

City of Fayetteville Staff Review Form

2021-0282

Legistar File ID

5/4/2021

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Wade Abernathy

4/15/2021

FACILITIES MANAGEMENT (140)

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Approval of RFQ# 21-01 Contract with McClelland Consulting Engineers, Inc., for materials testing services for Fire Station 8 in the amount of \$17,786.00 and Fire Station 9 in the amount of \$19,695.00, approve a project contingency in the amount of \$6,000 and a budget adjustment. This is a 2019 Fire Bond project.

Budget Impact:

| | |
|---|--|
| 4610.860.7108-5860.02 | |
| 4610.860.7109-5860.02 | 4610 - Fire Projects 2019 Bonds |
| Account Number | Fund |
| 46100.7108.8315 | Fire Station 8 - Materials Testing/Survey/Geotechnical |
| 46100.7109.8315 | Fire Station 9 - Materials Testing/Survey/Geotechnical |
| Project Number | Project Title |
| Budgeted Item? <u>Yes</u> | Current Budget \$ 8,980,878.00 |
| | Funds Obligated \$ 6,026,688.15 |
| | Current Balance \$ 2,954,189.85 |
| Does item have a cost? <u>Yes</u> | Item Cost \$ 43,481.00 |
| Budget Adjustment Attached? <u>Yes</u> | Budget Adjustment \$ - |
| | Remaining Budget \$ 2,910,708.85 |

V20180321

Purchase Order Number: _____

Previous Ordinance or Resolution # _____

Change Order Number: _____

Approval Date: _____

Original Contract Number: _____

Comments:



MEETING OF MAY 4, 2021

TO: Mayor and City Council

THRU: Susan Norton, Chief of Staff
Paul Becker, Chief Financial Officer
Brad Hardin, Fire Chief

FROM: Wade Abernathy, Director Bond and Building Construction Projects

DATE: April 15, 2021

SUBJECT: RFQ# 21-01 Contract with McClelland Consultant Engineers, Inc. for Materials Testing for Fire Stations 8 & 9.

RECOMMENDATION:

Staff recommends approval of RFQ# 21-01 Contract with McClelland Consulting Engineers, Inc., for materials testing services for Fire Station 8 in the amount of \$17,786.00 and Fire Station 9 in the amount of \$19,695.00 approve a project contingency in the amount of \$6,000 and a budget adjustment. This is a 2019 Fire Bond project.

BACKGROUND:

In March of 2021, resolution 84-21 authorized construction contracts with Flintco, LLC for the construction contracts for Fire Station 8 and 9.

DISCUSSION:

This contract will enable materials testing for soils, concrete reinforcement, concrete, and structural steel to ensure all is installed in accordance with the plans and specifications.

BUDGET/STAFF IMPACT:

A budget adjustment is included. A contingency is requested in the amount of \$6,000.00

Attachments:

Proposal Letters.

March 19, 2021



113 West Mount Street
Fayetteville, AR 72701

ATTN: Mr. Wade Abernathy
Director of Bond Projects and Facilities

RE: Proposal for Construction Materials Testing and Special Inspections
Fire Station No. 8
Fayetteville, Arkansas

Dear Mr. Abernathy,

We are pleased to present a Proposal for the Construction Materials Testing and Special Inspections relevant to the planned new Fire Station No. 8 project to be located in Fayetteville, Arkansas.

The information on the following pages provides further detail regarding the anticipated testing scope on the project which includes several trips for each service, time spent on-site for each service, and other anticipations which were integral in arriving at the lump sum fee amount.

Project Description

The current project scope consists of the construction of a new fire station at 2300 West Deane Street in Fayetteville, Arkansas. The proposed Fire Station structure has a structural footprint of approximately 7,000 square-feet (sf). The fire station is expected to have two (2) vehicle bays, several offices, fitness/recreation rooms, and sleeping quarters. Additional site improvements are expected to consist of paved access drives and parking areas as well as utility improvements across the site.

Scope of Work

It is anticipated that services for construction-materials testing and special inspections for the project will include coarse aggregate base density testing, reinforcing bar observations, cast-in-place concrete testing and continuous placement observations, grout and mortar testing, drill-and-epoxy observations, asphalt testing, and structural steel inspections.

It should be noted that at the time of preparing this proposal, proof roll/subgrade observations, select fill/soil density testing, and floor flatness and levelness inspections are not expected to be required. It is our understanding that observations during earthwork operations along with select fill/soil density testing (not including aggregate

base course) will be conducted by another Geotechnical/testing firm. MCE would be happy to provide these services should they be requested, with the understanding that inspection and documentation of these items would be in addition to the scope and fee services presented in this proposal, if requested.

To better your understanding of our associated fees, we presented an estimated per-trip price for the services we anticipate providing on this project. The provided per-trip prices assume the following factors:

- A certified technician spending 30 minutes onsite for each base density testing trip
 - Four (4) density tests being conducted per trip
 - Travel time, mileage, and report writing is factored into the unit trip price
- A Geotechnical Engineer or Engineering Technician spending one (1) hour onsite for the observation of reinforcing elements.
 - Travel time, mileage, and report writing is factored into the unit trip price
- A certified technician spending one (1) hour onsite for each cast-in-place concrete testing trip.
 - MCE assumes that one (1) set of five (5) lab-cured 4" x 8" cylinders being sampled for every 50 cubic yards of concrete will satisfy testing frequency for the project based on project specifications.
 - Additional cylinders and onsite technician time may be required for large monolithic concrete placements exceeding 50 yd³
 - Travel time, mileage, and reporting fees are included in the per-trip amount for this service
- A certified technician spending two (2) to six (6) hours performing continuous observations for the placement of concrete
- A certified technician spending 30 minutes on-site for each grout testing trip.
 - Four (4) 4"x8" grout samples being conducted each trip
 - Travel time, mileage, and reporting fees are included in the per-trip amount for this service
- A certified technician spending 30 minutes on-site for each mortar testing trip.
 - Three (3) 2"x2" mortar cube samples being conducted each trip
 - Travel time, mileage, and reporting fees are included in the per-trip amount for this service
- A certified technician spending one (1) hour on-site to assist with establishing a rolling pattern during the placement of asphalt in pavement improvement areas.
 - Additional time spent on-site may be required if asphalt placement operations require rolling patterns at intervals per the project specifications or if the contractor requests a technician remain on-site to assist until daily placement operations conclude
 - Travel time, mileage, and reporting fees are included in the unit price

- A certified technician spending two (2) hours on-site coring asphalt samples for laboratory testing.
 - Travel time, mileage, and reporting fees are included in the per-trip amount for this service
- A Certified Welding Inspector (CWI) spending two (2) hours on-site for each periodic structural steel and/or welding inspection trip. Site visits relevant to continuous inspections, where applicable, may require up to eight (8) hours on-site.

We also expect that the project duration will be approximately nine (9) months. From the assumptions and project details referenced above, we estimated the following per-trip prices and subtotals for each service anticipated being required:

Base Course Density Testing **\$120.00 per trip**

- Fire Station No. 8 Pavement Improvements (Base Course) 3 trips
 - Utility Backfill and Additional Sitework (Base Course) 3 trips
- Subtotal: \$720.00**

Reinforcing Bar Observations **\$155.00 per trip**

Fire Station No. 8

- Perimeter Footings (Continuous and Spread) 4 trips
 - Interior Footings (Continuous and Spread) 3 trips
 - Dumpster Enclosure Footings 1 trip
 - Dumpster Pad 1 trip
 - Interior Trench Drains 1 trip
 - Slab-on-Grade 2 trips
 - CMU Walls (Exterior Ground-Level) 1 trip
 - CMU Walls (Interior Ground-Level) 1 trip
 - CMU Walls (Low/High Roof Levels) 2 trips
 - CMU Walls Dumpster Enclosure Walls 1 trip
 - Low Roof Deck 1 trip
- Subtotal: \$2,790.00**

Cast-in-Place Concrete Testing

\$240.00 per trip

Fire Station No. 8

- Perimeter Footings (Continuous and Spread) 4 trips
- Interior Footings (Continuous and Spread) 3 trips
- Dumpster Enclosure Footings 1 trip
- Dumpster Pad 1 trip
- Interior Trench Drains 1 trip
- Slab-on-Grade 2 trips
 - Additional fees applied for large monolithic pours
- Low Level Roof Deck 1 trip
 - Additional fees applied for large monolithic pours

Subtotal: \$3,120.00

Continuous Concrete Placement Observations

- The unit price will reflect an observer being onsite during all structural concrete placements to verify that concrete conveyance and depositing avoid segregation and contamination, as well as proper consolidation per IBC Table 1705.3 under special inspections. The subtotal presented below also includes report writing and administrative fees. The below subtotal estimates that project concrete placements will generally require between two (2) and six (6) hours on-site for this service, which is likely a conservative estimate.

Subtotal: \$3,000.00

Concrete Cylinder Pick-Up

\$105.00 per trip

- A charge for concrete cylinder pick-up will only be applied in the event that it is the sole reason for the site visit on days where no other testing is scheduled. We have assumed that this will be required for approximately one-half (0.5) of the total concrete placements.

Subtotal: \$683.00

Grout & Mortar **\$200.00 per trip**

Fire Station No. 8

- CMU Walls (Exterior Ground-Level Grout) 1 trip
- CMU Walls (Exterior Ground-Level Mortar) 1 trip
- CMU Walls (Interior Ground-Level Grout) 1 trip
- CMU Walls (Interior Ground-Level Mortar) 1 trip
- Low/High Roof Level CMU Walls (Grout) 2 trips
- Low/High Roof Level CMU Walls (Mortar) 1 trip
- Dumpster Enclosure Walls (Grout) 1 trip
- Dumpster Enclosure Walls (Mortar) 1 trip

Subtotal: \$1,080.00

Grout/Mortar Pick-Up **\$105.00 per trip**

- A charge for grout/mortar sample pick-up will only be applied in the event that is the sole reason for the site visit on days where no other testing is scheduled. We have assumed that one-half (0.5) of the total grout/mortar testing trips will be needed for this service.

Subtotal: \$473.00

Asphalt Rolling Pattern **\$120.00 per trip**

- A certified technician conducting asphalt rolling patterns during asphalt placement operations. It is anticipated that two (2) trips will be required for this service.

Subtotal: \$240.00

Asphalt Coring **\$680.00 per trip**

- A certified technician coring asphalt samples for final laboratory acceptance testing. It is anticipated that up to six (6) cores will be required for laboratory testing. The cores will be tested for bulk-specific gravity and thickness verification. It is anticipated that one (1) trip will be conducted for this service.

Subtotal: \$680.00

Structural Steel & Welding Inspections

Based on current project documents and specifications, MCE can provide Structural Steel inspection services, with the following factors taken into account:

- The referenced project documents require special inspections per IBC Chapter 17 and AWS D1.1.
- We anticipate that approximately five (5) site visits will be necessary for the periodic inspection of embed plates, structural bolt-ups, and other structural steel connections relevant to the structures.
- We also anticipate that approximately three (3) site visits will be necessary for continuous observation of complete joint penetrations and fillet welds greater than 5/16" within the planned Fire Station No. 8 structure.

Subtotal: \$5,000.00

Estimated Budget

Based on the assumptions detailed in the foregoing proposal, we can provide construction materials testing and special inspections on this project for a Not-To-Exceed Without Approval amount as detailed below:

- Base Course Density Testing \$720.00
- Reinforcing Observations \$2,790.00
- Cast-in-Place Concrete Testing \$3,120.00
- Continuous Concrete Placement Observation \$3,000.00
- Concrete Cylinder Pick-Up \$683.00
- Grout & Mortar Testing \$1,080.00
- Grout & Mortar Pick-Up \$473.00
- Asphalt Rolling Pattern \$240.00
- Asphalt Coring \$680.00
- Structural Steel & Welding Inspections \$5,000.00

Total Lump Sum Fee: \$17,786.00

Our estimated number of trips for each testing service is based on our experience on projects in the area with similar scope and size. Our fees are directly related to the number of trips made for each service and time spent on site. If the project scope varies after the submittal of this document and prior to construction, please allow for the review/revision of this document.

We appreciate the opportunity to submit this proposal for construction materials testing relevant to the Fire Station No. 8 project located in Fayetteville, Arkansas. If this Proposal is acceptable, please sign the Work Authorization Agreement at the end of this document and return a copy to our office. If there are any questions regarding this Proposal, please do not hesitate to contact us.

Sincerely,



Steven J. Head, P.E.
Principal | Geotechnical Department Head



Roger Bahena
Materials Testing Supervisor

Work Authorization Agreement

McClelland Consulting Engineers, Inc., is authorized to proceed in accordance with this Letter of Proposal, consisting of seven (7) pages.

| | | |
|-----------|-------|------|
| Signature | Title | Date |
|-----------|-------|------|

April 15, 2021



113 West Mount Street
Fayetteville, AR 72701

ATTN: Mr. Wade Abernathy
Director of Bond Projects and Facilities

RE: Proposal for Construction Materials Testing and Special Inspections
Fire Station No. 9
Fayetteville, Arkansas

Dear Mr. Abernathy,

We are pleased to present a Proposal for the Construction Materials Testing and Special Inspections relevant to the planned new Fire Station No. 9 project to be located in Fayetteville, Arkansas.

The information on the following pages provides further detail regarding the anticipated testing scope on the project which includes several trips for each service, time spent on-site for each service, and other anticipations which were integral in arriving at the lump sum fee amount.

Project Description

The current project scope consists of the construction of a new fire station at 2260 South School Avenue in Fayetteville, Arkansas. The proposed Fire Station has a structural footprint of approximately 6,800 square-feet (sf). The fire station is expected to have two (2) vehicle bays, several offices, fitness/recreation rooms, and sleeping quarters. Additional site improvements are expected to consist of paved access drives and parking areas as well as utility improvements across the site.

Scope of Work

It is anticipated that services for construction-materials testing and special inspections for the project will include proof roll observations/subgrade inspections and recommendations, soil and base density testing, reinforcing bar observations, cast-in-place concrete testing and continuous placement observations, grout and mortar testing, asphalt testing, and structural steel inspections.

It should be noted that at the time of preparing this proposal, special inspection of drilled-and-epoxied threaded rods (in lieu of anchor bolts) and floor flatness and levelness inspections are not expected to be required. However, MCE would be happy to provide these services should they be requested, with the understanding that inspection and documentation of these items would be in addition to the scope and fee services presented in this proposal.

To better your understanding of our associated fees, we presented an estimated per-trip price for the services we anticipate providing on this project. The provided per-trip prices assume the following factors:

- A Geotechnical Engineer/engineering technician spending one (1) hour onsite for proof-roll observation and/or subgrade recommendations regarding the building pad and pavement areas.
 - Travel time, mileage, and report writing is factored into the unit trip price
- A certified technician spending 30 minutes onsite for each base density testing trip
 - Four (4) density tests being conducted per trip
 - Travel time, mileage, and report writing is factored into the unit trip price
- A Geotechnical Engineer or Engineering Technician spending one (1) hour onsite for the observation of reinforcing elements.
 - Travel time, mileage, and report writing is factored into the unit trip price
- A certified technician spending one (1) hour onsite for each cast-in-place concrete testing trip.
 - MCE assumes that one (1) set of five (5) lab-cured 4" x 8" cylinders being sampled for every 50 cubic yards of concrete will satisfy testing frequency for the project based on project specifications.
 - Additional cylinders and onsite technician time may be required for large monolithic concrete placements exceeding 50 yd³
 - Travel time, mileage, and reporting fees are included in the per-trip amount for this service
- A certified technician spending two (2) to six (6) hours performing continuous observations for the placement of concrete
- A certified technician spending 30 minutes on-site for each grout testing trip.
 - Four (4) 4"x8" grout samples being conducted each trip
 - Travel time, mileage, and reporting fees are included in the per-trip amount for this service
- A certified technician spending 30 minutes on-site for each mortar testing trip.
 - Three (3) 2"x2" mortar cube samples being conducted each trip
 - Travel time, mileage, and reporting fees are included in the per-trip amount for this service

- A certified technician spending one (1) hour on-site to assist with establishing a rolling pattern during the placement of asphalt in pavement improvement areas.
 - Additional time spent on-site may be required if asphalt placement operations require rolling patterns at intervals per the project specifications or if the contractor requests a technician remain on-site to assist until daily placement operations conclude
 - Travel time, mileage, and reporting fees are included in the unit price
- A certified technician spending two (2) hours on-site coring asphalt samples for laboratory testing.
 - Travel time, mileage, and reporting fees are included in the per-trip amount for this service
- A Certified Welding Inspector (CWI) spending two (2) hours on-site for each periodic structural steel and/or welding inspection trip. Site visits relevant to continuous inspections, where applicable, may require up to eight (8) hours on-site.

We also expect that the project duration will be approximately nine (9) months. From the assumptions and project details referenced above, we estimated the following per-trip prices and subtotals for each service anticipated being required:

Proof Roll Observations/Subgrade Recommendations \$155.00 per trip

- Fire Station Building Pad 1 trip
 - Pavement Improvement Areas 2 trips
- Subtotal: \$465.00**

Soil and Base Density Testing \$120.00 per trip

- Fire Station Building Pad (Select Fill) 3 trips
 - Pavement Improvement Areas (Select Fill) 6 trips
 - Pavement Improvement Areas (Base Course) 3 trips
 - Utility Backfill and Additional Sitework 4 trips
- Subtotal: \$1,920.00**

Reinforcing Bar Observations \$155.00 per trip

- Perimeter Footings (Continuous and Spread) 4 trips
- Interior Footings (Continuous and Spread) 3 trips
- Dumpster Enclosure Footings 1 trip
- Dumpster Pad 1 trip
- Interior Trench Drains 1 trip

- Slab-on-Grade 2 trips
 - CMU Walls (Exterior Ground-Level) 1 trip
 - CMU Walls (Interior Ground-Level) 1 trip
 - CMU Walls (Low Roof Levels) 1 trip
 - CMU Walls Dumpster Enclosure Walls 1 trip
- Subtotal: \$2,480.00**

Cast-in-Place Concrete Testing **\$240.00 per trip**

- Perimeter Footings (Continuous and Spread) 4 trips
 - Interior Footings (Continuous and Spread) 3 trips
 - Dumpster Enclosure Footings 1 trip
 - Dumpster Pad 1 trip
 - Interior Trench Drains 1 trip
 - Slab-on-Grade 2 trips
- Additional fees applied for large monolithic pours

Subtotal: \$3,380.00

Continuous Concrete Placement Observations

- The unit price will reflect an observer being onsite during all structural concrete placements to verify that concrete conveyance and depositing avoid segregation and contamination, as well as proper consolidation per IBC Table 1705.3 under special inspections. The subtotal presented below also includes report writing and administrative fees. The below subtotal estimates that project concrete placements will generally require between two (2) and six (6) hours on-site for this service, which is likely a conservative estimate.

Subtotal: \$3,000.00

Concrete Cylinder Pick-Up **\$105.00 per trip**

- A charge for concrete cylinder pick-up will only be applied in the event that it is the sole reason for the site visit on days where no other testing is scheduled. We have assumed that this will be required for approximately one-half (0.5) of the total concrete placements.

Subtotal: \$630.00

Grout & Mortar **\$200.00 per trip**

- CMU Walls (Exterior Ground-Level Grout) 1 trip
- CMU Walls (Exterior Ground-Level Mortar) 1 trip
- CMU Walls (Interior Ground-Level Grout) 1 trip
- CMU Walls (Interior Ground-Level Mortar) 1 trip
- Low Roof Level CMU Walls (Grout) 1 trip
- Low Roof Level CMU Walls (Mortar) 1 trip
- Dumpster Enclosure Walls (Grout) 1 trip
- Dumpster Enclosure Walls (Mortar) 1 trip

Subtotal: \$1,600.00

Grout/Mortar Pick-Up **\$105.00 per trip**

- A charge for grout/mortar sample pick-up will only be applied in the event that is the sole reason for the site visit on days where no other testing is scheduled. We have assumed that one-half (0.5) of the total grout/mortar testing trips will be needed for this service.

Subtotal: \$420.00

Asphalt Rolling Pattern **\$120.00 per trip**

- A certified technician conducting asphalt rolling patterns during asphalt placement operations. It is anticipated that one (1) trip will be required for this service.

Subtotal: \$120.00

Asphalt Coring **\$680.00 per trip**

- A certified technician coring asphalt samples for final laboratory acceptance testing. It is anticipated that up to four (4) cores will be required for laboratory testing. The cores will be tested for bulk-specific gravity and thickness verification. It is anticipated that one (1) trip will be conducted for this service.

Subtotal: \$680.00

Structural Steel & Welding Inspections

Based on current project documents and specifications, MCE can provide Structural Steel inspection services, with the following factors taken into account:

- The referenced project documents require special inspections per IBC Chapter 17 and AWS D1.1.
- We anticipate that approximately five (5) site visits will be necessary for the periodic inspection of embed plates, structural bolt-ups, and other structural steel connections relevant to the structures.
- We also anticipate that approximately three (3) site visits will be necessary for continuous observation of complete joint penetrations and fillet welds greater than 5/16" within the planned Fire Station No. 9 structure.

Subtotal: \$5,000.00

Estimated Budget

Based on the assumptions detailed in the foregoing proposal, we can provide construction materials testing and special inspections on this project for a Not-To-Exceed Without Approval amount as detailed below:

- Proof Roll Observations/Subgrade Recommendations \$465.00
- Soil and Base Density Testing \$1,920.00
- Reinforcing Observations \$2,480.00
- Cast-in-Place Concrete Testing \$3,380.00
- Continuous Concrete Placement Observation \$3,000.00
- Concrete Cylinder Pick-Up \$630.00
- Grout & Mortar Testing \$1,600.00
- Grout & Mortar Pick-Up \$420.00
- Asphalt Rolling Pattern \$120.00
- Asphalt Coring \$680.00
- Structural Steel & Welding Inspections \$5,000.00

Total Lump Sum Fee: \$19,695.00

Our estimated number of trips for each testing service is based on our experience on projects in the area with similar scope and size. Our fees are directly related to the number of trips made for each service and time spent on site. If the project scope varies after the submittal of this document and prior to construction, please allow for the review/revision of this document.

We appreciate the opportunity to submit this proposal for construction materials testing relevant to the Fire Station No. 9 project located in Fayetteville, Arkansas. If this Proposal is acceptable, please sign the Work Authorization Agreement at the end of this document and return a copy to our office. If there are any questions regarding this Proposal, please do not hesitate to contact us.

Sincerely,



Steven J. Head, P.E.
Principal | Geotechnical Department Head



Roger Bahena
Materials Testing Supervisor

Work Authorization Agreement

McClelland Consulting Engineers, Inc., is authorized to proceed in accordance with this Letter of Proposal, consisting of seven (7) pages.

| | | |
|-----------|-------|------|
| Signature | Title | Date |
|-----------|-------|------|