CITY COUNCIL CONFERENCE MINUTES

January 28, 2014

The City Council of the City of Norman, Cleveland County, State of Oklahoma, met in a conference at 5:35 p.m. in the Municipal Building Conference Room on the 28th day of January, 2014, and notice and agenda of the meeting were posted at the Municipal Building at 201 West Gray, and the Norman Public Library at 225 North Webster 48 hours prior to the beginning of the meeting.

PRESENT:	Councilmembers Castleberry, Griffith, Heiple, Holman, Jungman, Kovach, Miller, Williams, and Mayor Rosenthal
ABSENT:	None

Item 1, being:

CHANGE ORDER NO. ONE TO CONTRACT NO. K-1213-66 WITH KRAPFF-REYNOLDS CONSTRUCTION COMPANY INCREASING THE CONTRACT AMOUNT BY $59,751 AND EXTENDING THE CONTRACT BY NINETEEN CALENDAR DAYS FOR THE S.E. BISHOP INTERCEPTOR PROJECT, PHASE II, SECTIONS 2A AND 2B.

On December 18, 2012, Council approved Contract No. K-1213-66 with Krapff-Reynolds Construction Company in the amount of $1,054,480 for the S.E. Bishop Interceptor Project. Mr. Charlie Thomas, Capital Projects Engineer, said Phase I of the Project was completed in 2004, and Phase II was completed in January, 2007. The current project, Phase 2, Sections 2A and 2B, is now complete and the final project Phase 2, Section 2C, is expected to be completed in late 2014. He said as with any projects of this scope, field adjustments and modifications are necessary. During excavation for the new piers to support the aerial crossing of Bishop Creek west of 12th Avenue S.E. at the western end of Cedar Lane, it was discovered that existing bridge abutments prevented installation of two of the four proposed piers. The concrete bridge abutments were too costly to remove so the design engineer and City Staff determined that relocating and reducing the number of concrete piers from four to two was the best, most economical solution. Although this solution allowed a reduction in piers, it required an increase in the span between the piers supporting the aerial crossing. In order to accommodate the longer span, additional labor and materials were required.

Mr. Thomas said an existing eight inch water main was installed deeper than anticipated near the Senior Cottages on Oak Tree Avenue which directly conflicted with the required alignment of the new interceptor. Krapff-Reynolds relocated the line which included 120 linear feet of water line and valves and fittings installed with 60 linear feet in steel casing where the water crossed the creek. A new fire hydrant was also added to enhance service.

Mr. Thomas said reconciliation of the “as-bid” to “as-built” final quantities include adding 25 feet of 24-inch sewer in 36-inch steel casing under the railroad tracks and a small creek, deleting 126 vertical feet of 42-inch diameter pier construction, and adding 88 additional square yards of asphalt paving.

Mr. Thomas said Change Order No. One to Contract No. K-1213-66 incorporates all three adjustments, 1) modification to the proposed concrete piers at the aerial crossing over Bishop Creek, 2) relocation of an existing waterline, and 3) reconciliation of “as-bid” quantities.

Items submitted for the record

1. Text File No. K-1213-66, Change Order No. One, dated January 13, 2014, by Charlie Thomas, Capital Projects Engineer
2. Southeast Bishop Interceptor Project map
3. Change Order No. One to Contract No. K-1213-66 with Attachment 1, Summary Costs for Extra Work Required, and Attachment 2, Unit Price Quantity Reconciliation

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Item 2, being:

DISCUSSION REGARDING PHASE II OF THE WATER TREATMENT PLANT EXPANSION PROJECT.

Mr. Ken Komiske, Director of Utilities, said Carollo Engineers set up a pilot project to test water quality, taste, and ozone. He said the water was tested for seven months and Mr. Tom Crowley, P.E., Carollo Engineers (Carollo), is here tonight to present the results of the pilot project. He said Carollo used different treatment techniques and processes to make sure the water was treated correctly because water changes. He said Carollo would also provide an update on the progress of the Water Treatment Plant (WTP) Expansion Project.

Mr. Crowley highlighted the background of the pilot project. He said the WTP is between 15 to 30 years old and there are components that require a certain amount of rehabilitation, replacement, and repair. He said Carollo took an extensive evaluation of four major components as follows:

Condition Evaluation
- Structural Soundness
- Architecture
- Civil and Site Work
- Electrical and Instrumentation
- HVAC/Mechanical

Regulatory Evaluation
- Assess Regulatory Compliance
- Establish City Water Quality Goals
- Federal Drinking Water Regulations
- Oklahoma Department of Environmental Quality

Hydraulic Evaluation
- Identify Remedies
- Identify Bottlenecks
- Develop Hydraulic Profile
- Field Calibrate Data

Process Evaluation
- Chemical Systems
- Residuals Handling/Disposing
- Aesthetics
- Influent and High Service Pumping
- Raw Water Supply Wells
- Ozone Contactor
- Softening and Filtration
- Field Calibrate Data

Mr. Crowley said, based on the above assessments, Carollo determined the main project drivers were increasing peak treatment capacity; rehabilitation and repair; improving residuals management; regulatory requirements; safety issues (toxic chemical storage and replacement); and enhancing water quality (taste and odor).

Mr. Crowley said Phase 1 of the WTP Expansion Project had a total construction cost of $12,250 million and was listed as an American Resource and Recovery Act (ARRA) “Green Project” to save energy and chemical usage, which saved the City $2 million in principal forgiveness on the project. He said the City used a State Revolving Fund (SRF) loan for the project and Phase I was completed in October 2010.

Mr. Crowley said in Phase I, peak treatment capacity was increased from 14 million gallons per day (mgd) to 17 mgd; the lime system and carbon dioxide system were rehabilitated; electrical and efficiency improvements were made; and some of the major process equipment such as filters and pumps were replaced. He said Phase II will address improved residuals management; regulatory requirements; safety issues; and enhancement of water quality.

Mr. Crowley said Carollo wanted to focus on water quality improvements that have to do with both regulatory and enhanced water quality. On the regulatory side, Carollo focused on chemicals currently being regulated. He said the WTP currently uses chloramines for disinfection, which are no longer accepted by the State as an approved disinfectant for the water supply. He said Carollo also wanted to look at the removal of microconstituents (MC). He said taste and odor compounds are caused by algae in Lake Thunderbird. Contaminants of Emergency Concerns (CEC) which are pharmaceutical compounds, manmade compounds, and algae toxins are another component associated with taste and odor. He said the Oklahoma Department of Environmental Quality (ODEQ) is looking at regulating these compounds in the future. He said as more phosphorous loads drain into Lake Thunderbird through increased urbanization, algae that form toxins are created and this is a concern for future regulatory requirements. He said MCs possibly due to rainfall have also been detected in watersheds that do not have a lot of urbanization.

Mr. Crowley said Carollo performed a survey on phosphorous in Lake Thunderbird. There was a high content of phosphorous that promotes species of algae that could, when stressed, release toxins; although no toxins were found.

Mr. Crowley highlighted the effectiveness of treatment technologies for MCs. He said the preferred treatment is ozone and other technologies including ozone ultra-violet light (UV)/Peroxide and UV/powdered activated carbon (PAC). He said the combination of these treatments was designed to improve water quality and meet regulations on disinfection. He said ozone treatment can accomplish both disinfection and removal of MCs at a fairly high removal rate and is one of the most effective processes to remove algae content. He said UV/peroxide is not as effective unless a substantial amount of PAC is added and UV/peroxide treatment is a big energy user and not as effective as ozone for some of the odor.

Mr. Crowley said Carollo's study concluded that ozone/biofiltration is the most cost-effective in a continuous control scenario. It also provides the highest water quality with excellent removal of all water quality targets. He said UV/PAC is more cost effective on periodic control (less than two months).

Mr. Crowley explained how biolfiltering works and said the WTP currently uses granular media filtration and the chlorine will need to be removed in order to change the system to biofiltration. He said ozone upstream of the biofilter increases the concentration of food and provides oxidative potential and oxygen and also provides increased removal of pharmaceutical and other compounds.

Mr. Crowley said the goal of the pilot project is to find out how much ozone will be needed; where the ozone should be located in the process; what additional processes may be needed and why; and if the City will obtain goals of disinfection, taste and odor control, CEC reduction, and bromate control.

Mr. Crowley summarized the pilot project results and said pre-ozone and intermediate ozone are both viable for taste and odor removal, but in order to do ozone on pretreatment, another process should be added to treat the water prior to ozone treatment. He said using the results of the pilot project, Carollo found six different ways to achieve the regulatory requirements and enhanced water quality goals, but eliminated three of those. He said Carollo is recommending an ozone/UV process.

Mr. Crowley said in Phase II, Carollo will be looking at residuals. Currently the WTP disposes of residuals in lagoon structures. He said the WTP would have to expand the lagoons to the south to handle more residuals; however, the existing lagoons are surrounded by floodway. He said alternatives would include pumping to a new lagoon site across the floodway to an area where there is no flooding or pumping to the Water Reclamation Facility (WRF), which is currently being done in Topeka and Lawrence, Kansas. He said another goal of Phase II is

safety so it is proposed that highly toxic chemicals be stored in a new chemical building. He said total costs for Phase II are $30.10 million and will consist of low lift pumping - $2.63 million; ozone contactor with diffusers - $2.13 million; ozone feed system and building - $12.25 million; biofiltration upgrade - $2.66 million; UV System - $3.21 million; residual handling improvements - $1.20 million; chemical feed improvements - $3.40 million; pump station rehabilitation - $1.24 million; maintenance/storage building - $0.55 million; and existing building and lighting rehabilitation - $0.82 million. Mr. Crowley said construction should be completed in May 2017.

Councilmember Kovach said the City is looking at a Long Range Water Plan and asked if Carollo considered any of that in their modeling of the expansion project and Mr. Crowley said space that may be needed was taken into consideration.

Ms. Joy Hampton, The Norman Transcript, asked if chloramines are no longer accepted by ODEQ because of the ammonia that is used and is the City already moving away from that. Mr. Crowley said when chlorine and ammonia are added together, it produces chloramines and it is the State's opinion that chloramines do not meet modern day standards for primary disinfection, but can be used for secondary disinfection. Mr. Komiske said the State wants the primary disinfectant to be the "kill everything" barrier, but if something leaked through there is a secondary disinfectant barrier that would kill contaminates before they reach the distribution system.

Mayor Rosenthal asked if funding for Phase II is contingent upon a rate increase and Mr. Komiske said money is not budgeted for the Phase II improvements, so funding will have to be found. Councilmember Castleberry asked if bonds could be issued and Mr. Komiske said Revenue Bonds could be issued.

Mr. Chris Mattingly, Utilities Superintendent, said the WTP Expansion Project will not help the City obtain more water, more water is still needed.

Items submitted for the record

1. PowerPoint Presentation entitled, "Norman Phase II WTP Expansion – Ozonation Pilot Study Report and Phase II Design Review," presented by Tom Crowley, P.E., and Amber Wooten, P.E., Carollo Engineers

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The meeting adjourned at 6:17 p.m.

ATTEST:

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City Clerk Mayor