



City of Woodland

REPORT TO MAYOR AND CITY COUNCIL

AGENDA ITEM

TO: THE HONORABLE MAYOR
AND CITY COUNCIL

DATE: January 27, 2009

SUBJECT: Collection System & Water Pollution Control Facility Infrastructure
Update

Report in Brief

New permit requirements and deferred maintenance of the Sanitary Sewer Collection System and Water Pollution Control Facility (WPCF) will require a detailed examination of the funding needs for both facilities in the near future so that staff can responsibly plan for system operations, legal requirements, staffing needs, repair of critical systems, replacement of equipment, and also minimize the cost of these activities on the City of Woodland residents. The regulatory environment now requires that both facilities have their own permit with separate requirements for each system from the Regional Water Quality Control Board. These permits require separate management plans that dictate the operational requirements for each system. The January 27 briefing will discuss the changes that have occurred in the regulatory environment and the new information that has come to light since the last examination of funding needs was done in four years ago.

Staff recommends that the City Council direct staff to develop a report on the funding needs and then report back to Council with the results of the study, with recommendations for how the funding needs for providing a reliable utility that meets permit requirements can be met, while minimizing the cost to the residents of Woodland.

Background

This infrastructure update/briefing will be focusing on the sewage collections and treatment systems. In July of 2005, the Council approved a rate increase base on information developed in late 2004 and early 2005. The new NPDES permit and reoccurring maintenance requirements for the WPCF and Collection system clearly shows that this past rate increase will not provide sufficient funding. The implementation of two NPDES permits were not considered in the 2005 Rate Studies. The sewer collection system NPDES permit and the Water Pollution Control Facility NPDES permit, scheduled for adoption by the Regional Water Quality Control Board Approval in February, will have significant impacts on the costs of system operations. This in turn will have a major influence on the

overall Sewer Enterprise Fund. None of these changes were anticipated five years ago during the last fiscal study of the Enterprise.

In addition, data from implementation of the sewer collection system NPDES permit has refined the requirements for sewer line replacement and rehabilitation in the system. The sewer collection system NPDES permit requires a five year program for cleaning and Closed Circuit Television (CCTV) inspection of the collection system. City staff has begun inspection of the collection system and identified critical pipeline segments in need of major work beyond the expected annual cost of repair and replacement in the rate study.

The expansion of the Water Pollution Control Facility has added new treatment systems. The life cycle/replacement costs for these new and existing systems were not considered in the 2005 Rate Study. Several system components have either failed or have developed severe performance problems which will require additional emergency action planning for both failure and replacement. A long-term life cycle replacement annual cost analysis for the existing components and the new systems will enable staff to see how planned replacement work will impact the operational cost of the facility.

The Council has approved the surface water project to improve the water quality for the residents of Woodland and to help meet the goals of the Water Pollution Control Facility's NPDES permit. The Surface Water Project cost distribution between the Water and Sewer Enterprise Funds needs to be completed so the costs of the new Water Treatment facilities can fairly be split between the funds. Since the Sacramento River surface water project is required by the new WPCF NPDES permit and it is also needed to meet current and future water supply requirements the water rate study currently underway is allocating half the surface water project cost to the Water Enterprise Fund and half to the Sewer Enterprise funds. Development will pay for their share of the costs in these allocations. There is a need to study the long term best use of wastewater effluent as it relates to water transfers and/or water recycling. These costs will need to be reflected in WPCF's operating budget.

Staff has been meeting its permit responsibilities by informing Council on these unforeseen operational costs and is asking for direction from Council to study how these costs will impact the Sewer Enterprise cash flow over the next ten years. The Infrastructure Committee has been apprised of many of these cost increases and permit requirements in recent meetings with staff.

Discussion

Unanticipated Operational Fiscal Impacts

The City of Woodland is responsible for the successful operation of the permitted facilities within its jurisdiction. The system of codes and standards that encompasses everything from the connections to these facilities to the responsibilities of the residents or businesses using the systems, are currently being reviewed as part of the development of the Sanitary Sewer Management Plan (SSMP) which will be reviewed by Council in late spring. The SSMP will need to be approved by Council by August 2009 as part of the Collection System NPDES requirements.

The SSMP will become the business plan for the collection system. It will include regular review of goals and objectives for every facet of the collection system. The regulatory goal of the SSMP is the reduction or elimination of sewer overflows. The benefit to the City is the creation of a business plan that includes data acquisition, modeling, asset management, and long term planning with cleaning, and regular examination of all sewer lines to assess their condition and potential for failure. The supplementary staffing needs associated with the implementation of the SSMP (approximately 4 FTE's), and the repair, maintenance requirements, and replacement of the sewer lift station equipment was not anticipated in the 2005 Rate Study.

WPCF Reoccurring Maintenance

The new NPDES permit for the WPCF is expected to add an additional \$600,000 to this year's operations budget and \$200,000 per year there after, to fund ongoing studies and compliance testing. The equipment originally installed at the WPCF is over 20 years old and several pumps have already or will exceed their useful life in the next few years. The cost of the pumps and their installation is expected to exceed \$3,000,000 in the next few years; other major components are also expected to exceed their service life shortly.

All equipment at the WPCF will be incorporated into a life cycle asset management plan and the funding stream for this equipment will be identified. After the present equipment replacement needs are addressed, the annual cost for funding ongoing equipment replacement into the future is likely to approach \$600,000 per year, but this number needs to be verified by this study. Reoccurring equipment replacement was not included in the scope of the 2005 Rate Study.

Bio-solids

Bio-solids (residual organic matter) removal from the 12 sludge ponds is a new ongoing expense that has been identified as a need by the RWQCB in the new permit. The expected amount to be handled is over 2,500 tons of bio-solids from a 12 acre sludge pond on an annual basis. The cost of this new requirement is expected to be around \$200,000 per year.

Sewer Collection system

The original rate study had no video inspection data available and assumed that annual sewer rehabilitation and replacement would need to increase from ~\$200,000 per year to \$500,000 per year. The CCTV data and other City data are showing that the original estimate is off by a factor of three, which means the city will need an additional 1.5 million dollars per year to meet the necessary repair needs of the collection system. The data also identified that approximately 7,000 feet of sewer line was reinforced concrete pipe, which is severely deteriorated due to hydrogen sulfide gas corrosion. Staff has used the development of the repair contract to develop the City standards for trenchless repair of sewer lines in the future. The estimated repair cost for the 7,000 feet of pipeline and rehabilitation of the corroded manholes is approximately \$3,000,000. This is a typical item that will need to be accounted for in the new study.

Surface Water Treatment Plant

At present, it is estimated that half of the cost of the surface water project could be assigned to the sewer system to be paid by Sewer Enterprise Fund and development fees. This is based on the fact that the salinity requirements for the WPCF can only met by the surface water project or reverse osmosis. The surface water project is the logical choice because it is the most economical way to meet the WPCF salinity discharge and has been approved by Council. If the estimate is correct, the charge for the surface water project to the WPCF will be about \$100,000,000.

Water Reclamation

A study is needed to evaluate the potential value of wastewater effluent for water reclamation reuse or recycling.

Future Issues

There are potential future WPCF and Sewer Collection System costs associated with policy changes in land use that could also impact operational expenses. These expenses have not been examined in detail but are briefly presented here for the Council's information:

- Odor Control at head works could require enclosure and air handling facilities; these would require an increase in the operations budget for power, maintenance and replacement. In addition the capital costs for these facilities will need to be addressed.
- Industrial loading capacity to the treatment plant could increase if the City chooses to invite new industries and diversify the business mixture in order to improve economic development. The loading increase could require new WPCF components to meet the NPDES permit.
- Sewer trunk line capacity increases for redevelopment and densification of the City core may be needed to meet the Downtown Specific Plan goals. The capacity condition will be evaluated as part of the present sewer model study.

The impacts of these unanticipated operational expenses on the long term operation budget of the Sewer Enterprise Program needs to be evaluated. By evaluating these impacts, it will be possible to look at the cash flow for the next ten years and report to Council on the funding needs of the program.

Studying the long term cash flow of the Sewer Enterprise Program will assist in increasingly accurate predictions of the future funding needs of both the Water Pollution Control Facility and the Sewer Collection System and also prevent the catastrophic failure of critical system components, by implementing a timely equipment and infrastructure replacement plan. Near term and future Sewer Component failure could result in the loss of Woodland's credibility with the Regional Water

Quality Control Board due to spills and or failure to meet permit requirements, which could result in numerous Mandatory Minimum Penalty fines being levied against the City by the Regional Water Board.

Fiscal Impact

The cost of this analysis is expected to be about \$35,000 from the operations budget. The analysis and report to Council will help staff and Council decide how to meet the long term funding needs of the program.

Public Contact

Posting of the City Council agenda.

Council Committee Recommendation

The Infrastructure Committee has been apprised of many of these cost increases and permit requirements during recent Committee meetings.

Recommendation for Action

Staff recommends that the City Council direct staff to develop a report on the funding needs and report to Council the results of the study and recommend how these funding needs can be met while minimizing the cost to the residents of Woodland.

Prepared by: Mark Cocke
Senior Civil Engineer

Reviewed by: Greg Meyer
Director of Public Works

Mark G. Deven
City Manager