

OFFICE OF THE CITY MANAGER  
DES MOINES, IOWA

ITEM 6

CITY COUNCIL COMMUNICATION 97-213  
APRIL 21, 1997 AGENDA

SUBJECT:	TYPE:	SUBMITTED BY:
WRA RAW SEWER PUMPING STATION PROJECT—PROFESSIONAL SERVICES AGREEMENT	◆ RESOLUTION ORDINANCE RECEIVE/FILE	HAROLD E. SMITH CITY ENGINEER

**SYNOPSIS —**

An agreement amendment has been negotiated with the engineering firm of Brown & Caldwell, Craig Goehring, President and CEO, 3408 Buskirk Avenue, Pleasant Hill, California 94526-4342, to provide Engineering Design Services for the WRA Raw Sewage Pumping Station project. The proposed amendment is on a cost plus fixed fee arrangement consistent with the original agreement. The proposed fee for such engineering services is \$442,981.99 plus a fixed fee of \$54,534.48, which results in a total maximum fee of \$497,516.47 for this amendment. The original agreement, Contract Number 20682, in the amount of \$88,074, was for the study which provided the basis for the proposed project.

**FISCAL IMPACT —**

Funding for this project is provided for on page 245 of the 1997-98 CIP. Funding for a portion of the project will be made from the WRA Renewal & Replacement Fund which has sufficient cash on hand. The balance of the project will be funded by direct contributions by each WRA Community for their appropriate share of the cost of the project based on the Fourth Supplement to the ICA Agreement and the Western Area Facility Plan. Des Moines' share of the project is proposed to be funded with funds provided by Sewer User Fees using cash on hand in the fund.

**RECOMMENDATION —**

Approval of the proposed Engineering Agreement Amendment with Brown & Caldwell.

**BACKGROUND —**

The WRA Western Area Facility Plan, dated 1992, describes certain improvements that are necessary to implement such facility plan and also incorporates a schedule for their implementation. The Peak Hourly Flow Improvements to the wastewater treatment facility located at 3000 Vandalia Road that are recommended in the plan include the following improvements: 1) Replace the raw wastewater pumps; 2) replace the bar screens; 3) add one primary clarifier, two primary sludge pumps, and one primary scum pump station; 4) add a channel air blower; 5) add two final clarifiers; 6) add a return sludge pump station; and 7) extend the aeration tank gallery and mixed liquor channel. Contrary to the time schedule shown in the plan, it has been determined to date that it would be advantageous for the WRA communities to delay making the recommended improvements until the anticipated wastewater flows contemplated in the facility plan actually begin to occur, or the existing equipment wears out or fails.

The administrator of the WRA Wastewater Reclamation Facility has recently advised that replacement components for routine repair of the motor controls for the existing raw wastewater pumps are nearly impossible to purchase because the motor controls are obsolete and replacement parts are no longer manufactured or stocked in supply warehouses. Some replacement parts have been purchased from

other treatment facilities that have taken their equipment out of service; however, this source of supply is rapidly diminishing. Without spare replacement parts, it is possible that one or more of the raw wastewater pumps could soon be out of service and not repairable. The raw wastewater pumps are vital to the operation of the wastewater treatment plant and must operate to avoid an environmental impact catastrophe.

On October 7, 1996, by Roll Call No. 96-3410, the City Council authorized the Mayor to sign an agreement with the engineering firm of Brown and Caldwell to prepare an evaluation of the existing wastewater treatment plant pumping facilities to resolve the matter regarding repair or replacement of the motor control center and attempt to satisfy appropriate requirements of the Western Area Facility Plan as well. Brown and Caldwell has completed the evaluation and have prepared a report with four alternative solutions to resolve the matter. The report recommends proceeding with Alternative No. 4 which provides for installation of new pumps, motor controls and drives; new mechanical bar screens with a pneumatic ejector system; new heating, ventilation and air conditioning; reconfiguration of the wet well; and associated structural, mechanical and electrical work. The estimated construction cost for this alternative is \$6,890,000. The total project cost is estimated to be \$8,356,000 which includes the construction cost plus design, administrative, construction inspection costs, and \$88,000 for the cost of the Design Report. It should be noted that this work only partially satisfies the construction requirements of the Western Area Facility Plan Recommended Improvements. The balance of the facilities recommended in the plan are proposed to be constructed at a later date when the facilities are actually needed.

The WRA Management Agency agreed to approve proceeding with Alternative No. 4 at the WRA Management Agency meeting of March 18, 1997. It also agreed that R&R Funds should be used to pay for costs associated with replacement of existing facilities such as the motor controls as well as those facilities that are required to be replaced as a result of replacing the motor controls. It agreed that new financing be obtained for the cost of the remainder of the project which would be designed and constructed to satisfy part of the requirements of the Western Area Facility Plan.

The selected alternative is proposed to be funded by using \$2,330,000 in R&R Funds and \$6,026,000 with new financing. R&R Funds are being proposed to be used to fund a portion of this project for the reason that some of the facilities being constructed will replace worn out existing equipment and would have been replaced using R&R Funds. The breakdown of the funding costs for new financing for each community is as follows:

Des Moines	15.56	%	\$	937,646
West Des Moines	41.01			2,471,262
Clive	10.16			612,242
UWHSD	8.92			537,519
USSD	22.70			1,367,902
Johnston	1.65			<u>99,429</u>
New Financing				\$6,026,000

The R&R Funds proposed to be used for this project are funds that are currently on hand in the R&R Account. The R&R Account is built up through annual contributions to the WRA by constituent communities. Each community's annual contribution is based on its previous year's sewage contribution to the WRA Wastewater Treatment Facilities. The breakdown for funding participation by each community for this project using R&R Funds is as follows:

Clive	3.97 %	\$ 92,501
Des Moines	73.05	1,702,065
Johnston	0.80	18,640
Pleasant Hill	1.23	28,659
Polk County	0.32	7,456
USSD	6.01	140,033
UWHSD	2.43	56,619
Warren County	0.99	23,067
West Des Moines	11.20	<u>260,960</u>
Funds from R&R Account		\$ 2,330,000

Total project cost for each constituent community is as follows:

Clive	\$ 704,743
Des Moines	2,639,711
Johnston	118,069
Pleasant Hill	28,659
Polk County	7,456
USSD	1,507,935
UWHSD	594,138
Warren County	23,067
West Des Moines	<u>2,732,222</u>
Total Project Cost	\$ 8,356,000

It has been approved by the WRA Management Agency that the City of Des Moines proceed with action necessary to implement the recommended Alternative No. 4 of the report prepared by Brown and Caldwell. The proposed design services agreement amendment provides for professional engineering design services necessary to produce engineering plans and specifications for construction of the recommended improvements.