



## Legislation Details (With Text)

**File #:** K-1314-136    **Version:** 1    **Name:** Change Order #4, Phase 2 Maintenance Additions CO#4  
**Type:** Contract    **Status:** Passed  
**File created:** 1/31/2017    **In control:** City Council  
**On agenda:** 2/14/2017    **Final action:** 2/14/2017

**Title:** CHANGE ORDER NO. FOUR TO CONTRACT K-1314-136: BY AND BETWEEN THE NORMAN UTILITIES AUTHORITY AND ARCHER WESTERN CONSTRUCTION, L.L.C. INCREASING THE CONTRACT AMOUNT BY \$2,828,517 FOR A REVISED CONTRACT AMOUNT OF \$51,902,422.70 TO PERFORM THE PHASE 2 MAINTENANCE ADDITIONS AND EXTENDING THE CONTRACT BY 227 CALENDAR DAYS FOR THE WATER RECLAMATION FACILITY PHASE 2 IMPROVEMENTS.

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** 1. Text File K-1314-136, 2. Change Order No. 4 signed by AW, 3. WRF Phase 2 Maintenance Improvements, 4. Pert Excerpts FC Minutes

Date	Ver.	Action By	Action	Result
2/14/2017	1	City Council		

CHANGE ORDER NO. FOUR TO CONTRACT K-1314-136: BY AND BETWEEN THE NORMAN UTILITIES AUTHORITY AND ARCHER WESTERN CONSTRUCTION, L.L.C. INCREASING THE CONTRACT AMOUNT BY \$2,828,517 FOR A REVISED CONTRACT AMOUNT OF \$51,902,422.70 TO PERFORM THE PHASE 2 MAINTENANCE ADDITIONS AND EXTENDING THE CONTRACT BY 227 CALENDAR DAYS FOR THE WATER RECLAMATION FACILITY PHASE 2 IMPROVEMENTS.

**BACKGROUND:** The Wastewater Master Plan (WWMP), adopted by the Norman Utilities Authority (NUA) in 2001, recommended that additional facilities treating an average daily design flow (ADF) of 21.5 million gallons per day (MGD) would ultimately be needed to serve the area approved for urban development under the 2025 Land Use and Transportation Plan. The WWMP recommended expansion of the South Water Reclamation Facility (WRF) from 12 to 17 MGD and construction of a new North WRF with an ultimate ADF of 4.5 MGD.

More recently, staff recommended and the NUA agreed that the South WRF would be rehabilitated and expanded first and the North WRF would be designed and constructed in the future when the capacity of the recently expanded Lift Station D was consumed. Based on this premise, Norman voters approved a rate increase in October 2013, in part for expanded treatment capacity at the South WRF.

**Regulatory Requirements:** Our Oklahoma Pollutant Discharge Elimination System (OPDES) permit for the South WRF issued by Oklahoma Department of Environmental Quality (DEQ), required construction of new disinfection facilities and compliance with final discharge limits by July 1, 2013. On September 12, 2014, the NUA and DEQ agreed to Consent Order 13-077 which includes the following schedule:

1. Complete construction of disinfection facilities by January 1, 2016;
2. Attain compliance with final limits for Fecal Coliform by July 1, 2016;
3. Complete construction of all facilities by January 1, 2017;
4. Attain compliance with final limits for Total Suspended Solids by July 1, 2017.

The NUA completed items 1 and 2 prior to the deadlines imposed by the DEQ and has already attained compliance with discharge parameters specified in item 4. Compliance with item 3 will be dependent upon the DEQ interpretation of "complete construction". All process treatment units are now operational; however, ancillary items such as paving, yard lighting, fencing, landscaping and final cleanup are not expected to complete until March 30, 2017.

**Engineering Services:** On March 8, 2011, the NUA approved Contract K-1011-148 authorizing Garver Engineering, Inc. (Garver), to proceed with the Engineering Report (ER) and Surveying Phases. The ER was finalized and submitted to the DEQ on November 18, 2011; the DEQ approved the ER on June 27, 2013. On June 12, 2012, the NUA approved Amendment No. 1 authorizing Garver to proceed with the Final Design and Bidding phases. The plans and specifications for the improvements were submitted to the DEQ on August 1, 2013 and the DEQ approved them on November 26, 2013. On April 22, 2014, the NUA approved Amendment No. 2 authorizing Garver to proceed with the construction phase services including construction administration, full-time construction observation through November 2016, preparation of operation and maintenance manuals, equipment start-up and staff training, and implementation of the supervisory control and data acquisition (SCADA) system. As detailed below, the duration for constructing the WRF Phase 2 Improvements was extended from November 18, 2016 through March 30, 2017 via Change Orders 1, 2 and 3.

**Construction:** Bids for the WRF Phase 2 Improvements were received from three pre-qualified contractors on March 27, 2014. Archer Western Construction, LLC (Archer Western) with regional offices in Irving, Texas was the low bidder. On April 22, 2014, the NUA awarded the bid and approved Contract K-1314-136 with Archer Western in the amount of \$48,822,550; the next lowest bid was \$49,978,000 or 2.4% higher. Approved funding for the WRF Phase 2 Improvements is 40.7% from the Sewer Excise Tax (SET) Fund 322 and 59.3% from the Water Reclamation Fund 032. The project funding is augmented by a State Revolving Fund (SRF) loan from the Oklahoma Water Resources Board (OWRB) for up to \$50,300,000. Future revenues from the Water Reclamation Fund and the Sewer Excise Tax Fund are dedicated to pay back the SRF loan.

The WRF Phase 2 Improvements will add Disinfection Facilities, expand the average daily design flow from 12 to 17 MGD and rehabilitate many existing processes. Archer Western began construction of the improvements on June 2, 2014. The work was broken into two phases with the Disinfection Facilities to be completed by November 24, 2015 and all work to be completed by November 18, 2016. The Disinfection Facilities were complete and placed into operation on October 29, 2015 prior to the DEQ consent order deadline of January 1, 2016; these facilities currently meet discharge requirements.

The most recent construction payment for the WRF Phase 2 Improvements (through December 31, 2016) was for a total amount of \$44,435,322.27 or 91% of the contract amount while 95% of the work is complete; 91% of the contract time had been consumed. At this time, the FYE17 budget for the WRF Phase 2 Improvements includes contingency funds of approximately \$2,090,000.

**DISCUSSION:** The NUA approved Change Order No. 1 (CO#1) on September 8, 2015 which included a time extension of 47 calendar days through January 4, 2017. The NUA approved CO#2 on May 10, 2016 increasing the contract amount by \$98,546.78 to \$48,921,096.78 and approved a time extension of 32 calendar days through February 5, 2017. The NUA approved CO#3 on December 13, 2016 increasing the contract amount by \$152,808.92 to \$49,073,905.70 and approved a time extension of 53 days through March 30, 2017; to date, change orders have increased the contract price by 0.52%.

The State Competitive Bidding Act allows processing of change orders up to 10% of the original contract amount or about \$4.88 million; unit price bid items are exempted from this maximum amount. The NUA is now faced with a decision as to how it should contract for completion of additional work planned for the WRF. The additional work can be advertised and bid separately or it can be included by change order into our existing contract with Archer Western if compliant with the State Competitive Bidding Act. NUA staff and Garver recommend the new work be completed by change order with Archer Western.

**Scope of Work:** Proposed CO#4 will amend the contract by adding four items of new work to remedy maintenance situations or add operational improvements not originally included in the project scope. Archer Western will provide project management and construction administrative functions associated with the new work including office space, utilities, sanitation, vehicles, tools, supplies and other expenses for the proposed 9 month additional contract duration:

1. Remove and replace two sludge boilers, sludge heaters and recirculation pumps in the South Digester Complex with associated piping, electrical and instrumentation. The existing boilers were installed in 1988 and have outlived their useful life;
2. Remove and replace two primary sludge thickener mechanisms at both the North and South Digester Complex (4 total) with associated piping, electrical and instrumentation. Two thickeners mechanisms were installed in 1965 and two in 1988 and all of them have outlived their useful life;
3. Remove and replace one grit washer/classifier unit at the head works and install one new grit washer/classifier

unit (total of 2) with associated piping, concrete, electrical and instrumentation. The existing grit washer/classifier was installed in 2004, has been repaired numerous times and has outlived its useful life; the second unit will provide system redundancy and allow alternation of the units to extend their life.

4. Supply and install aluminum access platforms and supports for four (4) new emergency generators installed at the Westside Lift Station, the Aeration Basins, the RAS/WAS Pump Station and near the Environmental Services Building. WRF staff must have access to operate the generators on a weekly basis and provide regularly scheduled maintenance. The generators are constructed 3 to 4 feet above grade with fuel stored beneath them; platforms will provide access to the generator housing to perform maintenance.

Contract Price: The total negotiated lump sum price for the new work proposed in Change Order No. 4 is \$2,828,517 which is an increase of about 5.8% over the original contract amount of \$48,822,550. NUA staff and our design engineer, Garver, recommend acceptance of the negotiated service procurement method and price for the following reasons:

- The proposed cost closely matches the estimate prepared separately by Garver;
- Approval of the work by change order will expedite completion of the work by 3 to 6 months saving inflationary increases to the project (estimated at \$65,000).
- Use of the same contractor will save costs for mobilization of equipment and manpower for a new contractor to come to the WRF site (estimated savings of approximately \$150,000);
- With the start of work in mid-February, the new work will overlap with the existing Phase 2 Improvements by 1.5 months shortening the duration of construction administration and inspection services provided by Garver (saving an estimated \$70,000);
- Eliminating the need for Garver to produce bid-quality final plan documents for this additional work saves an estimated \$80,000 in engineering service cost avoidance;
- Eliminating the need for Garver to provide bidding services saves an estimated \$55,000 in engineering service cost avoidance.

Proposed new work items 1 and 2 are included in the Water Reclamation Fund (032) budget for fiscal year 2016-2017 (FYE17) budget as WRF South Digester Boiler Replacement (project WW0169) at a budgeted cost of \$690,000, and in WRF Primary Sludge Thickeners (project WW0171) at a budgeted cost of \$635,000.

The work identified in items 3 and 4 above were not included the FYE17 budget. After discussions with the Finance Department, it is proposed to create three new Capital Improvement projects as follows:

- WRF Grit Classifier Replacement (project WW0309) to remove and replace the existing grit washer/classifier unit at the head works. Funding will be provided from the Water Reclamation Fund (032) as this is a maintenance item to be funded by existing customers.
- WRF New Grit Classifier (project WW0310) to provide and install a new grit washer/classifier unit at the head works. Funding will be split between the Water Reclamation Fund 032 and the Sewer Excise Tax Fund 322 as currently defined for the on-going WRF Phase 2 Improvements. The WRF will fund 59.3% to accommodate existing customers while the SET will fund 40.7% to accommodate new growth.
- WRF Generator Access Platforms (WW0311) to provide and install access platforms to perform maintenance at four (4) new emergency generators installed at the WRF under the ongoing WRF Phase 2 Improvements. Funding will be split between the Water Reclamation Fund and the Sewer Excise Tax Fund with the WRF funding 59.3% and the SET funding 40.7%.

Contract Time: As noted above, CO#4 also approves a contract time extension of two hundred seventy (270) calendar days for the WRF Phase 2 Maintenance Additions. These added improvements will be tracked separately from the on-going WRF Phase 2 Improvements, which are the subject of DEQ Consent Order 13-077. Assuming approval on this change order on February 14, 2017, the WRF Phase 2 Maintenance Additions must be substantially complete by October 13, 2017 (within 240 calendar days) and all improvements must be complete by November 12, 2017 (within 270 calendar days). However, due to the overlap of the time schedules, the time extension for the new work is 227 calendar days.

Upon approval of the change order, the following modifications will need to be made to the FYE17 budget to fully fund the change order and provide a contingency of approximately 5%:

- Appropriate \$405,000 from the Water Reclamation Fund Balance (account 032-0000-253.00-00) to WRF South Digester Boiler Replacement, Construction (account 032-9911-432.61-01; project WW0169) increasing the current budget of \$690,000 to \$1,095,000.

- Appropriate \$105,000 from the Water Reclamation Fund Balance (account 032-0000-253.00-00) to WRF Primary Sludge Thickeners, Construction (account 032-9911-432.61-01; project WW0171) increasing the current budget of \$635,000 to \$740,000.
- Appropriate \$350,000 from the Water Reclamation Fund Balance (account 032-0000-253.00-00) to WRF Grit Classifier Replacement, Construction (account 032-9911-432.61-01; project WW0309).
- Appropriate \$270,000 from the Water Reclamation Fund Balance (account 032-0000-253.00-00) to WRF New Grit Classifier, Construction (account 032-9911-432.61-01; project WW0310) and \$185,000 from the Sewer Excise Tax Fund Balance (account 322-0000-253.00-00) to WRF New Grit Classifier Replacement, Construction (account 322-9911-432.61-01; project WW0310) for a total funding of \$455,000.
- Appropriate \$193,000 from the Water Reclamation Fund Balance (account 032-0000-253.00-00) to WRF Generator Access Platforms, Construction (account 032-9911-432.61-01; project WW0311) and \$132,000 from the Sewer Excise Tax Fund Balance (account 322-0000-253.00-00) to WRF Generator Access Platforms, Construction (account 322-9911-432.61-01; project WW0311) for a total funding of \$325,000.

In summary, existing FYE17 funding totaling \$1,325,000 will be supplemented by new funding of \$1,640,000 for a total of \$2,965,000. This will fully fund CO#4 in the amount of \$2,828,517.00 for the WRF Phase 2 Maintenance Improvements and provide an overall contingency of \$136,483 or about 4.83%.

CO#4 in the amount of \$2,828,517.00 for the WRF Phase 2 Maintenance Improvements will be submitted to the Oklahoma Water Resources Board (OWRB) for approval and inclusion in the existing SRF loan. The maximum loan amount of \$50.3M will not be exceeded with inclusion of this work.

**RECOMMENDATION:** Recommend the NUA approve Change Order No. 4 with Archer Western Construction, LLC increasing the contract amount for the Water Reclamation Facility Phase 2 Improvements by \$2,828,517 to perform the Phase 2 Maintenance Additions for a revised contract amount of \$51,902,422.70 and extending the contract by 227 calendar days for the Water Reclamation Facility Phase 2 Maintenance Additions to November 12, 2017. Staff also recommends appropriation of new funding totaling \$1,640,000 as detailed above.