, the Discharger believes the connection of the above facilities will not result in a net increase in wastewater flow.

DISCUSSION

Flow Limitations

Pursuant to WDR Order Nos. 87-47 and 00-020, overall domestic wastewater flow for the City of

Hollister is limited to the sum of permitted capacities (or actual treatment and disposal capacity, if less than permitted capacity) at the Domestic and Industrial Wastewater Treatment Facilities. The permit-based domestic wastewater flow is limited to 2.69 MGD (30-day average daily flow) at the Domestic Wastewater Treatment Facility, and 0.18 MGD and 1.52 MGD at the Industrial Wastewater Treatment Facility during the canning and non-canning seasons, respectively. Permit based influent flow limits to the Industrial Wastewater Treatment Facility are based on the source (domestic, cannery, or storm water flows) and season (canning or non-canning). The canning season runs from approximately mid-June through mid-October, and varies from year to year. Permitted domestic wastewater flows to the Domestic and Industrial Wastewater Treatment Facilities are summarized in the following table:

Flow Type	Dom. Plant Year-Round	Ind. Plant (Canning Season)	Subtotal - Domestic Flow (Canning Season)	Ind. Plant (Non-Canning Season)
Dom./Muni.	2.69	0.18	2.87	1.52
Cannery	--	3.5	--	--
Storm	--	--	--	0.2
Total	2.69	3.68	2.87	1.72
Proposed CDO	2.69	3.68	2.87	1.72

Compliance with the permit-based flow limitations are determined by influent wastewater flows. Discharge Specifications in WDR Order Nos. 87-47 and 00-020 state that flow limits are not an entitlement, but a maximum allowable capacity providing all other conditions of the orders are met.

Treatment and Disposal Capacity

Additional consideration should be given to the difference between permit-base flow limits as discussed above and actual treatment and disposal based capacity. Previous evaluations indicate the physical capacity of the Domestic Wastewater Treatment Facility is based on the disposal (percolation) bed capacity. Disposal bed capacity is governed by disposal area (surface area of beds)

and the hydraulic capacity of the beds. The hydraulic capacity is controlled by either the infiltration rate or percolation rate. Infiltration, the flow of water past the topsoil or surface layer, is limited by the surface soil characteristics and is inhibited by clogging at the surface due to solids loading and algae buildup. The infiltration rate decreases dramatically with prolonged loading due to extended wetting of the surface soil, solids loading and algae buildup. Subsequently, infiltration capacity can be maximized through frequent wetting and drying cycles, decreased solids loading, and regular pond maintenance such as disking or ripping of the bed bottom. After the water has been infiltrated, the percolation rate through the vadose zone or soil column is governed by the alluvium characteristics and depth to groundwater. Although groundwater levels have been steadily rising over the last decade, hydraulic capacity at the domestic facility is limited primarily by infiltration.

In 1999, disposal capacity at the Domestic Wastewater Treatment Facility was estimated to be 2.5 MGD (1999 Environmental Impact Report for the Domestic Wastewater Treatment Plant to Industrial Wastewater Treatment Plant Diversion Project, Section I.A, page 1). In 2001/2002 the Discharger renovated (cleaned and scraped) the disposal beds at the Domestic Wastewater Treatment Facility in an effort to increase disposal capacity. A subsequent May 28, 2002 "desk-top" evaluation of existing data by Ken Schmidt (hydrogeologist hired by the Discharger) estimated a percolation pond disposal capacity of 3.5 to 4.0 MGD during the summer months, and 2.3 to 2.7 MGD during the winter months. The lower winter month disposal capacity values account for higher groundwater levels and wetting of the disposal beds due to rainfall. If 2.5 MGD (based on the 2002 average estimated winter capacity and 1999 estimated capacity) is considered the allowable disposal-based capacity at the Domestic Wastewater Treatment Facility, adding the permitted diversion capacity (to the Industrial Wastewater Treatment Facility) of 0.18 MGD results in an overall "disposal-based" domestic wastewater capacity of 2.68 MGD for the City of Hollister. The permit-based flow limit is 2.87 MGD during the canning season and 4.21 MGD during the non-canning season (see previous table).

Disposal Capacity Improvements

The Discharger historically has experienced problems with the disposal beds becoming plugged since 1993, likely as result of high solids and algae loading. Staff inspections frequently observed reduced disposal capacity resulting in the ponding/storage of effluent in the disposal beds and requiring the diversion of influent domestic wastewater to the Industrial Wastewater Treatment Facility. In an effort to improve the Discharger's disposal-based capacity at the Domestic Wastewater Treatment facility, CDO No. R3-2002-0105 required interim improvements to the facility to reduce total suspended solids (TSS) loading concentrations to the disposal beds to 60 mg/L by August 1, 2003. Interim improvements to reduce TSS at the Domestic facility were brought on-line on June 13, 2003. Improvements consisted of converting Pond 1A (formerly a facultative pond) to a Dual Powered Multiple Celled (DPMC) treatment pond. As a backup, a dissolved air flotation unit was acquired by the Discharger in July and put on standby if the DPMC failed to meet the 60-mg/L TSS requirement. Average monthly TSS data for July, August, September, October and November 2003 indicate the DPMC is meeting the TSS requirement with average monthly TSS concentrations of 41, 44, 57, 58 and 43 mg/L, respectively. Prior to interim improvements, average TSS concentrations were approximately 156 mg/L.

The Discharger hired a full-time on-site Grade V Wastewater Treatment Plant operator August 2002. The new operator has been maximizing disposal bed capacity through wastewater treatment operational controls and regular cycling and maintenance of the disposal beds.

Comparison of disposal flow rates during the months of September, October, and November for 2002 and 2003 indicate an average monthly increase of 0.21 MGD (0.11 MGD at the Domestic plant and 0.10 MGD at the Industrial Plant) in disposal capacity since start up of the interim improvements. In addition, combined total excess wastewater storage at the Domestic and Industrial facilities is currently (November 2003) at 136.1 million gallons as compared to 99.8 million gallons for November 2002. This does not include the emergency storage basins and also accounts for the 26 million gallons of lost storage capacity due

to the interim improvements (operating depth of Pond 1A reduced by 9 feet.) The observed increases in disposal flow rates and excess capacity are likely the result of improved effluent quality (lower TSS) and better operational and maintenance controls implemented by a full-time on-site operator. However, the December 2003 and January 2004 storm events decreased disposal capacity through wetting of the disposal beds and subsequently decreased the previously reported excess wastewater storage capacity to an unknown extent.

Previously, Regional Board staff believed the limiting factor for the Discharger's domestic wastewater flow was the "disposal-based" capacity of 2.68 MGD (2.5 MGD + 0.18 MGD) as compared to the "permit based" capacity of 2.87 MGD (2.69 MGD + 0.18 MGD). However, in light of the Discharger's reported increase in disposal capacity, the permitted capacity of 2.87 MGD is now limiting as compared to an estimated "disposal based" capacity of 2.89 MGD (2.5 MGD + 0.18 MGD + 0.21 MGD.) Although the actual domestic wastewater disposal capacity is unknown barring additional data and evaluation, significant improvements appear to have been made in disposal capacity based on the observed disposal flow rates and excess storage.

Influent Flow Data

The Discharger first reported violating flow limits for diverting domestic wastewater to the Industrial Wastewater Treatment Facility in October 2001. The subsequent evaluation of the Discharger's Domestic Wastewater Treatment Facility flow metering system indicated influent flow readings were likely inaccurate as a result of surcharging in the influent flow channel at the Domestic Wastewater Treatment Facility. Questionable flow readings continued after the Discharger lowered water levels in the primary pond, purchased new flow metering equipment, calibrated and recalibrated flow meters, and cleaned the discharge pipe to the primary pond. In addition, first and second quarter 2002 flow data (non-canning season) indicated the Discharger was likely to exceed its permitted domestic wastewater flow limitation of 2.87 MGD during the canning season. At this time influent domestic wastewater flow rates were believed to be in excess of the 2.87 MGD. Cease and Desist Order No. R3-2002-0105

required the Discharger to install new headworks at the Domestic Wastewater Treatment Facility to provide reliable influent flow measurement.

Initial flow data from the new headworks previously reported in staff's September 12, 2003 Compliance Update to the Board for the City of Hollister indicated the Discharger was in violation of its permitted capacity of 2.69 MGD for the Domestic Wastewater Treatment Facility as previously suspected. Influent flow data collected from the new Domestic Wastewater Treatment Facility headworks immediately after startup between July 23 and July 31, 2003 resulted in an average flow of 2.75 MGD (nine day average). No flow was diverted to the Industrial Plant during this time period. However, additional Domestic Wastewater Treatment Facility influent flow data for the months of August to November 2003 indicate the Discharger is in compliance with the permitted domestic wastewater flow limitations. Domestic wastewater flows are summarized in the following table:

Domestic Wastewater Flow Data MGD (30-day average daily flow)			
Month (2003)	Domestic Plant	Industrial Plant*	Total
Aug	2.68	0.04	2.72
Sept	2.66	0.06	2.72
Oct	2.59	0.06	2.65
Nov	1.42	1.33	2.75

* Domestic wastewater flow diverted to the Industrial Wastewater Treatment Facility

Review of the above flow data indicate the Discharger is currently meeting domestic wastewater flow limitations and is not likely to exceed them during the canning season when the allowable diversion to the Industrial Wastewater Treatment Facility is limited to 0.18 MGD. Comparison of historical flow data with that of the new headworks data presented above was not conducted given the uncertainty of the flow data prior to startup of the new headworks flow metering system.

Water Conservation Program

Pursuant to Administrative Civil Liability Order No. R3-2002-0097, the Discharger has provided \$126,000 to the Water Resources Association of San Benito County for water conservation efforts

focused on installation of low-flow fixtures in residential, commercial, industrial, or institutional settings. The supplemental water conservation program goal is to retrofit 400 residential and 132 institutional and commercial ultra low flow toilets before the end of 2004. This goal was surpassed in the second quarter 2003. This supplemental water conservation program element (administered through the Water Resources Association) augments the existing residential retrofit plan to install an additional 540 low-flow toilets per year. The third quarter 2003 conservation program update was received November 5, 2003. During the first, second and third quarters of 2003, 1159 residential low-flow toilets were distributed and an additional 86 residential toilets were replaced via rebate incentives. Year-to-date water conservation efforts resulted in an estimated 25.9 million gallons per year (0.071 MGD) or 79.6 acre feet per year water savings and wastewater flow reduction. In addition, 137 institutional and commercial ultra low flow toilets were distributed this year within the Hollister water/sewer service area for a projected additional 4.7 acre feet per year of water savings. As required pursuant to the CDO (Order paragraph number four), the Discharger has expanded its water conservation program through public outreach and education, plumbing retrofits, and City staff training and certification.

Compliance History

Pursuant to Cease and Desist Order No. R3-2002-0105 the Discharger has been submitting certified statements as part of its quarterly self-monitoring reports stating that no permits have been issued in the previous reporting period that will result in additional connections to the community sewer system.

Full compliance with the Cease and Desist Order is pending submittal of a complete Report of Waste Discharge (ROWD), including the hydrogeologic study, by May 20, 2004; implementation of the Long Term Waste Management Plan (LTWMP) by October 15, 2005; and continued implementation of the sewer connection ban. All terms of Administrative Civil Liability Order No. R3-2002-0097 have been met except full implementation of the LTWMP by October 15, 2005. Discussions with the Discharger indicate they have selected the preferred wastewater treatment system design for the LTWMP and will be submitting a draft design

and ROWD for staff comment prior to the May 20, 2004.

As discussed in Regional Board staff's September 12, 2003, board meeting item number 24, *Compliance Update - Cease and Desist Order No. R3-2002-0105 & Administrative Civil Liability Order No. R3-2002-0097, City of Hollister, San Benito County*, the Discharger has been, and continues to be, diligent in maintaining compliance with all orders.

Proposed Facility Flow & Offset Evaluation

The Discharger provided an estimate of projected flows and flow offsets (decreases due to the replacement of existing fixtures with low flow devices) for the proposed facilities using conservative (high) published typical water-use rates. The Discharger's estimates for each facility are summarized below with supporting rationale:

City of Hollister Fire Station #2. The new fire station is to be staffed with three crews of three people and wastewater flows were assumed to be approximately that of a single-family home (225 gallons per day [gpd]). The new station will only require three additional employees (two of the crews are already employed by the City and are stationed at the existing fire station.) Assuming no net increase in shifts other than that provided by the new crew, the Discharger estimates the net increase in flow for the new fire station to be one-third of a single family home, or 75 gpd. The Discharger is using flow savings from the replacement of 10 existing standard toilets with ultra-low flow toilets at various City owned facilities to offset increases in wastewater flow from the proposed fire station. Flow savings are estimated to be 600 gpd (60 gpd/toilet x 10 toilets) resulting in a net decrease of 525 gpd for City facilities, including the proposed fire station.

San Benito High School Campus Expansion. The proposed expansion will ultimately result 37 additional staff members comprising 28 teachers and 9 support staff. It is assumed the new staff will generate an additional 782 gpd (21.1 gpd/staff person). An increase in student population will not occur due to the campus expansion beyond normal enrollment fluctuations. Increased enrollment would be absorbed by the school with or without expansion and would only increase class size in the

event the expanded campus was not occupied. The school has already replaced 23 existing toilets at the existing campus with ultra low flow toilets and has 20 more awaiting replacement. This is a current flow savings of 1380 gpd (60 gpd/toilet) with an additional 1200 gpd to be achieved prior to connection. In addition, there were previously two homes with active connections on the campus expansion site prior to construction. The Discharger and school district are proposing to use one of the eliminated connections as an additional flow reduction offset of 225 gpd (typical family home). Given the assumed additional flows and offsets, the Discharger calculates a 2,023 gpd net decrease in wastewater flow from the entire high school campus, including the expanded campus facility and additional staff.

Hazel Hawkins Hospital Surgical Center. The new surgical center wing is intended to provide more efficient and reasonable scheduling and is not intended to increase the number of procedures performed. Therefore, no increase in flow for the entire hospital is expected as a result of the new surgical center. The hospital estimates a total wastewater flow of 966 gpd for the new facility. However, the Discharger provides a more conservative estimate of 1880 gpd assuming wastewater production from 10 staff (16 gpd/staff) and 10 patients (172 gpd/patient). The hospital has replaced 26 existing toilets with ultra low flow models for a savings of 1560 gpd and is planning replacement of an additional 28 toilets prior to connection for an additional water savings of 1680 gpd. In addition, the hospital has upgraded to a non-regenerating water softener system that achieves an estimated water savings of 700 gpd. Given the estimated new facility flow of 1880 gpd (assumed as net increase) and flow offsets the Discharger is claiming a net reduction in wastewater flow from the entire hospital, including the new surgical center, of 2,060 gpd.

Proposed New Fixtures. Water usage and wastewater flow rates are typically estimated by occupancy and facility type, and not by the type and number of fixtures. However, the number of new fixtures for each proposed facility is outlined in the following table for reference:

Proposed New Fixtures			
Fixture Type	Fire Station	High School	Surgical Center
Toilet	6	21	6
Urinal	1	4	-
Lavatory	8	16	10
Washer	1	-	-
Lab Sink	-	40	-
Other Sinks	-	-	9
Shower	5	-	2
Drinking Fountain	-	-	2
Total	21	81	29

Staff Evaluation

The proposed connections to the Discharger's wastewater collection system for the three facilities would likely constitute net increases in wastewater flow without considering the estimated offsets due to plumbing fixture retrofits. However, the total combined offset of 9,550 gpd significantly exceeds the increased flow of 2,737 gpd for all three facilities. This is not including additional flow reductions effected throughout the community due to the replacement of additional plumbing fixtures as discussed previously.

Consideration should be given to the Discharger's ability to handle any additional domestic wastewater flow in the absence of offsets. Although the Discharger is currently treating and disposing of domestic wastewater at flows approximating both its permitted capacity and disposal capacity, recent influent flow data and disposal flow data indicate the Discharger is not currently exceeding its permitted capacity and has made significant improvements in increasing disposal capacity and excess storage at both the Domestic and Industrial Wastewater Treatment Facilities. Given more recent and accurate influent flow data, an increase in domestic flow of 2,737 gpd (0.003 MGD), in the absence of offsets, would not be likely to cause an exceedance of the Discharger's permitted or disposal based capacities.

The Discharger is requesting connection ban exemptions for what it is calling "critical facilities." Although staff feels the requested connections may not be vital for the City to continue functioning, the proposed facilities will provide expanded resources for essential public

safety, medical and educational services within the community. For this reason alone, staff believes the Discharger's request should be seriously considered. At the same time, the Board's adoption of a connection ban is one of the most serious enforcement actions the Board can take, and it is a "given" with such an action that there will be real hardships and tough situations for any discharger that has had violations prompting such a severe enforcement action.

Building permits have not been issued for either the fire station or surgical center. However, the high school expansion construction activities are nearing completion and the school district is awaiting approval from the City to connect the new facility to the community sewer. As a state permitted facility, the high school expansion did not require City building permits and bond funding for the project was provided prior to issuance of the Cease and Desist Order. In addition, staff regularly receives telephone correspondence from would-be developers and homeowners trying to work around the connection ban and the City. Although the City deserves little credit for implementation of the ordered connection ban, the City's actions have clearly demonstrated their intent to comply with the conditions of the Cease and Desist Order as well as the Administrative Civil Liability Order, and they have complied thus far.

RECOMMENDATION

Staff recommends approval of the Discharger's request to connect all three of the institutional facilities to the community sewer system based on the following:

- Low-flow retrofit of existing plumbing fixtures at the facilities offsets estimated increases in flow resulting in no net increase in flow to the community sewer.
- Current and accurate flow data indicate the Discharger is not immediately at risk of exceeding permitted or disposal based capacity limitations.
- Discharger is currently in compliance with all Orders.
- Proposed facilities provide expanded essential public services to the community.

There are two caveats to staff's recommendation: 1) the above findings and conclusions are based on calculations which include estimates and assumptions and are therefore subject to judgment rather than facts, and 2) there may be additional information from the Board hearing. However, the City's request appears to meet the criteria established by the Board ("no net increase," see page 2 of this report), and should therefore be granted.

ATTACHMENTS

1. Cease and Desist Order No. R3-2002-0105
2. Request for Sanitary Sewer Connections for Critical Facilities, City of Hollister, January 5, 2004

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