

# **GRASS VALLEY WASTEWATER TREATMENT INQUIRY**

## **REASON FOR INVESTIGATION**

The 2003-2004 Grand Jury investigated the status of wastewater treatment in unincorporated Nevada County. This year, the Grand Jury investigated the status of wastewater treatment in Grass Valley. Since this entity is in the process of renewing its wastewater discharge permit, the Grand Jury examined the plans, projected costs, funding sources, and estimates of customer rate increases to meet its current wastewater discharge requirements.

## **BACKGROUND**

The U.S. Environmental Protection Agency (EPA), State Water Quality Resource Control Board (SWB), and the Central Valley Regional Water Quality Resource Control Board (CVB) regulate wastewater treatment plants.

Treatment plants, regulated by multiple levels of governmental authority, operate within a complex regulatory framework that includes the following:

- The EPA as regulator of the Clean Water Act (CWA), 33 USC 1311, and the Federal Water Pollution Control Act, 33 USC et seq.
- The SWB and the Porter-Cologne Water Quality Control Act, California Water Code Division 7, effective January 1, 2003, sometimes called the “California Toxics Rule” (CTR).
- The CVB affects western Nevada County.

### **Environmental Protection Agency**

The EPA’s mission is to protect human health and to safeguard the natural environment. The Clean Water Act (CWA) of 1972 and amended in 1987 is the primary Federal statute regulating the protection of the nation’s waters.

### **State Water Quality Resources Control Board**

The California Water Code is the principal state regulation governing water quality protection and the use of water resources. This code established the SWB and the California Regional Water Quality Control Boards.

## **Regional Water Quality Control Boards**

The mission of the nine Regional Water Quality Control Boards is to develop rules to enforce water quality and thereby protect the State's waters. The primary duty of the CVB Sacramento-San Joaquin Delta Basin (Region 5b) is to protect the quality of the waters within the central valley region including western Nevada County.

All wastewater treatment plants that discharge to surface waters are issued a National Pollutant Discharge Elimination System (NPDES) permit that sets specific discharge requirements to ensure protection of public health and water quality. These permits are renewed every five years by the California Regional Water Quality Control Boards. At each renewal, the permit renewal process may incorporate new treatment objectives and discharge regulations that might require upgrades or modifications to the treatment plants.

The Regional Water Quality Control Boards conduct a site survey at each wastewater treatment location and make a determination of the beneficial uses of the receiving waters, i.e., surface waters that receive the treated effluent. Beneficial uses include municipal and domestic water supplies, water contact and non-contact recreation, warm and cold freshwater habitats and wildlife habitat, ground water recharge, and agricultural supply. NPDES permit requirements are then tailored to preserve and maintain the beneficial uses of the applicable receiving water. Civil and criminal penalties apply to persons or agencies that violate orders set forth by the CVB.

## **GRASS VALLEY**

The City of Grass Valley's (City) Waste Water Treatment Plant (WWTP) presently serves a population of approximately 13,000. The plant is situated on 29 acres of City land and is fed by a 54.4-mile collection system. The WWTP discharges approximately 2.1 million gallons per day (mgd) of treated domestic and industrial wastewater.

The WWTP is defined as a nitrifying denitrifying activated sludge process followed by filtration and disinfection. The activated sludge facilities consist of primary clarifiers, aeration basins and secondary clarifiers. Digested sludge is pumped to a supernatant pit for further digestion, thickening and storage. These solids are then contracted to be removed from the plant site. The treated wastewater is discharged into Wolf Creek, which is a tributary of the Bear River.

In order to comply with the CVB Cease and Desist order of April 17, 1998, the WWTP was upgraded in 2003 at a cost of \$9,614,310. The plant's operating expense budget of fiscal year 2004-2005 is \$956,106.

The new wastewater discharge requirements for the City of Grass Valley are contained in CVB Board Order No. R5-2003-0090, which became effective June 6, 2003.

## METHOD OF INVESTIGATION

The Grand Jury interviewed wastewater operations management, members of the CVB, a member of a wastewater consulting firm, reviewed documents prepared by the CVB, visited the wastewater treatment site, reviewed documents prepared by consultants, and researched the topic of wastewater in California through multiple sources.

## FINDINGS

1. The California Toxics Rule (CTR) of 1994 has identified 23 toxins hazardous to aquatic life and 57 toxins that can be harmful to humans.
2. The City's WWTP is the first Nevada County facility to complete all the testing as required by the CTR.
3. The City is in the process of preparing an NPDES permit for storm water discharge from the City's drainage system as directed by the CVB.
4. The City prepared a sewer system master plan in 1995 that estimated wastewater service costs through the year 2015.
5. At present, the City's WWTP is processing approximately 2.1 mgd under average dry weather conditions. The designed flow of the facility is 2.78 mgd.
6. By the year 2013, it has been estimated the City would require a WWTP that had the capacity to process 4.2 mgd of treated wastewater.
7. The current CVB order regulates discharge prohibitions, effluent limitations, emergency storage, flow equalization limitations, sludge disposal, receiving water limitations and ground water limitations.
8. The CVB has ordered the City to comply with the following schedule as published to assure compliance with the aluminum, chloroform, iron, manganese, methyl tert butyl ether (MTBE), methylene blue active substances (MBAS), nitrite, and nitrate plus nitrite effluent limitations contained in the Wastewater Order No. R5-2003-0089:

| <b>TASK</b>                             | <b>COMPLIANCE DATES</b>        |
|---|--------------------------------|
| Progress Report/Implementation Schedule | 1 January 2004                 |
| Submit Pollution Presentation Plan*     | 1 April 2004                   |
| Submit Pollution Presentation Plan**    | 1 June & December              |
| Progress Reports                        | 1 June & December of each year |
| Achieve Full Compliance                 | 1 March 2008                   |

\*The Pollution Plan shall be prepared for all constituents listed above and shall meet the requirements specified in the California Water Code Section 13263.2.

\*\* The progress report shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including construction progress, evaluation of the effectiveness of the

- implemented measures and assess whether additional measures are necessary to meet the time schedule.
9. As of May 12, 2005, the City is current on all report submittals as set forth in the CVB Order found in finding #8 above.
  10. On November 1, 2005, the City is required to be in compliance with specific limits on a few selected effluents. Some of these effluents include biochemical oxygen demand, suspended solids, coliform and turbidity.
  11. The cost to achieve full compliance has recently been estimated by the City to be as much as \$12,000,000.
  12. The City funds infrastructure upgrades through the collection fees charged for new developments and through sewer fees for existing customers.
  13. The City indicated State and Federal grant funding is not presently available to cities the size of Grass Valley.
  14. At present, approximately 0.35 mgd of mine drainage is processed through the City's WWTP. This drainage contains concentrations of iron, manganese and sulfate. These minerals are causing the drainage to have pH levels below the CVB requirements. The mine drainage originates from the Drew Tunnel of the Watt Incline of the Massachusetts Hills Mine, which is now owned by Newmont Mining.
  15. On January 22, 2004, the City filed suit for unspecified damages in U.S. District Court Eastern District of California against Newmont Mining.
  16. The City retained the services of a specialized consultant on October 12, 2004. The consultant's prescribed functions are numerable. The primary assignment is to aid the City in accomplishing specific tasks that will assure full compliance to the standing CVB order.
  17. An article published April 10, 2004 in the City's newsletter, "City Messenger", stated in part, the following:

"The city's wastewater operations are permitted through the federal EPA's National Pollution Discharge Elimination System permit program. The city's recent permit renewal in June of 2003 includes complying with the California Toxics Rule and requires an enhancement of the city's discharge quality. The results of these studies could require further plant upgrades by 2008. Given the experiences of other jurisdictions, these costs could potentially affect sewer rates.

Everyone wants clean water, but it is appalling when the standards for a wastewater treatment plant's discharge have to achieve a quality as high as some drinking water standards. Ultimately, how much are the ratepayers and public willing to pay for slight improvements in water quality? Hopefully, more reason and economic realities will enter into such considerations in the future."

## **CONCLUSIONS**

1. At this point of development, in addressing the requirements for upgrading the WWTP, it would appear the City has a substantial challenge to be fully compliant by the due date of March 1, 2008.
2. A favorable result from the City's civil suit against Newmont Mining could enhance the City's resources.
3. Without more precise estimates of costs, the funding element remains an unknown and the ratepayers remain uninformed as to what they may expect in the way of rate increases.
4. It bears repeating that NPDES permits are renewed every five years. At each renewal, the California Regional Water Quality Control Board may incorporate additional treatment objectives and more stringent wastewater discharge regulations that could require upgrades or modifications to Grass Valley's Wastewater Plant.
5. The content of the article in the "City Messenger" may lead to a misunderstanding of the issues involved concerning the renewal of the NPDES permit.

## **RECOMMENDATIONS**

1. The City Council should do everything within the scope of their responsibilities to move the WWTP project to a level of the highest priority.
2. The City Council should evaluate an opportunity to collaborate on wastewater treatment with other agencies as deemed appropriate.
3. The City Council should examine future opportunities to share facilities with other wastewater providers in Western Nevada County.
4. The City Council should launch a comprehensive search for grant funding and other methods of financing the upgrade project.
5. The City Council should initiate a plan for communicating to the public the current factors involved in the task of fully complying with governmental orders and the estimated associated costs.

## **REQUIRED RESPONSES**



# City of Grass Valley

A CENTENNIAL CITY

CITY COUNCIL  
GERARD TASSONE, MAYOR  
MARK JOHNSON, VICE MAYOR  
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October 11, 2005

Honorable Ersel L. Edwards  
Presiding Judge of the Superior Court of Nevada County  
201 Church Street  
Nevada City, CA 95959

RE: Response to the Grand Jury Report on Affordable Housing in Grass Valley

Your Honor,

This letter is a revised response to the August 30, 2005 request from Ray Hoffman, Foreman of the Grand Jury of Nevada County to resubmit our response to the 2004-2005 Grand Jury Report regarding Wastewater Treatment in Grass Valley

As you know, the Grand Jury conducted an investigation on the wastewater treatment facility in Grass Valley. Staff from the Public Works Department was directed to take the lead and assist with the City of Grass Valley's response to the Grand Jury's report. We have reviewed their effort and concur with their findings and recommendations that relate to the City of Grass Valley. Thus, the following are the City Council's responses to the Grand Jury Report on wastewater treatment in the areas of findings, conclusions, and recommendations:

## FINDINGS

We agree with all the report's Findings. We offer the following comments for findings 11 and 12:

- 11. Agree. However we offer the following additional information. The estimate of \$12 million is a preliminary estimate and is intentionally, very conservative. The City is currently working with a consultant to perform an engineering pre-design evaluation of the wastewater treatment plant with specific recommendations regarding the improvements needed for compliance. Based upon this evaluation, the cost estimate will be further refined and, it is anticipated, could even decrease.

- 12. Agree. In addition to the funding mechanisms mentioned in the finding, the City has funded infrastructure upgrades using other methods. These other methods include; bonds, Certificates of Participation (COP's) and State Revolving Fund Loans. Eventually the debts incurred by these other methods are paid back through the collection of sewer fees.

## CONCLUSIONS

We agree with the conclusions of the report, except for 3 and 5.

- 3. Partially Disagree. Without a more precise estimate of the cost, the funding element is based upon the preliminary estimate. The City has hired a Consultant to evaluate both the water and sewer rates for the City. The preliminary estimate for the plant modifications is a part of this evaluation. When completed, the sewer rate study will be made public and public hearings will be held. The anticipated sewer rates can be adjusted as the cost estimate of the plant modifications is refined.
- 5. Disagree. The content of the article in the "City Messenger" seems clear. The compliance requirements in the 2003 NPDES Permit Renewal will necessitate costly modifications to the wastewater treatment plant. These modifications will affect the sewer rates to some degree.

It is anticipated that the 2008 NPDES Permit Renewal will include additional compliance standards that may again require modifications to the treatment plant. At this point in time, the treatment plant is fairly sophisticated and the quality of the effluent is very good. Because of the technology involved, any additional modification will be costly. Also, these modifications will only provide minimal improvement to the current quality of the effluent. Will the public continue to support costly modifications to the treatment plant with the associated rate increases, when these modifications will result in minimal improvements to the effluent water quality?

## RECOMMENDATIONS

We agree with all the reports recommendations.

- 1. The recommendation has been implemented. The City has created an Ad Hoc Committee consisting of the Mayor and Vice Mayor to assist in the Waste Water Treatment Plant expansion and permit compliance efforts. This committee has met to discuss and review WWTP expansion and permit compliance strategies and timelines.
- 2. This recommendation has been implemented. The City Council is open to evaluate all opportunities for collaboration on wastewater treatment with other agencies. When an opportunity is identified, the extent of any collaboration will be evaluated and the appropriate level of collaboration, if any, will be



determined.

- 3. This recommendation has been implemented. The city will examine opportunities for future sharing of facilities with other wastewater providers. The City has sufficient capacity at our treatment plant to provide for our current needs. However, as our community grows with the surrounding area, sharing options must be considered.
- 4. This recommendation has been implemented. The City is currently revising the User Fees for Sewer. As part of the fee study, the City's Consultant reviewed potential funding sources for the upcoming upgrade project.

In addition, staff is continually vigilant for grants or other funding options that may become available to fund upgrades or other operations at the waste water treatment plant.

- 5. This recommendation has been implemented. Public discussions will be part of the process when we implement the proposed revisions to the sewer rates. The treatment plant modifications are partly why the new rates are needed. Consequently, the plant modifications and the need for them will be included in our discussions at two public information workshops and a public hearing regarding the sewer rates.

In general, the Council agrees that the public must be informed regarding NPDES permit compliance at the waste water treatment plant, the required modifications to the plant and the associated cost of the modifications. When the specific modifications are identified and quantified, there will be public meetings to present the modifications. It is anticipated that these public presentations will occur within the upcoming six months.

In closing, the Grass Valley City Council wishes to convey that we are on track with the timeline for compliance with the 2003 NPDES permit. The City will continue to explore opportunities for collaboration with other agencies and will also explore funding and financing alternatives for the treatment plant modifications.

This response was reviewed and approved by the Grass Valley City Council at its October 11, 2005 meeting. Thank you for your consideration.

Sincerely,



Gerard Tassone  
Mayor



Mark Johnson  
Vice Mayor

cc: Members, City Council  
Members, Planning Commission