



CITY OF LODI

COUNCIL COMMUNICATION

AGENDA TITLE: Adopt Resolution Authorizing City Manager to Execute a Contract with the California Department of Water Resources to Install and Maintain a Flow-Monitoring Device in Bishop Cut, near the White Slough Water Pollution Control Facility (\$51,180); and Appropriate \$55,000 for the Project

MEETING DATE: July 17, 2002

PREPARED BY: Public Works Director

RECOMMENDED ACTION: That the City Council adopt a resolution authorizing the City Manager to execute a contract with the California Department of Water Resources (DWR) to install and maintain a flow-monitoring device in Bishop Cut, near the White Slough Water Pollution Control Facility, in the amount of \$51,175; and appropriate funds in accordance with the recommendation below.

BACKGROUND INFORMATION: At the November 15, 2000 meeting, the City Council authorized the City Manager to execute an agreement to prepare a report to request a revised discharge permit for the White Slough Water Pollution Control Facility (WSWPCF). The key element of the proposed revision was moving the Facility's discharge location from Dredger Cut to Bishop Cut. In the course of developing this report, several meetings were held with Regional Water Quality Control Board (RWQCB) staff. Out of these meetings, it became apparent the only way the RWQCB staff will issue a revised permit for the WSWPCF is if the City can quantify the dilution in Bishop Cut for the revised discharge location. To do this, it is necessary to install a flow-monitoring device in Bishop Cut.

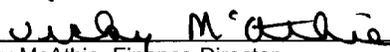
Because DWR has extensive experience with these installations, staff contacted them for a proposal. The attached work plan from DWR outlines this proposal. The flow meter will be a permanent installation available to the City for future control purposes in addition to flow measurement. The contract amount of \$51,175 covers the installation and a three-year maintenance period. A contingency of \$3,825 is recommended to cover additional cost that may be encountered by the City for this project.

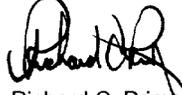
The actual contract document is being prepared by DWR staff. The final document will be reviewed and approved by the City Attorney prior to execution.

FUNDING: The money for this project will be coming from the Wastewater Capital Reserve Account

Requested Appropriation: \$55,000

Funding Available:


Vicky McAthie, Finance Director


Richard C. Prima, Jr.
Public Works Director

RCP/DK/mg
attachment

cc: Randy Hays, City Attorney
Fran E. Forkas, Water/Wastewater Superintendent
Del Kerlin, Assistant Wastewater Treatment Superintendent

APPROVED: 
Dixon Flynn -- City Manager

Project Title: Bishop Cut Stream Flow Measurement Project – Data Collection by the California Department of Water Resources.

Project Location: Located on Rio Blanco Tract, approximately 2 miles west of Interstate 5 and 1.5 miles north of Eight Mile Road. On Terminous, CA 7 ½ minute quadrangle; Range 5E, Township 3N, Section 27.

Project Location - City: Lodi

Project Location – County: San Joaquin

Description of Project:

The City of Lodi (City) is interested in developing the Bishop Cut Flow Measurement Project in conjunction with the Department of Water Resources. The City is proposing to relocate the outfall of their Water Pollution Control Facility to Bishop Cut. As a result of this action, the Regional Water Quality Control Board will require a characterization of available dilution at the new outfall location. The proposed Acoustic Velocity Meter (AVM) will provide the channel's actual flow rate, which is a key element in determining available dilution.

Since the California Department of Water Resources has experience installing and operating flow monitoring devices, The City of Lodi has requested that DWR assist by installing, calibrating, operating and maintaining one AVM. The AVM will be purchased as part of the project and will be relinquished to the City at the end of the three-year contract. Installation of the AVM will occur during October of 2002 and data will begin being logged no later than November 1, 2002.

Installation:

One SonTek Argonaut (1500 kHz) AVM Doppler will be installed in Bishop Cut adjacent to the boat launch approximately 1.5 miles north of Eight Mile Road. The Doppler will be bolted to a 3-inch aluminum mast that attaches to a vertical 4-inch steel pipe. The steel pipe will be driven 6 feet into the bottom of the channel approximately 15 feet from the left bank by the use of an excavator. Angle iron will attach the steel pipe to the existing pilings for lateral support. A five-mile per hour sign will be attached to the pipe in order to prevent boaters from colliding with the mounting device. The AVM will be deployed autonomously; data will be stored internally and will not require external power.

Bathymetry:

The cross sectional area of the channel was determined with the use of a boat-mounted, Raytheon Fathometer. The endpoints of the cross section were determined using a Trimble Global Positioning Satellite unit. The boat traveled from one point to the other point at a constant velocity while collecting depth data. The depth data was then used to create an area relationship as a function of gage height.

Calibration:

The AVM generates what is referred to as a unit velocity based on a limited range (45 feet). This unit velocity must be correlated to the actual mean velocity of the channel by the use of a moving, boat mounted Doppler (ADCP). A rating table will be developed from the correlation. Flows will be computed using the rating table and the unit velocity.

Monitoring/Maintenance:

The data will be down loaded on a monthly basis and made available for The City of Lodi in electronic form (ASCII or Excel). Calibration checks to verify accuracy will occur monthly for the first three months and quarterly thereafter. This includes four hours of flow measurements with the ADCP, and then post processing of the data.

Amount of Contract:

Table 1 is the itemized quote for the entire project.

Table 1 Itemized quote for Bishop Cut Stream flow
Measurement Project.

Doppler (SonTek Argonaut, 1500kHz)	\$8,000	
Installation (Labor)	3,840	
Doppler Initial Calibration	6,720	
Two (2) Additional Calibration Verifications ¹	3,840	
Piling & Mount	2,000	
DFG Permit Fee	775	
	\$25,175	
SonTek Yearly Maintenance ² (Two years only)	\$13,000/year	
Three-Year Contract	Total	\$51,175

1. Two (2) additional calibration checks will occur on a monthly basis after the initial calibration/rating table is determined.

2. Yearly maintenance for the first year is included in the initial installation and calibration.

Deliverable:

Data will be made available to The City of Lodi on a monthly basis in electronic form.

Name of Public Agency Approving Project: CA Department of Water Resources

Name of Person or Agency Carrying Out Project: CA Department of Water Resources, Central District

RESOLUTION NO. 2002-157

A RESOLUTION OF THE LODI CITY COUNCIL AUTHORIZING THE CITY MANAGER TO EXECUTE A CONTRACT WITH THE CALIFORNIA DEPARTMENT OF WATER RESOURCES TO INSTALL AND MAINTAIN A FLOW-MONITORING DEVICE IN BISHOP CUT, NEAR THE WHITE SLOUGH WATER POLLUTION CONTROL FACILITY, AND FURTHER APPROPRIATING FUNDS FOR THIS PROJECT

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NOW, THEREFORE, BE IT RESOLVED, that the Lodi City Council does hereby authorize the City Manager to execute a Contract with the California Department of Water Resources to install and maintain a flow-monitoring device in Bishop Cut, near the White Slough Water Pollution Control Facility, in the amount of \$51,175.00; and

BE IT FURTHER RESOLVED, that funds in the amount of \$55,000.00 be appropriated from the Wastewater Capital Reserve Account for this project.

Dated: July 17, 2002

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I hereby certify that Resolution No. 2002-157 was passed and adopted by the Lodi City Council in a regular meeting held July 17, 2002 by the following vote:

AYES: COUNCIL MEMBERS – Hitchcock, Howard, Land, Nakanishi, and Mayor Pennino

NOES: COUNCIL MEMBERS – None

ABSENT: COUNCIL MEMBERS – None

ABSTAIN: COUNCIL MEMBERS – None



SUSAN J. BLACKSTON
City Clerk