

AMENDMENT No. 3

TO AGREEMENT K-1213-126

ENGINEERING SERVICES

**ROADWAY AND TRAFFIC SIGNAL IMPROVEMENTS
LINDSEY STREET FROM 24TH AVENUE TO EAST OF BERRY ROAD**

SCOPE OF SERVICES

ATTACHMENT

The following general scope of services shall be made a part of the Agreement dated December 18, 2012 and shall supplement Attachment A of the Scope of Services of the original agreement.

A. TASK 1 ADDITIONAL SERVICES

A.1 Additional Survey and Geotechnical Analysis

A.1.a Supplemental Geotechnical Study

Additional Geotechnical Investigation will be conducted to include borings for the Retaining Wall system east and west of the proposed Imhoff Creek (Contech) Bridge. This work was requested to reduce the grading limits due to raising the Lindsey roadway to accommodate the 10 year to 25 year channel flows in Imhoff Creek. Six (6) additional soil borings and a geotechnical report will be provided with this task.

A.1.b Topographic Survey- 8-inch Water Line (Alley)

Additional survey required to relocate an 8-inch Water Line in the 30-foot Wide Alley Easement north of Lindsey Street from Sta. 34+50 to McGee Drive

B. TASK 3 ADDITIONAL ENGINEERING SERVICES (Final Design)

B.1 Additional Engineering Services

The SERVICES shall be performed by the ENGINEER under this Supplement to the original contract.

B.1.a Additional Access Management Services:

After initial discussions with property Owners, the City requested Leidos to perform driveway traffic counts and re-design of selected Parking Lots to accommodate the access closures. These tasks were not anticipated when preparing the original Scope of Services.

Tasks Include:

- Obtained Driveway Traffic Counts and Perform Analysis to support the City's negotiations efforts w/Property Owners:
 - 24-hour Tube Counts at 15-20 Driveways from Lindsey Drive to Berry Road.
 - Required two 2-person crews to setup and take down (total of 3-4 hours per location, non-inclusive of drive time)
 - Download data and check for consistency
 - Balance along with intersection turning movement data to determine corridor data and future projections
 - Determine the impacts of proposed driveway re-design (consolidation and closure, parking reconfiguration)
 - Coordination with City staff to determine impact
- Re-Design Parking (Offsite Parking Lot R &R) for:
 - Del Rancho
 - McAlester's
 - Arvest Bank
 - Ba Shu Restaurant

B.1.b Additional (OG&E) Utility Coordination Services (Fall 2013):

Additional design support was requested to determine the feasibility of moving OG&E lines from poles along Lindsey to new poles in the alley easement north of Lindsey approximately 250 feet. The work included:

- Analysis and review of three proposed overhead locations to determine feasibility and constructability of design layouts provided by OG&E
- The Leidos Electrical Power distribution team evaluated the designs provided by OG&E. This required two (2) separate meetings with OG&E and City staff. . The agreed upon design resulted in the electrical lines being included in the Joint Trench with the other utilities to save time and money. Field visits, photos and reviews were conducted to determine constructability and easement requirements of the multi circuit electric line being provided by OG&E. Travel costs for specialist team members are included in this cost..
- Leidos staff attended team meetings and client/OG&E meetings to discuss the pros and cons of the OG&E design and for evaluating the cost and merits of doing overhead or underground in some areas.
- Preparation of exhibits and cost estimates.
- Follow up client overview meetings of each option was requested to determine the best value for the City on all proposed modifications.

B.1.c Design of Common Utility Trench (CUT):

Leidos and Poe and Associates provided additional City and Utility (OG&E/ATT/Cox Cable) Design and Coordination services to select the optimal CUT alignment to reduce impacts to the adjacent Parcels with proposed Permanent and Temporary Easements. This effort included:

- Design Services to include multiple iterations of the CUT alignments. (Poe Task)
- Leidos also provided additional design coordination to revise the CUT alignment along with utility junction boxes, vaults and appurtenances. This was done to reduce impact to private property and easements. Exhibits were prepared by Leidos and presented to City staff.

B.1.d Additional Easement Analysis and Plan Revisions:

After the initial ROW Plans were prepared, the City requested that Leidos initiate a zero ROW impact approach to the design. To do this, additional ROW and Easement iterations were requested to assist the City with reducing Easement takes along the entire Lindsey corridor. The work includes:

- Multiple iterations of the easement takes to reduce their size were each thought to be the final one. The ROW sub (DTM) was engaged each time to provide revisions to legal descriptions. DTM provided support to finish each version on multiple parcels each time. The effort includes the writing of one (1) legal description for easement takes, adding up to a total of two iterations including the effort listed in the original contract. The legal description work and parcel drawings were being revised per the City request to obtain a reduction in total easement impacts. This included determining the square foot acreage for each reduction as it was requested per each type easement. Often one change in the design of the CUT utility layout impacted two or three easement types (i.e., U/E, Sidewalk and Temp Construction). The direction was to reduce each parcel as much as possible since the Bond Program had promised no additional ROW impact to the properties. The only way to determine the reduction in area was to draw the Parcel and calculate the difference as it was requested. We were performing these tasks simultaneously in keeping with the City's request for expediting the ROW process. This included revising the legals and parcel drawings.
- This included Additional Coordination with the City to discuss utility and ROW iterations and subsequent impacts.

B.1.e Re-design 12-inch Waterline:

Due to the existing and proposed utility congestion in the north half of the Lindsey ROW, the City requested Leidos to investigate and then gave the direction to proceed with re-design of the 12-inch Waterline.(Poe Task)

B.1.f 8-inch Waterline Relocation

Due to the existing and proposed utility congestion in the north half of the Lindsey ROW, the City requested Leidos to investigate and then gave the direction to proceed with the design of a new 8-inch waterline along an alley north of Lindsey Street and connect back to an existing line along McGee.

- Re-design the relocation of 12-inch water line from the north side of Lindsey Street between Lindsey Dr. and McGee Drive to the Alley, 300 feet north of Lindsey Street between Lindsey Dr. and McGee Drive. This relocated water line will be an 8-inch water line.
- Revise Title Sheet and Location Drawing to show the relocated 8-inch water line.
- Design the crossing of Lindsey Street of the 8-inch water line and the crossing of McGee Drive.
- Design the Fire Hydrants crossing of Lindsey Street and water serviced to serve the business along the north side of Lindsey from Lindsey Drive and McGee Drive.
- Prepare bid documents and DEQ permit forms for the new 8-inch waterline along with the 12-inch and 24-inch waterlines.
- Provide a set of as-built construction documents for the additional 8-inch and 12-inch water lines being added to the scope of work. The as-built construction documents being based on a visual inspection, City inspection records and limited field survey.

B.1.g Storm Drainage Diversion Structure (RCB) Relocation

Due to the existing and propose utility congestion in the north half of the Lindsey ROW, the City requested Leidos to investigate and then gave the direction to proceed with the relocation of the Storm Drainage Diversion Structure (RCB).

- Revise alignment and profiles to reflect the shift from outside lane to inside lane along the Lindsey Street corridor and the lateral lines.
- Revise Lindsey Street drainage storm sewer connections to the RCB. The additional work effort involved is described here with specific impact to the plans. This was a Leidos and Poe generated recommendation for a significant design change to accommodate all the other parties (OG&E, Cox, ATT and ONG) as well as the City Utilities. The previous version of this Amendment did not go into the specifics of this design change but it is itemized as follows:

- Analysis to identifying the amount of shift to make in the west RCB (Line A) and the East RCB (Line B) alignments for an optimal location that would allow the most room for the various utilities without impacting drainage. One design option was to sleeve a sanitary sewer through the 8'x7' RCB to alleviate the need to re-route a 15-inch Sanitary Sewer line for 1300 LF.
- Meeting with City staff to present the options and determine final design changes.

Line A RCB (8'x7' Concrete Box):

- Shift the original alignment 18 feet further south to accommodate the drainage and manhole location in the pavement.
- Revise Station and Offset call-outs for each bend and junction box located along the alignment. Revise the lateral (Line C, D and E) connections to extend them south to match the new alignment.
- Revise the Elevation/Flow Line call outs at each junction and lateral connection.

Line B RCB (7'x5' Concrete Box):

- Leidos investigated the impact of not shifting the original alignment or matching the 18 foot shift of Line A to accommodate the drainage. This was looked at also since there were less utility conflicts along this portion of Lindsey.
- This resulted in shifting the RCB and then verifying the location of manholes locations versus vehicle wheel path east of Berry.
- The shift required the same station and flow line call out revisions to each bend or junction box as well as realignment at the terminus or outfall at the Imhoff Creek.

Line B Outfall at Imhoff Creek:

- Along with the alignment changes Leidos was asked to design and grade the Line B outfall at Imhoff Creek to accommodate the existing conditions without the new creek channel improvements. Leidos prepared the design and grading plans for this iteration.

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Plan Sheet Changes:

- Seven (7) Plan & Profile Sheets
- Four (4) Structure (Bends & Junction Box) Detail Sheets
- Eleven (11) total at approximately. 8 to 10 hours each

B.1.h Additional 8" WL along Del Rancho

City requested revision to design that changed the new waterline from a 12-inch to an 8-inch waterline at Del Rancho. (Poe Task).

B.1.i Imhoff Creek Bridge Tower Design:

Leidos will provide the architectural and engineering design services for construction of the Imhoff Creek Bridge Gateway Towers. The work will include the architectural elements selected by City staff for the Towers and bridge guard rails, along with structural engineering required for the towers, retaining walls, and traffic rails.

Tower Architectural Elements of Design:

The work will include design and specifications for construction of four (4) towers located at the corners of the proposed Imhoff Bridge. The towers will include architectural design features that incorporate a Cherokee Gothic theme using masonry block, modular brick and cast stone pieces. The design will be similar to the architectural building features found on the University of Oklahoma campus. Design of the bridge rail and towers will include lighting plans with fixtures and wiring layouts for lighting the guardrails and towers. An LED strip light design will run the length of the guardrail, washing the side of the walls. (Includes Architect, Landscape Arch., Electrical Engr. and Clerical)

Other elements of the design are:

- Cast stone guardrail cap that will contain recesses where the strip lights will be placed so they are invisible from the viewer.
- In-ground spot light shining up on the tower that is coordinated with the street lighting designer to achieve proper light levels
- Two (2) Pedestrian Benches will be provided which will incorporate masonry block, modular brick and cast stone pieces to match the tower design.

Tower Structural Design:

Leidos will provide the structural analysis and design of the bridge towers. This will include the tower foundation and cast-in-place retaining wall system. The design tasks include the following.

- Design analysis of the retaining wall system required to support normal roadway horizontal/vertical loading as well as the dead loads associated with the Bridge Towers.
- Design of the tower foundation will consist of cast in place wall and grade beams to support the tower loads.
- Structural analysis to incorporate impacts of wind and seismic live loads generated by the towers (basically “small” building loads).
- Coordination of structural and architectural design elements for the towers to include reinforced concrete masonry interior walls, exterior clay masonry veneer with cast stone accents and roof system.

- Provide design drawings that incorporate the decorative lighting and architectural cast stone/masonry elements in the standard TR4 bridge traffic rail.

C. TASK 4 SUPPLEMENTAL AESTHETICS DESIGN

The SERVICES shall be performed by the ENGINEER under this supplement to the original contract

C.1 Supplemental Aesthetic Design Services

C.1.a Bus Shelter Aesthetic Options:

Work includes layouts and design options for consideration at City Council Work Session and City Council presentation.

The additional work effort:

- This work effort is beyond the original scope of work which only included the “off-the-shelf” design options that were presented as part of the landscaping plan.
- It was determined at a City meeting between Leidos and city staff that new design concepts should be developed to match the OU Cherokee Gothic design. This work included having Leidos architectural designers draw up options that provided an outline using a half and full wall of brick treatment design for the bus shelters.
- These new design concepts were presented to city staff and a selection of the lower wall design was chosen.
- This effort was identified and approved as an additional effort by the City staff.

C.1.c Retaining Wall Design

MSE Retaining Wall design includes five (5) MSE walls along Lindsey Street near Imhoff Creek to minimize right-of-way requirements. The following are tasks required by sheet of design.

- MSE General Notes Sheet: Provide General Notes to assist inspectors and contractor with wall construction along with wall fabricator’s design parameters and responsibilities.
- Plan & Profile Sheets: Produce Plans MSE Walls with geotechnical boring and Foundation Report.
- Bridge Rail Moment Slab Transition and MSE wall detail sheet. Produce details for construction of walls, drainage backfill, de-watering and strap arrangement for any obstructions.

D. (Deleted)

E TASK 6 Construction Plan Split

The additional work effort is associated with the revised direction for Lindsey to be a Mandatory Tied project instead of two (2) separate plan sets, Leidos' Scope and fee request.

E.1.a Design Plan Revisions

Leidos Scope: Providing separate Plans and Specification sections for Mandatory Tied projects. Also included is the QC to verify summary tables and quantity items associated with roadway and drainage plans.

E.1.b Tied Construction Plan Packages

Subconsultant Scope: Roadway plan revisions include plan annotations and quantities to define the two (2) project job pieces. This includes revisions of plans, additional plan sheets and calculations to split the quantities for construction items between project segments.

Plan Sheets include:

- Revisions to Typical Sections
- Added Pay Quantity Sheet for second Project.
- Revisions of Summary Sheets for Pay Item split.
- Revise Plan and Profile Sheet.
- Added Summary of Drainage Structures Sheet.
- Added Drainage Design Record sheet.
- Revise Removal Sheets.

Quantity calculations include:

- Revising each Summary Sheets for the roadway pay items
- Structure Quantities
- Drainage features and design record information.
- Removal quantities.

F. Base Contract Fee Adjustment

The Base Contract contained two alternatives for the Design of the Imhoff Creek Bridge Structure. They are:

Alternate A: Precast Bridge design.

Alternate B: Single Span Bridge design

The hydraulic model resulted in the selection of Alternate A, the Precast Bridge design, which also results in a lower design fee. The Base Contract amount was approved for the higher design fee and is now being adjusted for the difference in the two alternatives.

LUMP SUM COMPENSATION

SUMMARY of TASKS:

TASK 1

A.1 Additional Geotechnical Analysis	
A.1.a Supplemental Geotechnical Study	\$ 17,700
A.1.b Topographic Survey	\$ 6,000

TASK 3

B.1 Additional Engineering Services	
B.1.a Access Management Services	\$ 21,190
B.1.b Additional. (OG&E) Utility Coordination Services	\$ 39,950
B.1.c Design of Common Utility Trench (CUT)	
• Design Services (CUT) (Poe Task)	\$ 80,000
• Additional Design Coordination (CUT)	\$ 27,600
B.1.d Additional Easement Analysis	\$ 18,000
B.1.e Re-design 12-inch Waterline Relocation (Poe Task)	\$ 20,000
B.1.f New 8-inch Waterline (Alley Design)	\$ 28,670
B.1.g RCB Relocation	\$ 30,000
B.1.h New 8-inch Waterline Design (12" Del Rancho)	\$ 6,000
B.1.i Imhoff Creek Bridge Tower Design	\$ 70,440

TASK 4

C.1 Supplemental Aesthetics Design Services	
C.1.a Bus Shelters Aesthetics Options	\$ 3,150
C.1.c Retaining Walls (Poe Task)	\$ 30,000

TASK 6

E.1 Construction Plan Split (Projects 1 and 2)	
E.1.a Leidos Plan Changes	\$ 5,900
E.1.b Poe Plan Changes	\$ 20,000

SUBTOTAL AMENDMENT No. 3 COMPENSATION: \$ 424,600

CONTRACT FEE ADJUSTMENT For Selection of Imhoff Bridge Design

F.1.a Alternate "A" (Precast Bridge)	\$10,500	
F.1.b Alternate "B" (Single Span Bridge)	-\$68,000	
	-\$57,500	-\$ 57,500

TOTAL AMENDMENT No. 3 COMPENSATION \$ 367,100

The Services provided for in this Agreement are for the sole use and benefit of OWNER and CONSULTANT. Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than OWNER and CONSULTANT.

IN WITNESS WHEREOF, OWNER and Leidos Engineering, LLC have executed this Agreement.

DATED this ____ day of _____, 201__.

The City of Norman
(OWNER)

Signature _____

Name Cindy Rosenthal

Title Mayor

Date _____

Attest:

City Clerk

Leidos Engineering, LLC
(CONSULTANT)

Signature Adam B. West

Name Adam B. West

Title Vice President

Date 9-28-2015

Attest:

Nancy A. Rhoads
Assistant Secretary

Approved as to form and legality this 1 day of October 2015

[Signature]
City Attorney