AGENDA REPORT

Meeting Date: April 11, 2013

Item Number: F-11

To: Honorable Mayor & City Council

From: Anne Garvey-Zaworski, Principal Civil Engineer

Kevin Watson, Water Operations Manager

Subject: APPROVE A CONSTRUCTION CONTINGENCY INCREASE IN THE AMOUNT OF $128,840 TO THE EXISTING PURCHASE ORDER FOR UNITED ENGINEERING AND CONSTRUCTION INC. FOR THE REHABILITATION OF RESERVOIR 4A.

Attachments:
1. CDPH Letter Dated February 1, 2013
2. Letter to CDPH Dated March 13, 2013
3. CDPH Letter Dated March 29, 2013

RECOMMENDATION

Staff recommends that the City Council move to: 1) Approve a construction contingency increase in the amount of $128,840 to the existing purchase order for United Engineering and Construction Inc. for the rehabilitation of Reservoir 4A and 2) Delegate the authority to approve change orders to the Director of Public Works and Transportation Department as defined in the City's Purchasing Ordinance.

INTRODUCTION

Water Reservoir 4A, constructed in 1954, is a partially buried reinforced concrete structure with a storage capacity of 2.2 MG providing domestic supply and fire protection to the westerly portion of Zone 8 of the City's water distribution system (area between Coldwater Cañon Drive and the west City limits). Reservoir 4A is divided into North and South basins, each of which can be operated independently.

This report is a request for City Council to approve a construction contingency increase in the amount of $128,840 to the existing purchase order for United Engineering and Construction Inc. for the rehabilitation of Reservoir 4A; thereby increasing United's existing purchase order to a not-to-exceed amount of $1,578,840.

This rehabilitation project originally consisted of structural repairs, application of 150 mil thick polyurethane internal lining, removal and replacement of a 7.5HP pump, pipes,

fittings electrical conduit, new Motor Control Center (MCC), instrumentation and miscellaneous work required to upgrade the existing 2.2MG concrete reservoir.

DISCUSSION

- On June 19, 2012, City Council awarded a construction contract in the amount of $1,315,700 to United Engineering & Construction Inc. (lowest responsible bidder) for the structural rehabilitation and interior lining of Reservoir 4A.

- On January 10, 2013, when United Engineering (Contractor) was onsite to finalize the work under their contract (disinfecting, filling and placing the reservoir back in service), the City's Water Operations Manager informed Engineering staff that the California Department of Health (CDPH) would not issue the City an operating permit for Reservoir 4A until the City addressed design upgrades to bring the reservoir to current standards.

- The correction of these six violations will require additional construction funds in the not-to-exceed amount of $200,000. It will also necessitate an increase of design/inspection costs in the not-to exceed amount of $77,435 (which will be requested under a separate Agenda Report).

- Between January 10 and March 1, Engineering staff worked closely with KEC Engineers Inc. and United Engineering & Construction Inc. (Reservoir 4A Contractor) to fully explore and develop the potential design and construction costs related to correcting these six CDPH-requested items. Consequently, staff is recommending approval by City Council of an increase in the amount of $128,840 to the existing construction contingency for this project. Even though the construction costs related to the assessment and correction of the existing violations is estimated to be approximately $200,000, because $71,160 in savings/credit was realized by Engineering staff during the original construction in 2012, staff only requires an additional $128,840 increase to the existing United Engineering purchase order which will cover the additional construction costs required to satisfy CDPH's February 1 and March 29, 2013, requests.

- Staff would also like to note that in a good faith effort United Engineering and Construction Inc. is not requesting any delay costs which they have undoubtedly incurred due to the five month delay in the completion of their contract.

During staff's two month assessment of these CDPH violations, it became apparent that the existing original gravity overflow at reservoir 4A will have to be substantially upgraded and relocated to safely handle the increased reservoir fill rate that has taken place over the last twenty years due to additional/upgraded pumps, etc. being added to the overall system. Please see attached DPH letter dated 3-29-2013, where they have agreed to issue the City a temporary operating permit for Reservoir 4A with the understanding that Water Operations only utilize the south chamber until the new overflow is designed and constructed. This new overflow will potentially cost around $500,000 to construct and will need to be completed as a separate Capital Improvement project (CIP).

FISCAL IMPACT

Funds are provided as follows:

FUND	PROJECT NUMBER	SUB-PROJECT NUMBER	FUNDING SOURCE	AMOUNT
80	796	35-80-0796-85040	80 Water Enterprise Net Assets	$128,840.00
				$128,840.00

Noel Marquis
Finance Approval

David Gustavson
Approved By

Attachment 1

State of California—Health and Human Services Agency
California Department of Public Health

RON CHAPMAN, MD, MPH
Director & State Health Officer

EDMUND G. BROWN JR.
Governor

February 1, 2013

Mr. Kevin Watson
Water Operations Manager
City of Beverly Hills
345 Foothill Road
Beverly Hills, CA 90210

Dear Mr. Watson:

SYSTEM NO. 1910156 – CITY OF BEVERLY HILLS WATER DEPARTMENT, RESERVOIR REHABILITATION PROJECT, RESERVOIR 4A

On November 9, 2012 and January 14, 2013, Ms. Ofelia Oracion of my staff conducted the site inspection of the City of Beverly Hills' (City) Reservoir 4A. The City had made the improvements on the tank recently. The improvements included structural repairs and seismic upgrade, application of polyurethane coatings/linings in the internal wall of the reservoir, removal and installation of new control pump, valves, pipes and electrical conduits in the reservoir's outlets/inlets vault, removal and installation of new inlet/outlet/drain pipes and fittings, and installation of new instrumentation and control system and other miscellaneous works.

Reservoir 4A was constructed in 1954. The storage facility is partially subsurface reinforced concrete reservoir with a capacity of 2.15 million gallon. It has two chambers: the South Basin and the North Basin. The City plans to equip each unit with a Solar Bee recirculation system.

Based on the on-site inspections and the review of the engineering drawings, bid documents and specifications submitted by the City to the Department via emails on January 14 and 15, 2013, we noted the following deficiencies:

1. Sampling Tap. The California Waterworks Standards (Section 64585 (a)(3) specify that at least one sampling tap must be available to enable representative sampling of the water in the reservoir that will be entering the distribution system. The tap must be protected against freezing, if necessary. Reservoir 4A has no sampling tap. The City has proposed to provide the North and South Basins of Reservoir 4A each with a sampling station, similar to the sampling tap installed at Coldwater Canyon Reservoir. The sampling taps will be installed at the inlet/outlet pipes located in the vault at the west side of the reservoir. The City

must submit to the Department the engineering drawing for the proposed sampling stations for review and approval

2. Overflow Device. The California Waterworks Standards specify that the reservoir's overflow device and drainage facilities must not be connected directly to a sewer or storm drain and must be free of cross-connection. Reservoir 4A's overflow system is located in the northwest side of North Basin. The South Basin overflows to the North Basin. The 8-inch diameter overflow pipe is buried to the ground and discharges directly to a street without an airgap. The City has proposed to construct a catch basin. The catch basin will receive water from the overflow pipe prior to discharging to a street curb along Lindacrest Road. The City must submit to the Department the engineering drawing for the overflow system for review and approval. The City must ensure that a physical break (air gap) of two times the diameter between the end of the pipe and the receiving vessel (catch basin) is provided. A screen must be installed at the end of the pipe.

3. Drainage Facilities. The California Waterworks Standards specify that the reservoir's drainage facilities must allow the tank to be drained and all residual sediment removed. Reservoir 4A does not have a bottom drain. According to the City, Reservoir 4A can be partially drained through the two 8-inch diameters inlet/outlet/drain pipes installed inside the reservoirs at North and South Basins. These pipes are located in the southeast side of the reservoir and **one foot above the bottom of the reservoir**. The inlet/outlet/drain pipes connect to a 14-inch diameter HDPE transmission line. The transmission line is connected to a 4-inch diameter drain pipe that discharges to Miradero Road without an airgap. The City has proposed to construct a catch basin to provide an airgap. The catch basin will receive water from the 4-inch diameter drain pipe. From the catch basin, water will be drained to Miradero Road.

   It is not clear how the drainage system will allow the tank to be fully drained and all the sediment removed. The City must submit a written description to the Department, explaining how the complete drainage and sediment removal will be achieved. In addition, the City must submit to the Department the engineering drawing of the airgap for the drain pipe for review and approval. Again, a physical break of two times the diameter between the end of the pipe and the receiving vessel (catch basin) must be provided and a screen must be installed at the end of the pipe.

On January 29, 2013, you requested the Department via email to allow Reservoir 4A's South Basin to be placed in service after the installation of the sampling tap and the

results of bacteriological and volatile organic chemicals (VOCs) samples are acceptable to the Department. You mentioned that the City would delay the operation of the North Basin until the City has completed the upgrading of the overflow piping and discharge system.

This is to inform you that the City may place South Basin of the Reservoir 4A into service with the following conditions:

1. The sampling taps must be in place.
2. The South Basin must be disinfected in accordance with the AWWA Standards.
3. The results of bacteriological and VOC analyses of samples collected after socking test for the South Basin are acceptable to the Department.
4. The draining system design documents submitted by the City are acceptable to the Department.
5. The City must complete the construction of the overflow and drainage systems within three months after the South Basin is placed into service.

If you have any questions, please contact Ms. Ofelia Oracion at (818) 551-2020 or myself at (818) 551-2045.

Sincerely,

Shu-Fang Orr

Shu-Fang Orr, P.E.
District Engineer
Angeles District

Attachment 2

Kevin Watson, Water Operations Manager
Public Works & Transportation

March 13, 2013

State of California, Department of Public Health
Southern California Branch
Drinking Water Field Operations
500 N. Central Ave. Suite 500
Glendale, CA 91203
Attn: Shu-Fang Orr, P.E.

Dear Shu-Fang Orr, P.E.

This letter is to acknowledge receipt of SYSTEM NO. 1910156 – CITY OF BEVERLY HILLS WATER DEPARTMENT, RESERVOIR REHABILITATION PROJECT, RESERVOIR 4A letter dated February 1, 2013.

In accordance with your letter of February 1, 2013, the City of Beverly Hills may place the South Basin of Reservoir 4A in service subject to the following conditions:

1. Sampling taps must be in place.
2. The South Basin must be disinfected in accordance with the AWWA Standards.
3. The results of the bacteriological and VOC analysis of samples collected after soaking tests for the South Basin are acceptable to the Department.
4. The draining system design documents submitted by the City are acceptable to the Department.
5. The City must complete the construction of the overflow and drainage systems within three months after the South Basin is placed into service.

Please be informed that the City would like to place the South Basin of Reservoir 4A in service upon meeting conditions 1 thru. 5 stated above with the exception of completing a new overflow pipe in three months. The City would like to have up to one year to complete design and construction of a new overflow pipe from the new catch basin that will be installed prior to putting the South Basin into service.

Here is our work plan:

1. Install blind flanges at the North Basin of Reservoir 4A outlet pipes (two locations). This will isolate the North Basin of Reservoir 4A from any portion of the distribution system. Hence we will utilize the North Basin as an overflow storage basin while South Basin is placed in service.

2. The City will closely monitor the South Basin to prevent any overflow into the North Basin. The SCADA system will be used as the first line of defense to prevent overflowing the South Basin. In rare events of signal failures, we will have standby operators to respond to any potential overflow incident within 45 minutes of signal failures and to reduce flow or turn off the pumps feeding Reservoir 4A.

3. The City will have the drain pumps installed in both the North and South Basins to empty the overflows if any, from the North Basin into the existing overflow drain pipe with a proper air gap. (Overflow catch basin with air gap was submitted and approved by CDPH).

4. The City will request a budget from the City Council to construct a new permanent overflow pipe for Reservoir 4A. The existing 8-inch concrete overflow pipe can safely handle up to 700 gpm flow in the event of an overflow and can be utilized to drain any of the basins with the proposed drain pumps (The proposed drain pumps are rated at 90 gpm each).

If you have any questions please let me know.

Sincerely,

Kevin Watson
Water Operations Manager
Public Works & Transportation
City of Beverly Hills
345 Foothill Road
Beverly Hills, CA 90210

Cc: Ofelia A. Oracion. Sanitary Engineer

Attachment 3

State of California—Health and Human Services Agency
California Department of Public Health

RON CHAPMAN, MD, MPH
Director & State Health Officer

EDMUND G. BROWN JR.
Governor

March 29, 2013

Mr. Kevin Watson
Water Operations Manager
City of Beverly Hills
345 Foothill Road
Beverly Hills, CA 90210

Dear Mr. Watson:

SYSTEM NO. 1910156 – CITY OF BEVERLY HILLS WATER DEPARTMENT, RESERVOIR 4A

We have reviewed your letter dated March 13, 2013, requesting the Department to extend the deadline for completing the construction of the overflow system for Reservoir 4A as specified in the Department's letter dated February 1, 2013 from within three months after the South Basin is placed into service to up to one year. You indicated during a meeting on February 25, 2013 at our office that the City's consultant had determined that the existing overflow piping is in need of replacement for structural reason. The City would need more time to complete the design and construction of the overflow system.

Reservoir 4A has two chambers: the South Basin and the North Basin. The City plans to place the South Basin into service before the completion of the overflow and drainage system, in order to meet system demand. In your letter, you stated the City would fully comply with the Conditions 1 to 4 listed in the Department's February 1, 2013 letter and would complete the construction of the drainage system in accordance with the deadline specified in Condition 5 of the same letter. In addition, the City would:

1. Install blind flanges at the North Basin of Reservoir 4A outlet pipes (two locations) to isolate the North Basin of Reservoir 4A from any portion of the distribution system. North Basin would be utilized as an overflow basin while South Basin is in service.

2. Closely monitor the South Basin to prevent any overflow into the North Basin. The SCADA system would be used as the first line of defense to prevent overflowing the South Basin. In rare events of signal failure, the City would have standby operators responding to any potential overflow incident within 45

minutes of signal failure and to reduce flow or turn off the pumps feeding Reservoir 4A.

3. Have the drain pumps installed in both the North and South Basins to empty the overflows if any, from the North Basin into the existing overflow drain with a proper air gap.

4. Request a budget from the City Council to construct a new permanent overflow pipe for Reservoir 4A. The existing 8-inch concrete overflow pipe can safely handle up to 700 gpm flow in the event of an overflow and can be utilized to drain any of the basins with the proposed drain pumps.

This is to confirm that your overflow construction deadline extension request has the Department's approval. If you have any questions, please contact Ms. Ofelia Oracion at (818) 551-2020 or myself at (818) 551-2045.

Sincerely,

Shu-Fang Orr, P.E.
District Engineer
Angeles District

bcc: Angeles System No. 1910156 Correspondence File
Reading
District
Ofelia Oracion - PICME

Reservoir 4A March 29 2013.doc
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