



3010 Gaylord Parkway
Suite 190
Frisco, TX 75034
TEL 972.377.7480
FAX 972.377.8380
www.GarverUSA.com

January 18, 2018

**Addendum No. 1
To Plans, Contract Documents and Specifications**

**Addison Airport – Wing Aviation and Claire Chennault Street Driveway Reconstruction
Bid No. 18-22**

This addendum shall be a part of the Plans, Contract Documents and Specifications to the same extent as though it were originally included therein, and it shall supersede anything contained in the Plans, Contract Documents and Specifications with which it might conflict. Acknowledgement of receipt of this Addendum must be provided on the proposal form in the Contract Documents.

Modifications to Front End Contract Documents:

1. **Replace Section PF-1 Proposal Form in its entirety with the Proposal Form (Addendum No. 1) attached. Major Changes Include:**
 - a. Replaced embankment in place pay item with excavation pay item.
2. **Replace Bid Schedule Bid 18-22.xls in its entirety with Bid Schedule Bid 18-22 - Addendum No. 1.xls. Major Changes Include:**
 - a. Replaced embankment in place pay item with excavation pay item.
3. **Insert Pre-Bid Meeting Minutes, and Sign-in Sheet before Technical Specifications Table of Contents.**
4. **Replace Section TS Technical Specifications Table of Contents in its entirety with the Technical Specifications Table of Contents (Addendum No. 1) attached. Major Changes Include:**
 - a. Inserted Item Tx-110 Excavation.

Modifications to Technical Specifications:

1. **Replace SS-220 Ditch Grading in its entirety with the SS-220 Ditch Grading (Addendum No. 1) attached. Major Changes Include:**
 - a. Referenced specification Tx-110 Excavation regarding construction methods.
2. **Insert TX-110 Excavation (Addendum No. 1) in its entirety before specification TX-132 Embankment:**
 - a. Added Excavation pay item and construction methods for excavation earthwork.
3. **Replace TX-132 Embankment in its entirety with the TX-132 Embankment (Addendum No. 1) attached. Major Changes Include:**
 - a. Removed Embankment In Place pay item (excavation pay item included under TX-110).

Modifications to the Plans:

1. **Replace plan sheet G-101 Cover Sheet in its entirety with the G-101 Cover Sheet (Addendum No. 1) attached. Major Changes Include:**
 - a. Revised Earthwork Table to correct the names of the work areas in which the earthwork quantities are derived from.

January 18, 2018
Addendum No.1

2. **Replace plan sheet G-201 General Project Layout in its entirety with the G-201 General Project Layout (Addendum No. 1) attached. Major Changes Include:**
 - a. Removed the items of work descriptions indicating markings and marking removal. Marking and marking removal are not in the scope of this project.

By: Colin Bible, PE

Attachments:

Proposal Form (Addendum No. 1)
Pre-Bid Meeting Minutes
Technical Specifications Table of Contents (Addendum No. 1)
SS-220 Ditch Grading (Addendum No. 1)
TX-110 Excavation (Addendum No. 1)
TX-132 Embankment (Addendum No. 1)
G-101 Cover Sheet (Addendum No. 1)
G-201 General Project Layout (Addendum No. 1)

Separate File:

Bid Schedule Bid 18-22 - Addendum No. 1.xls



Digitally Signed 01/18/2018

SECTION PF-1

PROPOSAL FORM

PROPOSAL FORM

_____, 2018

TO: The Honorable Mayor and Town Council
Town of Addison, Texas

Gentlemen:

The undersigned bidder, having examined the plans, specifications and contract documents, and the location of the proposed work, and being fully advised as to the extent and character of the work, proposes to furnish all equipment and to perform labor and work necessary for completion of the work described by and in accordance with the Plans, Specifications and Contract for the following prices, to wit:

Signed by: _____

ACKNOWLEDGMENT OF ADDENDA:

The Bidder acknowledges receipt of the following addenda:

Addendum No. 1 _____

Addendum No. 2 _____

Addendum No. 3 _____

The following pages contain all bid items for:

BID SCHEDULE – ADDISON AIRPORT
WING AVIATION APRON CONNECTOR AND CLAIRE CHENNAULT STREET DRIVEWAY
RECONSTRUCTION
BID NUMBER 18-22

**ADDISON AIRPORT
WING AVIATION APRON CONNECTOR CONSTRUCTION (BASE BID 1) & CLAIRE CHENNAULT STREET DRIVEWAY RECONSTRUCTION (BASE BID 2)**

**BID NO. 18-22
UNIT PRICES**

SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
BASE BID 1 (WING AVIATION APRON CONNECTOR CONSTRUCTION)					
SS-120-3.1	SITE PREPARATION	L.S.	100%		
UNIT PRICE IN WORDS:					
SS-212-5.1	TRIAXIAL GEOGRID	S.Y.	743		
UNIT PRICE IN WORDS:					
SS-220-5.1	DITCH GRADING	L.F.	458		
UNIT PRICE IN WORDS:					
D-751-5.2b	4'X7' SINGLE GRATE INLET (COMPLETE)	EACH	4		
UNIT PRICE IN WORDS:					
D-751-5.2c	4'X7' JUNCTION BOX (COMPLETETE)	EACH	2		
UNIT PRICE IN WORDS:					
TX-104-5.1	CONCRETE PAVEMENT REMOVAL	S.Y.	220		
UNIT PRICE IN WORDS:					
TX-110-4.1	EXCAVATION	C.Y.	142		
UNIT PRICE IN WORDS:					
TX-162-5.1	BLOCK SODDING	S.Y.	3,151		
UNIT PRICE IN WORDS:					
TX-247-6.1	FLEXIBLE BASE (COMPLETE IN PLACE) (TYPE D GRADE 1) (6")	S.Y.	743		
UNIT PRICE IN WORDS:					
TX-360-5.1	CONCRETE PAVEMENT (10" THICKNESS)	S.Y.	644		
UNIT PRICE IN WORDS:					
TX-464-5.1	REINFORCED CONCRETE PIPE, 18", CLASS III	L.F.	1,474		
UNIT PRICE IN WORDS:					
TX-496-5.1	PIPE REMOVAL (LESS THAN 30" DIAMETER)	L.F.	228		
UNIT PRICE IN WORDS:					
TX-496-5.2	SAFETY END TREATMENT REMOVAL (LESS THAN 30" DIAMETER)	EACH	3		
UNIT PRICE IN WORDS:					
TX-506-5.1	TEMPORARY EROSION CONTROL	L.S.	100%		
UNIT PRICE IN WORDS:					
SUBTOTAL (BASE BID 1) =					

SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT

BASE BID 2 (CLAIRE CHENNAULT STREET DRIVEWAY RECONSTRUCTION)

SS-120-3.1	SITE PREPARATION	L.S.	100%		
UNIT PRICE IN WORDS:					
SS-212-5.1	TRIAXIAL GEOGRID	S.Y.	189		
UNIT PRICE IN WORDS:					
SS-302-3.1	COMMUNICATION CABLE RELOCATION	ALLOW	100%	\$7,500.00	\$7,500.00
UNIT PRICE IN WORDS:					
D-751-5.1a	TYPE "A" STORM SEWER MANHOLE (COMPLETE)	EACH	1		
UNIT PRICE IN WORDS:					
TX-104-5.1	CONCRETE PAVEMENT REMOVAL	S.Y.	158		
UNIT PRICE IN WORDS:					
TX-162-5.1	BLOCK SODDING	S.Y.	36		
UNIT PRICE IN WORDS:					
TX-247-6.1	FLEXIBLE BASE (COMPLETE IN PLACE) (TYPE D GRADE 1) (6")	S.Y.	189		
UNIT PRICE IN WORDS:					
TX-360-5.1	CONCRETE PAVEMENT (10" THICKNESS)	S.Y.	158		
UNIT PRICE IN WORDS:					
TX-464-5.2	REINFORCED CONCRETE PIPE, 24", CLASS III	L.F.	46		
UNIT PRICE IN WORDS:					
TX-464-5.3	PIPE CONNECTION TO EXISTING INLET	EACH	1		
UNIT PRICE IN WORDS:					
TX-496-5.1	PIPE REMOVAL (LESS THAN 30" DIAMETER)	L.F.	46		
UNIT PRICE IN WORDS:					
SUBTOTAL (BASE BID 2) =					

BID SUMMARY	
SUBTOTAL (BASE BID 1) =	
SUBTOTAL (BASE BID 2) =	
TOTA (BASE BID 1 + BASE BID 2) =	

- NOTES:
1. All items, labor, materials, equipment, facilities, incidentals and work required for construction of the project are to be provided and installed by the Contractor as part of the project and payment for the cost of such shall be included in the price bid for the construction of the project.
 2. Prices must be shown in words and figures for each item listed in the Proposal. In the event of discrepancy, the words shall control.
 3. Materials, which are "tax exempt", are those items which are physically incorporated into the facilities constructed for the Town of Addison, as set forth in the Special Provisions. Materials include, but are not limited to purchased items such as water pipe, sanitary sewer pipe, storm drain pipe, etc.

Services, which are "not tax exempt", are those items which are used by the Contractor but are not physically incorporated into the Town of Addison's facility and/or items which are consumed by construction, as set forth in the Special Provisions. Services include, but are not limited to, items such as supplies, tools, skill and labor, the purchase, rental or lease of equipment, etc.

Name of Person Signing Bid

Signature of Person Signing Bid

Address

Telephone No.

Fax No.

T.I.N. (Tax Identification or Employer's Number)

If BIDDER is:

AN INDIVIDUAL

By _____ (Seal)
(Individual's Name)

doing business as _____

Business address: _____

Phone No. _____

A PARTNERSHIP

By _____ (Seal)
(Firm Name)

(General Partner)

doing business as _____

Business address: _____

Phone No. _____

A CORPORATION

By _____
(Corporation Name)

(State of Incorporation)

By _____
(Name of Person Authorized to Sign)

(Title)

(Corporate Seal)

Attest _____
(Secretary)

Business address: _____

Phone No. _____

A JOINT VENTURE

By _____
(Name)

(Address)

By _____
(Name)

(Address)

(Each joint venture must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)



3010 Gaylord Parkway
Suite 190
Frisco, TX 75034
TEL 972.377.7480
FAX 972.377.8380
www.GarverUSA.com

PRE-BID MEETING MINUTES

To: Attendees
From: Brandon Beville, PE *BB*
RE: Addison Airport
Wing Aviation Apron Connector and Claire Chennault Street Driveway Project
(Bid No. 18-22) – Pre-Bid Meeting

Date: January 18, 2018

On January 11, 2018, a Pre-bid meeting for the Wing Aviation Apron Connector and Claire Chennault Street Driveway Project was held at 2:30 pm in the Addison Airport Conference Room – During the meeting the following items were discussed:

1) Introductions & Roles:

- a) Joel Jenkinson, Airport Manager – Addison Airport
- b) Joe McAnally, Operations Manager – Addison Airport
- c) Wil Newcomer, Purchasing Manager – Town of Addison
- d) Lisa Pyles, Director of Infrastructure – Town of Addison
- e) Jason Shroyer, PE, Assistant Director of Infrastructure – Town of Addison
- f) Brandon Beville, PE, Civil Project Manager – Garver
- g) Colin Bible, PE, Senior Project Manager – Garver

2) Bidding Procedures

- a) Bids proposals will be read at 2:00 pm on Thursday, **February 6, 2018** at the Finance Building, 5350 Belt Line Road, Dallas, Texas 75254.
- b) Instructions to Bidders
 - i) *Both Base bids must be bid on*
- c) Bid Proposal
 - (1) *An excel file of the bid form is available on bidsync.*
- ii) Contract Time:
 - (1) Base Bid: **60 Calendar Days**
- iii) \$750 Liquidated Damages per Calendar Day
- d) Bidder Qualifications
 - i) *Bidder Qualifications must be filled out using the form provided in the bid documents.*

3) Town of Addison Provisions

- a) General Provisions
- b) Special Provisions
 - i) *Note the specifications and insurance requirements in the back of the bid documents*

4) Construction Plans

- a) Base Bid 1 – Wing Aviation Apron and Drainage Improvements
 - i) Safety & Phasing Plan
 - ii) Taxiway Uniform Pipe Installation and Ditch Grading
 - (1) 2-18" RCPs
 - (2) Aircraft Rated Inlets
 - iii) Wing Aviation Taxiway Connector

- (1) 10" PCC (TX-360)
- (2) 6" Flexible Base (TX-247)
- (3) Triaxial Geogrid (SS-212)
- b) Base Bid 2 – Claire Chennault Driveway
 - i) Safety & Phasing Plan
 - ii) Pavement Section
 - (1) 10" PCC (TX-360)
 - (2) 6" Flexible Base (TX-247)
 - (3) Triaxial Geogrid (SS-212)
 - iii) Comm. Cable Relocation
 - iv) Pipe Installation to existing Inlet

5) Technical Specifications

- a) SS-220 – Ditch Grading
 - i) *This item is paid per linear foot.*
- b) SS-302 Utility Allowance
 - (1) *Relocate telephone line as necessary to avoid RCP.*
- c) Tx-247 Flexible Base
 - i) *Type D, Grade 1, 6" Thickness*
- d) Tx-360 Concrete Pavement
 - i) *10" Thickness*
 - ii) *Engineer Tests 28-Day Strength*
- e) *Earthwork*
 - i) *Earthwork to construct the Wing Aviation Taxilane connector is to be paid for under "Excavation".*
 - ii) *Earthwork to construct the ditch along taxilane Uniform will be paid for under ditch grading.*
 - iii) *Earthwork in areas of pavement removal shall be considered subsidiary to pavement removal; including the Claire Chennault Driveway reconstruction (see TX-104).*
 - iv) *A table of earthwork can be found on sheet G-101.*
 - (1) *This table will be adjusted in Addendum No. 1 as the work area titles need to be swapped.*

6) Questions

Attachments: Sign-In Sheet

Pages(incl.): 3

Copy to File: 17081100

Copies to Garver: CMB

L:\2017\17081100 - ADS On-Call\Bidding\Addenda\Work Order No. 9 - Wing Aviation\Seperate Files\Work Order No. 9 - Wing Aviation - Pre-Bid Meeting Minutes\ADS Wing Aviation and Claire Chennault Drive Pre-Bid Meeting Minutes.doc



Addison Airport – Wing Aviation Apron Connector and Claire Chennault Street Driveway Reconstruction
Addison, Texas

Pre-Bid Meeting
January 11, 2018; 2:30 p.m.

SIGN-IN SHEET

Name	Representing	Phone #	Email
ARSENIO MOULDEN	EJ SMITH CONSTRUCTION	469-206-7733	AMOULDEN@EJSMITHIND.COM
Pete Redicino	Wing Aviation	972-467-5521	ppedicino@wingaviation.com
Glenn Nelson	Cima General Contr	214-233-7444	glenn@Cima.build
Edvarado Hernandez	Flow-Line Construction	773-369-5666	Edvarado.Hernandez@Flow-line.construction.com
Seamus Downing	NorthStar Construction	817-244-8885	mike@northstar93.com
Joe McNally	Addison Airport	972-392-4861	joe.mcnally@addisonairport.net
Joel Jenkinson	Addison Airport	972-392-4855	joel.jenkinson@addisonairport.net
Marwan Nuwaquet	Advanced Transol	469 432 4975	Marwan@advancedTransol.com
Michelle Womack	Town of Addison	972-450-7052	mwomack@addisontx.gov
Wil Newcomer	Town of Addison	972-450-7091	wnewcomer@addisontx.gov
Brandon Beville	Garver	972-377-7480	BCBeville@GarverUSA.com
Colin Bible	Garver	972-377-7480	CMBible@GarverUSA.com

SECTION TS

TECHNICAL SPECIFICATIONS

SS-110	Standard Specifications
SS-120	Site Preparation
SS-212	Geogrid
SS-220	Ditch Grading
SS-302	Utility Allowance
D-751	Manholes, Catch Basins, Inlets, and Inspection Holes
TX-104	Removing Concrete
<u>TX-110</u>	<u>Excavation</u>
TX-132	Embankment
TX-162	Sodding for Erosion Control
TX-216	Proof Rolling
TX-247	Flexible Base
TX-360	Concrete Pavement
TX-421	Hydraulic Cement Concrete
TX-464	Reinforced Concrete Pipe
TX-496	Removing Structures
TX-502	Barricades, Signs, and Traffic Handling
TX-506	Temporary Erosion Controls

ITEM SS-220 DITCH GRADING

DESCRIPTION

220-1.1 This item covers placement and compaction of all materials within the limits of the work required to re-grade the site for ditches.

MATERIALS

220-2.1 EMBANKMENT. Embankment used shall meet the requirements of Tx-132. Additional embankment required to complete the project shall be obtained as provided in Tx-132.

CONSTRUCTION METHODS

220-3.1 GENERAL. If it is necessary to interrupt existing surface drainage, sewers or under-drainage, conduits, utilities, or similar underground structures the Contractor shall be responsible for and shall take all necessary precautions to preserve them or provide temporary services. When such facilities are encountered, the Contractor shall notify the Engineer, who shall arrange for their removal if necessary. The Contractor shall, at his/her own expense, satisfactorily repair or pay the cost of all damage to such facilities or structures which may result from any of the Contractor's operations during the period of the contract.

220-3.2 PREPARATION OF EMBANKMENT AREA. Before beginning any embankment, the areas where the embankment is to be made shall be stripped or disked to a minimum depth of four inches. Topsoil obtained from the stripping operations shall be salvaged and stockpiled for later use.

220-3.3 FORMATION OF EMBANKMENTS. Excavation and embankment necessary for this item shall conform to Item Tx-132 "Embankment." *and Item Tx-110 Excavation.* Embankment shall be compacted by small roller or other means approved by the engineer. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Excavation and embankment necessary for this item will not be measured for separate payment, but shall be considered subsidiary to this item.

METHOD OF MEASUREMENT

220-4.1 The quantity of ditch grading to be paid for shall be the number of linear feet placed measured along the ditch centerline, regardless of the transverse width or depth of the grading. There will be no separate measurement of payment for removing and storing the topsoil or compacted embankment or excavation. All costs incidental to placing, compacting, disking, watering, shaping, and other necessary operations for construction of edge grading embankment will be included in the contract price for pavement edge grading.

BASIS OF PAYMENT

220-5.1 For "Ditch Grading" payment shall be made at the contract unit price per linear foot. This price shall be full compensation for excavation, embankment, grading, compacting and furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item SS-220-5.1 Ditch Grading – per linear foot

END OF ITEM SS-220

Page Intentionally Left Blank

Item 110

Excavation



1. DESCRIPTION

Excavate areas as shown on the plans or as directed. Remove materials encountered to the lines, grades, and typical sections shown on the plans and cross-sections.

2. CONSTRUCTION

Accept ownership of unsuitable or excess material and dispose of material in accordance with local, state, and federal regulations at locations outside the right of way.

Maintain drainage in the excavated area to avoid damage to the roadway section. Correct any damage to the subgrade caused by weather at no additional cost to the Department.

Shape slopes to avoid loosening material below or outside the proposed grades. Remove and dispose of slides as directed.

- 2.1. **Rock Cuts.** Excavate to finish subgrade (*or grade as shown in plans*). Manipulate and compact subgrade (*or grade as shown in plans*). in accordance with Section 132.3.4., "Compaction Methods," unless excavation is to clean homogenous rock at finish subgrade elevation (*or grade as shown in plans*). Use approved embankment material compacted in accordance with Section 132.3.4., "Compaction Methods," to replace undercut material at no additional cost if excavation extends below finish subgrade.

- 2.2. **Earth Cuts.** Excavate to finish subgrade. Scarify subgrade to a uniform depth at least 6 in. below finish subgrade elevation in areas where base or pavement structure will be placed on subgrade. Manipulate and compact subgrade in accordance with Section 132.3.4., "Compaction Methods."

Take corrective measures as directed if unsuitable material is encountered below subgrade elevations.

In areas that are not to be paved but where excavation is taking place, the contractor shall adhere to the same construction methods described within this specification. The areas shall be excavated to the top of the proposed grade. If rock is encountered at top of grade, the rock shall be removed to a minimum depth of four inches below grade. Topsoil shall be used to bring the area to grade. There shall be no extra payment for under cutting or topsoil.

- 2.3. **Subgrade Tolerances.** Excavate to within 1/2 in. in cross-section and 1/2 in. in 16 ft. measured longitudinally for turnkey construction. Excavate to within 0.1 ft. in cross-section and 0.1 ft. in 16 ft. measured longitudinally for staged construction.

3. MEASUREMENT

This Item will be measured by the cubic yard in its original position as computed by the method of average end areas.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal ~~unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.~~

The quantity of excavation to be paid for shall be the number of cubic yards measured in its original position. Measurement shall not include the quantity of materials excavated without authorization beyond

Addendum No. 1

normal slope lines, or the quantity of material used for purposes other than those directed.

Measurement of excavation shall be based on plan quantities. These quantities are believed to be correct and shall be utilized for final excavation quantity payment not withstanding any adjustments to the project by written direction of the Engineer. Should the contractor find discrepancies and/or errors, he/she shall bring the discrepancy and/or error to the attention of the Engineer immediately and corrections shall be made to the quantity of excavation to be paid for by change order. It is expressly understood by the contractor that upon disturbance of the existing ground and no notification to the engineer of possible errors, that the contractor accepts as final payment the quantities of excavation as detailed on the plans and laid out in the proposal. No adjustment has been made to the plan quantities for the construction or demolition of existing drainage structures. The Contractor shall make his own determination as to the amount of unsuitable excavated material which may be encountered and the resulting additional borrow material required for the construction of the embankment. There will be no adjustment for additional embankment required to construct the project if the excavated material is deemed unsuitable.

Limits of measurement for excavation in retaining wall areas will be as shown on the plans.

Shrinkage or swelling factors will not be considered in determining the calculated quantities.

4. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Roadway)," "Excavation (Channel),"

"Excavation (Special)," or "Excavation (Roadway and Channel)." This price is full compensation for authorized excavation; drying; undercutting subgrade and reworking or replacing the undercut material in rock cuts; rock removal; hauling; disposal of material not used elsewhere on the project; scarification and compaction; and equipment, labor, materials, tools, and incidentals.

Drying required deeper than 6 in. below subgrade elevation will be paid for in accordance with Article 9.7., "Payment for Extra Work and Force Account Method." Excavation and replacement of unsuitable material below subgrade elevations will be performed and paid for in accordance with the applicable bid items. However, if Item 132, "Embankment," is not included in the Contract, payment for replacement of unsuitable material will be paid for in accordance with Article 9.7., "Payment for Extra Work and Force Account Method."

When a slide not due to the Contractor's negligence or operation occurs, payments for removal and disposal of the slide material will be in accordance with Article 9.7., "Payment for Extra Work and Force Account Method." Excavation in backfill areas of retaining walls will not be measured or paid for directly but will be subsidiary to pertinent items.

Payment will be made under:

Item TX-110-4.1

Excavation —per Cubic Yard

Item 132

Embankment



1. DESCRIPTION

Furnish, place, and compact materials for construction of roadways, embankments, levees, dikes, **drainage structures** or any designated section of the roadway where additional material is required.

2. MATERIALS

Furnish approved material capable of forming a stable embankment from required excavation in the areas shown on the plans or from sources outside the right of way. ~~Provide one or more of the following types as shown on the plans:~~ **Excessive cut or Type A material shall be used.**

- **Type A.** Granular material that is free from vegetation or other objectionable material and meets the requirements of Table 1.

Table 1
Testing Requirements

Property	Test Method	Specification Limit
Liquid limit	Tex-104-E	≤ 45
Plasticity index (PI)	Tex-106-E	≤ 15
Bar linear shrinkage	Tex-107-E	≥ 2

Perform the Linear Shrinkage test only as indicated in Tex-104-E.

- ~~**Type B.** Materials such as rock, loam, clay, or other approved materials.~~
- ~~**Type C.** Material meeting the specification requirements shown on the plans. Type C may be further designated as Type C1, C2, etc.~~
- ~~**Type D.** Material from required excavation areas shown on the plans.~~

Meet the requirements of the pertinent retaining wall Items for retaining wall backfill material.

3. CONSTRUCTION

Meet the requirements of Item 7, "Legal Relations and Responsibilities," when off right of way sources are used. Notify the Engineer before opening a material source to allow for required testing. Complete preparation of the right of way in accordance with Item 100, "Preparing Right of Way," for areas to receive embankment.

Backfill tree-stump holes or other minor excavations with approved material and tamp. Restore the ground surface, including any material disked loose or washed out, to its original slope. Compact the ground surface by sprinkling in accordance with Item 204, "Sprinkling," and by rolling using equipment complying with Item 210, "Rolling," when directed.

Scarify and loosen the unpaved surface areas, except rock, to a depth of at least 6 in. unless otherwise shown on the plans. Bench slopes before placing material. Begin placement of material at the toe of slopes. Do not place trees, stumps, roots, vegetation, or other objectionable material in the embankment. Simultaneously recompact scarified material with the placed embankment material. Do not exceed the layer depth specified in Section 132.3.4., "Compaction Methods."

Construct embankments to the grade and sections shown on the plans. Construct the embankment in layers approximately parallel to the finished grade for the full width of the individual roadway cross-sections unless

otherwise shown on the plans. Ensure that each section of the embankment conforms to the detailed sections or slopes. Maintain the finished section, density, and grade until the project is accepted.

- 3.1. **Earth Embankments.** Earth embankment is mainly composed of material other than rock. Construct embankments in successive layers, evenly distributing materials in lengths suited for sprinkling and rolling.

Treat material with calcium-based additives in accordance with Section 260.2.3., "Flexible Base," when required. Obtain approval to incorporate rock and broken concrete produced by the construction project in the lower layers of the embankment. Place the rock and concrete outside the limits of the completed roadbed when the size of approved rock or broken concrete exceeds the layer thickness requirements in Section 132.3.4., "Compaction Methods." Cut and remove all exposed reinforcing steel from the broken concrete.

Move the material dumped in piles or windrows by blading or by similar methods and incorporate it into uniform layers. Featheredge or mix abutting layers of dissimilar material for at least 100 ft. to ensure there are no abrupt changes in the material. Break down clods or lumps of material and mix embankment until a uniform material is attained.

Apply water free of industrial wastes and other objectionable matter to achieve the uniform moisture content specified for compaction.

Roll and sprinkle each embankment layer in accordance with Section 132.3.4.1., "Ordinary Compaction," when ordinary compaction is specified. Compact the layer to the required density in accordance with Section 132.3.4.2., "Density Control," when density control is specified.

- 3.2. **Rock Embankments.** ~~Rock embankment is mainly composed of rock. Construct rock embankments in successive layers for the full width of the roadway cross-section with a depth of 18 in. or less. Increase the layer depth for large rock sizes as approved. Do not exceed a depth of 2-1/2 ft. in any case. Fill voids created by the large stone matrix with smaller stones during the placement and filling operations.~~

~~Ensure the depth of the embankment layer is greater than the maximum dimension of any rock. Do not place rock greater than 2 ft. in its maximum dimension, unless otherwise approved. Construct the final layer with graded material so that the density and uniformity is in accordance with Section 132.3.4., "Compaction Methods." Break up exposed oversized material as approved.~~

~~Roll and sprinkle each embankment layer in accordance with Section 132.3.4.1., "Ordinary Compaction," when ordinary compaction is specified. Compact each layer to the required density in accordance with Section 132.3.4.2., "Density Control," when density control is specified. Proof-roll each rock layer as directed, where density testing is not possible, in accordance with Item 216, "Proof Rolling," to ensure proper compaction.~~

- 3.3. **Embankments Adjacent to Culverts and Bridges.** ~~Compact embankments adjacent to culverts and bridges in accordance with Item 400, "Excavation and Backfill for Structures."~~

- 3.4. **Compaction Methods.** Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least 1/2 the width of the roller. Begin rolling at the lower side and progress toward the high side on super elevated curves. Alternate roller trips to attain slightly different lengths. Compact embankments in accordance with Section 132.4.1., "Ordinary Compaction," or Section 132.3.4.2., "Density Control," as shown on the plans.

- 3.4.1. **Ordinary Compaction.** ~~Use approved rolling equipment complying with Item 210, "Rolling," to compact each layer. Use specific equipment when required by the plans or the Engineer. Do not allow the loose depth of any layer to exceed 8 in., unless otherwise approved. Bring each layer to the moisture content directed before and during rolling operations. Compact each layer until there is no evidence of further consolidation. Maintain a level layer to ensure uniform compaction. Recompact and refinish the subgrade at no additional expense to the Department if the required stability or finish is lost for any reason.~~

- 3.4.2. **Density Control.** Compact each layer to the required density using equipment complying with Item 210, "Rolling." Determine the maximum lift thickness based on the ability of the compacting operation and equipment to meet the required density. Do not exceed layer thickness of 16 in. loose or 12 in. compacted material unless otherwise approved. Maintain a level layer to ensure uniform compaction.

The Engineer will use Tex-114-E to determine the maximum dry density (D_a) and optimum moisture content (W_{opt}). Meet the requirements for field density and moisture content in Table 2 unless otherwise shown on the plans.

Table 2
Field Density Control Requirements

Description	Density	Moisture Content
	Tex-115-E	
PI $\leq$ 15	$\geq 98\% D_a$	
15 < PI $\leq$ 35	$\geq 98\% D_a$ and $\leq 102\% D_a$	$\geq W_{opt.}$
PI > 35	$\geq 95\% D_a$ and $\leq 100\% D_a$	$\geq W_{opt.}$

Each layer is subject to testing by the Engineer for density and moisture content. During compaction, the moisture content of the soil should not exceed the value shown on the moisture-density curve, above optimum, required to achieve:

- 98% dry density for soils with a PI greater than 15 but less than or equal to 35 or
- 95% dry density for soils with PI greater than 35.

Remove small areas of the layer to allow for density tests as required. Replace the removed material and recompact at no additional expense to the Department. Proof-roll in accordance with Item 216, "Proof Rolling," when shown on the plans or as directed. Correct soft spots as directed.

- 3.5. **Maintenance of Moisture and Reworking.** Maintain the density and moisture content once all requirements in Table 2 are met. Maintain the moisture content no lower than 4% below optimum for soils with a PI greater than 15. Rework the material to obtain the specified compaction when the material loses the required stability, density, moisture, or finish. Alter the compaction methods and procedures on subsequent work to obtain specified density as directed.
- 3.6. **Acceptance Criteria.**
- 3.6.1. **Grade Tolerances.**
- 3.6.1.1. **Staged Construction.** Grade to within 0.1 ft. in the cross-section and 0.1 ft. in 16 ft. measured longitudinally.
- 3.6.1.2. **Turnkey Construction.** Grade to within 1/2 in. in the cross-section and 1/2 in. in 16 ft. measured longitudinally.
- 3.6.2. **Gradation Tolerances.** Ensure no more than 1 of the 5 most recent gradation tests is outside the specified limits on any individual sieve by more than 5% when gradation requirements are shown on the plans.
- 3.6.3. **Density Tolerances.** Ensure no more than 1 of the 5 most recent density tests for compaction work is outside the specified density limits, and no test is outside the limits by more than 3 pcf.
- 3.6.4. **Plasticity Tolerances.** Ensure no more than 1 of the 5 most recent PI tests for material is outside the specified limit by more than 2 points.

4. MEASUREMENT

Embankment will be measured by the cubic yard. Measurement will be further defined for payment as follows:

- 4.1. **Final.** The cubic yard will be measured in its final position using the average end area method. The volume is computed between the original ground surface or the surface upon which the embankment is to be constructed and the lines, grades, and slopes of the embankment. In areas of salvaged topsoil, payment for embankment will be made in accordance with Item 160, "Topsoil." Shrinkage or swell factors will not be considered in determining the calculated quantities.
- 4.2. **Original.** The cubic yard will be measured in its original and natural position using the average end area method.
- 4.3. **Vehicle.** The cubic yard will be measured in vehicles at the point of delivery.

When measured by the cubic yard in its final position, this is a plans quantity measurement item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

Shrinkage or swell factors are the Contractor's responsibility. When shown on the plans, factors are for informational purposes only.

Measurement of retaining wall backfill in embankment areas is paid for as embankment unless otherwise shown on the plans. Limits of measurement for embankment in retaining wall areas are shown on the plans.

~~Measurement of embankment shall be based on plan quantities. These quantities are believed to be correct and shall be utilized for final excavation quantity payment notwithstanding any adjustments to the project by written direction of the Engineer. Should the contractor find discrepancies and/or errors, he/she shall bring the discrepancy and/or error to the attention of the Engineer immediately and corrections shall be made to the quantity of embankment to be paid for by change order. It is expressly understood by the contractor that upon disturbance of the existing ground and no notification to the engineer of possible errors, that the contractor accepts as final payment the quantities of excavation as detailed on the plans and laid out in the proposal. No adjustment has been made to the plan quantities for the construction or demolition of existing drainage structures. The Contractor shall make his own determination as to the amount of unsuitable excavated material which may be encountered and the resulting additional borrow material required for the construction of the embankment. There will be no adjustment for additional embankment required to construct the project if the excavated material is deemed unsuitable.~~

Embankment shall not be measured for separate payment but shall be considered subsidiary to pertinent items.

5. PAYMENT

The work performed and materials furnished in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid for "Embankment (Final)," "Embankment (Original)," or "Embankment (Vehicle)" of the compaction method and type specified. This price is full compensation for furnishing embankment; hauling; placing, compacting, finishing, and reworking; disposal of waste material; and equipment, labor, tools, and incidentals.

When proof rolling is directed, it will be paid for in accordance with Item 216, "Proof Rolling."

All sprinkling and rolling, except proof rolling, will not be paid for directly but will be considered subsidiary to this item, unless otherwise shown on the plans.

Where subgrade is constructed under this Contract, correction of soft spots in the subgrade will be at the Contractor's expense. Where subgrade is not constructed under this Contract, correction of soft spots in the subgrade will be paid in accordance with Article 9.7., "Payment for Extra Work and Force Account Method."

For embankment in place, payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

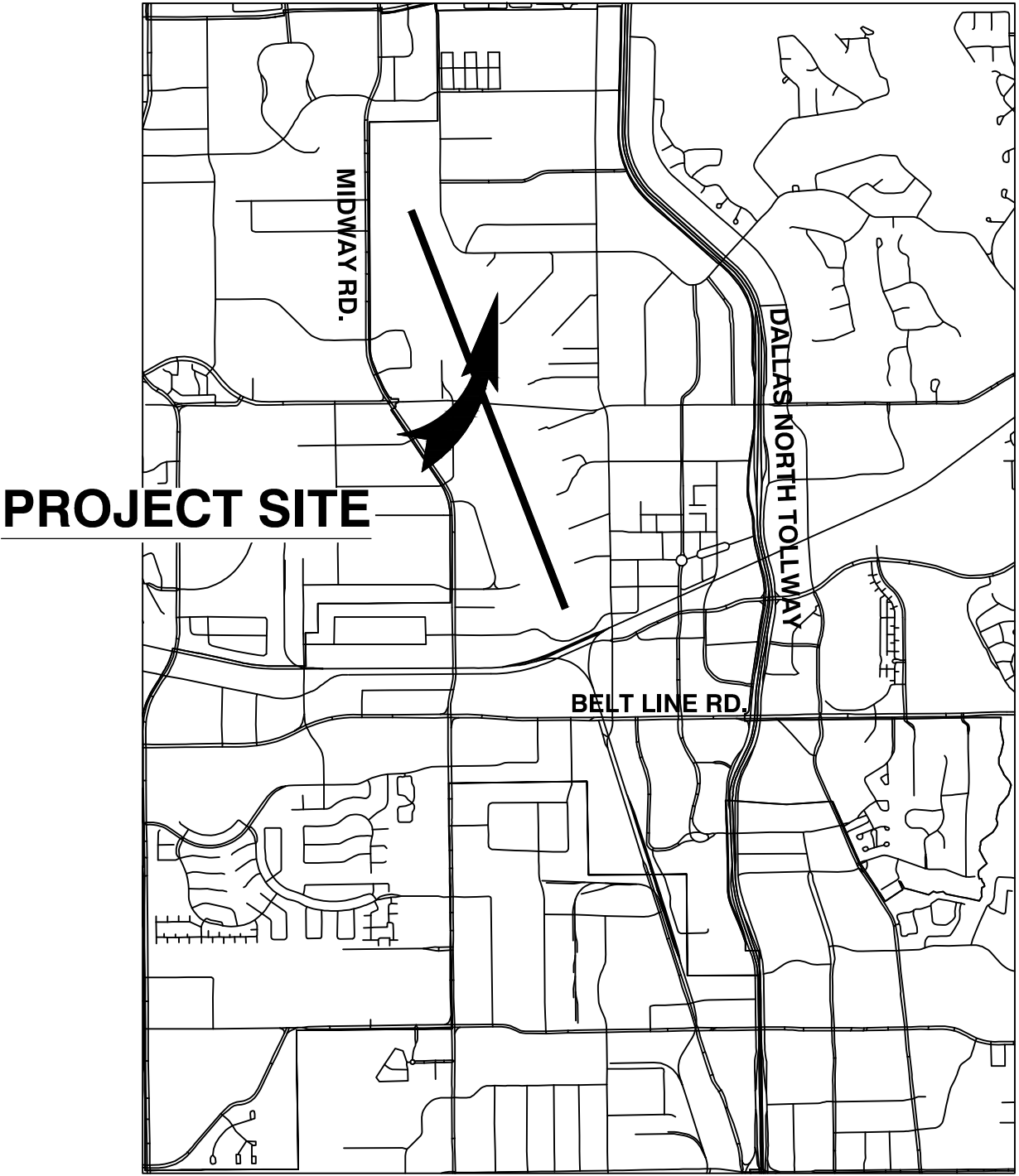
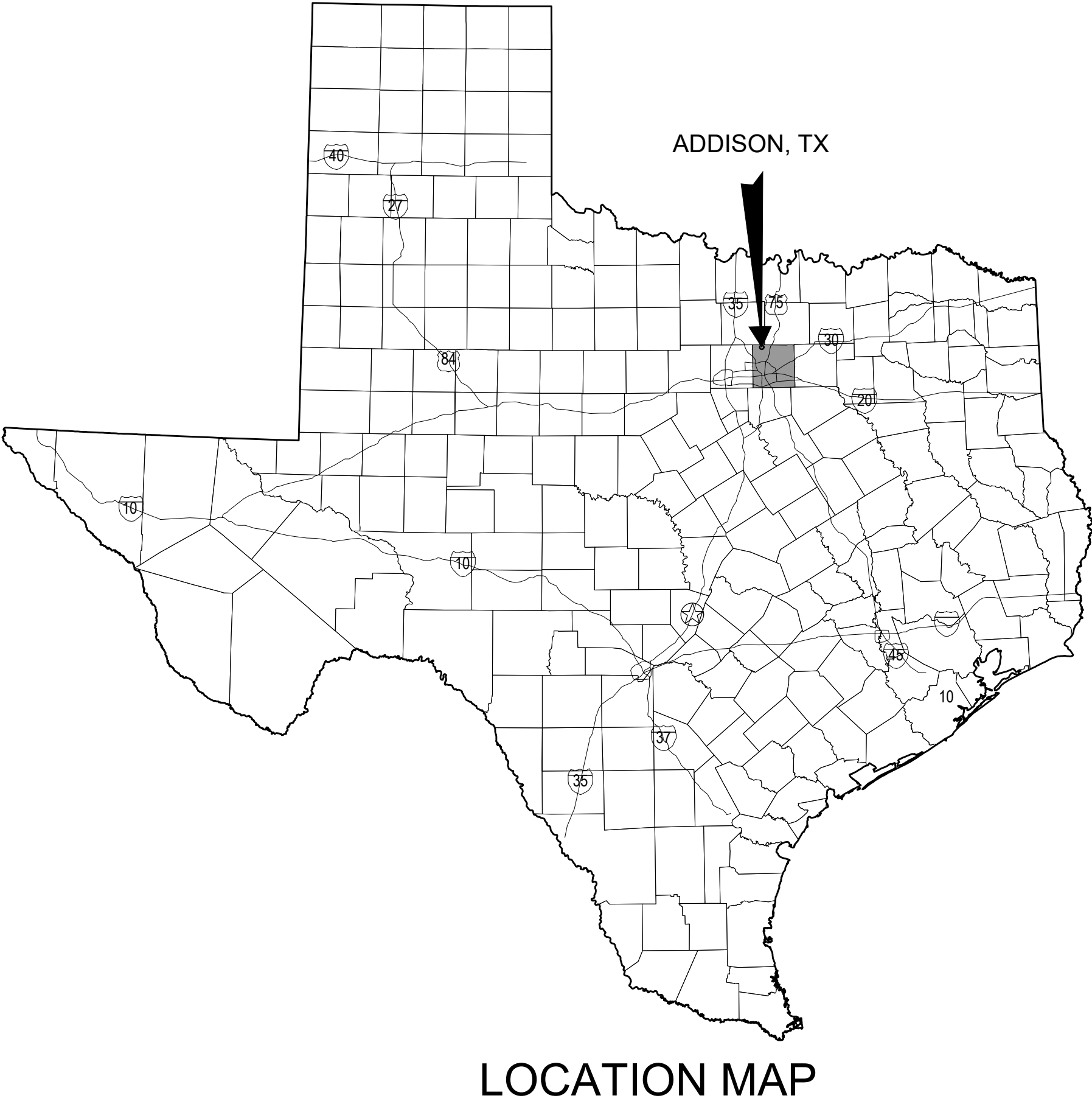
~~Item TX-132-5.1~~ ~~Embankment In Place~~ ~~per Cubic Yard~~

Embankment shall not be paid for separately but shall be considered subsidiary to pertinent items.

WING AVIATION APRON CONNECTOR AND CLAIRE CHENNAULT STREET DRIVEWAY RECONSTRUCTION

ADDISON AIRPORT

ADDISON, TEXAS



TOWN OF ADDISON BID NO. 18-22
GARVER PROJECT NO. 17081100
DECEMBER 2017



3010 Gaylord Parkway
Suite 190
Frisco, TX 75034
(972) 377-7480

EARTHWORK QUANTITIES		
WORK	CUT (C.Y.)	FILL (C.Y.)
WING AVIATION APRON CONNECTOR CONSTRUCTION	142	76
DITCH GRADING	176	200



© 2017 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGNS CONVEYED HEREIN, SHALL BE CONSIDERED INSTRUMENTS OF PROFESSIONAL SERVICE AND ARE PROPERTY OF GARVER, LLC. ANY USE, REPRODUCTION, OR DISTRIBUTION OF THIS DOCUMENT, ALONG WITH THE IDEAS AND DESIGN CONTAINED HEREIN, IS PROHIBITED UNLESS AUTHORIZED IN WRITING BY GARVER, LLC OR EXPLICITLY ALLOWED IN THE GOVERNING PROFESSIONAL SERVICES AGREEMENT FOR THIS WORK.

REGISTRATION NO.
F-5713



DIGITALLY SIGNED
1/17/2018

REV.	DATE	DESCRIPTION	BY
1	1/17/18	ADDENDUM NO. 1	CMB

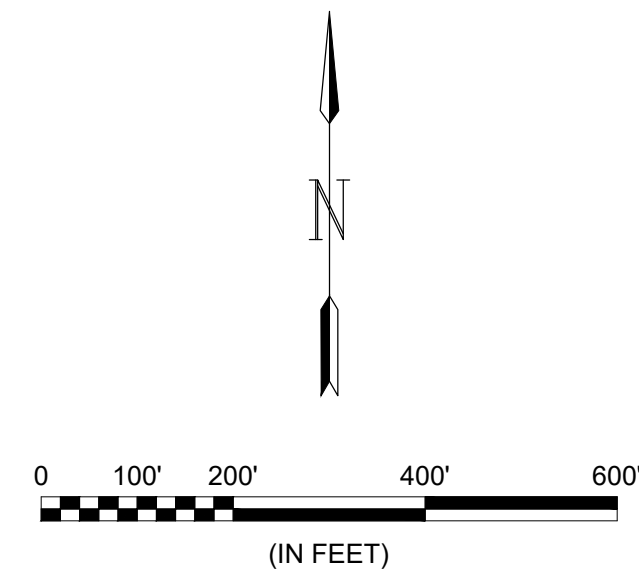
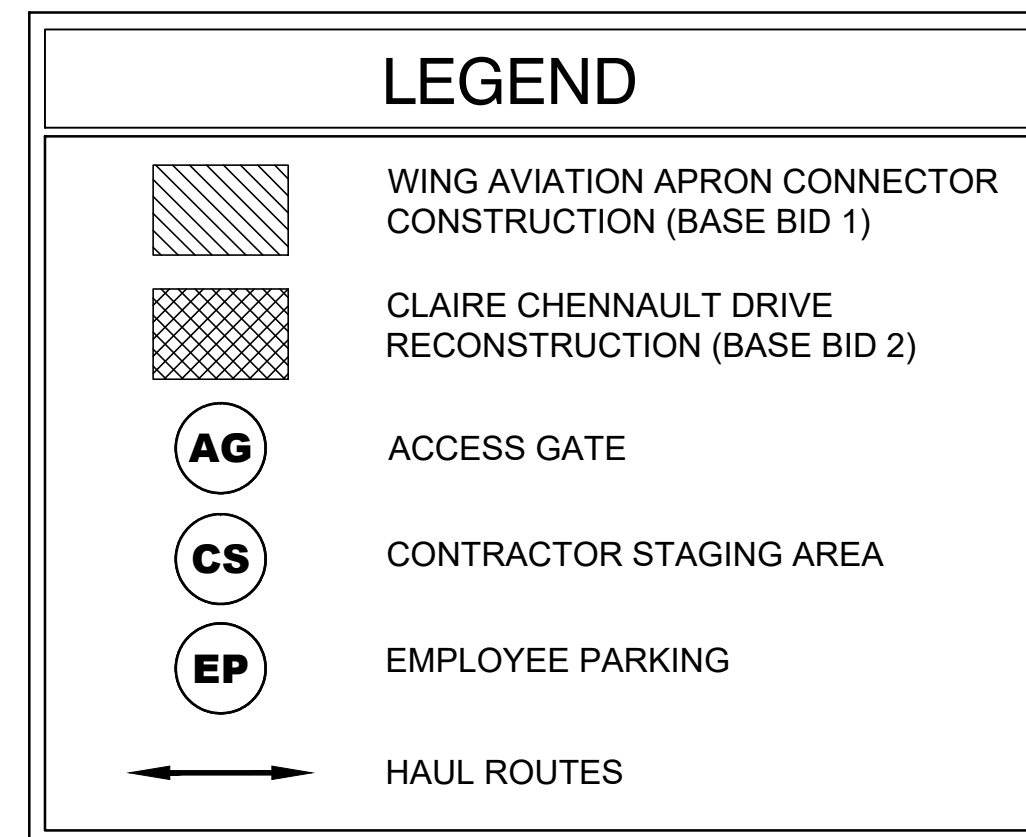
ADDISON AIRPORT
ADDISON, TEXAS
WING AVIATION APRON CONNECTOR
AND CLAIRE CHENNAULT STREET
DRIVEWAY RECONSTRUCTION

COVER SHEET

JOB NO.: 17081100
DATE: NOV 2017
DESIGNED BY: JAH
DRAWN BY: JAH

BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
G-101
SHEET NUMBER
1



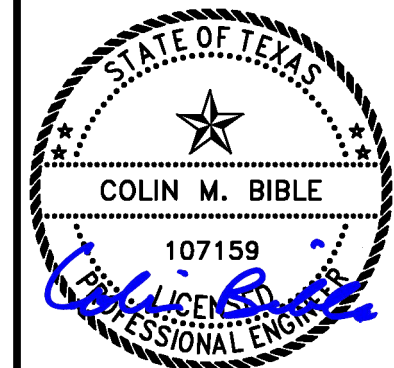
ITEMS OF WORK	
BIDDING	DESCRIPTION
BASE BID 1 - WING AVIATION APRON CONNECTOR CONSTRUCTION	1. INSTALL BARRICADES. 2. CONSTRUCTION OF WING AVIATION APRON ENTRANCE. 3. COMPLETE ALL GRADING ACCORDING TO LAYOUT PLANS.
BASE BID 2 - CLAIRE CHENNAULT STREET DRIVEWAY RECONSTRUCTION	1. INSTALL BARRICADES. 2. FULL DEPTH RECONSTRUCTION OF CLAIRE CHENNAULT DRIVE AS SHOWN WITHIN LAYOUT PLAN.

	CALENDAR DAYS				WORK AVAILABILITY
WING AVIATION APRON ENTRANCE (BASE BID 1)					ANYTIME
CLAIRE CHENNAULT DRIVE (BASE BID 2)					ANYTIME
	0	30	60	90	



© 2017 GARVER, LLC
THIS DOCUMENT, ALONG WITH THE
IDEAS AND DESIGNS CONVEYED
HEREIN, SHALL BE CONSIDERED
INSTRUMENTS OF PROFESSIONAL
SERVICE AND ARE PROPERTY OF
GARVER, LLC. ANY USE,
REPRODUCTION, OR DISTRIBUTION
OF THIS DOCUMENT, ALONG WITH
THE IDEAS AND DESIGN CONTAINED
HEREIN, IS PROHIBITED UNLESS
AUTHORIZED IN WRITING BY
GARVER, LLC OR EXPLICITLY
ALLOWED IN THE GOVERNING
PROFESSIONAL SERVICES
AGREEMENT FOR THIS WORK.

REGISTRATION NO.
F-5713



DIGITALLY SIGNED
1/17/2018

REV.	DATE	DESCRIPTION	BY
1	1/17/18	ADDENDUM NO. 1	CMB

ADDISON AIRPORT
ADDISON, TEXAS

ADDISON AIRPORT

AWING AVIATION APRON CONNECTOR
AND CLAIRE CHENNAULT STREET
DRIVEWAY RECONSTRUCTION

GENERAL PROJECT LAYOUT

JOB NO.: 17081100
DATE: NOV 2017
DESIGNED BY: JAH
DRAWN BY: JAH

BAR IS ONE INCH ON
ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALES ACCORDINGLY

DRAWING NUMBER

G-201

SHEET
NUMBER **3**