



City of Grand Island

Tuesday, March 13, 2012

Council Session

Item G13

#2012-63 - Approving Change Order No. 3 on Project WWTP-2010-3 for Aeration Basin Improvements at the Wastewater Treatment Plant

Staff Contact: Terry Brown, Public Works Manager of Engineering S

Council Agenda Memo

From: Terry Brown, Public Works Manager of Engineering Services

Meeting: March 13, 2012

Subject: Approving Change Order No. 3 on Project WWTP-2010-3 for Aeration Basin Improvements at the Wastewater Treatment Plant

Item #'s: G-13

Presenter(s): Terry Brown, Public Works Manager of Engineering Services

Background

The City Council awarded the contract for construction to Oakview dck, LLC of Red Oak, Iowa for the Aeration Basin Improvements for the Wastewater Treatment Plant on December 7, 2010.

The primary purpose of the Aeration Basin Improvements project is to replace existing aeration equipment that is at or near the end of its useful life. Two existing blowers will be replaced with two high efficiency units that will improve reliability and reduce energy usage and operating costs. The two new blowers will operate with the two existing blowers which are planned to remain in service.

In addition to the blowers, the aeration basin piping and aeration equipment is being modified or replaced to optimize process controls and replace aged equipment.

The existing aeration diffusers currently require annual cleaning to prevent high pressure loss and increased energy consumption leading to high operation and maintenance costs. The new diffusers will reduce both operation and maintenance costs. The new diffusers, along with automated valves and instrumentation, will allow staff to optimize aeration basin operations based on the current aeration basin configuration.

Discussion

Change Order No. 3 covers miscellaneous changes to the work as described below and in the attached change order summary.

Item CO3-1. Delete Field Painting of New Steel Frame in Blower Building

This change involves deletion of the field painting for the new steel frame located in the blower building. The frame (to be used for thrust restraint of the blower discharge piping) will be

galvanized at the factory. The specified field painting is not warranted for additional protection or aesthetics.

Item CO3-2. Paint Existing Basin Aeration Pipe Supports

This change involves field painting the existing galvanized aeration pipe supports located on the basins that will be re-used in conjunction with the new pipe supports. New supports were specified to be factory galvanized with field coats of epoxy and aliphatic polyurethane for additional protection. The existing supports will be painted with the same coating system as the new supports.

Item CO3-3. Repair Existing Welds on Screw Pump No. 3

Under Change Order No. 2, sandblasting and re-painting the existing screws for Pumps 1, 2, and 3 was included. Following sandblasting of Screw Pump No. 3, some welds required minor repair prior to field painting. This change covers compensation for the repairs performed.

Item CO3-4. Relocate New Dissolved Oxygen Probes in Basins

The new dissolved oxygen probes in Oxidic Zones 2 and 3 were shown to be located at the mid-point of these zones. To allow for better control of the mixers in Zone 3 and of the mixed liquor recycle, the probes will be relocated near the end of Zones 2 and 3. This change covers the compensation for the additional conduit and wiring required.

Item CO3-5. Change Mounting of New Disconnects for Basin Mixers and Valves

This change involves mounting the new disconnects for the basin mixers and valves on new aluminum stands in lieu of mounting the disconnects on the existing aluminum handrail. Mounting the disconnects on the stands will allow them to be located farther from the center of the walkways and be consistent with mounting of other equipment on the basins.

Item CO3-6. Relocate New Blower Local Control Panels

This change involves relocating the blower local control panels on the south wall of the blower building, instead of next to the blowers, to allow for easier access for maintenance on and around the blowers. This change also covers the following related items:

- A credit from the blower supplier for not having to mount the panels on the blower skids at the factory.
- A credit for not replacing the under-slab drain piping. The bid documents showed replacement of the under-slab drain piping adjacent to the new blower foundation pads in the event that demolition of the existing pads damaged the piping or installation of the new pads required its replacement. Installation of the new equipment pads did not require replacement of the drain piping.

- The cost included in the bid for sawcutting the existing concrete floor for the under-slab drain piping will be re-allocated to relocating the blower local control panels to the south wall.

Item CO3-7. Add Power Monitoring of New Blowers

This change involves transmitting kilowatt and amperage signals from the existing power monitoring devices located in the motor control center to the new blower local control panels. Spare analog inputs in the panels will be used. Existing spare conduits will be used and will be extended to the local control panels. This change covers compensation for the additional wiring required. There is no additional cost for extending the conduits nor the related programming work by the blower supplier.

Item CO3-8. Blower Power Penalty

The bid documents required the blower suppliers to provide guaranteed power consumption values for six operating points. If in the event the power draw (as tested in the factory) is in excess of the guaranteed power draw provided on the bid form, the blowers either had to be reworked and re-tested at no additional cost to the City, or the City could accept the blowers by imposing a power penalty of \$4,885 per horsepower, per blower in excess of the difference between the tested and guaranteed power draw. Review of the factory test report concluded that the blowers exceeded the guaranteed power draw by a total of twelve (12) horsepower. The supplier elected not to re-work and re-test the blowers and accepted the penalty of \$58,620. This item covers the credit to the Contract Price for the blowers not meeting the power guarantee.

SUMMARY

CHANGE ORDER NO. 3

The Contract Price shall be modified as follows as a result of the changes described by this modification request. Additions to the Contract Price are indicated by a "+" in front of the amount, deductions by a "-".

<u>Effect on Contract Price</u>		Increase/Decrease In Contract Price (+/-)
<u>Item</u>	<u>Description</u>	
CO3-1	Delete Field Painting of New Steel Frame in Blower Building	-\$2,533.00
CO3-2	Paint Existing Basin Aeration Pipe Supports	+\$2,500.00
CO3-3	Repair Existing Welds on Screw Pump No. 3	+\$749.00
CO3-4	Re-locate New Dissolved Oxygen Probes in Basins	+\$4,953.00
CO3-5	Change Mounting of New Disconnects for Basin Mixers and Valves	+\$12,935.00
CO3-6	Re-locate New Blower Local Control Panels	+\$9,517.00
CO3-7	Add Power Monitoring of New Blowers	+\$375.00
CO3-8	Blower Power Penalty	-\$58,620.00
NET CHANGE IN CONTRACT PRICE		-\$30,124.00
BID AMOUNT OF ORIGINAL CONTRACT		\$3,487,000.00
PREVIOUS CHANGE ORDER ADJUSTMENTS		<u>+487,149.00</u>
CURRENT CONTRACT AMOUNT		\$3,974,149.00
CHANGE ORDER NO. 3		<u>-30,124.00</u>
ADJUSTED CONTRACT AMOUNT		\$3,944,025.00

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve a resolution authorizing the Mayor to execute Change Order No. 3 with Oakview dck, LLC of Red Oak, Iowa.
2. Refer the issue to a Committee.
3. Postpone the issue to future date.
4. Take no action on the issue.

Recommendation

City Administration recommends that the Council approve Change Order No. 3 to Oakview dck, LLC, of Red Oak, Iowa on the Aeration Basin Improvements Project. The net change in cost of the contract is (\$30,124.00), revising the total contract to \$3,944,025.00.

Sample Motion

Move to approve Change Order Number 3 for Aeration Basin Improvements at the Wastewater Treatment Plant.

RESOLUTION 2012-63

WHEREAS, on December 7, 2010, by Resolution 2010-342, the City of Grand Island awarded Oakview dck, LLC of Red Oak, Iowa the bid in the amount of \$3,487,000 for furnishing materials and services for WWTP-2010-3 Aeration Basin Improvements project at the Wastewater Treatment Plant; and

WHEREAS, on August 9, 2011, by Resolution 2011-207, City Council approved a unit cost Change Order No. 1 for structural concrete sealing in joint work, in the amount of \$89,252.00, for a revised contract is \$3,576,252.00; and

WHEREAS, on September 13, 2011, by Resolution 2011-243, City Council approved a unit cost Change Order No. 2 for Spiral Screw Pump modifications, in the amount of \$397,897.00, for a revised contract is \$3,974,149.00; and

WHEREAS, it has been determined by City Staff and engineer Black & Veatch that modification to the work to be performed by Oakview dck, LLC of Red Oak, Iowa, is necessary; and

WHEREAS, such modifications have been negotiated as fair and reasonable, and incorporated into Change Order No. 3; and

WHEREAS, the result of such modification will decrease the contract amount by \$(30,124.00) for a revised contract is \$3,944,025.00; and

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that Change Order No. 3 with the contracting firm, Oakview dck, LLC of Red Oak, Iowa, in the amount of \$(30,124.00) for WWTP-2010-3 Aeration Basin Improvements project at the Wastewater Treatment Plant is hereby approved.

BE IT FURTHER RESOLVED, that the Mayor is hereby authorized and directed to execute such contract on behalf of the City of Grand Island.

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Adopted by the City Council of the City of Grand Island, Nebraska, March 13, 2012.

Jay Vavricek, Mayor

Attest:

RaNae Edwards, City Clerk

Approved as to Form	<input checked="" type="checkbox"/> _____
March 13, 2012	<input checked="" type="checkbox"/> City Attorney