

Project Manual

for

SOUTHEAST DRAINAGE DITCH ENCLOSURE PH II

ISSUED FOR BID



Prepared for
Augusta Aviation Commission
Augusta Regional Airport
Augusta, GA

Mead & Hunt No. 0119700-210463.01

Prepared by



October 2024

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**Attachment B**

You Must Complete and Return the 2 pages of Attachment B with Your Submittal. Document Must Be Notarized.

Augusta, Georgia Augusta Procurement Department

ATTN: Procurement Director

535 Telfair Street, Suite 605

Augusta, Georgia 30901

Name of Proponent: Reeves Construction Company

Street Address: 1 APAC Industrial Way

City, State, Zip Code: Augusta, GA 30907

Phone: (706) 731-5230 Fax: (706) 731-8620 Email: dsuggs@reevescc.com

Do You Have A Business License? Yes: X No:

Augusta, GA Business License # for your Company (Must Provide): LCC20070035336

And/or Your State/Local Business License # for your Company (Must Provide):

Utility Contractors License # (Must Provide if applicable): UC300349 **MUST BE LISTED ON FRONT OF ENVELOPE**

General Contractor License # (Must Provide if applicable): GCCO006129

Additional Specialty License # (Must Provide if applicable):

NOTE: Company must be licensed in the Governmental entity for where they do the majority of their business. If your Governmental entity (State or Local) does not require a business license, please state above (Procurement will verify), your company will be required to obtain a Richmond County business license if awarded a BID. For further information regarding Augusta, GA license requirements, please contact the License and Inspection Department @ 706 312-5050.

List the State, City & County that issued your license: Georgia, Augusta, Richmond County

Acknowledgement of Addenda: (#1) X : (#2) : (#3) : (#4) : (#5) : (#6) : (#7) : (#8) :

NOTE: CHECK APPROPRIATE BOX (ES) - ADD ADDITIONAL NUMBERS AS APPLICABLE

Statement of Non-Discrimination

The undersigned understands that it is the policy of Augusta, Georgia to promote full and equal business opportunity for all persons doing business with Augusta, Georgia. The undersigned covenants that we have not discriminated, on the basis of race, religion, gender, national origin, or ethnicity, with regard to prime contracting, subcontracting, or partnering opportunities.

The undersigned covenants and agrees to make good faith efforts to ensure maximum practicable participation of local small businesses on the proposal or contract awarded by Augusta, Georgia. The undersigned further covenants that we have completed truthfully and fully the required forms regarding good faith efforts and local small business subcontractor/supplier utilization.

The undersigned further covenants and agrees not to engage in discriminatory conduct of any type against local small businesses, in conformity with Augusta, Georgia's Local Small Business Opportunity Program. Set forth below is the signature of an officer of the proposer/contracting entity with the authority to bind the entity.

The undersigned acknowledge and warrant that this Company has been made aware of understands and agrees to take affirmative action to provide such companies with the maximum practicable opportunities to do business with this Company;

That this promise of non-discrimination as made and set forth herein shall be continuing in nature and shall remain in full force and effect without interruption;

That the promises of non-discrimination as made and set forth herein shall be and are hereby deemed to be made as part of and incorporated by reference into any contract or portion thereof which this Company may hereafter obtain and;

That the failure of this Company to satisfactorily discharge any of the promises of nondiscrimination as made and set forth herein shall constitute a material breach of contract entitling Augusta, Georgia to declare the contract in default and to exercise any and all applicable rights remedies including but not limited to cancellation of the contract, termination of the contract, suspension and debarment from future contracting opportunities, and withholding and or forfeiture of compensation due and owing on a contract.

Non-Collusion of Prime Proponent

By submission of a proposal, the vendor certifies, under penalty of perjury, that to the best of its knowledge and belief:

(a) The prices in the proposal have been arrived at independently without collusion, consultation, communications, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other vendor or with any competitor.

(b) Unless otherwise required by law, the prices which have been quoted in the proposal have not been knowingly disclosed by the vendor prior to opening, directly or indirectly, to any other vendor or to any competitor.

(c) No attempt has been made, or will be made, by the vendor to induce any other person, partnership, or corporation to submit or not to submit a proposal for the purpose of restricting competition. Collusions and fraud in proposal preparation shall be reported to the State of Georgia Attorney General and the United States Justice Department.

You Must Complete and Return the 2 pages of Attachment B with Your Submittal. Document Must Be Notarized.

Conflict of Interest

PAGE 2 OF 2

By submission of a bid, the responding firm certifies, under penalty of perjury, that to the best of its knowledge and belief:

1. No circumstances exist which cause a Conflict of Interest in performing the services required by this BID, and
2. That no employee of the County, nor any member thereof, nor any public agency or official affected by this BID, has any pecuniary interest in the business of the responding firm or his sub-consultant(s) has any interest that would conflict in any manner or degree with the performance related to this BID. By submission of a bid, the vendor certifies under penalty of perjury, that to the best of its knowledge and belief:
 - (a) The prices in the bid have been arrived at independently without collusion, consultation, communications, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other vendor or with any competitor.
 - (b) Unless otherwise required by law, the prices which have been quoted in the bid have not knowingly been disclosed by the vendor prior to opening, directly or indirectly, to any other vendor or competitor.
 - (c) No attempt has been made, or will be made, by the vendor to induce any other person, partnership, or cooperation to submit or not to submit a bid for the purpose of restricting competition. For any breach or violation of this provision, the County shall have the right to terminate any related contract or agreement without liability and at its discretion to deduct from the price, or otherwise recover, the full amount of such fee, commission, percentage, gift, payment, or consideration.

Contractor Affidavit and Agreement: Contractor Affidavit under O.C.G.A. § 13-10-91(b) (I)

GEORGIA E-Verify and Public Contracts: The Georgia E-Verify law requires contractors and all sub-contractors on Georgia public contract (contracts with a government agency) for the physical performance of services over \$2,499 in value to enroll in E-Verify, regardless of the number of employees. They may be exempt from this requirement if they have no employees and do not plan to hire employees for the purpose of completing any part of the public contract. Certain professions are also exempt. All requests for proposals issued by a city must include the contractor affidavit as part of the requirement for their bid to be considered.

The undersigned contractor ("Contractor") executes this Affidavit to comply with O.C.G.A. § 13-10-91 related to any contract to which Contractor is a party that is subject to O.C.G.A. § 13-10-91 and hereby verifies its compliance with O.C.G.A. § 13-10-91, attesting as follows:

- a) The Contractor has registered with, is authorized to use, and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program;
- b) The Contractor will continue to use the federal work authorization program throughout the contract period, including any renewal or extension thereof;
- c) The Contractor will notify the public employer in the event the Contractor ceases to utilize the federal work authorization program during the contract period, including renewals or extensions thereof;
- d) The Contractor understands that ceasing to utilize the federal work authorization program constitutes a material breach of Contract;
- e) The Contractor will contract for the performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the Contractor with the information required by O.C.G.A. § 13-10-91(a), (b), and (c);
- f) The Contractor acknowledges and agrees that this Affidavit shall be incorporated into any contract(s) subject to the provisions of O.C.G.A. § 13-10-91 for the project listed below to which Contractor is a party after the date hereof without further action or consent by Contractor; and
- g) Contractor acknowledges its responsibility to submit copies of any affidavits, drivers' licenses, and identification cards required pursuant to O.C.G.A. § 13-10-91 to the public employer within five business days of receipt.

Georgia Law requires your company to have an E-Verify* User Identification Number (Company I.D.) on or after July 1, 2009.

For additional information or to enroll your company, visit the State of Georgia website:

<https://e-verify.uscis.gov/enroll/> and/or http://www.doi.state.ga.us/pdf/rules/300_101.pdf

Federal Work Authorization User Identification Number: **E-VERIFY REQUIRED FOR ALL CONTRACTS OVER \$2,499.00**

Date of Authorization

**** (E-Verify Number)** 667047 3/12/2018

Reeves Corporate
Name of Contractor

Southeast Drainage Enclosure Ph. II
Name of Project/Bid Number

AUGUSTA, GEORGIA – RICHMOND COUNTY CONSOLIDATED GOVERNMENT
Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on March 19, 20 25 in Augusta (City), Georgia

Dallas B. Suggs
Signature of Authorized Officer or Agent

Dallas B Suggs, Region Manager
Printed Name and Title of Authorized Officer or Agent

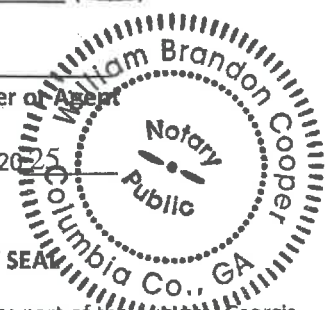
SUBSCRIBED AND SWORN BEFORE ME ON THIS THE 19th DAY OF March, 20 25

[Signature]
Notary Public

November 16, 2027

My Commission Expires:

NOTARY SEAL



The undersigned further agrees to submit a notarized copy of Attachment B, and any required documentation noted as part of the Augusta, Georgia Board of Commissions specifications which govern this process. In addition, the undersigned agrees to submit all required forms for any subcontractor(s) as requested and or required. I further understand that my submittal will be deemed non-compliant if any part of this process is violated.

You Must Complete and Return the 2 pages of Attachment B with Your Submittal. Document Must Be Notarized.



You Must Complete and Return with Your Submittal. Document Must Be Notarized

Systematic Alien Verification for Entitlements (SAVE) Program

Affidavit Verifying Status for Augusta, Georgia Benefit Application By executing this affidavit under oath, as an applicant for an Augusta, Georgia Business License or Occupation Tax Certificate, Alcohol License, Taxi Permit, Contract, or other public benefit as reference in O.C.G.A. Section 50-36-1, I am stating the following with respect to my bid for an Augusta, Georgia contract for

#25-150 Southeast Drainage Ditch Enclosure Ph II

[ITB Project Number and Project Name]

Dallas B Suggs, Region Manager

[Print/Type: Name of natural person applying on behalf of individual, business, corporation, partnership, or other private entity]

Reeves Construction Company

[Print/Type: Name of business, corporation, partnership, or other private entity]

1.) X I am a citizen of the United States.

OR

2.) I am a legal permanent resident 18 years of age or older.

OR

3.) I am an otherwise qualified alien (8 § USC 1641) or nonimmigrant under the Federal Immigration and Nationality Act (8 USC 1101 et seq.) 18 years of age or older and lawfully present in the United States. *

In making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of Code Section 16-10-20 of the Official Code of Georgia.



Dallas B. Suggs

Signature of Applicant

Dallas B Suggs

Printed Name

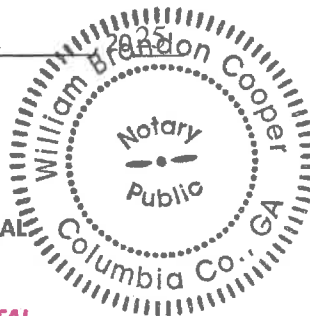
* Alien Registration Number for Non-Citizens

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE 19th DAY OF March

[Signature]
Notary Public

My Commission Expires: November 16, 2027

NOTARY SEAL



Note: THIS FORM MUST BE COMPLETED AND RETURNED WITH YOUR SUBMITTAL
REV. 2/17/2016

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned REEVES CONSTRUCTION COMPANY

as **Principal**, and Liberty Mutual Insurance Company

as **Surety**, are hereby

held and firmly bound unto Augusta/Richmond County Commission as **Owner**

in the penal sum of Ten Percent of Amount Bid (10%)

for the payment of which, well and truly to be made, we hereby jointly and severally

bind ourselves, our heirs, executors, administrators, successors, and assigns.

Signed this 19 day of March, 2025.

The conditions of the above obligation is such that whereas the Principal has submitted to the Augusta Airport Aviation Commission certain Bill, attached hereto and hereby made a part hereof to enter into a Contract in writing for the Construction of:

**BID ITEM #25-150 AUGUSTA REGIONAL AIRPORT SOUTHEAST DRAINAGE DITCH ENCLOSURE
PH II**

NOW THEREFORE,

- (a) If said bid shall be rejected, or in the alternate,
- (b) If said bid shall be accepted, and the Principal shall execute and deliver a Contract in the Form of Contract attached hereto (properly completed in accordance with said Bill) and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bill, the this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, thereby stipulates and agrees that obligations of said Surety and its Bonds shall be in no way impaired or affected by any extension of the time within which the Owner may accept such bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

(L.S.)
Principal


REEVES CONSTRUCTION COMPANY



Surety Liberty Mutual Insurance Company

By:



Michelle Anne McMahon, Attorney - In - Fact (SEAL)
Georgia Non-Resident Agent License Number: 3082975

- (1) Date of Bond must be same date as bid.
- (2) Bond must be signed or countersigned by Surety's proper Georgia Resident Agent. Date of Power-of-Attorney shall be same date as date of Bond.
- (3) If a Partnership, all partners shall execute Bond.



**Liberty
Mutual**
SURETY

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: **8210646 - 985949**

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Connor Wolpert, Doritza Mojica, Gentry Stewart, Jennifer Godere, Jonathan Gleason, Joshua Sanford, Kathryn Pryor, Kyle Williams, Michelle Anne McMahon, Nicholas Miller, Richard Hackner, Robyn Salley, Sarah Murtha

all of the city of Hartford state of CT each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 22nd day of August, 2023.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By:

David M. Carey
David M. Carey, Assistant Secretary

State of PENNSYLVANIA ss
County of MONTGOMERY

On this 22nd day of August, 2023 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1128044
Member, Pennsylvania Association of Notaries

By:

Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 19th day of March, 2025.



By:

Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary



LIBERTY MUTUAL INSURANCE COMPANY

FINANCIAL STATEMENT – DECEMBER 31, 2023

Assets	Liabilities
Cash and Bank Deposits.....\$1,850,245,073.00	Unearned Premiums.....\$10,298,963,305.00
*Bonds – U.S Government.....\$3,859,565,383.00	Reserve for Claims and Claims Expense.....\$28,848,537,243.00
*Other Bonds.....\$21,048,805,773.00	Funds Held Under Reinsurance Treaties.....\$360,714,151.00
*Stocks.....\$19,937,271,802.00	Reserve for Dividends to Policyholders.....\$1,310,198.00
Real Estate.....\$122,228,711.00	Additional Statutory Reserve.....\$296,126,000.00
Agents' Balances or Uncollected Premiums...\$8,208,660,427.00	Reserve for Commissions, Taxes and Other Liabilities.....\$7,622,413,466.63
Accrued Interest and Rents.....\$186,906,667.00	Total.....\$47,428,064,363.63
Other Admitted Assets.....\$15,677,869,683.63	Special Surplus Funds.....\$209,508,757.00
Total Admitted Assets.....\$70,891,553,519.63	Capital Stock.....\$10,000,075.00
	Paid in Surplus.....\$13,834,867,488.00
	Unassigned Surplus.....\$9,409,112,836.00
	Surplus to Policyholders.....\$23,463,489,156.00
	Total Liabilities and Surplus.....\$70,891,553,519.63

* Bonds are stated at amortized or investment value; Stocks at Association Market Values.

The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2023, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 8th day of March, 2024.



Timothy A. Mikolajewski

Timothy A. Mikolajewski, Assistant Secretary

BID FORM

(Failure to furnish all requested data will be cause for considering BIDDER non-responsive and may render this BID invalid on that basis.)

BID FOR: **AUGUSTA REGIONAL AIRPORT
SOUTHEAST DRAINAGE DITCH ENCLOSURE PH II**

SUBMITTED TO: Augusta-Richmond County
Attn: Procurement Director
535 Telfair Street, Room 605
Augusta, GA 30901

SUBMITTED BY: Reeves Construction Company

Bidder's Name

1 APAC Industrial Way

Address

Augusta, GA 30907

City, State and Zip Code

(706)731-5230/(706) 731-8620

Phone / Fax

3/19/2025

Date Completed

1. The undersigned, hereinafter called Bidder, in compliance with the "Notice to Bidders" accepting all of the terms and conditions of the "Instructions to Bidders," including without limitation those dealing with the disposition of the Bid Security; proposes and agrees, if awarded the Contract, to enter into an agreement with the Owner utilizing the form Contract included in the Bid Documents. Bidder shall furnish all materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the work to be performed under the Contract within the time indicated in the contract, in full and complete accordance with the shown, noted, described and reasonably intended requirements of the Contract Documents, to the full and entire satisfaction of the Owner, for the amounts contained in this Bid Schedule.
2. This Bidder's bid shall remain open for ninety (90) days after the day of Bid opening. If awarded a contract, Bidder will sign the Contract and submit the Contract Security and other documents required by the Contract Documents within fifteen (15) calendar days after the date indicated in Owner's Notice of Award.
3. In submitting this Bid, the Bidder represents that:
 - a. Bidder has become thoroughly familiar with the terms and conditions of the Bid Documents accepting the same as sufficient to indicate understanding of all the conditions and requirements under the Contract which will be executed for the Work.
 - b. Bidder has examined the site and locality where the Work is to be performed, the legal requirements (federal, state and local laws, ordinances, rules and regulations) and the conditions affecting cost, progress or performance of the Work and has made such independent investigations as Bidder deems necessary.

- c. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from submitting a bid; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.
- d. No member of the Augusta Board of Commissioners, Aviation Commission or other officers or employees of said Owner is interested directly or indirectly in the bid or in any portion of the bid or in the Contract or any part of the Contract which may be awarded the undersigned on the basis of such bid without such full disclosure being made.
- e. It is a condition of this bid and any subsequent contract entered into pursuant to this bid, and it shall be made a condition of each subcontract entered into pursuant to the prime contract that the Contractor and any subcontractor shall not require any laborer to mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsatisfactory, hazardous, or dangerous to his/her health or safety, as determined under Construction Safety and Health Standards, Title 29 , CFR Part 1518 36FR7340, promulgated by the U.S. Secretary of Labor, in accordance with Section 107 of the Contract Work hours and Safety Standards act, Stat. 96; that is further condition of this bid that Bidder shall be solely responsible for the enforcement of such Construction and Health Standards, and that Bidder fully understands that the Owner and its authorized representatives will not assume any liability resulting from the Contractor's failure to police and enforce all such standards.
- f. The description under each bid item, being briefly stated, implies, although it does not mention, all incidentals and that the prices stated are intended to cover all such work, materials and incidentals as constitute Bidder's obligations as described in the Specifications, and any details not specifically mentioned, but evidently included in the Contract shall be compensated for in the item which most logically includes it.
- g. The unit prices bid include all applicable taxes and fees. Bids shall also include appropriate provisions for price escalation for materials and labor including but not limited to increases in federal, state and local sales taxes and income or FICA taxes.

4. **Contract Time:** Bidder agrees that:

- a. The work will be completed within the timeframes described in the General Provisions and the Construction Documents.
- b. Bidder shall commence work with an adequate force and equipment at the time stated in the Notice to Proceed and complete all work by the date established in said Notice. Bidder shall not work overtime or on Saturdays, Sundays, or legal holidays except as specifically allowed by the Contract Documents and approved by the Owner.
- c. **The quantities of work listed in the Bid Schedules are APPROXIMATE and are assumed solely for the comparison of bids. Compensation will be based upon the unit price bid and the ACTUAL quantities of work performed in accordance with the Contract Documents and as accepted by the ENGINEER.**

5. **Bid Schedule:** See attached Pages BF-3 through BF-12.

BID SCHEDULE – BASE BID

Location of Project: Augusta Regional Airport, Augusta, Georgia

Title of Project: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II

Line No.	Item No.	Item Description	Est. Qty.	Units	Unit Price	Bid Amount
1	C-100.1	Contractor Quality Control Program (CQCP)	1	LS	\$170,000.00	\$170,000.00
	Written Unit Price One Hundred Seventy Thousand Dollars & 00/100 Cents					
2	C-102.1a	Installation, Maintenance, and Removal of Silt Fence or Silt Sock	1,650	LF	\$5.50	\$9,075.00
	Written Unit Price Five Dollars & 50/100 Cents					
3	C-102.1b	Construct, Maintain, and Remove Inlet Sediment Trap	2	EA	\$350.00	\$700.00
	Written Unit Price Three Hundred Fifty Dollars & 00/100 Cents					
4	C-102.1c	Construct, Maintain, and Remove Construction Exit	2	EA	\$3,300.00	\$6,600.00
	Written Unit Price Three Thousand Three Hundred Dollars & 00/100 Cents					
5	C-102.1e	Construct, Maintain, and Remove Rock Dam	1	EA	\$4,100.00	\$4,100.00
	Written Unit Price Four Thousand One Hundred Dollars & 00/100					
6	C-102.1f	Water Quality Monitoring and Sampling	8	EA	\$400.00	\$3,200.00
	Written Unit Price Four Hundred Dollars & 00/100 Cents					
7	C-102.1g	Water Quality Inspections	3	EA	\$400.00	\$1,200.00
	Written Unit Price Four Hundred Dollars & 00/100 Cents					

BID SCHEDULE – BASE BID

Location of Project: Augusta Regional Airport, Augusta, Georgia

Title of Project: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II

Line No.	Item No.	Item Description	Est. Qty.	Units	Unit Price	Bid Amount
8	C-102.1h	Erosion Control Mobilization	1	LS	\$45,000.00	\$45,000.00
	Written Unit Price Forty-Five Thousand Dollars & 00/100 Cents					
9	C-102.1i	Emergency Erosion Control Mobilization	1	LS	\$5,000.00	\$5,000.00
	Written Unit Price Five Thousand Dollars & 00/100 Cents					
10	C-102.1j	Rip Rap, Type III 18" Depth	80	SY	\$125.00	\$10,000.00
	Written Unit Price One Hundred Twenty-Five Dollars & 00/100 Cents					
11	C-105.1	Mobilization, Cleanup, and Demobilization	1	LS	\$345,000.00	\$345,000.00
	Written Unit Price Three Hundred Forty-Five Thousand Dollars & 00/100 Cents					
12	C-105.2	Airfield Safety and Traffic Control	1	LS	\$301,900.00	\$301,900.00
	Written Unit Price Three Hundred One Thousand Nine Hundred Dollars & 00/100 Cents					
13	P-101.1	Remove Existing 30-72" RCP	570	LF	\$41.00	\$23,370.00
	Written Unit Price Forty-One Dollars & 00/100 Cents					
14	P-101.2	Remove Existing Concrete Headwall	2	EA	\$3,300.00	\$6,600.00
	Written Unit Price Three Thousand Three Hundred Dollars & 00/100 Cents					

BID SCHEDULE – BASE BID

Location of Project: Augusta Regional Airport, Augusta, Georgia

Title of Project: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II

Line No.	Item No.	Item Description	Est. Qty.	Units	Unit Price	Bid Amount
15	P-151.1	Tree Clearing and Grubbing	2	AC	\$13,500.00	\$27,000.00
	Written Unit Price Thirteen Thousand Five Hundred Dollars & 00/100 Cents					
16	P-152.1	Unclassified Excavation, Select Fill from Off-Site Material	1,810	CY	\$25.00	\$45,250.00
	Written Unit Price Twenty-Five Dollars & 00/100 Cents					
17	P-152.2	Borrow Excavation, Select Fill from On-Site Material	7,250	CY	\$15.00	\$108,750.00
	Written Unit Price Fifteen Dollars & 00/100 Cents					
18	P-152.3	Unsuitable/Over excavation	1,000	CY	\$123.00	\$123,000.00
	Written Unit Price One Hundred Twenty-Three Dollars & 00/100 Cents					
19	D-701.1	Concrete Sewer Pipe, 30-inch, Class V	160	LF	\$304.00	\$48,640.00
	Written Unit Price Three Hundred Four Dollars & 00/100 Cents					
20	D-701.2	Concrete Sewer Pipe, 72-inch, Class V	700	LF	\$965.00	\$675,500.00
	Written Unit Price Nine Hundred Sixty-Five Dollars & 00/100 Cents					
21	D-701.3	Concrete Sewer Pipe, 84-inch, Class V	940	LF	\$1,165.00	\$1,095,100.00
	Written Unit Price One Thousand One Hundred Sixty-Five Dollars & 00/100 Cents					

BID SCHEDULE – BASE BID

Location of Project: Augusta Regional Airport, Augusta, Georgia

Title of Project: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II

Line No.	Item No.	Item Description	Est. Qty.	Units	Unit Price	Bid Amount
22	D-751.1	Airfield Inlet with Aircraft Rated Grate	2	EA	\$51,000.00	\$102,000.00
	Written Unit Price Fifty-One Thousand Dollars & 00/100 Cents					
23	D-751.2	Airfield Manhole with Aircraft Rated Lid	2	EA	\$67,000.00	\$134,000.00
	Written Unit Price Sixty-Seven Thousand Dollars & 00/100 Cents					
24	D-751.3	Connect New Storm Sewer Pipe to Existing Storm Pipe	2	EA	\$5,900.00	\$11,800.00
	Written Unit Price Five Thousand Nine Hundred Dollars & 00/100 Cents					
25	D-752.1	Concrete Storm Headwall	2	EA	\$35,000.00	\$70,000.00
	Written Unit Price Thirty-Five Thousand Dollars & 00/100 Cents					
26	T-901.1	Temporary Seeding	5	AC	\$3,700.00	\$18,500.00
	Written Unit Price Three Thousand Seven Hundred Dollars & 00/100 Cents					
27	T-901.2	Permanent Seeding	5	AC	\$4,100.00	\$20,500.00
	Written Unit Price Four Thousand One Hundred Dollars & 00/100 Cents					
28	T-901.3	Seeding, Staging Area	1	AC	\$4,100.00	\$4,100.00
	Written Unit Price Four Thousand One Hundred Dollars & 00/100 Cents					

BID SCHEDULE – BASE BID

Location of Project: Augusta Regional Airport, Augusta, Georgia

Title of Project: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II

Line No.	Item No.	Item Description	Est. Qty.	Units	Unit Price	Bid Amount
29	T-904.1	Sodding	165	SY	\$22.00	\$3,630.00
	Written Unit Price Twenty-Two Dollars & 00/100 Cents					
30	T-905.1	Topsoiling (Obtain on Site or Removed from Stockpile)	6,900	CY	\$6.00	\$41,400.00
	Written Unit Price Six Dollars & 00/100 Cents					
31	T-905.2	Topsoiling, Staging Area	2,762	CY	\$6.00	\$16,572.00
	Written Unit Price Six Dollars & 00/100 Cents					
32	T-905.2	Mulching	5	AC	\$350.00	\$1,750.00
	Written Unit Price Three Hundred FiftyDollars & 00/100 Cents					

Total Base Bid = \$3,479,237.00**Total Base Bid Written =** Three Million Four Hundred Seventy-Nine Thousand
Two Hundred Thirty-Seven Dollars & 00/100 Cents

BID SCHEDULE – BID ALTERNATE 1

Location of Project: Augusta Regional Airport, Augusta, Georgia

Title of Project: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II

Line No.	Item No.	Item Description	Est. Qty.	Units	Unit Price	Bid Amount
1	C-100.1	Contractor Quality Control Program (CQCP)	1	LS	\$64,230.00	\$64,230.00
	Written Unit Price Sixty-Four Thousand Two Hundred Thirty Dollars & 00/100 Cents					
2	C-102.1a	Installation, Maintenance, and Removal of Silt Fence or Silt Sock	720	LF	\$5.50	\$3,960.00
	Written Unit Price Five Dollars & 50/100 Cents					
3	C-102.1b	Construct, Maintain, and Remove Inlet Sediment Trap	1	EA	\$350.00	\$350.00
	Written Unit Price Three Hundred Fifty Dollars & 00/100 Cents					
4	C-102.1c	Construct, Maintain, and Remove Construction Exit	1	EA	\$3,300.00	\$3,300.00
	Written Unit Price Three Thousand Three Hundred Dollars & 00/100 Cents					
5	C-102.1d	Construct, Maintain, and Remove Check Dam	2	EA	\$4,100.00	\$8,200.00
	Written Unit Price Four Thousand One Hundred Dollars & 00/100 Cents					
6	C-102.1e	Construct, Maintain, and Remove Rock Dam	2	EA	\$4,100.00	\$8,200.00
	Written Unit Price Four Thousand One Hundred Dollars & 00/100 Cents					
7	C-102.1f	Water Quality Monitoring and Sampling	6	EA	\$400.00	\$2,400.00
	Written Unit Price Four Hundred Dollars & 00/100 Cents					

BID SCHEDULE – BID ALTERNATE 1

Location of Project: Augusta Regional Airport, Augusta, Georgia

Title of Project: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II

Line No.	Item No.	Item Description	Est. Qty.	Units	Unit Price	Bid Amount
8	C-102.1g	Water Quality Inspections	2	EA	\$400.00	\$800.00
	Written Unit Price Four Hundred Dollars & 00/100 Cents					
9	C-102.1h	Erosion Control Mobilization	1	LS	\$24,500.00	\$24,500.00
	Written Unit Price Twenty-Four Thousand Five Hundred Dollars & 00/100 Cents					
10	C-102.1i	Emergency Erosion Control Mobilization	1	LS	\$6,000.00	\$6,000.00
	Written Unit Price Six Thousand Dollars & 00/100 Cents					
11	C-102.1j	Rip Rap, Type III 18" Depth	930	SY	\$90.00	\$83,700.00
	Written Unit Price Ninety Dollars & 00/100 Cents					
12	C-102.1k	Erosion Control Blanket/Matting	300	SY	\$2.00	\$600.00
	Written Unit Price Two Dollars & 00/100 Cents					
13	C-105.1	Mobilization, Cleanup, and Demobilization	1	LS	\$30,000.00	\$30,000.00
	Written Unit Price Thirty Thousand Dollars & 00/100 Cents					
14	C-105.2	Airfield Safety and Traffic Control	1	LS	\$10,000.00	\$10,000.00
	Written Unit Price Ten Thousand Dollars & 00/100 Cents					

BID SCHEDULE – BID ALTERNATE 1

Location of Project: Augusta Regional Airport, Augusta, Georgia

Title of Project: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II

Line No.	Item No.	Item Description	Est. Qty.	Units	Unit Price	Bid Amount
15	P-101.1	Remove Existing 30-72" RCP	75	LF	\$41.00	\$3,075.00
	Written Unit Price Forty-One Dollars & 00/100 Cents					
16	P-101.2	Remove Existing Concrete Headwall	1	EA	\$3,300.00	\$3,300.00
	Written Unit Price Three Thousand Three Hundred Dollars & 00/100 Cents					
17	P-152.1	Unclassified Excavation, Select Fill from Off-Site Material	2,430	CY	\$25.00	\$60,750.00
	Written Unit Price Twenty-Five Dollars & 00/100 Cents					
18	P-152.2	Borrow Excavation, Select Fill from On-Site Material	9,720	CY	\$15.00	\$145,800.00
	Written Unit Price Fifteen Dollars & 00/100 Cents					
19	P-152.3	Unsuitable/Over excavation	1,000	CY	\$123.00	\$123,000.00
	Written Unit Price One Hundred Twenty-Three Dollars & 00/100 Cents					
20	D-701.2	Concrete Sewer Pipe, 72-inch, Class V	200	LF	\$1,000.00	\$200,000.00
	Written Unit Price One Thousand Dollars & 00/100 Cents					
21	D-701.3	Concrete Sewer Pipe, 84-inch, Class V	700	LF	\$1,165.00	\$815,500.00
	Written Unit Price One Thousand One Hundred Sixty-Five Dollars & 00/100 Cents					

BID SCHEDULE – BID ALTERNATE 1

Location of Project: Augusta Regional Airport, Augusta, Georgia

Title of Project: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II

Line No.	Item No.	Item Description	Est. Qty.	Units	Unit Price	Bid Amount
22	D-751.2	Airfield Manhole with Aircraft Rated Lid	1	EA	\$67,000.00	\$67,000.00
	Written Unit Price Sixty-Seven Thousand Dollars & 00/100 Cents					
23	D-751.4	Connect Storm Sewer Pipe to Existing Storm Structure	1	EA	\$5,900.00	\$5,900.00
	Written Unit Price Five Thousand Nine Hundred Dollars & 00/100 Cents					
24	D-752.1	Concrete Storm Headwall	1	EA	\$39,000.00	\$39,000.00
	Written Unit Price Thirty-Nine Thousand Dollars & 00/100 Cents					
25	T-901.1	Temporary Seeding	4	AC	\$3,700.00	\$14,800.00
	Written Unit Price Three Thousand Seven Hundred Dollars & 00/100 Cents					
26	T-901.2	Permanent Seeding	4	AC	\$4,100.00	\$16,400.00
	Written Unit Price Four Thousand One Hundred Dollars & 00/100 Cents					
27	T-901.3	Seeding, Staging Area	1	AC	\$4,100.00	\$4,100.00
	Written Unit Price Four Thousand One Hundred Dollars & 00/100 Cents					
28	T-904.1	Sodding	80	SY	\$22.00	\$1,760.00
	Written Unit Price Twenty-Two Dollars & 00/100 Cents					

BID SCHEDULE – BID ALTERNATE 1

Location of Project: Augusta Regional Airport, Augusta, Georgia

Title of Project: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II

Line No.	Item No.	Item Description	Est. Qty.	Units	Unit Price	Bid Amount
29	T-905.1	Topsoiling (Obtain on Site or Removed from Stockpile)	6,900	CY	\$6.00	\$41,400.00
	Written Unit Price Six Dollars & 00/100 Cents					
30	T-905.2	Topsoiling, Staging Area	2,762	CY	\$6.00	\$16,572.00
	Written Unit Price Six Dollars & 00/100 Cents					
31	T-908.1	Mulching	4	AC	\$350.00	\$1,400.00
	Written Unit Price Three Hundred Fifty Dollars & 00/100 Cents					

Total Bid Alternate 1 = \$1,805,997.00

Total Bid Alternate 1 Written = One Million Eight Hundred Five Thousand Nine Hundred Ninety-Seven Dollars & 00/100 Cents

BID SUMMARY

Base Bid = \$3,479,237.00

Base Bid Written = Three Million Four Hundred Seventy-Nine Thousand Two Hundred Thirty-Seven Dollars & 00/100 Cents

Bid Alternative 1 = \$1,805,997.00

Bid Alternative 1 Written = One Million Eight Hundred Five Thousand Nine Hundred Ninety-Seven Dollars & 00/100 Cents

Total Base Bid + Bid Alternate 1 = \$5,285,234.00

Total Base Bid + Bid Alternate 1 Written = Five Million Two Hundred Eighty-Five Thousand Two Hundred Thirty Four Dollars & 00/100 Cents

6. **Determination of Low Bidder:** Low bidder will be determined based on the total of the base bid plus all bid alternates regardless of the alternates chosen for the project. Owner shall reserve the right to award the overall project and alternate as deemed fit.

7. **Execution of Contract:** Bidder agrees that in case of failure on its part to execute the said Contract and Bonds within fifteen (15) days after the date indicated in the "Notice of Award," the check or bid bond accompanying this bid, and the money payable thereon, shall be paid to the Owner as liquidated damages for such failure; otherwise the Bid Security or check accompanying this bid shall be returned to the undersigned.

8. **Documentation:** The following required documents are attached to and made a part of this bid

- a. Required Bid Security in the form of a Bid Bond payable to the order of the City of Augusta;
- b. Performance of Work by Subcontractor List;
- c. Certificate of Prompt Payment

9. Name and business address (mailing and street) of Bidder to which all formal notices shall be sent:

Reeves Construction Company

1 APAC Industrial Way

Augusta, GA 30907

10. The terms used in this bid, which are defined in the General Provisions of the Construction Contract as a part of the Contract Documents, have the meanings assigned to them in the General Provisions.

11. Bidder hereby acknowledges receipt of the following addenda:

Addendum No.

Date

1

3/12/2025

12. The Bidder shall state on the line below, if a corporation, the name of state in which incorporated and the date of said corporation.

Georgia Corporation since 1955

Signed this 19th day of March, 2025.

Contractor

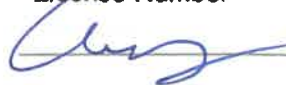
Reeves Construction Company

By: 

(Signature of individual, partner or officer
signing the Bid)

UC300349

License Number





ATTEST:

Southeast Drainage Ditch Ph II
Augusta Regional Airport, Augusta, Georgia

NOTE: If Contractor is a Corporation, Secretary should attest seal. Seal is required if Bidder is a Corporation. If Contractor is a Partnership, all partners shall execute the bid (add spaces as required).

PERFORMANCE OF WORK BY SUBCONTRACTORS

The Bidder hereby states that he proposes to use the subcontractors listed below on this project if awarded the Contract. Please list all proposed subcontractors, trade specialty and dollar value of their work. The Bidder shall obtain prior written permission of the Owner should it choose to add or substitute other subcontractor(s) not shown below.

Subcontractor Name/Address/Phone Number	Subcontractor Work Items	Dollar Value of Subcontractor Work
<u>Terra Excavating Augusta GA</u>	<u>Clearing and Grubbing</u>	<u>\$27,000.00</u>
<u>CSI Geo, LLC Jacksonville, FK</u>	<u>Testing</u>	<u>\$146,000.00</u>
<u>Beams Contracting Beech Island, SC</u>	<u>Headwalls</u>	<u>\$103,564.00</u>
<u>Charles Ware, LLC Augusta GA</u>	<u>Erosion Control</u>	<u>\$155,825.00</u>
<u>GL Williams Graniteville SC</u>	<u>Hauling</u>	<u>\$140,000</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

Estimated Total Cost of Items that Bidder states will be performed by Subcontractors is:

\$ 572,389.00 .

CERTIFICATION OF PROMPT PAYMENT

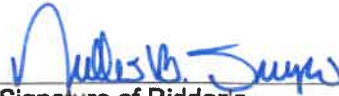
The prime Contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than thirty (30) days from the receipt of each payment the prime Contractor receives from the Owner. The prime Contractor further agrees to return retainage payments to each subcontractor within thirty (30) days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval from the Owner. This clause applies to both DBE and non-DBE subcontractors.

Reeves Construction Company

Name of Bidder's

Authorized Representative

(Please Print or Type Name)



Signature of Bidder's

Authorized Representative

Region Manager

Title of Bidder's

Authorized Representative

3/19/2025

Date



FINANCIAL AND EXPERIENCE STATEMENT

REEVES CONSTRUCTION COMPANY EAST REGION

Contacts:

Dallas Suggs, East Region Manager, Corp Asst Secretary	706-731-5230
Greg Hamilton, Chief Estimator	706-731-5254
Robin Smith, Construction Manager	706-731-5225
Steve Drake, Plant Manager	706-731-5223

Please note Reeves Construction Company has sufficient employees in all areas or our company to complete any project bid. When additional crews are needed we have access to employees from other region offices.

Local office:

1 APAC Industrial Way
Augusta, GA 30907
Phone: 706-731-5230
Fax: 706-731-8620

Mailing Address:

1 APAC Industrial Way
Augusta, GA 30907

CORPORATE OFFICERS:

Zach Green , President
Tracy Loyd, Chief Financial Officer
Rob Loar, Vice President/Assistant Secretary

Corporate Office

250 Plemmons Road Duncan, SC 29334
Phone: 864-416-0200
Fax: 864-416-0201

An Equal Opportunity Employer

BONDING AND ADDITIONAL INFORMATION

Bonding Company: Liberty Mutual/Willis HRH

Agent: Chad Johnson
One World Financial Center; 200 Liberty St.; 6th Floor
New York, NY 10281
212-915-8199

Bond Request during past 3 Years: Approximately 1000

Dun & Bradstreet Number: 00-580-8449

Parent Company: Colas, Inc. Duns #:606103737

Trade Style: Highway Construction Company/Asphalt Production

Business Location: One APAC Industrial Way, Augusta, GA 30907

Mailing Address: P O Box 1129, Augusta, GA 30903

Classification: Paving & Street Contractor, Grading, Utilities

Phone: 706-731-5230

Fax: 706-731-8620

FEDERAL ID: 58-0641369

Incorporated February 1, 1955, State of Georgia

GA License #: UC300349

GADOT Pre-qualified Contractors License #: 2RE390

SC License #: G102922

Augusta/Richmond County Business License #LCC20070035336

EEV # 667047 Authorized 03/12/18

Region Manager: Dallas Suggs

Chief Estimator: Greg Hamilton

An Equal Opportunity Employer



A COLAS COMPANY

ADDITIONAL CREDIT FACTS

BANK REFERENCES:

The Bank of New York Mellon
500 Ross St., Suite 1320
Pittsburgh, PA 15219
Attn: Dave Danielson
(412) 234-9270 Phone
(412) 234-5339 Fax
Account No. 2-923-548
Demand Deposit

Bank of America
1455 Grant St., Bldg A -10th Floor
Concord, CA 94520-2445
1-900-733-5100
(credit inquiry – fee assessed)
Account No.: 1499710913
Reeves Construction AP Account

Reeves Construction Company is sales taxable.

It is against company policy to release financial information. For specific question, please contact our Region Controller, Paul Caputo at 706-731-5230, or fax written questionnaire to 706-731-8620.

The only litigations associated with our company are minor as is normal with any large corporation. There are no outstanding litigations that would impact the company's financial status or stability of our company.

An Equal Opportunity Employer



A COLAS COMPANY

TRADE REFERENCES

Tractor & Equipment Company
5336 Airport Highway
Birmingham, AL 35212
866-591-2131
205-510-0462 FAX
Customer Acct: REEVE009

NuStar Marketing, LLC
P.O. Box 974487
Dallas, TX 75397-4487
229-435-6262

Yancey Brothers
P O Box 1087
Albany, GA 31707
877-687-8270

Vulcan Materials
5868 Columbia Rd.
Grovetown, Ga. 30813
706-541-0187
706-541-9161 FAX
Acct: 3117691

ASC Construction Equipment, USA
9115 Harris Corners Parkway
Suite 450
704-494-8100
Customer # 103235

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Reeves Construction Equipment List

Reeves Equipment No.	Make & Type	Model
110500	95 FORD ASPHALT SVC	F800
110501	06 INT'L ASPH SVC TR	4400
110503	07 FORD ASP SER TRK	F650
110504	07 FREIGHTLINER LUBE	M2
110505	08 FORD ASPH SERVICE	F650
110506	94 FORD LUBE SV TRK	LN7000
110507	08 FORD ASPH SERVICE	F650
110508	95 FORD ASPHALT SVC	F800
110510	01 FORD LUBE SERV TR	F750
110514	95 FORD ASP SER TRK	L8000
110516	95 FORD ASPHALT SVC	F800
110521	96 INT'L ASP SV TRK	4700
110522	96 INT'L ASP SV TRK	4700
110523	95 INTL LUBE SV TRK	4700
110524	95 INTL LUBE SV TRK	1995
110525	01 INTL LUBE SV TRK	4700
110526	95 INTL LUBE SV TRK	4700
110528	88 FORD LUBE SERV TR	F700
110536	99 GMC ASPH SERVICE	C70
110537	99 GMC ASPH SERVICE	C70
110538	99 FORD ASPHLT SVC T	F350
110539	80 FORD SVC TRK IRP	LN7000
110540	97 CHEV SVC TRK IRP	C7010
110550	07 FORD PIPE CREW SV	F450
1111100	95 FORD/ETNYRE DIST	F700
1111101	06 FORD/ETYNRE S4344	F750
1111102	98 CHEV DISTRIBUTOR	1998
1111103	84 INTNL DISTRIBUTOR	1984
1111109	93 FORD 1981 DIST J7	LN8000
1111110	93 FORD/ETN DIST S-1	LN8000
1111115	94 INT'L/ETNYRE S-14	4700
1111118	97 FORD/96 ETNYRE DI	S2000
1111119	96 FORD/96 ETNYRE DI	S2000
1111120	99 ETNYRE DIST	S2000S2604
1111121	95 FORD & ETNRE DIST	1995
1111122	96 FORD & ETNRE DIST	1996
1111123	04 FORD & ETNYRE DIS	2004 F750
1111124	06 INT'L/ETYNRE S417	7300
1111150	98 FRTLNER/ETNRE DI	FL70
1111152	96 FORD DISTRIBUTOR	F8000
2013600	07 INGERSOLL SP RT R	PT125R
2013601	95 INGERSOLL SP RT R	PT125R
2013604	03 INGERSOLL SP RT R	PT-125R
2013605	03 INGER SP RT ROLLE	PT125R
2013606	96 INGER SP RT ROLLE	PT125R
2013607	94 INGERSOLL SP RT R	PT125R
2013609	94 INGERSOLL SP RT R	PT125R
2013613	92 INGERSOLL SP RT R	PT120R

Reeves Construction Equipment List

Reeves Equipment No.	Make & Type	Model
2013615	99 INGERSOLL SP RT R	PT125R
2013618	94 INGERSOLL SP RT R	PT-125R
2013619	94 INGERSOLL SP RT R	PT-125R
2013620	94 INGERSOLL SP RT R	PT-125R
2013624	02 INGERSOLL RT ROLL	PT125R
2013625	04 INGERSOLL RT ROLL	PT125R
2013630	96 INGER SP RT ROL	PT125R
2013650	96 INGER SP RT ROLLE	PT125R
2013651	97 INGER SP RT ROLLE	PT125R
2013652	98 INGER SP RT ROLLE	PT125R
2013653	99 CAT PNEUMATIC ROL	PS150B
2083202	87 INGERSOLL VIB SHE	SPF/56
2083203	88 DYNAPAC VIB SHEEP	CA/25/PD
2083208	99 IR VIB SHEEPFOOT	SD115
2083210	95 INGERSOLL VIB SHP	SD100F
2083213	92 CAT VIB SHEEP FOO	CP563
2083215	97 INGERSOLL VIB SHP	SD-100-F
2083216	99 INGER RAND VIB SH	SD115F
2083217	04 IR VIB SHEEPFOOT	SD116F
2083230	94 INGER RAND PAD FO	SD-100-F
2113513	69 SEAMAN DUOPAC ROL	20DTR
2133300	94 INGERSOLL VIB ROL	SD-100
2133301	03 INGERSOLL VIB ROL	SD100D
2133303	04 ING RAND ROLLER 8	SD100TF
2133304	86 INGERSOLL VIB ROL	SP56
2133306	86 INGERSOLL VIB ROL	SD-100
2133308	04 INGERSOLL RAND RO	SD100D
2133313	97 INGERSOLL VIB ROL	SD-100
2133314	91 INGERSOLL VIB ROL	SD100
2133316	94 DYNAPAC VIB ROLLE	CA251
2133317	98 DYNAPAC VIB ROLLE	CA252D
2133318	98 DYNAPAC VIB ROLLE	CA252D
2133321	98 CATERPILLAR VIB R	CS563D
2133322	00 INGERSOLL RAND RO	SD100D
2133330	96 IR RAND ROLLER SI	SD100D
2133331	96 IR RAND ROLLER SI	CS431C
2133332	97 IR RAND ROLLER SI	SD100D
2153700	07 IR DD VIB ROLLER	DD24
2153702	94 CAT DD ROLLER	CB224C
2153713	95 IR DD VIB ROLLER	DD24
2153719	02 IR DD VIB ROLLER	DD24
2153734	00 IR DD VIB ROLLER	DD-24
2163718	84 IR VIB RMBL ROLL	DA40
2163725	86 IR VIB RUMBLE ROL	DA40
2163729	94 INGER DD VIB ROLL	DD90
2163737	99 CAT DD VIBR ROLLE	CB534C
2163738	03 INGER DD VIB ROLL	DD90
2163739	05 IR DD VIB ROLLER	DD90

Reeves Construction Equipment List

Reeves Equipment No.	Make & Type	Model
2163740	96 INGER DD VIB ROLL	DD90
2163741	97 INGER DD VIB ROLL	DD90
2163742	04 INGER DD VIB ROLL	DD90
2163744	04 INGER DD VIB ROLL	DD90
2163745	04 INGER DD VIB ROLL	DD90
2163751	99 DYNAPAC DDVIB ROL	CC522
2163752	99 DYNAPAC DDVIB ROL	CC522
2163753	01 IR DD VIB ROLL 66	DD-90
2163756	03 IR RAND DDVIB ROL	DD-90
2163757	03 INGER DD VIB ROLL	DD90
2163758	05 IR DD VIB ROLLER	DD90
2163759	06 IR DD VIB ROLLER	DD90-HF
2163771	95 INGER DD VIB ROLL	DD90
2163774	99 INGER DD VIB ROLL	DD110-HF
2163775	88 HYPAC C340C ROLLE	C340C
2163776	07 INGER DD VIB ROLL	DD90-HF
2163777	07 INGER DD VIB ROLL	DD90-HF
2163778	07 INGER DD VIB ROLL	DD90-HF
2173748	99 CAT DD VIB ROLLER	CB634C
2173749	99 IR RAND DDVIB ROL	DD130
2173750	98 IR RAND DDVIB ROL	DD130
2173754	01 IR RAND DDVIB ROL	DD125
2173755	02 IR RAND DDVIB ROL	DD125
2173780	00 IR RAND DD VIB RO	DD130
2173781	04 CAT DD VIB ROLL	CB534
2192302	06 CAT SKDSTEER LOAD	242B
2192306	99 TAKEUCHI SKID STE	TL26
2192308	01 JOHN DEERE CRWL L	250
2192309	04 CAT SKDSTEER LOAD	226
2192310	04 CAT SKID STEER LO	248B
2192350	03 BOBCAT SKIDSTEER	751
2202510	04 KOMAT WHEEL LOADE	WA250PT5
2202513	04 KOMAT WHEEL LOADE	WA250PT5L
2202516	85 CAT WHEEL LOADER	936
2202519	96 KOMAT WH LOAD 2YD	WA250-1
2202520	07 KOMATSU WHEEL LOA	WA250PT-5L
2202522	89 KOMAT WH LOAD 2YD	WA250
2202533	05 CAT WHEEL LOADER	928G
2202534	96 CAT WHEEL LOADER	928F
2202564	98 CAT WHL LOADER 2.	IT28F
2202565	95 CAT WHL LOADER 2.	IT28F
2202566	07 CAT WHEEL LOADER	928GZ
2202567	07 KOMATSU WHEEL LOA	WA320
2212506	95 CAT WHEEL LOADER	938F
2212507	06 CAT WHEEL LOADER	930G
2212511	87 CAT WHEEL LOADER	950B
2212514	07 CAT WHL LOADER	938G II
2212535	97 CAT WHL LOADER 4Y	960F

Reeves Construction Equipment List

Reeves Equipment No.	Make & Type	Model
2212537	97 CAT WH LOAD 3YD	938G
2212542	91 CAT WHEEL LOADER	950E
2212543	96 CAT WHEEL LOADER	950F
2222501	94 CAT WHL LOADER 5Y	966
2222502	04 KOMAT WHL LOADER	WA450-5L
2222503	95 KOM WHL LOAD 4YD	WA380
2222504	06 KOMATSU WHEEL LOA	WA480-5L
2222505	96 CAT WHL LOAD 4YD	970F
2222506	05 CAT WHEEL LOADER	966G
2222517	86 CAT WHEEL LOADER	966D
2222530	94 KOMAT WHL LOADER	WA450
2222538	99 KWSKI WHL LOADER	90ZIV-2
2222550	86 CAT WHEEL LOADER	966D
2222557	04 KOMTSU WH LOADER	WA450-5L
2222558	06 KOMATSU WHEEL LOA	WA450
2222559	06 CAT WHL LOADER 6	972H
2222561	83 CAT WHL LOADER 3.	950B
2222563	01 KWSKI WHL LOADER	80ZIV-2
2222568	07 KOMATSU WHL LOADE	WA480
2222569	07 JDEERE WHEEL LOAD	824J
2272305	94 CAT CRWLOAD RT RA	963
2292833	05 KOMATSU MINI EXCA	PC35MR-2
2292834	06 KOMAT COMPACT HYD	PC78MR-6
2312406	94 CAT EXCAVATOR	322L
2312407	95 HYUNDAI EXCAVATOR	290L-3
2312412	07 CAT EXCAVATOR	325D
2312413	97 CAT EXCAVATOR	325B
2312415	02 KOMATSU EXCAVATOR	PC270-7
2312416	02 KOMATSU EXCAVATOR	PC270-7
2312417	02 KOMATSU EXCAVATOR	PC270LC-7L
2312418	03 KOMATSU EXCAVATOR	PC270LC-7
2312419	03 KOMATSU EXCAVATOR	PC270LC-7
2312420	04 KOMATSU EXCAVATOR	PC270LC-7L
2312421	06 KOMATSU EXCAVATOR	PC220LC8
2312422	05 KOMATSU EXCAVATOR	PC270LC-7L
2312423	06 KOMATSU EXCAVATOR	PC270LC-8
2312424	06 KOMATSU EXCAVATOR	PC220LC-8
2322452	98 CAT EXCAVATOR	330BL
2322453	07 KOMATSU EXCAVATOR	PC300LC-8
2382700	91 CAT GRADER 14FT 1	12G
2382702	94 CAT GRADER 14FT 1	12G W/LASE
2382703	06 CAT GRADER 14FT	12H
2382709	93 CAT GRADER 14FT 1	12G
2382721	88 CAT GRADER 14FT 1	12G
2382732	78 CAT GRADER 12FT 1	12G
2382734	97 CAT GRADE 14FT	12H
2382738	94 CAT GRADER	12G
2382739	94 CAT GRADER	12G

Reeves Construction Equipment List

Reeves Equipment No.	Make & Type	Model
2382743	06 CAT GRADER 14FT	12H
2382750	92 CAT GRADER 135HP	12G
2382751	94 CAT GRADER 135HP	12G
2382754	04 CAT GRADER 140HP	12H
2392701	92 CAT GRADER 14FT 1	140G
2392706	01 CAT GRADER 140HP	140H
2392707	01 CAT GRADER 140 H	140H
2392708	01 CAT GRADER 140 HP	140H
2392716	87 CAT GRADER 14FT 1	140G
2392719	85 CAT GRADER 12FT 1	140G
2392720	87 CAT GRADER 14FT 1	140G
2392722	95 CAT GRADER	140G
2392724	97 CAT GRADE 14FT	140H
2392744	91 CAT GRADER 14FT 1	140G
2392745	97 CAT GRADED 14FT	140H
2392756	07 KOMATSU MOTOR GRA	G0655-3E0
2452200	92 CAT CRAWLER DOZER	D3C
2452203	02 KOMAT CRAWL DOZR	D39P-1A/02
2452205	03 CAT CRAWLER DOZR	D5M
2452206	04 KOMAT CRAWLR DOZE	D37PX-21
2452209	03 KOMAT CRWLER DOZR	D39PX-21
2452216	99 CAT CRAWLER DOZER	D4C
2452253	97 CAT CRAWLER DOZER	D3CXL S111
2462201	94 CAT CRAWLER DOZER	D5H
2462208	07 KOMATSU CRAWLER D	D51 PX-22
2462210	02 CAT CRWLER DOZR 9	D5G
2462228	05 CAT CRWLR DOZR 90	D5GLGP
2462229	05 CAT CRWLR DOZR 90	D5GLGP
2462250	97 CAT CRAWLER DOZER	D5M LGP
2462251	99 CAT CRAWLER DOZER	D5M LGP
2462252	95 CAT CRAWLER DOZER	D5H XL
2472202	78 CAT CRWLER DOZER	D6D
2472207	84 CAT CRAWLER DOZR	D6D
2472212	88 CAT CRWLR DOZR 16	D6H
2472214	03 J DEERE CRWLR DOZ	650H
2472220	97 CAT CRWLR DOZR 16	D6R
2472222	93 KOMAT CRWL DOZR 1	D65EX
2472254	78 CAT CRAWLER DOZER	D6D
2482227	80 CAT CRWLR DOZR 20	D-7
2532800	07 JOHN DEERE BACKHO	410J
2532801	07 JOHN DEERE BACKHO	410J
2532806	97 CAT WHEEL BACKHOE	426B
2532807	97 CAT WHEEL BACKHOE	426B
2532809	95 JD WH BHOE 1YD 75	410D
2532810	93 JD WH BHOE 1YD 75	410D
2532811	93 JD WH BHOE 1YD 75	410D
2532813	04 KOMATSU WHL BACKH	WB140-2N
2532816	94 JD BACKHOE	310D

Reeves Construction Equipment List

Reeves Equipment No.	Make & Type	Model
2532830	02 JD WHEELED BACKHO	410G
2532831	02 JD WHEELED BACKHO	410G
2532832	05 JD WHEELED BACKHO	410G
2532835	06 JD WHEELED BACKHO	410G
2532836	06 JD BACKHOE 1.3YD	310SG
2532837	07 CAT ITC BACKHOE	420E
2532838	07 CAT ITC BACKHOE	420E
2563802	00 BLAWKNOX TRACK PA	PF5510
2563803	08 ROADTEC TRACK PAV	RP195
2573819	95 BLAWKNOX PAVER 13	PF171
2583808	94 BLAWKNOX PAVER W/	PF200B
2583825	96 BLAWKNOX PAVER 15	PF3180
2583833	00 BLAWKNOX PAVER 18	PF3200
2583834	00 BLAWKNOX PAVER	PF3200
2583835	01 BLAWKNOX PAVER 18	PF3200
2583836	02 BLAWKNOX PAVER 18	PF3200
2583837	03 BLAWKNOX PAVER 18	PF3200
2583838	04 BLAWKNOX PAVER 18	PF3200
2583839	04 BLAWKNOX PAVER 18	PF3200
2583840	06 BLAWKNOX PAVER	PF3200
2583841	06 BLAWKNOX PAVER	PF3200
2583842	07 ROADTEC PAVER	RP190
2583850	04 ROADTEC PAVER	RP190-10
2583852	95 ROADTEC PAVER	RP180-10
2614209	99 ROADTEC SHUTTLE B	SB2500
2614214	02 B KNOX MATERIAL H	MC330
2614217	06 B KNOX MATERIAL H	MC330
2614218	03 ROADTEC MATERIAL	SB2500C
2614219	02 ROADTEC SHUTTLE B	SB2500
2654213	00 WIRTGEN MILL MACH	1900DC
2654215	98 WIRTGEN MILL MACH	1900DC
2654220	06 CAT MILLING MACHI	PM201
2683815	79 ETNYRE CHIP SPREA	ETNYRE SP
2714211	94 CAT SOIL STAB/MIX	RR-250
2714216	01 CAT SOIL STAB/MIX	SS250B
2744205	96 GOMACO GRADE TRIM	GT9000
2764303	92 GOMACO CURB MACHI	GT-6200
2793807	93 BLAWKNOX WIDE MAC	RW195
2793810	85 BLAWKNOX WIDE MAC	RW195
2793811	03 BLAWKNOX WIDE MAC	RW100A
2793821	90 BLAWKNOX WIDE MAC	RW195D
2793851	89 BLAWKNOX WIDE MAC	RW100
2793852	06 MIDLAND ROAD WIDE	SA
2983900	86 JERSEY SPREADER	102
2983901	83 JERSEY SPREADER	
2983902	83 JERSEY SPREADER	
2983906	83 BLAWKNOX SPREADER	
2983920	JERSEY SPREADER	

Reeves Construction Equipment List

Reeves Equipment No.	Make & Type	Model
8064300	93 POWER CURBER	PC150
8064301	96 EXTRUD POW CURB	440
8064304	94 EXTRUDED POWER CU	PC150
8362903	87 JD FARM TRACTOR S	1450
8362904	84 FORD FARM TRACTOR	TW5
8362905	85 FORD FARM TRACTOR	TW5
8362907	86 JD FARM TRACTOR S	1250
8362910	90 JD FARM TRACTOR L	4455
8362913	88 JD FARM TRACTOR L	4450
8362914	84 JD FARM TRACTOR S	1530
8362917	93 JD FARM TRACTOR	1250
8362921	84 JD FARM TRACTOR L	4450
8362924	94 FORD TRACTOR	7610
8362929	98 NEW HOLLAND TRACT	7610S
8362951	91 FORD FARM TRACTOR	761
8362952	07 JD SCRAPER TRACTO	8430
8385012	87 BLOWER	
8385020	FINN HAY BLOWER	B70TD
8385022	FINN HAY BLOWER	MSD30
8385024	92 FINN HAY BLOWER	B-70
8385025	01 FINN HAY BLOWER	B-70
8414000	95 CHALLENGER II BRO	
8414003	08 ROSCO BROOM	CHALLNGIII
8414004	08 ROSCO BROOM	CHALLNGIII
8414005	08 ROSCO BROOM	CHALLNGIII
8414006	96 CHALLENGER II BRO	
8414007	96 BROCE BROOM	RJ300
8414008	97 CHAL II BROOM RE	
8414013	99 BROCE BROOM	RC350
8414018	92 CHALLENGER II BRO	
8414022	00 BROCE BROOM	RC350
8414025	96 CHALLENGER II BRO	
8414026	01 BROCE BROOM	RC350
8414027	01 CHALLENGER II BRO	
8414028	01 CHALLENGER II BRO	
8414029	01 CHALLENGER II BRO	
8414030	01 BROCE BROOM	RJ350
8414031	02 CHALLENGER II BRO	
8414032	04 ROSCO CHALL II BR	4840
8414050	90 BROCE BROOM 8FT	RC300
8414051	97 BROCE BROOM 8FT	RC350
8414052	04 ROSCO CHALLENGER	CHALLENGER
8414055	91 FORD TRACTOR BROO	3930
8414056	98 LAY-MOR 3 WHL BRO	8B
8414057	96 LAY-MOR 3 WHL BRO	8B
8414058	05 TERRAMITE BROOM	TSS38
8414059	05 BROCE BROOM	RJ350

PROJECT REFERENCES

1. AGL Remediation Project, \$760,330.00, Completed: 2/5/2020, Geo-Solutions
2. Berkman Road Utilities and Road Project, \$11,116,656.00, Completed 8/28/2021, Augusta-Richmond County
3. SR 17 Drainage Project, \$ 2,432,665.29, Completed: 11/15/2022 Georgia Department of Transportation.
4. East Augusta Roadway & Drainage Project-Ph III, \$6,244,538.46, Completed: 4/1/2024 Augusta-Richmond County
5. White Oak Business Park Rd Ext and Drainage, Ph II, \$5,949,677, Completed: 4/15/2024, Columbia County Georgia

Mr. Kyle Brooks
Georgia Department of Transportation
4260 Belair Frontage Rd.
Augusta, GA 30909
(706) 855-3466
rway@dot.ga.gov

Mr. Peter Moretuzzo
Geo-Solutions, Inc.
1250 Fifth Avenue
New Kensington, PA 15068
(727)914-7774 x 103

Mr. Kyle Titus
Columbia County Construction
Ronald Reagan Drive
Evans, GA 30809
(706) 441-6200

Ms. June Hamal
Augusta-Richmond County Engineering
452 Walker St.
Augusta, GA 30901
(706)796-5040

PROJECT REFERENCES

1. Sylvania-Screven County Airport, Runway 23 Extension; Contract Amount: \$1,725,980.00; Completed: 12/31/2019
2. Aiken Municipal Airport, Terminal Apron Extension; Contract Amount: \$ 2,127,638.50; Completed: 06/2017
3. Burke County Parallel Taxiway; Contract Amount: \$2,513,684; Completed: 10/2019
4. Augusta Regional Airport Taxiway Resurfacing; Contract Amount: \$1,756,444; Completed: 11/2021.
5. Augusta Regional Airport Taxiway Resurfacing; Contract Amount: \$2,238,980; Completed: 10/2020.
6. Daniel Field Airport Taxiway Resurfacing; Contract Amount: \$1,686,012; Completed: 12/2020.

Sylvania-Screven Airport Authority
104 E. Telephone St
Sylvania, GA 30467

City of Aiken South Carolina
245 Dupont Dr.
Aiken, SC 29801

Burke County Board of Commissioners
602 N Liberty Street
Waynesboro, GA 30830

Augusta Regional Airport
1501 Aviation Way
Augusta, GA 30906
(706)798-3236
Risa Bingham

Daniel Field Airport
Highland Avenue
Augusta, GA
GMC Engineering (706)251-9099
Rhonda Davis

An Equal Opportunity Employer



In accordance with Chapter 10C of the AUGUSTA, GA. CODE, Augusta has placed a 6% goal for Minority Participation. This goal must be met or a Good Faith Effort (GFE) must be made to utilize minorities on this project.

Project Name: Southeast Drainage Ditch Enclosure Ph II

Bid Number: 25-150

LETTER OF INTENT

Minority Participation

(This page shall be submitted for **each** minority-owned firm to be utilized on this project)

Bidder/Offerrer:

Name: Reeves Construction Company

Address: 1 APAC Industrial Way

City: Augusta

State: GA

Zip: 30907

Minority-Owned Firm:

Firm: Charles W Ware, LLC

Address: 2940 Hill Creek Drive

City: Augusta

State: GA

Zip: 30909

Contact Person:

Name: Charles Ware

Phone: (770)-630-1389

Classification:

☐ Prime Contractor

☒ Subcontractor

☐ Joint Venture

☐ Manufacturer

☐ Supplier

Work Item(s) to be performed by Firm	Description of Work Item	Quantity	Total
1 2,3,26,27,28,29,32-Base	Erosion Control/Grass	1 LS	\$112,455.00
2,3,12,25,26,27,28,31-Alt	1 Erosion Control/Grass	1 LS	\$43,370.00

The Bidder/Offerrer is committed to utilizing the above-named Minority-owned firm for the work described above. The estimated participation is as follows:

Minority contract amount: \$ 155,825.00

Percent of total contract: 2.9483 %

AFFIRMATION:

The above-named Minority-Owned firm affirms that it will perform that portion of the contract for the estimated dollar value as stated herein above.

By: Charles W Ware

(Signature)

Owner

(Title)

** In the event the bidder/offerrer does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.



In accordance with Chapter 10C of the AUGUSTA, GA, CODE, Augusta has placed a 6% goal for Minority Participation. This goal must be met or a Good Faith Effort (GFE) must be made to utilize minorities on this project.

Project Name: Southeast Drainage Ditch Enclosure Ph II Bid Number: 25-150

**UTILIZATION STATEMENT
Minority-Owned Firms**

The Minority participation goal for this project is 6%.

The undersigned bidder/offeree has satisfied the requirements of the bid specification in the following manner. (Please mark the appropriate box)

- ☒ The bidder/offeree is committed to the minimum of 6% minority utilization on this contract
- ☐ The bidder/offeree, while unable to meet the contract goal of 6%, hereby commits to a minimum of _____% minority utilization on this contract and submits the attached documentation as evidence demonstrating good faith efforts (GFE) in seeking participation of minority-owned firms.

The undersigned hereby further assures that the information included herein is true and correct, and that the Minority-owned firm or firms identified within the submitted Letter of Intent form(s) have agreed to perform a commercially useful function (CUF) for the indicated work elements.

The undersigned further understands that no changes to this statement may be made without prior approval from the Owner.

Reeves Construction Company
Bidder's/Offeree's Firm Name

[Signature]
Signature

3/19/2025
Date

MINORITY UTILIZATION SUMMARY

<u>Percentage</u>	<u>Contract Amount</u>	<u>Minority Amount</u>	<u>Contract</u>
	\$5,285,234.00		
Minority Prime Contractor	\$ _____ x 1.00 =	\$ _____	_____ %
Minority Subcontractor	\$ 317,115.00 x 1.00 =	\$ 317,115.00	6 %
Minority Supplier	\$ _____ x 1.00 =	\$ _____	_____ %
Minority Manufacturer	\$ _____ x 1.00 =	\$ _____	_____ %
Total Amount Minority		\$ 317,115.00	6 %
Minority Participation Goal		\$ 317,115.00	6 %

* If the total proposed Minority participation is less than the established Minority goal, the bidder must provide written documentation of the good faith efforts in accordance with Chapter 10C of the AUGUSTA, GA, CODE.



In accordance with Chapter 10C of the AUGUSTA, GA. CODE, Augusta has placed a 6% goal for Minority Participation. This goal must be met or a Good Faith Effort (GFE) must be made to utilize minorities on this project.

Project Name: Southeast Drainage Ditch Enclosure Ph II

Bid Number: 25-150

LETTER OF INTENT

Minority Participation

(This page shall be submitted for each minority-owned firm to be utilized on this project)

Bidder/Offorer:

Name: Reeves Construction Company

Address: 1 APAC Industrial Way

City: Augusta State: GA Zip: 30907

Minority-Owned Firm:

Firm: CSI Geo, Inc.

Address: 851 Laney Walker Blvd

City: Augusta State: GA Zip: 30901

Contact Person:

Name: Liam Capstick Phone: () 904-641-1993

Classification:

☐ Prime Contractor

☒ Subcontractor

☐ Joint Venture

☐ Manufacturer

☐ Supplier

Work Item(s) to be performed by Firm	Description of Work Item	Quantity	Total
1-Base Bid	Compaction Testing	1 LS	\$90,000.00
1- Alternate 1	Compaction Testing	1 LS	\$56,000.00

The Bidder/Offorer is committed to utilizing the above-named Minority-owned firm for the work described above. The estimated participation is as follows:

Minority contract amount: \$ 146,000.00 Percent of total contract: 2.762 %

AFFIRMATION:

The above-named Minority-Owned firm affirms that it will perform that portion of the contract for the estimated dollar value as stated herein above.

By:  President
(Signature) William R. Price (Title)

** In the event the bidder/offorer does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.



In accordance with Chapter 10C of the AUGUSTA, GA, CODE, Augusta has placed a 6% goal for Minority Participation. This goal must be met or a Good Faith Effort (GFE) must be made to utilize minorities on this project

Project Name: Southeast Drainage Ditch Enclosure Ph II

Bid Number: 25-150

LETTER OF INTENT

Minority Participation

(This page shall be submitted for each minority-owned firm to be utilized on this project)

Bidder/Offorer:

Name: Reeves Construction Company

Address: 1 APAC Industrial Way

City: Augusta State: GA Zip: 30907

Minority-Owned Firm:

Firm: Mealing Ventures, LLC

Address: 2948 Rollingwood Dr

City: Augusta State: GA Zip: 30906

Contact Person:

Name: Allen Mealing Phone: (706) 840-4409

Classification:

☐ Prime Contractor

☒ Subcontractor

☐ Joint Venture

☐ Manufacturer

☐ Supplier

Work item(s) to be performed by Firm	Description of Work Item	Quantity	Total
16,17,18-Base Bid	Hauling of Material	1 LS	\$10,000.00
17,18,19-Alternate 1	Hauling of Material	1 LS	\$5,290.00

The Bidder/Offorer is committed to utilizing the above-named Minority-owned firm for the work described above. The estimated participation is as follows:

Minority contract amount: \$ 15,290.00 Percent of total contract: 0.2897 %

AFFIRMATION:

The above-named Minority-Owned firm affirms that it will perform that portion of the contract for the estimated dollar value is stated herein above.

By: Allen B. Mealing
(Signature)

Owner 3/17/2025

(Title)

** In the event the bidder/offorer does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.



In accordance with Chapter 10C of the AUGUSTA, GA, CODE, Augusta has placed a 3% goal for Women Participation. This goal must be met or a Good Faith Effort (GFE) must be made to utilize women on this project.

Name: Southeast Drainage Ditch Enclosure Ph II

Bid Number: 25-150

LETTER OF INTENT
Women Participation

(This page shall be submitted for each female-owned firm to be utilized on this project)

Bidder/Offeror:

Name: Reeves Construction Company

Address: 1 APAC Industrial Way

City: Augusta State: GA Zip: 30907

Women-Owned Firm: Firm: Terra Excavating, LLC

Address: 2009 Franke Ct

City: Augusta State: GA Zip: 30909

Contact Person:

Name: Tonya Yost-Hodges Phone: () 706-831-8913

Classification:

☐ Prime Contractor

☒ Subcontractor

☐ Joint Venture

☐ Manufacturer

☐ Supplier

Work item(s) to be performed by Firm	Description of Work Item	Quantity	Total
15	Clearing and Grubbing	1 LS	\$27,000.00

The Bidder/Offeror is committed to utilizing the above-named Women-owned firm for the work described above. The estimated participation is as follows:

Women contract amount: \$ 27,000.00 Percent of total contract: 0.5108 %

AFFIRMATION:

The above-named Women-owned firm affirms that it will perform that portion of the contract for the estimated dollar value as stated herein above.

By: Tonya Yost-Hodges

(Signature)

Sole Member

** In the event the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.



In accordance with Chapter 10C of the AUGUSTA, GA, CODE, Augusta has placed a 3% goal for Women Participation. This goal must be met or a Good Faith Effort (GFE) must be made to utilize women on this project.

Name: Southeast Drainage Ditch Enclosure Ph II

Bid Number: 25-150

LETTER OF INTENT
Women Participation

(This page shall be submitted for each female-owned firm to be utilized on this project)

Bidder/Officer:

Name: Reeves Construction Company

Address: 1 APAC Industrial Way

City: Augusta

State: GA

Zip: 30907

Women-Owned Firm: Firm: G.L. Williams & Daughter Trucking, LLC

Address: 501 Rainbow Falls Road

City: Graniteville

State: SC

Zip: 29829

Contact Person:

Name: Lisa Wilson

Phone: () 803-663-3715

Classification:

☐ Prime Contractor

☒ Subcontractor

☐ Joint Venture

☐ Manufacturer

☐ Supplier

Work item(s) to be performed by Firm	Description of Work Item	Quantity	Total
5,10,18,19,20,21-Base	Hauling of Aggregate	1 LS	\$87,000.00
5,6,11,19,20,21-Alt 1	Hauling of Aggregate	1 LS	\$44,560.00

The Bidder/Officer is committed to utilizing the above-named Women-owned firm for the work described above. The estimated participation is as follows:

Women contract amount: \$131,560.00

Percent of total contract: 2.4892 %

AFFIRMATION:

The above-named Women-owned firm affirms that it will perform that portion of the contract for the estimated dollar value as stated herein above.

By: Lisa Wilson

(Signature)

President

(Title)

** In the event the bidder/officer does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

Augusta
Georgia

In accordance with Chapter 10C of the AUGUSTA, GA, CODE, Augusta has placed a 3% goal for Women Participation. This goal must be met or a Good Faith Effort (GFE) must be made to utilize women on this project.

Project Name: Southeast Drainage Ditch Enclosure, Ph II Bid Number: 25-150

UTILIZATION STATEMENT
Women-Owned Firms

The Women participation goal for this project is 3%.

The undersigned bidder/offeror has satisfied the requirements of the bid specification in the following manner. (Please mark the appropriate box)

- ☒ The bidder/offeror is committed to the minimum of 3% women utilization on this contract
- ☐ The bidder/offeror, while unable to meet the contract goal of 3%, hereby commits to a minimum of _____% women utilization on this contract and submits the attached documentation as evidence demonstrating good faith efforts (GFE) in seeking participation of Women-owned firms.

The undersigned hereby further assures that the information included herein is true and correct, and that the Women-owned firm or firms identified within the submitted Letter of Intent form(s) have agreed to perform a commercially useful function (CUF) for the indicated work elements.

The undersigned further understands that no changes to this statement may be made without prior approval from the Owner.

Reeves Construction Company

Bidder's/Offeror's Firm Name

Nathan D. Samps

Signature

3/19/2025

Date

WOMEN UTILIZATION SUMMARY

	<u>Contract Amount</u>	<u>Female Amount</u>	<u>Contract</u>
<u>Percentage</u>	\$5,285,234.00		
Women Prime Contractor	\$ _____ x 1.00 =	\$ _____	_____ %
Women Subcontractor	\$ 158,560.00 x 1.00 =	\$ 158,560.00	3 %
Women Supplier	\$ _____ x 1.00 =	\$ _____	_____ %
Women Manufacturer	\$ _____ x 1.00 =	\$ _____	_____ %
Total Amount Women		\$ 158,560.00	3 %
Women Participation Goal		\$ 158,560.00	3 %

* If the total proposed Female participation is less than the established Women goal, bidder must provide written documentation of the good faith efforts in accordance with Chapter 10C of the AUGUSTA, GA, CODE.

NOTICE OF AWARD

TO: **REEVES CONSTRUCTION COMPANY**

PROJECT: **AUGUSTA REGIONAL AIRPORT DITCH ENCLOSURE PH II**

The Owner has considered the bid submitted by you for the above described WORK in response to its Advertisement for Bids and Information for Bidders.

You are hereby notified that your bid has been accepted for items in the amount of \$5,285,229.60.

You are required by the Invitation to Bid to execute the Contract and furnish the required Contractor's Performance and Payment Bonds within fifteen (15) calendar days from the date of this Notice to you.

If you fail to execute said Contract and to furnish said bonds within fifteen (15) days from the date of this Notice, said Owner will be entitled to consider all rights arising out of the Owner's acceptance of your bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the Owner.

Dated this ____ day of _____, 202__.

AUGUSTA REGIONAL AIRPORT

BY: _____

TITLE: _____

*** ACCEPTANCE OF NOTICE ***

Receipt of the above NOTICE OF AWARD is hereby

acknowledged by _____

this the _____ day of _____, 20____.

BY: _____

TITLE: _____

PERFORMANCE BOND

(NOTE: THIS BOND IS ISSUED SIMULTANEOUSLY WITH PAYMENT BOND, IN FAVOR OF THE OWNER CONDITIONED FOR THE PAYMENT OF LABOR AND MATERIAL.)

KNOW ALL MEN BY THESE PRESENTS:

That _____ as Principal, hereinafter called CONTRACTOR, and _____, a corporation organized and existing under the laws of the State of _____, with its principal office in the City of _____, State of _____, as Surety, hereinafter called SURETY, are held and firmly bound unto AUGUSTA, GEORGIA BY AND THROUGH THE AUGUSTA-RICHMOND COUNTY COMMISSION as Obligee, hereinafter called the OWNER, in the penal amount of _____ Dollars (\$_____) for the payment whereof CONTRACTOR and SURETY bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents for the faithful performance of a certain written agreement.

WHEREAS, CONTRACTOR has by said written agreement dated _____ entered into a Contract with OWNER for the construction of **AUGUSTA REGIONAL AIRPORT SOUTHEAST DRAINAGE DITCH ENCLOSURE PH II**, Augusta, Georgia, in accordance with the drawings and specifications issued by the Augusta Aviation Commission and the Augusta-Richmond County Commission, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, the condition of this obligation is such that, if CONTRACTOR shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The SURETY hereby waives notice of any alteration or extension of time made by the OWNER.

Whenever CONTRACTOR shall be, and declared by OWNER to be in default under the Contract, the OWNER having performed OWNER's obligations thereunder, the SURETY may promptly remedy the default, or shall promptly

- (1) Complete the Contract in accordance with its terms and conditions, or
- (2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by SURETY of the lowest responsive and responsible bidder, or, if the OWNER elects, upon determination by the OWNER and the SURETY jointly of the lowest responsive and responsible bidder, arrange for a contract between such bidder and OWNER, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which the SURETY may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract price," as used in this paragraph, shall mean the total amount payable by OWNER to CONTRACTOR under the Contract and any amendments thereto, less the amount properly paid by OWNER to CONTRACTOR.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators or successors of the OWNER.

Signed and sealed this _____ day of _____ A.D. 20__.

Witness _____	_____ (Seal)
	(Contractor)

Attest _____	By _____ (Seal)
	(Title)

Witness _____	_____ (Seal)
	(Surety)

Attest _____	By _____ (Seal)
	(Title)

LABOR AND MATERIAL PAYMENT BOND

(NOTE: THIS BOND IS ISSUED SIMULTANEOUSLY WITH PERFORMANCE BOND, IN FAVOR OF THE OWNER CONDITIONED FOR THE PERFORMANCE OF THE WORK.)

KNOW ALL MEN BY THESE PRESENTS:

That _____ as Principal,
hereinafter called CONTRACTOR, and _____
a corporation organized and existing under the laws of the State of _____, with
its principal office in the City of _____, State of _____, as Surety, hereinafter
called SURETY, are held and firmly bound unto AUGUSTA, GEORGIA BY AND THROUGH THE
AUGUSTA-RICHMOND COUNTY COMMISSION, as Obligee, hereinafter called the OWNER, for the use
and benefit of claimants as herein below defined in the amount of _____ Dollars
(\$_____) for the payment whereof CONTRACTOR and SURETY bind themselves, their heirs,
executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, CONTRACTOR has by written agreement dated _____ entered
into a Contract with Owner for the construction of **AUGUSTA REGIONAL AIRPORT
SOUTHEAST DRAINAGE DITCH ENCLOSURE PH II**, in accordance with drawings and
specifications issued by the Augusta Aviation Commission and Augusta-Richmond County
Commission, which Contract is by reference made a part hereof, and is hereinafter referred
to as the CONTRACT.

NOW, THEREFORE, the condition of this obligation is such that, if the CONTRACTOR
shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or
reasonably required to use in the performance of the Contract, then this obligation shall be void; otherwise
it shall remain in full force and effect, subject, however, to the following conditions:

- (1) A claimant is defined as one having a direct contract with the CONTRACTOR or with a subcontractor of the CONTRACTOR for labor, material, or both, used or reasonably required for use in the performance of the Contract labor and material being construed as to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
- (2) The above named CONTRACTOR and SURETY hereby jointly and severally agree with the OWNER that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The OWNER shall not be liable for the payment of any costs or expenses of any such suit.
- (3) No suit or action shall be commenced hereunder by any claimant,
 - (a) Unless claimant, other than one having a direct contract with the CONTRACTOR, shall have given written notice to any two of the following: The CONTRACTOR, the OWNER, or the SURETY above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished,

or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the CONTRACTOR, OWNER or SURETY, at any place where an office regularly maintained for the transaction of business or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.

- (b) After the expiration of one (1) year following the date on which CONTRACTOR ceased work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - (c) Other than in a Georgia state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
- (4) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by SURETY of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

Signed and sealed this _____ day of _____ A.D. 20____.

Witness _____ (Contractor) _____ (Seal)

Attest _____ By _____ (Seal)
(Title)

Witness _____ (Surety) _____ (Seal)

Attest _____ By _____ (Seal)
(Title)

NOTICE TO PROCEED

DATE: _____

SUBJECT: NOTICE TO PROCEED

PROJECT: **AUGUSTA REGIONAL AIRPORT SOUTHEAST DRAINAGE DITCH ENCLOSURE PH II**

Gentlemen:

You are hereby notified to commence work in accordance with the Contract, within Ten (10) calendar days following the date first written above, and you are to complete the work within _____ (____) consecutive calendar days after the date of this notice. The date set for completion of all work is therefore _____.

AUGUSTA REGIONAL AIRPORT

BY: _____

TITLE: _____

*** ACCEPTANCE OF NOTICE ***

Receipt of the above NOTICE TO PROCEED is hereby
acknowledged by _____
this the _____ day of _____, 20____.

TITLE: _____

CONTRACT

THIS CONTRACT made and entered into to be effective _____, 202__ by and between, AUGUSTA GEORGIA, "Augusta," a political subdivision of the State of Georgia, acting through the AUGUSTA AVIATION COMMISSION, whose address is 1501 Aviation Way, Augusta Regional Airport at Bush Field, Augusta, Georgia 30906-9600, hereinafter called "Airport", and Reeves Construction Company, hereinafter called "Contractor".

WITNESSETH:

WHEREAS, Augusta is the owner and operator of a full-service commercial airport known as the Augusta Regional Airport;

WHEREAS, Augusta has solicited a bid to make improvements and enclose the Southeast Drainage Ditch – Phase II for the Airport;

WHEREAS, the Contractor submitted a bid for said services; and

WHEREAS, Augusta, on behalf of the Airport, accepted the Contractor's Bid for said services;

NOW THEREFORE, in consideration of the mutual covenants, promises, and agreements herein contained, Augusta and the Contractor hereby agree as follows:

The Contractor's Services shall be in accordance with the scope of services and all provisions provided herein.

ARTICLE 1 **SCOPE OF THE WORK**

- 1.1 The Contractor hereby agrees to furnish all of the materials and all of the equipment and labor necessary, and to perform all of the work shown on the Plans and described in the specifications for the Project entitled:

AUGUSTA REGIONAL AIRPORT SOUTHEAST DRAINAGE DITCH ENCLOSURE PH II

and in accordance with the requirements and provisions of the Contract Documents as defined in the Provisions hereto attached which are hereby incorporated and made a part of this contract.

1.2 **Definitions**

The following terms have the following meanings whenever used in the Contract Documents (defined below), or in related documents, the terms or pronouns used in place of them shall be defined as follows:

- 1.2.1 **Airport Executive Director.** The person tasked with the day-to-day operations of the Airport.

- 1.2.2 **Augusta Aviation Commission.** The Augusta Regional Airport Aviation Commission tasked with the overall administration of the Airport.
- 1.2.3 **Augusta, Georgia or City or Owner.** Augusta, Georgia's Commission.
- 1.2.4 **Engineer.** The Work has been designed by Mead & Hunt, Inc., whose corporate headquarters is located at 2240 Deming Way, Middleton, WI 53562, who is hereinafter called Engineer and who is to assume all duties and responsibilities and have the rights and authority assigned to Engineer in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.
- 1.2.5 **Project.**
Base Bid: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II, including, but not limited to, the removal of approximately 557 linear feet of existing storm sewer pipe, and the installation of approximately 1,784 linear feet of new storm sewer pipe.
Bid Alternate 1: Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II, including, but not limited to, the removal of approximately 70 linear feet of existing storm sewer pipe, and the installation of approximately 880 linear feet of new storm sewer pipe.
- 1.2.6 **Airport's Administrator.** Airport's Representative shall be the Airport's Executive Director or his designee.
- 1.2.7 **Contractor's Representative(s).** The Contractor's representative ("Contractor's Representative") for all dealings with Airport shall be _____. Contractor's Representative may be changed upon prior written notice delivered to Owner.
- 1.3 Subject to controlling law, the Owner will refuse to permit the Contractor to use any employee on this job if the Owner reasonably deems that individual unfit to work at the Airport facilities in any respect.
- 1.4 All Contractor employees shall strictly adhere to Airport regulations while on the Airport premises, including but not limited to Augusta, Georgia, County, and Transportation Security Authority (TSA) and Federal Aviation Administration (FAA) regulations governing access to buildings, personal conduct, and possession of prescribed substances, parking, and traffic. The Owner reserves the right to require the removal of Contractor employees from the Project.
- 1.5 **Design, Standards and Practices.** The design, strength, quality of materials, and workmanship must conform to the highest standards of construction practices and/or services.

ARTICLE II

TERM

- 2.1 The Contractor must begin work within ten (10) calendar days of receiving the Notice to Proceed (NTP) from the Owner. It is anticipated the NTP will be issued September 1, 2025. The Contractor will mobilize with sufficient forces such that all work is completed within one hundred and forty-five (145) calendar days after the issuance of the NTP. If Bid Alt 1 is to be awarded, the number of days as indicated in Section 80 of the General Provisions shall be added to the contract and the duration of the project shall be adjusted accordingly. There shall be no additional calendar days given for mobilization of bid alternates. Contract time charges will begin as set forth in Section 80 of the General Provisions.
- 2.2 Contractor working times shall be as designated on the Construction Safety & Phasing Plan sheets in the Construction Drawings. At the Owner's discretion, work times may be further restricted.
- 2.3 For additional details please review Section 80 of the attached Specifications.
- 2.4 It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning, rate of progress, and the time for completion of the work to be done hereunder are ESSENTIAL CONDITIONS of this Contract. Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. It is expressly understood and agreed by and between the Contractor and the Owner that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and construction conditions prevailing in this locality.
- 2.5 It is further agreed that **time is of the essence** of each and every portion of this Contract and the specifications wherein a definite portion and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any work, the new time limit fixed by extension shall be the essence of the Contract.

ARTICLE III

LIQUIDATED DAMAGES

- 3.1 The Contractor acknowledges that time is of the essence with respect to the Work governed by the Contract. The Contractor acknowledges and recognizes that if it fails to achieve Substantial

Completion of any portion of the Work within the Contract Time as may be extended in accordance with the terms of this Contract, the Owner will sustain substantial losses as a result of such failure. The Contractor further acknowledges that the Owner will suffer damages that are difficult, if not impossible, to accurately estimate. The Contractor shall be assessed liquidated damages as set forth in Section 80, Execution and Progress, subsection 80-08.

ARTICLE IV **PAYMENT**

4.1 The Contract Sum

The Owner shall pay to the Contractor for completion of the Work in strict accordance with the Contract Documents, and in accordance with the unit bid prices submitted on March 19, 2025, with a contract price of \$5,285,229.60.

4.2 Progress Payments

4.2.1 Contractor shall submit Applications for Payment in accordance with Section 90 of the General Provisions but in no case shall submit Applications for Payment more than once per month. Application for Payment will be processed by Engineer as provided in the General Provisions.

4.2.2 Progress payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts as Engineer shall determine, or Owner may withhold, in accordance with Section 90 of the General Provisions.

- 1) 90% of Work completed as determined by Engineer.
- 2) 90% of materials and equipment not incorporated in the Work (but delivered, suitably stored, and accompanied by documentation satisfactory to Owner as provided in paragraph 90-07 of the General Provisions.)

4.2.3 Within ten (10) business days of receiving each Application for Payment, the Engineer shall either indicate in writing a recommendation of payment and present the application to the Owner or return the Application to the Contractor indicating in writing necessary corrections. In the latter case, the Contractor shall make the corrections and resubmit the application.

4.3 **Invoices.**

Contractor shall submit invoices to:
Mead & Hunt, Inc.
Attn: Edwin Scott
5955 Core Road, Suite 515
North Charleston, SC 29406

4.4 **Retainage and Partial Payments.** If payment request is approved by the Owner, the approved payment request shall be submitted to the Owner's Finance Department for processing on or before the fifth day of the following month, and payment (less retainage) shall be made to the Contractor thirty (30) calendar days after the date the approved payment request is received by the Owner's finance department. If a payment request is not approved by the Owner, then no payment shall be made to the Contractor until such time as the Owner approves the payment request. The amount of retainage shall be as follows:

4.4.1 Ten percent (10%) of each partial payment shall be withheld as retainage until the value of fifty percent (50%) of the Contract Price, including Change Orders and other authorized additions provided in the Contract, is due;

4.4.2 When fifty percent (50%) of the Contract Price, as described above, becomes due and the manner of completion of the Work and its progress, quality, and schedule are reasonably satisfactory to the Owner, and there are no outstanding claims by the Contractor, subcontractors or material suppliers, the withholding of retainage shall be discontinued.

4.4.3 If after discontinuing retainage, the Owner determines that the Work is unsatisfactory or has fallen behind schedule, withholding of ten percent (10%) of each request for payment may be resumed. When the Work has reached Substantial Completion and the Owner determines the Work to be reasonably acceptable, the Contractor shall submit an invoice or other documents as may be required and receive payment thereof within thirty (30) calendar days. If there are any remaining incomplete minor items, an amount equal to two hundred percent (200%) of the value of each item, as determined by the Owner, shall be withheld until such items are complete;

4.4.4 The Contractor shall within ten (10) calendar days from its receipt of retainage from the Owner pass through payments to Subcontractors and shall reduce each Subcontractor's retainage in the same manner as the Contractor's retainage is reduced by the Owner. The Subcontractor shall within ten (10) calendar days from the Subcontractor's receipt of retainage pass through payments to lower tier subcontractor's and shall reduce each lower

tier subcontractor's retainage in the same manner as the Subcontractor's retainage is reduced.

- 4.4.5 The Contractor and Owner agree to abide by all applicable provisions of Georgia State Law concerning retainage, including but not limited to O.C.G.A. § 13-10-80. If the terms of this Contract concerning retainage conflict with Georgia State Law, Georgia State Law shall govern.

ARTICLE V **FINAL INSPECTION**

- 5.1 Upon notice from the Contractor that the Work is completed, the Owner shall request the Contractor to be available during the course of final inspection of the Work, and shall notify the Contractor of all instances where the Work fails to comply with the Drawings and Specifications, as well as any defects the Owner may discover. At no cost to the Owner, the Contractor shall immediately make such alterations as are necessary to bring the Work into compliance with the Contract, the Drawings, and Specifications.

ARTICLE XI **ACCEPTANCE AND FINAL PAYMENT**

- 6.1 **Final Payment.** Upon final completion and acceptance of the Work in accordance with Section 50 of the General Provisions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said paragraph 90-09.
- 6.2 Before final payment is due the Contractor shall submit evidence satisfactory to the Engineer that all payrolls, material bills, and other indebtedness connected with the work have been paid, except that in case of disputed indebtedness or liens the Contractor may submit in lieu of evidence of payment a surety bond satisfactory to the Owner guaranteeing payment of all such disputed amounts when adjudicated in cases where such payment has not already been guaranteed by surety bond.
- 6.3 The making and acceptance of the final payment shall constitute a waiver of all claims by the Owner other than those arising from unsettled liens, from faulty work appearing within twelve (12) months after final payment, from requirements of the specifications, or from manufacturers' guarantees. It shall also constitute a waiver of all claims by the Contractor except those previously made and still unsettled.

- 6.4 If after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Engineer so certifies, the Owner shall upon certificate of the Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

ARTICLE VII **CHANGES**

- 7.1 The Owner may, during the Contract period, make changes to the Scope of Work, which may result in changes to the general scope of the Contract and its provisions.
- 7.2 Written/verbal agreements, changes, or amendments to this Contract shall not be binding upon the Owner unless approved and signed by the Owner in advance of performing work.
- 7.3 Contractor acknowledges that this contract and any changes to it by amendment, modification, change order, or other similar document may have required or may require the legislative authorization of the Augusta Aviation Commission or Augusta, Georgia Board of Commissioners and approval of the Mayor. Under Georgia law, Contractor is deemed to possess knowledge concerning Augusta, Georgia's ability to assume contractual obligations and the consequences of Contractor's provision of goods or services to Augusta, Georgia under an unauthorized contract, amendment, modification, change order or other similar document, including the possibility that the Contractor may be precluded from recovering payment for such unauthorized goods or services. Accordingly, Contractor agrees that if it provides goods or services to Augusta, Georgia under a contract that has not received proper legislative authorization or if the Contractor provides goods or services to Augusta, Georgia in excess of the any contractually authorized goods or services, as required by Augusta, Georgia's Charter and Code, Augusta, Georgia may withhold payment for any unauthorized goods or services provided by Contractor. Contractor assumes all risk of non-payment for the provision of any unauthorized goods or services to Augusta, Georgia, and it waives all claims to payment or to other remedies for the provision of any unauthorized goods or services to Augusta, Georgia, however characterized, including, without limitation, all remedies at law or equity.

ARTICLE VIII **INSURANCE**

- 8.1 During the term of this Contract, Contractor shall provide, pay for, and maintain with companies reasonably satisfactory to the Owner the types of insurance as set forth in the Augusta Code, and Georgia Law as the same may be amended from time to time, and as described herein. All insurance shall be issued by insurance companies eligible to do business in the State of Georgia and Best Rated A+ or equivalent. In the event of a conflict between the provisions of the Augusta Code and this Contract, the more stringent requirement shall govern. In no event shall Contractor maintain any insurance less than the requirements set forth in the Augusta Code, as amended.
- 8.2 All liability policies of Contractor and its subcontractors shall provide coverage that includes, or has the same substantive effect as the following:
- 8.2.1 Augusta, Georgia, the Augusta Aviation Commission, and each of its Commissioners, officers, agents, elected representatives, volunteers, and employees, in their respective capacities as such, shall be additional insured hereunder with respect to the products, premises, and operations of the named insured.
- 8.2.2 This insurance policy shall apply as primary, and any insurance and/or self-insurance as may be maintained by the Augusta, the Augusta Aviation Commission, or its Commissioners, officers, agents, elected representatives, volunteers, and employees shall apply in excess of, and shall not contribute with insurance provided by this policy.”
- 8.2.3 This insurance shall not be materially changed, altered, canceled, or non-renewed until after thirty (30) calendar days advanced written notice has been given to Augusta, Georgia except that only ten (10) calendar days’ notice shall be required in the event of cancellation due to non-payment of premium.
- 8.3 All such evidence of insurance shall be in the form of certificates of insurance satisfactory to the Augusta and its Risk Manager, accompanied by a certified true copy of an endorsement to each policy containing the above language. Properly executed certificates of insurance shall evidence the insurance coverage and limits required. The authorized representative of the insurance company shown on the certificate shall sign these certificates. The required policies of insurance shall comply with the laws of the State of Georgia.

- 8.4 If at any time the Executive Director requests a written statement from the insurance company as to any impairment to the aggregate limit, Contractor shall promptly authorize and have delivered such statement to the Augusta Aviation Commission. Contractor authorizes the Augusta Aviation Commission and/or the Augusta's Risk Manager to confirm with Contractor's insurance agents, brokers, and insurance companies all information furnished.
- 8.5 The acceptance of delivery to the Owner of any certificate of insurance evidencing the insurance coverage and limits required under this Contract does not constitute approval or acceptance by the Owner that the insurance requirements in this Contract have been met. No operations shall commence at the Airport unless and until the required certificates of insurance are in effect and approved by the Augusta's Risk Manager.
- 8.6 The Contractor and the Owner understand and agree that the minimum limits of the insurance herein required may, from time to time, become inadequate, and Contractor agrees that it will increase such minimum limits upon receipt of written notice defining the basis of the increase. The Contractor shall furnish the Owner, within sixty (60) calendar days of the effective date thereof, a certificate of insurance evidencing that such insurance is in force.
- 8.7 Contractor's insurance companies or its authorized representative shall give the Owner thirty (30) calendar days prior written notice of any cancellation, intent not to renew, or material reduction in any policy's coverage, except in the application of the Aggregate Limit Provisions. In the event of a reduction to the Aggregate Limit, it is agreed that immediate steps will be taken to have the prior Aggregate Limit reinstated.
- 8.8 If at any time, the Airport Executive Director requests a written statement from the insurance companies as to any impairment(s) to the Aggregate Limit, prompt authorization and delivery of all requested information will be given to the Augusta Aviation Commission. Renewal Certificates of Insurance must be provided to the Owner as soon as practical but in every instance prior to expiration of current coverage.
- 8.9 The amounts and types of insurance shall conform to the following minimum requirements with the use of Insurance Service Office policies, forms, and endorsements or broader, where applicable. Notwithstanding the foregoing, the wording of all policies, forms, and endorsements must be reasonably acceptable to the Owner.

- 8.10 Workers' Compensation and Employer's Liability Insurance shall be maintained in force by Contractor during the term of this Contract for all employees engaged in the operations under this Contract. The limits of coverage shall not be less than:

Workers' Compensation	Georgia Statutory
Employer's Liability	\$1,000,000.00 Limit Each Accident
	\$1,000,000.00 Limit Disease Aggregate
	\$1,000,000.00 Limit Disease Each Employee

- 8.11 **Commercial General Liability** – Occurrence Form. Policy shall include bodily injury, property damage, personal injury, and broad form contractual liability coverage with limits no less than five million dollars (\$5,000,000.00) in Broad Form Comprehensive General Liability insurance.

- 8.12 **Automobile Liability Insurance.** For any vehicles authorized in writing by the Executive Director to operate on the Aircraft Operating Area (AOA) of the Airport, Automobile Insurance in the minimum amount of Five Million Dollars (\$5,000,000.00) combined single limit coverage. If the Contractor's Comprehensive General Liability coverage includes vehicular operations on the Airport, separate automobile insurance shall not be required. The foregoing insurance shall be endorsed to state that it will be primary to the Augusta, Georgia and the Augusta Aviation Commission's insurance and that the carrier waives its right of subrogation against Augusta, Georgia, the Augusta Aviation Commission, and their officers, agents, elected and appointed officials, representatives, volunteers, and employees. Augusta, Georgia, the Augusta Aviation Commission, and their officers, agents, employees, and elected and appointed officials shall be added as additional insureds on said policies. Said policy shall contain Severability of Interest Clause and shall include contractual liability coverage at least as broad as that given in the most current CA 00 01 ISO form.

8.13 **Excess Liability:** \$2,000,000.00

Policy must follow form of General Liability Policy and all insurance together for general liability must total at least a minimum of two million dollars (\$2,000,000.00). Any form of underlying and excess policies may satisfy such requirement.

8.14 The Commercial General Liability Insurance coverage as required in the paragraph above shall include those classifications, as listed in Standard Liability Insurance Manuals, which are applicable to the operations of the Contractor in the performance of this Contract.

8.15 Within sixty (60) calendar days of the effective date thereof or any subsequent term, Contractor shall provide Owner with certificate(s) of insurance evidencing that such insurance as described herein be in force. Insurance binder letter(s) or a Certificate(s) of Insurance as described above must be sent to the address below with a copy to the Owner:

Augusta, Georgia
Risk Management
535 Telfair Street
Suite 920
Augusta, GA 30901
(706) 821-2502 (Fax)

8.16 **Subcontractors.** It is the sole responsibility of the general Contractor to ensure that all subcontractors working under it have separately procured any and all types and limits of insurance that are required under any and all pertinent local, state, or federal ordinances or resolutions that are suitable for the particular trade that the subcontractor is performing. It also is the sole responsibility of the general and/or prime Contractor to ensure that any and all subcontractors or vendors carry types and limits of insurance not less than those listed herein and that the subcontractors and/or vendors carry and/or procure endorsements to waive all subrogation rights against and name "Augusta, Georgia, its appointed and elected Officials, departments, agencies, boards, commissions, its officers, agents, employees, and volunteers" as additional insureds.

ARTICLE IX
AIRPORT SECURITY REQUIREMENTS

- 9.1 Contractor's employees shall be required to operate in Airport's secure areas. Contractor shall be required to obtain the Airport's Security Identification Display Area (SIDA) badges for any employee working in the secured area. Contractor shall comply, at its own expense, with the Transportation Security Administration (TSA) and the Owner's security requirements for the Airport including, but not limited to employee training and badges. Contractor shall cooperate with the TSA and the Owner on all security matters and shall promptly comply with any project security arrangements established by the Owner. Compliance with such security requirements shall not relieve Contractor of its responsibility for maintaining proper security for the above-noted items, nor shall it be construed as limiting in any manner Contractor's obligation with respect to all applicable federal, state and local laws and regulations and its duty to undertake reasonable action to establish and maintain secure conditions at and around the Project and throughout the Airport. All employees shall be properly badged and comply with all Owner's safety and security rules.
- 9.2 Any Contractor employees assigned to work in a secured area are required to be "badged" or a "badged" Contractor employee must escort them the entire time they are in these secured areas.
- 9.3 To qualify for the badge, individual must be fingerprinted and have a background investigation completed. In addition, the Owner will conduct a background inquiry and require finger printing of all individuals who will be working on the secured side of the Airport screening point. This may also include collection of appropriate criminal history information, contractual and business associations and practices, employment histories, reputation in the business community, and credit reports for the Contractor, as well as its employees.
- 9.4 Contractor consents to such an inquiry and agrees to make available to the Owner such books and records the Owner deems necessary to conduct the review.
- 9.5 Contractor shall pay all costs associated with providing SIDA badges.
- 9.6 Contractor shall be responsible for any fines assessed by the FAA or TSA as a result of the actions of its employees or subcontractors.

ARTICLE X

REPRESENTATIONS AND WARRANTIES

In order to induce the Owner to enter into this Contract, Contractor hereby represents and warrants that as of the date above written that:

- 10.1 Contractor is duly organized and validly existing in good standing under the laws of the State of Georgia in which it is organized, is qualified to do business in all jurisdictions in which it is operating, and has the power and authority to execute and deliver and to perform its obligations under this Contract and the documents to which it is signatory; and
- 10.2 The execution, delivery, and performance by Contractor and its undersigned representative(s) of this Contract and other documents to which Contractor is a signatory do not require the approval or consent of any other person, entity, or government agency and do not result in any breach of any agreement to which Contractor is a party or by which it is bound; and
- 10.3 The execution, delivery, and performance by Contractor of this Contract and other documents to which it is a signatory have been duly authorized by all necessary action, and constitute legal, valid and binding obligations of Contractor, enforceable against Contractor in accordance with its terms; and
- 10.4 No action, suit, or proceeding to which Contractor is a party is pending or threatened that may restrain or question this Contract, or any other document to which it is a signatory, or the enjoyment of rights or benefits contemplated herein; and
- 10.5 Contractor has all State of Georgia Licenses and permits required for the performance of the Work and shall only use properly licensed and trained persons to perform such services.

ARTICLE XI

NOTICES

- 11.1 **Delivery.** All notices given by either party to the other under this Contract must be in writing and delivered by: (i) regular mail, postage prepaid; (ii) certified or registered mail; (iii) facsimile; or (iv) hand - delivery, to the parties at the addresses and facsimile numbers set forth in the Clause titled "Addresses".

11.2 **Receipt.** Notices sent by mail will be deemed to be received upon deposit in the mail, properly addressed. Notices sent by certified or registered mail will be deemed to be received upon the date of the acknowledgment. Notices sent by facsimile will be deemed to be received upon successful transmission to the proper facsimile number. Notices delivered by hand- delivery will be deemed to be received upon acceptance by the respective party or its agent.

11.3 **Change of Address or Facsimile Number.** Either party may, at any time, change its respective address or facsimile number by sending written notice to the other party of the change.

11.4 **Addresses.**

To OWNER:

Augusta Regional Airport
Attn: Executive Director
1501 Aviation Way
Augusta, Georgia 30906
Telephone: (706) 798-3236
Fax: (706) 798-1551

To CONTRACTOR:

Attn:

Telephone:
Fax:

With a copy to:

Augusta General Counsel
Augusta Richmond County Department of Law
535 Telfair St.
Building 3000
Augusta, GA 30901
Fax: (706) 842-5556

ARTICLE XII **INDEMNIFICATION AND HOLD HARMLESS**

12.1 Except where, and to the extent caused by the gross negligence of Augusta, Georgia, the Augusta Aviation Commission, their agents, employees, contractors, officers, or Contractor shall protect, defend, reimburse, indemnify, and hold Augusta, Georgia, the Augusta Aviation Commission, its members, agents, employees, and elected officers and each of them, free and harmless at all times as set forth in Augusta, Georgia Code, and particularly Article 1, Chapter 3, Division 1, Section 1-3-8.5, Indemnity and Insurance, as the same may be amended from time to time, and described herein. In the event of a conflict between the provisions of the Augusta Code and this Contract, the broader requirement shall govern.

ARTICLE XIII **PERMITS**

- 13.1 Contractor shall obtain and maintain at all times all necessary licenses, permits, and certifications to perform the work described in the Contract. Contractor shall furnish copies of all licenses, permits, and certifications to the Administrator.

ARTICLE XIV **WORK PERMITS REQUIRED**

- 14.1 Contractor agrees and acknowledges that its employees and agent's employees, as well as any subcontractors or subcontractors' personnel, working on the Contract must be United States citizens, or must be lawfully admitted for residence and be permitted to work in the United States under the Immigration and Naturalization Act, 8 U.S.C. 1101, et. seq.

ARTICLE XV **FEDERAL WORK AUTHORIZATION**

- 15.1 Pursuant to O.C.G.A. §13-10-91 and Georgia Department of Labor Rule 300-10-1-.02, the Owner cannot enter a contract for the physical performance of services unless the Contractor and its Subcontractors register and participate in the Federal Work Authorization Program to verify specific information on all new employees.
- 15.2 The Contractor certifies that it has complied and will continue to comply with O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02.
- 15.3 The Contractor agrees to sign an affidavit evidencing its compliance with O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02. The signed affidavit is attached to this Contract as an exhibit
- 15.4 The Contractor agrees that in the event that it employs or contracts with any Subcontractor(s) in connection with this Contract, the Contractor will secure from each Subcontractor an affidavit that indicates the employee-number category applicable to that Subcontractor and certifies the Subcontractor's current and continuing compliance with O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02. Any signed Subcontractor affidavit(s) obtained in connection with this Contract shall be attached hereto as an exhibit.

ARTICLE XVI
MISCELLANEOUS CONTRACT PROVISIONS

16.1 Independent Contractor/Subcontractor

Contractor is acting, in performance of this Contract, as an independent contractor. Personnel supplied by the Contractor or its agents or subcontractors hereunder are not the Owner's employees or agents and Contractor assumes full responsibility for their acts. Contractor shall be solely responsible for the payment of compensation to Contractor's employees. The Owner shall not be responsible for payment of Worker's Compensation, disability benefits, and unemployment insurance or for withholding and paying employment taxes for any Contractor employee, or Contractor's subcontractors or its agent's employees, but such responsibility shall be solely that of Contractor. This clause of the contract does not prevent the Airport from requiring Contractor to have its employees follow normal rules and guidelines for work performance, redirecting the efforts of the employees to meet the needs of the facilities, performing safety or from requiring Contractor to perform the requirements of this Contract satisfactorily, according to the General Conditions, Scope of Services, Performance Work Statement, Service Performance Standards, and Methods described herein.

16.2 Force Majeure

16.2.1 Neither party hereto shall be considered in default in the performance of its obligations hereunder to the extent that the performance of any such obligation, except the payment of money, is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of the affected party, or by a strike, lockout or other labor difficulty, the settlement of which shall be within the sole discretion of the party involved.

16.2.2 Each party hereto shall give notice promptly to the other of the nature and extent of any Force Majeure claimed to delay, hinder, or prevent performance of the services under this Contract. In the event either party is prevented or delayed in the performance of this obligation because of such Force Majeure, there shall be an equitable adjustment of the schedule.

16.2.3 Contractor will not be liable for failure to perform or for delay in performance because of Force Majeure, including the following:

- 16.2.3.1 any cause beyond its reasonable control;
- 16.2.3.2 any act of God;
- 16.2.3.3 inclement weather;
- 16.2.3.4 earthquake;
- 16.2.3.5 fire;
- 16.2.3.6 explosion;
- 16.2.3.7 flood;
- 16.2.3.8 strike or other labor dispute;
- 16.2.3.9 any shortage or disruption of or inability to obtain labor, material, manufacturing facilities, power, fuel, or transportation from unusual sources, or any other;
- 16.2.3.10 delay or failure to act of any governmental or military authority;
- 16.2.3.11 any war, hostility or invasion;
- 16.2.3.12 any embargo, sabotage, civil disturbance, riot or insurrection;
- 16.2.3.13 any legal proceedings;
- 16.2.3.14 failure to act by Contractor's suppliers due to any cause which Contractor is not responsible, in whole or in part; or,
- 16.2.3.15 any disease, epidemic, or pandemic.

16.3 **Commercial Activities**

Neither Contractor nor its employees may establish any commercial activity or issue concessions or permits of any kind to third parties for establishing activities at the Airport.

16.4 **Records and Audit**

Contractor and its subcontractors shall maintain records and accounts in connection with all aspects in the performance of this Contract, including those, which will accurately document incurred costs, both direct and indirect, of whatever nature, during and for a period of three (3) years from the expiration or other termination of this Contract, unless otherwise specified by applicable law. The Owner may examine and copy, at all reasonable times, with advance notification, those records and accounts. Contractor shall maintain all records in a central location in Augusta, Georgia.

16.5 **Contingent Fees**

Contractor warrants that it has not employed or retained any company or person, other than a bona fide employee working for Contractor, to solicit or secure this Contract; and that Contractor has not paid or agreed to pay any company, association, corporation, firm or person, other than a bona fide employee working for Contractor, any fee, commission, percentage, gift or any other consideration contingent upon or resulting from the award or making of this Contract. For the breach or violation of this warranty and upon a finding after notice and hearing, the Owner may terminate the Contract and, at its discretion, may deduct from the Contract sum, or otherwise recover the full amount of any such fee, commission, percentage, gift or consideration.

16.6 **Rights and Remedies**

The rights and remedies of the Owner provided in this paragraph are not exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

16.7 **Non-Appropriations**

Notwithstanding anything contained in this Contract, if sufficient funds have not been appropriated to support continuation of this Contract for an additional calendar year or an additional term of the Contract, this Contract shall terminate absolutely and without further obligation on the part of the Owner at the close of the calendar year of its execution or if the Owner suspends performance pending the appropriation of funds.

16.8 **Assignment**

Without the prior written consent of the Owner, Contractor may not assign, transfer, or convey any of its interests under this Contract, nor delegate any of its obligations or duties under this Contract except as provided herein.

16.8.1 **Consent of the Owner Required.** Any assignment of this Contract or rights under this Contract, in whole or part, without the prior written consent of the Owner will be void, except that, upon ten (10) calendar days prior written notice to the Owner, Contractor may assign monies due or to become due under this Contract. Any assignment of monies will be subject to proper setoffs in favor of the Owner and to any deductions provided for in this Contract.

16.8.2 **No Relief of Responsibilities.** No assignment will be approved which would relieve Contractor of its responsibilities under this Contract.

16.9 **Parties Bound.** This Contract will be binding upon and inure to the benefit of the Owner and Contractor and their respective successors and assigns.

16.10 **No Partnership or Joint Venture.** Nothing contained in this Contract will be deemed to create a partnership or joint venture between the Owner and Contractor or cause the Owner to be responsible for the debts or obligations of Contractor or any other party. Contractor must not represent to anyone that its relationship to the Owner is other than as the Owner's Contractor. Contractor must act as an independent agent and not as the agent of the Owner in performing this Contract and shall maintain complete control over its employees and all of its lower-tier suppliers and subcontractors. Nothing contained in this Contract or any lower tier purchase order or subcontract awarded by Contractor will create any contractual relationship between any lower-tier supplier or subcontractor and the Owner. No act or direction of the Owner shall be deemed to be the exercise of supervision or control of the Contractor's performance hereunder.

16.11 **Waiver**

The failure of the Owner to seek redress for any violation of or to insist upon the strict performance of, any term of this Contract will not prevent a subsequent violation of this Contract from being actionable by the Owner. The provision in this Contract of any particular remedy will not preclude the Owner from any other remedy.

16.12 **Compliance with Applicable Laws and Regulations**

Contractor covenants and agrees that it, its agents and employees shall comply with all Georgia, county, state, and federal laws, Airport Rules and Regulations, and Augusta, Georgia Ordinances applicable to the work to be performed under this Contract, and that it shall obtain all necessary permits, and pay all license fees and taxes to comply therewith. Further, Contractor agrees that it, its agents, and employees will abide by all rules, regulations, and policies of Airport during the term of this Contract, including any renewal periods.

16.13 Patent Indemnity

Except as otherwise provided, the Contractor shall indemnify Augusta, Georgia and its Board of Commissioners, officers, agents, and employees against liability, including costs and expenses for infringement upon any letters or patent of the United States arising out of the performance of this Contract or out of the use or disposal by or for the account of the Owner of supplies furnished or construction work performed hereunder.

16.14 Use of Augusta, Georgia Landfill

Contractor shall dispose of all debris and trash from the Airport will be transported to and disposed of at the Augusta, Georgia Solid Waste Landfill in accordance with local and state regulations. The Contractor shall provide evidence of proper disposal through manifests, which shall include the types of material disposed of, the name and location of the disposal facility, date of disposal, and all related fees.

16.15 Inspection

The Owner may, at reasonable times, inspect the part of the plant, place of business, or work site of a contractor or subcontractor or subunit thereof which is pertinent to the performance of the contract.

16.16 Temporary Suspension or Delay of Performance of Contract

To the extent that it does not alter the scope of this Contract the Owner may unilaterally order a temporary stopping of the work or delaying of the work to be performed by the Contractor under this Contract.

16.17 Entire Agreement

This Contract, together with all of the attachments shall constitute the entire agreement between the parties and any prior understanding or representation of any kind preceding the date of this Contract shall not be binding upon either party except to the extent incorporated in this Contract.

16.18 Governing Law

This Contract will be construed under Georgia law, including the Georgia Uniform Commercial Code; all remedies available under that code are applicable to this Contract. Contractor and the Owner fix jurisdiction and venue for any action brought with respect to this Contract in Augusta, Georgia.

16.19 Legal Construction

If any provision contained in this Contract is held to be invalid, illegal, or unenforceable, that invalidity, illegality, or unenforceability will not affect any other provision of this Contract and this Contract will be construed as if the invalid, illegal, or unenforceable provision had never been contained in this Contract.

16.20 Prior Contracts Superseded

This Contract and the attachments constitute the sole and only agreement between Contractor and Owner with respect to the subject matter of this Contract and supersede any prior understandings or written or oral contracts respecting the subject matter of this Contract.

16.21 Counterparts

This Contract may be executed concurrently in one or more counterparts, each of which will be deemed an original, but all of which will together constitute one (1) Contract.

16.22 Further Acts

Owner and Contractor each agrees to perform any additional acts and execute and deliver any additional documents as may reasonably be necessary in order to carry out the provisions and affect the intent of this Contract.

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed by their appropriate officials, as of the date first written above.

[SIGNATURES ON THE FOLLOWING PAGE]

AUGUSTA, GEORGIA

Garnett L. Johnson, Jr. Mayor

Attest: _____
Lena J. Bonner, Clerk of Commission

AUGUSTA AVIATION COMMISSION

Ronic West, Aviation Commission Chair

Attest: _____
Jennifer Humphrey, Clerk of Augusta Aviation Commission

CONTRACTOR

Sworn to and subscribed before me
this ____ day of _____, 202_.

Notary Public

My commission expires: _____

(NOTARIAL SEAL)

Part 1 – General Contract Provisions

Section 10 Definition of Terms

When the following terms are used in these specifications, in the contract, or in any documents or other instruments pertaining to construction where these specifications govern, the intent and meaning shall be defined as follows:

Paragraph Number	Term	Definition
10-01	AASHTO	The American Association of State Highway and Transportation Officials.
10-02	Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	Advertisement	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	Airport	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	Airport Improvement Program (AIP)	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	Air Operations Area (AOA)	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	Award	The Owner's notice to the successful bidder of the acceptance of the submitted bid.

Paragraph Number	Term	Definition
10-10	Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a bid for the work contemplated.
10-11	Bid	The written offer of the Bidder (when submitted on the approved bid form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
10-12	Bid guaranty	The security furnished with a bid to guarantee that the Bidder will enter into a contract if his or her bid is accepted by the owner.
10-13	Building Area	An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way together with all airport buildings and facilities located thereon.
10-14	Calendar Day	Every day shown on the calendar.
10-15	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-16	Certificate of Compliance (COC)	The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
10-17	Change Order	A written order to the Contractor covering changes in the plans, specifications, or bid quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
10-18	Contract	<p>A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment.</p> <p>The awarded contract includes but may not be limited to: Advertisement, Contract form, Bid, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.</p>

Paragraph Number	Term	Definition
10-19	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
10-20	Contract Time	The number of calendar days or working days, stated in the bid, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the bid, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-21	Contractor	The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.
10-22	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-23	Contractor Quality Control Program (CQCP)	Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
10-24	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-25	Construction Safety and Phasing Plan (CSPP)	The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
10-26	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-27	Engineer	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.
10-28	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus

Paragraph Number	Term	Definition
		necessary for the proper construction and acceptable completion of the work.
10-29	Extra Work	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract.
10-30	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-31	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-32	Force Account	<p>a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis.</p> <p>b. Owner Force Account - Work performed for the project by the Owner's employees.</p>
10-33	Intention of Terms	<p>Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner.</p> <p>Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.</p>
10-34	Lighting	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or

Paragraph Number	Term	Definition
		near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
10-35	Major and Minor Contract Items	A major contract item shall be any item that is listed in the bid, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-36	Materials	Any substance specified for use in the construction of the contract work.
10-37	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-38	Notice to Proceed (NTP)	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-39	Owner	The term "Owner" shall mean the party of the first part or the contracting agency signatory to the contract. Where the term "Owner" is capitalized in this document, it shall mean airport Sponsor only. The Owner for this project is Augusta Regional Airport.
10-40	Passenger Facility Charge (PFC)	Per 14 Code of Federal Regulations (CFR) Part 158 and 49 United States Code (USC) § 40117, a PFC is a charge imposed by a public agency on passengers enplaned at a commercial service airport it controls.
10-41	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-42	Payment bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will pay in full all bills and accounts for materials and labor used in the construction of the work.
10-43	Performance bond	The approved form of security furnished by the Contractor and their own surety as a guaranty that the Contractor will complete the work in accordance with the terms of the contract.
10-44	Plans	The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the

Paragraph Number	Term	Definition
		specifications. Plans may also be referred to as 'contract drawings.'
10-45	Project	The agreed scope of work for accomplishing the work in this contract.
10-46	Proposal	Where the term “proposal” is used in the Federal or FAA Technical Specifications, it shall be interpreted to mean “bid” for this Project.
10-47	Quality Assurance (QA)	Owner’s responsibility to assure that construction work completed complies with specifications for payment.
10-48	Quality Control (QC)	Contractor’s responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-49	Quality Assurance (QA) Inspector	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-50	Quality Assurance (QA) Laboratory	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer’s, Owner’s, or QA Laboratory.
10-51	Resident Project Representative (RPR)	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-52	Runway	The area on the airport prepared for the landing and takeoff of aircraft.
10-53	Runway Safety Area (RSA)	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-54	Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.

Paragraph Number	Term	Definition
10-55	Specifications	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-56	Sponsor	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-57	Structures	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-58	Subgrade	The soil that forms the pavement foundation.
10-59	Superintendent	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
10-60	Supplemental Agreement	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%; (2) in scope work would increase or decrease the total of any major contract item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-61	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-62	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-63	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for

Paragraph Number	Term	Definition
		movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-64	Taxiway/Taxilane Safety Area (TSA)	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
10-65	Work	The furnishing of all labor, materials, tools, equipment, and incidentals necessary or convenient to the Contractor's performance of all duties and obligations imposed by the contract, plans, and specifications.
10-66	Working day	A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.

END OF SECTION 10

Section 20 Bid Requirements and Conditions

20-01 Advertisement (Notice to Bidders). Refer to the Invitation to Bid for information regarding the advertising dates, pre-bid conferences, availability of documents, and bid submittal deadlines. Bidders shall not contact any members of the Augusta Aviation Commission, Augusta Board of Commissioners or any Airport consultant in conjunction with this solicitation. Any unauthorized contact with members of the Augusta Aviation Commission, Augusta Board of Commissioners or Airport consultants shall be grounds for rejection of the Bidder's bid.

Scope of Work

- **Base Bid**

Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II, including, but not limited to, the removal of approximately 557 linear feet of existing storm sewer pipe, and the installation of approximately 1,784 linear feet of new storm sewer pipe.

- **Bid Alternate 1**

Augusta Regional Airport Southeast Drainage Ditch Enclosure Ph II, including, but not limited to, the removal of approximately 70 linear feet of existing storm sewer pipe, and the installation of approximately 880 linear feet of new storm sewer pipe.

The project shall be complete and ready for final inspection within **145** days for the **Base Bid** or **185** days for the **Base Bid and Bid Alternate 1** from the effective date of Notice-to Proceed.

20-05 Interpretation of estimated bid quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the bid. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of bids and the award of the contract. The Owner does not expressly, or by implication, agree that the actual quantities involved will correspond exactly therewith; nor shall the Bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the work. Payment to the Contractor will be made only for the actual quantities of work performed or materials furnished in accordance with the plans and specifications. It is understood that the quantities may be increased or decreased as provided in the Section 40, paragraph 40-02, Alteration of Work and Quantities, without in any way invalidating the unit bid prices.

20-06 Examination of plans, specifications, and site. The Bidder is expected to carefully examine the site of the proposed work, the bid, plans, specifications, and contract forms. Bidders shall satisfy themselves to the character, quality, and quantities of work to be performed, materials to be furnished, and to the requirements of the proposed contract. The submission of a bid shall be prima facie evidence that the Bidder has made such examination and is satisfied to the conditions to be encountered in performing the work and the requirements of the proposed contract, plans, and specifications.

20-07 Preparation of bid. The Bidder shall submit their bid on the forms furnished by the Owner. All blank spaces in the bid forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. The Bidder shall state the price (written in ink or typed) both in words and numerals which they propose for each pay item furnished in the bid. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.

The Bidder shall correctly sign the bid in ink. If the bid is made by an individual, their name and post office address must be shown. If made by a partnership, the name and post office address of each member of the partnership must be shown. If made by a corporation, the person signing the bid shall give the name of the state where the corporation was chartered and the name, titles, and business address of the president, secretary, and the treasurer. Anyone signing a bid as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.

Southeast Drainage Ditch Enclosure Ph II
Augusta Regional Airport, Augusta, Georgia

Issued for Bid
General Provisions
August 16, 2024

20-08 Responsive and responsible bidder. A responsive bid conforms to all significant terms and conditions contained in the Owner's invitation for bid. It is the Owner's responsibility to decide if the exceptions taken by a Bidder to the solicitation are material or not and the extent of deviation it is willing to accept.

A responsible Bidder has the ability to perform successfully under the terms and conditions of a proposed procurement, as defined in 2 CFR § 200.318(h). This includes such matters as Contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

20-09 Irregular bids. Bids shall be considered irregular for the following reasons:

a. If the bid is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the bid form is detached.

b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the bid incomplete, indefinite, or otherwise ambiguous.

c. If the bid does not contain a unit price for each pay item listed in the bid, except in the case of authorized alternate pay items, for which the Bidder is not required to furnish a unit price.

d. If the bid contains unit prices that are obviously unbalanced.

e. If the bid is not accompanied by the bid guaranty specified by the Owner.

f. If the applicable Disadvantaged Business Enterprise information is incomplete.

The Owner reserves the right to reject any irregular bid and the right to waive technicalities if such waiver is in the best interest of the Owner and conforms to local laws and ordinances pertaining to the letting of construction contracts.

20-10 Bid guarantee. Each separate bid shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the bid form. Such bond, check, or collateral, shall be made payable to the Owner.

20-11 Delivery of bid. Each bid submitted shall be placed in a sealed envelope plainly marked with the project number, location of airport, and name and business address of the Bidder on the outside. When sent by mail, preferably registered, the sealed bid, marked as indicated above, should be enclosed in an additional envelope. No bid will be considered unless received at the place specified in the advertisement or as modified by Addendum before the time specified for opening all bids. Bids received after the bid opening time shall be returned to the Bidder unopened.

20-12 Withdrawal or revision of bids. A Bidder may withdraw or revise (by withdrawal of one bid and submission of another) a bid provided that the Bidder's request for withdrawal is received by the Augusta Procurement Department by email before the time specified for opening bids. Revised bids must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of bids. Bids shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Bids that have been withdrawn (by written or telegraphic request) or received after the time specified for opening bids shall be returned to the Bidder unopened.

20-14 Disqualification of bidders. A Bidder shall be considered disqualified for any of the following reasons:

a. Submitting more than one bid from the same partnership, firm, or corporation under the same or different name.

b. Evidence of collusion among Bidders. Bidders participating in such collusion shall be disqualified as Bidders for any future work of the Owner until any such participating Bidder has been reinstated by the Owner as a qualified Bidder.

c. If the Bidder is considered to be in “default” for any reason specified in paragraph 20-04, *Issuance of Bid Forms*, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner’s Engineer of the matter. A Bidder that has doubt as to the true meaning of a project requirement may submit to the Owner’s Engineer a written request for interpretation no later than **30** days prior to bid opening.

Any interpretation of the project bid documents by the Owner’s Engineer will be by written addendum issued by the Owner. The Owner will not consider any instructions, clarifications or interpretations of the bidding documents in any manner other than written addendum.

END OF SECTION 20

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Section 30 Award and Execution of Contract

30-01 Consideration of bids. After the bids are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the by by the unit bid prices. If a Bidder's bid contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit bid price written in words shall govern.

Until the award of a contract is made, the Owner reserves the right to reject a Bidder's bid for any of the following reasons:

a. If the bid is irregular as specified in Section 20, paragraph 20-09, *Irregular Bids*.

b. If the Bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14, *Disqualification of Bidders*.

In addition, until the award of a contract is made, the Owner reserves the right to reject any or all bids, waive technicalities, if such waiver is in the best interest of the Owner and is in conformance with applicable state and local laws or regulations pertaining to the letting of construction contracts; advertise for new bids; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within 90 calendar days of the date specified for publicly opening bids, unless otherwise specified herein.

If the Owner elects to proceed with an award of contract, the Owner will make award to the responsible Bidder whose bid, conforming with all the material terms and conditions of the bid documents, is the lowest in price.

30-03 Cancellation of award. The Owner reserves the right to cancel the award without liability to the Bidder, except return of bid guaranty, at any time before a contract has been fully executed by all parties and is approved by the Owner in accordance with paragraph 30-07 *Approval of Contract*.

30-04 Return of bid guaranty. All bid guaranties, except those of the two lowest Bidders, will be returned immediately after the Owner has made a comparison of bids as specified in the paragraph 30-01, *Consideration of Bids*. Bid guaranties of the two lowest Bidders will be retained by the Owner until such time as an award is made, at which time, the unsuccessful Bidder's bid guaranty will be returned. The successful Bidder's bid guaranty will be returned as soon as the Owner receives the contract bonds as specified in paragraph 30-05, *Requirements of Contract Bonds*.

30-05 Requirements of contract bonds. At the time of the execution of the contract, the successful Bidder shall furnish the Owner a surety bond or bonds that have been fully executed by the Bidder and the surety guaranteeing the performance of the work and the payment of all legal debts that may be incurred by reason of the Contractor's performance of the work. The surety and the form of the bond or bonds shall be acceptable to the Owner. Unless otherwise specified in this subsection, the surety bond or bonds shall be in a sum equal to the full amount of the contract.

30-06 Execution of contract. The successful Bidder shall sign (execute) the necessary agreements for entering into the contract and return the signed contract to the Owner, along with the fully executed surety bond or bonds specified in paragraph 30-05, *Requirements of Contract Bonds*, of this section, within 15 calendar days from the date mailed or otherwise delivered to the successful bidder.

30-07 Approval of contract. Upon receipt of the contract and contract bond or bonds that have been executed by the successful Bidder, the Owner shall complete the execution of the contract in accordance with local laws or ordinances and return the fully executed contract to the Contractor. Delivery of the fully executed contract to the Contractor shall constitute the Owner's approval to be bound by the successful Bidder's bid and the terms of the contract.

30-08 Failure to execute contract. Failure of the successful Bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract*, of this section shall be just cause for cancellation of the award and forfeiture of the bid guaranty, not as a penalty, but as liquidated damages to the Owner.

END OF SECTION 30

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Section 40 Scope of Work

40-01 Intent of contract. The intent of the contract is to provide for construction and completion, in every detail, of the work described. It is further intended that the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the plans, specifications, and terms of the contract.

40-02 Alteration of work and quantities. The Owner reserves the right to make such changes in quantities and work as may be necessary or desirable to complete, in a satisfactory manner, the original intended work. Unless otherwise specified in the Contract, the Owner's Engineer or RPR shall be and is hereby authorized to make, in writing, such in-scope alterations in the work and variation of quantities as may be necessary to complete the work, provided such action does not represent a significant change in the character of the work.

For purpose of this section, a significant change in character of work means: any change that is outside the current contract scope of work; any change (increase or decrease) in the total contract cost by more than 25%; or any change in the total cost of a major contract item by more than 25%.

Work alterations and quantity variances that do not meet the definition of significant change in character of work shall not invalidate the contract nor release the surety. Contractor agrees to accept payment for such work alterations and quantity variances in accordance with Section 90, paragraph 90-03, *Compensation for Altered Quantities*.

Should the value of altered work or quantity variance meet the criteria for significant change in character of work, such altered work and quantity variance shall be covered by a supplemental agreement. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds. If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 Omitted items. The Owner, the Owner's Engineer or the RPR may provide written notice to the Contractor to omit from the work any contract item that does not meet the definition of major contract item. Major contract items may be omitted by a supplemental agreement. Such omission of contract items shall not invalidate any other contract provision or requirement.

Should a contract item be omitted or otherwise ordered to be non-performed, the Contractor shall be paid for all work performed toward completion of such item prior to the date of the order to omit such item. Payment for work performed shall be in accordance with Section 90, paragraph 90-04, *Payment for Omitted Items*.

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

When determined by the RPR to be in the Owner's best interest, the RPR may order the Contractor to proceed with extra work as provided in Section 90, paragraph 90-05, *Payment for Extra Work*. Extra work that is necessary for acceptable completion of the project but is not within the general scope of the work covered by the original contract shall be covered by a supplemental agreement as defined in Section 10, paragraph 10-59, *Supplemental Agreement*.

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available

to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

Any claim for payment of extra work that is not covered by written agreement (change order or supplemental agreement) shall be rejected by the Owner.

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. The Contractor shall maintain traffic in the manner detailed in the Construction Safety and Phasing Plan (CSPP).

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, *Limitation of Operations*. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, *Contractor's Responsibility for Utility Service and Facilities of Others*.

b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the airport in accordance with the construction safety and phasing plan (CSPP) and the safety plan compliance document (SPCD).

c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (<http://mutcd.fhwa.dot.gov/>), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways.

40-06 Removal of existing structures. All existing structures encountered within the established lines, grades, or grading sections shall be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the work or to remain in place. The cost of removing such existing structures shall not be measured or paid for directly, but shall be included in the various contract items.

Should the Contractor encounter an existing structure (above or below ground) in the work for which the disposition is not indicated on the plans, the Resident Project Representative (RPR) shall be notified prior to disturbing such structure. The disposition of existing structures so encountered shall be immediately determined by the RPR in accordance with the provisions of the contract.

Except as provided in Section 40, paragraph 40-07, *Rights in and Use of Materials Found in the Work*, it is intended that all existing materials or structures that may be encountered (within the lines, grades, or grading sections established for completion of the work) shall be used in the work as otherwise provided for in the contract and shall remain the property of the Owner when so used in the work.

40-07 Rights in and use of materials found in the work. Should the Contractor encounter any material such as (but not restricted to) sand, stone, gravel, slag, or concrete slabs within the established lines, grades, or grading sections, the use of which is intended by the terms of the contract to be embankment, the Contractor may at their own option either:

- a. Use such material in another contract item, providing such use is approved by the RPR and is in conformance with the contract specifications applicable to such use; or,
- b. Remove such material from the site, upon written approval of the RPR; or
- c. Use such material for the Contractor's own temporary construction on site; or,
- d. Use such material as intended by the terms of the contract.

Should the Contractor wish to exercise option a., b., or c., the Contractor shall request the RPR's approval in advance of such use.

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

Should the RPR approve the Contractor's exercise of option a., the Contractor shall be paid, at the applicable contract price, for furnishing and installing such material in accordance with requirements of the contract item in which the material is used.

It is understood and agreed that the Contractor shall make no claim for delays by reason of their own exercise of option a., b., or c.

The Contractor shall not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the work, except where such excavation or removal is provided for in the contract, plans, or specifications.

40-08 Final cleanup. Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery, equipment, surplus and discarded materials, rubbish, temporary structures, and stumps or portions of trees. The Contractor shall cut all brush and woods within the limits indicated and shall leave the site in a neat and presentable condition. Material cleared from the site and deposited on adjacent property will not be considered as having been disposed of satisfactorily, unless the Contractor has obtained the written permission of the property Owner.

END OF SECTION 40

Section 50 Control of Work

50-01 Authority of the Resident Project Representative (RPR). The RPR has final authority regarding the interpretation of project specification requirements. The RPR shall determine acceptability of the quality of materials furnished, method of performance of work performed, and the manner and rate of performance of the work. The RPR does not have the authority to accept work that does not conform to specification requirements.

50-02 Conformity with plans and specifications. All work and all materials furnished shall be in reasonably close conformity with the lines, grades, grading sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the contract, plans, or specifications.

If the RPR finds the materials furnished, work performed, or the finished product not within reasonably close conformity with the plans and specifications, but that the portion of the work affected will, in their opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the RPR will advise the Owner of their determination that the affected work be accepted and remain in place. The RPR will document the determination and recommend to the Owner a basis of acceptance that will provide for an adjustment in the contract price for the affected portion of the work. Changes in the contract price must be covered by contract change order or supplemental agreement as applicable.

If the RPR finds the materials furnished, work performed, or the finished product are not in reasonably close conformity with the plans and specifications and have resulted in an unacceptable finished product, the affected work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor in accordance with the RPR's written orders.

The term "reasonably close conformity" shall not be construed as waiving the Contractor's responsibility to complete the work in accordance with the contract, plans, and specifications. The term shall not be construed as waiving the RPR's responsibility to insist on strict compliance with the requirements of the contract, plans, and specifications during the Contractor's execution of the work, when, in the RPR's opinion, such compliance is essential to provide an acceptable finished portion of the work.

The term "reasonably close conformity" is also intended to provide the RPR with the authority, after consultation with the Sponsor and FAA, to use sound engineering judgment in their determinations to accept work that is not in strict conformity, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

The RPR will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction or the safety precautions incident thereto.

50-03 Coordination of contract, plans, and specifications. The contract, plans, specifications, and all referenced standards cited are essential parts of the contract requirements. If electronic files are provided and used on the project and there is a conflict between the electronic files and hard copy plans, the hard copy plans shall govern. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, calculated dimensions will govern over scaled dimensions; contract Technical Specifications shall govern over contract General Provisions, Plans, cited standards for materials or testing, and cited Advisory Circulars (ACs); contract General Provisions shall govern over Plans, cited standards for materials or testing, and cited ACs; plans shall govern over cited standards for materials or testing and cited ACs. If any paragraphs contained in the Special Provisions conflict with General Provisions or Technical Specifications, the Special Provisions shall govern.

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within

standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

The Contractor shall not take advantage of any apparent error or omission on the plans or specifications. In the event the Contractor discovers any apparent error or discrepancy, Contractor shall immediately notify the Owner or the designated representative in writing requesting their written interpretation and decision.

50-04 List of Special Provisions. None

50-05 Cooperation of Contractor. The Contractor shall be supplied with five hard copies or an electronic PDF of the Plans and Specifications. The Contractor shall have available on the construction site at all times one hardcopy each of the Plans and Specifications. Additional hard copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

The Contractor shall give constant attention to the work to facilitate the progress thereof and shall cooperate with the RPR and their inspectors and with other Contractors in every way possible. The Contractor shall have a competent superintendent on the work at all times who is fully authorized as their agent on the work. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the RPR or their authorized representative.

50-06 Cooperation between Contractors. The Owner reserves the right to contract for and perform other or additional work on or near the work covered by this contract.

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

Each Contractor involved shall assume all liability, financial or otherwise, in connection with their own contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.

The Contractor shall arrange their work and shall place and dispose of the materials being used to not interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

50-07 Construction layout and stakes. The Engineer/RPR shall establish necessary horizontal and vertical control. The establishment of Survey Control and/or reestablishment of survey control shall be by a State Licensed Land Surveyor. Contractor is responsible for preserving integrity of horizontal and vertical controls established by Engineer/RPR. In case of negligence on the part of the Contractor or their employees, resulting in the destruction of any horizontal and vertical control, the resulting costs will be deducted as a liquidated damage against the Contractor.

Prior to the start of construction, the Contractor will check all control points for horizontal and vertical accuracy and certify in writing to the RPR that the Contractor concurs with survey control established for the project. All lines, grades and measurements from control points necessary for the proper execution and control of the work on this project will be provided to the RPR. The Contractor is responsible to establish all layout required for the construction of the project.

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be

provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): **AutoCAD Civil3D 2022.**

Laser, GPS, String line, or other automatic control shall be checked with temporary control as necessary. In the case of error, on the part of the Contractor, their surveyor, employees or subcontractors, resulting in established grades, alignment or grade tolerances that do not concur with those specified or shown on the plans, the Contractor is solely responsible for correction, removal, replacement and all associated costs at no additional cost to the Owner.

No direct payment will be made, unless otherwise specified in contract documents, for this labor, materials, or other expenses. The cost shall be included in the price of the bid for the various items of the Contract.

50-08 Authority and duties of Quality Assurance (QA) inspectors. QA inspectors shall be authorized to inspect all work done and all material furnished. Such QA inspection may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. QA inspectors are not authorized to revoke, alter, or waive any provision of the contract. QA inspectors are not authorized to issue instructions contrary to the plans and specifications or to act as foreman for the Contractor.

QA Inspectors are authorized to notify the Contractor or their representatives of any failure of the work or materials to conform to the requirements of the contract, plans, or specifications and to reject such nonconforming materials in question until such issues can be referred to the RPR for a decision.

50-09 Inspection of the work. All materials and each part or detail of the work shall be subject to inspection. The RPR shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

If the RPR requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.

Provide advance written notice to the RPR of work the Contractor plans to perform each week and each day. Any work done or materials used without written notice and allowing opportunity for inspection by the RPR may be ordered removed and replaced at the Contractor's expense.

Should the contract work include relocation, adjustment, or any other modification to existing facilities, not the property of the (contract) Owner, authorized representatives of the Owners of such facilities shall have the right to inspect such work. Such inspection shall in no sense make any facility owner a party to the contract, and shall in no way interfere with the rights of the parties to this contract.

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless otherwise determined acceptable by the RPR as provided in paragraph 50-02, *Conformity with Plans and Specifications*.

Unacceptable work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of the work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 70, paragraph 70-14, *Contractor's Responsibility for Work*.

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the

lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply with any order of the RPR made under the provisions of this subsection, the RPR will have authority to cause unacceptable work to be remedied or removed and replaced; and unauthorized work to be removed and recover the resulting costs as a liquidated damage against the Contractor.

50-11 Load restrictions. The Contractor shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the work. A special permit will not relieve the Contractor of liability for damage that may result from the moving of material or equipment.

The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor, at their own expense, shall be responsible for the repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel.

50-12 Maintenance during construction. The Contractor shall maintain the work during construction and until the work is accepted. Maintenance shall constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the work is maintained in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Contractor shall maintain the previous course or subgrade during all construction operations.

All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various contract items, and the Contractor will not be paid an additional amount for such work.

50-13 Failure to maintain the work. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-12, *Maintenance during Construction*, the RPR shall immediately notify the Contractor of such noncompliance. Such notification shall specify a reasonable time within which the Contractor shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.

Should the Contractor fail to respond to the RPR's notification, the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the Owner, shall be recovered as a liquidated damage against the Contractor.

50-14 Partial acceptance. If at any time during the execution of the project the Contractor substantially completes a usable unit or portion of the work, the occupancy of which will benefit the Owner, the Contractor may request the RPR to make final inspection of that unit. If the RPR finds upon inspection that the unit has been satisfactorily completed in compliance with the contract, the RPR may accept it as being complete, and the Contractor may be relieved of further responsibility for that unit. Such partial acceptance and beneficial occupancy by the Owner shall not void or alter any provision of the contract.

50-15 Final acceptance. Upon due notice from the Contractor of presumptive completion of the entire project, the RPR and Owner will make an inspection. If all construction provided for and contemplated by the contract is found to be complete in accordance with the contract, plans, and specifications, such inspection shall constitute the final inspection. The RPR shall notify the Contractor in writing of final acceptance as of the date of the final inspection.

If, however, the inspection discloses any work, in whole or in part, as being unsatisfactory, the RPR will notify the Contractor and the Contractor shall correct the unsatisfactory work. Upon correction of the work, another inspection will be made which shall constitute the final inspection, provided the work has been satisfactorily completed. In such event, the RPR will make the final acceptance and notify the Contractor in writing of this acceptance as of the date of final inspection.

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

END OF SECTION 50

Section 60 Control of Materials

60-01 Source of supply and quality requirements. The materials used in the work shall conform to the requirements of the contract, plans, and specifications. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).

In order to expedite the inspection and testing of materials, the Contractor shall furnish documentation to the RPR as to the origin, composition, and manufacture of all materials to be used in the work. Documentation shall be furnished promptly after execution of the contract but, in all cases, prior to delivery of such materials.

At the RPR's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply for previously approved materials do not produce specified products, the Contractor shall furnish materials from other sources.

The Contractor shall furnish airport lighting equipment that meets the requirements of the specifications; and is listed in AC 150/5345-53, *Airport Lighting Equipment Certification Program and Addendum*, that is in effect on the date of advertisement.

60-02 Samples, tests, and cited specifications. All materials used in the work shall be inspected, tested, and approved by the RPR before incorporation in the work unless otherwise designated. Any work in which untested materials are used without approval or written permission of the RPR shall be performed at the Contractor's risk. Materials found to be unacceptable and unauthorized will not be paid for and, if directed by the RPR, shall be removed at the Contractor's expense.

Unless otherwise designated, quality assurance tests will be made by and at the expense of the Owner in accordance with the cited standard methods of ASTM, American Association of State Highway and Transportation Officials (AASHTO), federal specifications, Commercial Item Descriptions, and all other cited methods, which are current on the date of advertisement for bids.

The testing organizations performing on-site quality assurance field tests shall have copies of all referenced standards on the construction site for use by all technicians and other personnel. Unless otherwise designated, samples for quality assurance will be taken by a qualified representative of the RPR. All materials being used are subject to inspection, test, or rejection at any time prior to or during incorporation into the work. Copies of all tests will be furnished to the Contractor's representative at their request after review and approval of the RPR.

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports and electronic copies, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

60-03 Certification of compliance/analysis (COC/COA). The RPR may permit the use, prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's COC stating that such materials or assemblies fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the work must be accompanied by a certificate of compliance in which the lot is clearly identified. The COA is the manufacturer's COC and includes all applicable test results.

Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and if found not to be in conformity with contract requirements will be subject to rejection whether in place or not.

The form and distribution of certificates of compliance shall be as approved by the RPR.

When a material or assembly is specified by “brand name or equal” and the Contractor elects to furnish the specified “or equal,” the Contractor shall be required to furnish the manufacturer’s certificate of compliance for each lot of such material or assembly delivered to the work. Such certificate of compliance shall clearly identify each lot delivered and shall certify as to:

- a. Conformance to the specified performance, testing, quality or dimensional requirements; and,
- b. Suitability of the material or assembly for the use intended in the contract work.

The RPR shall be the sole judge as to whether the proposed “or equal” is suitable for use in the work.

The RPR reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

60-04 Plant inspection. The RPR or their authorized representative may inspect, at its source, any specified material or assembly to be used in the work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the work and to obtain samples required for acceptance of the material or assembly.

Should the RPR conduct plant inspections, the following conditions shall exist:

- a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
- b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.
- c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

It is understood and agreed that the Owner shall have the right to retest any material that has been tested and approved at the source of supply after it has been delivered to the site. The RPR shall have the right to reject only material which, when retested, does not meet the requirements of the contract, plans, or specifications.

60-05 Engineer/ Resident Project Representative (RPR) field office. The Contractor shall provide dedicated space for the use of the engineer, RPR, and inspectors, as a field office for the duration of the project. This space shall be located conveniently near the construction and shall be separate from any space used by the Contractor. The Contractor shall furnish water, sanitary facilities, heat, air conditioning, and electricity.

No direct payment will be made for the Engineer’s field office building or labor, materials, ground rental, or other expense in connection therewith. The Contractor and his/her superintendent shall provide all reasonable facilities to enable to the Engineer to inspect the workmanship and materials entering into the work.

60-06 Storage of materials. Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located to facilitate their prompt inspection. The Contractor shall coordinate the storage of all materials with the RPR. Materials to be stored on airport property shall not create an obstruction to air navigation nor shall they interfere with the free and unobstructed movement of aircraft. Unless otherwise shown on the plans and/or CSPP, the storage of materials and the location of the Contractor’s plant and parked equipment or vehicles shall be as directed by the RPR. Private property shall not be used for storage purposes without written permission of the Owner or lessee of such property. The Contractor shall make all arrangements and bear all expenses for

the storage of materials on private property. Upon request, the Contractor shall furnish the RPR a copy of the property Owner's permission.

All storage sites on private or airport property shall be restored to their original condition by the Contractor at their expense, except as otherwise agreed to (in writing) by the Owner or lessee of the property.

60-07 Unacceptable materials. Any material or assembly that does not conform to the requirements of the contract, plans, or specifications shall be considered unacceptable and shall be rejected. The Contractor shall remove any rejected material or assembly from the site of the work, unless otherwise instructed by the RPR.

Rejected material or assembly, the defects of which have been corrected by the Contractor, shall not be returned to the site of the work until such time as the RPR has approved its use in the work.

60-08 Owner furnished materials. The Contractor shall furnish all materials required to complete the work, except those specified, if any, to be furnished by the Owner. Owner-furnished materials shall be made available to the Contractor at the location specified.

All costs of handling, transportation from the specified location to the site of work, storage, and installing Owner-furnished materials shall be included in the unit price bid for the contract item in which such Owner-furnished material is used.

After any Owner-furnished material has been delivered to the location specified, the Contractor shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the Contractor's handling, storage, or use of such Owner-furnished material. The Owner will deduct from any monies due or to become due the Contractor any cost incurred by the Owner in making good such loss due to the Contractor's handling, storage, or use of Owner-furnished materials.

END OF SECTION 60

Section 70 Legal Regulations and Responsibility to Public

70-01 Laws to be observed. The Contractor shall keep fully informed of all federal and state laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders, and decrees; and shall protect and indemnify the Owner and all their officers, agents, or servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or the Contractor's employees.

70-02 Permits, licenses, and taxes. The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful execution of the work.

70-03 Patented devices, materials, and processes. If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the Patentee or Owner. The Contractor and the surety shall indemnify and hold harmless the Owner, any third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the execution or after the completion of the work.

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work.

Except as shown on the Construction Plans, the Contractor shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or facilities located within the limits of the work without the written permission of the RPR.

Should the Owner of public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or facility during the progress of the work, the Contractor shall cooperate with such Owners by arranging and performing the work in this contract to facilitate such construction, reconstruction or maintenance by others whether or not such work by others is listed above. When ordered as extra work by the RPR, the Contractor shall make all necessary repairs to the work which are due to such authorized work by others, unless otherwise provided for in the contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work is subject to the inspection and approval of duly authorized representatives of the FAA Administrator. No requirement of this contract shall be construed as making the United States a party to the contract nor will any such requirement interfere, in any way, with the rights of either party to the contract.

70-06 Sanitary, health, and safety provisions. The Contractor's worksite and facilities shall comply with applicable federal, state, and local requirements for health, safety and sanitary provisions.

70-07 Public convenience and safety. The Contractor shall control their operations and those of their subcontractors and all suppliers, to assure the least inconvenience to the traveling public. Under all circumstances, safety shall be the most important consideration.

The Contractor shall maintain the free and unobstructed movement of aircraft and vehicular traffic with respect to their own operations and those of their own subcontractors and all suppliers in accordance with Section 40, paragraph 40-05, *Maintenance of Traffic*, and shall limit such operations for the convenience and safety of the traveling public as specified in Section 80, paragraph 80-04, *Limitation of Operations*.

The Contractor shall remove or control debris and rubbish resulting from its work operations at frequent intervals, and upon the order of the RPR. If the RPR determines the existence of Contractor debris in the work site represents a hazard to airport operations and the Contractor is unable to respond in a prompt and reasonable manner, the RPR reserves the right to assign the task of debris removal to a third party and recover the resulting costs as a liquidated damage against the Contractor.

70-08 Construction Safety and Phasing Plan (CSPP). The Contractor shall complete the work in accordance with the approved Construction Safety and Phasing Plan (CSPP) developed in accordance with AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP is on sheet(s) **G-081 through G-085** of the project plans.

70-09 Use of explosives. The use of explosives is not permitted on this project.

70-10 Protection and restoration of property and landscape. The Contractor shall be responsible for the preservation of all public and private property, and shall protect carefully from disturbance or damage all land monuments and property markers until the Engineer/RPR has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in manner or method of executing the work, or at any time due to defective work or materials, and said responsibility shall not be released until the project has been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

70-11 Responsibility for damage claims. The Contractor shall indemnify and hold harmless the Engineer/RPR and the Owner and their officers, agents, and employees from all suits, actions, or claims, of any character, brought because of any injuries or damage received or sustained by any person, persons, or property on account of the operations of the Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree. Money due the Contractor under and by virtue of their own contract considered necessary by the Owner for such purpose may be retained for the use of the Owner or, in case no money is due, their own surety may be held until such suits, actions, or claims for injuries or damages shall have been settled and suitable evidence to that effect furnished to the Owner, except that money due the Contractor will not be withheld when the Contractor produces satisfactory evidence that he or she is adequately protected by public liability and property damage insurance.

70-12 Third party beneficiary clause. It is specifically agreed between the parties executing the contract that it is not intended by any of the provisions of any part of the contract to create for the public or any member thereof, a third-party beneficiary or to authorize anyone not a party to the contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the contract.

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, such “phasing” of the work must be specified below and indicated on the approved Construction Safety and Phasing Plan (CSPP) and the project plans. When so specified, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

1. Work Area 1.

- **Scope of Work** – Work Area 1 includes the construction of approximately 550 LF of 72" reinforced concrete storm drainage pipe along with the clearing and grubbing within the existing east-west drainage ditch.
- **Duration** – 30 calendar days.
- **Work Area** – G-083 in the Construction Plans.

2. Work Area 3.

- **Scope of Work** – Work Area 2 includes the demolition of approximately 542 LF of existing corrugated metal pipe and construction of approximately 160 LF of 30", 145 LF of 72", 920 LF of 84" of reinforced concrete storm sewer pipe.
- **Duration** – 55 calendar days.
- **Work Area** –G-084 in the Construction Plans.

3. Work Area 3.

- **Scope of Work** – Work Area 3 includes the demolition of approximately 70 LF of existing 72" storm sewer pipe and construction of approximately 914 LF of 84" reinforced concrete storm drainage pipe as well as the clearing and grubbing within the limits of the existing east-west drainage ditch.
- **Duration** – 40 calendar days.
- **Work Area** –G-085 in the Construction Plans.

Upon completion of any portion of work listed above, such portion shall be accepted by the Owner in accordance with Section 50, paragraph 50-14, *Partial Acceptance*.

No portion of the work may be opened by the Contractor until directed by the Owner in writing. Should it become necessary to open a portion of the work to traffic on a temporary or intermittent basis, such openings shall be made when, in the opinion of the RPR, such portion of the work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the work and shall not constitute either acceptance of the portion of the work so opened or a waiver of any provision of the contract. Any damage to the portion of the work so opened that is not attributable to traffic which is permitted by the Owner shall be repaired by the Contractor at their expense.

The Contractor shall make their own estimate of the inherent difficulties involved in completing the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to opening a portion of the contract work.

The Contractor must conform to safety standards contained AC 150/5370-2 and the approved CSPP.

Contractor shall refer to the plans, specifications, and the approved CSPP to identify barricade requirements, temporary and/or permanent markings, airfield lighting, guidance signs and other safety requirements prior to opening up sections of work to traffic.

70-14 Contractor's responsibility for work. Until the RPR's final written acceptance of the entire completed work, excepting only those portions of the work accepted in accordance with Section 50, paragraph 50-14, *Partial Acceptance*, the Contractor shall have the charge and care thereof and shall take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof except damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God such as earthquake, tidal wave, tornado, hurricane or other cataclysmic phenomenon of nature, or acts of the public enemy or of government authorities.

If the work is suspended for any cause whatever, the Contractor shall be responsible for the work and shall take such precautions necessary to prevent damage to the work. The Contractor shall provide for normal drainage and shall erect necessary temporary structures, signs, or other facilities at their own expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established planting, seeding, and sodding furnished under the contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

70-15 Contractor's responsibility for utility service and facilities of others. As provided in paragraph 70-04, *Restoration of Surfaces Disturbed by Others*, the Contractor shall cooperate with the owner of any public or private utility service, FAA or NOAA, or a utility service of another government agency that may be authorized by the Owner to construct, reconstruct or maintain such utility services or facilities during the progress of the work. In addition, the Contractor shall control their operations to prevent the unscheduled interruption of such utility services and facilities.

To the extent that such public or private utility services, FAA, or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract work, the approximate locations have been indicated on the plans and/or in the contract documents.

FAA Technical Operations:

Sean Gosnell, Manager, Columbia System Support System

Federal Aviation Administration

Office: (803) 822-4420

Cell: (704) 495-5377

Augusta Regional Airport:

Tyler Good, Airport Operations Manager

(706) 798-3236

Elizabeth Giles, Senior Construction Project Manager

(706) 796-4010

It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, facilities, or structures that may be shown on the plans or encountered in the work. Any inaccuracy or omission in such information shall not relieve the Contractor of the responsibility to protect such existing features from damage or unscheduled interruption of service.

It is further understood and agreed that the Contractor shall, upon execution of the contract, notify the Owners of all utility services or other facilities of their plan of operations. Such notification shall be in writing addressed to "The Person to Contact" as provided in this paragraph and paragraph 70-04, *Restoration of Surfaces Disturbed By Others*. A copy of each notification shall be given to the RPR.

In addition to the general written notification provided, it shall be the responsibility of the Contractor to keep such individual Owners advised of changes in their plan of operations that would affect such Owners.

Prior to beginning the work in the general vicinity of an existing utility service or facility, the Contractor shall again notify each such Owner of their plan of operation. If, in the Contractor's opinion, the Owner's assistance is needed to locate the utility service or facility or the presence of a representative of the Owner is desirable to observe the work, such advice should be included in the notification. Such notification shall be given by the most expeditious means to reach the utility owner's "Person to Contact" no later than two normal business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor shall furnish a written summary of the notification to the RPR.

The Contractor's failure to give the two days' notice shall be cause for the Owner to suspend the Contractor's operations in the general vicinity of a utility service or facility.

Where the outside limits of an underground utility service have been located and staked on the ground, the Contractor shall be required to use hand excavation methods within 3 feet (1 m) of such outside limits at such points as may be required to ensure protection from damage due to the Contractor's operations.

Should the Contractor damage or interrupt the operation of a utility service or facility by accident or otherwise, the Contractor shall immediately notify the proper authority and the RPR and shall take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such events, shall cooperate with the utility service or facility owner and the RPR continuously until such damage has been repaired and service restored to the satisfaction of the utility or facility owner.

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

70-15.1 FAA facilities and cable runs. The Contractor is hereby advised that the construction limits of the project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the execution of the project work, shall comply with the following:

a. The Contractor shall permit FAA maintenance personnel the right of access to the project work site for purposes of inspecting and maintaining all existing FAA owned facilities.

b. The Contractor shall provide notice to the FAA Air Traffic Organization (ATO)/Technical Operations/System Support Center (SSC) Point-of-Contact through the airport Owner a minimum of seven (7) calendar days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.

c. Any damage to FAA cables, access roads, or FAA facilities during construction caused by the Contractor's equipment or personnel whether by negligence or accident will require the Contractor to repair or replace the damaged cables, access road, or FAA facilities to FAA requirements. The Contractor shall not bear the cost to repair damage to underground facilities or utilities improperly located by the FAA.

70-16 Furnishing rights-of-way. The Owner will be responsible for furnishing all rights-of-way upon which the work is to be constructed in advance of the Contractor's operations.

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their

authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

70-18 No waiver of legal rights. Upon completion of the work, the Owner will expeditiously make final inspection and notify the Contractor of final acceptance. Such final acceptance, however, shall not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the work, nor shall the Owner be precluded or stopped from recovering from the Contractor or their surety, or both, such overpayment as may be sustained, or by failure on the part of the Contractor to fulfill their obligations under the contract. A waiver on the part of the Owner of any breach of any part of the contract shall not be held to be a waiver of any other or subsequent breach.

The Contractor, without prejudice to the terms of the contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.

70-19 Environmental protection. The Contractor shall comply with all federal, state, and local laws and regulations controlling pollution of the environment. The Contractor shall take necessary precautions to prevent pollution of streams, lakes, ponds, and reservoirs with fuels, oils, asphalts, chemicals, or other harmful materials and to prevent pollution of the atmosphere from particulate and gaseous matter.

70-20 Archaeological and historical findings. Unless otherwise specified in this subsection, the Contractor is advised that the site of the work is not within any property, district, or site, and does not contain any building, structure, or object listed in the current National Register of Historic Places published by the United States Department of Interior.

Should the Contractor encounter, during their operations, any building, part of a building, structure, or object that is incongruous with its surroundings, the Contractor shall immediately cease operations in that location and notify the RPR. The RPR will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed.

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, *Extra Work*, and Section 90, paragraph 90-05, *Payment for Extra Work*. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

END OF SECTION 70

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Section 80 Execution and Progress

80-01 Subletting of contract. The Owner will not recognize any subcontractor on the work. The Contractor shall at all times when work is in progress be represented either in person, by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Resident Project Representative (RPR).

The Contractor shall perform, with his organization, an amount of work equal to at least **25** percent of the total contract cost.

Should the Contractor elect to assign their contract, said assignment shall be concurred in by the surety, shall be presented for the consideration and approval of the Owner, and shall be consummated only on the written approval of the Owner.

80-02 Notice to proceed (NTP). The Owners notice to proceed will state the date on which contract time commences. The Contractor is expected to commence project operations within **10** days of the NTP date. The Contractor shall notify the RPR at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least 10 days prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the bid.

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

The Contractor shall not commence any actual construction prior to the date on which the NTP is issued by the Owner.

The Contractor shall maintain the work schedule and provide an update and analysis of the progress schedule on a weekly basis, or as otherwise specified in the contract. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract.

80-04 Limitation of operations. The Contractor shall control their operations and the operations of their subcontractors and all suppliers to provide for the free and unobstructed movement of aircraft in the air operations areas (AOA) of the airport.

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 48 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place as provided in Section 70, paragraph 70-08, *Construction Safety and Phasing Plan (CSPP)*.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately

obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. Refer to the Construction Safety and Phasing Plans for restrictions.

The Contractor shall be required to conform to safety standards contained in AC 150/5370-2, Operational Safety on Airports During Construction and the approved CSPP.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project Construction Safety and Phasing Plan (CSPP) and the Safety Plan Compliance Document (SPCD) and the provisions set forth within the current version of AC 150/5370-2, Operational Safety on Airports During Construction. The CSPP included within the contract documents conveys minimum requirements for operational safety on the airport during construction activities. The Contractor shall prepare and submit a SPCD that details how it proposes to comply with the requirements presented within the CSPP.

The Contractor shall implement all necessary safety plan measures prior to commencement of any work activity. The Contractor shall conduct routine checks to assure compliance with the safety plan measures.

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project. The Contractor shall assure that all subcontractors are made aware of the requirements of the CSPP and SPCD and that they implement and maintain all necessary measures.

No deviation or modifications may be made to the approved CSPP and SPCD unless approved in writing by the Owner. The necessary coordination actions to review Contractor proposed modifications to an approved CSPP or approved SPCD can require a significant amount of time.

80-05 Character of workers, methods, and equipment. The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the contract, plans, and specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.

Any person employed by the Contractor or by any subcontractor who violates any operational regulations or operational safety requirements and, in the opinion of the RPR, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the RPR, be removed immediately by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the RPR.

Should the Contractor fail to remove such person or persons or fail to furnish suitable and sufficient personnel for the proper execution of the work, the RPR may suspend the work by written notice until compliance with such orders.

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously complete work, adjacent property, or existing airport facilities due to its use.

When the methods and equipment to be used by the Contractor in accomplishing the work are not prescribed in the contract, the Contractor is free to use any methods or equipment that will accomplish the work in conformity with the requirements of the contract, plans, and specifications.

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment

proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

80-06 Temporary suspension of the work. The Owner shall have the authority to suspend the work wholly, or in part, for such period or periods the Owner may deem necessary, due to unsuitable weather, or other conditions considered unfavorable for the execution of the work, or for such time necessary due to the failure on the part of the Contractor to carry out orders given or perform any or all provisions of the contract.

In the event that the Contractor is ordered by the Owner, in writing, to suspend work for some unforeseen cause not otherwise provided for in the contract and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the effective date of the written order to suspend work to the effective date of the written order to resume the work. Claims for such compensation shall be filed with the RPR within the time period stated in the RPR's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The RPR will forward the Contractor's claim to the Owner for consideration in accordance with local laws or ordinances. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather or for any other delay provided for in the contract, plans, or specifications.

If it becomes necessary to suspend work for an indefinite period, the Contractor shall store all materials in such manner that they will not become an obstruction nor become damaged in any way. The Contractor shall take every precaution to prevent damage or deterioration of the work performed and provide for normal drainage of the work. The Contractor shall erect temporary structures where necessary to provide for traffic on, to, or from the Airport.

80-07 Determination and extension of contract time. The number of calendar days shall be stated in the bid and contract and shall be known as the Contract Time.

If the contract time requires extension for reasons beyond the Contractor's control, it shall be adjusted as follows:

80-07.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-workdays. All calendar days elapsing between the effective dates of the Owner's orders to suspend and resume all work, due to causes not the fault of the Contractor, shall be excluded.

At the time of final payment, the contract time shall be increased in the same proportion as the cost of the actually completed quantities bears to the cost of the originally estimated quantities in the bid. Such increase in the contract time shall not consider either cost of work or the extension of contract time that has been covered by a change order or supplemental agreement. Charges against the contract time will cease as of the date of final acceptance.

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, *Determination and Extension of Contract Time*) the sum specified in the

contract and bid as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

Work Area	Liquidated Damages Cost	Allowed Construction Time
1	\$1,000 per day	30
2	\$1,000 per day	55
3	\$1,000 per day	40

The maximum construction time allowed for Work Area 1 shall be 30 calendar days.

The maximum construction time allowed for Work Area 2 shall be 55 calendar days.

The maximum construction time allowed for Work Area 3 shall be 40 calendar days.

The maximum construction time allowed for will be 155 calendar days, including 60 days of Mobilization. In the event Bid Alternate 1 is awarded an additional 40 calendar days shall be added to the total construction time totaling 185 calendar days. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 Default and termination of contract. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for any of the following reasons, if the Contractor:

- a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or
- b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or
- c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- d. Discontinues the execution of the work, or
- e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or
- f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or
- h. Makes an assignment for the benefit of creditors, or
- i. For any other cause whatsoever, fails to carry on the work in an acceptable manner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall immediately give written notice to the Contractor and the Contractor's surety as to the reasons for considering the Contractor in default and the Owner's intentions to terminate the contract.

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without

violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

All costs and charges incurred by the Owner, together with the cost of completing the work under contract, will be deducted from any monies due or which may become due the Contractor. If such expense exceeds the sum which would have been payable under the contract, then the Contractor and the surety shall be liable and shall pay to the Owner the amount of such excess.

80-10 Termination for national emergencies. The Owner shall terminate the contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction contract as a direct result of an Executive Order of the President with respect to the execution of war or in the interest of national defense.

When the contract, or any portion thereof, is terminated before completion of all items of work in the contract, payment will be made for the actual number of units or items of work completed at the contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits shall be considered.

Reimbursement for organization of the work, and other overhead expenses, (when not otherwise included in the contract) and moving equipment and materials to and from the job will be considered, the intent being that an equitable settlement will be made with the Contractor.

Acceptable materials, obtained or ordered by the Contractor for the work and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor at actual cost as shown by receipted bills and actual cost records at such points of delivery as may be designated by the RPR.

Termination of the contract or a portion thereof shall neither relieve the Contractor of their responsibilities for the completed work nor shall it relieve their surety of its obligation for and concerning any just claim arising out of the work performed.

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational. The Contractor shall plan and coordinate work in accordance with the approved CSPP and SPCD.

END OF SECTION 80

Section 90 Measurement and Payment

90-01 Measurement of quantities. All work completed under the contract will be measured by the RPR, or their authorized representatives, using United States Customary Units of Measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet (0.8 square meters) or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the RPR.

Unless otherwise specified, all contract items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items shall be measured parallel to the base or foundation upon which such items are placed.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the contract. When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When requested by the Contractor and approved by the RPR in writing, material specified to be measured by the cubic yard (cubic meter) may be weighed, and such weights will be converted to cubic yards (cubic meters) for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the RPR and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds (907 kg) avoirdupois. All materials that are measured or proportioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the RPR. If material is shipped by rail, the car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level

Term	Description
	capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	<p>Scales must be tested for accuracy and serviced before use. Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.</p> <p>Scales shall be accurate within 0.5% of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted.</p> <p>In the event inspection reveals the scales have been “overweighing” (indicating more than correct weight) they will be immediately adjusted. All materials</p>

Term	Description
	<p>received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%.</p> <p>In the event inspection reveals the scales have been under-weighting (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded.</p> <p>Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them.</p> <p>Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.</p> <p>All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.</p>
Rental Equipment	<p>Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 <i>Payment for Extra Work</i>.</p>
Pay Quantities	<p>When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.</p>

90-02 Scope of payment. The Contractor shall receive and accept compensation provided for in the contract as full payment for furnishing all materials, for performing all work under the contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the execution thereof, subject to the provisions of Section 70, paragraph 70-18, *No Waiver of Legal Rights*.

When the “basis of payment” subsection of a technical specification requires that the contract price (price bid) include compensation for certain work or material essential to the item, this same work or material will not also be measured for payment under any other contract item which may appear elsewhere in the contract, plans, or specifications.

90-03 Compensation for altered quantities. When the accepted quantities of work vary from the quantities in the bid, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract price for the accepted quantities of work actually completed and accepted. No allowance, except as provided for in Section 40, paragraph 40-02, *Alteration of Work and Quantities*, will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor which results directly from such alterations or indirectly

from their own unbalanced allocation of overhead and profit among the contract items, or from any other cause.

90-04 Payment for omitted items. As specified in Section 40, paragraph 40-03, *Omitted Items*, the RPR shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the RPR omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the RPR's order to omit or non-perform such contract item.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the RPR's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted contract item prior to the date of the RPR's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature the amount of such costs.

90-05 Payment for extra work. Extra work, performed in accordance with Section 40, paragraph 40-04, *Extra Work*, will be paid for at the contract prices or agreed prices specified in the change order or supplemental agreement authorizing the extra work.

90-06 Partial payments. Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon estimates, prepared by the RPR, of the value of the work performed and materials complete and in place, in accordance with the contract, plans, and specifications. Such partial payments may also include the delivered actual cost of those materials stockpiled and stored in accordance with paragraph 90-07, *Payment for Materials on Hand*. No partial payment will be made when the amount due to the Contractor since the last estimate amounts to less than five hundred dollars.

The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. The Owner must ensure prompt and full payment of retainage from the prim Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

a. From the total of the amount determined to be payable on a partial payment, 10 percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-14. Contractor must provide a certified invoice to the RPR that supports the value of retainage held by the Owner for partially accepted work.

(2) In lieu of retainage, the Contractor may exercise at its option the establishment of an escrow account per paragraph 90-08.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. Contractor must provide the Owner evidence of prompt and full payment of retainage held by the prime Contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner. When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done. The Owner may retain an amount not less than twice the contract value or estimated cost, whichever is greater, of the work remaining to be done. The remainder, less all previous payments and deductions, will then be certified for payment to the Contractor.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the bid or covered by approved change orders or supplemental agreements, except when such excess quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

No partial payment shall bind the Owner to the acceptance of any materials or work in place as to quality or quantity. All partial payments are subject to correction at the time of final payment as provided in paragraph 90-09, *Acceptance and Final Payment*.

The Contractor shall deliver to the Owner a complete release of all claims for labor and material arising out of this contract before the final payment is made. If any subcontractor or supplier fails to furnish such a release in full, the Contractor may furnish a bond or other collateral satisfactory to the Owner to indemnify the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, Plans, and Specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.

b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.

c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.

d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.

e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of their responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications.

In no case will the amount of partial payments for materials on hand exceed the contract price for such materials or the contract price for the contract item in which the material is intended to be used.

No partial payment will be made for stored or stockpiled living or perishable plant materials.

The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this paragraph.

90-08 Payment of withheld funds. At the Contractor's option, if an Owner withholds retainage in accordance with the methods described in paragraph 90-06 *Partial Payments*, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

- a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.
- b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.
- c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.
- d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the RPR's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the RPR's estimate under protest of the quantities in dispute, and such disputed quantities shall be considered by the Owner as a claim in accordance with Section 50, paragraph 50-16, *Claims for Adjustment and Disputes*.

After the Contractor has approved, or approved under protest, the RPR's final estimate, and after the RPR's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

If the Contractor has filed a claim for additional compensation under the provisions of Section 50, paragraph 50-16, *Claims for Adjustments and Disputes*, or under the provisions of this paragraph, such claims will be considered by the Owner in accordance with local laws or ordinances. Upon final adjudication of such claims, any additional payment determined to be due the Contractor will be paid pursuant to a supplemental final estimate.

90-10 Construction warranty.

- a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material,

workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.

h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

90-11 Contractor Final Project Documentation. Approval of final payment to the Contractor is contingent upon completion and submittal of the items listed below. The final payment will not be approved until the RPR approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturers' warranties specified for materials, equipment, and installations.

b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.

c. Complete final cleanup in accordance with Section 40, paragraph 40-08, *Final Cleanup*.

d. Complete all punch list items identified during the Final Inspection.

e. Provide complete release of all claims for labor and material arising out of the Contract.

f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.

g. When applicable per state requirements, return copies of sales tax completion forms.

h. Manufacturer's certifications for all items incorporated in the work.

i. All required record drawings, as-built drawings or as-constructed drawings.

j. Project Operation and Maintenance (O&M) Manual(s).

k. Security for Construction Warranty.

I. Equipment commissioning documentation submitted, if required.

END OF SECTION 90

SUPPLEMENTAL PROVISIONS

AIRPORT SAFETY AND SECURITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. The Contractor shall carry out its operations in a manner that will cause a minimum of interference with air traffic, and shall be required to cooperate with the Federal Aviation Administration (FAA), the Airport, Airport tenants and users, and other contractors working in the area. All work shall be completed in accordance with the Contract Documents including FAA Advisory Circular 150/5370-2G, Operational Safety on Airports During Construction or current edition as of bid date.
- B. The Contractor shall supply, place, maintain, move and store the items listed herein, as appropriate, to facilitate construction and protect air traffic. The Contractor shall maintain an adequate extra supply of these items on site.
- C. These provisions are to enhance the existing language listed in the General Terms & Conditions. All or parts of the contents will apply to the Contractor's contract depending upon the sequence in which the phases are conducted.
- D. The Airport has the right to monitor the Contractors' operations for safety performance, workmanship, protection of operations, work progress, housekeeping, and compliance to design specifications (Contractor shall still be responsible for assuring safe work practices). It is a general practice that the Airport will work through the Contractor's supervision and not directly with the employee. The Airport has the right to participate with and investigate any accident or incident.
- E. Contractor shall develop and implement a system for assessing appropriate requirements applicable to its employees, including removal from Airport property, for violation of safety laws statutes, codes, ordinances and regulations, safety requirements specified by the Contract, including, without limitation, any other condition that presents a safety hazard to the employee or others. Contractor shall prepare and maintain a detailed written report of each instance where it has assessed discipline for a safety related infraction including identification of the employee, the nature of the infraction and the discipline assessed.
- F. Contractor shall be required to develop, at a minimum, a comprehensive post-accident drug and alcohol testing program that includes post-accident and random testing in accordance with Department of Transportation (DOT) Drug and Alcohol Testing - 49 Code of Federal Regulations (CFR) Part 40.

1.2 DEFINITIONS

- A. Safety Program – The Contractor shall submit its Safety Program to the Airport and obtain approval prior to the start of construction. The Safety Program shall be prepared in accordance with the FAA Advisory Circular 150/5370-2G (Operational Safety on Airports During Construction), or current edition as of bid date. The Safety Program includes, but is not limited to the following:
1. Contractor's Corporate Safety Policy
 2. Contractor's Site Specific Safety Plan
 3. Construction Safety and Phasing Plan (CSPP) – The Contractor shall abide by the CSPP, approved by the FAA and provided by the Airport.
 4. Safety Plan Compliance Document (SPCD) – The SPCD details how the Contractor will comply with the CSPP. The Contractor shall prepare the SPCD and obtain approval by the Airport prior to issuance of the Notice to Proceed

PRODUCTS

- 1.3 WARNING LIGHTS. Warning lights shall meet the requirements of FAA Advisory Circular 150/5370-2G (Operational Safety on Airport During Construction), or current edition as of bid date or as amended during the term of the contract. The Contractor's vehicles shall meet the requirements of FAA Advisory Circular 150/5210-5D (Painting, Marking, and Lighting of Vehicles Used on an Airport), or current edition as of bid date or as amended during the term of the contract.
- 1.4 LOW PROFILE BARRICADES. Low profile barricades shall be in accordance with the details in the Contract Documents and meet the requirements of FAA Advisory Circular 150/5370-2G, or current edition as of bid date or as amended during the term of the contract. The barricades shall be furnished, maintained and relocated during each phase by the Contractor. Barricades shall be as detailed and installed per the drawings along the affected pavement edge or access to a closed runway, taxiway or apron.
- 1.5 SAFETY BARRICADES. Safety barricades shall be furnished and installed at the locations as indicated on the Contract Documents and/or directed by the Engineer. Safety barricades shall be 32" – 36" tall and 6' long. Safety barricades shall be water fillable with a maximum empty weight of 85 pounds and a minimum filled weight of 700 pounds. There shall be an equal number of orange and white to allow for the colors to be staggered upon assembly. They shall be interlockable and marked with alternating orange and white reflective tape on each side. The Contractor shall supply two (2) solar powered red flashing lights per barricade that can be attached to the top of the barricades.

- 1.6 VACUUM SWEEPER. The power vacuum sweepers shall be Tymco, Model HSP-600 or Elgin Model Crosswind or an approved equal. A broom type sweeper may be allowed by the Engineer depending upon construction activity on aircraft operations area. The Contractor shall provide a minimum of one sweeper at all times.

PART 2 - EXECUTION

2.1 General Information

- A. All Contractors shall comply with the following:
1. All applicable Occupational Safety and Health Administration (OSHA), Federal Aviation Administration (FAA), Federal Aviation Regulations (FAR), Transportation Security Administration (TSA) Part 1542, Department of Transportation (DOT), Federal, State, and Local safety standards.
 2. Other reasonable safety rules and practices as may be established from time to time by the Airport.
- B. In compliance with FAA AC 150/5370-2G, or current edition as of bid date or as amended during the term of the contract date, the Contractor shall prepare a Safety Plan Compliance Document (SPCD). This document shall include a general statement by the Contractor that it has read and shall adhere to the CSPP. Any details not identifiable for the CSPP should be included within the SPCD. The SPCD is similar to the CSPP but shall not contain duplicate information. The Contractor shall submit the SPCD to the Airport for approval prior to the start of construction. The SPCD shall include but not be limited to the following checklist as applicable to the scope of the project:
1. **Coordination.** Discuss details of proposed safety meetings with the Airport operator and with Contractor's employees and subcontractors.
 2. **Phasing.** Discuss proposed construction schedule elements, including:
 - i. Duration of each phase.
 - ii. Daily start and finish of construction, including "night only" construction.
 - iii. Duration of construction activities during:
 1. Normal runway operations.
 2. Closed runway operations.
 3. Modified runway "Aircraft Reference Code" usage.
 3. **Areas and operations affected by the construction activity.** These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.
 4. **Protection of NAVAIDS.** Discuss specific methods proposed to protect operating NAVAIDS.

5. **Contractor access.** Provide the following:
 - i. Details on how the Contractor will maintain the integrity of the Airport security fence (contract security officers, daily log of construction personnel, and other).
 - ii. Listing of individual requiring driver training (for certificated airports and as requested).
 - iii. Radio communications.
 1. Types of radios and backup capabilities.
 2. Who will be monitoring radios.
 3. Who to contact if the Air Traffic Control Tower (ATCT) cannot reach the Contractor's designated person by radio.
 4. Details on how the Contractor will escort material delivery vehicles.
6. **Wildlife management.** Discuss the following:
 - i. Methods and procedures to prevent wildlife attraction.
 - ii. Wildlife reporting procedures.
7. **Foreign Object Debris (FOD) management.** Discuss equipment and methods for control of FOD, including construction debris and dust.
8. **Hazardous material (HAZMAT) management.** Discuss equipment and methods for responding to hazardous spills.
9. **Notification of construction activities.** Provide the following:
 - i. Contractor points of contact.
 - ii. Contractor emergency contact.
 - iii. Listing of all equipment greater than 10 feet in height or other requested equipment proposed for use on the Airport and the time frame for submitting 7460-1 forms not previously submitted by the Airport operator.
 - iv. Batch plant details, including 7460-1 submittal.
10. **Inspection requirements.** Discuss daily (or more frequent) inspections and special inspection procedures.
11. **Underground utilities.** Discuss proposed methods of identifying and protecting underground utilities.
12. **Penalties.** Penalties should be identified in the CSPP and should not require an entry in the SPCD.
13. **Special conditions.** Discuss proposed actions for each special condition identified in the CSPP.
14. **Runway and taxiway visual aids.** Including marking, lighting, signs and visual NAVAIDs. Discuss proposed visual aids including the following:
 - i. Equipment and methods for covering signage and airfield lights.
 - ii. Equipment and methods for temporary closure markings (paint, fabric, other).
 - iii. Types of temporary Visual Guidance Slope Indicators (VGSI).
15. **Markings and signs for access routes.** Discuss proposed methods of demarcating access routes for vehicle drivers.

16. **Hazard marking and lighting.** Discuss proposed equipment and methods for identifying excavation areas.
 17. **Protection of runway and taxiway safety areas.** Including object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
 - i. Equipment and methods for maintaining Taxiway Safety Area standards.
 - ii. Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
 18. **Other limitations on construction** should be identified in the CSPP and should not require an entry in the SPCD.
- C. Regular progress meetings will be conducted during construction. Part of the meeting will be dedicated to safety. During these meetings, the Contractor shall submit to the Airport the following safety information:
1. Estimated man-hours worked from the previous period;
 2. Number of accidents from the previous periods;
 3. Number of recordable injuries from the previous period; and
 4. Summarization of any accident that took place from the previous period.
- D. In estimating the work involved in the Contract, the Contractor shall be familiar with all existing and limiting conditions that will or may have a bearing on the performance of the Contract with regard to safety. Any limiting conditions shall be identified in writing.
- E. All costs related to the required Safety Program shall be included in the Contractor's bid. Costs provided to administer and maintain the Safety Program shall be complete and shall include costs for all required personnel, activities, facilities, media, tools, drug testing, and any specialty equipment required to insure a comprehensive, qualified Safety Program to suit a per week/per shift basis.
- F. Throughout the duration of the Contract, any practice or situation that the Engineer determines to be unsafe or a hindrance to regular Airport operations shall be immediately rectified.
- G. The following publications contain definitions/descriptions of critical Airport operating areas. The areas defined below pertain to airfield safety requirements and are referenced throughout the Contract Documents. Copies of these publications are available from the FAA at www.faa.gov.
1. Advisory Circular 150/5370-2G, or current edition as of bid date, "Operational Safety on Airports During Construction": Sets forth guidelines to assist Airport operators in complying with FAR Part 139, "Certification and Operation/Land Airports Serving Certain Air Carriers" and with the requirements of federally funded construction projects.

2. FAR Part 77, "Objects Affecting Navigable Airspace," Current Edition: Establishes standards for determining obstructions to navigable airspace. Civil Airport imaginary surfaces are defined in the publication. It also sets forth requirements for notice of certain proposed construction or alteration. Notice of construction provides a basis for recommendations for identifying the construction or alteration in accordance with AC 70/7460-1, "Obstruction Marking and Lighting," or current edition as of bid date.
3. AC 150/5300-13B, "Airport Design" or current edition as of bid date: Establishes design, operational and maintenance standards for airports. Standard terms used in the Contract Documents are defined below:
 - a. Runway Safety Area (RSA) - The defined surface surrounding the runway over which aircraft should, in dry weather, be able to cross at normal operating speeds without incurring significant damage. A safety area is graded, drained and compacted. It is free of any holes, trenches, humps or other significant surface variations or objects, other than those which must be there because of their essential aeronautical function. The safety area requires the capability of supporting maintenance, firefighting, and rescue vehicles under normal (dry) conditions.
 - b. Object Free Area (OFA) – An area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigations or aircraft ground maneuvering purposes.
 - c. Obstacle Free Zone (OFZ) – The OFZ is the airspace below 150 feet above the established Airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway, and for missed approaches. The OFZ is subdivided as follows:
 - 1) Runway OFZ. The airspace above a surface centered on the runway centerline.
 - 2) Inner-approach OFZ. The airspace above a surface centered on the extended runway centerline. It applies to runways with an approach lighting system.
 - 3) Outer-approach OFZ. The airspace above the surfaces located on the outer edges of the runway OFZ and the inner-approach OFZ. It applies to runways with approach visibility minimums lower than $\frac{3}{4}$ -statute mile.

- d. Taxiway Safety Area (TSA) – A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway.
- H. The work shall proceed in such a manner as to provide safe conditions for all workers and personnel. The sequence of operations shall be such that maximum protection is afforded to ensure that personnel and workers in the work area are not subject to any dangerous conditions.
- I. Prior to commencement of construction activity, the Contractor shall notify in writing, at least 72 hours in advance, Airport Operations and the Engineer of its intentions to begin construction, stating the proposed time, date, and area of which construction is to occur in order for the appropriate Notice-to-Airmen (NOTAM) to be issued. During the performance of this Contract, the Airport facility shall remain in use to the maximum extent possible. The Contractor shall not allow employees, subcontractors, suppliers, or any other unauthorized persons to enter in any Airport area which may be open for aircraft use.
- J. Should any of the following problems or hazards arise during construction, the Contractor shall immediately rectify/correct the problem or hazard to the satisfaction of the Engineer and the Airport:
 - 1. Trenches, holes, or excavations at or adjacent to any active runway or in safety areas.
 - 2. Unmarked/unlighted holes or excavation at any active apron, taxiway, taxilane, or related safety area.
 - 3. Mounds or piles of earth, construction materials, temporary structures, or other objects in the vicinity of any active taxiway, taxilane, or in a related safety, approach, or departure area.
 - 4. Vehicles or equipment (whether operating or idle) on any active runway, taxiway, taxilane, or in any related safety, approach, or departure area.
 - 5. Vehicles, equipment, excavations, stockpiles, or other materials which could degrade or otherwise interfere with electronic signals from radios or navigational aids (NAVAIDS).
 - 6. Runway surfacing projects resulting in excessive lips greater than 1 inch for runways and exceeding 3 inches for edges between the old shoulder and new surfaces at runway edges and ends.
 - 7. Unmarked utility, NAVAID, weather service, runway lighting, or other power or signal cables that could be damaged during construction.
 - 8. Objects (whether or not marked or flagged) or activities anywhere on or in the vicinity of the Airport which could be distracting, confusing, or alarming to pilots during aircraft operations.
 - 9. Unflagged/unlighted low visibility items (such as tall cranes, drills, and the like) anywhere in the vicinity of active runways, or in any approach or departure area.

10. Misleading or malfunctioning obstruction lights or unlighted/unmarked obstructions in an approach to any active runway.
11. Inadequate approach/departure surfaces needed to assure adequate landing/takeoff clearance over obstructions or work or storage areas.
12. Inadequate, confusing or misleading (to user pilots) marking/lighting of runways, taxiways, or taxilanes, including displaced or relocated thresholds.
13. Water, dirt, debris, or other transient accumulation which temporarily obscures pavement marking, pavement edges, or derogates visibility of runway/taxiway marking or lighting.
14. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of Airport operations areas.
15. Trash or other materials with foreign object damage (FOD) potential, whether on runways, taxiways, or aprons, or in related safety areas.
16. Inadequate barricading or other marking which is placed to separate construction or maintenance areas from active aircraft operating areas.
17. Failure to control vehicle and human access to active aircraft operating areas.
18. Construction/maintenance activities or materials which could hamper the response of aircraft rescue and firefighting (ARFF) equipment from reaching all aircraft or any part of the runway/taxiway system, runway approach and departure areas, and aircraft parking locations.
19. Bird attractants on Airport, such as edibles (food scraps, etc.), miscellaneous trash, or ponded water.

2.2 Contractor Requirements

- A. All persons entering the project area designated as the construction site shall strictly follow Georgia, OSHA, FAA, DOT, and Transportation Safety Administration regulations.
- B. The Contractor shall provide physical barriers along the perimeter of its work site and place signs identifying the area as a construction site. The contractor will install signs along on-site haul roads indicating that speed limit for construction vehicles is 25 mph or 15 mph if on airfield pavements including taxiways and aprons. In some cases where the general public or open airfield is to be protected, additional and/or specialty barriers might be required and will need to be determined by Airport.
- C. The Contractor shall submit an FAA Form 7460-1 at least 60 days prior to any crane erections. All construction involving cranes shall further be coordinated at least 72 hours in advance, excluding weekends, with the Airport Operations. This does not include the time required for airspace review. The following information and actions are required:
 1. Location of the Crane.
 2. Maximum extendable height.
 3. Hours of operation.

4. The top of each crane boom shall be marked by a 3' x 3' orange and white checkered flag — each box being 1' square.
 5. Each crane shall be lowered at night and during periods of poor visibility as directed by Airport Operations. In the event the crane is approved to remain extended during the hours from sunset to sunrise, the highest point of the crane boom will be lit with a red obstruction light in accordance with AC 70/7460-1.
- D. These established safety requirements shall govern Contractors and all persons within the designated construction site and are outlined to avoid infractions of common accepted safety practices.
 - E. These safety requirements shall not be construed as complete and any requirements of the guidelines in conflict with Georgia, OSHA and FAA shall be superseded by Georgia, OSHA or FAA regulations.
 - F. Any individual failing to follow these safety requirements shall be directed by the Contractor to immediately abate the unsafe act, behavior, or equipment.
 - G. All Contractor equipment brought onsite for use on or during the construction project shall be kept in a safe operating condition. Worn or damaged equipment shall be repaired, replaced or taken out of service (locked out) and removed from the job site.
 - H. Contractor shall keep its work area in a clean and safe condition.
 - I. The use of makeshift, defective or inadequate scaffolding, rigging, or staging is prohibited.
 - J. The Contractor shall provide barriers, railings or coverings for all areas including, but not limited to, elevated work platforms, holes, excavations, roof openings, along roof edges, manholes, and/or unfinished work causing floor obstructions. Outside excavations, barriers, and safety signs shall be adequately illuminated during darkness.
 - K. No Contractor is permitted to use any powered industrial moving equipment, trucks, tools, or ladders owned or rented by, the Airport.
 - L. Contractors shall not perform work overhead of any member of the general public. The Contractor shall use physical barriers to prevent access by non-construction personnel to areas with overhead construction work. If the Contractor cannot restrict access to the overhead work area, work will cease until a method of restricting access is developed and implemented.
 - M. Welding screens and/or curtains will be used in areas where cutting or welding operations are being performed where non-construction personnel may be exposed to weld flash or sparks. Refer to Airport Hot Work permit requirements.
 - N. Tools, equipment or materials shall not be left or placed on beams, overhead walkways, or places where they may fall, causing injury.

1. To prevent possible explosive or incendiary devices from being hidden in areas close to Airport facilities, equipment, aircraft, or vehicles, no containers (tool boxes, storage containers, materials trailers) shall be left unsecured or unattended in public areas.
 2. The Contractor shall not bring any tool through passenger screening. No tools shall be left unsecured in public areas. Any temporary doors that lead to construction areas that are accessible by the public shall be equipped with a push button cipher lock (installed at the Contractor's expense). The access number to the door shall be provided to Airport designees.
 3. The Contractor is not permitted to carry liquids, gels, or aerosols into sterile areas except for those liquids, gels, or aerosol necessary for operational or medical needs, all of which shall be subject to inspection.
- O. Contractor shall verify and assure that every employee who operates any mobile equipment on Airport properties shall have a current valid driver's license.
- P. The Contractor shall comply with the National Electric Code (NEC) requirements regarding ground fault circuit interrupters for construction field tools and equipment.
- Q. In matters concerning interpretation of the foregoing requirements, the decision of the Airport will be final and binding.
- R. The Contractor shall maintain a Safety Program, for the purpose of safety, security, orientation, education, training, enforcement, and distribution.
- S. If a security system (cameras, gates, lifts, doors, etc.) is going to be taken out of service, the Contractor shall coordinate with the Airport Operations at least three (3) days in advance. Pending certain security threat levels, permission may not be granted to take down a security system.
- T. Potable water line installation will require coordination with the Airport management.
- U. When working on the airfield pavement lighting cans, the Contractor shall assure the electrical systems are locked out, tagged out, and verified there is no hazardous energy.
- V. The Contractor shall not pull any associated airfield lighting electrical cables through manholes, junction cans, pavement cans or through those devices if there are other cables present. All electrical cables shall be locked-out, tagged-out, and de-energized prior to work activities.
- W. Contractor will provide all lighted, low profile, water or sand filled, taxiway/runway barricading.

- X. If working on the Airport Operations Area (AOA), the Contractor will be required to prepare an FAA Safety Plan Compliance Document (SPCD) that is a part of the Safety Program.
- Y. Airfield Rescue and Firefighter (ARFF) roads cannot be taken out of service.
- Z. Equipment that is used for material handling on the airfield shall have working headlights and brake lights. Any equipment that exits the AOA onto public roadways is subject to GA DOT regulations.

2.3 Fall Hazard Protection Control

- A. Fall Hazard Control requires that Contractors comply with fall prevention and protection procedures in accordance with Occupational Safety and health Administration (OSHA) requirements.

2.4 Fire Prevention

- A. The Contractor shall provide appropriate fire extinguishers for its employees.
- B. No burning, cutting, welding, or heat generating operation shall be allowed in any area on Airport property without first obtaining permission from Airport Operations.
- C. Oxygen and acetylene cylinders not in use, shall be properly stored and capped, and secured by a chain or rope. All flammable liquids shall be stored in approved safety containers. Oily rags and/or rags soaked with flammable liquids shall be stored in approved safety containers only. Paint and painter's equipment, drop sheets, cleaning materials, shall be stored in a clear area away from any heat generating operation. Lids shall be replaced on all opened paint and/or solvent containers. All solvents shall be stored in approved safety containers

2.5 Lock Outs

- A. Examples of energy sources that are required to be locked out and tagged regardless of who has custody are:
 - 1. Any time repairs or modifications are made to electrical systems, either temporary or permanent, they shall be locked out. Locks shall be applied to the main disconnect switch whenever possible. A tag shall accompany all locks.
 - 2. Electrical systems that provide electrical power to equipment, such as pumps and electrical motors, shall be locked out by the Contractor until such time that system is released.
 - 3. Electrical systems that provide electrical power to the airfield signage and lighting.
 - 4. Lines, valves and similar systems that are being tested pneumatically or with

- Inert gases, such as oxygen, shall be tagged and locked out to prevent an accidental discharge of the pressure within the line. In addition, areas affected by the pneumatic test shall be barricaded against entry and inspected by the Contractor prior to commencement of the test.
5. Air lines, hydraulic lines, gas lines, blanking, pressure storage units, valves, capacitors and other such sources that could be inadvertently activated or discharged causing a hazardous condition, shall be locked out, blanked or otherwise neutralized to prevent accidental activation.
 6. Any steam, natural gas, refrigeration, chemical feed, glycol, water, fuel oil, diesel, and jet fuel lines that could be inadvertently activated or discharged causing a hazardous condition, shall be locked out, blanked or otherwise neutralized to prevent accidental activation and or a hazardous condition. In some cases double block and bleed maybe required.
- B. Access to all electrical systems for both shutdown and reenergizing will be coordinated with Airport maintenance. This includes access to all panels, breakers, switches, relays, substations, and all relevant switch gear.
- C. If more than one employee is required to lockout and tag a circuit or piece of equipment, a multiple padlock device (hasp) shall be used.
- D. This procedure establishes a lockout practice for securing machinery and equipment during periods of construction and maintenance. It is essential that Contractor complies with its lockout procedure to ensure the safety of all employees. A lockout procedure is to render inoperative electrical systems, air lines, hydraulic lines, mechanical devices, pumps, conveyors, fuel, glycol, water, gasoline, jet fuel, pipelines, valves and all other such energy and stored energy systems that may accidentally be energized or discharged while employees are working on them before they are ready and released for service.
- E. Contractor shall administer its own lockout program where not identified by this document. The Contractor shall issue all locks and applicable tags to their foreman, general foreman, superintendents and employees as necessary. The Contractor shall maintain a lock and tag log. Tags are required to have the Contractor's name, phone number, employee name, and supervisor name easily identified on each tag.
- F. After locking out and tagging a circuit, an attempt to energize the equipment shall be made by depressing or turning "on" all starting stations before work begins. In no case shall work begin before circuits and equipment are tested to ensure that they are, in fact, de-energized.
- G. Any employee who removes a tag or lock belonging to another employee or person, or overrides a tag or lock in any way, may be removed from the Airport property. Written authorization has to be obtained from the foreman, general foreman, superintendent and Project Manager of the responsible Contractor when a lock has been left on a piece of equipment and the originator is not available for removal.

- H. When locks and tags are required, Contractors employees working on that system shall notify their appropriate supervisor. The supervisor, or his designee, shall see that appropriate locks and tags are provided. When work is completed, the appropriate supervisor is also to be notified when locks and tags are removed.
- I. After equipment or systems are turned over to the Airport, no work or Airport modifications will be performed without compliance to Airport's Lockout/Tagout Program.
- J. There may be some equipment that cannot be physically locked out using any type of device. If a situation exists where equipment cannot be locked out the Contractor shall notify the Airport.

2.6 Cranes/Derricks/Lifting Equipment/Rigging

- A. All crane operators shall be thoroughly knowledgeable in the operations of the crane, rigging equipment, and other OSHA requirements relating to lifting.
- B. NOTAMS may be required depending upon the location and height of the lift. Contractor shall contact Airport management prior to any crane activity.
- C. Lifting shall not be done over any employees.
- D. Tag lines shall be used for all lifts greater than 20 feet.
- E. No lifts shall be made when winds are sustained over 25 mph.
- F. Outrigger shall be shored so they do not damage property. Contractor will be responsible for any property damage to paved or concrete surfaces.
- G. A prelift review shall be performed by the Contractor for every critical lift.
- H. A Critical lift shall be defined as a lift with a hoisted load that is within 15% of the maximum load limits (normal) of the equipment that is being used. Before a critical lift is performed the Contractor shall submit a Critical Lift Plan that is prepared and approved by a Professional Engineer that is registered with the State of Georgia. The Critical lift Plan will include the following:
 - Description of the lift
 - Crane Position
 - Lift Height
 - Load Radius
 - Boom and angle
 - Size and weight of load
 - Percent of cranes capacity

- Personnel involved
 - Rigging plan
 - Communications methods
 - Ground Conditions
 - Inspection Procedures
 - Procedures for hosting (if applicable)
- I. The critical lift plan will also document the source (i.e. weight, crane and rigging capacities, inspections, and wind speeds).

2.7 Vehicle Operation on the Airport Operations Area (AOA)

- A. All vehicles that enter the AOA shall comply with the following:
1. All vehicles accessing the AOA shall be placarded with a company name and logo or some other form of identification. All lettering shall be a minimum of 4" high.
 2. All construction vehicles/mechanized equipment authorized within the Movement Area or related safety areas shall be marked with a flag on a staff attached to the uppermost portion of the vehicle/motorized equipment so that the flag will be readily visible. The flag shall be at least a 3' x 3' square having a checkered pattern of international orange and white squares at least 1' on each side in accordance with FAA Advisory Circular 150/5210-5.D, or current edition as of bid date.
 3. During nighttime hours, all equipment operating on the Airport exceeding 15 feet in height shall be lit with a red obstruction light in accordance with FAA Advisory Circular 70/7460-1, or current edition as of bid date. This light is to be located on the uppermost portion of the equipment.
 4. All construction equipment that exceeds 20 feet in height are required to be "airsaced" as determined by the FAA Form 7460-1.
- B. Vehicle(s)/equipment shall be operated in a manner that does not interfere with aircraft operations. All vehicle(s)/equipment shall yield right of way to all aircraft and emergency vehicles.
- C. Vehicles/mechanized equipment operators shall obey all traffic signs and markings.
- D. Vehicles/equipment shall not stop or be parked so as to block a driveway, AOA access gate, fire lane or aircraft
- E. Vehicles/equipment shall not stop or be parked in areas other than those prearranged and approved by the Airport management.
- F. No equipment or vehicles may be parked within ten feet of an AOA fence.
- G. The established speed limit on the AOA is 15 mph.

- H. Vehicle(s)/equipment shall not be operated by individuals under the influence of any substance which impairs the ability to do so in a safe manner
- I. If an incident occurs on the AOA the incident shall be reported immediately to Airport Operations by contacting (706) 799-5372. Airport management and Airport Operations have the right to investigate all incidents and issue citations. The Contractor is still obligated to produce its own incident report to be submitted to Airport management. The Contractor shall submit an incident report no later than 24 hours after the incident.
- J. Vehicle/mechanized equipment operators are not permitted to move about the Airport outside the designated construction area, at night unless the vehicle has operating head lights, tail lights and brake lights, or is under the escort of a properly lighted vehicle. Head lights shall not be set on high beam when moving about the Airport at night.
- K. Vehicles/mechanized equipment authorized on the Movement Area (runways, taxiways, and ramps) and/or associated safety areas shall be equipped with an electrically powered, amber color, 360-degree omni-direction light, mounted on the vehicle such that it is conspicuous from any direction.
- L. At no time shall a vehicle enter the Movement Area and/or associated safety areas unless it is authorized by the Airfield Operations and is in continuous radio communication with the Control Tower. If a vehicle is not radio equipped to communicate with the Control Tower, an escort vehicle equipped with such a radio shall lead or direct the movement of this vehicle while operating on the Movement Area unless the construction area is completely closed to Airport movement and cordoned off. Coordination of escorts shall be prearranged with the Airport Operation. Any individual authorized unescorted access to the Movement Area or associated safety areas shall have completed the driver training program administered by the Airport Operations department.
- M. Seat belts shall be utilized on equipment/vehicles that are designed for usage.
- N. All vehicles/equipment shall be appropriately secured such that neither aircraft blast nor wind will result in their movement.

2.8 Special Construction Rules on the AOA

When airfield construction is being performed on the AOA the following rules will apply unless modified in writing by Airfield Operations.

- A. All construction activities on the AOA shall include a specific Construction Safety Phasing Plan (CSPP) and a Safety Plan Compliance Document (SPCD) as required by the FAA. The SPCD will address compliance to and details required by the CSPP and include any other topics of discussion that might be mentioned during the safety phase planning meeting.

- B. The safety phase planning meeting shall be held prior to mobilization to the AOA.
- C. Any Airport construction and/or alteration requires the completion and submittal of FAA Form 7460-1 Notice of Proposed Construction or Alteration (available from the FAA Air Traffic Division Regional Office), and www.FAA.gov at least 60 days prior to the start of the project. The Engineer will submit this form in advance of the start of construction.
- D. If the Contractor requires any modifications to FAA Form 7460-1 (from the advance submittal) the Contractor shall complete and submit an amended FAA Form 7460-1 reflecting the requested changes.
- E. A copy of all completed FAA Form 7460-1's and the FAA's determination(s) shall be on file with the Airport prior to commencing the erection or construction of the item(s) proposed by the Contractor.
- F. The Contractor shall erect and maintain fencing, barricades, signs and warning devices used to delineate the perimeter of all construction areas, as shown on the plans and/or as approved by the Airport Operations.
- G. All points of entry into the AOA, which are under the Contractor's control, shall be secured and/or guarded and should be coordinated with the Airport Operations.
- H. Deliveries are to be strictly controlled (by the Contractor) using personnel specifically acquainted with these rules. The Contractor shall provide properly manned escort vehicles as required to guide and escort all deliveries to the work area(s).
- I. All barricades, lighting and warning devices used to delineate any construction or hazardous area(s) are to be provided by the Contractor except for lighted runway closure crosses which will be provided by the Airport.
- J. At no time shall personnel, vehicles or equipment be located or enter any of the following areas unless authorized on the plans or by Airport Operations.
1. Within 250 feet parallel to an active runway centerline (to be indicated on the CSPP and/or SPCD).
 2. No Stockpiles will be placed within 400 feet parallel to an active runway centerline nor will equipment be left unattended.
 3. Within 1,000 feet of the end of active runways (each end to be indicated in the CSPP and/or SPCD)
 4. Within 93 feet parallel to an active taxiway centerline operating with Group III aircraft without proper approval.
 5. Active NAVAID Critical Areas.
- K. Trenches and/or Excavations: Trenches and/or excavations shall not be allowed in the following areas without closure or restriction of the adjacent Movement Area:

1. Within 250 feet parallel to a runway centerline.
 2. Within 160 feet parallel to a taxiway centerline operating with Group V aircraft without proper approval.
 3. Within 1,000 feet of the end of a runway.
 4. Active NAVAID Critical Areas.
- L. No trenching is allowed under Airport fences without prior approval and coordination with the Airport Operations.
- M. All stockpiled material(s)/supplies shall be constrained in a manner to prevent movement resulting from aircraft blast or wind conditions. Material(s)/supplies shall not be stored within 500 feet of aircraft turning areas or movement areas. Stockpiled material(s)/supplies shall not exceed 15 feet in height unless the Contractor has complied with all requirements for airspace review. All material(s)/supplies shall be positioned so it will not obstruct the line of sight from the Control Tower to the Movement Area.
- N. Stockpiled material shall not be within 6 feet of an Airport perimeter fence.
- O. Nighttime work, not covered by the Contract Documents, requires 72 hours advanced approval, excluding weekends, by the Airport Operations. Lighting for nighttime work shall be shielded and positioned downward so as not to hinder the vision of the air traffic controllers in the control Tower or the pilots of moving aircraft.
- P. Debris, waste, and loose materials shall not be allowed on the Movement Area. If debris and/or loose materials are observed to be on active portions of the Movement Area, the Contractor shall be responsible for correcting the discrepancy immediately. The Contractor shall be responsible for controlling dust problems resulting from construction and clean-up processes.
- Q. The Contractor will be working in an air operations area in which a high degree of care is necessary to control debris and dust. Spilled material on active roadways, runways, taxiways and aprons shall be swept up immediately. The Contractor will be aware that the construction area may be subject to jet blast and significant wind velocities. Dust control measures shall be required to prevent loose material from blowing within or outside the air operations area.
- R. If the Contractor uses, or if a haul road crosses any area used by aircraft, service or emergency vehicles, a vacuum power broom and/or hand sweeping will be used to keep this area clean of debris which could damage aircraft engines or propellers. The Contractor will be liable for any damages that occur. Power brooms and sweepers shall be vacuum capable.
- S. Prior to opening any Runway, Taxiway, Ramp, Apron or Associated Safety Area, that has been closed for construction; the Contractor shall arrange for an inspection by the Airport Operations.

- T. All barricades used by the Contractor to designate an unusable or hazardous area on the AOA, shall be secured in place against movement or jet blast. The Contractor shall ensure that all barricades and hazard lighting are operational prior to departing the construction area at the end of each workday.
- U. In accordance with FAR Part 139, Airport Operations shall, prior to the release of work crews, inspect all areas to ensure that:
1. Paved areas are free of surface variations in accordance with FAR Part 139.
 2. All unpaved active safety areas are cleared and graded and have no potentially hazardous ruts, humps, depressions or other surface variations.
 3. All trenches or excavations within active Runway and/or Taxiway safety areas are backfilled to support the weight of an aircraft or Aircraft Rescue and Fire Fighting (ARFF) equipment.
 4. If the trenches, excavations or hazardous areas have been authorized to remain in place, they are to be adequately plated and marked and lighted.
- V. Location of haul routes on the Airport site shall be as shown on the CSPP or as approved by Airport Operations. All haul routes on the Airport shall be marked, when necessary, and maintained by the Contractor. These routes shall be restored to their original condition upon completion of the construction project.
- W. Construction equipment shall not be permitted to operate upon paved areas unless the equipment has pneumatic tires or special means, approved by the Engineer, provided to protect the pavement.
- X. All construction involving cranes shall be coordinated at least 72 hours in advance, excluding weekends, with the Airport Operations. This does not include the time required for airspace review. The following information is required:
1. Location of the Crane.
 2. Maximum extendable height.
 3. Hours of operation.
- Y. The top of each crane boom shall be marked by a 3' x 3' orange and white checkered flag — each box being 1' square.
- Z. Each crane shall be lowered at night and during periods of poor visibility as directed by Airport Operations. In the event the crane is approved to remain extended during the hours from sunset to sunrise, the highest point of the crane boom will be lit with a red obstruction light in accordance with AC 70/7460-1 Construction Site Access And Haul Roads. The Contractor will not be permitted to use any access or haul roads other than those designated on the contract drawings. Aircraft Rescue and Fire Fighting (ARFF) right-of-way on access roads, haul roads, taxiways, and runways shall not be impeded at any time.

- 2.9 Foreign Object Debris (FOD) Management. Waste and loose materials capable of causing damage to aircraft landing gears or propellers or capable of being ingested in jet engines, shall not be left or placed on or near active aircraft movement areas. Materials tracked onto these areas shall be continuously removed during the construction project. All waste or loose materials which could attract wildlife shall be carefully controlled and removed on a continuous basis. The Contractor shall have adequate sweeping equipment and adequate dust control equipment on site at all times while the Contractor is working.

END OF ITEM SP-10

All materials used shall be in accordance with Georgia Department of Transportation,
State of Georgia, Standard Specifications Construction of Transportation Systems, 2020
Edition or by Special Provision, except for electrical items of work which shall be in
accordance with applicable FAA Specifications

Item C-100 Contractor Quality Control Program (CQCP)

100-1 General. Quality is more than test results. Quality is the combination of proper materials, testing, workmanship, equipment, inspection, and documentation of the project. Establishing and maintaining a culture of quality is key to achieving a quality project. The Contractor shall establish, provide, and maintain an effective Contractor Quality Control Program (CQCP) that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The Contractor shall establish a CQCP that will:

- a. Provide qualified personnel to develop and implement the CQCP.
- b. Provide for the production of acceptable quality materials.
- c. Provide sufficient information to assure that the specification requirements can be met.
- d. Document the CQCP process.

The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the CQCP has been reviewed and approved by the Resident Project Representative (RPR). No partial payment will be made for materials subject to specific quality control (QC) requirements until the CQCP has been reviewed and approved.

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction. The QC/QA workshop will be facilitated by the Contractor. The Contractor shall coordinate with the Airport and the RPR on time and location of the QC/QA workshop. Items to be addressed, at a minimum, will include:

- a. Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.
- b. Discussion of the QA program.
- c. Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.
- d. Establish regular meetings to discuss control of materials, methods and testing.
- e. Establishment of the overall QC culture.

100-2 Description of program.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors. The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, off-site fabrication, workmanship, construction, finish, and functional performance. The CQCP shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the RPR prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the RPR for review and approval at least 10 calendar days before the CQCP Workshop. The Contractor's CQCP and QC testing laboratory must be approved in writing by the RPR prior to the Notice to Proceed (NTP).

The CQCP shall be organized to address, as a minimum, the following:

1. QC organization and resumes of key staff
2. Project progress schedule
3. Submittals schedule
4. Inspection requirements
5. QC testing plan
6. Documentation of QC activities and distribution of QC reports
7. Requirements for corrective action when QC and/or QA acceptance criteria are not met
8. Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that is necessary to adequately control all production and/or construction processes required by this contract.

100-3 CQCP organization. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function and shall indicate the total staff required to implement all elements of the CQCP, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must have a minimum of five (5) years of experience in QC pavement construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of paving/QC experience, the CQCPA must meet at least one of the following requirements:

- (1) Professional Engineer with one (1) year of airport paving experience.
- (2) Engineer-in-training with two (2) years of airport paving experience.
- (3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.

(4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the construction firm. The CQCPA may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA and shall perform the following functions:

- (1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.
- (2) Performance of all QC tests as required by the technical specifications and paragraph 100-8.
- (3) Performance of tests for the RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified QC personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQCP shall state where different technicians will be required for different work elements.

100-4 Project progress schedule. Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.

100-5 Submittals schedule. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include as a minimum:

- a. Specification item number
- b. Item description
- c. Description of submittal
- d. Specification paragraph requiring submittal
- e. Scheduled date of submittal

100-6 Inspection requirements. QC inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

a. During plant operation for material production, QC test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The CQCP shall detail how these and other QC functions will be accomplished and used.

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

a. For projects that include Item P-401, Item P-403, and Item P-404, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:

8.1.3 Equipment Calibration and Checks;

8.1.9 Equipment Calibration, Standardization, and Check Records;

8.1.12 Test Methods and Procedures

b. For projects that include P-501, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, *Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation*:

7 Test Methods and Procedures

8 Facilities, Equipment, and Supplemental Procedures

100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

- a. Specification item number (e.g., P-401)
- b. Item description (e.g., Hot Mix Asphalt Pavements)
- c. Test type (e.g., gradation, grade, asphalt content)
- d. Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)
- e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)
- f. Responsibility (e.g., plant technician)
- g. Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

100-9 Documentation. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor QC technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician's daily reports shall provide factual evidence that continuous QC inspections have been performed and shall, as a minimum, include the following:

- (1) Technical specification item number and description
- (2) Compliance with approved submittals
- (3) Proper storage of materials and equipment
- (4) Proper operation of all equipment
- (5) Adherence to plans and technical specifications
- (6) Summary of any necessary corrective actions
- (7) Safety inspection.
- (8) Photographs

The daily inspection reports shall identify all QC inspections and QC tests conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible QC technician and the CQCPA. The RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all QC test results. Daily test reports shall document the following information:

- (1) Technical specification item number and description
- (2) Test designation
- (3) Location
- (4) Date of test
- (5) Control requirements
- (6) Test results

- (7) Causes for rejection
- (8) Recommended remedial actions
- (9) Retests

Test results from each day's work period shall be submitted to the RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

100-10 Corrective action requirements. The CQCP shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

100-11 Inspection and/or observations by the RPR. All items of material and equipment are subject to inspection and/or observation by the RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the RPR at the site for the same purpose.

Inspection and/or observations by the RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

100-12 Noncompliance.

a. The Resident Project Representative (RPR) will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.

b. When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the RPR will recommend the Owner take the following actions:

- (1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or
- (2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT

100-13 Basis of measurement and payment. Contractor Quality Control Program (CQCP) is for the personnel, tests, facilities and documentation required to implement the CQCP. The CQCP will be paid as a lump sum with the following schedule of partial payments:

- a. With first pay request, 25% with approval of CQCP and completion of the Quality Control (QC)/Quality Assurance (QA) workshop.
- b. When 25% or more of the original contract is earned, an additional 25%.
- c. When 50% or more of the original contract is earned, an additional 20%.
- d. When 75% or more of the original contract is earned, an additional 20%
- e. After final inspection and acceptance of project, the final 10%.

BASIS OF PAYMENT

100-14 Payment will be made under:

Item C-100.1 Contractor Quality Control Program (CQCP)

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF ITEM C-100

Item C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control

DESCRIPTION

102-1. This item shall consist of temporary control measures as shown on the plans or as ordered by the Resident Project Representative (RPR) during the life of a contract to control pollution of air and water, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

MATERIALS

102-2.1 Grass. Grass that will not compete with the grasses sown later for permanent cover per Item T-901 shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Selected grass species shall not create a wildlife attractant.

102-2.2 Mulches. Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials per Item T-908. Mulches shall not create a wildlife attractant.

102-2.3 Fertilizer. Fertilizer shall be a standard commercial grade and shall conform to all federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

102-2.4 Slope drains. Slope drains may be constructed of pipe, fiber mats, rubble, concrete, asphalt, or other materials that will adequately control erosion.

102-2.5 Silt fence. Silt fence shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life. Silt fence shall meet the requirements of ASTM D6461.

102-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

102-3.1 General. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The RPR shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

102-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the RPR.

102-3.3 Construction details. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the plans and approved CSPP. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion may be a problem, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the RPR.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the RPR. If temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The RPR may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

102-3.4 Installation, maintenance and removal of silt fence. Silt fences shall extend a minimum of 16 inches (41 cm) and a maximum of 34 inches (86 cm) above the ground surface. Posts shall be set no more than 10 feet (3 m) on center. Filter fabric shall be cut from a continuous roll to the length required minimizing joints where possible. When joints are necessary, the fabric shall be spliced at a support post with a minimum 12-inch (300-mm) overlap and securely sealed. A trench shall be excavated approximately 4 inches (100 mm) deep by 4 inches (100 mm) wide on the upslope side of the silt fence. The trench shall be backfilled and the soil compacted over the silt fence fabric. The Contractor shall remove and dispose of silt that accumulates during construction and prior to establishment of permanent

erosion control. The fence shall be maintained in good working condition until permanent erosion control is established. Silt fence shall be removed upon approval of the RPR.

METHOD OF MEASUREMENT

102-4.1 Temporary erosion and pollution control work required will be performed as scheduled or directed by the RPR. Completed and accepted work will be measured as follows:

- a. Temporary seeding and mulching will be measured by the square yard (square meter).
- b. Temporary slope drains will be measured by the linear foot (meter).
- c. Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed as directed by the RPR.
- d. All fertilizing will be measured by the ton (kg).
- e. Installation and removal of silt fence or silt sock will be measured by the linear foot.

102-4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

BASIS OF PAYMENT

102-5.1 Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the RPR and measured as provided in paragraph 102-4.1 will be paid for under:

Item C-102.1a	Installation and Removal of Silt Fence or Silt Sock, Type A - per linear foot
Item C-102.1b	Construct, Maintain, and Remove Inlet Sediment Trap – per each
Item C-102.1c	Construct, Maintain, and Remove Construction Exit – per each
Item C-102.1d	Construct, Maintain, and Remove Check Dam – per each
Item C-102.1e	Construct, Maintain, and Remove Rock Dam – per each
Item C-102.1f	Water Quality Monitoring and Sampling – per each
Item C-102.1g	Water Quality Inspections – per each
Item C-102.1h	Erosion Control Mobilization – per lump sum
Item C-102.1i	Emergency Erosion Control Mobilization – per lump sum
Item C-102.1j	Rip Rap, Type III – per square yard
Item C-102.1k	Erosion Control Blanket/Matting – per square yard

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the RPR will be paid for in accordance with Section 90, paragraph 90-05 *Payment for Extra Work*.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5200-33 *Hazardous Wildlife Attractants on or Near Airports*

AC 150/5370-2 *Operational Safety on Airports During Construction*

ASTM International (ASTM)

ASTM D6461 *Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM C-102

Item C-105 Mobilization

105-1 Description. This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-2 Mobilization limit. Mobilization shall be limited to **10% of the total project cost** and also includes all professional land surveying and construction layout.

105-3 Posted notices. Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster “Equal Employment Opportunity is the Law” in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL “Notice to All Employees” Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

105-4 Engineer/RPR field office. The Contractor shall provide dedicated space for the use of the field RPR and inspectors, as a field office for the duration of the project. This space shall be located conveniently near the construction and shall be separate from any space used by the Contractor. The Contractor shall furnish water, sanitary facilities, heat, air conditioning, and electricity in accordance with local building codes.

METHOD OF MEASUREMENT

105-5 Basis of measurement and payment. Based upon the contract lump sum price for “Mobilization” partial payments will be allowed as follows:

- a. With first pay request, 25%.
- b. When 25% or more of the original contract is earned, an additional 25%.
- c. When 50% or more of the original contract is earned, an additional 40%.
- d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by Section 90, paragraph 90-11, *Contractor Final Project Documentation*, the final 10%.

BASIS OF PAYMENT

105-6 Payment will be made under:

- Item C-105.1 Mobilization, Clean-up, and Demobilization – per lump sum
- Item C-105.2 Airfield Safety and Traffic Control – per lump sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)
WH 1321 – Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

Item P-101 Preparation/Removal of Existing Pavements

DESCRIPTION

101-1 This item shall consist of preparation of existing pavement surfaces for overlay, surface treatments, removal of existing pavement, and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the applicable plans.

EQUIPMENT AND MATERIALS

101-2 All equipment and materials shall be specified here and in the following paragraphs or approved by the Resident Project Representative (RPR). The equipment shall not cause damage to the pavement to remain in place.

CONSTRUCTION

101-3.1 Removal of existing pavement.

Not used.

101-3.2 Preparation of joints and cracks prior to overlay/surface treatment.

Not used.

101-3.3 Removal of Foreign Substances/contaminates

Not used.

101-3.4 Concrete spall or failed asphaltic concrete pavement repair.

Not used.

101-3.5 Cold milling.

Not used.

101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment.

Not used.

101-3.9.4 Removal of Pipe and other Buried Structures.

a. Removal of Existing Pipe Material. Remove the types of pipe as indicated on the plans. The pipe material shall be legally disposed of off-site in a timely manner following removal. Trenches shall be backfilled with material equal to or better in quality than adjacent embankment. Trenches under paved areas must be compacted to 95% of ASTM D1557 or D698

METHOD OF MEASUREMENT

101-4.1 Removal of Pipe and other Buried Structures. The unit of measurement for removal of pipe and other buried structures shall be the number of linear feet removed by the contractor. Any pipe removed outside of the limits or removal because the pipe was damaged by negligence on part of the contractor shall not be included in the measurement for payment. This price shall be full compensation for

all labor, equipment, tools, and incidentals necessary to complete this item in accordance with paragraph 101-3.9.4.

BASIS OF PAYMENT

101-5.1 Payment. Payment shall be made at contract unit price for the unit of measurement as specified above. This price shall be full compensation for furnishing all materials and for all preparation, hauling, and placing of the material and for all labor, equipment, tools, and incidentals necessary to complete this item.

Item P-101.1	Remove Existing 30”-72” Storm Sewer Pipe – Per linear foot
Item P-101.2	Remove Existing Concrete Headwall – Per each.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5380-6	Guidelines and Procedures for Maintenance of Airport Pavements.
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ASTM International (ASTM)

ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
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END OF ITEM P-101

Item P-151 Clearing and Grubbing

DESCRIPTION

151-1.1 This item shall consist of clearing or clearing and grubbing, including the disposal of materials, for all areas within the limits designated on the plans or as required by the Resident Project Representative (RPR).

a. Clearing shall consist of the cutting and removal of all trees, stumps, brush, logs, hedges, the removal of fences and other loose or projecting material from the designated areas. The grubbing of stumps and roots will not be required.

b. Clearing and grubbing shall consist of clearing the surface of the ground of the designated areas of all trees, stumps, down timber, logs, snags, brush, undergrowth, hedges, heavy growth of grass or weeds, fences, structures, debris, and rubbish of any nature, natural obstructions or such material which in the opinion of the RPR is unsuitable for the foundation of strips, pavements, or other required structures, including the grubbing of stumps, roots, matted roots, foundations, and the disposal from the project of all spoil materials resulting from clearing and grubbing.

c. Tree Removal. Tree Removal shall consist of the cutting and removal of isolated single trees or isolated groups of trees, and the grubbing of stumps and roots. The removal of all the trees of this classification shall be in accordance with the requirements for the particular area being cleared.

CONSTRUCTION METHODS

151-2.1 General. The areas denoted on the plans to be cleared and grubbed shall be staked on the ground by the Contractor as indicated on the plans.

The removal of existing structures and utilities required to permit orderly progress of work shall be accomplished by local agencies, unless otherwise shown on the plans. Whenever a telephone pole, pipeline, conduit, sewer, roadway, or other utility is encountered and must be removed or relocated, the Contractor shall advise the RPR who will notify the proper local authority or owner to secure prompt action.

151-2.1.1 Disposal. All materials removed by clearing or by clearing and grubbing shall be disposed of outside the Airport's limits at the Contractor's responsibility, except when otherwise directed by the RPR. As far as practicable, waste concrete and masonry shall be placed on slopes of embankments or channels. When embankments are constructed of such material, this material shall be placed in accordance with requirements for formation of embankments. Any broken concrete or masonry that cannot be used in construction and all other materials not considered suitable for use elsewhere, shall be disposed of by the Contractor. In no case, shall any discarded materials be left in windrows or piles adjacent to or within the airport limits. The manner and location of disposal of materials shall be subject to the approval of the RPR and shall not create an unsightly or objectionable view. When the Contractor is required to locate a disposal area outside the airport property limits, the Contractor shall obtain and file with the RPR permission in writing from the property owner for the use of private property for this purpose.

151-2.1.2 Blasting. Blasting shall not be allowed.

151-2.2 Clearing. The Contractor shall clear the staked or indicated area of all materials as indicated on the plans. Trees unavoidably falling outside the specified clearing limits must be cut up, removed, and disposed of in a satisfactory manner. To minimize damage to trees that are to be left standing, trees shall be felled toward the center of the area being cleared. The Contractor shall preserve and protect from

injury all trees not to be removed. The trees, stumps, and brush shall be cut flush with the original ground surface. The grubbing of stumps and roots will not be required.

Fences shall be removed and disposed of as directed by the RPR. Fence wire shall be neatly rolled and the wire and posts stored on the airport if they are to be used again, or stored at a location designated by the RPR if the fence is to remain the property of a local owner or authority.

151-2.3 Clearing and grubbing. In areas designated to be cleared and grubbed, all stumps, roots, buried logs, brush, grass, and other unsatisfactory materials as indicated on the plans, shall be removed, except where embankments exceeding 3-1/2 feet (105 cm) in depth will be constructed outside of paved areas. For embankments constructed outside of paved areas, all unsatisfactory materials shall be removed, but sound trees, stumps, and brush can be cut off flush with the original ground and allowed to remain. Tap roots and other projections over 1-1/2 inches (38 mm) in diameter shall be grubbed out to a depth of at least 18 inches (0.5 m) below the finished subgrade or slope elevation.

Any buildings and miscellaneous structures that are shown on the plans to be removed shall be demolished or removed, and all materials shall be disposed of by removal from the site. The cost of removal is incidental to this item. The remaining or existing foundations, wells, cesspools, and like structures shall be destroyed by breaking down the materials of which the foundations, wells, cesspools, etc., are built to a depth at least 2 feet (60 cm) below the existing surrounding ground. Any broken concrete, blocks, or other objectionable material that cannot be used in backfill shall be removed and disposed of at the Contractor's expense. The holes or openings shall be backfilled with acceptable material and properly compacted.

All holes in embankment areas remaining after the grubbing operation shall have the sides of the holes flattened to facilitate filling with acceptable material and compacting as required in Item P-152. The same procedure shall be applied to all holes remaining after grubbing in areas where the depth of holes exceeds the depth of the proposed excavation.

METHOD OF MEASUREMENT

151-3.1 The quantities of clearing and grubbing as shown by the limits on the plans shall be the number of acres or fractions thereof of land specifically cleared and grubbed.

BASIS OF PAYMENT

151-4.1 Payment shall be made at the contract unit price per acre for clearing and grubbing. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-151.1	Clearing and grubbing - per acre
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END OF ITEM P-151

Item P-152 Excavation, Subgrade, and Embankment

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 Classification. All material excavated shall be classified as defined below:

- a. **Unclassified excavation.** Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature, which is not otherwise classified and paid for under one of the following items.
- b. **Borrow excavation.** Borrow excavation shall consist of approved material required for the construction of embankments or for other portions of the work in excess of the quantity of usable material available from required excavations. Borrow material shall be obtained from areas designated by the Resident Project Representative (RPR) within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport boundaries.

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed in designated waste areas as shown on the plans. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of in waste areas as shown on the plans. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches, to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches in their greatest dimension will not be permitted in the top 6 inches of the subgrade.

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 RPR, who shall arrange for their removal if necessary. The Contractor, at their

own expense, shall satisfactorily repair or pay the cost of all damage to such facilities or structures that may result from any of the Contractor's operations during the period of the contract.

a. Blasting. Blasting is not allowed.

152-2.2 Excavation. No excavation shall be started until the work has been staked out by the Contractor and the RPR has obtained from the Contractor, the survey notes of the elevations and measurements of the ground surface. The Contractor and RPR shall agree that the original ground lines shown on the original topographic mapping are accurate or agree to any adjustments made to the original ground lines.

Digital terrain model (DTM) files of the existing surfaces, finished surfaces and other various surfaces were used to develop the design plans.

Volumetric quantities were calculated using design cross sections which were created for this project using the DTM files of the applicable design surfaces and generating End Area Volume Reports. Paper copies of design cross sections and a paper copy of the original topographic map will be issued to the successful bidder.

Existing grades on the design cross sections or DTM's, where they do not match the locations of actual spot elevations shown on the topographic map, were developed by computer interpolation from those spot elevations. Prior to disturbing original grade, Contractor shall verify the accuracy of the existing ground surface by verifying spot elevations at the same locations where original field survey data was obtained as indicated on the topographic map. Contractor shall recognize that, due to the interpolation process, the actual ground surface at any particular location may differ somewhat from the interpolated surface shown on the design cross sections or obtained from the DTM's. Contractor's verification of original ground surface, however, shall be limited to verification of spot elevations as indicated herein, and no adjustments will be made to the original ground surface unless the Contractor demonstrates that spot elevations shown are incorrect. For this purpose, spot elevations which are within 0.1 foot of the stated elevations for ground surfaces, or within 0.1 foot for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify the RPR in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and make adjustments to the design cross sections or DTM's. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade or other purposes as shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and

compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches (300 mm) below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed off the airport. The cost is incidental to this item. This excavated material shall be paid for at the contract unit price per cubic yard. The excavated area shall be backfilled with suitable material obtained from the grading operations or borrow areas and compacted to specified densities. The necessary backfill will constitute a part of the embankment. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans. Undercutting will be paid as unclassified excavation.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as "Unclassified Excavation."

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished by the Contractor as indicated on the plans. All existing foundations shall be excavated at least 2 feet below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

152-2.3 Borrow excavation. Borrow areas within the airport property are indicated on the plans. Borrow excavation shall be made only at these designated locations and within the horizontal and vertical limits as staked or as directed by the RPR. All unsuitable material shall be disposed of by the Contractor as shown on the plans. All borrow pits shall be opened to expose the various strata of acceptable material to allow obtaining a uniform product. Borrow areas shall be drained and left in a neat, presentable condition with all slopes dressed uniformly. Borrow areas shall not create a hazardous wildlife attractant.

152-2.4 Drainage excavation. Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 Preparation of cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, the top 12 inches of subgrade shall be compacted to not less than 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D155. As used in this specification, "non-cohesive" shall mean those soils having a plasticity index (PI) of less than 3 as determined by ASTM D4318.

152-2.6 Preparation of embankment area. All sod and vegetative matter shall be removed from the surface upon which the embankment is to be placed. The cleared surface shall be broken up by plowing or scarifying to a minimum depth of 6 inches and shall then be compacted per paragraph 152-2.10.

Sloped surfaces steeper than one (1) vertical to four (4) horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When the subgrade is part fill and

part excavation or natural ground, the excavated or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill.

No direct payment shall be made for the work performed under this section. The necessary clearing and grubbing and the quantity of excavation removed will be paid for under the respective items of work.

152-2.7 Control Strip. The first half-day of construction of subgrade and/or embankment shall be considered as a control strip for the Contractor to demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of this specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. The maximum compacted thickness may be increased to a maximum of 12 inches upon the Contractor's demonstration that approved equipment and operations will uniformly compact the lift to the specified density. The RPR must witness this demonstration and approve the lift thickness prior to full production.

Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not begin until the control strip has been accepted by the RPR. The Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

152-2.8 Formation of embankments. The material shall be constructed in lifts as established in the control strip, but not less than 6 inches nor more than 12 inches of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within $\pm 2\%$ of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The Contractor will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with ASTM D 1557. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the Contractor for every 1,000 square yards of compacted embankment for each lift which is required to be compacted, or other appropriate frequencies as determined by the RPR.

If the material has greater than 30% retained on the 3/4-inch sieve, follow AASHTO T-180 Annex Correction of maximum dry density and optimum moisture for oversized particles.

Rolling operations shall be continued until the embankment is compacted to not less than 95% of maximum density for non-cohesive soils, and 90% of maximum density for cohesive soils as determined by ASTM D1556.

On all areas outside of the pavement areas, no compaction will be required on the top 4 inches which shall be prepared for a seedbed in accordance with Item T-901

The in-place field density shall be determined in accordance with ASTM 6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938. The Contractor's laboratory shall perform all density tests in the RPR's presence and provide the test results upon completion to the RPR for acceptance. If the specified density is not attained, the area represented by the test or as designated by the RPR shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

Compaction areas shall be kept separate, and no lift shall be covered by another lift until the proper density is obtained.

During construction of the embankment, the Contractor shall route all construction equipment evenly over the entire width of the embankment as each lift is placed. Lift placement shall begin in the deepest portion of the embankment fill. As placement progresses, the lifts shall be constructed approximately parallel to the finished pavement grade line.

When rock, concrete pavement, asphalt pavement, and other embankment material are excavated at approximately the same time as the subgrade, the material shall be incorporated into the outer portion of the embankment and the subgrade material shall be incorporated under the future paved areas. Stones, fragmentary rock, and recycled pavement larger than 4 inches in their greatest dimensions will not be allowed in the top 12 inches of the subgrade. Rockfill shall be brought up in lifts as specified or as directed by the RPR and the finer material shall be used to fill the voids forming a dense, compact mass. Rock, cement concrete pavement, asphalt pavement, and other embankment material shall not be disposed of except at places and in the manner designated on the plans or by the RPR.

When the excavated material consists predominantly of rock fragments of such size that the material cannot be placed in lifts of the prescribed thickness without crushing, pulverizing or further breaking down the pieces, such material may be placed in the embankment as directed in lifts not exceeding 2 feet in thickness. Each lift shall be leveled and smoothed with suitable equipment by distribution of spalls and finer fragments of rock. The lift shall not be constructed above an elevation 4 feet below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 Proof rolling. Not used.

152-2.10 Compaction requirements. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 12 inches and to a density of not less than 95% of the maximum density as determined by ASTM D1557.

The material to be compacted shall be within $\pm 2\%$ of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the $\frac{3}{4}$ inch (19.0 mm) sieve, follow the methods in ASTM D1557. Tests for moisture content and compaction will be taken at a minimum of 1,000 S.Y. of subgrade. All quality control testing shall be done by the Contractor. All quality assurance testing shall be done by the RPR.

The in-place field density shall be determined in accordance with ASTM D1556. The machine shall be calibrated in accordance with ASTM D6938 within 12 months prior to its use on this contract. The gage shall be field standardized daily.

Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

If the specified density is not attained, the entire lot shall be reworked and/or re-compacted and additional random tests made. This procedure shall be followed until the specified density is reached.

All cut-and-fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the plans or as directed by the RPR and the finished subgrade shall be maintained.

152-2.11 Finishing and protection of subgrade. Finishing and protection of the subgrade is incidental to this item. Grading and compacting of the subgrade shall be performed so that it will drain readily. All low areas, holes or depressions in the subgrade shall be brought to grade. Scarifying, blading, rolling and other methods shall be performed to provide a thoroughly compacted subgrade shaped to the lines and grades shown on the plans. All ruts or rough places that develop in the completed subgrade shall be graded, re-compacted, and retested. The Contractor shall protect the subgrade from damage and limit hauling over the finished subgrade to only traffic essential for construction purposes.

The Contractor shall maintain the completed course in satisfactory condition throughout placement of subsequent layers. No subbase, base, or surface course shall be placed on the subgrade until the subgrade has been accepted by the RPR.

152-2.12 Haul. All hauling will be considered a necessary and incidental part of the work. The Contractor shall include the cost in the contract unit price for the pay of items of work involved. No payment will be made separately or directly for hauling on any part of the work.

The Contractor's equipment shall not cause damage to any excavated surface, compacted lift or to the subgrade as a result of hauling operations. Any damage caused as a result of the Contractor's hauling operations shall be repaired at the Contractor's expense.

The Contractor shall be responsible for providing, maintaining and removing any haul roads or routes within or outside of the work area, and shall return the affected areas to their former condition, unless otherwise authorized in writing by the Owner. No separate payment will be made for any work or materials associated with providing, maintaining and removing haul roads or routes.

152-2.13 Surface Tolerances. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches, reshaped, and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

- a. **Smoothness.** The finished surface shall not vary more than +/- 1/2 inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.
- b. **Grade.** The grade and crown shall be measured on a 50-foot grid and shall be within +/-0.05 feet of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to be placed, grade shall not vary more than 0.10 feet from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall be located as shown on the plans and the approved CSPP and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard shall be computed by the average end areas of design cross sections.

152-3.1 The quantity of unclassified excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

152-3.2 Stockpiled material shall not be measured for payment in the stockpiled position.

BASIS OF PAYMENT

152-4.1 Unclassified excavation payment shall be made at the contract unit price per cubic yard (cubic meter). 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 P-152.1	Unclassified Excavation, Select Fill from Off-Site Material - per cubic yard
Item P-152.2	Borrow Excavation, Select Fill from On-Site Material - per cubic yard
Item P-152.3	Unsuitable/Over Excavation – per cubic yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO T-180	Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and an 18-in. Drop
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ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft ³)
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³)
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

Advisory Circulars (AC)

AC 150/5370-2	Operational Safety on Airports During Construction Software
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Software

FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design

U.S. Department of Transportation

FAA RD-76-66	Design and Construction of Airport Pavements on Expansive Soils
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END OF ITEM P-152

Item P-153 Controlled Low-Strength Material (CLSM)

DESCRIPTION

153-1.1 This item shall consist of furnishing, transporting, and placing a controlled low-strength material (CLSM) as flowable backfill in trenches or at other locations shown on the plans or as directed by the Resident Project Representative (RPR).

MATERIALS

153-2.1 Materials.

a. Cement. Cement: ASTM C150, Types I, II, or V; ASTM C595, Types IS, IP, IL, or IT.

b. Fly ash. Fly ash shall conform to ASTM C618, Class C or F.

c. Fine aggregate (sand). Fine aggregate shall conform to the requirements of ASTM C33 except for aggregate gradation. Any aggregate gradation which produces the specified performance characteristics of the CLSM and meets the following requirements, will be accepted.

Sieve Size	Percent Passing by weight
3/4 inch (19.0 mm)	100
No. 200 (75 µm)	0 - 12

d. Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

MIX DESIGN

153-3.1 Proportions. The Contractor shall submit, to the RPR, a mix design including the proportions and source of aggregate, fly ash, cement, water, and approved admixtures. No CLSM mixture shall be produced for payment until the RPR has given written approval of the proportions. The proportions shall be prepared by a laboratory and shall remain in effect for the duration of the project. The proportions shall establish a single percentage or weight for aggregate, fly ash, cement, water, and any admixtures proposed. Laboratory costs are incidental to this item.

a. Compressive strength. CLSM shall be designed to achieve a 28-day compressive strength of 100 to 200 psi (690 to 1379 kPa) when tested in accordance with ASTM D4832, with no significant strength gain after 28 days.

b. Consistency. Design CLSM to achieve a consistency that will produce an approximate 8-inch (200 mm) diameter circular-type spread without segregation. CLSM consistency shall be determined per ASTM D6103.

CONSTRUCTION METHODS

153-4.1 Placement.

a. Placement. CLSM may be placed by any reasonable means from the mixing unit into the space to be filled. Agitation is required during transportation and waiting time. Placement shall be performed so structures or pipes are not displaced from their final position and intrusion of CLSM into unwanted areas

is avoided. The material shall be brought up uniformly to the fill line shown on the plans or as directed by the RPR. Each placement of CLSM shall be as continuous an operation as possible. If CLSM is placed in more than one lift, the base lift shall be free of surface water and loose foreign material prior to placement of the next lift.

b. Contractor Quality Control. The Contractor shall collect all batch tickets to verify the CLSM delivered to the project conforms to the mix design. The Contractor shall verify daily that the CLSM is consistent with 153-3.1a and 153-3.1b. Adjustments shall be made as necessary to the proportions and materials as needed. The Contractor shall provide all batch tickets to the RPR.

c. Limitations of placement. CLSM shall not be placed on frozen ground. Mixing and placing may begin when the air or ground temperature is at least 35°F (2°C) and rising. Mixing and placement shall stop when the air temperature is 40°F (4°C) and falling or when the anticipated air or ground temperature will be 35°F (2°C) or less in the 24-hour period following proposed placement. At the time of placement, CLSM shall have a temperature of at least 40°F (4°C).

153-4.2 Curing and protection

a. Curing. The air in contact with the CLSM shall be maintained at temperatures above freezing for a minimum of 72 hours. If the CLSM is subjected to temperatures below 32°F (0°C), the material may be rejected by the RPR if damage to the material is observed.

b. Protection. The CLSM shall not be subject to loads and shall remain undisturbed by construction activities for a period of 48 hours or until a compressive strength of 15 psi (105 kPa) is obtained. The Contractor shall be responsible for providing evidence to the RPR that the material has reached the desired strength. Acceptable evidence shall be based upon compressive tests made in accordance with paragraph 153-3.1a.

153-4.3 Quality Assurance (QA) Acceptance. CLSM QA acceptance shall be based upon batch tickets provided by the Contractor to the RPR to confirm that the delivered material conforms to the mix design.

METHOD OF MEASUREMENT

153-5.1 Measurement.

No separate measurement for payment shall be made for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

BASIS OF PAYMENT

153-6.1 Payment.

No payment will be made separately or directly for controlled low strength material (CLSM). CLSM shall be considered necessary and incidental to the work of this Contract.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C33	Standard Specification for Concrete Aggregates
ASTM C150	Standard Specification for Portland Cement

ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D4832	Standard Test Method for Preparation and Testing of Controlled Low-Strength Material (CLSM) Test Cylinders
ASTM D6103	Flow Consistency of Controlled Low Strength Material (CLSM)

END OF ITEM P-153

Item P-610 Concrete for Miscellaneous Structures

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20% the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Coarse Aggregate Grading Requirements

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)
1 1/2 inch	467 or 4 and 67
1 inch	57
3/4 inch	67
1/2 inch	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Aggregates that have a history of D-cracking shall not be used.

610-2.3 Fine aggregate. The fine aggregate for concrete shall meet all fine aggregate requirements of ASTM C33.

610-2.4 Cement. Cement shall conform to the requirements of ASTM C150, Type I or ASTM Type II.

610-2.5 Cementitious materials.

a. Fly ash. Fly ash shall meet the requirements of ASTM C618, with the exception of loss of ignition, where the maximum shall be less than 6%. Fly ash shall have a Calcium Oxide (CaO) content of less than 15% and a total available alkali content less than 3% per ASTM C311. Fly ash produced in furnace operations using liming materials or soda ash (sodium carbonate) as an additive shall not be acceptable. The Contractor shall furnish the previous three most recent, consecutive ASTM C618 reports for each source of fly ash proposed in the concrete mix and shall furnish each additional report as they become available during the project. The reports can be used for acceptance or the material may be tested independently by the RPR.

b. Slag cement (ground granulated blast furnace (GGBF)). Slag cement shall conform to ASTM C989, Grade 100 or Grade 120. Slag cement shall be used only at a rate between 25% and 55% of the total cementitious material by mass.

610-2.6 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

610-2.7 Admixtures. The Contractor shall submit certificates indicating that the material to be furnished meets all of the requirements indicated below. In addition, the RPR may require the Contractor to submit complete test data from an approved laboratory showing that the material to be furnished meets all of the requirements of the cited specifications. Subsequent tests may be made of samples taken by the RPR from the supply of the material being furnished or proposed for use on the work to determine whether the admixture is uniform in quality with that approved.

a. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of ASTM C260 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

b. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of ASTM C494, Type A, B, or D. ASTM C494, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used.

c. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the RPR. Retarding shall meet the requirements of ASTM C494, Type A, B, or D and set-accelerating shall meet the requirements of ASTM C494, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

610-2.8 Premolded joint material. Premolded joint material for expansion joints shall meet the requirements of ASTM 1752.

610-2.9 Steel reinforcement. Reinforcing shall consist of **WWF** conforming to the requirements of ASTM A1064, if indicated on the plans.

610-2.10 Materials for curing concrete. Curing materials shall conform to ASTM C309.

CONSTRUCTION METHODS

610-3.1 General. The Contractor shall furnish all labor, materials, and services necessary for, and incidental to, the completion of all work as shown on the drawings and specified here. All machinery and equipment used by the Contractor on the work, shall be of sufficient size to meet the requirements of the work. All work shall be subject to the inspection and approval of the RPR.

610-3.2 Concrete Mixture. The concrete shall develop a compressive strength of 4000 psi in 28 days as determined by test cylinders made in accordance with ASTM C31 and tested in accordance with ASTM C39. The concrete shall contain not less than 470 pounds of cementitious material per cubic yard. The water cementitious ratio shall not exceed 0.45 by weight. The air content of the concrete shall be 5% +/- 1.2% as determined by ASTM C231 and shall have a slump of not more than 4 inches as determined by ASTM C143.

610-3.3 Mixing. Concrete may be mixed at the construction site, at a central point, or wholly or in part in truck mixers. The concrete shall be mixed and delivered in accordance with the requirements of ASTM C94 or ASTM C685.

The concrete shall be mixed only in quantities required for immediate use. Concrete shall not be mixed while the air temperature is below 40°F without the RPRs approval. If approval is granted for mixing under such conditions, aggregates or water, or both, shall be heated and the concrete shall be placed at a temperature not less than 50°F nor more than 100°F. The Contractor shall be held responsible for any defective work, resulting from freezing or injury in any manner during placing and curing, and shall replace such work at his expense.

Retempering of concrete by adding water or any other material is not permitted.

The rate of delivery of concrete to the job shall be sufficient to allow uninterrupted placement of the concrete.

610-3.4 Forms. Concrete shall not be placed until all the forms and reinforcements have been inspected and approved by the RPR. Forms shall be of suitable material and shall be of the type, size, shape, quality, and strength to build the structure as shown on the plans. The forms shall be true to line and grade and shall be mortar-tight and sufficiently rigid to prevent displacement and sagging between supports. The surfaces of forms shall be smooth and free from irregularities, dents, sags, and holes. The Contractor shall be responsible for their adequacy.

The internal form ties shall be arranged so no metal will show in the concrete surface or discolor the surface when exposed to weathering when the forms are removed. All forms shall be wetted with water or with a non-staining mineral oil, which shall be applied immediately before the concrete is placed. Forms shall be constructed so they can be removed without injuring the concrete or concrete surface.

610-3.5 Placing reinforcement. All reinforcement shall be accurately placed, as shown on the plans, and shall be firmly held in position during concrete placement. Bars shall be fastened together at intersections. The reinforcement shall be supported by approved metal chairs. Shop drawings, lists, and bending details shall be supplied by the Contractor when required.

610-3.6 Embedded items. Before placing concrete, all embedded items shall be firmly and securely fastened in place as indicated. All embedded items shall be clean and free from coating, rust, scale, oil, or any foreign matter. The concrete shall be spaded and consolidated around and against embedded items. The embedding of wood shall not be allowed.

610-3.7 Concrete Consistency. The Contractor shall monitor the consistency of the concrete delivered to the project site; collect each batch ticket; check temperature; and perform slump tests on each truck at the project site in accordance with ASTM C143.

610-3.8 Placing concrete. All concrete shall be placed during daylight hours, unless otherwise approved. The concrete shall not be placed until the depth and condition of foundations, the adequacy of forms and falsework, and the placing of the steel reinforcing have been approved by the RPR. Concrete shall be placed as soon as practical after mixing, but in no case later than one (1) hour after water has been added to the mix. The method and manner of placing shall avoid segregation and displacement of the reinforcement. Troughs, pipes, and chutes shall be used as an aid in placing concrete when necessary. The concrete shall not be dropped from a height of more than 5 feet. Concrete shall be deposited as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Do not subject concrete to procedures which cause segregation. Concrete shall be placed on clean, damp surfaces, free from running water, or on a properly consolidated soil foundation.

610-3.9 Vibration. Vibration shall follow the guidelines in American Concrete Institute (ACI) Committee 309R, Guide for Consolidation of Concrete.

610-3.10 Joints. Joints shall be constructed as indicated on the plans.

610-3.11 Finishing. All exposed concrete surfaces shall be true, smooth, and free from open or rough areas, depressions, or projections. All concrete horizontal plane surfaces shall be brought flush to the proper elevation with the finished top surface struck-off with a straightedge and floated.

610-3.12 Curing and protection. All concrete shall be properly cured in accordance with the recommendations in American Concrete Institute (ACI) 308R, Guide to External Curing of Concrete. The concrete shall be protected from damage until project acceptance.

610-3.13 Cold weather placing. When concrete is placed at temperatures below 40°F, follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F (30 °C), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; test air content in accordance with ASTM C231; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental and no separate measurement shall be made of concrete complete in place and accepted.

BASIS OF PAYMENT

610-6.1 Concrete shall be considered incidental and no separate payment shall be made.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

Item D-701 Pipe for Storm Drains and Culverts

DESCRIPTION

701-1.1 This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

MATERIALS

701-2.1 Materials shall meet the requirements shown on the plans and specified below. Underground piping and components used in drainage systems for terminal and aircraft fueling ramp drainage shall be noncombustible and inert to fuel in accordance with National Fire Protection Association (NFPA) 415.

701-2.2 Pipe. The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

ASTM C1479	Standard Practice for Installation of Precast Concrete Sewer, Storm Drain, and Culvert Pipe Using Standard Installations
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ASTM C1840	Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe
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701-2.3 Concrete. Concrete for pipe cradles shall have a minimum compressive strength of 2000 psi at 28 days and conform to the requirements of ASTM C94.

701-2.4 Rubber gaskets. Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C443. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precoated galvanized pipe shall conform to the requirements of ASTM D1056, for the "RE" closed cell grades. Rubber gaskets for steel reinforced thermoplastic ribbed pipe shall conform to the requirements of ASTM F477.

701-2.5 Joint mortar. Pipe joint mortar shall consist of one part Portland cement and two parts sand. The Portland cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

701-2.6 Joint fillers. Poured filler for joints shall conform to the requirements of ASTM D6690.

701-2.7 Plastic gaskets. Plastic gaskets shall conform to the requirements of ASTM C990.

701-2.8. Controlled low-strength material (CLSM). Controlled low-strength material shall conform to the requirements of Item P-153. When CLSM is used, all joints shall have gaskets.

701-2.9 Precast box culverts. Manufactured in accordance with and conforming to ASTM C1433.

701-2.10 Precast concrete pipe. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or American Concrete Pipe Association QCast Plant Certification program.

CONSTRUCTION METHODS

701-3.1 Excavation. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less than the external diameter of the pipe plus 12 inches on each side. The trench walls shall be approximately vertical.

The Contractor shall comply with all current federal, state and local rules and regulations governing the safety of men and materials during the excavation, installation and backfilling operations. Specifically, the Contractor shall observe that all requirements of the Occupational Safety and Health Administration (OSHA) relating to excavations, trenching and shoring are strictly adhered to. The width of the trench shall be sufficient to permit satisfactorily jointing of the pipe and thorough compaction of the bedding material under the pipe and backfill material around the pipe, but it shall not be greater than the widths shown on the plans trench detail.

Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below the foundation grade for a depth of at least 8 inch or 1/2 inch for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The excavation below grade should be filled with granular material to form a uniform foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

The excavation for pipes placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

701-3.2 Bedding. The bedding surface for the pipe shall provide a foundation of uniform density to support the pipe throughout its entire length.

a. Rigid pipe. The pipe bedding shall be constructed uniformly for the full length of the pipe barrel, as required on the plans. The maximum aggregate size shall be 1 in when the bedding thickness is less than 6 inches, and 1-1/2 in when the bedding thickness is greater than 6 inches. Bedding shall be loosely placed uncompacted material under the middle third of the pipe prior to placement of the pipe.

b. Flexible pipe. For flexible pipe, the bed shall be roughly shaped to fit the pipe, and a bedding blanket of sand or fine granular material shall be provided as follows:

Flexible Pipe Bedding

Pipe Corrugation Depth		Minimum Bedding Depth	
inch	mm	inch	mm
1/2	12	1	25
1	25	2	50
2	50	3	75
2-1/2	60	3-1/2	90

c. Other pipe materials. For PVC, polyethylene, polypropylene, or fiberglass pipe, the bedding material shall consist of coarse sands and gravels with a maximum particle size of 3/4 inches. For pipes installed under paved areas, no more than 12% of the material shall pass the No. 200 sieve. For all other areas, no more than 50% of the material shall pass the No. 200 sieve. The bedding shall have a thickness of at least 6 inches below the bottom of the pipe and extend up around the pipe for a depth of not less than 50% of the pipe's vertical outside diameter.

701-3.3 Laying pipe. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

701-3.4 Joining pipe. Joints shall be made with (1) cement mortar, (2) cement grout, (3) rubber gaskets, (4) plastic gaskets, (5) coupling bands.

Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints to retain the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

a. Concrete pipe. Concrete pipe may be either bell and spigot or tongue and groove. Pipe sections at joints shall be fully seated and the inner surfaces flush and even. Concrete pipe joints shall be sealed with rubber gaskets meeting ASTM C443 when leak resistant joints are required.

b. Metal pipe. Metal pipe shall be firmly joined by form-fitting bands conforming to the requirements of ASTM A760 for steel pipe and AASHTO M196 for aluminum pipe.

c. PVC, Polyethylene, or Polypropylene pipe. Joints for PVC, Polyethylene, or Polypropylene pipe shall conform to the requirements of ASTM D3212 when leak resistant joints are required. Joints for PVC and Polyethylene pipe shall conform to the requirements of AASHTO M304 when soil tight joints are required. Fittings for polyethylene pipe shall conform to the requirements of AASHTO M252 or ASTM M294. Fittings for polypropylene pipe shall conform to ASTM F2881, ASTM F2736, or ASTM F2764.

701-3.5 Embedment and Overfill. Pipes shall be inspected before any fill material is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and re-laid or replaced at the Contractor's expense.

701-3.5-1 Embedment Material Requirements

a. Concrete Pipe. Embedment material and compaction requirements shall be in accordance with the applicable Type of Standard Installation (Types 1, 2, 3, or 4) per ASTM C1479. If a concrete cradle or CLSM embedment material is used, it shall conform to the plan details.

b. Plastic and fiberglass Pipe. Embedment material shall meet the requirements of ASTM D3282, A-1, A-2-4, A-2-5, or A-3. Embedment material shall be free of organic material, stones larger than 1.5 inches in the greatest dimension, or frozen lumps. Embedment material shall extend to 12 inches above the top of the pipe.

c. Metal Pipe. Embedment material shall be granular as specified in the contract document and specifications, and shall be free of organic material, rock fragments larger than 1.5 inches in the greatest dimension and frozen lumps. As a minimum, backfill materials shall meet the requirements of ASTM D3282, A-1, A-2, or A-3. Embedment material shall extend to 12 inches above the top of the pipe.

701-3.5-2 Placement of Embedment Material

The embedment material shall be compacted in layers not exceeding 6 inches on each side of the pipe and shall be brought up one foot above the top of the pipe or to natural ground level, whichever is greater. Thoroughly compact the embedment material under the haunches of the pipe without displacing the pipe. Material shall be brought up evenly on each side of the pipe for the full length of the pipe.

When the top of the pipe is above the top of the trench, the embedment material shall be compacted in layers not exceeding 6 inches and shall be brought up evenly on each side of the pipe to one foot above the top of the pipe. All embedment material shall be compacted to a density required under Item P-152.

Concrete cradles and flowable fills, such as controlled low strength material (CLSM) or controlled density fill (CDF), may be used for embedment provided adequate flotation resistance can be achieved by restraints, weighing, or placement technique.

It shall be the Contractor's responsibility to protect installed pipes and culverts from damage due to construction equipment operations. The Contractor shall be responsible for installation of any extra strutting or backfill required to protect pipes from the construction equipment.

701-3.6 Overfill

Pipes shall be inspected before any overfill is in place. Any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense. Evaluation of any damage to RCP shall be evaluated based on AASHTO R73.

Overfill material shall be placed and compacted in layers as required to achieve compaction to at least 95 percent standard proctor per ASTM D1557. The soil shall contain no debris, organic matter, frozen material, or stones with a diameter greater than one half the thickness of the compacted layers being placed.

701-3.7 Inspection Requirements

An initial post installation inspection shall be performed by the RPR no sooner than 30 days after completion of installation and final backfill. Clean or flush all lines prior to inspection.

Incorporate specific inspection requirements for the various types of pipes beneath the general inspection requirements.

Reinforced concrete pipe shall be inspected, evaluated, and reported on in accordance with ASTM C1840, "Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe." Any issues reported shall include still photo and video documentation. The zoom ratio shall be provided for all still or video images that document any issues of concern by the inspection firm.

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet (m) of pipe in place, completed, and accepted. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. The size of pipe shall be measured separately. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

BASIS OF PAYMENT

701-5.0 These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

701-5.1 Payment will be made at the contract unit price per linear foot (meter) for 18 inch, Class V concrete sewer pipe.

Payment will be made under:

Item D-701.1	30" Reinforced Concrete Sewer Pipe, Class V - per linear foot.
Item D-701.2	72" Reinforced Concrete Sewer Pipe, Class V - per linear foot.
Item D-701.3	84" Reinforced Concrete Sewer Pipe, Class V - per linear foot.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter

ASTM International (ASTM)

ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM A849	Standard Specification for Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe
ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C94	Standard Specification for Ready Mixed Concrete

ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings

ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications
National Fire Protection Association (NFPA)	
NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways

END ITEM D-701

Item D-751 Manholes, Catch Basins, Inlets and Inspection Holes

DESCRIPTION

751-1.1 This item shall consist of construction of manholes, catch basins, inlets, and inspection holes, in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

MATERIALS

751-2.1 Brick. The brick shall conform to the requirements of ASTM C32, Grade MS.

751-2.2 Mortar. Mortar shall consist of one part Portland cement and two parts sand. The cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

751-2.3 Concrete. Plain and reinforced concrete used in structures, connections of pipes with structures, and the support of structures or frames shall conform to the requirements of Item P-610.

751-2.4 Precast concrete pipe manhole rings. Precast concrete pipe manhole rings shall conform to the requirements of ASTM C478. Unless otherwise specified, the risers and offset cone sections shall have an inside diameter of not less than 36 inches (90 cm) nor more than 48 inches (120 cm). There shall be a gasket between individual sections and sections cemented together with mortar on the inside of the manhole. Gaskets shall conform to the requirements of ASTM C443.

751-2.5 Corrugated metal. Corrugated metal shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M36.

751-2.6 Frames, covers, and grates. The castings shall conform to one of the following requirements:

- a. ASTM A48, Class 35B: Gray iron castings
- b. ASTM A47: Malleable iron castings
- c. ASTM A27: Steel castings
- d. ASTM A283, Grade D: Structural steel for grates and frames
- e. ASTM A536, Grade 65-45-12: Ductile iron castings
- f. ASTM A897: Austempered ductile iron castings

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings, aircraft gear configuration and/or direct loading, specified.

Each frame and cover or grate unit shall be provided with fastening members to prevent it from being dislodged by traffic but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

751-2.7 Steps. The steps or ladder bars shall be gray or malleable cast iron or galvanized steel. The steps shall be the size, length, and shape shown on the plans and those steps that are not galvanized shall be given a coat of asphalt paint, when directed.

751-2.8 Precast inlet structures. Manufactured in accordance with and conforming to ASTM C913.

CONSTRUCTION METHODS

751-3.1 Unclassified excavation.

a. The Contractor shall excavate for structures and footings to the lines and grades or elevations, shown on the plans, or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximately only; and the RPR may direct, in writing, changes in dimensions or elevations of footings necessary for a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. Where concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for the structure.

d. All bracing, sheathing, or shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage finished masonry. The cost of removal shall be included in the unit price bid for the structure.

e. After excavation is completed for each structure, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

751-3.2 Brick structures.

a. Foundations. A prepared foundation shall be placed for all brick structures after the foundation excavation is completed and accepted. Unless otherwise specified, the base shall consist of reinforced concrete mixed, prepared, and placed in accordance with the requirements of Item P-610.

b. Laying brick. All brick shall be clean and thoroughly wet before laying so that they will not absorb any appreciable amount of additional water at the time they are laid. All brick shall be laid in freshly made mortar. Mortar not used within 45 minutes after water has been added shall be discarded. Retempering of mortar shall not be permitted. An ample layer of mortar shall be spread on the beds and a shallow furrow shall be made in it that can be readily closed by the laying of the brick. All bed and head joints shall be filled solid with mortar. End joints of stretchers and side or cross joints of headers shall be fully buttered with mortar and a shoved joint made to squeeze out mortar at the top of the joint. Any bricks that may be loosened after the mortar has taken its set, shall be removed, cleaned, and re-laid with fresh mortar. No broken or chipped brick shall be used in the face, and no spalls or bats shall be used except where necessary to shape around irregular openings or edges; in which case, full bricks shall be placed at ends or corners where possible, and the bats shall be used in the interior of the course. In making closures, no piece of brick shorter than the width of a whole brick shall be used; and wherever practicable, whole brick shall be used and laid as headers.

c. Joints. All joints shall be filled with mortar at every course. Exterior faces shall be laid up in advance of backing. Exterior faces shall be plastered or parged with a coat of mortar not less than 3/8 inch (9 mm) thick before the backing is laid up. Prior to parging, all joints on the back of face courses shall be cut flush. Unless otherwise noted, joints shall be not less than 1/4 inch (6 mm) nor more than 1/2 inch (12 mm) wide and the selected joint width shall be maintained uniform throughout the work.

d. Pointing. Face joints shall be neatly struck, using the weather-struck joint. All joints shall be finished properly as the laying of the brick progresses. When nails or line pins are used, the holes shall be immediately plugged with mortar and pointed when the nail or pin is removed.

e. Cleaning. Upon completion of the work all exterior surfaces shall be thoroughly cleaned by scrubbing and washing with water. If necessary to produce satisfactory results, cleaning shall be done with a 5% solution of muriatic acid which shall then be rinsed off with liberal quantities of water.

f. Curing and cold weather protection. The brick masonry shall be protected and kept moist for at least 48 hours after laying the brick. Brick masonry work or pointing shall not be done when there is frost on the brick or when the air temperature is below 50°F (10°C) unless the Contractor has, on the project ready to use, suitable covering and artificial heating devices necessary to keep the atmosphere surrounding the masonry at a temperature of not less than 60°F (16°C) for the duration of the curing period.

751-3.3 Concrete structures. Concrete structures which are to be cast-in-place within the project boundaries shall be built on prepared foundations, conforming to the dimensions and shape indicated on the plans. The construction shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

All invert channels shall be constructed and shaped accurately to be smooth, uniform, and cause minimum resistance to flowing water. The interior bottom shall be sloped to the outlet.

751-3.4 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program.

Precast concrete structures shall conform to ASTM C478. Precast concrete structures shall be constructed on prepared or previously placed slab foundations conforming to the dimensions and locations shown on the plans. All precast concrete sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily. Joints between precast concrete risers and tops shall be full-bedded in cement mortar and shall: (1) be smoothed to a uniform surface on both interior and exterior of the structure or (2) utilize a rubber gasket per ASTM C443. The top of the upper precast concrete section shall be suitably formed and dimensioned to receive the metal frame and cover or grate, or other cap, as required. Provision shall be made for any connections for lateral pipe, including drops and leads that may be installed in the structure. The flow lines shall be smooth, uniform, and cause minimum resistance to flow. The metal or metal encapsulated steps that are embedded or built into the side walls shall be aligned and placed in accordance to ASTM C478. When a metal ladder replaces the steps, it shall be securely fastened into position.

751-3.5 Corrugated metal structures. Corrugated metal structures shall be prefabricated. All standard or special fittings shall be furnished to provide pipe connections or branches with the correct dimensions and of sufficient length to accommodate connecting bands. The fittings shall be welded in place to the metal structures. The top of the metal structure shall be designed so that either a concrete slab or metal collar may be attached to allow the fastening of a standard metal frame and grate or cover. Steps or ladders shall be furnished as shown on the plans. Corrugated metal structures shall be constructed on prepared foundations, conforming to the dimensions and locations as shown on the plans. When indicated, the structures shall be placed on a reinforced concrete base.

751-3.6 Inlet and outlet pipes. Inlet and outlet pipes shall extend through the walls of the structures a sufficient distance beyond the outside surface to allow for connections. They shall be cut off flush with the wall on the inside surface of the structure, unless otherwise directed. For concrete or brick structures, mortar shall be placed around these pipes to form a tight, neat connection.

751-3.7 Placement and treatment of castings, frames, and fittings. All castings, frames, and fittings shall be placed in the positions indicated on the plans or as directed by the RPR, and shall be set true to line and elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

When frames or fittings are placed on previously constructed masonry, the bearing surface of the masonry shall be brought true to line and grade and shall present an even bearing surface so the entire face or back of the unit will come in contact with the masonry. The unit shall be set in mortar beds and anchored to the masonry as indicated on the plans or as directed by the RPR. All units shall set firm and secure.

After the frames or fittings have been set in final position, the concrete or mortar shall be allowed to harden for seven (7) days before the grates or covers are placed and fastened down.

751-3.8 Installation of steps. The steps shall be installed as indicated on the plans or as directed by the RPR. When the steps are to be set in concrete, they shall be placed and secured in position before the concrete is placed. When the steps are installed in brick masonry, they shall be placed as the masonry is being built. The steps shall not be disturbed or used until the concrete or mortar has hardened for at least seven (7) days. After seven (7) days, the steps shall be cleaned and painted, unless they have been galvanized.

When steps are required with precast concrete structures they shall meet the requirements of ASTM C478. The steps shall be cast into the side of the sections at the time the sections are manufactured or set in place after the structure is erected by drilling holes in the concrete and cementing the steps in place.

When steps are required with corrugated metal structures, they shall be welded into aligned position at a vertical spacing of 12 inches (300 mm).

Instead of steps, prefabricated ladders may be installed. For brick or concrete structures, the ladder shall be held in place by grouting the supports in drilled holes. For metal structures, the ladder shall be secured by welding the top support to the structure and grouting the bottom support into drilled holes in the foundation or as directed by the RPR.

751-3.9 Backfilling.

a. After a structure has been completed, the area around it shall be backfilled with approved material, in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited evenly around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

b. Backfill shall not be placed against any structure until approved by the RPR. For concrete structures, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill and placing methods.

c. Backfill shall not be measured for direct payment. Performance of this work shall be considered an obligation of the Contractor covered under the contract unit price for the structure involved.

751-3.10 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

751-4.1 Manholes, catch basins, inlets, and inspection holes shall be measured by the unit.

BASIS OF PAYMENT

751-5.1 The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item D-751.1	Airfield Inlet with Aircraft Rated Grate - per each
Item D-751.2	Airfield Manhole with Aircraft Rated Lid - per each
Item D-751.3	Connect New Storm Sewer Pipe to Existing Storm Pipe- per each
Item D-751.4	Connect Storm Sewer Pipe to Existing Storm Structure - per each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C32	Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale)
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.

ASTM C478 Standard Specification for Precast Reinforced Concrete Manhole Sections

ASTM C913 Standard Specification for Precast Concrete Water and Wastewater Structures.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M36 Standard Specification for Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains

END OF ITEM D-751

Item D-752 Concrete Culverts, Headwalls, and Miscellaneous Drainage Structures

DESCRIPTION

752-1.1 This item shall consist of reinforced concrete culverts, headwalls, and miscellaneous drainage structures constructed in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

MATERIALS

752-2.1 Concrete. Reinforced concrete shall meet the requirements of Item P-610.

CONSTRUCTION METHODS

752-3.1 Unclassified excavation.

a. Trenches and foundation pits for structures or structure footings shall be excavated to the lines and grades and elevations shown on the plans. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximate only; and the RPR may approve, in writing, changes in dimensions or elevations of footings necessary to secure a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. When concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing steel is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to perform and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for excavation.

d. All bracing, sheathing, or shoring shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage the finished concrete. The cost of removal shall be included in the unit price bid for excavation.

e. After each excavation is completed, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

752-3.2 Backfilling.

a. After a structure has been completed, backfilling with approved material shall be accomplished by applying the fill in horizontal layers not to exceed 8 inches in loose depth, and compacted. The field density of the compacted material shall be at least 90% of the maximum density for cohesive soils and 95% of the maximum density for noncohesive soils. The maximum density shall be determined in accordance with ASTM D698. The field density shall be determined in accordance with ASTM D1556.

b. No backfilling shall be placed against any structure until approved by the RPR. For concrete, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill or the placement methods.

c. Fill placed around concrete culverts shall be deposited on each side at the same time and to approximately the same elevation. All slopes bounding or within the areas to be backfilled shall be stepped or serrated to prevent wedge action against the structure.

d. Backfill will not be measured for direct payment. Performance of this work shall be considered as a subsidiary obligation of the Contractor, covered under the contract unit price for “unclassified excavation for structures.”

752-3.3 Weep holes. Weep holes shall be constructed as shown on the plans.

752-3.4 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankment, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

752-4.1 The quantity of unclassified excavation for structures shall be the number of cubic yards, measured in original position, of material excavated in accordance with the plans, or as approved by the RPR; but in no case shall any yardage be included in the measurement for payment which is outside of a volume bounded by vertical planes 18 inches outside of and parallel to the neat lines of the footings.

752-4.2 Concrete shall be measured by the number of cubic yards of concrete, complete in place and accepted. In computing the yardage of concrete for payment, the dimensions used shall be those shown on the plans or approved by the RPR. No measurements or other allowances shall be made for forms, false work, cofferdams, pumping, bracing, expansion joints, or finishing of the concrete. No deductions in yardage shall be made for the volumes of reinforcing steel or embedded items.

752-4.3 The quantity of reinforcing steel shall be the calculated theoretical number of pounds placed as shown on the plans, complete in place and accepted. The unit weight used for deformed bars shall be the weight of plain square or round bars, as the case may be, of equal nominal size.

BASIS OF PAYMENT

752-5.1 Payment will be made at the contract unit price per cubic yard for unclassified excavation for structures.

752-5.2 Payment will be made at the contract unit price per cubic yard for concrete for the structures.

752-5.3 Payment will be made at the contract unit price per pound for reinforcing steel.

These prices shall be full compensation for furnishing all materials and for all preparation, excavation, and placing the materials, and for all labor, equipment, tools, and incidentals necessary to complete the structure.

Payment will be made under:

Item D-752.1	Concrete Storm Headwall - per each
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REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft ³ (600 kN-m/m ³))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

END OF ITEM D-752

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Item T-901 Seeding

DESCRIPTION

901-1.1 This item shall consist of soil preparation, seeding, fertilizing and liming the areas shown on the plans or as directed by the RPR in accordance with these specifications.

MATERIALS

901-2.1 Seed. The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Federal Specification JJJ-S-181, Federal Specification, Seeds, Agricultural.

Seed shall be furnished separately or in mixtures in standard containers labeled in conformance with the Agricultural Marketing Service (AMS) Seed Act and applicable state seed laws with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the RPR duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within six (6) months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed. Wet, moldy, or otherwise damaged seed will be rejected.

Seeds shall be applied as follows:

Seed Properties and Rate of Application

Seed	Minimum Seed Purity (Percent)	Minimum Germination (Percent)	Rate of Application lb/acre (or lb/1,000 S.F.)
Bermuda			100 lb/acre
Common Bermuda (Hulled)			50 lb/acre
Common Bermuda (Unhulled)			50 lb/acre
Tall Fescue			100 lb/acre

Seeding shall be performed during the period between February 16th and November 15th inclusive, unless otherwise approved by the RPR.

901-2.2 Lime. Lime shall be ground limestone containing not less than 85% of total carbonates and shall be ground to such fineness that 90% will pass through a No. 20 mesh sieve and 50% will pass through a No. 100 mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate of 300 lb/acre. All liming materials shall conform to the requirements of ASTM C602.

901-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They

shall be applied at the rate and to the depth specified and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

- a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
- b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or
- c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 10-10-10 commercial fertilizer and shall be spread at the rate of 1000 lb/acre. Fertilizer application should be split 50/50 with 500 lb at a time seeding and 500 lb after initial seeding.

901-2.4 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

901-3.1 Advance preparation and cleanup. After grading of areas has been completed and before applying fertilizer and ground limestone, areas to be seeded shall be raked or otherwise cleared of stones larger than 2 inches in any diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes has occurred after the completion of grading and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage include filling gullies, smoothing irregularities, and repairing other incidental damage.

An area to be seeded shall be considered a satisfactory seedbed without additional treatment if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches as a result of grading operations and, if immediately prior to seeding, the top 3 inches of soil is loose, friable, reasonably free from large clods, rocks, large roots, or other undesirable matter, and if shaped to the required grade.

When the area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, any grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches. Clods shall be broken and the top 3 inches of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

901-3.2 Dry application method.

a. Liming. Lime shall be applied separately and prior to the application of any fertilizer or seed and only on seedbeds that have previously been prepared as described above. The lime shall then be worked into the top 3 inches of soil after which the seedbed shall again be properly graded and dressed to a smooth finish.

b. Fertilizing. Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 901-2.3.

c. Seeding. Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing. The fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the

seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawn roller, weighing 40 to 65 pounds per foot of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot of width for sandy or light soils.

901-3.3 Wet application method.

a. General. The Contractor may elect to apply seed and fertilizer (and lime, if required) by spraying them on the previously prepared seedbed in the form of an aqueous mixture and by using the methods and equipment described herein. The rates of application shall be as specified in the special provisions.

b. Spraying equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge calibrated to read in increments not larger than 50 gallons over the entire range of the tank capacity, mounted so as to be visible to the nozzle operator. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

The unit shall also be equipped with a pressure pump capable of delivering 100 gallons per minute at a pressure of 100 lb/sq inches. The pump shall be mounted in a line that will recirculate the mixture through the tank whenever it is not being sprayed from the nozzle. All pump passages and pipelines shall be capable of providing clearance for 5/8 inch solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to the nozzle operator. There shall be an indicating pressure gauge connected and mounted immediately at the back of the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20 degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, three-way control valve connecting the recirculating line to the nozzle pipe and mounted so that the nozzle operator can control and regulate the amount of flow of mixture delivered to the nozzle. At least three different types of nozzles shall be supplied so that mixtures may be properly sprayed over distance varying from 20 to 100 feet. One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, and one a long-range jet nozzle. For ease of removal and cleaning, all nozzles shall be connected to the nozzle pipe by means of quick-release couplings.

In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet in length shall be provided to which the nozzles may be connected.

c. Mixtures. Lime, if required, shall be applied separately, in the quantity specified, prior to the fertilizing and seeding operations. Not more than 220 pounds of lime shall be added to and mixed with each 100 gallons of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds of these combined solids shall be added to and mixed with each 100 gallons of water.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. The Contractor shall identify to the RPR all sources of water at least two (2) weeks prior to use. The RPR may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the RPR following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within two (2) hours from the time they were mixed or they shall be wasted and disposed of at approved locations.

d. Spraying. Lime, if required, shall be sprayed only upon previously prepared seedbeds. After the applied lime mixture has dried, the lime shall be worked into the top 3 inches, after which the seedbed shall again be properly graded and dressed to a smooth finish.

Mixtures of seed and fertilizer shall only be sprayed upon previously prepared seedbeds on which the lime, if required, shall already have been worked in. The mixtures shall be applied by means of a high-pressure spray that shall always be directed upward into the air so that the mixtures will fall to the ground like rain in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner as might produce erosion or runoff.

Particular care shall be exercised to ensure that the application is made uniformly and at the prescribed rate and to guard against misses and overlapped areas. Proper predetermined quantities of the mixture in accordance with specifications shall be used to cover specified sections of known area.

Checks on the rate and uniformity of application may be made by observing the degree of wetting of the ground or by distributing test sheets of paper or pans over the area at intervals and observing the quantity of material deposited thereon.

On surfaces that are to be mulched as indicated by the plans or designated by the RPR, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling operations will be required after the soil has dried.

901-3.4 Maintenance of seeded areas. The Contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the RPR. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work.

When either the dry or wet application method outlined above is used for work done out of season, it will be required that the Contractor establish a good stand of grass of uniform color and density to the satisfaction of the RPR. A grass stand shall be considered adequate when bare spots are one square foot or less, randomly dispersed, and do not exceed 3% of the area seeded.

METHOD OF MEASUREMENT

901-4.1 The quantity of seeding to be paid for shall be the number of acres measured on the ground surface, completed and accepted.

BASIS OF PAYMENT

901-5.1 Payment shall be made at the contract unit price per acre or fraction thereof, which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

Item T-901.1	Temporary Seeding - per acre
Item T-901.2	Permanent Seeding – per acre
Item T-901.3	Seeding, Staging Area – per acre

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602 Standard Specification for Agricultural Liming Materials

ASTM D977 Standard Specification for Emulsified Asphalt

Federal Specifications (FED SPEC)

FED SPEC JJJ-S-181, Federal Specification, Seeds, Agricultural

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-901

Item T-904 Sodding

DESCRIPTION

904-1.1 This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

904-2.1 Sod. Sod furnished by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials that might be detrimental to the development of the sod or to future maintenance. At least 70% of the plants in the cut sod shall be composed of the species stated in the special provisions, and any vegetation more than 6 inches in height shall be mowed to a height of 3 inches or less before sod is lifted. Sod, including the soil containing the roots and the plant growth showing above, shall be cut uniformly to a thickness not less than that stated in the special provisions.

904-2.2 Lime. Lime shall be ground limestone containing not less than 85% of total carbonates and shall be ground to such fineness that 90% will pass through a No. 20 (850 μ m) mesh sieve and 50% will pass through a No. 100 (150 μ m) mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate of 300lb/acre. All liming materials shall conform to the requirements of ASTM C602.

904-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

- a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
- b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or
- c. A granular or pellet form suitable for application by blower equipment .

Fertilizers shall be 10-10-10 commercial fertilizer and shall be spread at the rate of 1000 lb/acre.

904-2.4 Water. The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass.

904-2.5 Soil for repairs. The soil for fill and topsoiling of areas to be repaired shall be at least of equal quality to that which exists in areas adjacent to the area to be repaired. The soil shall be relatively free from large stones, roots, stumps, or other materials that will interfere with subsequent sowing of seed, compacting, and establishing turf, and shall be approved by the RPR before being placed.

CONSTRUCTION METHODS

904-3.1 General. Areas to be solid, strip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition that are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation of the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the RPR before the various operations are started. The Contractor shall demonstrate to the RPR before starting the various operations that the application of required materials will be made at the specified rates.

904-3.2 Preparing the ground surface. After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 inches (50 mm) in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage. This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

904-3.3 Applying fertilizer and ground limestone. Following ground surface preparation, fertilizer shall be uniformly spread at a rate which will provide not less than the minimum quantity of each fertilizer ingredient, as stated in the special provisions. If use of ground limestone is required, it shall then be spread at a rate that will provide not less than the minimum quantity stated in the special provisions. These materials shall be incorporated into the soil to a depth of not less than 2 inches (50 mm) by discing, raking, or other suitable methods. Any stones larger than 2 inches (50 mm) in any diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

904-3.4 Obtaining and delivering sod. After inspection and approval of the source of sod by the RPR, the sod shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 2 inches (50 mm). Sod sections or strips shall be cut in uniform widths, not less than 10 inches (250 mm), and in lengths of not less than 18 inches (0.5 m), but of such length as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside. The Contractor may be required to mow high grass before cutting sod.

The sod shall be transplanted within 24 hours from the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, approval to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

904-3.5 Laying sod. Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the RPR, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches (100 mm) immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod

bed by tamping or rolling with approved equipment to provide a true and even surface, and ensure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen, when replacing it, shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately one inch (25 mm) below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

On slopes steeper than one (1) vertical to 2-1/2 horizontal and in v-shaped or flat-bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 12 inches (300 mm) in length and have a cross-sectional area of not less than 3/4 sq inch (18 sq mm). The pegs shall be driven flush with the surface of the sod.

904-3.6 Watering. Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner that will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

904-3.7 Establishing turf. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the RPR. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. Weeds or other undesirable vegetation shall be mowed and the clippings raked and removed from the area.

904-3.8 Repairing. When the surface has become gullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the RPR, and shall then be sodded as specified in paragraph 904-3.5.

METHOD OF MEASUREMENT

904-4.1 This item shall be measured on the basis of the area in square yards (square meters) of the surface covered with sod and accepted.

BASIS OF PAYMENT

904-5.1 This item will be paid for on the basis of the contract unit price per square yard (square meter) for sodding, which price shall be full compensation for all labor, equipment, material, staking, and incidentals necessary to satisfactorily complete the items as specified.

Payment will be made under:

Item T-904.1	Sodding - per square yard
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REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C602 Standard Specification for Agricultural Liming Materials

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-904

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Item T-905 Topsoil

DESCRIPTION

905-1.1 This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

905-2.1 Topsoil. Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches or more in diameter), and clay lumps or similar objects. Brush and other vegetation that will not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sod and herbaceous growth such as grass and weeds are not to be removed but shall be thoroughly broken up and intermixed with the soil during handling operations. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means, shall be removed. The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 pH to 7.6 pH, when tested in accordance with the methods of testing of the Association of Official Agricultural Chemists in effect on the date of invitation of bids. The organic content shall be not less than 3% nor more than 20% as determined by the wet-combustion method (chromic acid reduction). There shall be not less than 20% nor more than 80% of the material passing the 200 mesh sieve as determined by the wash test in accordance with ASTM C117.

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

905-2.2 Inspection and tests. Within 10 days following acceptance of the bid, the RPR shall be notified of the source of topsoil to be furnished by the Contractor. The topsoil shall be inspected to determine if the selected soil meets the requirements specified and to determine the depth to which stripping will be permitted. At this time, the Contractor may be required to take representative soil samples from several locations within the area under consideration and to the proposed stripping depths, for testing purposes as specified in paragraph 905-2.1.

CONSTRUCTION METHODS

905-3.1 General. Areas to be topsoiled shall be shown on the plans. If topsoil is available on the site, the location of the stockpiles or areas to be stripped of topsoil and the stripping depths shall be shown on the plans.

Suitable equipment necessary for proper preparation and treatment of the ground surface, stripping of topsoil, and for the handling and placing of all required materials shall be on hand, in good condition, and approved by the RPR before the various operations are started.

905-3.2 Preparing the ground surface. Immediately prior to dumping and spreading the topsoil on any area, the surface shall be loosened by discs or spike-tooth harrows, or by other means approved by the RPR, to a minimum depth of 2 inches to facilitate bonding of the topsoil to the covered subgrade soil. The surface of the area to be topsoiled shall be cleared of all stones larger than 2 inches in any diameter and all litter or other material which may be detrimental to proper bonding, the rise of capillary moisture, or

the proper growth of the desired planting. Limited areas, as shown on the plans, which are too compact to respond to these operations shall receive special scarification.

Grades on the area to be topsoiled, which have been established by others as shown on the plans, shall be maintained in a true and even condition. Where grades have not been established, the areas shall be smooth-graded and the surface left at the prescribed grades in an even and compacted condition to prevent the formation of low places or pockets where water will stand.

905-3.3 Obtaining topsoil. Prior to the stripping of topsoil from designated areas, any vegetation, briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed using methods approved by the RPR. Heavy sod or other cover, which cannot be incorporated into the topsoil by discing or other means shall be removed.

When suitable topsoil is available on the site, the Contractor shall remove this material from the designated areas and to the depth as directed by the RPR. The topsoil shall be spread on areas already tilled and smooth-graded or stockpiled in areas approved by the RPR. Any topsoil stockpiled by the Contractor shall be rehandled and placed without additional compensation. Any topsoil that has been stockpiled on the site by others, and is required for topsoil purposes, shall be removed and placed by the Contractor. The sites of all stockpiles and areas adjacent thereto which have been disturbed by the Contractor shall be graded if required and put into a condition acceptable for seeding.

When suitable topsoil is secured off the airport site, the Contractor shall locate and obtain the supply, subject to the approval of the RPR. The Contractor shall notify the RPR sufficiently in advance of operations in order that necessary measurements and tests can be made. The Contractor shall remove the topsoil from approved areas and to the depth as directed. The topsoil shall be hauled to the site of the work and placed for spreading or spread as required. Any topsoil hauled to the site of the work and stockpiled shall be rehandled and placed without additional compensation.

905-3.4 Placing topsoil. The topsoil shall be evenly spread on the prepared areas to a uniform depth of 2 inches after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turfing operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 inches or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. After spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the RPR. The compacted topsoil surface shall conform to the required lines, grades, and cross-sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

METHOD OF MEASUREMENT

905-4.1 Topsoil obtained on the site shall be measured by the number of cubic yards of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoil by the Contractor shall be measured by the number of cubic yards of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards computed by the method of end areas.

905-4.2 Topsoil obtained off the site shall be measured by the number of cubic yards of topsoil measured in its original position and stripped or excavated. Topsoil shall be measured by volume in cubic yards computed by the method of end areas.

BASIS OF PAYMENT

905-5.1 Payment will be made at the contract unit price per cubic yard for topsoil (obtained on the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

905-5.2 Payment will be made at the contract unit price per cubic yard for topsoil (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item T-905.1	Topsoiling (Obtained Onsite or Removed from Stockpile) - per cubic yard
Item T-905.2	Topsoiling, Staging Area – per cubic yard

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C117	Materials Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing
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Advisory Circulars (AC)

AC 150/5200-33	Hazardous Wildlife Attractants on or Near Airports
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FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-905

Item T-908 Mulching

DESCRIPTION

908-1.1 This item shall consist of furnishing, hauling, placing, and securing mulch on surfaces indicated on the plans or designated by the RPR.

MATERIALS

908-2.1 Mulch material. Acceptable mulch shall be the materials listed below or any approved locally available material that is similar to those specified. Mulch shall be free from noxious weeds, mold, and other deleterious materials. Mulch materials, which contain matured seed of species that would volunteer and be detrimental to the proposed overseeding, or to surrounding farm land, will not be acceptable. Straw or other mulch material which is fresh and/or excessively brittle, or which is in such an advanced stage of decomposition as to smother or retard the planted grass, will not be acceptable.

a. Hay. Hay shall be native hay in an air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Hay shall be sterile, containing no fertile seed.

908-2.2 Inspection. The RPR shall be notified of sources and quantities of mulch materials available and the Contractor shall furnish him with representative samples of the materials to be used 30 days before delivery to the project. These samples may be used as standards with the approval of the RPR and any materials brought on the site that do not meet these standards shall be rejected.

CONSTRUCTION METHODS

908-3.1 Mulching. Before spreading mulch, all large clods, stumps, stones, brush, roots, and other foreign material shall be removed from the area to be mulched. Mulch shall be applied immediately after seeding. The spreading of the mulch may be by hand methods, blower, or other mechanical methods, provided a uniform covering is obtained.

Mulch material shall be furnished, hauled, and evenly applied on the area shown on the plans or designated by the RPR. Straw or hay shall be spread over the surface to a uniform thickness at the rate of 2 to 3 tons per acre (1800 - 2700 kg per acre) to provide a loose depth of not less than 1-1/2 inches (38 cm) nor more than 3 inches (75 mm). Other organic material shall be spread at the rate directed by the RPR. Mulch may be blown on the slopes and the use of cutters in the equipment for this purpose will be permitted to the extent that at least 95% of the mulch in place on the slope shall be 6 inches (150 mm) or more in length. When mulches applied by the blowing method are cut, the loose depth in place shall be not less than one inch (25 mm) nor more than 2 inches (50 mm).

908-3.2 Securing mulch. The mulch shall be held in place by light discing, a very thin covering of topsoil, pins, stakes, wire mesh, asphalt binder, or other adhesive material approved by the RPR. Where mulches have been secured by either of the asphalt binder methods, it will not be permissible to walk on the slopes after the binder has been applied. When an application of asphalt binder material is used to secure the mulch, the Contractor must take every precaution to guard against damaging or disfiguring structures or property on or adjacent to the areas worked and will be held responsible for any such damage resulting from the operation.

If the "peg and string" method is used, the mulch shall be secured by the use of stakes or wire pins driven into the ground on 5-foot (1.5-m) centers or less. Binder twine shall be strung between adjacent stakes in

straight lines and crisscrossed diagonally over the mulch, after which the stakes shall be firmly driven nearly flush to the ground to draw the twine down tight onto the mulch.

908-3.3 Care and repair.

a. The Contractor shall care for the mulched areas until final acceptance of the project. Care shall consist of providing protection against traffic or other use by placing warning signs, as approved by the RPR, and erecting any barricades that may be shown on the plans before or immediately after mulching has been completed on the designated areas.

b. The Contractor shall be required to repair or replace any mulch that is defective or becomes damaged until the project is finally accepted. When, in the judgment of the RPR, such defects or damages are the result of poor workmanship or failure to meet the requirements of the specifications, the cost of the necessary repairs or replacement shall be borne by the Contractor.

c. If the “asphalt spray” method is used, all mulched surfaces shall be sprayed with asphalt binder material so that the surface has a uniform appearance. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons (32 liters) per 1,000 square feet (100 sq m), or as directed by the RPR, with a minimum of 6 gallons (24 liters) and a maximum of 10 gallons (40 liters) per 1,000 square feet (100 sq m) depending on the type of mulch and the effectiveness of the binder securing it. Asphalt binder material may be sprayed on the mulched slope areas from either the top or the bottom of the slope. An approved spray nozzle shall be used. The nozzle shall be operated at a distance of not less than 4 feet (1.2 m) from the surface of the mulch and uniform distribution of the asphalt material shall be required. A pump or an air compressor of adequate capacity shall be used to ensure uniform distribution of the asphalt material.

d. If the “asphalt mix” method is used, the mulch shall be applied by blowing, and the asphalt binder material shall be sprayed into the mulch as it leaves the blower. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons (32 liters) per 1,000 square feet (100 sq m) or as directed by the RPR, with a minimum of 6 gallons (24 liters) and a maximum of 10 gallons (40 liters) per 1,000 square feet (100 sq m) depending on the type of mulch and the effectiveness of the binder securing it.

METHOD OF MEASUREMENT

908-4.1 Mulching shall be measured in square yards (square meters) on the basis of the actual surface area acceptably mulched.

BASIS OF PAYMENT

908-5.1 Payment will be made at the contract unit price per square yard (square meter) for mulching. The price shall be full compensation for furnishing all materials and for placing and anchoring the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item T-908-1	Mulching - per acre
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REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D977 Standard Specification for Emulsified Asphalt

Advisory Circulars (AC)

AC 150/5200-33 Hazardous Wildlife Attractants on or Near Airports

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-908