

United States Department of Agriculture



Natural Resources Conservation Service  
Temple Watershed Construction Office  
101 South Main  
Temple, Texas 76501

---

Subject:  
ADS- Acquisition, Procurement, Contracts  
East Fork Above Lavon Watershed  
Floodwater Retarding Structure (FRS) Site 4 Rehab  
Collin County, Texas

Date: May 23, 2018

File Code: 120-11-11-13-5

To:  
Danny Still, P.E.  
Contracting Officer  
City of McKinney  
McKinney, TX

Recommendation to Award:

Contacted References listed

I was able to discuss DDM Construction with two of the listed references, The City of Waxahachie, and the City of Haslet. Both companies were asked the same questions, see responses attached. One gave a good review of DDM Construction, and would recommend them for this project. The other company's contract has yet to start but explained what they would be doing with RCC. Both references had similar work: concrete, excavation, storm water pollution prevention, and vegetation, and only one had any RCC. The City of Waxahachie stated that they were reasonable on working with modifications, and kept up the progress of work according to the time of the contract. The City of Haslet explained the process for the RCC pavement that they would be placing for a roadway throughout a subdivision, and submitted the specifications that they will be using for the RCC which is attached.

I was unable to contact attached reference #3, I left messages but no return call.

Bid Tabulation

I have also looked over the bid prices and overall do not find them materially unbalance. Bid Items 10, 11, 24 and 31 were all lower than the Engineering Estimate but compared to the second lowest bidder, the prices were similar. The bid for Item 17 was substantially higher than the Engineering Estimate and the other bidders, and their was response included the fact that they thought this also covered diverting water around work areas during construction.

The bids for Items 13 and 14 were substantially lower than the cost estimate and the other bidders, and the Contractor stated that they felt that they could leave a lot of the material as a moisture condition in place, and they plan on moving utilizing the material in the coffer dam and remove it as construction goes along to have less material in the borrow area. I explained to them that any material used on the cofferdam is to remain in place until otherwise noted as in the specifications, so it could not be moved for earthfill. I also explained that any cofferdam built would have to be designed and approved by a licensed Professional Engineer, which they were unaware of even though it was discussed at the site showing. The bid prices for Items 22 and 23 were reversed from the Engineering Estimate and other bidders, but when the dollar amounts were added up, the total amount was similar to other bidders. The bid price for Item 34 was substantially lower than the Engineering Estimate and the other bidders, and they explained that they were not anticipating the need for a trench box or any structural shoring. They are not aware that a Trench Safety plan is required and has to be designed and sealed by a licensed Professional Engineer. Overall, the contractor were comfortable with all bid prices, and did not want to change or revise anything. Based on the conversation with DDM Construction, I could not find any feasible justifications to not recommend awarding them the contract.

Based on the references, I was able to contact, and the prices of the bid items from DDM construction, I recommend award of this contract to DDM Construction, provided the financial information and bonding requirements are met, and the City of McKinney can find no other reasons to not award per contract requirements.



Brannon Sledge, EIT  
Government Representative  
USDA-NRCS

cc: John Mueller, State Conservation Engineer, NRCS, Temple, TX  
John Hrebik, State Design Engineer, NRCS, Temple, TX  
Kyle Odom, Environmental Engineering Manager, City Of McKinney, McKinney, TX

Attachments

**, Questions to ask References  
EAST FORK ABOVE LAVON SITE 4  
COMPANY/OWNER: CITY OF WAXAHACHIE  
PROJECT: HUNTER PASS FAILURE REPLACEMENT (SUBDIVISION)  
POINT OF CONTACT: JEFF CHAMBERS (469-309-4300)**

**Type of projects has the contractor worked on for them?**

Complex Subdivision project – roadway failed; removed approx. 8-10 feet of bad material, added retaining walls and completed roadway work; above typical subdivision roadway work

**Has the work consisted of any earthwork and Concrete/RCC?**

There was earthwork, and concrete retaining walls and concrete paving; no RCC was involved.

**How were they with dealing with modifications?**

Reasonable with working with them on changes to any designs

**Are there any problems with the contractors or workers?**

None

**Do they keep up progress of the work according to the time of contract?**

Yes they did

**Have they been capable of doing the work as designed?**

Yes

**Are the contractors & operators knowledgeable of the work they are doing?**

Yes, they were very professional

**Would you recommend them for a project such as this?**

Yes, I believe they that could complete it.

**Questions to ask References  
EAST FORK ABOVE LAVON SITE 4  
COMPANY/OWNER: CITY OF HASLET  
PROJECT: REMOVAL & REPLACEMENT W/ RCC PAVEMENT  
POINT OF CONTACT: TRAVIS ATTANASIO (817-439-5931, x 112)**

**Type of projects has the contractor worked on for them?**

They have not started yet, but they will be doing RCC pavement for a subdivision roadway.

**Has the work consisted of any earthwork and Concrete/RCC?**

They will be using concrete/RCC – see attached RCC specification

**How were they with dealing with modifications?**

N/A

**Are there any problems with the contractors or workers?**

N/A

**Do they keep up progress of the work according to the time of contract?**

N/A

**Have they been capable of doing the work as designed?**

N/A

**Are the contractors & operators knowledgeable of the work they are doing?**

N/A

**Would you recommend them for a project such as this?**

N/A

## CITY OF HASLET ITEM 351

### ROLLER COMPACTED CONCRETE PAVEMENT

#### 351.1. DESCRIPTION.

This item shall govern for the construction of Portland Cement Roller Compacted Concrete pavement (RCC) on a prepared subgrade or sub-base course, in accordance with the typical sections shown on the Plans, the lines and grades established by the City and the requirements herein.

#### 351.2. TEST METHODS.

- (1) **General.** The following American Society of Testing and Materials (ASTM) test methods are referenced in this Item and are modified as listed:
- (a) ASTM C 31 – Practice for Making and Curing Concrete Test Specimens in the Field.
  - (b) ASTM C 33 – Specifications for Concrete Aggregate.
  - (c) ASTM C 39 / C 39 M – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
  - (d) ASTM C 42 / C 42M – Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams for Concrete.
  - (e) ASTM C 78 – Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading).
  - (f) ASTM C 150 – Standard Specification for Portland Cement.
  - (g) ASTM C 171 - Standard Specification for Sheet Materials for Curing Concrete.
  - (h) ASTM C 309 – Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
  - (i) ASTM C 494 - Specification for Chemical Admixtures for Concrete.
  - (j) ASTM C 496 - Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens.
  - (k) ASTM D 558 (Modified) –Standard Test Methods for Moisture-Density Relations of Soil-Cement Mixtures. (Modified to use 6-inch mold, 10-pound hammer, 18-inch drop height, four layers, and 118 blows per layer.)
-

- (l) ASTM C 595 - Specification for Blended Hydraulic Cements.
- (m) ASTM C 1040 – Density of Unhardened and Hardened Concrete in Place by Nuclear Methods.
- (n) ASTM C 1157 - Performance Specification for Hydraulic Cement.
- (o) ASTM C 1435 (Modified) –Standard Practice for Molding Roller Compacted Concrete in Cylinder Molds Using a Vibrating Hammer. (Modified to use five equal lifts.)
- (p) ASTM 2922 –Standard Test Methods for Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth).

### 351.3. PAVING CONSTRUCTION PLAN.

The Contractor shall submit a paving construction plan for approval by the City prior to beginning pavement construction operations. The plan shall contain the following:

- (1) **Materials.** The contractor shall submit a test report for the specified Portland cement in the mix design that meets the requirements of ASTM C 150. Certification that aggregates meets the specified requirements.
  - (2) **Equipment.** The contractor shall submit a list of all equipment proposed for use to perform the placement of RCC to the City prior to utilization on the job. Manufacturer's data specifications for mixing plant, hauling, placing, spreading, and compaction equipment. Layout of plant showing location of each aggregate storage bin, each cementitious material bin, water supply, and mixing plant.
  - (3) **Mix Design Report.** The contractor shall submit a copy of a job mix formula and test data to the City no less than 30 calendar days prior to beginning paving operations. An approved independent testing laboratory shall prepare the mix design based on the specified performance requirements. The mix design shall show details of cementitious materials, 3 day, 7 day, and 28 day compressive strengths, including a time/strength curve diagram for the proposed mix and required density after placement that is certified by a registered professional engineer. The mix design shall identify the quantity and gradation of aggregate, the optimum moisture content, and the amount of Portland cement, other cementitious material and the total cementitious materials required per cubic yard of the concrete. The mix design shall be done in a similar fashion to determine the relationship between moisture content and the unit weight of soil and soil aggregate mixture. The mix design shall specify the proportions of each material (aggregate, cement, water, admixtures) in the mix in terms of pounds per cubic yard. Any changes to the mix design shall be approved by the City. Should a change in material source be proposed, the City must approve a new mix design.
  - (4) **Concrete Temperature.** The contractor shall submit a plan for placement of concrete in hot weather if placement conditions and ambient temperature could result in concrete
-

temperatures exceeding 90 degrees Fahrenheit.

**(5) Construction Schedule.** The contractor shall submit a construction schedule of RCC work. Lay down pattern showing the direction of paving, paving width, daily production, curing method and pattern, and planned longitudinal and traverse cold joints. Methods of handling, storing, delivering and mixing of materials. Procedure for placing, compacting, and curing RCC. Procedure for monitoring the concrete heat of hydration during placement and curing. Operating procedures for corrective action(s) necessary to assure longitudinal joint density and a tight, smooth surface on the RCC pavement, free of tears larger than 1/4" width and 1/4" depth and other surface imperfections, including surface pitting.

#### **351.4. MATERIALS.**

**(1) General.** All materials to be used for RCC pavement construction shall be approved by the City based on laboratory test or certifications of representative materials which will be used in the actual construction.

**(2) Portland Cement.** Cement shall conform to the latest specifications for Portland cement (ASTM C 150 and ASTM C 1157), or blended hydraulic cements (ASTM C 595 and ASTM C 1157). Unload cementitious materials and store in weather tight bins or silos that protect them from dampness and contamination and provide easy access for inspection and identification of each shipment.

**(3) Aggregates.** Unless otherwise approved in writing by the City, the quality of aggregates shall conform to ASTM C 33. The aggregate portion passing the No. 40 sieve shall have a liquid limit of not more than 20, and the plasticity index of the aggregate shall not exceed five. Fines shall be non-plastic. Aggregates may be obtained from a single source or borrow pit, or may be a blend of coarse and fine aggregate. Stockpile a minimum of 25 percent of the total required amount of each size of aggregate prior to commencing mixing operation. The aggregate shall be well-graded without gradation gaps and conform to the following gradation or as approved by the City:

##### **Sieve Size Percent Passing By Weight**

1" (25 mm)	100
3/4" (19 mm)	100
1/2" (12.5 mm)	70-90
3/8" (9.5 mm)	60-85
No. 4 (4.75 mm)	40-60
No. 16 (1.18 mm)	20-40
No. 100 (150 μm)	6-18
No. 200 (75 μm)	0-8

**(4) Water.** Water shall be clean, clear and free of acids, salts, alkalis or organic materials that may be injurious to the quality of the concrete. Non-potable water may be considered as a source for part or all of the water, providing the mix design indicates proof that the use of such water will not have any deleterious effect on the strength and durability properties of the RCC.

---

**(5) Chemical Admixtures.** Chemical admixtures including water reducing and retarding admixtures shall conform to ASTM C 494 and must be approved by the City prior to use.

**(6) Curing Compound.** Concrete curing compounds shall conform to ASTM C 309 or ASTM D 977.

**(7) Joint Sealants and Fillers.** These materials shall be of the size, shape and type shown on the Plans. Unless otherwise shown on the Plans, the joint sealant materials to be used shall be self-leveling silicone pavement sealant as manufactured by Dow Corning, Crafc0, Inc., or an approved equal.

**(8) Material Storage.** Store all materials as specified in this Item and as recommended by the manufacturer.

### **351.5. EQUIPMENT.**

**(1) General.** All necessary equipment shall be on hand and approved by the City before work will be permitted. RCC shall be constructed with any combination of equipment that will produce a completed pavement meeting the requirements for mixing, transporting, placing, compacting, finishing, and curing as provided in this Item. The contractor shall provide a list of all equipment to be utilized for the placement of RCC and manufacturer's data specifications for all equipment.

**(2) Paver.** RCC shall be placed with a high-density screed asphalt type paver subject to approval by the City. The paver shall be capable of placing RCC to a minimum of 90% of the maximum wet density in accordance with ASTM D 558 or equivalent test method. The paver shall be of suitable weight and stability to spread and finish the RCC material, without segregation, to the required thickness, smoothness, surface texture, cross-section and grade.

**(3) Compactors.** Self-propelled steel drum vibratory rollers having a minimum static weight of 10 tons shall be used for primary compaction. For final compaction either a steel drum roller, operated in a static mode, or a pneumatic-tire roller shall be utilized. Walk-behind or similar sized vibratory rollers or mechanical tampers shall be used for compacting areas inaccessible to the large rollers.

**(4) Haul Trucks.** Trucks for hauling the RCC material from the plant to the paver shall have covers available to protect the material from rain or excessive evaporation. The number of trucks shall be sufficient to ensure adequate and continuous supply of RCC material to the paver.

**(5) Water Trucks.** At least one water truck, or other similar equipment, shall be on-site and available for use throughout the paving and curing process. Such equipment shall be capable of evenly applying a fine spray of water to the surface of the RCC without damaging the final surface.

---



**(6) Inspection of Equipment.** Before start-up, the Contractor's equipment and plant shall be carefully inspected. Should any of the equipment fail to operate properly, no work shall proceed until the deficiencies are corrected.

**(7) Access for Inspection and Calibration.** The City shall have access at all times to any plant, equipment or machinery to be used on this project in order to check calibration, scales, controls or operating adjustments. Where adjustments appear necessary, a competent technician, or instrument repair laboratory is to carry out the necessary adjustment(s).

### **351.6. MIXING PLANT.**

**(1) Location of Plant.** The mixing plant shall be located within a 30-minute haul time from the RCC placement. With prior testing and City's approval, a set retarding admixture may be used to extend the haul time.

**(2) Plant Capacity.** The plant shall be capable of producing an RCC mixture in the proportions defined by the final approved mix design and within the specified tolerances. The capacity of the plant shall be sufficient to produce a uniform mixture at a rate compatible with the placement equipment. The volume of RCC material in the mixing chamber shall not be more than the rated capacity for dry concrete mixtures. Multiple plants shall be supplied if a single plant cannot provide an uninterrupted supply of RCC to the paver(s) during peak paving operations.

**(3) Pugmill Plant.** A pugmill plant shall be a central plant with a twin shaft pugmill mixer, capable of batch or continuous mixing, equipped with synchronized metering devices and feeders to maintain the correct proportions of aggregate, cement, and water. Other pugmill plant requirements are as follows:

**(a) Aggregate Storage.** If previously blended aggregate is furnished, storage may be in a stockpile from which it is fed directly to a conveyor feeding the mixer. If aggregate is furnished in two or more size groups, aggregate separation must be provided at the stockpiles.

**(b) Aggregate Bin.** Aggregate bins shall have a feed rate controlled by a variable speed belt, or an operable gate calibrated to accurately deliver any specified quantity of material. If two or more aggregate size stockpile sources are used, the feed rate from each bin shall be readily adjustable to change aggregate proportions, when required. Feed rate controls must maintain the established proportions of aggregate from each stockpile bin when the combined aggregate delivery is increased or decreased.

**(c) Plant Scales.** Plant scales for any weigh box or hopper shall be either of beam or springless-dial type, and be sensitive to 0.5 percent of the maximum load required. Beam- type scales shall have a separate beam for each aggregate size, with a single telltale actuated for each beam, and a tare beam for balancing hopper. Belt scales shall

---

be of an approved design. Standard test weights accurate to plus or minus 0.1 percent shall be provided for checking plant scales.

**(d) Water Control Unit.** The required amount of water for the approved mix shall be measured by weight or volume. The unit shall be equipped with an accurate metering device. The water flow shall be controlled by a meter, valve or other approved regulating device to maintain uniform moisture content in the mixture.

**(e) Surge Hopper.** For continuous operating pugmills, a surge hopper attached to the end of the final discharge belt shall be provided to temporarily hold the RCC discharge to allow the plant to operate continuously. No other stockpiling will be permitted.

**(4) Rotary Central-Mix Drum Plant.** A rotary drum batch mixer shall be capable of producing a homogeneous mixture, uniform in color and having all coarse aggregate coated with cementations paste. The mixer shall be equipped with batching equipment to meet the following requirements:

**(a)** The amounts of cement and aggregate entering into each batch of RCC shall be measured by direct weighing equipment. Weighing equipment shall be readily adjustable to compensate for the moisture content of the aggregate or for changing the proportionate batch weights, and shall include a visible dial or equally suitable device which will accurately register the scale load from zero to full capacity.

**(b)** Bulk cement weigh hoppers shall be equipped with vibrators to operate automatically and continuously while weighing hoppers are being dumped. The weigh hopper shall have sufficient capacity to hold not less than 10 percent in excess of the cementations material required for one batch.

**(c)** The amount of water entering each batch of RCC shall be measured by weight or volume. The equipment shall be capable of measuring the water to within a tolerance of plus or minus one percent and shall be equipped with an accurate gauge or dial measuring device. During batching, water shall be admitted to the mixer only through the water measuring device and then only at time of charging.

**(d)** Drum mixers shall be equipped with an accurate clock or timing device, capable of being locked, for visibly indicating the time of mixing after all the materials, including the water, are in the mixer.

**(5) Alternative Mixing Equipment.** Other types of batching and mixing equipment and configurations including dry batch plants, concrete truck mixers, and volumetric mixers, if used in a stationary pugmill type setup, may be used with the approval of the City. The Contractor must demonstrate that the mixing equipment has the ability to produce a consistent, well-blended, non-segregated RCC mix satisfying the minimum capacity requirements of Subarticle 351.6(2) "Plant Capacity" and within the tolerance limits as specified in Subarticle 351.11(2) "Mixture Ingredient Tolerances."

#### **351.7. SUBGRADE.**

---

**(1) Preparation of Subgrade or Subbase.** The concrete pavement shall be constructed on prepared subgrade. Refer to Item 200, "Subgrade Preparation", Item 260 "Lime Treatment for Materials used as Subgrade", Item 275 "Portland Cement Treated Materials", and/or Item 280 "Lime and Portland Cement Treatment for Materials used as Subgrade" for additional information.

### **351.8. WEATHER CONDITIONS.**

**(1) Cold Weather Precautions.** RCC material shall not be placed on any surface containing frost or frozen material or when the air temperature is below 40°F, except when the air temperature is at least 35°F and rising. When the air temperature is expected to fall below 40°F, the Contractor must present to the City a detailed proposal for protecting the RCC pavement. This proposal must be accepted by the City before paving operations may be resumed. A sufficient supply of protective material such as insulating blankets, plastic sheeting, straw, burlap or other suitable material shall be provided by the Contractor at his expense. The methods and materials used shall be such that a minimum temperature of 40°F at the pavement surface will be maintained for a minimum of five days. Approval of the Contractor's proposal for frost protection shall not relieve the Contractor of the responsibility for the quality and strength of the RCC placed during cold weather. Any RCC that freezes shall be removed and replaced at the Contractors expense.

**(2) Hot Weather Precautions.** During periods of hot weather or windy conditions, special precautions shall be taken to minimize moisture loss due to evaporation. Under conditions of excessive surface evaporation due to a combination of air temperature, relative humidity, concrete temperature, and wind conditions, the Contractor must present to the City a detailed proposal for minimizing moisture loss and protecting the RCC. Precautions may include cooling of aggregate stockpiles by use of a water spray, protective covers on dump trucks, temporary wind breaks to reduce wind effect, cooling of concrete mix water, and decreasing the allowable time between mixing and final compaction.

**(3) Rain Limitations.** No placement of RCC pavement shall be done while it is raining hard enough to be detrimental to the finished product. Placement may continue during light rain or mists provided the surface of the RCC pavement is not washed-out or damaged due to tracking or pickup by dump trucks or rollers. Dump truck covers must be used during these periods. The City will be the sole judge as to when placement must be stopped due to rain. The contractor may, at his own discretion, stop RCC pavement operations should inclement weather conditions exist. Any RCC that is damaged due to rain shall be removed and replaced at the Contractors expense.

### **351.9. STRENGTH TESTING.**

**(1) Field Cast Specimens.** Specimens shall be prepared in accordance with ASTM C 1435 (Modified). Cure and transport specimens to the laboratory in accordance with ASTM C 31. Specimens shall be tested for splitting tensile strength (ASTM C 496) and compressive strength (ASTM C 39) at 7, 14, and 28 days of age.

---

(2) **Flexural Strength.** RCC shall be produced with a suitable cement and cementitious material content to develop a 7 day flexural strength of not less than 550 psi and a 28 day flexural strength of not less than 600 psi

### **351.10 MIXING PROCESS.**

(1) **General.** Except for minor variations in moisture content, the same mixture proportions shall be used for the entire project, unless otherwise stated in the Plans. The water content shall be varied by the Contractor, as necessary, to provide a consistency that is most conducive to effective placement and compaction. If during mixing there is a change in the type or source of cementations materials, or aggregates, the mixing must be suspended, and a new mix design shall be developed.

(2) **Mixture Ingredient Tolerances.** The mixing plant must receive the quantities of individual ingredients to within the following tolerances:

Material Variation in % by  
Weight Cementations materials  
+/- 2.0 Water +/- 3.0  
Aggregates +/- 4.0

(3) Mixing time will be that which will assure complete and uniform mixing of all ingredients. For drum mixers and dry batch facilities, the time of mixing shall be determined from uniformity test results.

(4) All material must be discharged before recharging. The mixing chamber and mixer blade surfaces must be kept free of hardened RCC or other buildups. Mixer blades shall be checked routinely for wear and replaced if wear is sufficient to cause inadequate mixing.

(5) **Plant Calibration.** Prior to commencement of RCC production, the Contractor shall carry out a complete and comprehensive calibration of the plant in accordance with the manufacturer's recommended practice. All scales, containers and other items necessary to complete the calibration shall be provided by the Contractor. After completion of the initial calibration, the plant shall be recalibrated as directed by the City.

(6) **Daily Reports.** The Contractor shall supply daily plant records of production and quantities of materials used that day to the City.

### **351.11. TRANSPORTATION.**

(1) **General.** The transportation of the RCC pavement material from the plant to the areas to be paved shall be in dump trucks fitted and equipped, when necessary, with retractable protective covers for protection from rain or excessive evaporation. The trucks shall be dumped clean with no buildup or hanging of RCC material. The dump trucks shall deposit the RCC material directly into the hopper of the paver or into a secondary material distribution system which deposits the material into the paver hopper. Dump truck delivery must be scheduled so that RCC material is spread and compacted within the specified time

---

limits. Access routes shall be clearly marked over the area to be constructed.

### **351.12. PLACING.**

**(1) Condition of the Subgrade/Subbase.** Prior to RCC placement, the surface of the subgrade/subbase shall be clean and free of foreign material, ponded water and frost prior to the placement of the RCC pavement mixture. The subgrade/subbase must be uniformly moist at the time of RCC placement. If sprinkling of water is required to remoisten certain areas, the method of sprinkling shall not be such that it forms mud or pools of free-standing water. Prior to placement of RCC, the subgrade/subbase shall be checked for proper density and soft or yielding areas and these areas shall be corrected as specified in Subarticle 351.7 "Subgrade."

**(2) Paver Requirements.** RCC shall be placed with an approved paver as specified in Subarticle 351.5(2) "Paver" and shall meet the following requirements:

**(a)** The quantity of RCC material in the paver shall not be allowed to approach empty between loads. The material shall be maintained above the auger shaft at all times during paving.

**(b)** The paver shall operate in a manner that will prevent segregation and produce a smooth continuous surface without tearing, pulling or shoving. The spread of the RCC shall be limited to a length that can be compacted and finished within the appropriate time limit under the prevailing air temperature, wind, and climatic conditions.

**(c)** The paver shall proceed in a steady, continuous operation with minimal starts and stops. Paver speed during placement operations shall not exceed the speed necessary to ensure that minimum density requirements as specified in Subarticle 351.5(2) "Paver" are met and surface distress is minimized.

**(d)** The surface of the RCC pavement once it leaves the paver shall be smooth, uniform and continuous without excessive tears, ridges or aggregate segregation.

**(e) Lift Thickness.** Lift thickness of compacted RCC pavement shall be as indicated on the Plans. If RCC pavements are to be constructed in a thickness greater than 9 inches, the use of two lifts shall be utilized. No lift shall be less than 4 inches.

**(f) Adjacent Lane Placement.** Adjacent paving lanes shall be placed within 60 minutes. If more than 60 minutes elapses between batch time of the adjacent lane and the placement of the current lane, the vertical joint must be considered a cold joint and shall be prepared in accordance with Subarticle 351.15(2) "Cold Vertical Joints." At the City's discretion, this time may be increased or decreased depending on the use of set retarding admixtures or the ambient weather conditions of temperature, wind, and humidity.

**(g) Hand Spreading.** Broadcasting or fanning the RCC material across areas being compacted will not be permitted. Such additions of material may only be done immediately behind the paver and before any compaction has taken place. Any

---

segregated coarse aggregate shall be removed from the surface before rolling.

(h) Segregation. If segregation occurs in the RCC during paving, operations the spreading shall cease until the cause is determined and corrected.

(i) RCC placement shall be done in a pattern so that the curing water from the previous placements will not pose a runoff problem on the fresh RCC surface or on the subbase layer.

(j) Paving Inaccessible Areas. Areas inaccessible to either paver or roller may be placed by hand and compacted with equipment specified in Subarticle 351.5(3) "Compactors." Compaction of these areas must satisfy minimum density requirements as specified in Subarticle 351.14(7) "Density Requirements." An alternate and preferred method for paving inaccessible areas is to use cast-in-place, air-entrained concrete with a minimum compressive strength of 4000 psi or as specified by the City. In areas that may be subjected to high load transfer, the City may require the cast-in-place concrete to be doweled into the RCC.

### **351.13. COMPACTION.**

(1) Compaction shall begin immediately behind the placement process and shall be completed within 60 minutes of the start of plant mixing. The time may be increased or decreased at the discretion of the City depending on use of set retarding admixtures or ambient weather conditions of temperature, wind and humidity.

(2) **Rolling.** The Contractor shall determine the sequence and number of passes by vibratory and non-vibratory rolling to obtain the minimum specified density and surface finish. Rollers shall only be operated in the vibratory mode while moving. Pneumatic-tire rollers may be used during final compaction to knead and seal the surface.

(3) **Rolling Longitudinal and Transverse Joints.** The roller shall not operate within 24 in. of the edge of a freshly placed lane until the adjacent lane is placed. Then both edges of the two lanes shall be rolled together within the allowable time. If a cold joint is planned, the complete lane shall be rolled and cold joint procedures, as specified in Subarticle 351.15(2) "Cold Vertical Joints" shall be followed.

(4) Longitudinal joints shall be given additional rolling as necessary to produce the specified density for the full depth of the lift and a tight smooth transition occurs across the joint. Any uneven marks left during the vibrating rolling shall be smoothed out by non-vibrating or rubber tire rolling. The surface shall be rolled until a relatively smooth, flat surface, reasonably free of tearing and cracking is obtained.

(5) Speed of the rollers shall be slow enough at all times to avoid displacement of the RCC pavement. Displacement of the surface resulting from reversing or turning action of the roller shall be corrected immediately.

(6) Areas inaccessible to large rollers shall be treated as specified in Subarticle 351.5(2)

---

“Paver.”

**(7) Density Requirements.** In-place field density tests shall be performed in accordance with ASTM C 1040 or D 2922 as soon as possible, but no later than 30 minutes after completion of rolling. Only wet density shall be used for evaluation. The required density shall be not less than 98% of the maximum wet density obtained by ASTM D 558 or equivalent test method based on a moving average of five consecutive tests with no test below 96%.

#### **351.14. JOINTS.**

**(1) Fresh Vertical Joints.** A vertical joint shall be considered a fresh joint when an adjacent RCC lane is placed within 60 minutes of the batch time of the previous lane. This time may be adjusted depending on use of retarders or ambient conditions. Fresh joints do not require special treatment.

**(a)** Fresh longitudinal joints shall be constructed prior to placement of an adjacent lane by leaving the outer 24 inches of the freshly placed lane uncompacted during rolling. Then both edges of the two lanes shall be rolled together with the allowable time.

**(b)** Adjacent lanes shall be placed such that the new lane abuts tightly against the incomplete edge of the prior lane.

**(c)** The joint formed by both lanes shall be compacted by centering the roller drum over the joint and compacting both edges simultaneously.

**(d)** Extra passes of the roller may be required at the joint to achieve the required density.

**(2) Cold Vertical Joints.** Any planned or unplanned construction joints that do not qualify as fresh joints shall be considered cold joints and shall be treated as follows:

**(a)** Longitudinal and Transverse Cold Joints. Formed joints that do not meet the minimum density requirements of Subarticle 351.14(7) “Density Requirements” and all unformed joints shall be cut vertically for the full depth. The vertical cut shall be at least 6 in from the exposed edge. Cold joints cut within two hours of placement may be cut with an approved cutting device, motor grader or other approved method provided that no edge raveling occurs. Cold joints cut after two hours of placement shall be saw-cut 1/4 to 1/3 depth of the RCC pavement with the rest removed by hand or mechanical equipment. Any modification or substitution of the saw cutting procedure must be demonstrated to and accepted by the City. All excess material from the joint cutting shall be removed.

**(b)** Prior to placing fresh RCC mixture against a compacted cold vertical joint, the joint shall be thoroughly cleaned of any loose or foreign material. The vertical joint face shall be wetted and in a moist condition immediately prior to placement of the adjacent lane.

---

(c) Uneven surfaces or slopes greater than as determined Subarticle 351.9(4) "Cold Joint Edges" shall be cut vertically for the full depth of the RCC. The edge of cold joints cut within 60 minutes of placement of the RCC material may be cut by a mechanical method approved by the City. Edges of cold joints cut after 60 minutes of the placement shall be saw-cut as specified in Subarticle 351.15(2)(a) "Longitudinal and Traverse Cold Joints."

(d) The rollers shall pass over the end of the freshly placed RCC mixture when a vertical cold joint is to be made. The edge of the previously placed RCC pavement shall be cut back to expose an even vertical surface for the full thickness of the course without disturbance of the RCC that is to remain in place. Uneven areas and raveling shall be corrected.

(e) The top layer shall be placed so that longitudinal joints in that layer will coincide with joints in the lower layers of the pavement. Transverse joints in the top layer shall coincide with transverse joints in the lower layers of the pavement.

**(3) RCC Pavement Joints at Structures.** The joints between RCC pavement and concrete structures shall be treated as cold vertical joints.

**(4) Control Joints.** Control joints may be constructed in the RCC pavement to induce cracking at pre-selected locations. Joint locations shall be shown on the Plans or as directed by the City. Early entry saws should be utilized as soon as possible behind the rolling operation and set to manufacturer's recommendations. Conventionally cut control joints shall be saw cut to 1/4 depth of the compacted RCC pavement. Joints shall be saw-cut as soon as those operations will not result in significant raveling or other damage to the RCC pavement.

**(5) Expansion Joints.** Expansion joints shall be constructed as shown on the Plans or as directed by the City.

### **351.15. FINISHING.**

**(1) Surface Smoothness.** The finished surface of the RCC pavement, when tested with a 10 foot straight edge, shall not vary from the straight edge by more than 3/8 inch at any one point. The final surface texture of the pavement, after all rolling and curing, shall be smooth and uniform over the whole area of the pavement and shall be free of any surface pitting, voids or indentations, pockmarks, surface tears greater than 1/4" depth and 1/4" width, check cracking, segregation or rock pockets, pumped areas, aggregate drag marks, areas loosened by construction operations, and areas where fines have been washed away during the curing process. When the surface smoothness is outside the specified surface tolerance the Contractor shall grind the surface to within the tolerance by use of self-propelled diamond grinders, provided grinding does not create deviation from other tolerances. Milling of the final surface is not acceptable, unless it is for the removal of the pavement.

**(2) Thickness.** The thickness of the RCC pavement shall not deviate from that shown on the Plans or as directed by the City by more than minus 1/2 inch. Pavement of insufficient

---



thickness shall be removed and replaced the full depth. No skin patches shall be accepted. Payment adjustment factors for thickness deficiencies are listed in Subarticle 351.23(3) "Payment Adjustment."

(3) When surface irregularities are outside the tolerances cited above, the contractor shall grind the surface to meet the tolerance at no additional cost to the City.

### **351.16. CURING.**

(1) **General.** Immediately after final rolling and compaction testing, the surface of the RCC pavement shall be kept continuously moist for 7 days or until an approved curing method is applied.

(2) **Water Cure.** Water cure shall be applied by water trucks equipped with misting spray nozzles, soaking hoses, sprinkler system or other means that will assure a uniform moist condition to the RCC. Application of this moisture must be done in a manner that will not wash out or damage the surface of the finished RCC pavement.

(3) **Curing Compound.** A membrane white pigmented curing compound conforming to ASTM C 309 or D 977 shall be applied no later than one hour after completion of finishing operations on the surface and edges of RCC in two separate applications at right angles to one another, with the first coat being allowed to become tacky before the second is applied. This application must ensure a uniform void-free membrane across the entire RCC pavement. If the application rate is found to be excessive or insufficient, the Contractor, with approval of the City, can decrease or increase the application rate to a level which achieves a void-free surface without ponding. The curing compound shall be maintained and protected for a minimum of 7 days.

(4) **Sheet Materials.** Curing paper, plastic and other sheet materials for curing RCC shall conform to ASTM C 171. The coverings shall be held securely in place and weighted to maintain a close contact with the RCC surface throughout the entire curing period. The edges of adjoining sheets shall be overlapped and held in place with sand bags, planking, pressure adhesive tape, or other City-approved method. Sheet material shall be provided and kept readily available to cover pavement less than 12 hours old if rainfall occurs.

### **351.17. PROTECTION OF PAVEMENT AND OPENING TO TRAFFIC.**

(1) **Traffic.** The Contractor shall protect the RCC from vehicular traffic during the curing period. Completed portions of the RCC pavement may be opened to automotive and light truck traffic after the RCC has attained a flexural strength of 450 psi or a compressive strength of 2,800 psi or as approved by the City. The completed area shall not be opened earlier than 24 hours. This period of closure to all traffic may be extended if in the opinion of the City, weather or other conditions may require an extension of the time of protection. If the ambient air temperature falls below 40°F, the length of time the ambient temperature is below 40°F shall be added to the minimum time of opening. Suitable barriers shall be placed and

---

maintained to protect finished RCC from equipment or vehicles. At the end of this period, the pavement may be opened for use by vehicles of the Contractor provided the gross weight (vehicle plus load) of such vehicles and/or equipment does not exceed 14,000 pounds. Such opening, however, shall in no manner relieve the Contractor from his responsibility for overall safety of the traffic and the general public. On those sections of the pavement to be opened to traffic, all joints shall first be sealed and the pavement cleaned.

**(2) Maintenance.** The Contractor shall maintain the RCC pavement in good condition until all work is completed and accepted. Such maintenance shall be performed by the Contractor at his own expense.

#### **351.18. QUALITY CONTROL.**

**(1)** The contractor shall provide any and all quality control (QC) testing that deems necessary to properly control the quality, consistency, and uniformity of the RCC produced and placed. No minimum numbers of quality control tests are required. The contractor shall make available to the City any information and data collected by quality control tests.

**(2)** The contractor shall be responsible for developing the RCC mix specified herein.

**(3)** Contractor shall allow the City to inspect the mixing plant for verification of weights or proportions and character of material in the preparation of RCC mix.

**(4)** Inspection or testing by the City will not augment or replace Contractor quality control nor relieve him of his contractual responsibility.

#### **351.19. QUALITY ASSURANCE / ACCEPTANCE CRITERIA.**

**(1)** The Contractor shall provide for the inspection and sampling of the RCC.

**(2)** The Contractor shall have major equipment items such as batch plant, rollers, pavers, trucks and similar items, available for inspection by the City. Deficiencies in quality, quantity, or types of equipment shall be corrected prior to starting work. This inspection and approval shall in no way relieve the Contractor from the obligation to provide the equipment required to perform the work.

**(3)** The optimum moisture density relationship of the RCC shall be determined in accordance with ASTM D 558 using the approved design mix. The cylindrical test specimens shall be molded using ASTM C 1435/C 1435M -05. The moisture content of the material placed shall be between +/- 2.0 percent of optimum. Determination of the degree of compaction in the field will be based on the maximum wet density as determined by ASTM D558 as modified by this Subarticle 351.2(1)(k).

**(4)** Provide and operate equipment capable of extracting a small (approximately 1 inch diameter or greater) core to determine the pavement thickness. Extract samples in the presence of the Engineer or Engineer's representative unless otherwise directed.

---

Repair the core holes using a packaged quick set repair mortar such as SikaQuick 1000 or approved equivalent or a Class 4000 or better ready mix concrete. Rod and neatly strike off the repair material.

Measure the thickness in the travel lanes of the completed RCC at staggered intervals not to exceed 500 feet in length for two-lane roads. Measure the core to the nearest 0.10 inch at three different, evenly spaced locations and record the average. Where the RCC is deficient in depth by more than 0.75 inch, take an additional core within 3 feet of the original core. If the average of the 2 cores is in excess of 0.75 inches, correct the area by removal and replacement. The extent of the area of correction will be determined by the Engineer and may be further defined by their direction for additional cores. The Engineer may allow areas in excess of 0.75 inches deficient to remain in place with no pay.

Where the thickness of a core shows to be deficient by more than 0.24 inches but 0.75 inches or less, a pay adjustment will be made in accordance with Section 351.23. The area for pay adjustment will be determined by the Engineer and may be further defined by their direction for additional cores.

(5) Each day's production shall be tested for field and joint density. Each day will be divided into 4 sublots. To evaluate field density for acceptance, 4 nuclear density gauge tests to determine wet density will be performed at random locations on the interior of the paving lane immediately behind final rolling operations, and 4 similar tests will be performed at random locations on fresh joints and 4 at random locations on cold joints, if such exist, for each subplot, and each set will be averaged for the subplot. Field density for each subplot will be compared with the target density.

For cold joints, it is expected that the primary (originally placed) lane will be placed with one subplot and the secondary lane with another subplot. The cold joint evaluation for each of these sublots will be based on 4 density tests made for each subplot being evaluated on that subplot's side of the cold joint. These tests will be between 3 and 5 inches from the installed joint line on the originally placed side of the cold joint and between 3 and 5 inches from the actual joint on the secondary placement side.

#### **351.20. REPAIR OF ROLLER COMPACTED CONCRETE PAVEMENT.**

(1) All repairs will be subject to City's approval.

(2) Filling low areas of hardened RCC with fresh RCC is not permitted.

(3) Repairs may be started after seven days. The RCC shall be removed by saw cutting full-depth before removal. Replace the RCC utilizing Cast-in-Place concrete, which meets the requirements of Item 303 "Portland Cement Concrete Pavement." The new concrete shall be doweled into the existing RCC utilizing epoxy-coated, 1-1/2 -inch dowel bars, 18" long at 18-inches on center.

(4) RCC removal and replacement:

(a) Remove and replace the RCC if surface cracks, wider than 1/4 inch occur after

---

seven days.

**(b)** Remove and replace the RCC if deficient in thickness by more than 0.5 inches of the specified total thickness. A pay adjustment will be used for pavement thickness deficiencies of 0.25 inch up to 0.5 inch as specified in Subarticle 351.23(3) "Pay Adjustment."

**(c)** Remove and replace the RCC if the 7 day flexural strength is under 90% of specified strength or does not meet the specified 28 day flexural strength as specified in Subarticle 351.10(3) "Flexural Strength."

**(d)** Grind Surface as necessary to achieve tolerances as specified in Subarticle 351.16(1) "Surface Smoothness."

**(e)** Remove and replace the RCC if the density, in accordance with laboratory test ASTM D 558, is less than specified in Subarticle 351.14(7) "Density Requirements."

### **351.21. MEASUREMENT.**

**(1) Measurement.** The work described in this Item will be measured in square yards of completed and accepted RCC pavement at the thickness indicated as determined by the specified lines, grades and cross sections shown on the Plans. When detailed for the installation of "Thickened Edge", pavement will be measured at the thickness of the adjacent thinner section of pavement.

### **351.22. PAYMENT.**

**(1) Payment.** The work performed and materials furnished in accordance with this Item and measured as provided under Subarticle 351.22(1) "Measurement" will be paid for at the unit price bid for this Item. This price shall be full compensation for placement, compaction, curing, sawing concrete, cleaning and sealing concrete joints, furnishing and placing all expansion joints, sawed joints, construction joints, joint sealants, other type required joints, or load bearing devices; and for all manipulation, labor, equipment, appliances, tools, and incidentals necessary to complete the work. No direct payment will be made for any of these items or the pavement construction.

**(2) Test Section.** If a test section is constructed and meets all the requirements of this Item, the work performed and materials furnished in accordance with this Item and measured as provided under Subarticle 351.22(1) "Measurement" will be paid for at the unit price bid for this Item. This price shall be full compensation for placement, compaction, curing, sawing concrete, cleaning and sealing concrete joints, furnishing and placing all expansion joints, sawed joints, construction joints, joint sealants, other type required joints, or load bearing devices; and for all manipulation, labor, equipment, appliances, tools, and incidentals necessary to complete the work. No direct payment will be made for any of these items or the pavement construction.

**(3) Payment Adjustment.** A pay adjustment will be considered for RCC pavement that

---

does not fully meet the specification for thickness. These adjustments will be applied to each area of proposed pavement. Limits of area subject to pay factor to be determined by the City. Contractor will be responsible for taking additional samples to assist the City in determination of limits of deficient area. If a core is found to be deficient in thickness, two additional cores shall be taken at the contractor's expense to determine the extent of the deficiency. Limits of deficient areas are to be determined by the City.

**Pay Adjustment Table for Thickness**

Inches	Percent Payment
0.00 to 0.24	100
0.25 to 0.49	90
0.50 to 0.74	70
0.75 or greater	Remove and replace



Left Voicemail / Did Not Return Call

**Questions to ask References**  
**EAST FORK ABOVE LAVON SITE 4**  
**COMPANY/OWNER: CITY OF THE COLONY**  
**PROJECT: STREAM BANK STABILIZATION**  
**POINT OF CONTACT: ROBERT KOTASEK (972-624-3148)**

Type of projects has the contractor worked on for them?

Has the work consisted of any earthwork and Concrete/RCC?

How were they with dealing with modifications?

Are there any problems with the contractors or workers?

Do they keep up progress of the work according to the time of contract?

Have they been capable of doing the work as designed?

Are the contractors & operators knowledgeable of the work they are doing?

Would you recommend them for a project such as this?

Afterwards, thank them for taking the time to sit down and talking to you, and wish them a great day.

DR5093 NRCS Lake 4 Dam Rehab BID TABULATION Bid 18-33CC				Engineer's Estimate		DDM		ACP		Beavers		Austin Filter Systems		DCI		AVERAGE	
Item No.	Work or Material	Quantity	Unit	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount	Unit Price	Amount
1	Clearing and Grubbing	1	Lump Sum	\$ 30,000.00	\$ 30,000.00	\$ 120,000.00	\$ 120,000.00	\$ 140,000.00	\$ 140,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00	\$ 300,000.00	\$ 300,000.00	\$ 172,000.00	\$ 172,000.00
2	Structure Removal, Existing Fences	3,844	Lin. Ft.	\$ 3.00	\$ 11,532.00	\$ 2.50	\$ 9,610.00	\$ 3.00	\$ 11,532.00	\$ 7.81	\$ 30,021.64	\$ 1.00	\$ 3,844.00	\$ 4.00	\$ 15,376.00	\$ 3.66	\$ 14,076.73
3	Structure Removal, Existing Principal Spillway	1	Lump Sum	\$ 25,000.00	\$ 25,000.00	\$ 9,000.00	\$ 9,000.00	\$ 9,000.00	\$ 9,000.00	\$ 75,000.00	\$ 75,000.00	\$ 25,000.00	\$ 25,000.00	\$ 33,000.00	\$ 33,000.00	\$ 30,200.00	\$ 30,200.00
4	Pollution Control	1	Lump Sum	\$ 100,000.00	\$ 100,000.00	\$ 40,000.00	\$ 40,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 35,000.00	\$ 35,000.00	\$ 27,000.00	\$ 27,000.00
5	Silt Fence	1,946	Lin. Ft.	\$ 5.00	\$ 9,730.00	\$ 7.00	\$ 13,622.00	\$ 3.00	\$ 5,838.00	\$ 20.00	\$ 38,920.00	\$ 3.00	\$ 5,838.00	\$ 5.00	\$ 9,730.00	\$ 7.60	\$ 14,789.60
6	Vegetation, Sprigging	14.0	Acre	\$ 3,000.00	\$ 42,000.00	\$ 4,200.00	\$ 58,800.00	\$ 2,700.00	\$ 37,800.00	\$ 4,500.00	\$ 63,000.00	\$ 4,800.00	\$ 67,200.00	\$ 3,000.00	\$ 42,000.00	\$ 3,840.00	\$ 53,760.00
7	Irrigation System	1	Lump Sum	\$ 25,000.00	\$ 25,000.00	\$ 65,000.00	\$ 65,000.00	\$ 60,000.00	\$ 60,000.00	\$ 50,000.00	\$ 50,000.00	\$ 100,000.00	\$ 100,000.00	\$ 45,000.00	\$ 45,000.00	\$ 64,000.00	\$ 64,000.00
8	Irrigation Water	3,331	1,000 Gal	\$ 10.00	\$ 33,310.00	\$ 6.50	\$ 21,651.50	\$ 7.00	\$ 23,317.00	\$ 10.00	\$ 33,310.00	\$ 10.00	\$ 33,310.00	\$ 5.00	\$ 16,655.00	\$ 7.70	\$ 25,648.70
9	Construction Surveys	1	Lump Sum	\$ 100,000.00	\$ 100,000.00	\$ 70,000.00	\$ 70,000.00	\$ 39,000.00	\$ 39,000.00	\$ 70,000.00	\$ 70,000.00	\$ 85,000.00	\$ 85,000.00	\$ 168,000.00	\$ 168,000.00	\$ 86,400.00	\$ 86,400.00
10	Mobilization & Demobilization	1	Lump Sum	\$ 300,000.00	\$ 300,000.00	\$ 80,000.00	\$ 80,000.00	\$ 70,000.00	\$ 70,000.00	\$ 300,000.00	\$ 300,000.00	\$ 300,000.00	\$ 300,000.00	\$ 700,000.00	\$ 700,000.00	\$ 290,000.00	\$ 290,000.00
11	Removal of Water	1	Lump Sum	\$ 250,000.00	\$ 250,000.00	\$ 55,000.00	\$ 55,000.00	\$ 40,000.00	\$ 40,000.00	\$ 200,000.00	\$ 200,000.00	\$ 350,000.00	\$ 350,000.00	\$ 186,000.00	\$ 186,000.00	\$ 166,200.00	\$ 166,200.00
12	Excavation, Common	67,755	Cu. Yd.	\$ 5.00	\$ 338,775.00	\$ 4.00	\$ 271,020.00	\$ 8.00	\$ 542,040.00	\$ 6.00	\$ 406,530.00	\$ 8.00	\$ 542,040.00	\$ 9.00	\$ 609,795.00	\$ 7.00	\$ 474,285.00
13	Earthfill, Standard	45,498	Cu. Yd.	\$ 6.00	\$ 272,988.00	\$ 3.20	\$ 145,593.60	\$ 8.00	\$ 363,984.00	\$ 7.05	\$ 320,760.90	\$ 12.00	\$ 545,976.00	\$ 10.00	\$ 454,980.00	\$ 8.05	\$ 366,258.90
14	Earthfill, Beneath RCC	17,730	Cu. Yd.	\$ 8.00	\$ 141,840.00	\$ 4.50	\$ 79,785.00	\$ 8.00	\$ 141,840.00	\$ 8.00	\$ 141,840.00	\$ 12.00	\$ 212,760.00	\$ 11.00	\$ 195,030.00	\$ 8.70	\$ 154,251.00
15	Drainfill	3,698	Cu. Yd.	\$ 50.00	\$ 184,900.00	\$ 69.00	\$ 255,162.00	\$ 85.00	\$ 314,330.00	\$ 70.00	\$ 258,860.00	\$ 93.00	\$ 343,914.00	\$ 60.00	\$ 221,880.00	\$ 75.40	\$ 278,829.20
16	Topsoiling, Embankment	23,422	Sq. Yd.	\$ 2.50	\$ 58,555.00	\$ 1.50	\$ 35,133.00	\$ 6.00	\$ 140,532.00	\$ 2.00	\$ 46,844.00	\$ 4.00	\$ 93,688.00	\$ 8.50	\$ 199,087.00	\$ 4.40	\$ 103,056.80
17	Asphalt	600	Lin. Ft.	\$ 5.00	\$ 3,000.00	\$ 80.00	\$ 48,000.00	\$ 15.00	\$ 9,000.00	\$ 15.00	\$ 9,000.00	\$ 24.00	\$ 14,400.00	\$ 22.00	\$ 13,200.00	\$ 31.20	\$ 18,720.00
18	Concrete, Structural	45.0	Cu. Yd.	\$ 1,200.00	\$ 54,000.00	\$ 1,400.00	\$ 63,000.00	\$ 2,000.00	\$ 90,000.00	\$ 2,400.00	\$ 108,000.00	\$ 2,000.00	\$ 90,000.00	\$ 2,300.00	\$ 103,500.00	\$ 2,020.00	\$ 90,900.00
19	Concrete, Pipe Cradle	42.0	Cu. Yd.	\$ 750.00	\$ 31,500.00	\$ 400.00	\$ 16,800.00	\$ 800.00	\$ 33,600.00	\$ 1,500.00	\$ 63,000.00	\$ 980.00	\$ 41,160.00	\$ 1,700.00	\$ 71,400.00	\$ 1,076.00	\$ 45,192.00
20	Reinforcing Steel	7,959	Pounds	\$ 1.25	\$ 9,948.75	\$ 1.50	\$ 11,938.50	\$ 2.00	\$ 15,918.00	\$ 3.25	\$ 25,866.75	\$ 2.00	\$ 15,918.00	\$ 2.00	\$ 15,918.00	\$ 2.15	\$ 17,111.85
21	Water Compacted Concrete	11,110	Cu. Yd.	\$ 163.00	\$ 1,811,130.00	\$ 55.00	\$ 611,105.00	\$ 198.00	\$ 2,204,380.00	\$ 250.00	\$ 2,777,500.00	\$ 169.00	\$ 1,877,590.00	\$ 270.00	\$ 2,998,700.00	\$ 182.00	\$ 2,022,020.00
22	Gravelly Materials	1,575	Ton	\$ 90.00	\$ 141,750.00	\$ 1,159.00	\$ 1,825,425.00	\$ 150.00	\$ 236,250.00	\$ 160.00	\$ 252,000.00	\$ 194.00	\$ 306,500.00	\$ 169.00	\$ 266,175.00	\$ 366.40	\$ 577,080.00
23	Concrete Pressure Pipe, 30" C-301	210	Lin. Ft.	\$ 1,000.00	\$ 210,000.00	\$ 770.00	\$ 161,700.00	\$ 1,700.00	\$ 357,000.00	\$ 669.00	\$ 140,490.00	\$ 959.00	\$ 201,390.00	\$ 383.00	\$ 80,430.00	\$ 896.20	\$ 188,202.00
24	Pipe, PVC, Plastic, 6" I.D.	3,103	Lin. Ft.	\$ 60.00	\$ 186,180.00	\$ 18.50	\$ 57,405.50	\$ 20.00	\$ 62,060.00	\$ 28.00	\$ 86,884.00	\$ 50.00	\$ 155,150.00	\$ 37.00	\$ 114,811.00	\$ 30.70	\$ 95,262.10
25	Rock Riprap	7,647	Ton	\$ 75.00	\$ 573,525.00	\$ 60.00	\$ 458,820.00	\$ 62.00	\$ 474,114.00	\$ 95.00	\$ 726,465.00	\$ 89.00	\$ 680,583.00	\$ 52.00	\$ 397,644.00	\$ 71.60	\$ 547,525.20
26	Slide Gate	1	Lump Sum	\$ 6,000.00	\$ 6,000.00	\$ 20,000.00	\$ 20,000.00	\$ 15,000.00	\$ 15,000.00	\$ 18,000.00	\$ 18,000.00	\$ 15,000.00	\$ 15,000.00	\$ 60,000.00	\$ 60,000.00	\$ 25,600.00	\$ 25,600.00
27	Trash Rack, Manhole, and Cleanout Covers	1	Lump Sum	\$ 10,000.00	\$ 10,000.00	\$ 15,000.00	\$ 15,000.00	\$ 25,000.00	\$ 25,000.00	\$ 24,000.00	\$ 24,000.00	\$ 20,000.00	\$ 20,000.00	\$ 45,000.00	\$ 45,000.00	\$ 25,800.00	\$ 25,800.00
28	Ornamental Fence	570	Lin. Ft.	\$ 85.00	\$ 48,450.00	\$ 73.00	\$ 41,610.00	\$ 130.00	\$ 74,100.00	\$ 97.50	\$ 55,575.00	\$ 65.00	\$ 37,050.00	\$ 118.00	\$ 67,260.00	\$ 96.70	\$ 55,119.00
29	Fence, Barbed Wire	4,305	Lin. Ft.	\$ 5.00	\$ 21,525.00	\$ 15.00	\$ 64,575.00	\$ 11.00	\$ 47,355.00	\$ 10.00	\$ 43,050.00	\$ 16.00	\$ 68,880.00	\$ 11.00	\$ 47,355.00	\$ 12.60	\$ 54,243.00
30	Contractor Quality Control	1	Lump Sum	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	\$ 290,000.00	\$ 290,000.00	\$ 150,000.00	\$ 150,000.00	\$ 400,000.00	\$ 400,000.00	\$ 370,000.00	\$ 370,000.00	\$ 282,000.00	\$ 282,000.00
31	Geotextile	9,537	Sq. Yd.	\$ 5.00	\$ 47,685.00	\$ 1.80	\$ 17,166.60	\$ 2.50	\$ 23,842.50	\$ 7.00	\$ 66,759.00	\$ 7.00	\$ 66,759.00	\$ 4.00	\$ 38,148.00	\$ 4.46	\$ 42,535.02
32	Conduit Abandonment	1	Lump Sum	\$ 10,000.00	\$ 10,000.00	\$ 7,000.00	\$ 7,000.00	\$ 7,000.00	\$ 7,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 8,000.00	\$ 8,000.00	\$ 12,400.00	\$ 12,400.00
33	Safety Fence	3,532	Lin. Ft.	\$ 5.00	\$ 17,660.00	\$ 3.00	\$ 10,596.00	\$ 4.00	\$ 14,128.00	\$ 7.00	\$ 24,724.00	\$ 7.00	\$ 24,724.00	\$ 7.50	\$ 26,490.00	\$ 5.70	\$ 20,132.40
34	French Safety	1	Lump Sum	\$ 50,000.00	\$ 50,000.00	\$ 1,400.00	\$ 1,400.00	\$ 10,000.00	\$ 10,000.00	\$ 15,000.00	\$ 15,000.00	\$ 10,000.00	\$ 10,000.00	\$ 27,000.00	\$ 27,000.00	\$ 12,680.00	\$ 12,680.00
TOTAL =				\$ 5,378,003.75	TOTAL =	\$ 4,960,863.70	TOTAL =	\$ 5,587,840.50	TOTAL =	\$ 6,811,400.29	TOTAL =	\$ 6,922,724.00	TOTAL =	\$ 7,983,564.00	TOTAL =	\$ 6,453,278.50	

## **Sledge, Brannon - NRCS, Temple, TX**

---

**From:** Daniel Still <dstill@mckinneytexas.org>  
**Sent:** Friday, May 18, 2018 4:25 PM  
**To:** Sledge, Brannon - NRCS, Temple, TX  
**Cc:** Kyle Odom  
**Subject:** RE: DR5093 Bid Tabulation  
**Attachments:** 2018-05-18 DR5093 NCTCOG Spec 102.12.pdf

Brannon,

This morning I spoke with Melanie Rowan, Project Manager at DDM Construction, about the project and some of the items in their bid. Also on the phone were Jae Cha (Chief Estimator), Zack Markwardt (VP), and David Markwardt (CEO). Here are my notes from the conversation:

Regarding item 10 Mobilization & Demobilization – They are comfortable with the number considering that Valley View, Texas, is relatively close. They based their number on the cost to get equipment to the job site and get setup.

Regarding item 11 Removal of Water – They own a “monster pump” (3,600 gpm) that was obtained for a previous job that they could use to remove water, if needed. They think their number might be lower than other bidders because they have this pump. Even with the pump, they might drain the lake by simply opening the gate valve and letting it drain by gravity.

Regarding items 13 Earthfill, Standard, and 14 Earthfill, Beneath RCC – They are comfortable with the numbers. They said they are not anticipating the need to haul off dirt. Instead they hope to treat it more like a moisture conditioning process where the dirt gets worked in place. I didn’t understand this response.

Regarding item 17 Diversions – Their number might be higher because they may have mistakenly thought this number might also cover diverting water around work areas during construction.

Regarding items 21 Roller Compacted Concrete and 22 Cementitious Materials – Their number for item 21 covers the operation of installing the RCC and their number for 22 covers the materials needed.

Regarding item 24 Pipe, PVC, Plastic, 6” I.D. – They were unsure why the other bid amounts were so high. They think it sounded like a straightforward installation in a shallow trench.

Regarding item 34 Trench Safety – They are good with the number because they are not anticipating the need for a trench box or any structural shoring.

Also, our process to skip over the low bidder is referenced in part III Qualification of Bidders on page 4 of Section I. That section references Special Condition 09 DISQUALIFICATION OF BIDDERS on page 7 of Section III and it references COG Spec 102.12 (see attached). We have done it on a handful of occasions in recent years because references did not check out or because we believed the low bidder did not meet the minimum qualifications to do the work. Also, page 4 of Section I defines the “Successful Bidder” as the “lowest, qualified, responsible Bidder to whom Owner (on the basis of Owner’s evaluation as hereinafter provided) makes an award.” Also, page 14 of Section I states that the contractor must demonstrate “a minimum of three years experience. The information provided to the City on this form will be used, in part at least, to determine whether the perceived low bidder is the responsible low bidder for purposes of this Project.”

Please let me know if you have questions. Thank you.



Danny Still, PE, CFM  
Drainage Engineer  
City of McKinney  
972-547-7631  
[dstill@mckinneytexas.org](mailto:dstill@mckinneytexas.org)

Please tell us how we're doing by completing a brief survey. To do so, please click on this link or cut and paste it into your web browser: <https://www.surveymonkey.com/r/EngCustomerService>

**From:** Sledge, Brannon - NRCS, Temple, TX [mailto:Brannon.Sledge@tx.usda.gov]  
**Sent:** Thursday, May 17, 2018 4:12 PM  
**To:** Daniel Still <dstill@mckinneytexas.org>  
**Cc:** Kyle Odom <kodom@mckinneytexas.org>  
**Subject:** RE: DR5093 Bid Tabulation

Danny,

I have reviewed the long abstract that you sent to me last week. I'm attached the reviewed sheet by me.

- Green – looks okay
- Orange – a little concern
- Red – caught my attention.

See attachment.

Thanks,

Brannon Sledge, EIT  
Government Representative

**From:** Daniel Still [mailto:dstill@mckinneytexas.org]  
**Sent:** Thursday, May 10, 2018 5:17 PM  
**To:** Sledge, Brannon - NRCS, Temple, TX <Brannon.Sledge@tx.usda.gov>  
**Cc:** Kyle Odom <kodom@mckinneytexas.org>  
**Subject:** DR5093 Bid Tabulation

Brannon,

See attached bid tabulation spreadsheet. There was only one error in the bids. The total bid amount for Beavers Contracting was listed as \$6,811,520.29 in their bid. However, their actual total bid amount is \$6,811,400.29 after adding up all their individual bid items.

Also, I must have mistakenly rounded the quantities in the bid book to whole numbers for bid items 6, 18, and 19 creating a net change of +\$200 compared to the original NRCS quantities. I think we have to go with the quantities as shown in the bid book. Please let me know if that's a problem.

Also, the highlighting in the spreadsheet is simply a way to compare bid items that were a certain percentage higher or lower than either the engineer's estimate or the average bid. You can change the percentages by the numbers in the top right.

Please let me know if you have questions. Thanks.

**Danny Still, PE, CFM**  
Drainage Engineer  
City of McKinney  
972-547-7631  
[dstill@mckinneytexas.org](mailto:dstill@mckinneytexas.org)

*Please tell us how we're doing by completing a brief survey. To do so, please click on this link or cut and paste it into your web browser: <https://www.surveymonkey.com/r/EngCustomerService>*

The material in this e-mail is intended only for the use of the individual to whom it is addressed and may contain information that is confidential, privileged, and exempt from disclosure under applicable law. If you are not the intended recipient, be advised that the unauthorized review, use, disclosure, duplication, distribution, or the taking of any action in reliance on this information is strictly prohibited. If you have received this e-mail in error, please notify the sender by return email and destroy all electronic and paper copies of the original message and any attachments immediately. Please note that neither City of McKinney nor the sender accepts any responsibility for viruses and it is your responsibility to scan attachments (if any). Thank You.

This electronic message contains information generated by the USDA solely for the intended recipients. Any unauthorized interception of this message or the use or disclosure of the information it contains may violate the law and subject the violator to civil or criminal penalties. If you believe you have received this message in error, please notify the sender and delete the email immediately.

The material in this e-mail is intended only for the use of the individual to whom it is addressed and may contain information that is confidential, privileged, and exempt from disclosure under applicable law. If you are not the intended recipient, be advised that the unauthorized review, use, disclosure, duplication, distribution, or the taking of any action in reliance on this information is strictly prohibited. If you have received this e-mail in error, please notify the sender by return email and destroy all electronic and paper copies of the original message and any attachments immediately. Please note that neither City of McKinney nor the sender accepts any responsibility for viruses and it is your responsibility to scan attachments (if any). Thank You.