

SPECIFICATIONS AND CONTRACT DOCUMENTS



SHELBY COUNTY COMMISSION

SHELBY COUNTY AIRPORT

MASS STORAGE HANGAR T

GARVER # 22A01080

Prepared For:

SHELBY COUNTY COMMISSION

AUGUST 2023



00 00 01 CERTIFICATIONS

**MASS STORAGE HANGAR T
GARVER PROJECT NO. 22A01080
SHELBY COUNTY COMMISSION**

I hereby certify that the applicable portions of this project plans and specifications were prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the State of Alabama.

SEAL AND SIGNATURE

**APPLICABLE DIVISION OR
PROJECT RESPONSIBILITY**

William U Haley, P.E.



Digitally Signed: 08-29-2023

Civil Plans and Specifications

Ryan G. Patton, P.E.



Digitally Signed: 08-29-2023

Electrical Plans and Specifications

GARVER, LLC CERTIFICATE OF AUTHORIZATION:

AL ENGINEERING COA NO. 500-E
Expiration Date: December 31, 2023

MASS STORAGE HANGAR T

00 01 10 TABLE OF CONTENTS

CONTRACT DOCUMENTS AND GENERAL REQUIREMENTS

BIDDING REQUIREMENTS

00 00 01	CERTIFICATIONS
00 01 10	TABLE OF CONTENTS
00 11 00	ADVERTISEMENT FOR BIDS
00 21 00	INSTRUCTIONS TO BIDDERS
00 22 13	BIDDER'S CHECKLIST OF REQUIRED ITEMS
00 41 00	BID FORM
00 43 13	BID BOND
00 43 36	LIST OF PROPOSED SUBCONTRACTORS
00 43 43	WAGE RATES
00 45 13	QUALIFICATIONS STATEMENT
00 45 39	DBE PARTICIPATION REPORTING
00 45 46	BIDDER CERTIFICATIONS

CONTRACT DOCUMENTS

00 52 00	SHELBY COUNTY, ALABAMA – PUBLIC WORKS CONTRACT
00 61 13	PERFORMANCE BOND
00 61 16	PAYMENT BOND

CONDITIONS OF THE CONTRACT

00 72 00	FAA GENERAL PROVISIONS
00 73 00	SPECIAL PROVISIONS

SUPPLEMENTAL SPECIFICATIONS

SS-101	SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)
SS-110	STANDARD SPECIFICATIONS
SS-120	CONSTRUCTION SAFETY AND SECURITY
SS-230	ALDOT BITUMINOUS CONCRETE
SS-295	PRE-ENGINEERED METAL HANGARS
SS-300	BASIC ELECTRICAL REQUIREMENTS

TECHNICAL SPECIFICATIONS

C-102	TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL
C-105	MOBILIZATION
D-701	PIPE FOR STORM DRAINS AND CULVERTS
D-752	CONCRETE CULVERTS, HEADWALLS, AND MISCELLANEOUS DRAINAGE STRUCTURES
P-101	PREPARATION/REMOVAL OF EXISTING PAVEMENTS
P-152	EXCAVATION, SUBGRADE, AND EMBANKMENT
P-209	CRUSHED AGGREGATE BASE COURSE
P-602	EMULSIFIED ASPHALT PRIME COAT
P-603	EMULSIFIED ASPHALT TACK COAT
P-610	CONCRETE FOR MISCELLANEOUS STRUCTURES

TECHNICAL SPECIFICATIONS (CONTINUED)

T-901	SEEDING
T-904	SODDING
T-905	TOPSOIL
T-908	MULCHING

NOTE: EACH TECHNICAL SPECIFICATION MAY BE PREFACED WITH A “MODIFICATIONS” SECTION THAT SHALL AMEND THE STANDARD TECHNICAL SPECIFICATION. THE PAGE NUMBERS FOR THESE MODIFICATIONS SECTIONS ARE PREFACED WITH “MOD” PRIOR TO THE SPECIFICATION PAGE NUMBER.

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SHELBY COUNTY COMMISSION
Calera, Alabama
MASS STORAGE HANGAR T

00 11 00 ADVERTISEMENT FOR BIDS

Sealed bids for **MASS STORAGE HANGAR T**, to be constructed for **SHELBY COUNTY COMMISSION** will be received at the office of the **SHELBY COUNTY COMMISSION** and addressed to the County Managers office at 200 West College Street, Room 123, Columbiana, AL 35051 until 2:00PM CST on October 5, 2023, at which time the bids shall be publicly opened and read aloud.

A **MANDATORY** Pre-Bid Conference will be held at 2:00PM CST on September 21, 2023, at the Shelby County Airport at 265 Weathervane Road, Calera, AL 35040.

The Project includes but is not limited to site preparation, grading, drainage, pavement removal, concrete construction, asphalt pavement construction and/or overlay, and the construction of a 147'x80' clear span hangar.

Bids will be received for a single prime contract. Bids shall be on a lump sum and unit price basis, with a Base Bid only, as indicated in the Bid Form.

Digital copies of the bid documents are available at <http://Planroom.GarverUSA.com> for a fee of \$22. These documents may be downloaded by selecting this Project from the "Plan Room" link, and by entering Quest Project Number **8665773** on the "Browse Projects" page. For assistance and free membership registration, contact QuestCDN at 952.233.1632 or info@questcdn.com. Documents can be examined at Garver's office, 5125-A Research Drive, Huntsville, AL 35805, or at the Shelby County Airport, 265 Weathervane Road, Calera, AL 35040. **Addendums to the bid package will be issued through the Garver online Plan Holders List; therefore, all Bidders shall be responsible for downloading the bid documents from the Garver online plan room in order to be included in the Plan Holders List. Bidders must enter the addenda numbers in the Proposal to verify receipt.**

Bids shall be accompanied by a bid security in accordance with the Instructions to Bidders. The successful Bidder must furnish Performance and Payment Bonds in accordance with the Contract Documents.

All Bidders shall make good faith efforts, as defined by Appendix A of 49 CFR Part 26, Regulations of the Office of the Secretary of Transportation, to subcontract a minimum of **3.40%** of the dollar value of the prime contract to small business concerns owned and controlled by socially and economically disadvantaged individuals DBE).

Bidders must be licensed to perform work within the state of Alabama.

Federal Requirements for Federally Funded Projects. This Project is being partially funded under the Federal Aviation Administration (FAA) Airport Improvement Program (AIP). Contractors must comply with specific federally required provisions as listed herein and contained in the contract documents. The following federal provisions are incorporated in this solicitation by reference:

- Buy American Preference (49 USC § 50101)
- Trade Restriction Certification (49 USC § 50104, 49 CFR part 30)
- Disadvantaged Business Enterprise (49 CFR part 26)
- Davis-Bacon Requirements (2 CFR § 200, Appendix II(D), 29 CFR Part 5)
- Procurement of Recovered Materials (2 CFR § 200.322, 40 CFR part 247, Solid Waste Disposal Act)

**Shelby County Airport
Mass Storage Hangar T**

- Debarment and Suspension (2 CFR part 180 (Subpart C), 2 CFR part 1200, DOT Order 4200.5)
- Lobbying and Influencing Federal Employees (31 USC § 1352, 2 CFR part 200 Appendix II(J), 49 CFR part 20 Appendix A)

Affirmative Action Requirement.

1. The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Goals for minority participation for each trade: 24.9%

Goals for female participation in each trade: 6.9%

These goals are applicable to all of the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a) and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is **Alabama, Shelby County, and the cities of Columbiana, Alabaster and Calera.**

Shelby County Airport
Mass Storage Hangar T

Civil Rights Title VI Assurance

The **SHELBY COUNTY COMMISSION**, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all Bidders that it will affirmatively ensure that any Contract entered into pursuant to this advertisement, disadvantaged business will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Bids must remain in effect for **90** days after the bid opening date. Within **90** days from the bid date, the Owner may award the contract to the lowest responsive, responsible Bidder or reject any or all Bids for the Project.

The **SHELBY COUNTY COMMISSION** reserves the right to reject any or all Bids, to waive the pre-bid meeting, and/or to waive irregularities in the Bids and bidding deemed to be in the best interests of the **SHELBY COUNTY COMMISSION**, and to reject nonconforming, nonresponsive, or conditional bids.

Owner: **SHELBY COUNTY COMMISSION**
By: **Chad Scroggins**
Title: **County Manager**

END OF ADVERTISEMENT FOR BIDS

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00 21 00 INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders not otherwise defined have the meanings indicated in the General Provisions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:
- A. *Successful Bidder* – The lowest responsible, Bidder submitting a responsive Bid to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.
 - B. *Issuing Office* – The office from which the Bidding Documents are to be issued.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, Bidder shall submit written evidence establishing its qualifications such as financial data, previous experience, and present commitments, as detailed in Section 00 45 13 Qualifications Statement, which must be completed in ink and returned for evaluation with the bid, along with any Owner required documentation.
- 3.02 The criteria which will be used to determine the lowest responsive and responsible Bidder are as follows:
- A. Responsive Bidder: Means a Bidder who submitted a Bid which conforms in all material respects to the Bidding Documents.
 - B. Responsible Bidder: Means a Bidder who has the capacity and capability in all respects to perform fully the contract requirements and who has the integrity and reliability to assure good faith performance. Among factors to be considered in determining whether the Bidder meets these standards, are:
 - 1. financial, material, equipment, facility, and personnel resources and expertise necessary to meet contractual requirements;
 - 2. a record of integrity;
 - 3. a record of successful completion, defined as, completion of a project within a reasonable time and budget;
 - 4. qualified legally to contract with the Owner, and;
 - 5. has not failed to supply any necessary information in connection with the inquiry concerning responsibility.
- 3.03 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

- 3.04 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.
- 3.05 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

4.01 *Site and Other Areas*

- A. The Project site is identified in the Bidding Documents. By definition, the "Site" includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

- A. Subsurface and Physical Conditions; Hazardous Environmental Conditions
1. The Special Provisions identify:
 - a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
 - b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
 - c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
 2. Owner will make pdf digital copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in section 20-06 the General Provisions, has been identified and established in the Special Provisions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
 3. If the Special Provisions do not identify Technical Data, the default definition of Technical Data set forth in Section 10 of the General Provisions will apply.
- B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.
- C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in the Special Provisions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Plans or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in the Special Provisions.

4.03 *Site Visit and Testing by Bidders*

- A. Bidder shall conduct Site visit(s) by appointment, during normal working hours, and shall not disturb any ongoing operations at the Site.
- B. Bidder is not required to conduct any subsurface testing of Site conditions.
- C. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.
- D. Bidder shall comply with all applicable laws and regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 *Owner's Safety Program*

- A. If applicable, Site visits and work at the Site will be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Special Provisions.

4.05 *Other Work at the Site*

- A. Reference is made to Section 70-04 of the General Provisions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work for which a Bid is to be submitted. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

- A. Examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;
- B. Visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. Become familiar with and satisfy itself as to all laws and regulations that may affect cost, progress, and performance of the Work;
- D. Carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings;
- E. Consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods,

techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;

- F. Agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- I. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
- J. Agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 6 – PRE-BID CONFERENCE

- 6.01 A mandatory pre-Bid conference will be held at the date and time identified in the Advertisement for Bids and addenda as appropriate. Representatives of Owner and Engineer will be present to discuss the Project. Bidders should attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than forty-eight (48) hours prior to the date for opening of Bids may not be answered. Only questions answered by addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents. The final addenda shall be issued at a minimum of twenty-four (24) hours prior to the opening of bids' date and time.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a cashier's or certified check, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting requirements acceptable to the owner.

- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the Contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults as set forth in this Section 8.02.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or 91 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, milestones are to be achieved and the Work is to be substantially completed and ready for final payment are set forth in the Contract.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, for failure to timely attain a milestone, substantial completion, or completion of the Work in readiness for final payment, are set forth in the Contract.

ARTICLE 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 11.01 See Section 60-03 of the General Provisions.
- 11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder's sole risk.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 Bidders shall submit Section 00 43 36, List of Proposed Subcontractors with the Bid, for prior approval of the Owner.
- If requested by Owner, before executing any subcontract, and within three (3) days after Bid opening, the apparent Successful Bidder, and any other Bidder so requested, shall submit an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such subcontractor, supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed subcontractor, supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder.
- 12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable subcontractors, suppliers, or other individuals or entities.

- 12.03 The quantities of work or material stated in unit price items of the Bid are supplied only to give an indication of the general scope of the Work; the Owner does not expressly or by implication agree that the actual amount of work or material will correspond therewith.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form shall be completed either in ink or type and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
 - B. A conditional Bid will not be considered.
- 13.02 A Bid by a corporation or partnership shall be executed in the corporate or partnership name by an officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate or partnership address and state of incorporation shall be shown. The corporate seal shall be affixed and attested by the corporate secretary or an assistant corporate secretary.
- 13.03 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.04 A Bid by an individual shall show the Bidder's name and official address.
- 13.05 A Bid by a joint venture shall be executed by an authorized representative of each joint venture partner in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.06 All names shall be printed in ink below the signatures.
- 13.07 The Bid shall contain an acknowledgment of receipt of all addenda, the numbers of which shall be filled in on the Bid Form.
- 13.08 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.09 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

- 14.01 Unit Price
- A. Bidders shall submit a Bid on a lump sum and unit price basis for each item of Work listed in the unit price section of the Bid Form.
 - B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract price will be determined in accordance with Section 90 of the General Provisions.
 - C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the figures.

14.02 Allowances

- A. For cash allowances the Bid price shall include such amounts as the Owner deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents.

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 The Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form.
- 15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title and number(s) (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." The Bidders name and return address shall be plainly marked on the package. Mailed Bid shall be addressed to 200 West College Street, Room 123, Columbiana, AL 35051.
- 15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the Advertisement to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive. Owner also reserves the right to 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.

- 19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.
- 19.03 Evaluation of Bids
- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.
 - C. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- 19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of subcontractors and suppliers proposed for those portions of the Work for which the identity of subcontractors and suppliers must be submitted as provided in the Bidding Documents.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed subcontractors or suppliers.
- 19.06 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 19.07 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Owner.

ARTICLE 20 – BONDS AND INSURANCE

- 20.01 Section 30-05 of the General Provisions, as may be modified by the Special Provisions, sets forth Owner's requirements as to performance, payment, bonds, and insurance. When the Successful Bidder delivers the Contract (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF CONTRACT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Contract along with the other Contract Documents as identified in the Contract. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Contract (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. The Owner shall deliver one fully executed counterpart of the Contract to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Section 50-05 of the General Provisions.

ARTICLE 22 – SALES AND USE TAXES

- 22.01 The project Owner is exempt from Alabama state sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Bid. Refer to the Special Provisions for additional information.

ARTICLE 23 – RETAINAGE

- 23.01 Provisions concerning Contractor's rights to deposit securities in lieu of retainage are set forth in the Section 90-06 of the General Provisions.

ARTICLE 24 – CONTRACTS TO BE ASSIGNED

- 24.01 Not Used

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END OF INSTRUCTIONS TO BIDDERS

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Shelby County Airport
Mass Storage Hangar T

00 22 13 BIDDER'S CHECKLIST OF REQUIRED ITEMS

This Bidder's Checklist is provided to ensure all required forms are completed and returned as part of the Bid submission. All forms must be included as indicated for a Bid to be considered a complete, responsive Bid. Appropriate signatures and date are required on each document. If an item is missing, the Bid may be declared unresponsive and therefore rejected as further set forth in the Instructions to Bidders. **This sheet will serve as the cover sheet for the Bid submission.**

	Completed*	Spec. Section
Acknowledgement of All Addenda	<input type="checkbox"/>	00 41 00
Bid contains the following forms:		
1. Bid Form/Proposal	<input type="checkbox"/>	00 41 00
2. Bid Bond	<input type="checkbox"/>	00 43 13
3. List of Proposed Subcontractors	<input type="checkbox"/>	00 43 36
4. Qualifications Statement	<input type="checkbox"/>	00 45 13
5. DBE Participation Reporting	<input type="checkbox"/>	00 45 39
6. Bidder Certifications	<input type="checkbox"/>	00 45 46
*Check when filled out, signed, and included with submission of bid packet.		

Seal (if incorporated) Bidder Name: _____

Address: _____

City, State, Zip Code: _____

Contractor Number: _____

Contact Name: _____

Title: _____

Contact Number: _____

Contact Email: _____

Signature of Authorized Agent for Bidder: _____

Date: _____

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00 41 00 BID FORM

ARTICLE 1 – BID RECIPIENT

- 1.01 This Bid is submitted to:
- SHELBY COUNTY COMMISSION**
200 West College Street, Room 123, Columbiana, AL 35051
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for **120** days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
- 2.02 In submitting this Bid, Bidder acknowledges and accepts Contractor's representations as more fully set forth in the Contract.
- 2.03 In submitting this Bid, Bidder certifies Bidder is qualified to do business in the State of Alabama as required by laws, rules and regulations or, if allowed by statute, covenants to obtain such qualification prior to contract award.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents that:
- A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following addenda:

Addendum No.

Addendum, Date

_____	_____
_____	_____
_____	_____
_____	_____

- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all laws and regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site

that have been identified in the Special Provisions, especially with respect to Technical Data in such reports and drawings.

- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.
- K. By submitting a bid/proposal under this solicitation, the Bidder understands that the bid/proposal is subjected to the Davis-Bacon Act, including prevailing wage rates and the Contract Work hours and Safety Standards Act.
- L. By submitting a bid/proposal, the Bidder understands that the bid/proposal is subjected to the Federal Aviation Administration requirements referenced in the Special Provisions.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

- 5.01 Bidder acknowledges that (1) each Bid unit price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.
- 5.02 Bidder will complete the Work in accordance with the Contract Documents for the enclosed prices.
- 5.03 **BID ALTERNATES**
 - A. The undersigned Bidder offers to make, at the bid alternate prices (Additive) following, the changes in the Work covered in the total bid price set forth in unit price schedule ("Total Base Bid Price") that are specified in the bid alternates priced below:
 - B. It is understood that:
 1. All bid alternate prices shall be filled in. The work detailed by the bid alternate(s) is an extension of the nature of the work for the Total Base Bid Price's project. This proposal requires that the undersigned Bidder propose on all work detailed by the Total Base Bid Price's project and the decrease in work as detailed by each and all of the bid alternates. Failure to comply with this requirement of submitting a price for each and all of the bid alternates may render the Bid non-responsive and may cause its rejection.
 2. The acceptance or rejection of any or all of these bid alternates is at the option of the Owner.
 3. Acceptance or rejection of bid alternates will not necessarily be made on the basis of price alone.
 4. The acceptance or rejection of one or more bid alternates will not affect the Total Base Bid Project bid, nor other conditions of this bid, nor the price of other accepted bid alternates.
 5. Reference Document 00 21 00, Article 19 for Method of Award.
 6. The undersigned has carefully examined the plans and other contractual documents and has coordinated the scopes between the Total Base Bid Documents and the Bid Alternate Documents. Through submittal of a bid, the undersigned agrees and understands that the documents have been prepared with the highest level of care in the effort to coordinate the scopes of the Total Base Bid Project documents and the Bid Alternate documents. The undersigned agrees and accepts the responsibilities to coordinate and construct all required interconnections and coordination facilities between the Total Base Bid Project and any of, any combination of, and/or a total combination of the Bid Alternates to develop complete and operational facilities that meet the regulatory requirements for the facilities and the requirements set forth by these contract documents.
- 5.04 **BID SCHEDULES**
 - A. Not used.

Shelby County Airport
Mass Storage Hangar T

BASE BID:

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	BID AMOUNT
1	SS-110-3.1	PERMANENT ALDOT 703-A SOLID YELLOW, CLASS 1 TYPE "A" TRAFFIC MARKINGS	SF	877		
2	SS-120-3.1	CONSTRUCTION SAFETY, SECURITY, AND SITE MANAGEMENT	LS	1		
3	SS-230-6.1	2-INCH ALDOT 424-A SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE LAYER, ¾" MAXIMUM AGGREGATE SIZE, ESAL E (PG 67-22)	TON	275		
4	SS-230-6.2	2-INCH ALDOT 424-A BITUMINOUS CONCRETE BINDER SURFACE LAYER, 1" MAXIMUM AGGREGATE SIZE, ESAL E (PG 67-22)	TON	185		
5	SS-230-6.3	VARIABLE DEPTH (0 - 1.5 INCH) ALDOT 424-A SUPERPAVE BITUMINOUS CONCRETE LEVELING SURFACE LAYER, ¾" MAXIMUM AGGREGATE SIZE, ESAL E (PG 67-22)	TON	14		
6	SS-295-28.1	MASS STORAGE HANGAR T (147'x80')	LS	1		
7	C-102-5.1a	TEMPORARY SEEDING AND MULCHING	SY	1,078		
8	C-102-5.1b	TEMPORARY SILT FENCE	LF	380		
9	C-102-5.1c	TEMPORARY WATTLE DITCH CHECK	LF	90		
10	C-105-6.1	MOBILIZATION (MAXIMUM 10% OF TOTAL BID)	LS	1		
11	D-701-5.1	15-INCH, CLASS III, REINFORCED CONCRETE PIPE	LF	27		
12	D-752-5.1	SLOPE PAVED HEADWALL (ALDOT SD# HW-614SP), 15-INCH RCP	EA	1		
13	P-101-5.1	PAVEMENT REMOVAL	SY	3,097		
14	P-101-5.2	PAVEMENT MARKINGS REMOVAL	SF	40		
15	P-101-5.3	PAVEMENT REPAIR	SY	377		
16	P-101-5.4	PAVEMENT MILLING	SY	1,138		
17	P-101-5.5	PIPE REMOVAL	LF	57		
18	P-101-5.6	SAWCUT FULL DEPTH	LF	391		

Shelby County Airport
Mass Storage Hangar T

19	P-152-4.1	EXCAVATION (UNCLASSIFIED)	CY	120		
20	P-152-4.2	EXCAVATION (BORROW)	CY	261		
21	P-152-4.3	EXCAVATION (UNSUITABLE)	CY	1,384		
22	P-209-5.1	CRUSHED AGGREGATE BASE COURSE, 6-INCH THICKNESS	SY	1,175		
23	P-602-5.1	EMULSIFIED ASPHALT PRIME COAT	GAL	353		
24	P-603-5.1	EMULSIFIED ASPHALT TACK COAT	GAL	278		
25	P-610-6.1	4-INCH CONCRETE SIDEWALK	SY	318		
26	P-610-6.2	4-INCH CONCRETE DITCH	SY	328		
27	T-904-5.1	SODDING	SY	1,078		

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ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Section 90-09 of the General Provisions on or before the dates or within the number of calendar days indicated in the Contract.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security (00 43 13);
 - B. List of Proposed Subcontractors (00 43 36)
 - C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - D. Contractor's License No.: _____ or Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;
 - E. Required Bidder Qualifications Statement (00 45 13) with supporting data; and
 - F. DBE Participation Reporting (00 45 39)
 - G. Bidder Certifications (00 45 46)

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Provisions, and the Special Provisions.

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ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By:

[Signature]

[Printed name]

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature]

[Printed name]

Title:

Submittal Date:

Address for giving notices:

Telephone Number:

Fax Number:

Contact Name and e-mail address:

Bidder's License No.:

(where applicable)

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**Shelby County Airport
Mass Storage Hangar T**

00 43 13 BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (Name, and Address of Principal Place of Business):

OWNER (*Name and Address*):
Shelby County Commission
200 West College Street, Room 123
Columbiana, AL 35051

BID

Bid Due Date:

Project Name: Shelby County Airport – Mass Storage Hangar T

BOND

Bond Number: _____

Date: _____

Penal sum _____ \$ _____

(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER		SURETY	
_____ (Seal)		_____ (Seal)	
Bidder's Name and Corporate Seal		Surety's Name and Corporate Seal	
By: _____	By: _____	By: _____	By: _____
Signature	Signature	Signature (Attach Power of Attorney)	Signature (Attach Power of Attorney)
_____	_____	_____	_____
Print Name	Print Name	Print Name	Print Name
_____	_____	_____	_____
Title	Title	Title	Title
Attest: _____	Attest: _____	Attest: _____	Attest: _____
Signature	Signature	Signature	Signature
_____	_____	_____	_____
Title	Title	Title	Title

*Note: Addresses are to be used for giving any required notice.
Provide execution by any additional parties, such as joint ventures, if necessary.*

Shelby County Airport
Mass Storage Hangar T

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any Performance bond and Payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

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00 43 36 LIST OF PROPOSED SUBCONTRACTORS

I, the undersigned Bidder, hereby certify that proposals from the following subcontractors were used in the preparation of my Bid. I agree that if I am the successful Bidder and if the following subcontracts are approved, I will not enter into contracts with others for these divisions of the work without prior written approval from the Engineer and the Owner.

If the responses below do not clearly indicate that the contract goal for DBE participation has been achieved, documentation shall be attached to clearly demonstrate to the satisfaction of the Owner that a *good faith effort* has been made as defined and described in Appendix A of 49 CFR Part 26. Firms qualified as a DBE for this project shall be certified by the Alabama DOT. Firms qualified as a small business enterprise (SBE) shall be certified by the US Small Business Administration or the Alabama Development Office.

For Annual Gross Receipts:

- Enter 1 for Less than \$1 Million
- Enter 2 for More than \$1 Million, Less than \$5 Million
- Enter 3 for More than \$5 Million, Less than \$10 Million
- Enter 4 for More than \$10 Million, Less than \$15 Million
- Enter 5 for More than \$15 Million

Type of Work:

Subcontractor's Name:.....

Alabama License No.:

Address:

DBE: Yes / No (circle one) Contract Amount:

SBE: Yes / No (circle one)

Date Firm Established:.....

Annual Gross Receipts (enter the range only):.....

Type of Work:

Subcontractor's Name:.....

Alabama License No.:

Address:

DBE: Yes / No (circle one) Contract Amount:

SBE: Yes / No (circle one)

Date Firm Established:.....

Annual Gross Receipts (enter the range only):.....

Shelby County Airport

Mass Storage Hangar T

Type of Work:

Subcontractor's Name:

Alabama License No.:

Address:

DBE: Yes / No (circle one) Contract Amount:

SBE: Yes / No (circle one)

Date Firm Established:

Annual Gross Receipts (enter the range only):

Type of Work:

Subcontractor's Name:

Alabama License No.:

Address:

DBE: Yes / No (circle one) Contract Amount:

SBE: Yes / No (circle one)

Date Firm Established:

Annual Gross Receipts (enter the range only):

Bidder (General Contractor):

Alabama License No.:

Address:

DBE: Yes / No (circle one)

SBE: Yes / No (circle one)

Date Firm Established:

Annual Gross Receipts (enter the range only):

By: *

Title:

Percent of Contract to be Completed by DBE:

*Signature must be the same as on the Bid form.

Notes:

- (1) This form must be completed and submitted with *good faith effort* documentation provided in the sealed Bid to be considered responsive at the time of the bid opening.
- (2) Bidder and subcontractors shall have evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids.

00 43 43 WAGE RATES

WAGE RATES FOR HANGAR CONSTRUCTION

General Decision Number: AL20230096 01/27/2023

Superseded General Decision Number: AL20220096

State: Alabama

Construction Type: Building

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories)

County: Shelby County in Alabama.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 14026 generally applies to the contract.. The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January	<ul style="list-style-type: none">. Executive Order 13658 generally applies to the contract.. The contractor must pay all covered workers at least

Shelby County Airport
Mass Storage Hangar T

30, 2022:	\$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.
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The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	01/27/2023

ASBE0078-001 09/30/2022

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 29.65	15.11

BOIL0108-001 01/01/2021

	Rates	Fringes
BOILERMAKER.....	\$ 30.49	23.13

CARP0318-002 09/01/2020

	Rates	Fringes
CARPENTER (Includes Drywall Finishing/Taping, Drywall Hanging, Form Work, and Scaffold Builder).....	\$ 27.21	11.66

ENGI0312-017 10/01/2013

Rates	Fringes
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Shelby County Airport
Mass Storage Hangar T

POWER EQUIPMENT OPERATOR

Backhoe, Excavator,		
Trackhoe.....	\$ 27.05	11.38
Crane.....	\$ 26.05	11.38
Forklift.....	\$ 27.05	11.38

* IRON0092-003 09/01/2022

	Rates	Fringes
IRONWORKER, STRUCTURAL.....	\$ 31.11	13.13

* IRON0092-007 09/01/2022

	Rates	Fringes
IRONWORKER, REINFORCING.....	\$ 31.11	13.13

PLUM0091-001 09/01/2022

	Rates	Fringes
PIPEFITTER (Includes HVAC Pipe Installation).....	\$ 30.50	14.11

* SUAL2015-024 08/02/2017

	Rates	Fringes
BRICKLAYER.....	\$ 22.00	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 19.19	0.00
ELECTRICIAN.....	\$ 17.57	2.41
GLAZIER.....	\$ 23.00	5.64
LABORER: Common or General.....	\$ 15.75 **	4.19
LABORER: Mason Tender - Brick...	\$ 12.22 **	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 14.23 **	0.00
LABORER: Pipelayer.....	\$ 15.59 **	0.00
OPERATOR: Bulldozer.....	\$ 19.96	0.40

Shelby County Airport
Mass Storage Hangar T

OPERATOR: Grader/Blade.....	\$ 17.52	0.89
OPERATOR: Loader.....	\$ 14.69 **	0.00
OPERATOR: Roller.....	\$ 14.00 **	1.78
PAINTER (Brush and Roller).....	\$ 15.31 **	1.41
PAINTER: Spray.....	\$ 14.31 **	0.00
PLUMBER, Excludes HVAC Pipe Installation.....	\$ 18.97	0.36
ROOFER.....	\$ 13.66 **	0.00
SHEET METAL WORKER, Includes HVAC Duct Installation.....	\$ 28.00	4.17
SPRINKLER FITTER (Fire Sprinklers).....	\$ 20.00	3.77
TILE SETTER.....	\$ 20.00	0.00
TRUCK DRIVER: Dump Truck.....	\$ 13.60 **	0.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====

** Workers in this classification may be entitled to a higher
minimum wage under Executive Order 14026 (\$16.20) or 13658
(\$12.15). Please see the Note at the top of the wage
determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any
solicitation was issued) on or after January 1, 2017. If this
contract is covered by the EO, the contractor must provide
employees with 1 hour of paid sick leave for every 30 hours
they work, up to 56 hours of paid sick leave each year.
Employees must be permitted to use paid sick leave for their
own illness, injury or other health-related needs, including
preventive care; to assist a family member (or person who is
like family to the employee) who is ill, injured, or has other
health-related needs, including preventive care; or for reasons
resulting from, or to assist a family member (or person who is

like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average

rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

Shelby County Airport
Mass Storage Hangar T

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

WAGE RATES FOR SITE WORK AND PAVING

General Decision Number: AL20230168 01/06/2023

Superseded General Decision Number: AL20220168

State: Alabama

Construction Type: Highway

County: Shelby County in Alabama.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 14026 generally applies to the contract.. The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 13658 generally applies to the contract.. The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination,

Shelby County Airport
Mass Storage Hangar T

	if it is higher) for all hours spent performing on that contract in 2023.
--	---

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023

ENGI0312-002 09/01/2019

	Rates	Fringes
POWER EQUIPMENT OPERATOR (Drill).....	\$ 24.15	9.36

SUAL2019-047 11/13/2019		

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 18.72	0.00
ELECTRICIAN.....	\$ 19.73	0.00
FORM WORKER.....	\$ 16.21	0.00
HIGHWAY/PARKING LOT STRIPING: Laborer.....	\$ 11.95 **	0.00
HIGHWAY/PARKING LOT STRIPING: Operator (Striping Machine).....	\$ 20.32	0.00
HIGHWAY/PARKING LOT STRIPING: Truck Driver (Line Striping Truck).....	\$ 14.62 **	0.00
INSTALLER - GUARDRAIL.....	\$ 17.24	0.00

Shelby County Airport
Mass Storage Hangar T

IRONWORKER, REINFORCING.....	\$ 17.97	0.00
IRONWORKER, STRUCTURAL.....	\$ 22.40	0.00
LABORER GRADE CHECKER.....	\$ 14.51 **	0.00
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 13.48 **	0.00
LABORER: Common or General.....	\$ 13.54 **	0.00
LABORER: Concrete Worker.....	\$ 14.57 **	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 12.41 **	0.00
LABORER: Pipelayer.....	\$ 16.50	0.00
LABORER: Erosion Control.....	\$ 10.91 **	0.00
OPERATOR: Asphalt Spreader.....	\$ 16.79	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 16.55	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 13.88 **	0.00
OPERATOR: Broom/Sweeper.....	\$ 13.07 **	0.00
OPERATOR: Bulldozer.....	\$ 18.80	0.00
OPERATOR: Concrete Saw.....	\$ 17.97	0.00
OPERATOR: Crane.....	\$ 23.25	0.00
OPERATOR: Distributor.....	\$ 17.44	0.00
OPERATOR: Dragline.....	\$ 25.95	11.25
OPERATOR: Grader/Blade.....	\$ 17.81	0.00
OPERATOR: Loader.....	\$ 16.57	0.00
OPERATOR: Material Transfer Vehicle.....	\$ 16.89	0.00
OPERATOR: Mechanic.....	\$ 21.67	0.00

Shelby County Airport
Mass Storage Hangar T

OPERATOR: Milling Machine.....\$ 16.42	0.00
OPERATOR: Oiler.....\$ 16.83	0.00
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....\$ 17.41	0.00
OPERATOR: Roller.....\$ 15.43 **	0.00
OPERATOR: Scraper.....\$ 13.30 **	0.00
OPERATOR: Tractor.....\$ 12.50 **	0.00
OPERATOR: Aggregate Spreader.....\$ 15.81 **	0.00
PAINTER (Brush and Roller).....\$ 15.97 **	1.27
TRAFFIC CONTROL: Flagger.....\$ 11.84 **	0.00
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....\$ 12.38 **	0.00
TRUCK DRIVER: Dump Truck.....\$ 15.23 **	0.00
TRUCK DRIVER: Flatbed Truck.....\$ 15.00 **	0.00
TRUCK DRIVER: Lowboy Truck.....\$ 17.86	0.00
TRUCK DRIVER: Pickup Truck.....\$ 15.97 **	0.00
TRUCK DRIVER: Semi-Trailer Truck.....\$ 15.56 **	0.00
TRUCK DRIVER: Water Truck.....\$ 13.47 **	0.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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Shelby County Airport
Mass Storage Hangar T

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

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U.S. Department of Labor
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Washington, DC 20210

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Wage and Hour Administrator
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Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

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Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

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00 45 13 QUALIFICATIONS STATEMENT

<p>THE INFORMATION SUPPLIED IN THIS DOCUMENT IS CONFIDENTIAL TO THE EXTENT PERMITTED BY LAWS AND REGULATIONS</p>

1. SUBMITTED BY:

Official Name of Firm:

Address:

2. SUBMITTED FOR:

Owner:

SHELBY COUNTY COMMISSION

Project Name:

MASS STORAGE HANGAR T

TYPE OF WORK:

Hangar Construction

3. CONTRACTOR'S CONTACT INFORMATION

Contact Person:

Title:

Phone:

Email:

4. AFFILIATED COMPANIES:

Name:

Address:

5. TYPE OF ORGANIZATION:

☐ SOLE PROPRIETORSHIP

Name of Owner:

Doing Business As:

Date of Organization:

☐ PARTNERSHIP

Date of Organization:

Type of Partnership:

Name of General Partner(s):

☐ CORPORATION

State of Organization:

Date of Organization:

Executive Officers:

- President:

- Vice President(s):

- Treasurer:

- Secretary:

☐ LIMITED LIABILITY COMPANY

State of Organization:

Date of Organization:

Members:

Shelby County Airport
Mass Storage Hangar T

☐ JOINT VENTURE

Sate of Organization:

Date of Organization:

Form of Organization:

Joint Venture Managing Partner

- Name:

- Address:

Joint Venture Managing Partner

- Name:

- Address:

Joint Venture Managing Partner

- Name:

- Address:

6. LICENSING

Jurisdiction:

Type of License:

License Number:

Jurisdiction:

Type of License:

License Number:

Has firm listed in Section 1 ever been fined or suspended by a Contractor's licensing board?

☐ YES ☐ NO

If YES, attach as an Attachment details including where and why.

7. CERTIFICATIONS

CERTIFIED BY:

Disadvantage Business Enterprise:

Minority Business Enterprise:

Woman Owned Enterprise:

Small Business Enterprise:

Other (_____):

8. BONDING INFORMATION

Bonding Company:

Address:

Bonding Agent:

Address:

Contact Name:

Phone:

Aggregate Bonding Capacity:

Available Bonding Capacity as of date of this submittal:

9. FINANCIAL INFORMATION

Financial Institution:

Address:

Account Manager:

Phone:

Credit available:

\$ _____

10. CONSTRUCTION EXPERIENCE:

Current Experience:

List on **Schedule A** all uncompleted projects currently under contract (If Joint Venture list each participant's projects separately).

Previous Experience:

List on **Schedule B** all projects completed within the last 5 Years (If Joint Venture list each participant's projects separately).

Has firm listed in Section 1 ever failed to complete a construction contract awarded to it?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Has any Corporate Officer, Partner, Joint Venture participant or Proprietor ever failed to complete a construction contract awarded to them in their name or when acting as a principal of another entity?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Are there any judgments, claims, disputes or litigation pending or outstanding involving the firm listed in Section 1 or any of its officers (or any of its partners if a partnership or any of the individual entities if a joint venture)?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

11. SAFETY PROGRAM:

Name of Contractor's Safety Officer: _____

Include the following as attachments:

If requested after the bid, provide as an Attachment Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) OSHA No. 300- Log & Summary of Occupational Injuries & Illnesses for the past 5 years.

If requested after the bid, provide an Attachment Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) list of all OSHA Citations & Notifications of Penalty (monetary or other) received within the last 5 years (indicate disposition as applicable) - IF NONE SO STATE.

If requested after the bid, provide as an Attachment Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) list of all safety citations or violations under any state all received within the last 5 years (indicate disposition as applicable) - IF NONE SO STATE.

Shelby County Airport
Mass Storage Hangar T

Provide the following for the firm listed in Section 1 (and for each proposed subcontractor and supplier furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) the following (attach additional sheets as necessary):

Workers' compensation Experience Modification Rate (EMR) for the last 5 years:

YEAR	_____	EMR	_____
YEAR	_____	EMR	_____
YEAR	_____	EMR	_____
YEAR	_____	EMR	_____
YEAR	_____	EMR	_____

Total Recordable Frequency Rate (TRFR) for the last 5 years:

YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____

Total number of man-hours worked for the last 5 Years:

YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____

Provide Contractor's (and Contractor's proposed subcontractors and suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) Days Away From Work, Days of Restricted Work Activity or Job Transfer (DART) incidence rate for the particular industry or type of Work to be performed by Contractor and each of Contractor's proposed subcontractors and suppliers) for the last 5 years:

YEAR	_____	DART	_____
YEAR	_____	DART	_____
YEAR	_____	DART	_____
YEAR	_____	DART	_____
YEAR	_____	DART	_____

12. EQUIPMENT:

MAJOR EQUIPMENT:

List on **Schedule C** all pieces of major equipment available for use on project.

13. ELECTRICAL EXPERIENCE:

Provide background and experience of the Master Electrician(s) licensed in state of Alabama (issued by the Alabama Electrical Contractors Board) who have proper skills in supervising, performing, and maintaining the electrical work.

14. ERECTOR EXPERIENCE:

Name of erection company: _____

Permanent main office address: _____

When organized: _____

If a corporation, where incorporated: _____

How many years has the company been engaged in the erection of metal buildings? _____

List relevant building erection projects recently completed by the company, stating the location, building manufacturer, building type, size, month and year of completion:

Location	Building Manufacturer	Building Type	Building Size	Completion Date

List experience in aircraft hangar erection or other construction similar to this project.

Airport	Hangar Manufacturer	Type and Size	Completion Date

Shelby County Airport
Mass Storage Hangar T

List the hangar manufacturer proposed for erection and submit evidence of past experience with said hangar manufacturer.

I HEREBY CERTIFY THAT THE INFORMATION SUBMITTED HERewith, INCLUDING ANY ATTACHMENTS, IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NAME OF ORGANIZATION: _____

BY: _____

TITLE: _____

DATED: _____

NOTARY ATTEST:

SUBSCRIBED AND SWORN TO BEFORE ME

THIS _____ DAY OF _____, 2023.

NOTARY PUBLIC - STATE OF _____

MY COMMISSION EXPIRES: _____

REQUIRED ATTACHMENTS

1. Schedule A (Current Experience)*.
2. Schedule B (Previous Experience)*.
3. Schedule C (Major Equipment)*.
4. Evidence of authority for individuals listed in Section 5 to bind organization to an agreement.
5. Resumes of officers and key individuals (including Safety Officer) of firm named in Section 1.
6. Required safety program submittals listed in Section 11.
7. Resumes and licenses of key electrical individuals requested in Section 13.

*Information may be provided on form attached or bidder provided form containing similar information.

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SCHEDULE A

CURRENT EXPERIENCE

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				

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SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				

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SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				

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SCHEDULE C - LIST OF MAJOR EQUIPMENT AVAILABLE

[illegible]

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00 45 39 DBE PARTICIPATION REPORTING

Disadvantaged Business Enterprise (DBE) Utilization

The undersigned Bidder has satisfied the requirements of the bid requirement in the following manner (please check the appropriate space):

☐ The Bidder is committed to a minimum 3.40% DBE utilization on this Project under the resulting Contract.

☐ The Bidder (if unable to meet the DBE goal of 3.40%) is committed to a minimum of ____% utilization on this Project under the resulting Contract and submits documentation demonstrating *good faith efforts*.

Name of Bidder: _____

By: _____
(Signature of Bidder's Representative) (Title)

Printed Name: _____

Note:

In accordance with CFR part 26.55, 60% of the value of materials or supplies purchased from a *DBE dealer* counts toward the DBE goal. Materials or supplies obtained from a *DBE manufacturer* count 100% of the cost of materials or supplies.

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Shelby County Airport
Mass Storage Hangar T

Complete the following for each DBE Firm to be used on the Project.

Name of Bidder's Firm:	
------------------------	--

Name of DBE Firm:	
Address:	
City, State, Zip:	
Telephone(s):	
Please indicated the DBE gender: <input type="checkbox"/> Men <input type="checkbox"/> Women	Please indicate the DBE ethnicity: <input type="checkbox"/> Black American <input type="checkbox"/> Asian Pacific American <input type="checkbox"/> Native American <input type="checkbox"/> Subcont. Asian American <input type="checkbox"/> Hispanic American <input type="checkbox"/> Non-Minority <input type="checkbox"/> Other
Description of Work to be performed by DBE firm:	

The Bidder is committed to utilizing the above-named DBE firm for the work described above. The estimated dollar value of this work is \$ _____ .

Affirmation:

The above-named DBE firm affirms that it will perform the portion of the Contract for the estimated value as stated above.

By: _____
(DBE Signature) (Title)

Printed Name: _____

If the Bidder does not receive award of the Contract, any and all representation in this Participation Report shall be null and void.

(Submit this page for each DBE subcontractor.)

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Schedule of DBE Unavailability

Complete the following schedule if DBE goal is not met. Include DBE contractors that were contacted but unable to complete work on the Project.

(Name of Contractor under Contract with Owner)

Name of DBE Subcontractor	Contact Person	Contact Number	Description of Work to be performed by DBE firm	Reason Unavailable

The undersigned certifies that the above DBE(s) was/were contacted, in good faith, and the said DBE(s) was/were unable to submit an acceptable responsive bid. Failure to fill out DBE forms is a ground for rejection of the Bid. The making of a material misrepresentation is a ground for consideration for disqualification.

By: _____
(Signature) (Title) (Date)

Printed Name: _____

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00 45 46 BIDDER CERTIFICATIONS

BUY AMERICAN CERTIFICATION

Contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP-funded projects are produced in the United States, unless the FAA has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

A Bidder must submit the Buy America certification (below) with all bids or offers on AIP funded projects. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive.

CERTIFICATE OF BUY AMERICAN COMPLIANCE FOR MANUFACTURED PRODUCTS
(Non-building construction projects, equipment acquisition projects)

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with its proposal. The bidder or offeror must indicate how it intends to comply with 49 USC § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (i.e., not both) by inserting a checkmark (✓) or the letter "X".

☐ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101, BABA and other related U.S. statutes, guidance, and policies of the FAA by:

- a) Only installing iron, steel and manufactured products produced in the United States;
- b) Only installing construction materials defined as: an article, material, or supply – other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber or drywall that have been manufactured in the United States.
- c) Installing manufactured products for which the Federal Aviation Administration (FAA) has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
- d) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

- a) To provide to the Airport Sponsor or the FAA evidence that documents the source and origin of the iron, steel, and/or manufactured product.
- b) To faithfully comply with providing U.S. domestic products.
- c) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.
- d) Certify that all construction materials used in the project are manufactured in the U.S.

- ☐ The bidder or offeror hereby certifies it cannot comply with the 100 percent Buy American Preferences of 49 USC § 50101(a) but may qualify for a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:
- a) To the submit to the Airport Sponsor or FAA within 15 calendar days of being selected as the responsive bidder, a formal waiver request and required documentation that supports the type of waiver being requested.
 - b) That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.
 - c) To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
 - d) To furnish U.S. domestic product for any waiver request that the FAA rejects.
 - e) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 2 Waiver (Nonavailability) - The iron, steel, manufactured goods or construction materials or manufactured goods are not available in sufficient quantity or quality in the United States. The required documentation for the Nonavailability waiver is

- a) Completed Content Percentage Worksheet and Final Assembly Questionnaire
- b) Record of thorough market research, consideration where appropriate of qualifying alternate items, products, or materials including;
- c) A description of the market research activities and methods used to identify domestically manufactured items capable of satisfying the requirement, including the timing of the research and conclusions reached on the availability of sources.

Type 3 Waiver – The cost of components and subcomponents produced in the United States is more than 60 percent of the cost of all components and subcomponents of the “facility/project.” The required documentation for a Type 3 waiver is:

- a) Completed Content Percentage Worksheet and Final Assembly Questionnaire including;
- b) Listing of all manufactured products that are not comprised of 100 percent U.S. domestic content (excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
- c) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly and installation at project location.
- d) Percentage of non-domestic component and subcomponent cost as compared to total “facility” component and subcomponent costs, excluding labor costs associated with final assembly and installation at project location.

Shelby County Airport

Mass Storage Hangar T

Type 4 Waiver (Unreasonable Costs) - Applying this provision for iron, steel, manufactured goods or construction materials would increase the cost of the overall project by more than 25 percent. The required documentation for this waiver is:

- a) A completed Content Percentage Worksheet and Final Assembly Questionnaire from
- b) At minimum two comparable equal bids and/or offers;
- c) Receipt or record that demonstrates that supplier scouting called for in Executive Order 14005, indicates that no domestic source exists for the project and/or component;
- d) Completed waiver applications for each comparable bid and/or offer.

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

Date

Signature

Company Name

Title

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Shelby County Airport
Mass Storage Hangar T

CERTIFICATION OF BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

Bidder must complete the following two certification statements. The Bidder must indicate its current status as it relates to tax delinquency and felony conviction by inserting a checkmark (✓) in the space following the applicable response. Bidder agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

- 1) The applicant represents that it is () is not () a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- 2) The applicant represents that it is () is not () a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note:

If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the Sponsor has received notification from the agency suspension and debarment official (SDO) that the SDO has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information to the owner about its tax liability or conviction to the Owner, who will then notify the FAA Airports District Office, which will then notify the agency's SDO to facilitate completion of the required considerations before award decisions are made.

Term Definitions

Felony conviction: Felony conviction means a conviction within the preceding twenty-four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 U.S.C. § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

Certification - The information above is true and complete to the best of my knowledge and belief.

Name and Title of Signer (Please Type)

Signature

Date

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CERTIFICATION OF NONSEGREGATED FACILITIES

The federally-assisted construction contractor certifies that it does not maintain or provide, for its employees, any segregated facilities at any of its establishments and that it does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The federally-assisted construction contractor certifies that it will not maintain or provide, for its employees, segregated facilities at any of its establishments and that it will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The federally-assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms, and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directives or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The federally-assisted construction contractor agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause and that it will retain such certifications in his files.

**NOTICE TO PROSPECTIVE CONTRACTORS OF REQUIREMENTS FOR
CERTIFICATION OF NONSEGREGATED FACILITIES**

1. This Certification of Non-segregated Facilities shall be submitted prior to the award of the construction contract.
2. The awarded Contractor will be required to provide for the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

Certification - The information above is true and complete to the best of my knowledge and belief.

Name and Title of Signer (Please Type)

Signature

Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

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Shelby County Airport
Mass Storage Hangar T

CERTIFICATION REGARDING DEBARMENT AND SUSPENSION

By submitting a Bid under this solicitation, the Bidder certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

Certification - The information above is true and complete to the best of my knowledge and belief.

Name and Title of Signer (Please Type)

Signature

Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

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SHELBY COUNTY, ALABAMA
PUBLIC WORKS CONTRACT
For Projects Over \$50,000
Act 97-225

THIS AGREEMENT, entered into as of this _____ day of _____ by and between SHELBY COUNTY, ALABAMA, a political subdivision of the State of Alabama (hereinafter called the COUNTY) and _____ (hereinafter called the CONTRACTOR). This agreement concerns: MASS HANGAR T, as described in the noted attached plans index, specifications index, project issued addenda _____ and the contractor's bid (herein called the PROJECT).

WITNESSETH THAT:

WHEREAS, the COUNTY is currently involved in the planned construction of the PROJECT as specified in design and bid specifications dated _____, which said design and bid specifications are incorporated into this Contract by reference and made part and parcel hereof as fully as if set out herein. (See also attached bid by CONTRACTOR on the _____) and

WHEREAS, CONTRACTOR submitted the lowest responsive and responsible bid for the construction of the PROJECT; and

WHEREAS, the COUNTY desires to engage and contract with the CONTRACTOR to provide technical, professional, and construction services and to construct and complete the PROJECT herein described; and

WHEREAS, the CONTRACTOR desires to contract to provide technical, professional, and construction services and to complete the construction of the PROJECT herein described:

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, the COUNTY and the CONTRACTOR do hereby mutually agree, covenant, and contract as follows:

Section 1. CONTRACTOR

The COUNTY agrees to engage the CONTRACTOR, and the CONTRACTOR hereby agrees, to perform the construction services hereinabove and hereinafter set forth, and to construct the PROJECT described within this Contract in accord with the accompanying plans and specifications in a good, competent, and workmanlike manner as requested and determined by the COUNTY and in strict compliance with the design and bid specifications for such PROJECT as referenced in other portions of this Contract.

The CONTRACTOR will supply to the COUNTY prior to the commencing of work the following documents, together with any other documents as are required by Alabama law:

- A) Certificate of Insurance (with unconditional cancellation clause), said insurance in the amounts as specified in the contract documents and as approved by the COUNTY.
- B) Section 84 Business License, Applicable City Business License and all other licenses required by law to complete this project
- C) The CONTRACTOR will furnish to the COUNTY a performance bond equaling the total bid amount of the PROJECT payable to the COUNTY, which said bond shall be in form and substance as approved by the COUNTY. The CONTRACTOR shall also execute and furnish to the COUNTY a payment bond securing the CONTRACTOR'S obligation to pay for all labor, materials, or supplies for work done pursuant to this contract, which said payment bond shall be in an amount equal to fifty percent (50%) of the total contract price and shall be in form and substance as approved by the COUNTY. Said payment bond shall also provide bonded coverage to cover and to compensate for reasonable attorney fees incurred by a successful party in civil actions brought on the bond and ordered to be paid by a court of competent jurisdiction.
- D) The CONTRACTOR shall comply with all applicable laws, ordinances, and codes of the U. S. Government, the State of Alabama, any relevant municipality, and the COUNTY, and, specifically and without limitation, shall comply with all provisions of the Beason-Hammond Alabama Taxpayer and Citizen Protection Act, commonly referred to as the Immigration Act, and amendments thereto adopted from time to time during the performance of this Contract, and shall document CONTRACTOR'S compliance with said law and submit to the COUNTY or at the direction of COUNTY any and all affidavits and proof as are from time to time required by law or required by COUNTY.

The CONTRACTOR, by the execution of this Contract, certifies and confirms that it is, at the time of the signing of this document, in full compliance with the aforesaid Beason-Hammond Alabama Taxpayer and Citizen Protection Act, and further agrees that upon request from the COUNTY it will execute and file and take such action as is deemed by the COUNTY to be necessary to verify the CONTRACTOR's continuing compliance therewith.

Section 2. Scope of Services

The CONTRACTOR shall provide all construction services, work and labor, and other professional and technical services to complete the PROJECT herein described, which shall include, but not necessarily be limited to, the activities, plans, and specifications described in the construction drawings, specifications, bid and related documents.

Section 3. Time of Performance

The CONTRACTOR shall begin work on the PROJECT upon the execution of this Contract and issuance of a Notice to Proceed. The work will continue, uninterrupted, for a period of time not to exceed one hundred twenty (120) calendar days beginning after receiving Notice to Proceed from the COUNTY. Said work to be completed in a good and workmanlike manner by the CONTRACTOR within the period of time specified.

Section 4. General Provisions

- (a) *Personnel.* The CONTRACTOR warrants that it has the expertise, professional personnel, and adequate work force capable of performing this Contract, as called for herein, in a satisfactory and proper manner, in accord with highest industry standards, or will secure the services of such personnel as may be required to perform such services, construct said PROJECT, and perform its obligations pursuant to this Contract.
- (b) *Office Space.* The CONTRACTOR agrees to provide and maintain the office space and facilities required to perform all services as called for under this Contract, at no expense to the COUNTY.
- (c) *Subcontracts.* None of the work or services covered by this contract shall be subcontracted without the prior approval of the COUNTY. Any work or services subcontracted hereunder shall be specified by written contract or agreement and shall be subject to each provision of this contract.
- (d) *Access to Materials.* The COUNTY agrees to make available to the CONTRACTOR, upon request, any maps, documents, and planning materials or any other information in its possession or otherwise readily available, which has a direct bearing on the PROJECT, at no expense to the CONTRACTOR.

- (e) *Communications.* The representatives of the COUNTY and the CONTRACTOR to whom communications regarding the PROJECT which is the subject of this contract should be directed are as follows:

(1) COUNTY: Trey Gauntt, PE, Manager,
 Shelby County Department of Facilities and General Services
 280 McDow Road
 Columbiana, Alabama 35051
 (205) 670-6461
 Email: trey@shelbyal.com

(2) ENGINEER: Jennifer Harp, Project Manager
 Garver
 5125A Research Drive _____
 Huntsville, AL 35805
 (256) 527-4121
 Email: JHHarp@GarverUSA.com

(3) CONTRACTOR: _____

- (f) The CONTRACTOR shall perform the work and complete the PROJECT in accord with all laws of the State of Alabama, all laws of the United States of America, relevant municipal laws, and to the satisfaction of the COUNTY. Work will be performed by the CONTRACTOR under the direct supervision of the representative of the COUNTY, who will have sole authority of deciding if work conditions, such as weather, temperature, roadway conditions, and other details of construction are complied with by the CONTRACTOR. At the discretion of the COUNTY, work may be stopped or delayed at any time until conditions are appropriate, in the opinion of the COUNTY, in order that optimum results and work quality may be obtained from the PROJECT in the best interest of the COUNTY. The decision of the COUNTY upon any questions connected with the performance of this Contract or any failure or delay in the prosecution of the work by the CONTRACTOR shall be final and conclusive.

- (g) Attachment A - Supplemental Conditions is hereby incorporated as part of this contract.

Section 5. Compensation and Method of Payment

(a) For services satisfactorily rendered under this Contract and approved by COUNTY, the COUNTY agrees to pay the CONTRACTOR for fulfillment of the terms and conditions of this Contract as specified in the specifications and bid documents. The total amount to be paid under this section for services shall not exceed _____ (\$_____). Such payment shall, if due, be made monthly at the end of each calendar month, but in no case later than forty-five (45) days after the acceptance by COUNTY that the estimate and terms of the contract providing for partial payment have been fulfilled. In preparing estimates, the material delivered on the site, materials suitably store, and insured off-site, and preparatory work done may be taken into consideration by COUNTY. If the amount due by COUNTY is not in dispute and the amount payable is not paid within the forty-five (45) day period, the CONTRACTOR shall be entitled to interest from COUNTY at the rate assessed for underpayment of taxes under Section 40-1-44(a), Code of Alabama 1975, on the unpaid balance due. Interest payments shall not be due on payments made after the forty-five (45) day period because of administrative or processing delays at the close of the fiscal year. In making the partial payments, there shall be retained not more than five percent (5%) of the estimated amount of work done and the value of materials stored on the site or suitably stored and insured off-site, and after fifty percent (50%) completion has been accomplished and approved by COUNTY, no further retainage shall be withheld. The retainage as set out herein shall be held until final completion and acceptance of all work covered by the contract. Retainage shall be held until all work has been completed to COUNTY's satisfaction. The CONTRACTOR, upon completion and acceptance by COUNTY of the work, shall give notice of completion of PROJECT by advertising in the Shelby County Reporter. The advertisement must run four consecutive weeks. After receiving the affidavit from the newspaper publisher and a copy of the notice published and acceptance by the COUNTY, final settlement will be made as the same is due.

(b) PROVISIONS OUTLINING THE SOURCE OF SUFFICIENT FUNDS TO BE UTILIZED BY COUNTY TO FULFILL COUNTY'S OBLIGATIONS UNDER THIS CONTRACT (indicate which applies by entering an appropriate mark opposite the following):

 X The funds to be utilized by COUNTY to fulfill its obligation under this contract are funds which are held by COUNTY at the time of the execution of this contract or will become available at a date following the execution of the contract.

 The source of funds to be utilized by COUNTY in fulfilling its obligation under this contract is a grant, award, or direct reimbursement from the State, federal government, or other source which will not become available until after the execution of this contract, and the provision of this contract requiring prompt payment shall not apply until COUNTY is in receipt of the funds as provided in the contract. Upon receipt of such funds, the forty-five (45) day requirement specified in this contract shall commence and shall be enforceable as provided herein.

Section 6. Terms and Conditions

(a) *Termination of Contract for Cause/Breach of Contract.* If through any cause the CONTRACTOR shall fail to fulfill in a timely and proper manner its obligations under this Contract, or if the CONTRACTOR shall violate any of the covenants, agreements, or stipulations of this Contract, the COUNTY shall thereupon have the right to terminate this Contract by giving written notice to the CONTRACTOR of such termination and specifying the effective date of such termination. In such event, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, and reports, or other materials prepared by the CONTRACTOR under this Contract or during the construction performance, shall, at the option of the COUNTY, become its property.

Notwithstanding the above, the CONTRACTOR shall not be relieved of liability to the COUNTY for damages sustained by the COUNTY by virtue of any breach of the Contract by the CONTRACTOR, and the COUNTY may withhold any payments to the CONTRACTOR for the purpose of set-off until such time as the exact amount of damages due the COUNTY from the CONTRACTOR is determined.

(b) *Termination for Convenience of the COUNTY.* The COUNTY may terminate this Contract at any time, with or without just cause, by giving written notice to the CONTRACTOR of such termination and specifying the effective date thereof, at least thirty (30) days prior to the effective date of such termination. In such event, all finished or unfinished documents and other materials, as described in the above clause, shall, at the option of the COUNTY, become its property. If the Contract is terminated by the COUNTY as provided in this subparagraph (b), the CONTRACTOR shall be entitled to receive just and equitable compensation for any work satisfactorily completed on said PROJECT.

(c) *Changes.* The COUNTY may, from time to time, request changes of the CONTRACTOR in the scope of services to be performed hereunder. Such changes, or renegotiation, including any increase or decrease in the amount of the CONTRACTOR's compensation, which is mutually agreed upon by and between the COUNTY and the CONTRACTOR, shall be incorporated in written amendments to this Contract. The Contract can be extended under mutually agreed provisions through a written amendment to this document.

(d) *Assignability.* The CONTRACTOR shall not assign any interest in this Contract, and shall not transfer any interest in the same whether by assignment or novation, without the prior written consent of the COUNTY provided, however, that claims for money by the CONTRACTOR from the COUNTY under this Contract may be assigned to a bank, trust company, or other financial institution without such approval. Written notice of any such assignment or transfer shall be promptly furnished to the COUNTY.

This Contract shall be binding upon and inure to the benefit of any successor to the COUNTY and such successor shall be deemed substituted for the COUNTY under the terms of this

Contract. As used in this Contract, the term “successor” shall include any person, firm, employer, or other business entity which at any time, whether by merger, purchase, or otherwise, which assumes or is assigned responsibility of the COUNTY for the covered PROJECT. This Contract shall also be binding upon and inure to the benefit of the CONTRACTOR, his successors, executors, and administrators.

(e) *Reports and Information.* The CONTRACTOR, at such times and in such forms as the COUNTY may require, shall furnish to the COUNTY such periodic reports as it may request pertaining to the work or services undertaken pursuant to this Contract, the costs and obligations incurred or to be incurred in connection therewith, and any other matters covered by this Contract.

(f) *Findings Confidential.* All of the reports, information, data, etc., given to or prepared or assembled by the CONTRACTOR under this Contract are confidential, and the CONTRACTOR agrees that they shall not be made available to any individual or organization without the prior written approval of the COUNTY.

(g) *Waiver of Trial by Jury.* The parties to this Contract desire to avoid the additional time and expense related to a jury trial of any disputes arising hereunder. Therefore, it is mutually agreed by and between the parties hereto, and for their successors and assigns, that they shall and hereby waive trial by jury of any claim, counterclaim, or third-party claim, including any and all claims of injury or damages, brought by either party against the other arising out of or in any way connected with this Contract and the relationship which arises herefrom. The parties acknowledge and agree that this waiver is knowingly, freely, and voluntarily given, is desired by both parties, and is in the best interest of both parties.

(h) *Compliance with Local Laws.* The CONTRACTOR shall, throughout the performance of this Contract, comply with all applicable laws, ordinances, and codes of the U. S. Government, the State of Alabama, any relevant municipality, and the COUNTY, and, specifically and without limitation, shall comply with all provisions of the Beason-Hammond Alabama Taxpayer and Citizen Protection Act, commonly referred to as the Immigration Act, as amended from time to time during the performance of this Contract, and shall document CONTRACTOR’s compliance with said law and submit to the COUNTY or at the direction of COUNTY any and all affidavits and proof as are from time to time required by law or required by COUNTY .

(i) *Audits and Inspection/Access to Records/Record Retention.* At any time during normal business hours, with prior arrangement and as often as the COUNTY may deem necessary, the CONTRACTOR shall make available to the COUNTY for examination all of its records with respect to matters covered by this Contract and will permit the COUNTY to audit, examine, and make excerpts or transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions of employment, and other data relating to all matters covered by this Contract.

The CONTRACTOR shall retain all books, documents, papers, and records which are directly pertinent to this contract for a period of six (6) years following completion of the contracted work and expiration of the Contract, unless written permission to destroy them is granted by the COUNTY.

(j) *Interest of Members of the COUNTY and Other Local Public Officials.* No officer, member, or employee of the COUNTY and no member of its governing body, and no other public official of the governing body of the locality or localities in which the PROJECT is situated or being carried out, who exercises any functions or responsibilities in the review or approval of the undertaking or carrying out of this PROJECT, shall participate in any decision relating to this Contract which affects his personal interest or the interest of any corporation, partnership, or association in which he is directly or indirectly interested or has any personal or pecuniary interest, direct or indirect, in this Contract or the proceeds thereof. The CONTRACTOR shall take appropriate steps to assure compliance.

(k) *Interest of the CONTRACTOR.* The CONTRACTOR covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Contract. The CONTRACTOR further covenants that, in the performance of this Contract, no person having any such interest shall be employed.

Section 7. Additional Services of CONTRACTOR

If authorized in writing by the COUNTY, the CONTRACTOR shall furnish additional services that are not considered as an integral part of the PROJECT plans and specifications. Under this Contract, all costs for additional services will be negotiated as to activities and compensation. Upon mutual written agreement between the COUNTY and the CONTRACTOR, and written authorization from the COUNTY to proceed, the CONTRACTOR will provide the additional service.

Section 8. Tax Responsibilities of CONTRACTOR

The parties to this Contract agree that the CONTRACTOR is an independent firm or person and that the relationship created by this Contract is that of an independent contractor. Further, the parties agree that the CONTRACTOR is not an employee of the COUNTY, and will not be treated as such for federal income tax purposes. In this regard, the CONTRACTOR acknowledges and accepts all tax responsibilities imposed by federal income tax laws, and any applicable state income tax laws, on self-employed persons, including, but not limited to, the responsibility of withholding from income the required amounts for federal income taxes, Social Security taxes, federal unemployment tax, and applicable state and local income taxes.

Section 9. Non-Exclusive Contract

The CONTRACTOR shall devote its time, attention, and energies to the fulfillment of this Contract. If, after satisfying its responsibilities to the COUNTY, the CONTRACTOR desires to render similar services to any other persons, or on behalf of any other firms, associations, or corporations, then the CONTRACTOR may contract for such services; provided, however, that in the event that the rendering of such additional services by the CONTRACTOR interferes, in the opinion of the COUNTY, with the quality of services rendered to the COUNTY, then the COUNTY shall have the option of either requesting the CONTRACTOR to cease performing such additional services or canceling this Contract.

Section 10. Independent CONTRACTOR Relationship

In the performance of the work, duties, and obligations evolving under this Contract, it is mutually understood and agreed that the CONTRACTOR is at all times serving as an independent contractor providing the COUNTY with services as a contractor and/or independent contractor. Amounts paid to the CONTRACTOR by the COUNTY as compensation for providing said services and for the performance of this Contract are for services purchased, and amounts paid to the CONTRACTOR shall be deemed to be compensation to an independent contractor and shall not be subject to any tax withholding. It is expressly understood that the COUNTY is interested only in the results to be achieved, and the conduct and control of the work will be the sole responsibility of the CONTRACTOR. The CONTRACTOR is not considered to be an agent or employee of the COUNTY for any purpose, and the CONTRACTOR will not be eligible to participate in any benefits the COUNTY provides for its own employees. It is further understood and agreed that the COUNTY does not agree to use the CONTRACTOR exclusively. It is further understood and agreed that, except as provided herein, the CONTRACTOR is free to contract for similar services to be performed for others during the term of this Contract.

Section 11. Indemnification and Liability

The COUNTY shall not be liable for any injury to the person or property of any person, firm, or corporation resulting directly or indirectly from CONTRACTOR's performance of this Contract, and the CONTRACTOR assumes full and complete responsibility therefore. The CONTRACTOR shall remain insured under terms of a public liability insurance policy as described in the "Certificate of Insurance" attached hereto as Attachment "A" during the entire term of this Contract and for the performance of all work herein provided. The CONTRACTOR shall further indemnify the COUNTY and hold the COUNTY safe and harmless from any and all liability, lawsuits, judgments, attorney fees, and other costs incurred by the COUNTY in defending any claim or lawsuit made against the COUNTY by any person, firm, or corporation arising directly or indirectly out of any work performed by the CONTRACTOR pursuant hereto or any breach or alleged breach of duty or responsibility of the CONTRACTOR related thereto. IN WITNESS WHEREOF, the COUNTY and the CONTRACTOR have caused this Contract to

Shelby County Airport
Mass Storage Hangar T

be executed by their duly authorized officers on the day and year first above written.

ATTEST:

SHELBY COUNTY

By: Chad Scroggins
County Manager

Date

ATTEST:

CONTRACTOR

By (print): _____

Title: _____

Date

ATTACHMENT "A"
SUPPLEMENTAL CONDITIONS

- 1) Work must be coordinated with the COUNTY.
- 2) Construction documents, including the attached Project Plans and Specifications, Addenda, Bid Documents, are included as part of this Contract.
- 3) The CONTRACTOR must maintain work space clean and free of debris.
- 4) The CONTRACTOR's price quote dated _____, 2023 is hereby incorporated as a part of this Contract. Construction documents, including the Project Plans and Specifications, bid documents and all addenda, are included as part of this Contract.
- 5) By signing this contract, CONTRACTOR represents and agrees that it is not currently engaged in, nor will it engage in, any boycott of a person or entity based in or doing business with a jurisdiction with which the State of Alabama can enjoy open trade.
- 6) The CONTRACTOR shall procure and maintain insurance coverages in form and substance as approved by COUNTY and referenced in Section C-01 of the Special Provisions. A "Certificate of Insurance" shall be furnished to COUNTY and shall specify that such insurance is not subject to cancellation without prior written notice to COUNTY of at least thirty (30) days. Please request the additional insured to read: Shelby County, its officers, agents, and employees, successors or assigns.
- 7) When required by law the CONTRACTOR shall also provide to COUNTY a Certificate or Proof of Workmen's Compensation Insurance in form and substance acceptable to COUNTY.
- 8) Contractor agrees that it will fully comply with the Immigration Reform and Control Act of 1986, as amended by the Immigration Act of 1990, and the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, which makes it unlawful for an employer in Alabama to knowingly hire or continue to employ an alien who is or has become unauthorized with respect to such employment or to fail to comply with the I-9 requirements or fails to use E-Verify to verify the eligibility to legally work in the United States for all of its new hires who are employed to work in the State of Alabama. Without limiting the foregoing, Contractor shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien, and shall have an officer or other managerial employee who is personally familiar with the Contractor's hiring practices to execute an affidavit to this effect on the form supplies by Shelby County and return the same to Shelby County. Contractor shall also enroll in the E-Verify Program prior to performing any work, or continuing to perform any ongoing work, and shall remain enrolled throughout the entire course of its performance

hereunder, and shall attach to its affidavit the E-Verify Program for Employment Verification and Memorandum of Understanding and such other documentation as Shelby County may require to confirm Contractor's enrollment in the E-Verify Program. Contractor agrees not to knowingly allow any of its subcontractors, or any other party with whom it has a contract, to employ in the State of Alabama any illegal or undocumented aliens to perform any work in connection with the Project, and shall include in all of its contracts a provision substantially similar to the paragraph. If Contractor receives actual knowledge of the unauthorized status of one of its employees in the State of Alabama, it will remove that employee from the project, jobsite or premises of Shelby County and shall comply with the Immigration Reform and Control Act of 1986, as amended by the Immigration Act of 1990, and the Beason-Hammon Alabama Taxpayer and Citizen Protection Act. Contractor shall require each of its subcontractors, or other parties with whom it has a contract, to act in a similar fashion. If Contractor violates any term of this provision, this Agreement will be subject to immediate termination by Shelby County. To the fullest extent permitted by law, Contractor shall defend, indemnify and hold harmless Shelby County from any and all losses, consequential damages, expenses included but not limited to, attorney's fees, claims, suits, liabilities, fines, penalties, and any other costs arising out of or in any way related to Contractor's failure to fulfill its obligations contained in this paragraph. Additionally, contractor shall provide County proof that you are in compliance with the immigration law by including a notarized E-Verify Memorandum of Understanding and provide your subcontractors notice of their compliance obligations and obtain from each a notarized Affidavit of Immigration Law Compliance-Subcontractor.

- 9) The contractor, person, firm, or corporation undertaking or contracting to undertake the herein described public works project agrees to use in the execution of the contract materials, supplies, and products manufactured, mined, processed, or otherwise produced in the United States or its territories, if the same are available at reasonable and competitive prices and are not contrary to any sole source specification implemented under subsection (f) of Section 39-2-2, Code of Alabama(1975), as amended. In the event the contractor breaches the agreement to use domestic products, and domestic products are not used, there shall be a downward adjustment in the contract price equal to any realized savings or benefits to the contractor.
- 10) If work being performed interferes with normal operations of the facility, the work shall be scheduled after hours as necessary.

00 61 13 PERFORMANCE BOND

CONTRACTOR (*name and address*):

SURETY (*name and address of principal place of business*):

OWNER (*name and address*):

SHELBY COUNTY COMMISSION
200 West College Street, Room 123
Columbiana, AL 35051

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description (*name and location*): Shelby County Airport – Mass Storage Hangar T

BOND

Bond Number:

Date (*not earlier than the Effective Date of the Agreement of the Construction Contract*):

Amount:

Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature (*attach power of attorney*)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

Shelby County Airport
Mass Storage Hangar T

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of

damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

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Shelby County Airport
Mass Storage Hangar T

00 61 16 PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

SHELBY COUNTY COMMISSION
200 West College Street, Room 123
Columbiana, AL 35051

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location)*: Shelby County Airport – Mass Storage Hangar T

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:

Amount:

Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

Shelby County Airport
Mass Storage Hangar T

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1 Claimants who do not have a direct contract with the Contractor,
 - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2 Pay or arrange for payment of any undisputed amounts.
 - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent

Shelby County Airport Mass Storage Hangar T

jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

- 16.1 **Claim:** A written statement by the Claimant including at a minimum:
 1. The name of the Claimant;
 2. The name of the person for whom the labor was done, or materials or equipment furnished;
 3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 4. A brief description of the labor, materials, or equipment furnished;
 5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 7. The total amount of previous payments received by the Claimant; and
 8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

- 16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

- 16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

- 16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

- 16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

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00 72 00 GENERAL 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.
10-03.01	Agreement	<i>The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents. See also "Contract."</i>
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.

Shelby County Airport
Mass Storage Hangar T

Paragraph Number	Term	Definition
10-09.01	<i>Bid</i>	<i>The written offer of the Bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications. See also "Proposal."</i>
10-10	Bidder	Any individual, partnership, firm, or corporation, acting directly or through a duly authorized representative, who submits a proposal for the work contemplated.
10-10.01	<i>Bidding Documents</i>	<i>The Bidding Requirements, the proposed Contract Documents, and all Addenda.</i>
10-11	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.
10-12	Calendar Day	Every day shown on the calendar.
10-13	Certificate of Analysis (COA)	The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
10-14	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.
10-15	Change Order	A written order to the Contractor covering changes in the plans, specifications, or proposal 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.
10-16	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, Proposal, Performance bond, Payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda. <i>See also "Agreement."</i></p>
10-17	Contract Item (Pay Item)	A specific unit of work for which a price is provided in the contract.
10-18	Contract Time	The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including

Shelby County Airport
Mass Storage Hangar T

Paragraph Number	Term	Definition
		authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
10-19	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.
10-20	Contractors Quality Control (QC) Facilities	The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
10-21	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.
10-22	Control Strip	A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
10-23	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.
10-24	Drainage System	The system of pipes, ditches, and structures by which surface or subsurface waters are collected and conducted from the airport area.
10-25	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.
10-26	Equipment	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	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 as previously modified.

Shelby County Airport
Mass Storage Hangar T

Paragraph Number	Term	Definition
10-28	FAA	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	Federal Specifications	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	Force Account	a. Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. b. Owner Force Account - Work performed for the project by the Owner's employees.
10-30.01	Hazardous Environmental Condition	<i>The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.</i>
10-31	Intention of Terms	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. 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.
10-32	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 near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.

Shelby County Airport
Mass Storage Hangar T

Paragraph Number	Term	Definition
10-33	Major and Minor Contract Items	A major contract item shall be any item that is listed in the proposal, 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.
10-34	Materials	Any substance specified for use in the construction of the contract work.
10-35	Modification of Standards (MOS)	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	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.
10-37	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 the Shelby County Commission.
10-38	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.
10-39	Pavement Structure	The combined surface course, base course(s), and subbase course(s), if any, considered as a single unit.
10-40	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.
10-41	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.
10-42	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 specifications. Plans may also be referred to as "contract drawings," or "drawings."
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.

Shelby County Airport
Mass Storage Hangar T

Paragraph Number	Term	Definition
10-44	Proposal	The written offer of the Bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications. <i>See also</i> "Bid."
10-45	Proposal guaranty	The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
10-46	Quality Assurance (QA)	Owner's responsibility to assure that construction work completed complies with specifications for payment.
10-47	Quality Control (QC)	Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
10-48	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.
10-49	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.
10-50	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.
10-51	Runway	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	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.
10-53	Safety Plan Compliance Document (SPCD)	Details how the Contractor will comply with the CSPP.
10-54	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.

Shelby County Airport
Mass Storage Hangar T

Paragraph Number	Term	Definition
10-54.01	Site	<i>Has the meaning set forth in Section 4.01 of the Instructions to Bidders.</i>
10-55	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.
10-56	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.
10-57	Subgrade	The soil that forms the pavement foundation.
10-58	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.
10-59	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.
10-60	Surety	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	Taxilane	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	Taxiway	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	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.

Shelby County Airport
Mass Storage Hangar T

Paragraph Number	Term	Definition
10-63.01	<i>Technical Data</i>	<i>Those items expressly identified as Technical Data in the Special Provisions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site.</i>
10-63.02	<i>Underground Facilities</i>	<i>All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.</i>
10-64	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.
10-65	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.
10-66	Owner Defined terms	<i>Owner defined terms have been incorporated in alphabetical order above and are shown in italics.</i>

END OF SECTION 10

SECTION 20 PROPOSAL REQUIREMENTS AND CONDITIONS

20-01 Advertisement (Notice to Bidders). *See Section 00 11 00*

20-02 Qualification of bidders. *See Instructions to Bidders, Article 3.* ~~Each bidder shall submit evidence of competency and evidence of financial responsibility to perform the work to the Owner at the time of bid opening.~~

~~Evidence of competency, unless otherwise specified, shall consist of statements covering the bidder's past experience on similar work, and a list of equipment and a list of key personnel that would be available for the work.~~

~~Each bidder shall furnish the Owner satisfactory evidence of their financial responsibility. Evidence of financial responsibility, unless otherwise specified, shall consist of a confidential statement or report of the bidder's financial resources and liabilities as of the last calendar year or the bidder's last fiscal year. Such statements or reports shall be certified by a public accountant. At the time of submitting such financial statements or reports, the bidder shall further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the bidder's financial responsibility has changed, the bidder shall qualify the public accountant's statement or report to reflect the bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.~~

~~Unless otherwise specified, a bidder may submit evidence that they are prequalified with the State Highway Division and are on the current "bidder's list" of the state in which the proposed work is located. Evidence of State Highway Division prequalification may be submitted as evidence of financial responsibility in lieu of the certified statements or reports specified above.~~

20-03 Contents of proposal forms. The Owner's *bidding documents* ~~proposal forms~~ state the location and description of the proposed construction; the place, date, and time of opening of the proposals; and the estimated quantities of the various items of work to be performed and materials to be furnished for which unit bid prices are asked. The proposal form states the time in which the work must be completed, and the amount of the proposal guaranty that must accompany the proposal. The Owner will accept only those Proposals properly executed on physical forms or electronic forms provided by the Owner. Bidder actions that may cause the Owner to deem a proposal irregular are given in paragraph 20-09 *Irregular proposals*.

Mobilization is limited to 10 percent of the total project cost.

A prebid conference is required on this project to discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; and unique airfield paving construction requirements.

20-04 Issuance of proposal forms. The Owner reserves the right to refuse to issue a proposal form to a prospective bidder if the bidder is in default for any of the following reasons:

- a. Failure to comply with any prequalification regulations of the Owner, if such regulations are cited, or otherwise included, in the proposal as a requirement for bidding.
- b. Failure to pay, or satisfactorily settle, all bills due for labor and materials on former contracts in force with the Owner at the time the Owner issues the proposal to a prospective bidder.
- c. Documented record of Contractor default under previous contracts with the Owner.
- d. Documented record of unsatisfactory work on previous contracts with the Owner.

20-05 Interpretation of estimated proposal quantities. An estimate of quantities of work to be done and materials to be furnished under these specifications is given in the proposal. It is the result of careful

calculations and is believed to be correct. It is given only as a basis for comparison of proposals 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 proposal, 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 proposal 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.

Boring logs and other records of subsurface investigations and tests are available for inspection of bidders. It is understood and agreed that such subsurface information, whether included in the plans, specifications, or otherwise made available to the bidder, was obtained and is intended for the Owner's design and estimating purposes only. Such information has been made available for the convenience of all bidders. It is further understood and agreed that each bidder is solely responsible for all assumptions, deductions, or conclusions which the bidder may make or obtain from their own examination of the boring logs and other records of subsurface investigations and tests that are furnished by the Owner.

20-07 Preparation of proposal. ~~See Instructions to Bidders, Article 13. The bidder shall submit their proposal on the forms furnished by the Owner. All blank spaces in the proposal forms, unless explicitly stated otherwise, must be correctly filled in where indicated for each and every item for which a quantity is given. If so requested, 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 proposal. In case of conflict between words and numerals, the words, unless obviously incorrect, shall govern.~~

~~The bidder shall correctly sign the proposal in ink. If the proposal 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 proposal 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 proposal as an agent shall file evidence of their authority to do so and that the signature is binding upon the firm or corporation.~~

20-08 Responsive and responsible bidder. ~~See Instructions to Bidders, Article 3. 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 proposals. Proposals shall be considered irregular for the following reasons:

- a. If the proposal 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 proposal form is detached.
- b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.

Shelby County Airport
Mass Storage Hangar T

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

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

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

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

The Owner reserves the right to reject any irregular proposal 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. *See Instructions to Bidders, Article 8.* ~~Each separate proposal shall be accompanied by a bid bond, certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such bond, check, or collateral, shall be made payable to the Owner.~~

20-11 Delivery of proposal. *See Instructions to Bidders, Article 15.* ~~[Each proposal 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 proposal, marked as indicated above, should be enclosed in an additional envelope. No proposal 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. Proposals received after the bid opening time shall be returned to the bidder unopened.]~~

20-12 Withdrawal or revision of proposals. *See Instructions to Bidders, Article 16.* ~~A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner [in writing] [by fax] [by email] before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.~~

20-13 Public opening of proposals. *See Instructions to Bidders, Article 17.* ~~Proposals 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. Proposals 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. *See Instructions to Bidders, Article 19.* ~~A bidder shall be considered disqualified for any of the following reasons:~~

~~a. Submitting more than one proposal 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 Proposal Forms*, of this section.~~

20-15 Discrepancies and Omissions. *See Instructions to Bidders, Article 5.* ~~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 [] days prior to bid opening.~~

Shelby County Airport
Mass Storage Hangar T

~~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

SECTION 30 AWARD AND EXECUTION OF CONTRACT

30-01 Consideration of proposals. ~~See Instructions to Bidders, Article 19. After the proposals 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 proposal by the unit bid prices. If a bidder's proposal 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 proposal for any of the following reasons:~~

~~a. If the proposal is irregular as specified in Section 20, paragraph 20-09, *Irregular Proposals*.~~

~~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 proposals, 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 proposals; or proceed with the work otherwise. All such actions shall promote the Owner's best interests.~~

30-02 Award of contract. ~~See Instructions to Bidders, Article 19. The award of a contract, if it is to be awarded, shall be made within [] calendar days of the date specified for publicly opening proposals, 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 proposal 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 proposal guaranty. ~~See Instructions to Bidders, Article 18. All proposal 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 Proposals*. Proposal 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 proposal guaranty will be returned. The successful bidder's proposal 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. ~~See Instructions to Bidders, Article 21. 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. ~~See Instructions to Bidders, Article 21. Upon receipt of the contract and contract bond or bonds that have been executed by the successful bidder, the Owner shall complete the~~

Shelby County Airport
Mass Storage Hangar T

~~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 proposal and the terms of the contract.~~

30-08 Failure to execute contract. ~~See *Instructions to Bidders, Article 8*. 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 proposal guaranty, not as a penalty, but as liquidated damages to the Owner.~~

END OF SECTION 30

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. See Special Provisions (Section 00 73 00)

50-05 Cooperation of Contractor. The Contractor shall be supplied with up to three 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 Civil 3D Format

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, 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. An Engineer/RPR field office is not required.

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. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows:

Owner	Contact	Phone Number
None Noted		

Except as listed above, 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) GC-0.01-GC-1.01 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.

Detailed phasing information is provided in the Construction Safety and Phasing Plan.

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.

Owner	Contact	Phone Number
Alabama Power	Amanda Young	205-814-2070

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.

70-16 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*.

70-21 Insurance Requirements. See *Special Provisions*.

END OF SECTION 70

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 15 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.

If requested, the Contractor shall provide copies of all subcontracts to the RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

- Subcontractor's legal company name.
- Subcontractor's legal company address, including County name.
- Principal contact person's name, telephone and fax number.
- Complete narrative description, and dollar value of the work to be performed by the subcontractor.
- Copies of required insurance certificates in accordance with the specifications.
- Minority/ non-minority status.

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 1 week 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 *and in advance of the preconstruction meeting*. 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 proposal.

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 twice monthly basis, or as otherwise specified in the contract. Submission of the work

Shelby County Airport
Mass Storage Hangar T

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. The areas of the AOA identified in the Construction Safety Phasing Plan (CSPP) ~~and as listed below~~, cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently ~~as follows~~:

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

Shelby County Airport
Mass Storage Hangar T

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 completed 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 proposal (*bid form*) and contract (*agreement*) 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-work days. 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 proposal. 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 proposal 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.

Schedule	Liquidated Damages Cost	Allowed Construction Time
Base Bid	\$1,500/ calendar day	120 calendar days

Construction time shall be as included in the Contract (Agreement). ~~The maximum construction time allowed for Schedules [] will be the sum of the time allowed for individual schedules but not more than [] 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 waiver 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 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 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 or ton. When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the

Shelby County Airport
Mass Storage Hangar T

Term	Description
	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 or hundredweight.
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. 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 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-weighing (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>

Shelby County Airport
Mass Storage Hangar T

Term	Description
	Scale installations shall have available ten standard 50-pound weights for testing the weighing equipment or suitable weights and devices for other approved equipment. 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.
Rental Equipment	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> .
Pay Quantities	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.

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 proposal, 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.

Shelby County Airport
Mass Storage Hangar T

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.

a. From the total of the amount determined to be payable on a partial payment, 5 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 proposal 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

Shelby County Airport
Mass Storage Hangar T

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: Use of an escrow account for withholding retainage will not be permitted for this project.~~

~~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. *Additional warranties will be required as noted in the specifications for the hangar roof, etc.*

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.
- l. Equipment commissioning documentation submitted, if required.

END OF SECTION 90

00 73 00 SPECIAL PROVISIONS

TABLE OF CONTENTS

A. REQUIRED FEDERAL CONTRACT PROVISIONS

A-01	CIVIL RIGHTS - GENERAL
A-02	CIVIL RIGHTS - TITLE VI ASSURANCE
A-03	OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970
A-04	RIGHT TO INVENTIONS
A-05	SEISMIC SAFETY
A-06	ACCESS TO RECORDS AND REPORTS
A-07	BUY AMERICAN PREFERENCE
A-08	FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)
A-09	TRADE RESTRICTION CERTIFICATION
A-10	VETERAN'S PREFERENCE
A-11	TAX DELINQUENCY AND FELONY CONVICTION
A-12	DOMESTIC PREFERENCES FOR PROCUREMENTS
A-13	PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
A-14	PROHIBITION OF SEGREGATED FACILITIES
A-15	COPELAND "ANTI-KICKBACK" ACT
A-16	DAVIS-BACON REQUIREMENTS
A-17	DISTRACTED DRIVING
A-18	AFFIRMATIVE ACTION REQUIREMENT
A-19	EQUAL EMPLOYMENT OPPORTUNITY (E.E.O.)
A-20	TERMINATION OF CONTRACT
A-21	PROCUREMENT OF RECOVERED MATERIALS
A-22	DEBARMENT AND SUSPENSION
A-23	CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS
A-24	LOBBYING AND INFLUENCING FEDERAL EMPLOYEES
A-25	CLEAN AIR AND WATER POLLUTION CONTROL
A-26	BREACH OF CONTRACT TERMS
A-27	DISADVANTAGED BUSINESS ENTERPRISE

B. STATE TERMS AND CONDITIONS

B-01	GENERAL
B-02	ALABAMA IMMIGRATION ACT
B-03	ALABAMA GENERAL CONTACTOR LICENSING LAW

C. LOCAL TERMS AND CONDITIONS

C-01	CONTRACTOR'S INSURANCE
C-02	UTILITIES
C-03	LEGAL HOLIDAYS
C-04	PROJECT MEETINGS AND COORDINATION
C-05	EXTENSIONS OF TIME
C-06	QUALITY ASSURANCE/MATERIALS TESTING
C-07	RECORD DOCUMENTS
C-08	CONTRACTOR/SUBCONTRACTOR/SUPPLIER LEGAL DISPUTES
C-09	CONSTRUCTION WARRANTY OBSERVATION COST

Shelby County Airport**Mass Storage Hangar T**

C-10	CONTRACTOR'S RELEASE AND AFFIDAVIT
C-11	SUBMITTALS
C-12	STORMWATER POLLUTION PREVENTION PLAN
C-13	SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS
C-14	OWNER'S SAFETY PROGRAM
C-15	PROJECT SUPERINTENDENT
C-16	SALES AND USE TAXES

SECTION A – FEDERAL AVIATION ADMINISTRATION REQUIREMENTS

A-01 CIVIL RIGHTS - GENERAL

The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, religion, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract.

A-02 CIVIL RIGHTS – TITLE VI ASSURANCE

Title VI Solicitation Notice:

The Owner, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in consideration for an award.

Compliance with Nondiscrimination Requirements:

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

- 1. Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the **Title VI List of Pertinent Nondiscrimination Acts and Authorities**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
- 2. Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
- 3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.
- 4. Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the Sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or
- b. Cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Title VI List of Pertinent Nondiscrimination Acts and Authorities:

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in programs or Activities Receiving Federal Financial Assistance);
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, *et seq.*) prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;

- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq*).

A-03 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The employer retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). The employer must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

A-04 RIGHT TO INVENTIONS - N/A

A-05 SEISMIC SAFETY - N/A

A-06 ACCESS TO RECORDS AND REPORTS

The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the Owner, the Federal Aviation Administration, and the Comptroller General of the United States or any of their duly authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

A-07 BUY AMERICAN PREFERENCE

The Contractor certifies that its bid/offer is in compliance with 49 USC § 50101, BABA and other related Made in America Laws, U.S. statutes, guidance, and FAA policies, which provide that Federal funds may not be obligated unless all iron, steel and manufactured goods used in AIP funded projects are produced in the United States, unless the Federal Aviation Administration has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

The bidder or offeror must complete and submit the certification of compliance with FAA's Buy American Preference, BABA and Made in America laws included herein with their bid or offer. The Airport Sponsor/Owner will reject as nonresponsive any bid or offer that does not include a completed certification of compliance with FAA's Buy American Preference and BABA.

The bidder or offeror certifies that all constructions materials, defined to mean an article, material, or supply other than an item of primarily iron or steel; a manufactured product; cement and cementitious

Shelby County Airport
Mass Storage Hangar T

materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of: non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall used in the project are manufactured in the U.S.

See Section 00 45 46 "Bidder Certifications" for Contractor Buy American Certification.

A-08 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.

The Contractor has full responsibility to monitor compliance to the referenced statute or regulation. The Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division

A-09 TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

- 1) is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (USTR);
- 2) has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR; and
- 3) has not entered into any subcontract for any product to be used on the Federal project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR .

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18 USC § 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR § 30.17, no contract shall be awarded to an Offeror or subcontractor:

- 1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR; or
- 2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such USTR list; or
- 3) who incorporates in the public works project any product of a foreign country on such USTR list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by the USTR, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

A-10 VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 USC § 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

A-11 TAX DELINQUENCY AND FELONY CONVICTIONS

The Contractor shall be required to complete the certification regarding tax delinquency and felony convictions included in these contract documents.

Felony conviction: Felony conviction means a conviction within the preceding twenty four (24) months of a felony criminal violation under any Federal law and includes conviction of an offense defined in a section of the U.S. Code that specifically classifies the offense as a felony and conviction of an offense that is classified as a felony under 18 USC § 3559.

Tax Delinquency: A tax delinquency is any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

A-12 DOMESTIC PREFERENCES FOR PROCUREMENTS

The Bidder or Offeror certifies by signing and submitting this bid or proposal that, to the greatest extent practicable, the Bidder or Offeror has provided a preference for the purchase, acquisition, or use of goods,

Shelby County Airport
Mass Storage Hangar T

products, or materials produced in the United States (including, but not limited to, iron, aluminum, steel, cement, and other manufactured products) in compliance with 2 CFR § 200.322.

A-13 PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to use and procurement of certain telecommunications and video surveillance services or equipment in compliance with the National Defense Authorization Act [Public Law 115-232 § 889(f)(1)].

A-14 PROHIBITION OF SEGREGATED FACILITIES

- (a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.
- (b) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.
- (c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

A-15 COPELAND "ANTI-KICKBACK" ACT

Contractor must comply with the requirements of the Copeland "Anti-Kickback" Act (18 USC 874 and 40 USC 3145), as supplemented by Department of Labor regulation 29 CFR part 3. Contractor and subcontractors are prohibited from inducing, by any means, any person employed on the project to give up any part of the compensation to which the employee is entitled. The Contractor and each Subcontractor must submit to the Owner, a weekly statement on the wages paid to each employee performing on covered work during the prior week. Owner must report any violations of the Act to the Federal Aviation Administration.

A-16 DAVIS-BACON REQUIREMENTS

- 1. Minimum Wages
 - (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalent thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to

such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

(ii)

(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, , U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers, or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii) (B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

Shelby County Airport
Mass Storage Hangar T

- (iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding.

The Federal Aviation Administration or the Sponsor shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of work, all or part of the wages required by the contract, the Federal Aviation Administration may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

- (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 1(b)(2)(B) of the Davis-Bacon Act); daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual costs incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
- (ii)
 - (A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to

the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR § 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/agencies/whd/government-contracts/construction/payroll-certification> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Federal Aviation Administration if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit them to the applicant, sponsor, or owner, as the case may be, for transmission to the Federal Aviation Administration, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

- (B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
- (1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5 (a)(3)(i) and that such information is correct and complete;
 - (2) That each laborer and mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations 29 CFR Part 3;
 - (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (ii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.
- (iii) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.
- (iii) The contractor or subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying or transcription by authorized representatives of the sponsor, the Federal Aviation Administration, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the

suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR § 5.12.

4. Apprentices and Trainees

- (i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- (ii) Trainees. Except as provided in 29 § CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less

than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR §§ 5.5(a)(1) through (10) and such other clauses as the Federal Aviation Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR § 5.5.

7. Contract Termination: Debarment.

A breach of the contract clauses in paragraph 1 through 10 of this section may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR § 5.12.

8. Compliance with the Davis-Bacon and Related Act Requirements

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes Concerning Labor Standards

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility

- (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).

Shelby County Airport
Mass Storage Hangar T

- (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR § 5.12(a)(1).
- (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18USC § . 1001.

A-17 DISTRACTED DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving" (10/1/2009) and DOT Order 3902.10 "Text Messaging While Driving" (12/30/2009), the FAA encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or subgrant.

In support of this initiative, the Owner encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all subtier contracts exceeding \$10,000 that involve driving a motor vehicle in performance of work activities associated with the project.

A-18 AFFIRMATIVE ACTION REQUIREMENT

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables

Goals for minority participation for each trade: 24.9%

Goals for female participation in each trade: 6.9%

These goals are applicable to all of the contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

Shelby County Airport
Mass Storage Hangar T

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is Alabama, Shelby, Calera.

A-19 EQUAL EMPLOYMENT OPPORTUNITY (E.E.O.)

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
- (4) The contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the said labor union or workers' representatives of the contractor's commitments under this section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting

Shelby County Airport
Mass Storage Hangar T

agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

- (7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: *Provided*, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS

- 1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
 - d. "Minority" includes:
 - (1) Black (all) persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
- 2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for

minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations

when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

- c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.
- d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.
- f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor

Shelby County Airport
Mass Storage Hangar T

shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally, the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.
11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A-20 TERMINATION OF CONTRACT

Termination for Convenience:

The Owner may terminate this contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of Owner. Upon receipt of a written notice of termination, except as explicitly directed by the Owner, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.
2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.
3. Discontinue orders for materials and services except as directed by the written notice.

Shelby County Airport
Mass Storage Hangar T

4. Deliver to the owner all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work and as directed in the written notice.
5. Complete performance of the work not terminated by the notice.
6. Take action as directed by the owner to protect and preserve property and work related to this contract that Owner will take possession.

Owner agrees to pay Contractor for:

1. Completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;
2. Documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;
3. Reasonable and substantiated claims, costs and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and
4. Reasonable and substantiated expenses to the contractor directly attributable to Owner's termination action

Owner will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the Owner's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this contract.

Termination for Default:

Section 80-09 of FAA Advisory Circular 150/5370-10 establishes conditions, rights and remedies associated with Owner termination of this contract due default of the Contractor.

A-21 PROCUREMENT OF RECOVERED MATERIALS

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use of products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- a) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or,
- b) The contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/epawaste/conserve/tools/cpg/products/. Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

Shelby County Airport
Mass Storage Hangar T

- a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
- b) Fails to meet reasonable contract performance requirements; or
- c) Is only available at an unreasonable price.

A-22 DEBARMENT AND SUSPENSION

CERTIFICATION OF OFFERER/BIDDER REGARDING DEBARMENT:

By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT:

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

- 1. Checking the System for Award Management at website: <http://www.sam.gov>
- 2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.
- 3. Inserting a clause or condition in the covered transaction with the lower tier contract

If the FAA later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

A-23 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

- 1. Overtime Requirements

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic, including watchmen and guards, in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

- 2. Violation; Liability for Unpaid Wages; Liquidated Damages

In the event of any violation of the clause set forth in paragraph (1) of this clause, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this clause, in the sum of \$29 for each calendar day on which such individual was required or permitted to work in

excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this clause.

3. Withholding for Unpaid Wages and Liquidated Damages.

The Federal Aviation Administration (FAA) or the Owner shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 2 of this clause.

4. Subcontractors.

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) and also a clause requiring the subcontractor to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this clause.

A-24 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES

The bidder or offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

A-25 CLEAN AIR AND WATER POLLUTION CONTROL

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 U.S.C. §§ 740-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. §§ 1251-1387). The Contractor agrees to report any violation to the Owner immediately upon discovery. The Owner assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceeds \$150,000.

A-26 BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the contractor or its subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

Owner will provide contractor written notice that describes the nature of the breach and corrective actions the contractor must undertake in order to avoid termination of the contract. Owner reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the Owner elects to terminate the contract. The Owner's notice will identify a specific date by which the contractor must correct the breach. Owner may proceed with termination of the contract if the contractor fails to correct the breach by deadline indicated in the Owner's notice.

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

A-27 DISADVANTAGED BUSINESS ENTERPRISE

The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

- 1) Withholding monthly progress payments;
- 2) Assessing sanctions;
- 3) Liquidated damages; and/or
- 4) Disqualifying the Contractor from future bidding as non-responsible.

Prompt Payment (49 CFR § 26.29)

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from the Owner. The prime contractor agrees further to return retainage payments to each subcontractor within 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 of the Owner. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53)

The prime contractor must not terminate a DBE subcontractor listed in bid without prior written consent of the Owner. This includes, but is not limited to, instances in which the prime contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm.

The prime contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains written consent from the Owner. Unless the Owner consent is provided, the prime contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

The Owner may provide such written consent only if the Owner agrees, for reasons stated in the concurrence document, that the prime contractor has good cause to terminate the DBE firm. For purposes of this paragraph, good cause includes the circumstances listed in 49 CFR §26.53.

Before transmitting to the Owner its request to terminate and/or substitute a DBE subcontractor, the prime contractor must give notice in writing to the DBE subcontractor, with a copy to the Owner, of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five days to respond to the prime contractor's notice and advise the Owner and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the Owner should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the Owner may provide a response period shorter than five days.

In addition to post-award terminations, the provisions of this section apply to preaward deletions of or substitutions for DBE firms put forward by offerors in negotiated procurements.

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SECTION B – STATE TERMS AND CONDITIONS

B-01 GENERAL

The intent of these specifications is to outline the requirements set forth by the Shelby County Commission and the State of Alabama; however, this section does not claim to include all State laws. All requirements set for by the State of Alabama for bidding and bonding shall be included by reference herein. If for any reason the State requirements conflict with the requirements set forth in this contract, the more stringent of the requirements shall govern.

B-02 ALABAMA IMMIGRATION ACT

INSTRUCTIONS FOR COMPLIANCE WITH THE ALABAMA IMMIGRATION ACT

The Shelby County Commission ("the Owner") is an Alabama public corporation and a political subdivision of the State of Alabama. Certain requirements of the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, codified in Sections 31-13-1 through 31-13-30, *Code of Alabama*, 1975 (herein referred to as "the Alabama Immigration Act") and as amended, apply to the Airport and will, as a condition of being awarded a contract by the Owner, require those entering into contracts with the Owner ("Contractor") to enroll in the e-Verify program and to provide documentation of enrollment in the e-Verify program with their contracts or agreements.

By signing this contract, the contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the state of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom. (*Alabama Immigration Law – Act No. 2012-491, page 28, lines 5-12*)

Contractor will be required to maintain records documenting compliance with these requirements. The records shall be available for inspection upon request. Failure to comply with these requirements will constitute breach of contract and may result in termination of the contract and possible suspension of Contractor's business license.

B-03 ALABAMA GENERAL CONTRACTOR LICENSING LAW

ALABAMA GENERAL CONTRACTOR LICENSING LAW (Alabama Code Section 34-8-1, et seq.)

Section 34-8-1

"General contractor" defined; "Subcontractor" defined.

(a) For the purpose of this chapter, a "general contractor" is defined to be one who, for a fixed price, commission, fee, or wage undertakes to construct or superintend or engage in the construction, alteration, maintenance, repair, rehabilitation, remediation, reclamation, or demolition of any building, highway, sewer, structure, site work, grading, paving or project or any improvement in the State of Alabama where the cost of the undertaking is fifty thousand dollars (\$50,000) or more, shall be deemed and held to have engaged in the business of general contracting in the State of Alabama.

(b) For the purpose of this chapter, a "general contractor" is defined to include one who, for a fixed price, commission, fee, or wage exceeding five thousand dollars (\$5,000), undertakes to construct, superintend the construction of, repair, or renovate, any swimming pool, and anyone who shall engage in the construction, superintending of the construction, repair, or renovation of any swimming pool in the State of

Shelby County Airport
Mass Storage Hangar T

Alabama, where the cost of the undertaking exceeds five thousand dollars (\$5,000), shall be deemed and held to have engaged in the business of general contracting in the State of Alabama and shall be subject to this chapter.

(c) For the purpose of this chapter a "subcontractor" is defined to be one who constructs, superintends, or engages in the construction, alteration, maintenance, repair, rehabilitation, remediation, reclamation, or demolition of any building, highway, sewer, structure, site work, grading, paving, or project or any improvement in the State of Alabama where the cost of the undertaking is fifty thousand dollars (\$50,000) or more under contract to general contractor as defined in subsection (a) or another subcontractor.

(Acts 1935, No. 297, p. 721, §1; Code 1940, T. 46, §65; Acts 1959, No. 571, p. 1429, §1; Acts 1989, No. 89-648, p. 1278, §1; Acts 1996, No. 96-640, p. 1013, §1; Acts 1997, No. 97-270, p. 486, §1; Act 2003-142, p. 441, §3; Act 2009-725, p. 2168, §1.)

Section 34-8-2

Licensure and classification of contractors.

(a) Any person desiring to be licensed or desiring a renewal of an existing license as a general contractor in this state shall be a citizen of the United States or, if not a citizen of the United States, a person who is legally present in the United States with appropriate documentation from the federal government, and shall make and file with the board, not less than 30 days prior to any regular meeting thereof, a written application on a form as prescribed for examination by the board and the application shall be accompanied by three hundred dollars (\$300) for a new application or two hundred dollars (\$200) in case of a renewal. If a licensee fails to renew his or her license within 90 days following expiration of the previous license, a late penalty of fifty dollars (\$50) shall be collected, upon renewal, in addition to the renewal fee. The applicant shall apply for a license covering the type or types of contracts on which he or she wishes to perform, and shall provide proof of liability insurance. The board shall classify contractors according to the type or types of contracts on which they may perform, within maximum bid limits, on the following basis: The applicant's request, his or her last annual financial statement prepared by a certified public accountant (C.P.A.) or by any independent licensed public accountant approved by the Licensing Board for General Contractors, his or her previous experience, equipment, and the facts in each case. An applicant shall not be so classified as to permit him or her to bid on or to perform a type of work not included in his or her request for a license. If the application is satisfactory to the board, then the applicant may be required to take an examination to determine his or her qualifications. If the result of the examination of the applicant is satisfactory to the board, the board shall then issue to the applicant a certificate to engage in general contracting in the State of Alabama, stipulating in each license issued the type or types of work the contractor is permitted to bid on or to perform under his or her license and also setting out a letter symbol indicating the maximum limits on which he or she is permitted to bid or to perform in a single contract. The maximum bid limits shall be set by the formula of not more than 10 times either the net worth or working capital, whichever is the lesser amount, as shown by the applicant's latest financial statement and designated in the classification set out herein that is the closest to this amount. Should the financial statement of the applicant fail to substantiate the limits requested, further consideration may be given to either of the following: (1) the present market value in lieu of book value of listed assets when properly supported with substantiating evidence, including a combined statement of the applicant that includes other wholly owned or substantially owned interests, or (2) the applicant may furnish a bond acceptable to the board equal in the amount of the applicant's negative working capital or net worth plus the amount of such net worth and working capital to satisfy the requested bid limit. When an applicant's statement qualifies for an amount in excess of classification "E", the limits shall then be set as classification Unlimited or "U". The following letter symbols indicate the maximum amount bid limits allowed a licensee on any one single contract undertaking:

Shelby County Airport
Mass Storage Hangar T

A - Not to exceed	\$100,000.00
B - Not to exceed	\$250,000.00
C - Not to exceed	\$500,000.00
D - Not to exceed	\$1,000,000.00
E - Not to exceed	\$3,000,000.00
U - Unlimited	

(b) Any person failing to pass the examination may be reexamined at any regular or called meeting of the board. The certificate of authority to engage in the business of general contracting in the State of Alabama shall expire 12 months following its issuance or renewal and shall become invalid on that date unless renewed. The board may provide for a transitional period following May 19, 1999, during which licenses may be renewed for less than 12 months, or more than 12 months, in order to implement a staggered license renewal schedule in which licenses would be renewed each month throughout the year. Once the transitional period is completed, each license shall be renewed for a 12-month period. The board may promulgate rules and regulations relating to the procedures for renewal of licenses. Upon the renewal of a license, the board shall reclassify or confirm the license both as to the types of work and bid limits as specified in this section. A licensee may apply for and, on proof satisfactory to the board, may receive an increase in the amount of his or her bid limit, change his or her classification, or verify his or her license with a reciprocating state for fees not greater than seventy-five dollars (\$75) as set by the board. Application for renewal of a license, together with the payment of a fee of two hundred dollars (\$200), received by the board at least 30 days prior to expiration, shall serve to extend the current license until the board either renews the license or denies the application. A licensee may apply for inactive status by notifying the board in writing at least 30 days before the expiration of his or her license. The fee for inactive status is two hundred dollars (\$200). The board shall provide by rule for the activities that may be engaged in by an inactive status licensee and for a procedure for reinstatement as an active license holder. At the discretion of the board, a limited license may be issued for a particular project.

(c) The sum or fee of three hundred dollars (\$300) accompanying original applications and sum or fee of two hundred dollars (\$200) accompanying applications for renewals under this section are for the administration and enforcement of this chapter and shall not be refunded to the applicant.

(Acts 1935, No. 297, p. 721, §9; Code 1940, T. 46, §73; Acts 1959, No. 571, p. 1429, §1; Acts 1961, Ex. Sess., No. 150, p. 2093, §1; Acts 1975, No. 485, p. 1115, §1; Acts 1982, No. 82-400, p. 603, §4; Acts 1986, No. 86-557, p. 1133, §3; Acts 1991, No. 91-197, p. 361, §3; Acts 1996, No. 96-640, p. 1013, §1; Act 99-199, p. 251, §3; Act 2008-134, p. 199, §3; Act 2009-725, p. 2168, §1; Act 2011-165, p. 308, §3.)

Section 34-8-3
Method of examination.

When the board conducts an examination of an applicant for a license, as much as three days may be devoted to written or oral examination, within the discretion of the board, to ascertain the ability of the applicant to make a practical application of his or her knowledge of the profession of general contracting; and the board shall investigate thoroughly the financial responsibility and past record of all applicants, which will include an effort towards ascertaining the qualifications of an applicant in reading plans and specifications, estimating costs, construction ethics, and other similar matters. The board shall take all applicants under consideration after having examined them and go thoroughly into the records, oral, and written examinations prior to granting any certificate of license. If an applicant is an individual, examination

Shelby County Airport
Mass Storage Hangar T

may be taken by his or her personal appearance for examination, or by the appearance for examination of one or more of his or her responsible managing employees, and if a copartnership or corporation, or any other combination or organization, by the examination of one or more of the responsible managing officers or members of the executive staff of the applicant's firm according to its own designation.

(Acts 1935, No. 297, p. 721, §9 1/2; Code 1940, T. 46, §74; Acts 1959, No. 571, p. 1429, §1.)

Section 34-8-4

Fines; revocation of licenses.

(a) The board may levy and collect an administrative fine of not less than five hundred dollars (\$500) nor more than five thousand dollars (\$5,000) for any violation of any provision of this chapter or the rules and regulations of the board.

(b) The board may also revoke the certificate of license of any general contractor licensed hereunder who is found guilty of any fraud or deceit in obtaining a license or gross negligence, incompetence or misconduct in the conduct of business. Any person may prefer charges of the fraud, deceit, negligence, or misconduct against any general contractor licensed hereunder. The charges shall be in writing and sworn to by the complainant and submitted to the board. The charges, unless dismissed without hearing by the board as unfounded or trivial, shall be heard and determined by the board within 90 days after the date on which they were preferred. The hearing shall be held at the office of the State Licensing Board for General Contractors in Montgomery, Alabama. A copy of the charges, together with the notice of the time and place of hearing, shall be legally served on the accused by the secretary of the board, any sheriff in the state or by registered or certified mail, at least 10 days before the fixed date for the hearing. In the event that the service cannot be effected 10 days before the hearing, then the date of hearing and determination shall be postponed as may be necessary to permit the carrying out of the aforementioned condition. At the hearing the accused shall have the right to appear personally and by counsel and to cross-examine witnesses against him, her, or them and to produce evidence of witnesses in his, her, or their defense. If, after the hearing, the board votes in favor of finding the accused guilty, the board shall revoke the license of the accused. The board may reissue a license to any person, firm, or corporation whose license has been revoked. The board shall immediately notify the Secretary of State and the clerk of each incorporated city, town, or county in the state of its findings in the case of the revocation or of the reissuance of a revoked license. A certificate of license to replace any certificate lost, destroyed, or mutilated may be issued subject to the rules and regulations of the board.

(Acts 1935, No. 297, p. 721, §10; Code 1940, T. 46, §75; Acts 1959, No. 571, p. 1429, §1; Acts 1982, No. 82-400, p. 603, §4; Acts 1991, No. 91-197, p. 361, §3; Acts 1996, No. 96-640, p. 1013, §1; Act 99-199, p. 251, §3.)

Section 34-8-5

Effect of issuance of certificate of license.

The issuance of a certificate by the board shall be evidence that the person, firm, or corporation named therein is entitled to all the rights and privileges of a licensed general contractor to perform work of the types and amounts specified in the license issued to him, her, or it while the license remains unrevoked or unexpired.

(Acts 1935, No. 297, p. 721, §11; Code 1940, T. 46, §76; Acts 1959, No. 571, p. 1429, §1.)

Section 34-8-6

Prohibited acts; penalties; cease and desist orders.

(a) Any person, firm, or corporation not being duly authorized who shall engage in the business of general contracting in this state, except as provided for in this chapter, and any person, firm, or corporation presenting or attempting to file as its own the license certificate of another, or who shall give false or forged evidence of any kind to the board, or to any member thereof, in obtaining a certificate of license, or who falsely shall impersonate another, or who shall use an expired or revoked certificate of license shall be deemed guilty of a Class A misdemeanor and for each offense for which he or she is convicted shall be punished as provided by law. Furthermore, any person including an owner, architect, engineer, construction manager, or private awarding authority who considers a bid from anyone not properly licensed under this chapter shall be deemed guilty of a Class B misdemeanor and shall for each offense of which he or she is convicted be punished as provided by law.

(b) Every person, firm, or corporation licensed pursuant to this chapter shall include his or her license number in all construction contracts, subcontracts, bids, and proposals. Any person, firm, or corporation violating this provision shall be guilty of a Class B misdemeanor and shall for each offense of which he or she is convicted be punished as provided by law.

(c) In addition to or in lieu of the criminal penalties and administrative sanctions provided in this chapter, the board may issue an order to any person, firm, or corporation engaged in any activity, conduct, or practice constituting a violation of this chapter, directing the person, firm, or corporation to forthwith cease and desist from the activity, conduct, practice, or the performance of any work then being done or about to be commenced. The order shall be issued in the name of the State of Alabama under the official seal of the board. If the person, firm, or corporation to whom the board directs a cease and desist order does not cease or desist the proscribed activity, conduct, practice, or performance of work immediately, the board shall cause to issue in any court of competent jurisdiction and proper venue, a writ of injunction enjoining the person, firm, or corporation from engaging in any activity, conduct, practice, or performance of work as prohibited by this chapter. Upon showing by the board that the person, firm, or corporation has engaged or is engaged in any activity, conduct, practice, or performance of work prohibited by this chapter, the courts shall issue a temporary restraining order restraining the person, firm, or corporation from engaging in such unlawful activity, conduct, practice, or performance of work pending the hearing on a preliminary injunction, and in due course a permanent injunction shall issue after the hearing, commanding the cessation of the unlawful activity, conduct, practice, or performance of work complained of, all without the necessity of the board having to give bond. A temporary restraining order, preliminary injunction, or permanent injunction issued pursuant to this subsection shall not be subject to being released on bond. In the suit for an injunction, the board may demand of the defendant a fine of up to five thousand dollars (\$5,000) plus costs and attorney fees for each offense. A judgment for penalty, attorney fees, and costs may be rendered in the same judgment in which the injunction is made absolute. The trial of the proceeding by injunction shall be summary and by the trial judge without jury. Anyone violating this chapter who fails to cease work, after a hearing and notification from the board, shall not be eligible to apply for a contractor's license for a period not to exceed one year from the date of official notification to cease work. It shall be within the power of the board to withhold approval, for up to six months, of any application from anyone who prior to the application has been found in violation of this chapter.

(d) The submission of the contractor's current license number before considering the bid shall be sufficient evidence to relieve the owner, architect, engineer, construction manager, or awarding authority of any liability under this chapter.

(Acts 1935, No. 297, p. 721, §12; Code 1940, T. 46, §77; Acts 1959, No. 571, p. 1429, §1; Acts 1996, No. 96-640, p. 1013, §1; Act 99-199, p. 251, §3; Act 2009-725, p. 2168, §1.)

Section 34-8-7

Exemptions from chapter; subcontractor requirements.

(a) The following shall be exempted from this chapter:

(1) The practice of general contracting, as defined in Section 34-8-1, by an authorized representative or representatives of the United States Government, State of Alabama, incorporated town, city, or county in this state, which is under the supervision of a licensed architect or engineer provided any work contracted out by the representative shall comply with the provisions of this chapter for general contractor.

(2) The construction of any residence or private dwelling.

(3) A person, firm, or corporation constructing a building or other improvements on his, her, or its own property provided that any of the work contracted out complies with the definition in this chapter for general contractor. A municipal governing body or municipal regulatory body may not enact any ordinance or law restricting or altering this exemption. Any municipal ordinance or regulation that conflicts with this exemption is repealed effective June 11, 2015.

(4) The installation, repair, maintenance, or removal of facilities, equipment, or systems used in or substantially related to the generation, transmission, or distribution of electric power, natural gas, or telecommunications in an emergency by a utility regulated by the Public Service Commission, or any entity engaged in the generation, transmission, or distribution of electric power, natural gas, or telecommunications, or any of their respective general contractors or subcontractors, provided the work is performed under the supervision of a licensed architect or engineer. For purposes of this subdivision, the term emergency is defined as a situation whereby service to the consumer has been interrupted or may be interrupted if work to remedy the emergency is not performed and completed within 60 days, and such other situations that are determined to be an emergency in the discretion of the board.

(5) The repair, maintenance, replacement, reinstallation, or removal of facilities, equipment, or systems used in or substantially related to the generation, transmission, or distribution of electric power, natural gas, or telecommunications on a routine, regular, or recurring basis by a utility regulated by the Public Service Commission or any entity engaged in the generation, transmission, or distribution of electric power, natural gas, or telecommunications or any of their respective general contractors or subcontractors, provided the work is performed under the supervision of a licensed architect or engineer.

(6) Routine or regular maintenance, repair, replacement, reinstallation, or removal of equipment, specialized technological processes, or equipment facility systems as determined by the board with regard to scope, frequency, and speciality of the work to be performed.

(b) The aforementioned exemptions shall exclude a swimming pool contractor. Provided, however, a person, firm, or corporation constructing a swimming pool on his, her, or its own property shall be exempted from this chapter.

(c) A subcontractor, as defined in subsection (c) of Section 34-8-1, is subject to and shall comply with all the provisions of this chapter as specified for general contractor except as follows:

(1) A subcontractor shall pay one-half the fees as required in this chapter for general contractor.

(2) No bid limits shall be established for a subcontractor.

(3) A subcontractor shall submit with license application and renewals a statement of financial condition as prescribed by the board.

Shelby County Airport
Mass Storage Hangar T

(4) A subcontractor shall furnish three references from any combination of the following: Licensed general contractors, registered professional engineers, or registered architects, or qualified person, as declared by the board, for whom they have worked. If a subcontractor has only been employed by one company, the subcontractor shall provide the following: Three or more jobs he or she has worked on, the amounts of the contracts, the time period of the contracts, the location of the contracts, and a statement of experience.

(5) A subcontractor is not required to be licensed at the time a project is bid, but must be licensed with the board prior to beginning work on the project.

(6) A general contractor license and license number issued by the board to subcontractors shall denote subcontractor status.

(7) A subcontractor is not required to sit for any examination before being licensed.

(Acts 1935, No. 297, p. 721, §13; Code 1940, T. 46, §78; Acts 1959, No. 571, p. 1429, §1; Acts 1989, No. 89-648, p. 1278, §2; Acts 1996, No. 96-640, p. 1013, §1; Acts 1997, No. 97-270, p. 486, §1; Act 99-199, p. 251, §3; Act 2009-725, p. 2168, §1; Act 2011-165, p. 308, §3; Act 2015-480, §1.)

Section 34-8-8

Copy of chapter to be included in plans of owners, architects, and engineers; inclusion of license number on bid.

(a) All owners, architects, engineers, construction managers, and private awarding authorities preparing plans and specifications for work to be contracted in Alabama pursuant to this chapter shall include in their invitations to bidders, including but not limited to all public and private advertisements, and their specifications a copy of the portions of this chapter as are deemed necessary to convey to the invited bidder, whether he or she is a resident or nonresident of this state and whether a license has been issued to him or her or not, the information that it will be necessary for him or her to show evidence of license before his or her bid is considered. Any person including an owner, architect, engineer, construction manager, or private awarding authority who violates this section shall be guilty of a Class B misdemeanor and shall for each offense of which he or she is convicted be punished, fined, or both, in accordance with Sections 13A-5-7 and 13A-5-12.

(b) All owners, architects, engineers, construction manager, or private awarding authority receiving bids pursuant to this chapter shall require the person, firm, or corporation to include his or her current license number on the bid. The owner, architect, engineer, construction manager, or private awarding authority shall reject all bids that do not contain the current license number of the general contractor submitting the bid. All persons who violate this subsection shall be guilty of a Class C misdemeanor and shall for each offense for which he or she is convicted be punished, fined, or both, in accordance with Sections 13A-5-7 and 13A-5-12.

(Acts 1935, No. 297, p. 721, §14; Code 1940, T. 46, §79; Acts 1959, No. 571, p. 1429, §1; Acts 1996, No. 96-640, p. 1013, §1; Act 2009-725, p. 2168, §1.)

Section 34-8-9

Issuance of building permits.

Any person, firm, or corporation, upon making application to the building inspector or such other authority of any incorporated city, town, village, or county in Alabama charged with the duty of issuing building or other permits for the construction, alteration, maintenance, repair, rehabilitation, remediation, reclamation, or demolition of any building, highway, sewer, structure site work, grading, paving or project or any improvement where the cost of the undertaking is fifty thousand dollars (\$50,000) or more, shall, before he or she shall be entitled to the issuance of permits, furnish satisfactory proof to the inspector or authority that he or she is duly licensed under this chapter. It shall be unlawful for the building inspector or other authority to issue or allow the issuance of the building permit unless and until the applicant has furnished evidence that he or she is either exempt from this chapter or is duly licensed under this chapter to carry out or superintend the work for which the permit has been applied. The building inspector, or other authority, violating the terms of this section shall be guilty of a Class C misdemeanor and shall for each offense of which he or she is convicted be punished in accordance with Sections 13A-5-7 and 13A-5-12.

(Acts 1935, No. 297, p. 721, §15; Code 1940, T. 46, §80; Acts 1947, No. 402, p. 293, §1; Acts 1959, No. 571, p. 1429, §1; Acts 1987, No. 87-175, p. 236, §3; Acts 1996, No. 96-640, p. 1013, §1; Acts 1997, No. 97-270, p. 486, §1.)

Section 34-8-10

Indictment or complaint.

In all prosecutions for the violation of the provisions of Section 34-8-6 for engaging in the business of general contracting without a certificate of authority, it shall be sufficient to allege in the indictment, affidavit, or complaint that "A. B. unlawfully engaged in business as a general contractor, without authority from the licensing board for contractors so to do."

(Acts 1935, No. 297, p. 721, §16; Code 1940, T. 46, §81; Acts 1959, No. 571, p. 1429, §1.)

<http://alisondb.legislature.state.al.us/alison/CodeOfAlabama/1975/Coatoc.htm> (08-23-2023)

SECTION C – LOCAL TERMS AND CONDITIONS

C-01 CONTRACTOR'S INSURANCE

Contractor shall obtain insurance of the types and in the amounts described below, but in no event shall such limits be less than those required by applicable law. The insurance shall be written by insurance companies and on forms acceptable to Owner.

Owner and Garver, LLC shall be included as an insured under the CGL, (using ISO Additional Insured Endorsement CG 20 10 11 85 or a substitute providing equivalent coverage), and under the commercial automobile liability (using ISO Additional Insured Endorsement CA 2048 or a substitute providing equivalent coverage), and commercial umbrella, if any. This insurance, including insurance provided under the commercial umbrella, if any, shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs afforded to, or maintained by, Owner.

(1) WORKERS' COMPENSATION and EMPLOYER'S LIABILITY INSURANCE

(a) Workers' Compensation coverage shall be provided in accordance with the statutory coverage required in Alabama. A group insurer must submit a certificate of authority from the Alabama Department of Industrial Relations approving the group insurance plan. A selfinsurer must submit a certificate from the Alabama Department of Industrial Relations stating the Contractor qualifies to pay its own workers' compensation claims.

(b) Employer's Liability Insurance limits shall be at least:

- 1 Bodily Injury by Accident - \$1,000,000 each accident
- 2 Bodily Injury by Disease - \$1,000,000 each employee

(2) COMMERCIAL GENERAL LIABILITY INSURANCE

(a) Commercial General Liability Insurance, written on an ISO Occurrence Form (current edition as of the date of Advertisement for Bids) or equivalent, shall include, but need not be limited to, coverage for bodily injury and property damage arising from premises and operations liability, products and completed operations liability, blasting and explosion, collapse of structures, underground damage, personal injury liability and contractual liability. The Commercial General Liability Insurance shall provide at minimum the following limits:

Coverage	Limit
1 General Aggregate	\$ 2,000,000.00 per Project
2 Products, Completed Operations Aggregate	\$ 2,000,000.00 per Project
3 Personal and Advertising Injury	\$ 1,000,000.00 per Occurrence
4 Each Occurrence	\$ 1,000,000.00

(b) Additional Requirements for Commercial General Liability Insurance:

- 1 The policy shall name the Owner, Architect, and their agents, consultants and employees as additional insureds, state that this coverage shall be primary insurance for the additional insureds; and contain no exclusions of the additional insureds relative to job accidents.
- 2 The policy must include separate per project aggregate limits.

(3) COMMERCIAL BUSINESS AUTOMOBILE LIABILITY INSURANCE

(a) Commercial Business Automobile Liability Insurance which shall include coverage for bodily injury and property damage arising from the operation of any owned, non-owned or hired automobile. The Commercial Business Automobile Liability Insurance Policy shall provide not less than \$1,000,000 Combined Single Limits for each occurrence.

(b) The policy shall name the Owner, Architect, and their agents, consultants, and employees as additional insureds.

(4) COMMERCIAL UMBRELLA LIABILITY INSURANCE

(a) Commercial Umbrella Liability Insurance to provide excess coverage above the Commercial General Liability, Commercial Business Automobile Liability and the Workers' Compensation and Employer's Liability to satisfy the minimum limits set forth herein.

(b) Minimum Combined Primary Commercial General Liability and Commercial/Excess Umbrella Limits of:

1 \$ 1,000,000 per Occurrence

2 \$ 2,000,000 Aggregate

(c) Additional Requirements for Commercial Umbrella Liability Insurance:

1 The policy shall name the Owner, Architect, and their agents, consultants, and employees as additional insureds.

2 The policy must be on an "occurrence" basis.

(5) BUILDER'S RISK INSURANCE

(a) The Builder's Risk Policy shall be made payable to the Owner and Contractor, as their interests may appear. The policy amount shall be equal to 100% of the Contract Sum, written on a Causes of Loss - Special Form (current edition as of the date of Advertisement for Bids), or its equivalent. All deductibles shall be the sole responsibility of the Contractor.

(a) The policy shall be endorsed as follows:

"The following may occur without diminishing, changing, altering or otherwise affecting the coverage and protection afforded the insured under this policy:

(i) Furniture and equipment may be delivered to the insured premises and installed in place ready for use; or

(ii) Partial or complete occupancy by Owner; or

(iii) Performance of work in connection with construction operations insured by the Owner, by agents or lessees or other contractors of the Owner, or by contractors of the lessee of the Owner."

C-01.1 Primary and Non-contributory: Contractor agrees that the insurance listed above, including insurance provided under the commercial umbrella, if any, shall apply as primary and non-contributory insurance with respect to any other insurance or self-insurance programs afforded to, or maintained by, Owner.

C-01.2 Waiver of Subrogation: Contractor waives all rights against the Owner and Garver, LLC and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the commercial general liability, commercial umbrella liability insurance, automobile liability insurance and workers compensation insurance maintained pursuant to paragraph C-01 of this agreement.

C-01.3 No Implied Waiver: Contractor shall furnish certifications matching the coverage requirements. Failure of Owner or Engineer to demand such certificate or other evidence of full compliance with these insurance requirements or failure of Owner or Engineer to identify a deficiency from evidence that is provided shall not be construed as a waiver of the contractors obligations to furnish and maintain such insurance, or as a waiver to the enforcement of any of the provisions at a later date.

Any waiver of the contractor's obligation to furnish such certificate or maintain such evidence must be by written change order and signed by a Managing Member (Officer) of the Engineer and the Owner.

Shelby County Airport
Mass Storage Hangar T

C-01.4 Cancellation, Non-Renewal, and/or Impairment Notification: The Contractor shall not cause any insurance policy to be cancelled or permit it to lapse and all insurance policies shall include an endorsement to the effect that the insurance policy or certificate shall not be subject to cancellation or to a reduction in the required limits of liability or amounts of insurance until notice has been mailed to the Owner and Engineer, stating the date when such cancellation or reduction shall be effective, which date shall not be less than (30) days after such notice.

The amount of additional premium required for including the Owner and Garver, LLC on the Contractor's policy as additional insured shall be subsidiary to other contract items. The Engineer has the right to request justification from the contractor for the full amount of the cost included under the items "Owner's Protective Insurance".

Notice shall be sent via email and regular mail to the following persons and addresses:

Owner:

Mr. Trey Gauntt
Shelby County Commission
200 West College Street,
Room 123, Columbiana, AL 35051
TGauntt@shelbyal.com

Garver:

Ms. Jennifer Harp
5125-A Research Drive
Huntsville, AL 35805
JHHarp@GarverUSA.com

Shelby County Airport
Mass Storage Hangar T

C-01.5 Sample Certificate of Liability Insurance:



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
(must be dated)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Agency Name Agency Address www.stephens.com	CONTACT NAME: Agency contact
	PHONE (A/C, No, Ext): Agency ph# FAX (A/C, No):
INSURED Named Insured on the policies	E-MAIL ADDRESS: Agency contact email address
	INSURER(S) AFFORDING COVERAGE
	INSURER A: Carrier Name (AM Best Rating)
	INSURER B:
	INSURER C:
	INSURER D:
	INSURER E:
	INSURER F:

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	APPL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY	X X	XXXXXXXXXX			EACH OCCURRENCE \$ 5,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 5,000,000 PRODUCTS - COMP/OP AGG \$ 5,000,000
	COMMERCIAL GENERAL LIABILITY					
	CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR					
	GEN'L AGGREGATE LIMIT APPLIES PER:					
	POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC					
	AUTOMOBILE LIABILITY	X X	XXXXXXXXXX			COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ \$
	ANY AUTO					
	ALL OWNED AUTOS					
	HIRED AUTOS					
	SCHEDULED AUTOS					
	NON-OWNED AUTOS					
	UMBRELLA LIAB					EACH OCCURRENCE \$
	EXCESS LIAB					AGGREGATE \$
	DED <input type="checkbox"/> RETENTION \$ XXXXX					\$ \$ \$ \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY					<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	Y/N	XXXXXXXXXX			E.L. EACH ACCIDENT \$ 500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below	N/A				E.L. DISEASE - EA EMPLOYEE \$ 500,000
			XXXXXXXXXX			E.L. DISEASE - POLICY LIMIT \$ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Owner & Garver, LLC shall be included as an Additional Insured by endorsement #CG2010(11/85) on the General Liability and #CA2048 on the Automobile and Umbrella or substitute endorsement providing equivalent coverage. Coverage shall be Primary and non-contributory with respect to any other insurance or self-insurance programs afforded to the Owner and Garver LLC. Waiver of Subrogation applies in favor of the Owner and Garver LLC on all policies. 60 day notice will be provided to the Owner and Garver LLC in the event of cancellation, non-renewal and/or impairment of the Contractor's policies.

CERTIFICATE HOLDER Owner and Garver LLC	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE (must be signed by the Contractor's Insurance Agent)
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ACORD 25 (2010/05)

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C-02 UTILITIES

All work in this contract shall be in accordance with the Underground Damage Prevention Legislation, Alabama Act 94-487. The Contractor shall abide by the most current edition of this Act.

C-03 LEGAL HOLIDAYS

Holidays that shall be observed are the following: New Year's Day (January 1); Dr. Martin Luther King Jr.'s Birthday (3rd Monday in January); President's Day (3rd Monday in February); Memorial Day (last Monday in May); Juneteenth (June 19); Independence Day (July 4); Labor Day (1st Monday in September); Columbus Day (2nd Monday in October); Thanksgiving Day (4th Thursday in November); Day after Thanksgiving (Friday following Thanksgiving); Christmas Eve (December 24); and Christmas Day (December 25). If a holiday falls on a Saturday or Sunday, the observed day shall be the Friday preceding the Saturday or the Monday following the Sunday. No construction observation will be furnished on legal holidays or Sundays, except in an emergency. The Contractor shall observe these legal holidays and all Sundays, and no work shall be performed on these days except in an emergency. Calendar day contract time includes delays for all holidays. Refer to Section C-05 for more information.

C-04 PROJECT MEETINGS AND COORDINATION

A preconstruction conference will be called by the Engineer at a time convenient to the Owner and before the issuance of the "Notice to Proceed". The Engineer and the Contractor and such subcontractors as the Contractor may desire shall attend this meeting with the Owner.

The Owner and/or Engineer will call such coordination conferences as may seem expedient to him for the purpose of assuring coordination of the work covered by this Contract. The Contractor shall attend all such conferences. This in no way relieves the Contractor of his responsibility to fully coordinate his work under this Contract.

C-05 EXTENSIONS OF TIME

Extensions of time for completion, under the condition of 3(a) next below, will be granted; extensions may be granted under other stated conditions:

1. If the satisfactory execution and completion of the Contract shall require work or material in greater amounts or quantities than those set forth in the Contract, then the Contract time shall be increased in the same proportion as the additional work bears to the original work contracted for.
2. An average or usual number of inclement weather days, when work cannot proceed, is to be anticipated during the construction period and is not to be considered as warranting extension of time. These include days with a mean temperature lower than 32° F and days with more than 0.1" of precipitation. Days with more than 0.5" of precipitation are counted as two days. The days included in the contract time for Normal Weather-Related Events and holidays are as follows:

(On A Monthly Basis)

Month	Normal Weather-Related Events	Holidays
January	14	2
February	12	1
March	12	0
April	9	0
May	8	1
June	11	1

Shelby County Airport
Mass Storage Hangar T

July	12	1
August	10	0
September	5	1
October	8	1
November	9	2
December	11	2

weather-related events detailed in the proceeding table, extensions of time may be granted.

3. Should the work under the Contract be delayed by other causes which could not have been prevented or contemplated by the Contractor, and which are beyond the Contractor's power to prevent or remedy, an extension of time may be granted. Such causes of delay shall include but not necessarily be limited to the following:
 - a. Acts of God, acts of the public enemy, acts of the Owner except as provided in these Specifications, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.
 - b. Any delays of Subcontractors or suppliers occasioned by any of the causes specified above.

The Engineer or other authorized representative of the Owner shall keep a written record sufficient for determination as to the inclusion of that day in the computation of Contract time. This record shall be available for examination by the Contractor during normal hours of work as soon as feasible after the first of each construction month. Weather reporting locations and procedures shall be discussed during the preconstruction meeting. In case of disagreement between the representative of the Owner and the Contractor, as to the classification of any day, the matter shall be referred to the Owner whose decision shall be final.

The Contractor shall provide notice to the Engineer each week, in the form of written letter or e-mail, to document weather and site conditions and request certain days be deemed non-conductive due to weather or site conditions. At a minimum, reports shall contain average temperature, 24 hour rainfall and information source. The notice shall be received by the Engineer's representative by the close of business of each Tuesday for the previous week of contract time. Failure to provide the written documentation by the close of business each Tuesday shall result in all seven days of the previous week being deemed conducive. These notices shall serve as justification for whether or not an extension of time is granted, if merited. In case of disagreement between the representative of the Owner and the Contractor, as to the classification of any day, the matter shall be referred to the Owner whose decision shall be final.

If the Contractor finds it impossible for reasons beyond his control to complete the work within the Contract time as specified, or as extended in accordance with the provisions of this subsection, he may, at any time prior to the expiration of the Contract time as extended, make a written request to the Engineer for an extension of time setting forth the reasons which he believes will justify the granting of his request. The Contractor's plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, he may recommend to the Owner that the contract time be extended as conditions justify. If the Owner extends the contract, the extended time for completion shall then be in full force and effect, the same as though it were the original time for completion.

The amount of all extensions of time for whatever reason granted shall be determined by the Owner. In general, only actual and not hypothetical days of delay will be considered. The Owner shall have authority to grant additional extensions of time as the Owner may deem justifiable.

C-06 QUALITY ASSURANCE/MATERIALS TESTING

The Owner shall be responsible for quality assurance testing as stated in these specifications; however, the Contractor shall be responsible for payment of any subsequent tests made necessary by previous unsatisfactory tests. In this event, the Owner's quality assurance representative shall conduct the additional testing and payment for such tests shall be directly deducted from the Contractor's payment. The Contractor shall pay for additional testing at the Owner's contract rate.

C-07 RECORD DOCUMENTS

The Contractor shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, Shop Drawings and samples at the site, in good order, and annotated to show all changes made during the construction process. In addition, the Contractor shall note any differences between locations of underground existing facilities shown in the plans and the actual location located during construction. These record documents shall be available to the Engineer for examination and shall be delivered to the Engineer upon completion of the work.

C-08 CONTRACTOR/SUBCONTRACTOR/SUPPLIER LEGAL DISPUTES

Any fees, expenses, charges, fines or other costs borne by the Owner as a result of legal disputes or lawsuits between the contractor and his subcontractors, or between the contractor and his suppliers, shall be deducted from monies due or which may thereafter become due the contractor.

C-09 CONSTRUCTION WARRANTY OBSERVATION COST

The Contractor will be responsible for all costs associated with construction observation and oversight for work related to warranty repair as described in the General Provision.

C-10 CONTRACTOR'S RELEASE AND AFFIDAVIT

At the project's completion, the Contractor shall execute a Release and Lien Waiver to release all claims against the Owner arising under and by virtue of his Contract. The date of the Release shall be that agreed to for the final acceptance of the project with the Owner.

C-11 SUBMITTALS

The Contractor shall prepare and submit information required by the individual Specification sections sufficiently in advance of the related work to allow an appropriate review time by the Engineer. The types of submittals are indicated in the individual Specification sections.

During the preconstruction conference, the Contractor shall review his submittal schedule and procedures. The Contractor shall provide one of the following submittal package types:

1. Submit electronic submittals via email as PDF electronic files directly to the Engineer's designated representative. Electronic submittals shall be in Adobe Acrobat (*.PDF) format and shall be legible when printed.

Submittals shall be neat, organized, and easy to interpret. Assemble complete submittal package into a single indexed electronic file, incorporating submittal requirements of an individual Specification section, the transmittal form with unique submittal numbering system, and electronic links or tabs enabling navigation to each item. Unless approved otherwise by the Engineer, all submittals for the individual Specification section shall be submitted at one time.

Submittals must come directly from the Prime Contractor; submittals from subcontractors or suppliers will not be reviewed.

Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review. Faxed submittals or submittals with extremely small or otherwise unreadable print will not be accepted. Submittals not required by the Contract Documents will be returned by the Engineer without action.

The Contractor shall be responsible for payment of any subsequent submittal reviews beyond the second iteration of a specific item as indicated by the construction submittal log. In this event, the Owner's representative shall conduct the submittal review and payment for the submittal review shall be directly deducted from the Contractor's payment. The Contractor shall pay for additional submittal reviews at the Owner's contract rate.

The Contractor shall retain complete copies of submittals on project site. Use only final submittals that are marked with approval notation from Engineer's submittal review stamp with comments form.

Resubmittals shall continue the unique, sequential, submittal numbering system. Resubmittals without unique numbering, example resubmittals transmitted as 005A or 005REV, are unacceptable and will be returned un-reviewed.

C-12 STORMWATER POLLUTION PREVENTION PLAN – See C-102 of the Project Specifications.

C-13 SUBSURFACE AND PHYSICAL CONDITIONS

The following report(s) of exploration and tests of subsurface conditions at or contiguous to the site used by Design Engineer in preparing the Contract Documents will be made available to the bidders prior to the bid opening.

Report dated 08-11-2023, prepared by Terracon entitled "Shelby County Airport Mass Hangar T Geotechnical Engineering Report".

Soil characteristics provided in any soil reports, or as shown on boring logs, are representative only at the location of the sample taken, and neither the Owner, Engineer nor Engineer's consultants will be responsible for variations in the soil characteristics at other locations. Any subsurface information, geotechnical reports, or hazardous environmental conditions made available to Contractor was obtained and intended for the Owner's design and estimating purposes only. Such reports and drawings are not Contract Documents.

The Contractor may not rely upon or make any claim against Owner, Engineer, or Engineer's Consultants with respect to (1) the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by the Contractor and safety precautions and programs incident thereto, (2) other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings, or (3) any Contractor interpretation or other conclusion drawn from any data, interpretations, opinions, or information.

If in any case, the recommendations set forth in the reports or drawings listed above conflict with the requirements set forth in these Contract Documents, the requirements in the Contract Documents shall take precedence.

C-14 OWNER'S SAFETY PROGRAM

Contractor shall comply with the applicable requirements of Owner's safety programs, if any.

C-15 PROJECT SUPERINTENDENT

Contractor shall, upon receipt of the Notice of Award, designate in writing to the Engineer for approval the name of the superintendent who will be in charge of the Contractor's operations.

C-16 SALES AND USE TAXES

The Owner is a tax exempt agency. Materials incorporated into the Work are exempt from sales and use tax, therefore Contractor shall NOT include sales and use taxes in his Bid.

It shall be the responsibility of the successful Contractor and any Subcontractor working under the same contract to apply for a Certificate of Exemption from the Alabama Department of Revenue for this specific project and to comply with all ADOR rules and regulations. The Owner shall not consider claims for additional costs resultant of the Contractor's or its subcontractors' failure to comply with such rules and regulations.

END OF SPECIAL PROVISIONS

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ITEM SS-101 SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

DESCRIPTION

101-1.1 The Contractor shall thoroughly review the approved Construction Safety and Phasing Plan (CSPP) and shall comply with approved CSPP. The Contractor shall certify such compliance by completing the attached SPCD and submitting to the Engineer for approval.

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Shelby County Airport
Mass Storage Hangar T

Contractor Safety Plan Compliance Documents

Owner Name: SHELBY COUNTY COMMISSION

Airport: Shelby County Airport

Project Description: Mass Hangar T

Contractor: _____

Each item listed below corresponds to a specific section of the approved CSPP. The Contractor shall certify that he/she will comply with each section of the approved CSPP. Each certified section with a "no" response must be fully explained in an attachment to the SPCD. The document shall be signed and dated by a principal or owner in the Contractor's company. All other requested information shall be completed by the Contractor and submitted to the Engineer for approval as part of the SPCD.

1. **Section 1 - Coordination:** This project shall be completed in accordance with Section 1 "Coordination" of the approved Construction Safety and Phasing Plan.

Owner: SHELBY COUNTY AIRPORT	
Contact:	Phone:
Engineer:	
Project Manager:	Phone:
Project Engineer:	Phone:
Construction Observer:	Phone:
Materials Testing:	Phone:
Contractor:	
Project Manager:	Phone:
Superintendent:	Phone:
Subcontractors:	Phone:

Yes _____ No _____

2. **Section 2 - Phasing:** This project shall be completed in accordance with Section 2 "Phasing" of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

3. **Section 3 – Areas of Operations Affected by Construction Activity:** This project shall be completed in accordance with Section 3 "Areas of Operations Affected by Construction Activity" of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

Shelby County Airport
Mass Storage Hangar T

4. **Section 4 – Protection of Navigational Aids (NAVAIDS):** This project shall be completed in accordance with Section 4 “Protection of Navigational Aids (NAVAIDS)” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

5. **Section 5 – Contractor Access:** This project shall be completed in accordance with Section 5 “Contractor Access” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

6. **Section 6 – Wildlife Management:** This project shall be completed in accordance with Section 6 “Wildlife Management” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

7. **Section 7 – Foreign Object Debris (FOD) Management:** This project shall be completed in accordance with Section 7 “Foreign Object Debris (FOD) Management” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

8. **Section 8 – Hazardous Materials (HAZMAT) Management:** This project shall be completed in accordance with Section 8 “Hazardous Materials (HAZMAT) Management” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

9. **Section 9 – Notification of Construction Activities:** This project shall be completed in accordance with Section 9 “Notification of Construction Activities” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

10. **Section 10 – Inspection Requirements:** This project shall be completed in accordance with Section 10 “Inspection Requirements” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

11. **Section 11 – Underground Utilities:** This project shall be completed in accordance with Section 11 “Underground Utilities” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

12. **Section 12 – Penalties:** This project shall be completed in accordance with Section 12 “Penalties” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

13. **Section 13 – Special Conditions:** This project shall be completed in accordance with Section 13 “Special Conditions” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

Shelby County Airport
Mass Storage Hangar T

14. **Section 14 – Runway and Taxiway Visual Aids:** This project shall be completed in accordance with Section 14 “Runway and Taxiway Visual Aids” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

15. **Section 15 – Marking and Signs for Access Routes:** This project shall be completed in accordance with Section 15 “Marking and Signs for Access Routes” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

16. **Section 16 – Hazard Marking and Lighting:** This project shall be completed in accordance with Section 16 “Hazard Marking and Lighting” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

17. **Section 17 – Work Zone Lighting for Nighttime Construction:** This project shall be completed in accordance with Section 17 “Work Zone Lighting for Nighttime Construction” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

18. **Section 18 – Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces:** This project shall be completed in accordance with Section 18 “Protection of Safety Areas, Object Free Areas, Object Free Zones, and Approach / Departure Surfaces” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

19. **Section 19 – Other Limitations on Construction:** This project shall be completed in accordance with Section 19 “Other Limitations on Construction” of the approved Construction Safety and Phasing Plan.

Yes _____ No _____

I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, and that I shall comply with the approved Construction Safety and Plan.

Signed: _____
Contractor's Authorized Representative

Date: _____

Print Name and Title of Contractor's Representative

END OF ITEM SS-101

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ITEM SS-110 STANDARD SPECIFICATIONS

GENERAL

110-1.1 The standard specifications of the Alabama department of transportation (ALDOT) are bound in a book titled Standard Specifications for Highway Construction. These specifications are referred to herein as "Standard Specifications." The latest edition shall apply. A copy of these "Standard Specifications" may be obtained from ALDOT at their customary charge.

INCORPORATION AND MODIFICATION

110-2.1 Certain parts of the Standard Specifications are appropriate for inclusion in these Technical Specifications. Such parts are incorporated herein by reference to the proper section or paragraph number. The individual specification numbers noted herein may be different from those in the latest edition of the "Standard Specifications." The most current specification number shall apply. Each such referenced part shall be considered to be a part of these Contract Documents as though copied herein in full.

110-2.2 Certain referenced parts of the Standard Specifications are modified in the Specifications that follow. In case of conflict between the Standard Specifications and the Specifications that follow, the Specifications that follow shall govern.

110-2.3 Individual material test numbers change from time to time. Use the latest applicable test.

110-2.4 Reference in the Standard Specifications to the "Department" is herein changed to the "Owner".

MEASUREMENT AND PAYMENT

110-3.1 In addition to other ALDOT items utilized within the planset, the provisions of the Standard Specifications shall also be incorporated into these specifications for the list of items below.

Payment will be made under the following items:

SS-110-3.1 Permanent ALDOT 703-A Solid Yellow, Class 1 Type "A" Traffic Markings – per Square Foot

END OF ITEM SS-110

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ITEM SS-120 CONSTRUCTION SAFETY, SECURITY, AND SITE MANAGEMENT

DESCRIPTION

120-1.1 This item covers safety, security, and site management for construction of the proposed improvements.

The attention of the bidder is directed to the necessity for careful examination of the entire project site to determine, at the time of bid preparation, the full extent of work to be done under the item "Construction Safety, Security, and Site Management."

The item "Construction Safety and Security" shall include:

1. Taxiway Closure with Lighted Barricades
2. Airport Security Requirements
3. Airport Safety Requirements
4. Contractor's Access/Haul Routes
5. Contractor's Staging Area
6. Instrument Control
7. Clean-Up

CONSTRUCTION METHODS

120-2.1 Lighted barricades and closed taxiway and runway markers.

a. The Contractor shall furnish, install, maintain, and remove lighted low-profile aircraft barricades to delineate taxiway closures in accordance with details on the plans and as directed by the Engineer. The lighted low-profile aircraft barricades shall be constructed and installed as shown on the plans. All lighted low-profile aircraft barricades shall be constructed in accordance with AC 150/5370-2G Operational Safety on Airports During Construction.

b. The Contractor shall also furnish, install, maintain, materials to obscure taxiway lights and signs for closed taxiways in accordance with details on the plans and as directed by the Engineer.

c. All work involved in the furnishing, installation, maintenance, and removal of lighted barricades and light/sign obscuring will not be measured for separate payment, but will be considered subsidiary to the bid item "Construction Safety, Security, and Site Management."

120-2.2 Airport security requirements. The Contractor shall abide by the Airport Security requirements that are outlined in the Construction Safety and Phasing Plan (CSPP). Any costs associated with the Airport Security requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety, Security, and Site Management."

120-2.3 Airport safety requirements. The Contractor shall abide by the Airport Safety requirements that are outlined in the Construction Safety and Phasing Plan (CSPP). All costs associated with the Airport Safety requirements will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety, Security, and Site Management."

120-2.4 Contractor's Access/Haul Routes. The Contractor shall layout, construct, maintain, and repair all access/haul roads needed to construct the work. The existing access roads shown on the plans shall be repaired, as determined necessary by the Engineer, at the close of the project. All such work, including all materials and labor, involved in the layout, construction, maintenance, and repair of the Contractor's access/haul roads will not be measured for separate payment but will be considered subsidiary to the bid item " Construction Safety, Security, and Site Management."

120-2.5 Contractor's Staging Area. The areas designated in the plans or by the Engineer as the Contractor's staging area shall be cleared and graded by the Contractor as needed for use by the Contractor in constructing the work on this project. All areas used or otherwise occupied by the Contractor for his operations shall be cleaned, regraded, and seeded, as directed by the Engineer, prior to the final acceptance of the project by the Airport. All work involved in the preparation and restoration of areas used or occupied by the Contractor, including clearing, grubbing, regrading, seeding, and installing and removing fence, will not be measured for separate payment but will be considered subsidiary to the bid item "Construction Safety, Security, and Site Management."

120-2.6 Instrument Control. The Contractor will be furnished survey baselines and benchmarks to control the work as shown on the Plans. The Contractor shall be responsible for the additional instrument control necessary to layout and construct the work. The Contractor shall provide the instrument control as provided for in Section 50 of the General Provisions. The Contractor's instrument control of the work shall not be measured for separate payment but will be considered subsidiary to the bid item " Construction Safety, Security, and Site Management."

125-2.1 Clean-Up. From time to time, the Contractor shall clean up the site in order that the site presents a neat appearance and that the progress of work will not be impeded. One such clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

MEASUREMENT AND PAYMENT

120-3.1 Construction safety, security, and site management will be measured as a lump sum complete item. Work completed and accepted under this item will be paid for at the contract lump sum price bid for " Construction Safety, Security, and Site Management ", which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the Engineer.

Payment will be made under:

Item SS-120-3.1	Construction Safety, Security, and Site Management - per Lump Sum
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END OF ITEM SS-120

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ITEM SS-230 ALDOT BITUMINOUS CONCRETE

DESCRIPTION

230-1.1 This item shall consist of a surface course composed of mineral aggregate and bituminous material mixed in a central mixing plant and placed on a prepared course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross sections shown on the plans. The surface course shall be constructed to the depth, typical section, or elevation required by the plans and shall be rolled, finished, and approved by the engineer prior to payment.

MATERIALS

230-2.1 HOT MIX ASPHALT. The materials furnished shall conform to the applicable requirements of Section 410 and Section 424 of the Alabama Department of Transportation Specifications for Highway Construction, 2018 Edition for ALDOT 424-A Superpave Bituminous Concrete Wearing Surface Layer, $\frac{3}{4}$ " Maximum Aggregate Size, ESAL E (PG 67-22). RAP and RAS will not be permitted. The Contractor shall provide an approved job mix formula from the Materials and Tests Engineer from the State of Alabama.

COMPOSITION AND CONSTRUCTION REQUIREMENTS

230-3.1 The bituminous surface course shall be produced, transported, placed, and compacted in accordance with the applicable sections set forth herein and in Section 410 and Section 424 of the Alabama Department of Transportation Specifications for Highway Construction, 2018 Edition. Prior to placing of the hot mix asphalt, the underlying surface must be prepared according to the project specifications and reviewed by the Engineer. A Material Remixing Device will not be required.

Density requirements shall be as specified in section SS-230-5.2.

230-3.2 The formation of all joints shall be made to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid asphalt except where necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be coated with an asphalt tack coat before placing any fresh asphalt against the joint.

Longitudinal joints which have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°; or are irregular, damaged, uncompacted or otherwise defective shall be cut back with pavement saw a maximum of 3 inches to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. Asphalt tack coat in accordance with P-603 shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

CONTRACTOR QUALITY CONTROL

230-4.1 General. The Contractor shall develop a Contractor Quality Control Program (CQCP).

230-4.2 Contractor quality control (QC) facilities. The Contractor shall provide or contract for testing facilities. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work

shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

230-4.3 Contractor QC Testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness.

- a. Asphalt content. QC testing of asphalt content shall be as defined in Section 106.09 of the ALDOT Standard Specifications for Highway Construction, 2022.
- b. Gradation. QC testing of aggregate gradations shall be as defined in Section 106.09 of the ALDOT Standard Specifications for Highway Construction, 2022.
- c. Moisture content of aggregate. QC testing of the moisture content of the aggregate shall be as defined in Section 106.09 of the ALDOT Standard Specifications for Highway Construction, 2022.
- d. Moisture content of asphalt. QC testing of the moisture content of the asphalt shall be as defined in Section 106.09 of the ALDOT Standard Specifications for Highway Construction, 2022.
- e. Temperatures. Temperatures shall be checked, at least four times per day, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt at the job site.
- f. In-place density monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.
- g. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to and after the placement of the first lift and after placement of the surface lift.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch less than the thickness specified on the plans.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus 1/2 inch and replacing with new material. Skin patching is not allowed.

230-4.4 Sampling. When directed by the RPR, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

230-4.5 Control charts. The Contractor shall maintain linear control charts for both individual measurements and range (i.e. difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each day will be calculated and monitored by the QC laboratory.

Control charts shall be posted in a location satisfactory to the RPR and kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the RPR may suspend production or acceptance of the material.

-
- a. Individual measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation, asphalt content, and VMA. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits as defined in the ALDOT Standard Specifications for Highway Construction, 2022.
 - b. Range. Control charts shall be established to control gradation process variability as defined in the ALDOT Standard Specifications for Highway Construction, 2022.
 - c. Corrective Action. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken in accordance with the ALDOT Standard Specifications for Highway Construction, 2022.

230-4.6 QC reports. The Contractor shall maintain records and shall submit reports of QC activities daily.

MATERIAL ACCEPTANCE

230-5.1 Quality Assurance Acceptance sampling and testing. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

- a. Quality Assurance (QA) testing laboratory. The QA testing laboratory performing these acceptance tests shall meet the requirements Section 106.03 of the ALDOT Standard Specifications for Highway Construction, 2022.
- b. Lot Size. The lot size shall be in accordance with Section 106.09 of the ALDOT Standard Specifications for Highway Construction, 2022.

Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

- c. Asphalt air voids. Plant-produced asphalt will be tested for air voids in accordance with Section 106.09 of the ALDOT Standard Specifications for Highway Construction, 2022.
- d. In-place asphalt mat and joint density. Each subplot will be tested for in-place mat and joint density as a percentage of the theoretical maximum density (TMD).
 - (1) Sampling. The Contractor will cut minimum 5 inches diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.
 - (2) Bond. Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.
 - (3) Thickness. Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each subplot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not

be less than the indicated thickness. Where the thickness tolerances are not met, the lot or subplot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The Contractor, at his expense, may take additional cores as approved by the RPR to circumscribe the deficient area.

- (4) Mat density. One core shall be taken from each subplot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each subplot sample by the TMD for that subplot.
- (5) Joint density. One core centered over the longitudinal joint shall be taken for each subplot which contains a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

230-5.2 Acceptance criteria.

- a. General. Acceptance will be based on the following characteristics of the asphalt and completed pavements: air voids, mat density, and joint density.
- b. Air Voids. Acceptance of each lot of plant produced material for air voids will be based upon the requirements of Section 410.08D, table III, of the ALDOT Standard Specifications for Highway Construction, 2022.
- c. Mat density. Acceptance of each lot of plant produced material for mat density will be based on the average of all of the densities taken from the sublots. If the average mat density of the lot so established equals or exceeds 94%, the lot will be acceptable. If the average mat density of the lot is below 94%, the lot shall be removed and replaced at the Contractor's expense.
- d. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the average of all of the joint densities taken from the sublots. If the average joint density of the lot so established equals or exceeds 92%, the lot will be acceptable. If the average joint density of the lot is less than 92%, the Contractor shall stop production and evaluate the method of compacting joints. Production may resume once the reason for poor compaction has been determined and appropriate measures have been taken to ensure proper compaction.

230-5.3 Percentage of material within specification limits (PWL).

The PWL will be determined in accordance with procedures specified in Item C-110. The specification tolerance limits (L) for lower and (U) for upper are contained in the table below:

Test Property	Pavements Specification Tolerance Limits	
	L	U
Surface Course Mat Density (%)	92.8	--
Base Course Mat Density (%)	92.0	--
Joint Density (%)	90.5	--

All individual tests for mat density will be checked for outliers (test criterion) in accordance with ASTM E178,

at a significance level of 5%. Outliers will be discarded, and the PWL will be determined using the remaining test values. The criteria in Table 5 is based on production processes which have a variability with the following standard deviations: Surface Course Mat Density (%), 1.30; Base Course Mat Density (%), 1.55; Joint Density (%), 1.55.

The Contractor should note that (1) 90 PWL is achieved when consistently producing a surface course with an average mat density of at least 94.5% with 1.30% or less variability, (2) 90 PWL is achieved when consistently producing a base course with an average mat density of at least 94.0% with 1.55% or less variability, and (3) 90 PWL is achieved when consistently producing joints with an average joint density of at least 92.5% with 1.55% or less variability.

Leveling course density testing not required.

230-5.4 Resampling Pavement for Mat Density.

- a. General. Resampling of a lot of pavement will only be allowed for mat density and then, only if the Contractor requests same in writing, within 48 hours after receiving the written test results from the RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 230-5.1. Only one resampling per lot will be permitted.
 - (1) A redefined mat density will be calculated for the resampled lot. The number of tests used to calculate the redefined mat density will include the initial tests made for that lot plus the retests.
 - (2) The cost for resampling and retesting shall be borne by the Contractor.
- b. Payment for resampled lots. The redefined mat density for a resampled lot will be used to evaluate the acceptance of that lot in accordance with paragraph 230-5.2.
- c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded and density determined using the remaining test values.

MEASUREMENT AND PAYMENT

230-6.1 The quantity of bituminous concrete wearing, binder, or leveling surface course, to be paid for will be determined by measurement of the number of tons of material actually constructed on site for the 2-Inch surface, 2-Inch binder, or leveling course and accepted by the Engineer as complying with the plans and specifications. Payment shall be made at the contract unit price per ton for bituminous concrete wearing or binder surface course. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment, tools and incidentals necessary to complete these items. Pay factors over 100% will not be allowed.

230-6.2 No separate measurement or payment will be made for bituminous concrete used in the construction of the full depth pavement removal and replacement.

230-6.3 No separate measurement or payment will be made for sampling or testing provided by the Contractor.

Payment will be made under:

- | | |
|-----------------|---|
| Item SS-230-6.1 | 2-Inch ALDOT 424-A Superpave Bituminous Concrete Wearing Surface Layer, $\frac{3}{4}$ " Maximum Aggregate Size, ESAL E (PG 67-22) – per Ton |
| Item SS-230-6.2 | 2-Inch ALDOT 424-A Superpave Bituminous Concrete Binder Surface Layer, 1" Maximum Aggregate Size, ESAL E (PG 67-22) – per Ton |

Item SS-230-6.3 Variable Depth (0 – 1.5 Inch) ALDOT 424-A Superpave Bituminous Concrete
Leveling Surface Layer, $\frac{3}{4}$ " Maximum Aggregate Size, ESAL E (PG 67-22) – per Ton

END OF ITEM SS-230

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ITEM SS-295 PRE-ENGINEERED METAL HANGARS

DESCRIPTION

295-1.1 Furnish, deliver, and erect the complete pre-engineered metal hangars including foundations; anchor bolts; steel frames; purlins; wall girts; eave girts; exterior and interior wall panels; roof panels; and all miscellaneous framing, trim, fittings, fastening, sealants, glazing and other components to make the steel shell structure conform to these specifications and the contract drawings. Contractor shall also furnish complete foundation design and detailing based on a detailed soils investigation performed by a professional geotechnical engineer, licensed in the state where the construction occurs.

295-1.2 The hangar shall be the design of a manufacturer who is regularly engaged in the fabrication of aircraft hangar buildings and hangar doors. The hangar package shall be supplied as a complete system and furnished by a manufacturer who provides hangar doors and hangar buildings as an integral hangar building package. All materials shall be new, unused, and free from defect. The manufacturer's standard components may be used if quality levels and requirements meet or exceed that required of this specification. If any requirement of this specification conflicts with the manufacturer's standard model referenced below, the more stringent of the requirements shall be provided. The manufacturer's electrical and mechanical components shall meet the requirements as specified in this Section, including the supplemental and technical specifications and the drawings. Any manufacturer's name, trade name, brand name or catalog number used in these specifications is for the purpose of describing and establishing general quality levels. Such references are not intended to be restrictive. Bids will be considered for any brand that meets or exceeds the quality of the specifications listed for any item approved by Shelby County Commission.

The Mass Storage Hangar T shall be a 147' x 80' clear span hangar with a minimum clear door opening of 100' wide x approximately 25' tall with a minimum roof slope of 05"/12'. The Mass Storage Hangar T shall be equipped with a bi-parting, top-guided, bottom-rolling door with 2 operators.

The following building manufacturers are preapproved manufactures. Additional manufacturers may submit bids, provided they can meet the specifications for the proposed hangar.

- a. Erect-A-Tube (1-800-624-9219)
- b. Steel Span Inc. (1-815-943-9071)
- c. Alliance Steel Building Systems (1-405-745-7500)
- d. BC Steel Buildings (1-800-227-8335)
- e. Ruffin Building Systems (1-800-421-4232)
- f. Pinnacle Structures (1-800-201-1534)
- g. Mesco Building Solutions (1-800-556-3726)

295-1.3 The Mass Storage Hangar T shall be a Group III Aircraft Hangar, Type II (000) Construction, per NFPA 409 – Standard on Aircraft Hangars and NFPA 220 – Standard on Types of Building Construction.

295-1.4 Electrical work in this hangar project includes, but is not limited to, empty primary electrical conduits with pullwires, transformer pad and grounding accessories for utility pad mount transformer, complete secondary electrical power service and distribution system and equipment, excavation and backfill for electrical work, foundations and pads for electrical work, racks and support structures, temporary electrical service, feeder and branch circuit power wiring and distribution system, grounding systems, lightning protection systems, interior and exterior lighting and lamps, wiring devices, electrical control systems and interlock wiring, labeling and tagging, and conduit/wiring for all built-in equipment.

Shelby County Airport
Mass Storage Hangar T

295-1.5 Mechanical work will consist of the following:

- a. Installation of new water service line and one yard hydrant (WOODFORD Freezeless IOWA Yard Hydrant Model Y34 & Y1 or approved equal), as well as exterior underground waterlines for their installation (See Civil Utilities Plan).
- b. Plumbing stub-outs for a floor mounted water closet and a wall hung lavatory to the area of the building specified for the future restroom addition. No bathroom will be constructed at this time.
- c. Hangar shall have a minimum of 8 gutter downspouts. Each downspout shall be equipped with the sidewalk grate and downspout connector as depicted in the plans, or approved equal.

295-1.6 In addition to the description above, the Mass Storage Hangar T shall include:

- a. Three 3'x6'8" personnel doors at locations shown in the plans. Doors shall include a 26 Ga. Trim package and weather stripping. Each personnel door shall be openable from the inside with a single operation.
- b. Each hangar door lock shall be required to be a Grade 1 deadbolt, keyed one side, and shall accept or be compatible with a Schlage C, six pin cylinder. Each lock shall be lockset and master keyed to match the existing Airport Master Key.
- c. East exterior wall shall have a 4' tall brick façade. Brick samples shall be provided to the Owner for color selection.

NOTE: The Contractor shall provide written certification that all aspects of the hangar design and hangar construction meet the requirements of this specification and all applicable federal, state and local codes. The certification forms are included in this specification. Letters accompanying the design certification will be completed and signed by a Professional Engineer registered to practice in the State of Alabama, and shall be furnished to the Owner before construction begins. The certifications shall be completed by the principal or owner of the Contractor's company and furnished to the Owner at defined milestones for use in processing payment.

QUALITY ASSURANCE

295-2.1 General design criteria.

The community hangar shall be constructed per the requirements of NFPA 409 – Standard on Aircraft Hangars, for a Group III Aircraft Hangar classification, to Type II (000) Construction (maximum 12,000 square foot maximum single fire area). Refer to NFPA 220 – Standard on Types of Building Construction for fire resistance rating requirements for Type II (000) construction.

- a. It shall be the Contractor's responsibility to produce and furnish all required construction documents to the appropriate regulatory agencies for their review. It is the Contractor's responsibility to coordinate and furnish all permits, licenses and fees required to construct all aspects of the hangars.
- b. It shall be the Contractor's responsibility to furnish all professional certification required to meet all state and local codes and laws.
- c. The Mass Storage Hangar T shall be a 147' x 80' clear span hangar with a minimum clear door opening of 100' wide x approximately 25' tall with a minimum roof slope of 05"/12'.
- d. The Mass Storage Hangar T shall be equipped with a bi-parting, top-guided, bottom-rolling door with 2 operators.
- e. The building shall be designed and fabricated according to AISC and AISI latest specifications.
- f. The building shall be designed to support all mechanical equipment. Additional girts or purlins shall be placed in convenient locations for attachment of all mechanical equipment.

Shelby County Airport
Mass Storage Hangar T

- g. Combination design loads conditions shall be as required by 2021 International Building Code.
- h. The hangar may be “post and beam” for all column lines.
- i. For welded connections, comply with AWS “Structural Welding Code”. Welders shall be certified.

295-2.2 Structural design loads. Basic design loads as well as deflection limits are as follows:

- a. Design Loads
 - Dead Load of Building (D) Compute for actual building components used
 - Dead Load allowance for electrical 5 lbs./sq. ft.
 - Roof Live Load (R) In conformance with 2021 International Building Code
 - Wind Load (horizontal) (W) In conformance with 2021 International Building Code
 - Seismic (EQ) In conformance with 2021 International Building Code
 - Snow Load(s) In conformance with 2021 International Building Code
- b. Deflection Limits (under total load)
 - Roof sheets and siding sheets L/180
 - Roof and wall framing other than sheets L/180
 - Sideway at top of sidewall L/180 or 2” whichever is less

295-2.3 Structural member design. Design each member to withstand stresses resulting from combinations of loads that produce maximum ratio of actual allowable stress in that member, as prescribed in 2021 International Building Code. If required by building size and use, seismic design shall be performed.

295-2.4 Mechanical and electrical standards. Mechanical and Electrical work shall be performed in accordance with current editions of the standards listed below. Contractor shall utilize the most current editions of standards, which are current at the time of bid and as recognized by the Authority Having Jurisdiction for the respective standard.

- a. Applicable National Fire Protection Association (NFPA) codes, including but not limited to:
 - (1) NFPA 70 - National Electrical Code, including specific work requirements listed in Article 513 – Aircraft Hangars.
 - (2) NFPA 70E - Standard for Electrical Safety in the Workplace.
 - (3) NFPA 72 – National Fire Alarm Code.
 - (4) NFPA 101 - Life Safety Code.
 - (5) NFPA 220 – Types of Building Construction.
 - (6) NFPA 409 – Aircraft Hangars.
 - (7) NFPA 780 – Installation of Lightning Protection Systems.
 - (8) Internet Website: <http://www.nfpa.org>
- b. Applicable Code of Federal Regulations (CFR) codes, including but not limited to:
 - (1) 29 CFR 1910 - Occupational Safety and Health Standards (OSHA)
 - (2) 29 CFR 1926 - Safety and Health Regulations for Construction.
 - (3) Internet Website: <http://www.gpoaccess.gov/cfr/index.html>
- c. Applicable ANSI and IEEE codes, including but not limited to:
 - (1) ANSI/IEEE C2 – National Electric Safety Code
- d. NECA 1 – Standard for Good Workmanship in Electrical Construction.

Shelby County Airport
Mass Storage Hangar T

- e. Applicable Federal, State, and Local Electrical Codes.
- f. Applicable Federal, State, and Local Energy Codes.
- g. Applicable Federal, State, and Local Building Codes.
- h. Applicable Federal, State, and Local Fire Codes.
- i. Applicable City Electrical Code.
- j. Applicable City Ordinances pertaining to electrical work.
- k. Applicable Federal, State and Local - Environmental, Health and Safety Laws and Regulations.
- l. State of Alabama Mechanical Code.
- m. State of Alabama Gas Code.

295-2.5 Plumbing standards. Plumbing work shall be performed in accordance with the current editions of the standards listed below.

- a. Applicable State and City Plumbing Codes.

CONSTRUCTION DOCUMENTATION

295-3.1 General certification. The Owner shall not provide review, comment or approve of any Contractor construction documents. The Contractor shall provide written certification that all aspects of the hangar design, hangar construction, and materials meet the requirements of this specification and all applicable federal, state and local codes. The certification forms are included in this specification. The design certification will be completed and signed by a Professional Engineer registered to practice in the State of Alabama, and shall be furnished to the Owner before construction begins. The construction certifications shall be completed by the principal or owner of the Contractor's company, and furnished to the Owner at defined construction milestones for use in processing payment.

295-3.2 Construction record document. Furnish two (2) complete sets of foundation, structural, electrical and mechanical construction record documents to the Owner, following completion and acceptance of the hangar. These documents shall be for the Owner's records only, and no review, comment or approval shall be made or implied.

295-3.3 Shop drawings. In addition to the above, provide, in reproducible form with prints made by a process approved by the Engineer, shop drawings for major materials where called for and when requested by the Engineer.

Electrical Shop Drawings:

- (1) Lockout/Tagout Program and Safety Program.
 - a) The Contractor shall provide a complete copy of an electrical energy source Lockout/Tagout Program to the Owner, with copy to the Engineer. The document shall clearly identify the on-site master electricians and their contact information, including office and mobile telephone numbers.
 - b) The Lockout/Tagout Program shall comply with Part 1910 – Occupational Safety and Health Standards (OSHA) Subpart S – Electrical, and meet the requirements of 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout), including requirements listed in 1910.331 through 1910.335.
 - c) Implementation of the Lockout/Tagout Program and all other related safety requirements are the sole responsibility of the Contractor.
 - d) The Contractor shall implement an electrical safety program that complies with NFPA 70E and 29 CFR 1926.
 - e) Implementation of the Electrical Safety Program, determining and providing proper Personal Protective Equipment (PPE), training and enforcing personnel to wear the prescribed PPE, conducting work area safety

inspections (including correcting deficiencies), and all other related safety requirements are the sole responsibility of the Contractor.

- (2) Switchboards, panelboards, surge arresters, and disconnect switches.
- (3) Motor starters and contactors including custom control wiring diagrams.
- (4) Overcurrent devices including circuit breakers and fuses.
- (5) Light fixtures and lamps.
- (6) Conductors, cables, boxes, and conduits.
- (7) Manholes, handholes, and pull boxes.
- (8) Wiring devices and plates.
- (9) Grounding system and layout.
- (10) Lightning protection system and layout.

295-3.4 Operations and maintenance manuals (O&Ms):

- a. O&Ms shall comply with the General and Special Provisions and with the General and Supplemental Conditions. Furnish two (2) complete sets.
- b. Securely bind each O&M set in a separate heavy-duty 3-ring, hardcover binder. Group materials by their Specification number. Provide type written index label tabs and a type written label for the spine of the binder, which indicates the included equipment types.
- c. Provide complete descriptions, illustrations, specification data, etc., of all materials, fittings, devices, fixtures, special systems, etc., as required by the individual sections of this Division.
- d. O&Ms of shop drawings, product data and samples will be accepted only when furnished by the Contractor. Data furnished from subcontractors and material suppliers directly to the Engineer will not be processed.
- e. All O&Ms shall provide the following information:
 - (1) General Contractor.
 - (2) Sub-Contractor
 - (3) Distributor and/or Supplier
 - (4) Sales Agency
- f. O&Ms shall not be approved or rejected by the Owner. These documents shall be for the Owner's records only, and no review, comment or approval shall be made or implied.

DELIVERY, STORAGE AND HANDLING

295-4.1 Deliver and store pre-fabricated components, sheets, panels, and other manufactured items so they will not be damaged or deformed. Stack materials on platforms or pallets, covered with tarpaulins or other suitable weathertight ventilated covering. Store metal sheets or panels so that weather accumulations will drain freely. Do not store sheets or panels in contact with other materials which might cause deflecting.

WARRANTY

295-5.1 General. Any warranties listed in this section shall be in addition to the Owner's general warranties included in the Contract documents.

295-5.2 Roofing and siding panel finish warranty. Furnish the roofing and siding panel manufacturer's written warranty, covering failure of the factory-applied exterior finish on metal wall, roof panels, and liner panels within the warranty period.

295-5.3 Warranty period. The warranty period for factory-applied exterior finishes on wall and roof panels is 20 years after the date of Substantial Completion.

COORDINATION

295-6.1 The Contractor is responsible for coordinating dimensions and foundation details with the building supplier, reinforcing steel supplier, subcontractors, his forces and any other affected parties to assure a complete, sound and finished project. Contractor shall carefully examine all items of work to be thoroughly familiar with items that require connections and coordination. Notify other tradesman of any deviations or special conditions necessary for the installation of the work. Interference between works of various disciplines shall be resolved by the Contractor prior to installation. Work installed not in compliance with the standards listed and without properly checking and coordinating as specified above shall, if necessary, be removed and properly reinstalled without additional cost to the Owner.

295-6.2 Equipment shall be installed in accordance with manufacturer's recommendation. Make all final electrical connections and coordinate all items with other trades.

295-6.3 Correct unnecessary damage caused due to installation of work, brought about through carelessness or lack of coordination. All openings, sleeves, and holes in slabs to be properly sealed, fire proofed and water proofed.

INSPECTION FEES AND PERMITS

295-7.1 Obtain and pay for all necessary permits and inspection fees required for construction. It shall be the Contractor's responsibility to become familiar with all permits and inspection fees associated with the corporate hangar construction at the site.

295-7.2 Contractor shall be responsible for coordination of all County Required Special Inspections/Tests. See attached section 01 41 00 for STRUCTURAL TESTS AND SPECIAL INSPECTIONS. The required tests/inspections include but are not limited to the following:

Special Inspection/Test:	Performed by:
Site Proof-Roll	County provided 3 rd Party Inspector
Footing Inspections	County provided 3 rd Party Inspector
Soil Compaction Testing	County provided 3 rd Party Inspector
Concrete Formwork and Reinforcing Steel Inspection	County provided 3 rd Party Inspector
Concrete Anchor Bolt Inspection	County provided 3 rd Party Inspector
Concrete Slab Slump/Air/Temp during Placement	County provided 3 rd Party Inspector
Concrete Slab Compressive Strength Testing	County provided 3 rd Party Inspector
Welding Inspections	Contractor to Provide 3 rd Party Certifications
Steel Frame Joint and Bracing Inspections	Contractor to Provide 3 rd Party Certifications
Bolt Inspections	Contractor to Provide 3 rd Party Certifications
Roof Inspection	Contractor to Provide 3 rd Party Certifications

295-7.3 Contractor shall coordinate with utility companies and shall be responsible for all underground or aboveground differential costs charged by the utilities for new services to the facility. Contractor shall contact and allow local utilities to inspect trenches or other installations prior to backfilling.

MATERIALS

295-8.1 Hot-rolled structural shapes. ASTM A 36 or A 572.

295-8.2 Tubing or pipe. ASTM A 500, Grade B; ASTM A 501; or ASTM A 53.

295-8.3 Members fabricated from plate or bar stock. 42,000 psi minimum yield strength; ASTM A 529, A 570, or A 572.

295-8.4 Members fabricated by cold forming. ASTM A 607, Grade 50.

295-8.5 Galvanized steel sheets. ASTM A 446 with G90 coating; "Class" to suit building manufacturer's standards.

295-8.6 Anchor bolts. A307 non-headed, Grade C.

295-8.7 Concrete. Minimum 4,000 psi compressive strength at 28 days.

295-8.8 Reinforcing steel. ASTM A 615, Grade 60; deformed billet steel bars, unfinished. All reinforcing to be placed on metal or approved plastic chairs prior to concrete placement.

295-8.9 Welded wire fabric. ASTM A 185. Size as directed by the foundation engineer. Fabric shall be raised to proper location within the slab while concrete is in plastic state. After being raised into position, personnel and/or equipment shall not be allowed in the area until concrete has hardened enough for finishing operations.

STRUCTURAL FRAMING COMPONENTS

295-9.1 Steel frames. Hot rolled structural steel shapes or tubing. Factory welded and shop painted. The main structural steel frames may be of post and beam or rigid frame at the Contractor's option. Furnish complete with attached plates, bearing plates, and splice members. Factory drilled for bolted field assembly.

295-9.2 End wall framing. May be post and beam or rigid frame at Contractor's option.

295-9.3 End wall columns. Hot rolled structural shapes or tubing. Shop painted.

295-9.4 Rod bracing. Adjustable, threaded steel rods, ½" diameter minimum; ASTM A 36 or A 572, Grade D.

- a. Secondary Framing: Purlins, eave struts, wall girts, flange and sag bracing; minimum 16 gage rolled formed sections. Shop painted.
- b. Base channel, sill angle, end wall structural members (except columns and beams), purlin spacers; minimum 14 gage cold formed steel, galvanized.

295-9.5 Bolts. ASTM A 325 as necessary for design loads and connection details. Shop painted, except provide zinc plated units when in direct contact with panels.

ROOFING AND SIDING

295-10.1 General. Provide manufacturer's standard roofing and siding sheets. Provide flashings, closers, fillers, metal expansions joints, ridge covers, fascias, soffits and other sheet metal accessories, factory formed of same materials and finish as roofing and siding.

295-10.2 Siding sheets.

- a. For exterior walls, interior walls, and liner panels, provide Standard 26 Ga. galvalume coated wall sheets by the building manufacturer or approved equal. Exterior wall sheets shall be furnished full height. Exterior wall sheets shall be painted on one side with the painted side facing the exterior of the building. Interior wall sheets shall be furnished 8' in height. Interior wall sheets and liner panels shall not be painted.

Shelby County Airport
Mass Storage Hangar T

- b. Exterior wall sheet shall cover all structural members of the building when the building is closed.
- c. Exterior trim pieces shall be provided in manufacturer's standard configuration and attachment. Trim finish color samples shall be provided to the Owner for color selection.
- d. Fasteners to be self-drilling sheet metal screws finished to match siding. Fasteners shall have bonded sealing washers.
- e. Finish color samples shall be provided to the Owner for color selection.

295-10.3 Roof system. All Roofing: Roof sheets shall be standard 26 Ga. galvalume coated panels by the building manufacturer or approved equal. Roof panels shall be painted PAC-CLAD Metallic Finished Weathered Zinc. Panels shall be furnished full length from building eave to ridge purlin. A pre-formed ridge cap shall be provided. Furnish written twenty-year (20) warranty on materials. Roof system shall include 8 gutters and downspouts/roof drains. A minimum 1-foot roof sheet overhang, beyond the face of the building shall be provided to facilitate installation of the gutters and downspouts. Downspouts shall be located a minimum of 15 foot from the front and back edges of the hangar.

Roof drains shall connect to downspout and sidewalk grates (See Grading, Drainage, & Erosion Control Details)

MISCELLANEOUS MATERIALS

295-11.1 Flexible closure strips. Closed-cell, expanded cellular rubber, self-extinguishing, cut or premolded to match corrugation configuration of roofing and siding sheets. Provide necessary to ensure weathertight construction.

295-11.2 Sealing tape. 100% solids, pressure sensitive grey polyisobutylene compound tape with release paper backing. Not less than ½" wide and 1/8" thick, nonsag, nontoxic, nonstaining and permanently elastic.

295-11.3 Joint sealant. As standard with the building manufacturer.

295-11.4 Door stops. Door stops shall be provided for all pedestrian doors to ensure that adjacent walls are not damaged and locking systems are not affected.

295-11.5 Insulation. 4" thick insulation with white WMP-50 facing on roof and exterior walls only. "R" value shall be R13. Hangar door shall not be insulated.

295-11.6 Fire extinguishers, cabinet and accessories.

- a. Each installation shall be in accordance with NFPA 10, Standard for Portable Fire Extinguishers, including mounting heights. It is estimated that a minimum of 4 fire extinguishers with cabinet installations will be required.
- b. Extinguisher: UL Rating 80B:C, minimum 10 lb. capacity, the fire-fighting agent shall be Purple K dry chemical.
- c. Cabinet: Architectural Series, Model 2409-SM steel cabinet for surface mounted installation with full wire glass vision panel. Provide cabinet in manufacture's standard white color. Provide with standard brackets. Provide with minimum 3 keys per each lockable cabinet.
- d. Sign: Double-sided 4"x18" photo-luminescent sign with text "FIRE EXTINGUISHER", mounted directly above the cabinet with BOTTOM of sign at 80" above finished floor.

- e. Installation: Install Cabinet and Extinguisher so that the handle of extinguisher is 48" above finished floor.

SHEET METAL ACCESSORIES

295-12.1 General: Unless otherwise indicated, provide coated steel accessories with coated steel roofing and siding; coating shall be same as adjoining sheets and shall be fully covered by guarantee for adjoining sheets.

HANGAR DOOR

295-13.1 Bi-Parting door shall be bottom rolling, top-guided hangar doors, complete with 2 operators. Doors shall part in the middle and be installed according to manufacturer's installation instructions.

295-13.2 Bi-Parting doors and all operating components shall be as manufactured by the building manufacturer or an approved equal, and shall be integral with hangar building design. Door framing members shall be welded in full size panels. Structural steel shall be ASTM, A36, A572 or A500 Grade B. Bi-Parting doors shall include seals and two operators.

295-13.3 The hangar shall have minimum 100' wide x 25' tall clear door opening, with a nominal clear height of approximately 25'.

295-13.4 Building representative shall verify correct installation and submit verification and acceptance letter to the Engineer and Owner to ensure proper door operation prior to final project completion.

295-13.5 Contractor shall install three personnel entry doors at locations to be determined by the Owner. All personnel entry doors shall be keyed to match. Contractor shall provide two keys per lockset. Additionally, the personnel entry doors shall be keyed with a master key to match the existing airport master key.

ELECTRICAL EQUIPMENT AND MATERIALS

295-14.1 All materials and equipment used in carrying out this contract shall be American made, shall be new, and shall have UL listing, or listing by other recognized testing laboratory when such listings are available.

ERECTION

295-15.1 General. Erection shall be as specified and in accordance with the erection instructions and drawings furnished by the manufacturer. Finished structure shall be proven weathertight. Dissimilar materials which are not compatible when contacting each other shall be insulated from each other by means of gaskets or insulating compounds. Improper or mislocated drill holes where permitted by the Engineer shall be plugged with an oversize screw fastener and gasketed washer; however, sheets with an excess of such holes or with such holes in critical locations shall not be used. Exposed surfaces shall be kept clean and free from sealants, metal cuttings, and other foreign materials. Stained, discolored or damaged sheets shall be removed from the site.

295-15.2 Framing and structural members. Anchor bolts shall be accurately set by template while the concrete is in a plastic state. Uniform bearing under base plates and sill members shall be provided using a nonshrinking grout when necessary. Members shall be accurately spaced to assure proper fitting of covering. As erection progresses, the work shall be securely fastened to resist the dead load, and wind and erection stresses.

WALL COVERING

295-16.1 Wall covering shall be applied with the longitudinal configurations in the vertical position. Accessories shall be fastened into framing members, except as otherwise approved. Closure strips shall be provided as indicated and where necessary to provide weathertight construction.

295-16.2 Lap for wall panels. Eliminate end laps to greatest extent possible. Where required, end laps shall be made over framing members with fasteners into framing members approximately 2 inches from the end of the overlapping sheet. Side laps shall be laid away from prevailing winds. Side lap distances, end lap distances, joint sealing, and spacing and fastening of fasteners shall be in accordance with the manufacturer's standard practice insofar as the maximum spacings specified are not exceeded and provided such standard practice will result in a structure which will be free from water leaks and meet design requirements. Exposed fasteners shall be installed in straight lines and shall present an orderly appearance. Spacing shall not exceed: 8 inches on center at end laps of covering, 12 inches on center at connection of covering to intermediate supports, and 18 inches on center at side laps of wall coverings except when otherwise approved. Method of applying joint sealant shall conform to the manufacturer's recommendation. Fasteners shall be installed in straight lines within a tolerance of ½ inch in the length of a bay. Fasteners shall be driven normal to the surface and to a uniform depth to properly seat the gasketed washers.

295-16.3 Interior Walls. Interior wall panels shall be 8' minimum height. Insulation shall be full height. Eliminate end laps to greatest extent possible.

ROOF COVERING

295-17.1 Roof panels. Roof panels shall be fastened to framing members with self-drilling fasteners standard with the manufacturer. Spacing of fasteners shall be in accordance with the manufacturer's written instruction. Interlocking ribs shall be sealed. End laps of covering sheets and joints at accessories shall be sealed. Roof covering shall be applied with the longitudinal configurations in the direction of the roof slope. Closure strips shall be provided and as required to provide weathertight installation.

FIELD PAINTING

295-18.1 Immediately upon detection, abraded or corroded spots on shop-painted surfaces shall be wire brushed and touched up with the same material used for the shop coat. Shop-primed ferrous surfaces exposed on the building and all shop-primed surfaces of doors and windows shall be finish painted for protection. Factory color finished surfaces shall be touched up as necessary with the manufacturer's recommended touch-up paint.

ELECTRICAL

295-19.1 General.

- a. Install a new and complete electrical service to the new hangar building. Refer to the Plans for details. Refer to the Specifications, including SS-300, for electrical equipment requirements.
- b. Coordinate the new electrical service installation requirements with the Engineer, the Owner and the local electrical utility prior to installation work.
- c. Furnish and install all electrical equipment, materials and appurtenances, including but not limited to all labor, equipment, tools, and incidentals necessary to install complete systems for all electrical equipment including power, lighting and equipment connections.
- d. Coordinate all electrical work with the building manufacturer and equipment suppliers prior to installation.

- e. Provide all electrical facilities required for connection to mechanical equipment and other special equipment. Disconnects shall be provided for all equipment and shall be rated for the load and for the environment in which they are installed.
- f. Hazardous Locations:
 - (1) The aircraft bay area inside the Hangar building shall be classified as hazardous locations in accordance with NEC Article 513. Refer to the Hangar Notes in the drawing for specific details. The intent is to avoid installing electrical equipment within these classified areas. However, any electrical work installed within classified hazardous areas shall be installed in accordance with NEC for a hazardous location area, including but not limited to explosion-proof rated enclosures, switches, receptacles, conduit seals, etc.
 - (2) The other rooms or areas inside the Hangar building that are NOT both suitably cut off and ventilated from the hangar bays shall be classified as hazardous location in accordance with NEC Article 513, Class I Division 2, from the floor to a height of 18" above finished floor. The intent is to avoid installing electrical equipment within these classified areas by installing all electrical items in these other areas at least 24" above finished floor.
 - (3) Adjacent areas in which flammable liquids or vapors are not likely to be released, such as electrical rooms, storage rooms, or other similar locations, shall not be classified where adequately ventilated and where effectively cut off from the hangar itself by walls or partitions. Install all electrical items in these areas at least 24" above finished floor.
- g. Exterior Locations: Exterior areas shall be classified as wet locations. The exterior electrical work shall be installed in accordance with NEC for a wet location area. This shall include NEMA 3R enclosures and weatherproof switches, receptacles, etc.
- h. Interior Non-Hazardous Locations: Utilize specification grade equipment installed in accordance with NEC.
- i. All electrical systems shall be tested to the satisfaction of the Owner/Engineer.

295-19.2 Power.

- a. Refer to the electrical one-line diagram in the plans for service and power distribution requirements. Coordinate and provide all appurtenances for a complete installation.
- b. Contractor shall contact the utility prior to performing the work and coordinate all work requirements with the utility.
- c. Install the underground secondary service feeder with minimum 30" cover.
- d. Mark all underground duct and conduit locations by installing a 6" wide detectable warning tape, 12" below grade.
- e. Install the new building's main disconnect mounted on an exterior wall surface at 5'-6" above finished grade and clearly labeled as the building disconnect with weatherproof nameplate "MAIN SERVICE DISCONNECT HANGAR".
- f. Install the grounding electrode system in accordance with NEC including bonding to the

building steel and to the reinforcing steel in the foundation.

- g. Install the new main panelboard mounted on an interior wall surface at 5'-6" above finished grade. The panelboard shall be NEMA 1 enclosed, copper bussed, with copper neutral and ground bars. Provide a main circuit breaker panel with circuits indicated and required; refer to the panel schedule in the Plans for circuit descriptions and quantity of branch circuit breakers. Provide branch circuit breakers for all equipment and loads within and on the new facility. Fill the remainder of the panel with spare circuit breakers unless otherwise noted. Label all breakers and install nameplates and signage on the panel in accordance with NEC and NFPA 70E.
- h. Install new surge protective devices as indicated on the Plans. See SS-300 for equipment requirements.

295-19.3 Lighting.

- a. Interior Locations in Hangar: Install light fixtures within the aircraft hangar bay above the floor at a minimum height of 26'-0" above the finished floor. Provide junction box and conduit pendant mounts for all fixtures. Fixtures shall be totally enclosed, damp location rated, high bay style fixtures, high impact shatter resistant acrylic lens, constructed to prevent escape of sparks or hot metal particles, see schedule on the drawings.
 - (1) The interior lighting levels shall be designed to meet Illuminating Engineering Society (IES) minimum lighting design requirements for a Category I space, 30 foot-candles maintained average, medium and small scale visual tasks.
- b. Exterior Locations: Install light fixtures on the exterior walls for safety and security lighting. Exterior light fixtures shall be full cutoff type, wet location rated, see schedule on the drawings. Coordinate mounting heights prior to construction and secure fixtures to the building. A load rated 120-277V heavy-duty twist-lock weatherproof photocell with surge arrestor mounted above the roof level facing north shall control all exterior lighting. Coordinate exact location with Engineer prior to installation.
 - (1) The exterior lighting levels shall be designed to meet the Illuminating Engineering Society (IES) minimum lighting level requirements for the immediate hangar apron area surrounding the hangar, a 1 foot-candle maintained average.
 - (2) Control exterior lighting loads utilizing a load rated photocell.
 - (3) For the ramp lighting, the lights over the hangar door shall have an override switch to disconnect from the photocell. Locate the override switch near the panelboard. Label the switch (per Section SS-300) as "RAMP LIGHTS OVERRIDE".
- c. All fixtures shall be LED type.

295-19.4 Wiring devices.

- a. Provide only specification grade wiring devices. Attach weather-proof permanent labels to all switches, receptacles and other disconnects to clearly indicate the panelboard and its circuit number, for instance "LP-01".
- b. Light switches that control hangar lighting and door push-button control stations that control hangar bay motorized doors shall be located within a maximum of three horizontal feet of personnel entries at 48" above finished floor, outside the hazardous location. Light switches shall be 120-volt, 20-amp rated.

- c. Receptacles within the hangar bay shall be 120-volt, 20-amp, duplex, ground fault circuit interruption type, non-feed through type circuiting, mounted 48" above finished floor, and located on the wall of the bay outside the hazardous location.
- d. All receptacles installed in aircraft hangars shall have ground fault circuit interruption protection for personnel.
- e. Exterior receptacles shall be the 120-volt, 20-amp, duplex, ground fault circuit interruption type, weather-proof while-in-use cover, and mounted 48" above finished floor.
- f. All receptacles shall be pin and sleeve style.

295-19.5 Conduits.

- a. All conductors shall be installed in conduit. Aluminum conduit shall not be used.
- b. Install conduit systems overhead from main disconnect to panelboard and from panelboard to lighting, devices and equipment. The intent is for all conduit systems to avoid penetrating hazardous locations, including the 18" high hazardous location area at the floor.
- c. Outdoors, below grade: Use Schedule 40 PVC rigid nonmetallic conduit for straight runs underground with select backfill and buried to a depth of not less than 30" to the top. Use rigid steel conduit for all elbows, bends and vertical risers from below grade to above grade.
- d. Outdoors, above grade: galvanized rigid steel conduit.
- e. Interior Non-Hazardous Locations: Conduit shall be steel and be installed in accordance with NEC requirements.
- f. If conduits are installed within hazardous locations, then all the requirements within NEC Article 501 - Class I Locations and Article 513 – Aircraft Hangars apply including but not limited to utilizing only galvanized rigid steel conduit, installing explosion-proof conduit seals in Class I Division 1 and Class I Division 2 locations, installing explosion-proof rated equipment, etc.

295-19.6 Conductors.

- a. Service entrance, feeder and branch circuit wiring shall be Type THHN/THWN-2 minimum, 600 volt rated.
- b. Branch circuit wiring shall be minimum No. 12 AWG size.
- c. Provide copper conductors only. Aluminum conductors shall not be used.
- d. Utilize the standard color code for the voltage system. Typically, black (Phase A), red (Phase B), blue (Phase C) white (neutral), green (ground) for a 120/208-volt system. Install color code identification nameplate on the front of the lighting panelboard and the main disconnect switch.
- e. Provide weather-proof self-laminating labels to label all conductors within junction boxes and other accessible locations.

295-19.7 Grounding and lightning protection systems.

- a. An equipment green ground conductor shall be installed in all feeder and branch circuits.
- b. All junction and pull boxes and panels shall be grounded by means of grounding type conduit bushings.
- c. Ground rods shall be 3/4" x 10'-0" copper-clad type connected utilizing exothermic welds only.
- d. Install grounding in accordance with NEC Article 250 - Grounding and connect grounding system to building steel and foundation reinforcing steel.
- e. Install a power ground bar on interior wall as indicated in the plans for the grounding system connections.
- f. Coordinate locations prior to work and install the aircraft grounding receptacles including #1/0 bare copper conductors and ground rods, with connection to the power grounding system.

295-19.8 Equipment accessories.

- a. Provide dedicated disconnect switches for the equipment within the hangar bay, mounted and located adjacent to the unit, clearly labeled, NEMA 12 interior, NEMA 3R exterior, totally enclosed and gasketed, with disconnects located outside hazardous locations.
- b. For hangar door power, provide dedicated branch circuit for each door and provide disconnect and/or receptacle as required for final door power connections. The door motor shall not be located above wings and engine enclosures of aircraft and shall be located outside all hazardous location areas.
- c. Interior non-hazardous locations, enclosures shall be NEMA 1 unless otherwise noted.
- d. Exterior non-hazardous locations, enclosures shall be NEMA 3R.

295-19.9 Accessories and appurtenances.

- a. For indoor locations, utilize hot-dipped galvanized steel strut with stainless steel mounting hardware.
- b. For outdoor and indoor wet and damp locations, utilize stainless steel strut with stainless steel mounting hardware.
- c. Provide conduit clamps with vibra-cushions to support and protect the conduits.
- d. Provide end caps on steel struts for protection.
- e. Equipment racks, strut support systems, mounting hardware, and other accessories shall be corrosion resistant hot-dipped galvanized steel. Provide a complete equipment rack shop drawing for the electrical equipment showing attachment to building structure, floor anchoring, submitted equipment dimensions, conduits, and appurtenances. Equipment racks and strut support systems shall be adequate in size and strength for the equipment to be installed.
- f. Provide outlet boxes and conduit pendants to support all light fixtures.

IDENTIFICATION OF ELECTRICAL EQUIPMENT

295-20.1 Properly identify the following:

- a. Main disconnect switch
- b. Panelboards and individual devices within it
- c. Safety switches and disconnect switches
- d. Individually mounted circuit breakers
- e. Wiring devices
- f. Conductors labeled in all accessible locations
- g. Surge protective devices
- h. Telecommunication enclosures and boards
- i. Ground bars
- j. Transformers

295-20.2 Utilize permanent nameplates with engraved lettering. Utilize UL listed wire labels rated for the specific area or environment.

295-20.3 Install all identification and warning nameplates and labels as required by the National Electrical Code.

TEMPORARY LIGHTS AND POWER

295-21.1 Provide a temporary electrical lighting and power distribution system of adequate size to properly serve the following requirements, including adequate feeder sizes to prevent excessive voltage drop. Temporary work shall be installed in a neat and safe manner in accordance with the NEC Article 305, and as required by OSHA and applicable local safety codes. The Contractor will pay for power consumption.

ELECTRICAL TESTING

295-22.1 On completion of work, installation shall be completely operational and entirely free from ground, short circuits, and open circuits. Perform a thorough operational test. Furnish all labor, materials and instruments for above tests.

295-22.2 Prior to final observation and acceptance test, all electrical systems and equipment shall be in satisfactory operating condition, including, but not limited to the following:

- a. Electrical Distribution System
- b. Electric Motors for All Equipment
- c. Electric Lighting

MECHANICAL

295-23.1 Contractor shall install one Freezeless Yard Hydrant, such as the WOODFORD Freezeless IOWA Yard Hydrant Model Y34 & Y1, or approved equal, at a location to be determined by the owner. The contractor shall coordinate the installation of the water line/hydrant with the owner before beginning installations.

295-23.2 The Contractor shall prepare the location for the possible future addition of a full functioning restroom. Location to be determined by the Owner.

295-23.3 The restroom shall be provided with plumbing stub out connections for one floor mount water closet and one wall hung lavatory. Each of the plumbing fixture water connections shall be provided with an angle water stop valve. Water and sanitary connections shall be capped for future use. Any clean-outs

to grade not located in concrete paving or slabs shall be provided with a minimum two feet square by 4 inches thick concrete pad around the clean-out. All clean-outs shall be provided with nickel, bronze, or cast iron tops. Plumbing lines shall be carried out six-foot beyond the building line and marked for future service connections.

The entire plumbing system shall be installed in accordance with the current adopted plumbing code of the State of Alabama as well as any local codes or requirements.

FOUNDATION

295-24.1 Hangar foundation slab shall be concrete with thickness and reinforcing as determined by the Contractor's licensed engineer. Final contraction joint layout is the responsibility of the Contractor and shall be as required to insure the slab on grade does not crack. Contraction joints shall be sealed with an appropriate sealer. See grading plans for slab edge elevations. Hangar foundations shall be designed to accommodate an aircraft weighing 60,000 pounds with a dual wheel gear configuration.

295-24.2 Unclassified Excavation and Borrow Excavation within the footprint of the building will be considered subsidiary to the hangar slab excavation and therefore subsidiary to the hangar itself. Unsuitable Excavation encountered below the depth required for slab construction shall be approved for removal by the Engineer, and measured for payment by the RPR.

295-24.3 Hangar slab shall be sloped 0.25% towards the large hangar door. See plans for slab edge elevations.

FLOOR COATING

295-25.1 The surface of the floor shall be finished concrete with sealer. Floor sealer shall be a ready-to-use, acrylic curing and sealing compound for use on new and existing, interior and exterior, horizontal and vertical concrete surfaces. Product shall be Euclid Diamond Clear or approved equal. Product shall conform to ASTM C 309, Type 1 Class A & B, ASTM C 1315 Type 1 Class A, and AASHTO Specification M 148, Type 1, Class A & B.

295-25.2 Floor sealer application method:

- a. Ensure surfaces are clean and free of standing water.
- b. Remove dirt, dust, oil, grease, sealers, and other materials that may prevent adhesion of curing and sealing compound.
- c. Apply curing and sealing compound to concrete surfaces in accordance with manufacturer's written instructions.
- d. Apply compound at uniform coverage rate in accordance with manufacturer's written instructions.
- e. Apply as soon as possible after finishing and immediately after disappearance of surface moisture sheen, when used to cure freshly placed concrete.
- f. Do not dilute curing and sealing compound.
- g. Do not apply to concrete to receive toppings, epoxy coatings, urethane coatings, or epoxy adhesives.

GUARANTEE

295-26.1 The building shall be guaranteed against water leaks arising out of or caused by ordinary wear and tear by the elements for a period of five years. Such guarantee shall start upon acceptance of the work or the date the Owner takes beneficial possession, whichever is earlier.

295-26.2 The Contractor shall guarantee that the hangar foundations shall drain incidental surface water across the sloped floor slab to the exterior edge of the floor slab.

295-26.3 The Contractor shall furnish manufacturer's guarantees for roof and wall panels.

METHOD OF MEASUREMENT

295-27.1 The hangar will be measured per lump sum, based on the percent completed in-place according to the construction milestones below. Prior to beginning construction, the Contractor Certification for Design shall be completed and submitted to the Engineer.

295-27.2 50% Completion – Fifty percent completion shall be considered construction of the foundation (including footings, slabs and anchor bolt installation), construction of the finished slab, and installation of all underground electrical and mechanical items. Contractor Certification for Construction - 50% Complete shall be completed and submitted to the Engineer at the completion of this work.

295-27.3 95% Completion – Ninety five percent completion shall be considered substantial completion of the complete building, including all siding, roofing, and all electrical and mechanical items. At the completion of this work, the building shall be ready for final inspection and a final punch-list by the Owner and Engineer. Contractor Certification For Construction - 95% Complete shall be completed and submitted to the Engineer at the completion of this work.

295-27.4 100% Completion – Final completion shall be considered complete when the Owner's final punch-list is completed, the building occupancy permit is obtain, and occupancy of the building is available for tenants.

BASIS OF PAYMENT

295-28.1 The hangar constructed and measured as provided above shall be paid for at the unit bid price per lump sum. This price shall be full compensation for all work contained and required to construct the hangar.

Payment will be made under:

Item SS-295-28.1 Mass Storage Hangar T (147'x80') – per Lump Sum

CONTRACTOR CERTIFICATION FOR DESIGN

Owner Name: Shelby County Commission

Airport: Shelby County Airport

Project Description: Mass Storage Hangar T

Contractor: _____

SS-295 of these contract documents requires certification from the Contractor that he/she will comply with applicable federal, state and local codes and other requirements included in these specifications concerning Hangar design and construction. The following list of certified items includes major requirements for design. However, the list is not comprehensive, nor does it relieve the Contractor from fully complying with all applicable statutory and administrative standards. The certification must be signed by a Professional Engineer registered to practice in the State of Alabama. Every certified item below must be initialed by a Professional Engineer registered to practice in the State of Alabama. This certification shall be completed and furnished to the Owner before construction begins. Each certified item with a "no" response must be fully explained in an attachment to this certification.

1. **Article 1.1 - Description:** The design of the hangars has been completed in accordance with all items contained in article 1.1, "Description".

Yes _____ No *

2. **Article 2.1 - Quality Assurance:** The design of the hangars has been completed in accordance with all items contained in article 2.1, "Quality Assurance".

Yes _____ No *

3. **Article 3.1 – Construction Documentation:** The design of the hangars has been completed in accordance with all items contained in article 3.1, "Construction Documentation".

Yes _____ No *

4. **Article 4.1 - Delivery, Storage and Handling:** The design of the hangars has been completed in accordance with all items contained in article 4.1, "Delivery, Storage and Handling".

Yes _____ No *

5. **Article 5.1 - Warranty:** The design of the hangars has been completed in accordance with all items contained in article 5.1, "Warranty".

Yes _____ No *

6. **Article 6.1 - Coordination:** The design of the hangars has been completed in accordance with all items contained in article 6.1, "Coordination".

Yes _____ No *

Shelby County Airport
Mass Storage Hangar T

7. **Article 7.1 – Inspection Fees and Permits:** The design of the hangars has been completed in accordance with all items contained in article 7.1, "Inspection Fees and Permits".

8. Yes_____No_*

9. **Article 8.1 – Materials:** The design of the hangars has been completed in accordance with all items contained in article 8.1, "Materials".

Yes_____No_*

10. **Article 9.1 – Structural Framing Components:** The design of the hangars has been completed in accordance with all items contained in article 9.1, "Structural Framing Components".

Yes_____No_*

11. **Article 10.1 – Roofing and Siding:** The design of the hangars has been completed in accordance with all items contained in article 10.1, "Roofing and Siding".

Yes_____No_*

12. **Article 11.1 – Miscellaneous Materials:** The design of the hangars has been completed in accordance with all items contained in article 11.1, "Miscellaneous Materials".

Yes_____No_*

13. **Article 12.1 – Sheet Metal Accessories:** The design of the hangars has been completed in accordance with all items contained in article 12.1, "Sheet Metal Accessories".

Yes_____No_*

14. **Article 13.1 –Hangar Door:** The design of the hangars has been completed in accordance with all items contained in article 13.1, "Hangar Doors".

Yes_____No_*

15. **Article 14.1 – Electrical Equipment and Materials:** The design of the hangars has been completed in accordance with all items contained in article 14.1, "Electrical Equipment and Materials".

Yes_____No_*

16. **Article 15.1 – Erection:** The design of the hangars has been completed in accordance with all items contained in article 15.1, "Erection".

Yes_____No_*

17. **Article 16.1 – Wall Covering:** The design of the hangars has been completed in accordance with all items contained in article 16.1, "Wall Covering".

Yes_____No_*

Shelby County Airport
Mass Storage Hangar T

18. **Article 17.1 – Roof Covering:** The design of the hangars has been completed in accordance with all items contained in article 17.1, "Roof Covering".

Yes_____No_*

19. **Article 18.1 – Field Painting:** The design of the hangars has been completed in accordance with all items contained in article 18.1, "Field Painting".

Yes_____No_*

20. **Article 19.1 – Electrical:** The design of the hangars has been completed in accordance with all items contained in article 19.1, "Electrical".

Yes_____No_*

21. **Article 20.1 – Identification of Electrical Equipment:** The design of the hangars has been completed in accordance with all items contained in article 20.1, "Identification of Electrical Equipment".

Yes_____No_*

22. **Article 21.1 – Temporary Lights and Power:** The design of the hangars has been completed in accordance with all items contained in article 21.1, "Temporary Lights and Power".

Yes_____No_*

23. **Article 22.1 – Electrical Testing:** The design of the hangars has been completed in accordance with all items contained in article 22.1, "Electrical Testing".

Yes_____No_*

24. **Article 23.1 – Mechanical:** The design of the hangars has been completed in accordance with all items contained in article 23.1, "Mechanical".

Yes_____No_*

25. **Article 24.1 – Foundation:** The design of the hangars has been completed in accordance with all items contained in article 24.1, "Foundation".

Yes_____No_*

26. **Article 25.1 – Floor Coating:** The design of the hangars has been completed in accordance with all items contained in article 25.1, "Floor Coating".

Yes_____No_*

27. **Article 26.1 – Guarantee:** The design of the hangars has been completed in accordance with all items contained in article 26.1, "Guarantee".

Yes_____No_*

Shelby County Airport

Mass Storage Hangar T

28. **Engineering Certifications:** Attached to this document are signed letters from registered Professional Engineer, as applicable, that certifies that the design of the hangars has been completed in accordance with these specifications and meets all applicable federal, state and local codes.

Structural Yes _____ No ^{*}_____

Electrical Yes _____ No ^{*}_____

Mechanical Yes _____ No ^{*}_____

* "No" answers are further explained by the enclosed attachments.

I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, that the design of the Hangars meets all applicable federal, state and local codes, and that the attachments, if any, are correct and complete.

Signed: _____
Contractor's Authorized Representative

Date: _____

Typed Name and Title of Contractor's Representative

CONTRACTOR CERTIFICATION FOR CONSTRUCTION - 50% COMPLETE
FOUNDATION AND UNDERGROUND UTILITIES COMPLETE

Owner Name: Shelby County Commission

Airport: Shelby County Airport

Project Description: Mass Storage Hangar T

Contractor: _____

SS-295 of these contract documents requires certification from the Contractor that he/she will comply with applicable federal, state and local codes and other requirements included in these specifications concerning Hangar construction. The following list of certified items includes major requirements for this aspect of project implementation. However, the list is not comprehensive, nor does it relieve the Contractor from fully complying with all applicable statutory and administrative standards. Every certified item below must be initialed, and the certification must be signed, by a principal or owner of the Contractor's company. This certification shall be completed and furnished to the Owner at the indicated construction milestones, as determined by the Engineer. Each certified item with a "no" response must be fully explained in an attachment to this certification.

1. **Article 1.1 - Description:** The construction of the hangars has been completed in accordance with all items contained in article 1.1, "Description".

Yes _____ No *

2. **Article 2.1 - Quality Assurance:** The construction of the hangars has been completed in accordance with all items contained in article 2.1, "Quality Assurance".

Yes _____ No *

3. **Article 3.1 – Construction Documentation:** The construction of the hangars has been completed in accordance with all items contained in article 3.1, "Construction Documentation".

Yes _____ No *

4. **Article 4.1 - Delivery, Storage and Handling:** The construction of the hangars has been completed in accordance with all items contained in article 4.1, "Delivery, Storage and Handling".

Yes _____ No *

5. **Article 5.1 - Warranty:** The construction of the hangars has been completed in accordance with all items contained in article 5.1, "Warranty".

Yes _____ No *

6. **Article 6.1 - Coordination:** The construction of the hangars has been completed in accordance with all items contained in article 6.1, "Coordination".

Yes _____ No *

Shelby County Airport
Mass Storage Hangar T

7. **Article 7.1 – Inspection Fees and Permits:** The construction of the hangars has been completed in accordance with all items contained in article 7.1, "Inspection Fees and Permits".

Yes_____No_*

8. **Article 8.1 – Materials:** The construction of the hangars has been completed in accordance with all items contained in article 8.1, "Materials".

Yes_____No_*

9. **Article 9.1 – Structural Framing Components:** The construction of the hangars has been completed in accordance with all items contained in article 9.1, "Structural Framing Components".

Yes_____No_*

10. **Article 10.1 – Roofing and Siding:** The construction of the hangars has been completed in accordance with all items contained in article 10.1, "Roofing and Siding".

Yes_____No_*

11. **Article 11.1 – Miscellaneous Materials:** The construction of the hangars has been completed in accordance with all items contained in article 11.1, "Miscellaneous Materials".

Yes_____No_*

12. **Article 12.1 – Sheet Metal Accessories:** The construction of the hangars has been completed in accordance with all items contained in article 12.1, "Sheet Metal Accessories".

Yes_____No_*

13. **Article 13.1 –Hangar Door:** The construction of the hangars has been completed in accordance with all items contained in article 13.1, "Hangar Doors".

Yes_____No_*

14. **Article 14.1 – Electrical Equipment and Materials:** The construction of the hangars has been completed in accordance with all items contained in article 14.1, "Electrical Equipment and Materials".

Yes_____No_*

15. **Article 15.1 – Erection:** The construction of the hangars has been completed in accordance with all items contained in article 15.1, "Erection".

Yes_____No_*

16. **Article 16.1 – Wall Covering:** The construction of the hangars has been completed in accordance with all items contained in article 16.1, "Wall Covering".

Yes_____No_*

Shelby County Airport
Mass Storage Hangar T

17. **Article 17.1 – Roof Covering:** The construction of the hangars has been completed in accordance with all items contained in article 17.1, "Roof Covering".

Yes_____No_*

18. **Article 18.1 – Field Painting:** The construction of the hangars has been completed in accordance with all items contained in article 18.1, "Field Painting".

Yes_____No_*

19. **Article 19.1 – Electrical:** The construction of the hangars has been completed in accordance with all items contained in article 19.1, "Electrical".

Yes_____No_*

20. **Article 20.1 – Identification of Electrical Equipment:** The construction of the hangars has been completed in accordance with all items contained in article 20.1, "Identification of Electrical Equipment".

Yes_____No_*

21. **Article 21.1 – Temporary Lights and Power:** The construction of the hangars has been completed in accordance with all items contained in article 21.1, "Temporary Lights and Power".

Yes_____No_*

22. **Article 22.1 – Electrical Testing:** The construction of the hangars has been completed in accordance with all items contained in article 22.1, "Electrical Testing".

Yes_____No_*

23. **Article 23.1 – Mechanical:** The construction of the hangars has been completed in accordance with all items contained in article 23.1, "Mechanical".

Yes_____No_*

24. **Article 24.1 – Foundation:** The construction of the hangars has been completed in accordance with all items contained in article 24.1, "Foundation".

Yes_____No_*

25. **Article 25.1 – Floor Coating:** The construction of the hangars has been completed in accordance with all items contained in article 26.1, "Floor Coating".

Yes_____No_*

Shelby County Airport

Mass Storage Hangar T

26. **Article 26.1 – Guarantee:** The construction of the hangars has been completed in accordance with all items contained in article 26.1, "Guarantee".

Yes_____No_*

* "No" answers are further explained by the enclosed attachments.

50% Completion: I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, the construction was completed in accordance with all applicable federal, state and local codes, and that the attachments, if any, are correct and complete.

Signed: _____
Contractor's Authorized Representative

Date:

Typed Name and Title of Contractor's Representative

CONTRACTOR CERTIFICATION FOR CONSTRUCTION - 95% COMPLETE
BUILDINGS COMPLETE

Owner Name: Shelby County Commission

Airport: Shelby County Airport

Project Description: Mass Storage Hangar T

Contractor: _____

SS-295 of these contract documents requires certification from the Contractor that he/she will comply with applicable federal, state and local codes and other requirements included in these specifications concerning Hangar construction. The following list of certified items includes major requirements for this aspect of project implementation. However, the list is not comprehensive, nor does it relieve the Contractor from fully complying with all applicable statutory and administrative standards. Every certified item below must be initialed, and the certification must be signed, by a principal or owner of the Contractor's company. This certification shall be completed and furnished to the Owner at the indicated construction milestones, as determined by the Engineer. Each certified item with a "no" response must be fully explained in an attachment to this certification.

1. **Article 1.1 - Description:** The construction of the hangars has been completed in accordance with all items contained in article 1.1, "Description".

Yes _____ No *

2. **Article 2.1 - Quality Assurance:** The construction of the hangars has been completed in accordance with all items contained in article 2.1, "Quality Assurance".

Yes _____ No *

3. **Article 3.1 – Construction Documentation:** The construction of the hangars has been completed in accordance with all items contained in article 3.1, "Construction Documentation".

Yes _____ No *

4. **Article 4.1 - Delivery, Storage and Handling:** The construction of the hangars has been completed in accordance with all items contained in article 4.1, "Delivery, Storage and Handling".

Yes _____ No *

5. **Article 5.1 - Warranty:** The construction of the hangars has been completed in accordance with all items contained in article 5.1, "Warranty".

Yes _____ No *

6. **Article 6.1 - Coordination:** The construction of the hangars has been completed in accordance with all items contained in article 6.1, "Coordination".

Yes _____ No *

Shelby County Airport
Mass Storage Hangar T

7. **Article 7.1 – Inspection Fees and Permits:** The construction of the hangars has been completed in accordance with all items contained in article 7.1, "Inspection Fees and Permits".

Yes_____No_*

8. **Article 8.1 – Materials:** The construction of the hangars has been completed in accordance with all items contained in article 8.1, "Materials".

Yes_____No_*

9. **Article 9.1 – Structural Framing Components:** The construction of the hangars has been completed in accordance with all items contained in article 9.1, "Structural Framing Components".

Yes_____No_*

10. **Article 10.1 – Roofing and Siding:** The construction of the hangars has been completed in accordance with all items contained in article 10.1, "Roofing and Siding".

Yes_____No_*

11. **Article 11.1 – Miscellaneous Materials:** The construction of the hangars has been completed in accordance with all items contained in article 11.1, "Miscellaneous Materials".

Yes_____No_*

12. **Article 12.1 – Sheet Metal Accessories:** The construction of the hangars has been completed in accordance with all items contained in article 12.1, "Sheet Metal Accessories".

Yes_____No_*

13. **Article 13.1 –Hangar Door:** The construction of the hangars has been completed in accordance with all items contained in article 13.1, "Hangar Doors".

Yes_____No_*

14. **Article 14.1 – Electrical Equipment and Materials:** The construction of the hangars has been completed in accordance with all items contained in article 14.1, "Electrical Equipment and Materials".

Yes_____No_*

15. **Article 15.1 – Erection:** The construction of the hangars has been completed in accordance with all items contained in article 15.1, "Erection".

Yes_____No_*

16. **Article 16.1 – Wall Covering:** The construction of the hangars has been completed in accordance with all items contained in article 16.1, "Wall Covering".

Yes_____No_*

Shelby County Airport
Mass Storage Hangar T

17. **Article 17.1 – Roof Covering:** The construction of the hangars has been completed in accordance with all items contained in article 17.1, "Roof Covering".

Yes_____No_*

18. **Article 18.1 – Field Painting:** The construction of the hangars has been completed in accordance with all items contained in article 18.1, "Field Painting".

Yes_____No_*

19. **Article 19.1 – Electrical:** The construction of the hangars has been completed in accordance with all items contained in article 19.1, "Electrical".

Yes_____No_*

20. **Article 20.1 – Identification of Electrical Equipment:** The construction of the hangars has been completed in accordance with all items contained in article 20.1, "Identification of Electrical Equipment".

Yes_____No_*

21. **Article 21.1 – Temporary Lights and Power:** The construction of the hangars has been completed in accordance with all items contained in article 21.1, "Temporary Lights and Power".

Yes_____No_*

22. **Article 22.1 – Electrical Testing:** The construction of the hangars has been completed in accordance with all items contained in article 22.1, "Electrical Testing".

Yes_____No_*

23. **Article 23.1 – Mechanical:** The construction of the hangars has been completed in accordance with all items contained in article 23.1, "Mechanical".

Yes_____No_*

24. **Article 24.1 – Foundation:** The construction of the hangars has been completed in accordance with all items contained in article 24.1, "Foundation".

Yes_____No_*

25. **Article 25.1 – Floor Coating:** The construction of the hangars has been completed in accordance with all items contained in article 25.1, "Floor Coating".

Yes_____No_*

Shelby County Airport

Mass Storage Hangar T

26. **Article 26.1 – Guarantee:** The construction of the hangars has been completed in accordance with all items contained in article 26.1, "Guarantee".

Yes_____No_*

* "No" answers are further explained by the enclosed attachments.

95% Completion: I certify that, for the project identified herein, the responses to the foregoing items are correct as marked, the construction was completed in accordance with all applicable federal, state and local codes, and that the attachments, if any, are correct and complete.

Signed: _____
Contractor's Authorized Representative

Date:

Typed Name and Title of Contractor's Representative

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SS-295 PRE-ENGINEERED METAL HANGAR

SECTION 01 41 00 - STRUCTURAL TESTS AND SPECIAL INSPECTIONS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Provisions and other Project Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements required for compliance with the International Building Code, Chapter 17, Structural Tests and Special Inspections.
- B. Structural testing and special inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with other construction document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities or herein. Requirements in those Sections or herein may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the construction document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Engineer, Owner, or authorities having jurisdiction are not limited by provisions of this section.
- C. The Owner will engage one or more qualified Special Inspectors and / or testing agencies to conduct structural tests and special inspections specified in this section and related sections and as may be specified in other divisions of these specifications.
- D. Related Sections include but are not limited to the following:
 - 1. SS-295 Pre-Engineered Metal Hangars
 - 2. P-152 Excavation, Subgrade, and Embankment
 - 3. P-610 Concrete

1.03 DEFINITIONS

- A. Approved Agency: An established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved by the building official and the Structural Engineer of Record.
- B. Construction Documents: Written (including specifications), graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining a building permit. Construction Documents include all supplemental instructions, sketches, addenda, and revisions to the drawings and specifications issued by the registered design professional beyond those issued for a building permit.
- C. Registered Design Professional: Professional Engineer responsible for the metal building and door design.
- D. Shop Drawings/Submittal Data: Written, graphic and pictorial documents prepared and/or assembled by the Contractor based on the Construction Documents.

- E. Structural Observation: Visual observation of the structural system by a representative of the registered design professional's office for general conformance to the approved construction documents. Structural observations are not considered part of the structural tests and special inspections and do not replace inspections and testing by the testing agency or Special Inspector.
- F. Special Inspector: A qualified person who demonstrating competence, to the satisfaction of the code enforcement official and registered design professional in responsible charge, for inspection of the particular type of construction or operation requiring special inspection. The Special Inspector shall be a licensed Professional Engineer, Engineering Intern, or a qualified representative from the testing agency who is under supervision of a licensed Professional Engineer.
- G. Special Inspection, Continuous: The full-time observation of work requiring special inspection by an approved Special Inspector who is present in the area where the work is being performed.
- H. Special Inspection, Periodic: The part-time or intermittent observation of work requiring special inspection by an approved Special Inspector who is present in the area where the work has been or is being performed and at the completion of the work.
- I. Testing Agency: A qualified materials testing laboratory under the responsible charge of a licensed Professional Engineer, approved by the code enforcement official and the registered design professional in responsible charge, to measure, examine, test, calibrate, or otherwise determine the characteristics or performance of construction materials and verify confirmation with construction documents.

1.04 QUALITY ASSURANCE

A. Testing Agency Qualifications:

- 1. Minimum qualifications of inspection and testing agencies and their personnel shall comply with ASTM E329-03 Standard Specification for Agencies in the Testing and/or Inspection of Materials Used in Construction.
 - a. Inspectors and individuals performing tests shall be certified for the work being performed as outlined in the appendix of the ASTM E329. Certification by organizations other than those listed must be submitted to the building official for consideration before proceeding with work.
- 2. In addition to these requirements, local jurisdiction may have additional requirements. It is the responsibility of the testing and inspection agencies to meet local requirements and comply with local procedures.

1.05 CONFLICTING REQUIREMENTS, REPORTS, AND TEST RESULTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to the registered design professional in responsible charge for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to the registered design professional in responsible charge for a decision before proceeding.
- C. The Special Inspector's reports and testing agencies results shall have precedence over reports and test results provided by the Contractor.

- D. Where a conflict exists between the construction documents and approved shop drawings/submittal data, the construction documents shall govern unless the shop drawings/submittal data are more restrictive. All conflicts shall be brought to the attention of the registered design professional in responsible charge.

1.06 SUBMITTALS BY SPECIAL INSPECTOR AND/OR TESTING AGENCY

- A. Special Inspectors shall keep and distribute records of inspections. The Special Inspector shall furnish inspection reports to the building official, Contractor, Engineer, and Owner. Reports shall indicate that work inspected was done in conformance to approved construction documents. Discrepancies shall be brought to the immediate attention of the Contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the building official and to the registered design professional in responsible charge prior to the completion of that phase of the work. A final report documenting required special inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon by the permit applicant and the building official prior to the start of work.
 - 1. Special inspection reports and test results shall include, but not be limited to, the following:
 - a. Date of inspection.
 - b. Description of inspections or tests performed including location (reference grid lines, floors, elevations, etc.).
 - c. Statement noting that the work, material, and/or product conforms or does not conform to the construction document requirements.
 - 1) Name and signature of Contractor's representative who was notified of work, material, and/or products that do not meet the construction document requirements.
 - d. Name and signature of Special Inspector and/or testing agency representative performing the work.
- B. Schedule of Non-Compliant Work: Each agent shall maintain a log of work that does not meet the requirements of the construction documents. Include reference to original inspection/test report and subsequent dates of re-inspection/retesting.
- C. Reports and tests shall be submitted within 1 week of inspection or test. Schedule of Non-Compliant Work shall be updated daily and submitted at monthly intervals.
- D. Final Report of Special Inspections. Submitted by each agent listed in the schedule of Structural Testing and Special Inspections.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION

3.01 CONTRACTOR'S RESPONSIBILITY

- A. The Contractor shall coordinate the inspection and testing services with the progress of the work. The Contractor shall provide sufficient notice to allow proper scheduling of all personnel. The Contractor shall provide safe access for performing inspection and on site testing.
- B. The Contractor shall submit schedules to the Owner, Engineer, registered design professionals and testing and inspecting agencies. Schedules will note milestones and durations of time for materials requiring structural tests and special inspections.
- C. Each Contractor responsible for the construction of a seismic-force-resisting system,

designated seismic system, or component listed in the quality assurance plan shall submit a written Contractor's statement of responsibility to the building official and to the Owner prior to the commencement of work on the system or component. The Contractor's statement of responsibility shall contain the following:

1. Acknowledgment of awareness of the special requirements contained in the quality assurance plan.
 2. Acknowledgment that control will be exercised to obtain conformance with the construction documents approved by the building official.
 3. Procedures for exercising control within the Contractor's organization, the method and frequency of reporting and the distribution of the reports.
 4. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.
- D. Each Contractor responsible for the construction of a main wind force-resisting system or a wind-resisting component listed in the quality assurance plan shall submit a written statement of responsibility to the building official and the Owner prior to the commencement of work on the system or component. The Contractor's statement of responsibility shall contain the following:
1. Acknowledgment of awareness of the special requirements contained in the quality assurance plan.
 2. Acknowledgment that control will be exercised to obtain conformance with the construction documents approved by the building official.
 3. Procedures for exercising control within the Contractor's organization, the method and frequency of reporting and the distribution of the reports.
 4. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.
- E. The Contractor shall repair and/or replace work that does not meet the requirements of the construction documents.
1. Contractor shall engage an Engineer to prepare repair and/or replacement procedures.
 2. Engineer shall be registered in the state in which the project is located. Engineer shall be acceptable to the registered design professional in responsible charge, code enforcement official, and Owner.
 3. Procedures shall be submitted for review and acceptance by the registered design professional in responsible charge, code enforcement official, and Owner before proceeding with corrective action.
- F. The Contractor shall be responsible for costs of:
1. Re-testing and re-inspection of materials, work, and/or products that do not meet the requirements of the construction documents and shop drawings/submittal data.
 2. Review of proposed repair and/or replacement procedures by the registered design professional in responsible charge and the inspectors and testing agencies.
 3. Repair or replacement of work that does not meet the requirements of the construction documents.

3.02 STRUCTURAL OBSERVATIONS

- A. Structural observations may be made periodically as determined by the registered design professional in responsible charge.
- B. Structural observations shall be for general conformance to the approved construction documents at significant construction stages and at completion of the construction of the structural system. Structural observation shall not obviate the need for other inspections or testing required by this specification or the applicable building code.

3.03 TESTING AND INSPECTION

- A. Testing and inspection shall be in accordance with the attached Schedule of Special Inspections, as listed elsewhere in the project specifications, and as listed herein.
- B. Reference related specifications for the minimum level of inspections and testing. Provide additional inspections and testing as necessary to determine compliance with the construction drawings.

PART 4 - SCHEDULES AND FORMS

- A1 – Statement of Special Inspection
- A2 – Final Report of Special Inspections
- B1 – Schedule of Special Inspection Services
- C1 – Contractor's Statement of Responsibility
- C2 – Fabricator's Certificate of Compliance
- D1 – Special Inspection Report
- D2 – Special Inspection Discrepancy Notice

END OF SECTION

STATEMENT OF SPECIAL INSPECTIONS

(Completed by the Registered Design Professional in Responsible Charge)

PROJECT: _____

LOCATION: _____

PERMIT APPLICANT: _____

APPLICANT'S ADDRESS: _____

ARCHITECT OF RECORD: _____

STRUCTURAL ENGINEER OF RECORD: _____

MECHANICAL ENGINEER OF RECORD: _____

ELECTRICAL ENGINEER OF RECORD: _____

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE: _____

This Statement of Special Inspections is submitted in accordance with Chapter 17 of the International Building Code. It includes a *Schedule of Special Inspection Services* applicable to the above-referenced Project as well as the identity of the individuals, agencies, or firms intended to be retained for conducting these inspections.

The Special Inspector(s) shall keep records of all inspections and shall furnish interim inspection reports to the Building Official and to the Registered Design Professional in Responsible Charge at a frequency agreed upon by the Design Professional and the Building Official prior to the start of work. Discrepancies shall be brought to the immediate attention of the Contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Registered Design Professional in Responsible Charge prior to completion of that phase of work. A *Final Report of Special Inspections* documenting required special inspections and corrections of any discrepancies noted in the inspections shall be submitted to the Building Official and the Registered Design Professional in Responsible Charge at the conclusion of the project.

Maximum frequency of interim report submittals shall not be less than weekly.

The Special Inspection program does not relieve the Contractor of the responsibility to comply with the Contract Documents. Jobsite safety and means and methods of construction are solely the responsibility of the Contractor.

Statement of Special Inspections Prepared by:

Type or Print name

Signature

Date

Preparer's Seal

Building Official's Acceptance:

Signature

Date

Permit Number: _____

FINAL REPORT OF SPECIAL INSPECTIONS
(Completed by each Special Inspector)

PROJECT: _____

LOCATION: _____

PERMIT APPLICANT: _____

APPLICANT'S ADDRESS: _____

ARCHITECT OF RECORD: _____

STRUCTURAL ENGINEER OF RECORD: _____

MECHANICAL ENGINEER OF RECORD: _____

ELECTRICAL ENGINEER OF RECORD: _____

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE: _____

To the best of my information, knowledge, and belief, which are based upon observations or diligent supervision of our inspection services for the above-referenced Project, I hereby state that the special inspections or testing required for this Project, and designated for this Agent in the *Schedule of Special Inspection Services*, have been completed in accordance with the Contract Documents and approved design revisions.

The Special Inspection program does not relieve the Contractor of the responsibility to comply with the Contract Documents. Jobsite safety and means and methods of construction are solely the responsibility of the Contractor.

Interim reports submitted prior to this final report and numbered ___ to ___ form a basis for and are to be considered an integral part of this final report. The following discrepancies that were outstanding since the last interim report dated _____ have been corrected:

(Attach 8 1/2"x11" continuation sheet(s) if required to complete the description of corrections)

Prepared By:

Special Inspection Agent/Firm

Type or print name of Special Inspector

Signature

Date

SCHEDULE OF SPECIAL INSPECTION SERVICES					
PROJECT	(Completed by the Registered Design Professional in Responsible Charge)				
			APPLICABLE TO THIS PROJECT		
MATERIAL / ACTIVITY	SERVICE	Y/N	EXTENT	AGENT*	DATE COMPLETED
1704.2.5 Inspection of Fabricators					
Verify fabrication/quality control procedures.	In-plant review (3)		Periodic		
1705.1.1 Special Cases (work unusual in nature, including but not limited to alternative construction materials, unusual design applications, systems or materials with special manufacturer requirements. Attach 8 1/2x11 if needed).	Submittal review, shop (3) inspection and/or field inspection.				
1705.2 Structural Steel Construction					
1. Review the material test reports and certificates as listed in AISC 360-10, Section N3.2 for compliance with the construction documents	Submittal review		Each submittal		
2. Material verification of structural steel	Shop (3) and field inspection		Periodic		
3. Anchor Rods and other Embedment(s) (Verify diameter, grade, type, length, embedment. See 1705.3 for anchors)	Field inspection		Continuous		
4. Verify member locations, braces, stiffeners, and application of joint details at each connection comply with construction documents	Field inspection		Periodic		

5. Structural steel welding:					
a. Inspection tasks Prior to Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1)	Shop (3) and field inspection		Observe or Perform as noted (4)		
b. Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-2)	Shop (3) and field inspection		Observe (4)		
c. Inspection tasks After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-3)	Shop (3) and field inspection		Observe or Perform as noted (4)		
d. Nondestructive testing (NDT) of welded joints: <i>see Commentary</i>					
1) Complete penetration groove welds at joints in materials 5/16" thick or greater in Risk Category III or IV	Shop (3) or field ultrasonic testing - 100%		Periodic		
2) Complete penetration groove welds at joints in materials 5/16" or greater in Risk Category II	Shop (3) or field ultrasonic testing - 10% of welds minimum		Periodic		
3) Thermally cut surfaces of access holes when material $t > 2"$	Shop (3) or field magnetic Particle or Penetrant testing		Periodic		
4) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1	Shop (3) or field radiographic or Ultrasonic testing		Periodic		
5) Fabricator's NDT reports when fabricator performs NDT	Verify reports		Each submittal (5)		

6. Structural steel bolting:	Shop (3) and field inspection				
a. Inspection tasks Prior to Bolting (Observe, or perform tasks for each bolted connection, in accordance with QA tasks listed in AISC 360-10, Table N5.6-1)			Observe or Perform as noted (4)		
b. Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360-10, Table N5.6-2)			Observe (4)		
1) Pre-tensioned and slip-critical joints					
a) Turn-of-nut with matching markings			Periodic		
b) Direct tension indicator			Periodic		
c) Twist-off type tension control bolt			Periodic		
d) Turn-of-nut without matching markings			Continuous		
e) Calibrated wrench			Continuous		
2) Snug-tight joints			Periodic		
c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table N5.6-3)			Perform (4)		
7. Inspection of steel elements of composite construction prior to concrete placement in accordance with QA tasks listed in AISC 360-10, Table N6.1 and Section N6	Shop (3) and field inspection and testing		Observe or Perform as noted (4)		
a. Placement and installation of steel deck			Periodic		
b. Placement and installation of steel headed stud anchors			Periodic		

1705.2.2 Steel Construction Other Than Structural Steel					
1. Material verification of cold-formed steel deck:					
a. Identification markings	Field inspection		Periodic		
b. Manufacturer's certified test reports	Submittal Review		Each submittal		
2. Connection of cold-formed steel deck to supporting structure:	Shop (3) and field inspection				
a. Welding			Periodic		
b. Other fasteners (in accordance with AISC 360, Section N6)					
1) Verify fasteners are in conformance with approved submittal			Periodic		
2) Verify fastener installation is in conformance with approved submittal and manufacturer's recommendations			Periodic		
3. Welding reinforcing steel	Shop (3) and field inspection				
a. Verification of weldability of steel other than ASTM A706			Periodic		
b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, boundary elements of special concrete structural walls and shear reinforcement			Continuous		
c. Shear reinforcement			Continuous		
d. Other reinforcing steel			Periodic		

4. Cold-formed steel trusses spanning 60 feet or greater					
a. Verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Field inspection		Periodic		
1705.3 Concrete Construction					
1. Inspection of reinforcing steel placement	Field inspection		Periodic		
2. Inspection of prestressing steel placement	In-plant or field review		Periodic		
3. Inspection of anchors cast in concrete where allowable loads have been increased or where strength design is used	Shop (3) and field inspection		Continuous		
4. Inspection of anchors and reinforcing steel post-installed in hardened concrete: Per research reports requirements	Field inspection		Periodic or as required by the research report issued by an approved source		
5. Verify use of approved design mix	Shop (3) and field inspection		Periodic		
6. Fresh concrete sampling, performs slump and air content tests and determine temperature of concrete	Shop (3) and field inspection		Continuous		
7. Inspection of concrete and shotcrete placement for proper application techniques	Shop (3) and field inspection		Continuous		
8. Inspection for maintenance of specified curing temperature and techniques	Shop (3) and field inspection		Periodic		

9. Inspection of prestressed concrete:	In-plant or field review				
a. Application of prestressing forces			Continuous		
b. Grouting of bonded prestressing tendons in the seismic-force-resisting system			Continuous		
10. Erection of precast concrete members					
a. Inspect in accordance with construction documents	Field inspection		Periodic		
b. Perform inspections of welding and bolting in accordance with Section 1705.2	Field inspection		In accordance with Section 1705.2		
11. Verification of in-situ concrete strength, prior to stressing of tendons in post tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	Field testing and review of laboratory reports		Periodic		
12. Inspection of formwork for shape, lines, location and dimensions	Field inspection		Periodic		
13. Concrete strength testing and verification of compliance with construction documents	Field testing and review of laboratory reports		Periodic		
1705.4 Masonry Construction					
(A) Level A, B and C Quality Assurance:					
1. Verify compliance with approved submittals	Field Inspection		Periodic		
(B) Level B Quality Assurance:					
1. Verification of f'_m and f'_{AAC} prior to construction	Testing by unit strength method or prism test method		Periodic		

(C) Level C Quality Assurance:					
1. Verification of f'_m and f'_{AAC} prior to construction and for every 5,000 SF during construction	Testing by unit strength method or prism test method		Periodic		
2. Verification of proportions of materials in premixed or preblended mortar, prestressing grout, and grout other than selfconsolidating grout, as delivered to the project site	Field inspection		Continuous		
3. Verify placement of masonry units	Field Inspection		Periodic		
(D) Levels B and C Quality Assurance:					
1. Verification of Slump Flow and Visual Stability Index (VSI) of selfconsolidating grout as delivered to the project	Field testing		Continuous		
2. Verify compliance with approved submittals	Field inspection		Periodic		
3. Verify proportions of site-mixed mortar, grout and prestressing grout for bonded tendons	Field Inspection		Periodic		
4. Verify grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages	Field Inspection		Periodic		
5. Verify construction of mortar joints	Field Inspection		Periodic		
6. Verify placement of reinforcement, connectors, and prestressing tendons and anchorages	Field Inspection		Level B - Periodic		
			Level C - Continuous		

7. Verify grout space prior to grouting	Field Inspection		Level B - Periodic		
			Level C - Continuous		
8. Verify placement of grout and prestressing grout for bonded tendons	Field Inspection		Continuous		
9. Verify size and location of structural masonry elements	Field Inspection		Periodic		
10. Verify type, size, and location of anchors, including details of anchorage of masonry to structural members, frames, or other construction.	Field inspection		Level B - Periodic		
			Level C - Continuous		
11. Verify welding of reinforcement (see 1705.2.2)	Field inspection		Continuous		
12. Verify preparation, construction, and protection of masonry during cold weather (temperature below 40o F) or hot weather (temperature above 90o F)	Field inspection		Periodic		
13. Verify application and measurement of prestressing force	Field Inspection		Continuous		
14. Verify placement of AAC masonry units and construction of thin-bed mortar joints (first 5000 SF of AAC masonry)	Field inspection		Continuous		
15. Verify placement of AAC masonry units and construction of thin-bed mortar joints (after the first 5000 SF of AAC masonry)	Field inspection		Level B - Periodic		
			Level C - Continuous		
16. Verify properties of thin-bed mortar for AAC masonry (first 5000 SF of AAC masonry)	Field inspection		Continuous		

17. Verify properties of thin-bed mortar for AAC masonry (after the first 5000 SF of AAC masonry)	Field inspection		Level B Periodic -		
			Level C Continuous		
18. Prepare grout and mortar specimens	Field testing		Level B Periodic -		
			Level C Continuous		
19. Observe preparation of prisms	Field inspection		Level B Periodic -		
			Level C Continuous		
1705.5 Wood Construction					
1. Inspection of the fabrication process of wood structural elements and assemblies in accordance with Section 1704.2.5	In-plant review (3)		Periodic		
2. For high-load diaphragms, verification of grade and thickness of structural panel sheathing.	Field inspection		Periodic		
3. For high-load diaphragms, verify nominal size of framing members at adjoining panel edges, nail or staple diameter and length, number of fastener lines, and that spacing between fasteners in each line and at edge margins agrees with approved bldg plans.	Field inspection		Periodic		
4. Metal-plate-connected wood trusses spanning 60 feet or greater: verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Field inspection		Periodic		

1705.6 Soils					
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Field inspection		Periodic		
2. Verify excavations are extended to proper depth and have reached proper material.	Field inspection		Periodic		
3. Perform classification and testing of controlled fill materials.	Field inspection		Periodic		
4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of compacted fill	Field inspection		Continuous		
5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly	Field inspection		Periodic		
1705.7 Driven Deep Foundations					
1. Verify element materials, sizes and lengths comply with requirements	Field inspection		Continuous		
2. Determine capacities of test elements and conduct additional load tests, as required	Field inspection		Continuous		
3. Observe driving operations and maintain complete and accurate records for each element	Field inspection		Continuous		
4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element	Field inspection		Continuous		
5. For steel elements, perform additional inspections per Section 1705.2	See Section 1705.2		See Section 1705.2		

6. For concrete elements and concrete-filled elements, perform additional inspections per Section 1705.3	See Section 1705.3		See Section 1705.3		
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge	Field inspection		In accordance with construction documents		
1705.8 Cast-in-Place Deep Foundations					
1. Observe drilling operations and maintain complete and accurate records for each element	Field inspection		Continuous		
2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes	Field inspection		Continuous		
3. For concrete elements, perform additional inspections in accordance with Section 1705.3	See Section 1705.3		See Section 1705.3		

1705.9 Helical Pile Foundations					
1. Verify installation equipment, pile dimensions, tip elevations, final depth, final installation torque and other data as required	Field inspection		Continuous		
2. Perform additional inspections and tests in accordance with the construction documents	Field inspection and testing		In accordance with construction documents		
1705.10.1 Structural Wood Special Inspections For Tornado Resistance					
1. Inspection of field gluing operations of elements of the main windforce-resisting system	Field inspection		Continuous		
2. Inspection of nailing, bolting, anchoring and other fastening of components within the main windforce-resisting system	Shop (3) and field inspection		Periodic		
1705.10.2 Cold-formed Steel Special Inspections For Wind Resistance					
1. Inspection during welding operations of elements of the main windforce-resisting system	Shop (3) and field inspection		Periodic		
2. Inspections for screw attachment, bolting, anchoring and other fastening of components within the main windforce-resisting system	Shop (3) and field inspection		Periodic		
1705.10.3 Wind-resisting Components					
1. Roof cladding	Shop (3) and field inspection		Periodic		
2. Wall cladding	Shop (3) and field inspection		Periodic		

1705.11.1 Structural Steel Special Inspections for Seismic Resistance					
1. Fabricator and erector documents (Verify reports and certificates as listed in AISC 341- 10,Section J2 for compliance with construction documents)	Submittal Review		Each submittal		
2. Structural steel welding:					
a. Inspection tasks Prior to, During and After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 341- 10, Table J6-1, J6-2 & J6-3)	Shop (3) and field inspection		Observe or Perform as noted (4)		
b. Nondestructive testing (NDT) of welded joints in accordance with AISC 341-10, Section J6.2.	Shop (3) and field testing		Periodic		
3. Structural steel bolting:					
a. Inspection tasks Prior to, During and After Bolting (Observe, or perform tasks for each bolted connection, in accordance with QA tasks listed in AISC 341-10, Table J7-1, J7-2 & J7-3)	Shop (3) and field inspection		Observe or Perform as noted (4)		
4. Other Steel Structure Inspections, in accordance with QA tasks listed in AISC 341-10, Table J8-1:					
a. RBS requirements	Shop (3) and field inspection		Observe (4)		
b. Protected zones	Shop (3) and field inspection		Observe (4)		
5. Composite construction:					
a. Inspection tasks Prior to, During and After Concrete Placement (Observe, or perform tasks, in accordance with QA tasks listed in AISC 341- 10, Table J9-1, J9-2 & J9-3)	Field inspection		Observe (4)		

1705.11.2 Structural Wood Special Inspections for Seismic Resistance					
1. Inspection of field gluing operations of elements of the seismic-force resisting system	Field inspection		Continuous		
2. Inspection of nailing, bolting, anchoring and other fastening of components within the seismic-force-resisting system	Shop (3) and field inspection		Periodic		
1705.11.3 Cold-formed Steel Light-Frame Construction Special Inspections for Seismic Resistance					
1. Inspection during welding operations of elements of the seismic force-resisting system	Shop (3) and field inspection		Periodic		
2. Inspections for screw attachment, bolting, anchoring and other fastening of components within the seismic force-resisting system	Shop (3) and field inspection		Periodic		
1705.11.4 Designated Seismic System Verification					
Inspect and verify that the component label, anchorage or mounting conforms to the certificate of compliance in accordance with 1705.12.3	Field inspection		Periodic		
1. Architectural Designated Seismic Systems (per ASCE 7-10)					
a. Interior non-structural partition walls and connections	Field Inspection		Periodic		
b. Parapets	Field Inspection		Periodic		

c. Chimneys	Field Inspection		Periodic		
d. Exterior non-structural walls elements and connections	Field Inspection		Periodic		
e. Veneer	Field Inspection		Periodic		
f. Suspended Ceiling Systems	Field Inspection		Periodic		
g. Cabinets	Field Inspection		Periodic		
h. Storefront and curtainwall framing	Field Inspection		Periodic		
i. Access Floors	Field Inspections		Periodic		
j. Glass in glazed interior and exterior storefront and curtainwall systems	Field Inspection		Periodic		
k. Laboratory Equipment	Field Inspection		Periodic		
2. Mechanical & Electrical Designated Seismic Systems (per ASCE 7-10)					
a. Mechanical and Electrical Components					
1) Air-side HVAC fans, air handlers, air conditioning units, air distribution boxes, and other mechanical components constructed of sheet metal	Field Inspection		Periodic		
2) Wet side HVAC, boilers, furnaces, atmospheric tanks and bins, chillers, water heaters, heat exchangers, air separators, manufacturing or process equipment and other mechanical components constructed of high-deformability materials	Field Inspection		Periodic		
3) Engines, turbines, pumps, compressors, and pressure vessels	Field Inspection		Periodic		
4) Elevator and escalator components	Field Inspection		Periodic		

5) Generators, batteries, invertors, motors, transformers, and other electrical components constructed of high deformability materials	Field Inspection		Periodic		
6) Motor control centers, panel boards, switch gear, instrumentation cabinets, and other components constructed of sheet metal framing	Field Inspection		Periodic		
7) Communication equipment, computers, instrumentation and controls	Field Inspection		Periodic		
8) Roof mounted stacks, cooling and electrical towers	Field Inspection		Periodic		
9) Light fixtures	Field Inspection		Periodic		
b. Vibration Isolated Components & Systems					
1) Components and systems isolated using neoprene elements and neoprene isolated floors with built-in or separate elastomeric snubbing devices or resilient perimeter stops	Field Inspection		Periodic		
2) Spring isolated components and systems closely restrained using built in or separate elastomeric snubbing devices or resilient perimeter stops	Field Inspection		Periodic		
3) Internally isolated systems and supports	Field Inspection		Periodic		
4) Suspended vibration isolation equipment including in-line duct devices and suspended internally isolated components	Field Inspection		Periodic		
c. Distribution Systems					
1) Piping and tubing including in-line components	Field Inspection		Periodic		

2) Ductwork, including in-line components	Field Inspection		Periodic		
3) Electrical conduit and cable trays	Field Inspection		Periodic		
4) Bus ducts					
5) Plumbing	Field Inspection		Periodic		
6) Manufacturing or Process Conveyors	Field Inspection		Periodic		
7) Fire Protection Sprinkler Pipe System	Field Inspection		Periodic		
1705.11.5 Architectural Components Special Inspections for Seismic Resistance					
1. Inspection during the erection and fastening of exterior cladding and interior and exterior veneer.	Field inspection		Periodic		
2. Inspection during the erection and fastening of interior and exterior non load bearing walls.	Field inspection		Periodic		
3. Inspection during anchorage of access floors	Field inspection		Periodic		
1705.11.6 Mechanical and Electrical Components Special Inspections for Seismic Resistance					
1. Inspection during the anchorage of electrical equipment for emergency or standby power systems.	Field inspection		Periodic		
2. Inspection during the anchorage of other electrical equipment.	Field inspection		Periodic		
3. Inspection during installation and anchorage of piping systems designed to carry hazardous materials, and their associated mechanical units	Field inspection		Periodic		
4. Inspection during the installation and anchorage of ductwork designed to carry hazardous materials	Field inspection		Periodic		

5. Inspection during the installation and anchorage of vibration isolation systems.	Field inspection		Periodic		
1705.11.7 Storage Racks for Seismic Resistance					
Inspection during the anchorage storage racks 8 feet or greater in height.	Field inspection		Periodic		
1705.11.8 Seismic Isolation Systems					
Inspection during the fabrication and installation of isolator units and energy dissipation devices used as part of the seismic isolation system.	Shop and field inspection		Periodic		
1705.12.1 Concrete Reinforcement Testing and Qualification for Seismic Resistance					
Review certified mill test reports	Field review		Each shipment		
Verify reinforcing steel weldability	Review test reports		Each shipment		
1705.12.2 Structural Steel Testing and Qualification for Seismic Resistance					
Test in accordance with the quality assurance requirements of AISC 341-10	Shop (3) and field testing		Per AISC 341		

1705.12.3 Seismic Certification of Nonstructural Components					
Review certificate of compliance for designated seismic system components.	Certificate of compliance review		Each submittal		
1705.12.4 Seismic Isolation Systems					
Test seismic isolation system in accordance with ASCE 7 Section 17.8	Prototype testing		Per ASCE 7		
1705.13 Sprayed Fire-resistant Materials					
1. Verify surface condition preparation of structural members.	Field inspection		Periodic		
2. Verify application of sprayed fire-resistant materials.	Field inspection		Periodic		
3. Verify average thickness of sprayed fire-resistant materials applied to structural members.	Field inspection		Periodic		
4. Verify density of the sprayed fire-resistant material complies with approved fire-resistant design.	Field inspection and testing		Per Building Code Section 1705.13.5		
5. Verify the cohesive/adhesive bond strength of the cured sprayed fire-resistant material.	Field inspection and testing		Per Building Code Section 1705.13.6		
1705.14 Mastic and Intumescent Fire-Resistant Coatings					
Inspect mastic and intumescent fire-resistant coatings applied to structural elements and decks, in accordance with AWCI 12-B.	Field inspection		Periodic		

1705.15 Exterior Insulation and Finish Systems (EIFS)					
1. Verify materials, details and installations are per the approved construction documents	Field inspection		Periodic		
2. Inspection of water-resistive barrier coating over sheathing substrate	Field inspection		Periodic		
1705.16 Fire-Resistant Penetrations and Joints					
1. Inspect penetration firestop	Field testing		Per ASTM E 2174		
2. Inspect fire-resistant joint systems	Field testing		Per ASTM E 2393		
1705.17 Smoke Control Systems					
1. Leakage testing and recording of device locations prior to concealment.	Field testing		Periodic		
2. Prior to occupancy and after sufficient completion, pressure difference testing, flow measurements, and detection and control verification.	Field testing		Periodic		

* INSPECTION AGENTS	FIRM	ADDRESS	TELEPHONE NO.
1.			
2.			
3.			
4.			
5.			
<p>Notes:</p> <p>1. The inspection and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the Special Inspector(s) and/or testing agencies are subject to the approval of the Building Official and/or the Design Professional.</p>			
<p>2. The list of Special Inspectors may be submitted as a separate document, if noted so above.</p>			
<p>3. Special Inspections as required by Section 1704.2.5 are not required where the fabricator is approved in accordance with IBC Section 1704.2.5.2.</p>			
<p>4. Observe on a random basis, operations need not be delayed pending these inspections. Perform these tasks for each welded joint, bolted connection or steel element.</p>			
<p>5. NDT of welds completed in an approved fabricator's shop may be performed by that fabricator when approved by the AHJ. Refer to AISC 360, N7.</p>			
<p>Circle "Yes" or "No" as appropriate and date this document below:</p>			
Are Requirements for Seismic Resistance included in the Statement of Special Inspections?			Yes No
Are Requirements for Tornado Resistance included in the Statement of Special Inspections?			Yes No
DATE:			

CONTRACTOR'S STATEMENT OF RESPONSIBILITY

Each contractor responsible for the construction or fabrication of a main wind- or seismic force-resisting system must submit a Statement of Responsibility, in accordance with the Building Code, Section 1704.4.

Project: _____

Contractor's Name: _____

Address: _____

License No.: _____

Description of building systems and components included in Statement of Responsibility:

Contractor's Acknowledgement of Special Requirements

I hereby acknowledge that I have received, read, and understand the Statement of Special Inspections and Special Inspection program:

I hereby acknowledge that control will be exercised to achieve conformance with the approved construction documents.

Name and Title (type or print)

Signature

Contractor's Provisions for Quality Control

Procedures for exercising control within the contractor's organization, the method and frequency of reporting and distribution of reports is attached to this Statement.

Identification and qualifications of the person(s) exercising such control and their position(s) in the organization are attached to this Statement

FABRICATOR'S CERTIFICATE OF COMPLIANCE

Each approved fabricator that is exempt from Special Inspection of shop fabrication and implementation procedures per section 1704.2.5.2 of the Building Code must submit *Fabricator's Certificate of Compliance* at the completion of fabrication.

Project: _____

Fabricator's Name: _____

Address: _____

Certification or Approval Agency: _____

Certification Number: _____

Date of Last Audit or Approval: _____

Description of structural members and assemblies that have been fabricated:

I hereby certify that items described above were fabricated in strict accordance with the approved construction documents.

Name and Title (type or print)

Signature

Attach copies of fabricator's certification or building code evaluation service report and fabricator's quality control manual.

SPECIAL INSPECTION REPORT

(Completed by Special Inspector)

PROJECT NAME / ADDRESS:

DATE OF INSPECTION:

INSPECTION TYPE(S) COVERAGE

☐

CONTINUOUS

☐

PERIODIC

TIME BEGINNING INSPECTION:

TIME ENDING INSPECTION:

DESCRIBE INSPECTIONS MADE, INCLUDING LOCATIONS:

LIST TESTS MADE:

LIST ITEMS REQUIRING CORRECTIONS, CORRECTIONS OF PREVIOUSLY LISTED ITEMS AND
PREVIOUSLY LISTED UNCORRECTED ITEMS: PROVIDE COPIES OF DISCREPANCY NOTICES:

COMMENTS:

TO THE BEST OF MY KNOWLEDGE, WORK INSPECTED WAS IN ACCORDANCE WITH THE APPROVED
DESIGN DRAWINGS, AND SPECIFICATIONS, EXCEPT AS NOTED ABOVE.

PRINTED FULL NAME

NOTE BY "SPECIAL INSPECTOR" OR PROVIDE NAME
OF TESTING AGENCY

SIGNED:

DATE:

CERTIFICATION:

NUMBER:

One copy of this report to remain at job site with the contractor for review upon request.

SS-295

01 41 00 STRUCTURAL TESTS AND SPECIAL INSPECTIONS

Page D1

SPECIAL INSPECTION DISCREPANCY NOTICE

(Completed by Special Inspector)

PROJECT NAME / ADDRESS:		
INSPECTION TYPE(S) COVERAGE		
<input type="checkbox"/> CONTINUOUS <input type="checkbox"/> PERIODIC		
AREA INSPECTED	TYPE OF INSPECTION	
APPLICABLE DRAWING SHEET NUMBER(S) AND/OR SPECIFICATION SECTION:		
NOTICE DELIVERED TO: <input type="radio"/> CONTRACTOR <input type="radio"/> ENGINEER/ARCHITECT <input type="radio"/> OWNER	DATE:	TIME:
MAKE THE FOLLOWING CORRECTIONS AND SECURE INSPECTION APPROVAL PRIOR TO PROCEEDING WITH THIS PHASE OF THE WORK.		
PRINTED FULL NAME		
NOTE BY "SPECIAL INSPECTOR" OR PROVIDE NAME OF TESTING AGENCY		
SIGNED:	DATE:	
CERTIFICATION:	NUMBER:	
DATE RE-INSPECTED AND APPROVED AND SIGNATURE OF SPECIAL INSPECTOR:		

One copy of this report to remain at job site with the contractor for review upon request.

ITEM SS-300 BASIC ELECTRICAL REQUIREMENTS

DESCRIPTION

300-1.1 This item shall consist of furnishing and installing complete electrical systems as defined in the plans and in these specifications. The work includes the installation, connection and testing of new electrical systems, equipment and all required appurtenances to construct and demonstrate proper operation of the completed electrical systems.

300-1.2 The Contractor shall maintain current copies of all referenced and applicable standards on the job site. The Contractor is responsible to make known to the Engineer any conflict between plans and specifications that he observes or of which he is made aware.

EQUIPMENT AND MATERIALS

300-2.1 Standards.

- a. Applicable National Fire Protection Association (NFPA) codes, including but not limited to:
 - (1) NFPA 70 - National Electrical Code.
 - (2) NFPA 70E - Standard for Electrical Safety in the Workplace.
 - (3) NFPA 72 - National Fire Alarm Code.
 - (4) NFPA 101 - Life Safety Code.
 - (5) Internet Website: <http://www.nfpa.org>
- b. Applicable Code of Federal Regulations (CFR) codes, including but not limited to:
 - (1) 29 CFR 1910 - Occupational Safety and Health Standards (OSHA)
 - (2) 29 CFR 1926 - Safety and Health Regulations for Construction.
 - (3) Internet Website: <http://www.gpoaccess.gov/cfr/index.html>
- c. ANSI/IEEE C2 - National Electrical Safety Code.
- d. NECA 1 – Standard for Good Workmanship in Electrical Construction.
- e. Applicable Federal, State and Local Electrical Codes.
- f. Applicable Federal, State and Local Energy Codes.
- g. Applicable Federal, State and Local Building Codes.
- h. Applicable Federal, State and Local Fire Codes.
- i. Applicable City Electrical Code.
- j. Applicable City Ordinances pertaining to electrical work.
- k. Applicable Federal, State and Local - Environmental, Health and Safety Laws and Regulations.

Contractor shall utilize the most current editions of standards, which are current at time of bid and as recognized by the Authority Having Jurisdiction for the respective standard.

300-2.2 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified and listed under Advisory Circular (AC) 150/5345-53, Airport Lighting Equipment Certification Program, current version on the date that the submittals are received by the Engineer. When an equipment advisory circular is being updated and two equipment lists for the same specific equipment are listed in the current certified equipment AC 150/5345-53 addendum, only that equipment qualified to the latest advisory circular will be acceptable.

b. Airport lighting equipment and materials shall also meet the Buy American Preference requirements in 49 USC 50101 and the Aviation Safety and Capacity Expansion Act. The equipment shall be approved and listed on the FAA "Equipment Meeting Buy American Requirements" list located at

Shelby County Airport
Mass Storage Hangar T

www.faa.gov/airports/aip/procurement/federal_contract_provisions/, current version on the date that the submittals are received by the Engineer, or the Contractor may submit a signed formal letter from the manufacturer that clearly lists the specific equipment, model number, location where it is manufactured, and statement certifying that the equipment and/or materials meet the Buy American Preference requirements.

c. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the Engineer. All equipment and materials shall be new and meet applicable manufacturer's standards. All electrical components and products shall be tested and listed by an OSHA accepted, nationally recognized testing laboratory (NRTL) to conform to the standards indicated in these contract documents and to the industry standards required in the NEC, NEMA, IEEE, UL, and applicable FAA advisory circulars.

d. Manufacturer's certifications shall not relieve the Contractor of the Contractor's responsibility to provide materials in accordance with these specifications and acceptable to the Engineer. Materials supplied and/or installed that do not materially comply with these specifications shall be removed, when directed by the Engineer and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

e. All materials and equipment used to construct this item shall be submitted to the Engineer for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components or electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be boldly and clearly made with arrows or circles (highlighting is not acceptable). Contractor is solely responsible for delays in project accruing directly or indirectly from late submissions or resubmissions of submittals.

f. The data submitted shall be sufficient, in the opinion of the Engineer, to determine compliance with the Contract Documents plans and specifications. The Engineer reserves the right to reject all equipment, materials or procedures, which, in the Engineer's opinion, does not meet the system design and the standards and codes, specified herein.

g. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

- (1) All LED light fixtures, except for obstruction lighting, shall be warranted by the manufacturer for a minimum of 4 years after date of installation, final acceptance testing by the Engineer, and Owner's beneficial use of the equipment, inclusive of all electronics. Refer to FAA Engineering Brief No. 67D for additional requirements.

- (2) Other?

h. After approval of submitted equipment, the Contractor shall supply the following Operation and Maintenance Manual documentation to the Owner. Two (2) complete sets of documentation shall be supplied for each model of equipment. The documentation shall be securely bound in heavy-duty 3-ring binders. The information for each piece of equipment shall be indexed using typewritten label tabs. The spine of each binder shall have a typewritten label, which indicates the included equipment types. The documentation shall include:

- (1) Approved Submittals and Shop Drawings

Shelby County Airport
Mass Storage Hangar T

- (2) Cable Splicer Qualifications, Type and Voltage
- (3) State Contractors License with Electrical Classification
- (4) Master, Journeyman and Apprentice Electrician Licenses and Certifications
- (5) Lockout/Tagout Program
- (6) Installation Manuals
- (7) Operation Manuals
- (8) Maintenance Manuals
- (9) Parts Lists, including recommended spare parts. Recommended spare parts shall be furnished with the respective equipment.
- (10) Ground Rod Impedance Test Reports
- (11) Cable Pulling Tension Value Logs

i. After approval of the O&M Manuals, the Contractor shall provide three (3) complete electronic copies of all documentation in Adobe PDF file format on CD-R (non-rewriteable) discs storage media. The electronic files shall contain searchable text and include a hyperlink index for ease in locating information with the PDF file.

j. All requirements herein Item SS-300 shall be applicable to all referenced sections in these contract documents and applicable to all sections, which reference Item SS-300.

300-2.3 Operation and maintenance data.

Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment. Provide bound hard copies and electronic copies as noted in section 300-2.2.

- a. Certificate of Substantial Completion, Release and Contractor's Affidavit, executed copies.
- b. Final approved equipment submittals, including product data sheets and shop drawings, clearly labeled.
- c. Installation manuals: Description of function, installation and calibration manuals, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of all replaceable parts.
- d. Operations manuals: Manufacturer's printed operating instructions and procedures to include start-up, break-in, routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; summer and winter operating instructions; and all programming and equipment settings.
- e. Maintenance manuals: Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
- f. Service manuals: Servicing instructions and lubrication charts and schedules, including the names and telephone numbers of personnel to contact for both routine periodic and warranty service for equipment and materials provided under this Specification.
- g. Final test reports, clearly labeled, including but not limited to, insulation resistance test reports, ground rod impedance test reports, cable pulling tension values logs, and equipment certification tests.
- h. Final certified calibration sheets for all equipment and instruments.

300-2.4 Switches. Main disconnect switches 600 volt or less shall be UL service entrance rated, industrial circuit breaker type, pad-lockable, heavy duty type with neutral and ground kits and poles and ratings as indicated on the drawings and suitable for the application indicated. Exterior switches shall be NEMA 3R rated.

300-2.5 Overcurrent protective devices.

a. Circuit Breakers: Circuit breakers shall be the molded-case type, as indicated, with each pole equipped with inverse time and instantaneous overcurrent tripping devices. Circuit breakers shall be UL listed. Single pole breakers shall be full module size; two poles shall not be installed in a single module. Multi-pole breakers shall be of the common-trip type having a single operating handle, and for sizes of 50 amperes or less may consist of single pole breakers permanently assembled at the factory into a multi-pole unit. Circuit breakers used for motor disconnects and not in sight of the motor controller shall be capable of being locked in the open position. Minimum interrupting rating shall be as shown.

b. Fuses: All fuses shall be Bussman; Gould-Shawmut, or equal. Plug fuses are not acceptable. Cartridge fuses shall be rated at 250 or 600 volts, as applicable, and shall conform to the requirements of UL 198 and NEMA Standard FU-1. 600 volts or less fuses shall be rated at 200,000 Amperes Interrupting Capacity.

300-2.6 Panelboards. Furnish and install panelboards as indicated on the Drawings. Breakers shall be bolted type and have available fault current interrupting capacity as scheduled. Single pole breakers shall be full module size; two poles shall not be installed in a single module. All multi-pole breakers shall be common trip.

a. Panels shall be fully rated; series rated panels are not acceptable.

b. The panels shall be load balanced by measuring the loads and making circuit changes. Record the load readings before and after changes and submit test records. Differences exceeding 20 percent between phase loads, within a panelboard, are not acceptable. Rebalance and recheck as necessary to meet this minimum requirement.

c. The panel shall be UL listed, service entrance rated, and fully bussed with copper bussing, copper neutral bussing, and copper ground bar. All bolts used to connect current carrying parts together shall be front accessible. The panel shall have a securely attached metal nameplate listing the manufacturer, shop order number, panel type, voltage, ampacity and short circuit withstand rating. An individual terminal or lug shall be provided for each neutral allowing one wire per terminal.

d. The panel shall be surface mounted with semi-flush locking doors and matching keys. The Contractor shall provide a typed directory and install the same in the holder behind the transparent protective covering in the panels. Provide an exterior nameplate with panel and name, mounted at the top of the panel above the door. Doors shall match enclosures. Indoor surface mounted enclosures shall have pre-punched knockouts. The panels shall be General Electric, Square D, Cutler Hammer, or approved equal.

e. Panelboards and breakers shall conform to the requirements of Fed. Spec. W-P-115.

300-2.7 Surge protective devices.

Provide a surge protective device at the lighting panelboard as indicated in the plans and make all final connections. Lead lengths shall not exceed 18 inches.

SPD Type 2 (building exterior or interior mounted adjacent to panelboard; see plans for locations; coordinate exact installation requirements in the field with the Engineer prior to work):

- a. 240/120-volt, 1-phase, 3-wire; connected via dedicated circuit breaker to panelboard.
- b. UL 1449 Fourth Edition Type 2 Listed
- c. UL 1283 Listed for Type 2
- d. Voltage protection rating 700V for 240V systems L-N
- e. Surge rating 100,000 amps per phase minimum
- f. SCCR: Equal or exceed 200 kA
- g. Inominal Rating: 10 kA
- h. Undervoltage detection, phase and power loss monitoring
- i. LED status indicator lights, audible alarm, transient counter, dry contacts
- j. NEMA 3R enclosure
- k. 5-year warranty

Provide surge protective devices to protect incoming voltage power circuits serving field equipment. Provide SPD Type 1 UL listed units designed for indoor or outdoor installations, with LED operational status lights and back-nipple mounting. For 120V or 120/240V, furnish units having minimum short circuit rating 25kA.

300-2.8 Control and timing relays. All relays shall be plug-in type relays and shall be furnished with socket base and all required mounting accessories; provide Allen-Bradley Bulletin 700 Type or approved equal. Provide relays with contacts meeting the ampacity rating requirements as indicated in the plans and as required for the equipment load to be connected and controlled.

300-2.9 Wire.

For ratings up to 600 volts, moisture and heat resistant thermoplastic wire conforming to Commercial Item Description A-A-59544A Type THWN-2 shall be used. The wires shall be of the type, size, number of conductors, and voltage shown in the plans or in the proposal.

Service, underground feeder, and underground branch circuit wiring shall be minimum Type THHN/THWN-2 unless otherwise noted.

Indoor feeder and indoor branch circuit wiring shall be minimum Type THHN/THWN-2 unless otherwise noted.

Unless otherwise indicated, conductors No. 10 AWG and smaller shall be solid, and conductors No. 8 AWG and larger shall be stranded.

For electrical work of 600 volts or less, all conductors, terminations, terminal blocks, lugs, connectors, devices and equipment shall be listed, marked, and rated 75 degrees C minimum unless otherwise noted.

Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips that will not damage cables or raceway. Pull ropes and pull wires shall have sufficient tensile strength for the cable(s) to be pulled and installed. Damaged cable or raceway shall be replaced at no additional cost to the Owner. Calculate and do not exceed the maximum allowable pulling tension or maximum allowable sidewall bearing pressure for all conductors and cables.

Install pull wires in empty raceways. Use a polypropylene plastic line with not less than 200-pound tensile strength. Secure and leave at least 12 inches of slack at each end of pull wire to prevent it from slipping back into the conduit. Cap spare raceways with removable tapered plugs, designed for this purpose.

300-2.10 Conduit. Rigid steel conduit and fittings shall conform to the requirements of Underwriters Laboratories Standard 6, 514, and 1242.

Shelby County Airport
Mass Storage Hangar T

300-2.11 Plastic conduit (for use below grade only). Plastic conduit and fittings shall conform to the requirements of Fed Spec. W-C-1094 and Underwriters Laboratories Standards UL-651 and shall be one of the following, as shown in the plans:

- a. Type I - Schedule 40 PVC suitable for underground use either direct-buried or encased in concrete.
- b. Type II - Schedule 40 PVC suitable for either above ground or underground use.
- c. Type III - Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in conduit.

Plastic conduit adhesive shall be a solvent cement manufactured specifically for gluing the specific type of plastic conduit and fitting.

300-2.12 Tape. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88, respectively, as manufactured by the Minnesota Mining and Manufacturing Company, or an approved equal.

The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electrical Code.

Copies of the National Electrical Code may be obtained from the National Fire Protection Associations, Inc., One Batterymarch Park, Quincy, Massachusetts 02269.

300-2.13 Fire extinguishers. Install a fire extinguisher, wall bracket, and accessories within the electrical vault or electrical transclosure in a location approved by the Engineer.

- a. Each installation shall be in accordance with NFPA 10, Standard for Portable Fire Extinguishers. The extinguisher shall be mounted so that the handle is 48" above finished floor.
- b. Extinguisher: UL Rating 80B:C, minimum 10 lb. capacity, for electrical vault, the fire-fighting agent shall be Purple K dry chemical. Provide indoor rated steel wall bracket sized for unit.

CONSTRUCTION METHODS

300-3.1 Lockout/tagout program. The Contractor shall provide a complete copy of an electrical energy source Lockout/Tagout Program to the Owner, with copy to the Engineer. The document shall clearly identify the on-site master electricians and their contact information, including office and mobile telephone numbers.

The Lockout/Tagout Program shall comply with Part 1910 – Occupational Safety and Health Standards (OSHA) Subpart S – Electrical, and meet the requirements of 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout), including requirements listed in 1910.331 through 1910.335.

Implementation of the Lockout/Tagout Program and all other related safety requirements are the sole responsibility of the Contractor.

300-3.2 Safety program. The Contractor shall implement an electrical safety program that complies with NFPA 70E and 29 CFR 1926.

Implementation of the Electrical Safety Program, determining and providing proper Personal Protective Equipment (PPE), training and enforcing personnel to wear the prescribed PPE, conducting work area safety inspections (including correcting deficiencies), and all other related safety requirements are the sole responsibility of the Contractor.

All work involved in the preparation and implementation of the safety program will not be measured for separate payment but will be considered subsidiary to the lockout/tagout bid item.

300-3.3 Preconstruction meeting.

A preconstruction meeting will be held with the Airport, FAA, Engineer and Contractor, prior to any work. Complete submittals and shop drawings will be submitted at this time for review. An equipment procurement schedule will be provided by the Contractor with an anticipated field construction start date. The progress construction schedule will be submitted for review each week and shall outline all installation, testing and demolition work.

300-3.4 Utility services. A new electrical service entrance is required. Refer to the electrical one-line diagram in the Plans for power service and distribution requirements.

Service entrance electrical ducts shall be concrete encased and of a depth to provide 30 inches minimum cover over the top of the underground electrical duct, regardless of the soil conditions or substances encountered. Concrete encasement for service entrance electrical ducts shall be red in color.

300-3.5 General.

The Contractor shall be responsible for coordinating all electrical work with the Utility. The Contractor shall provide temporary service conductors and raceway system. The Contractor shall then provide and connect permanent service conductors and raceway system after the completion.

All secondary conductors and controls, signaling and lighting shown in or on buildings are included in this project. Electrical service shall be extended from the service equipment as indicated.

In general, the various electrical equipment and material to be installed by the various trades under this specification shall be run as indicated, as specified herein, as required by particular conditions at the site, and as required to conform to the generally accepted standards to complete the work in a neat and satisfactory manner. The following is a general outline concerning the running of various systems and is to be expected where the drawings or conditions at the buildings necessitate deviating from these standards.

The drawings and specifications are complementary; any work required by one, but not by the other, shall be performed as though required by both.

The Contractor shall maintain copies of all equipment installation manuals on site during construction.

All conduits shall be run exposed in the equipment rooms or run concealed as indicated.

The construction details of the building are illustrated on the drawings. Each Contractor shall thoroughly acquaint himself with the details before submitting his bid as no allowances will be made because of the Contractor's unfamiliarity with these details.

The electrical plans do not give exact locations, etc., and do not show all the offsets, control lines, junction boxes, and other installation details. Each Contractor shall carefully lay out his work at the site to conform to the job conditions, to conform to details of installation supplied by the manufacturers of the equipment to be installed, and thereby to provide complete operating systems.

The electrical plans show diagrammatically the locations of the various electrical outlets and apparatus and the method of circulating and controlling them. Exact locations of these outlets and apparatus shall be determined by reference to the general plans and to all detail drawings, etc., by measurements at the buildings, and in cooperation with other crafts, and in all cases shall be subject to the approval of the

Shelby County Airport
Mass Storage Hangar T

Engineer. The Engineer reserves the right to make any reasonable change in location of any outlet or apparatus before installation, without additional cost to the Owner.

These Specifications and the accompanying Drawings are intended to cover systems which will not interfere with the structure of the buildings, which will fit into the several available spaces, and which will insure complete and satisfactory systems. Each bidder shall be responsible for the proper fitting of his material and apparatus into the buildings.

Should the particular equipment which any bidder proposes to install require other space conditions than those indicated on the Drawings, he shall arrange for such space with the Engineer before submitting his bid. Should changes become necessary because of failure to comply with this clause, the Contractor shall make such changes at the Contractor's expense.

Should the particular equipment which any bidder proposes to install require other installation methods, such as larger light base junction structures, etc., he shall include all such equipment and appurtenances in his bid. Should changes become necessary because of failure to coordinate equipment requirements and comply with this clause, the Contractor shall make such changes at the Contractor's expense.

The Contractor shall be responsible to see that each party furnishes electrical equipment which meets the electrical requirements specified herein and that all systems work together to produce the specified operation.

Where two or more units of the same kind or class of equipment are required, these shall be products of a single manufacturer; however, the component parts need not be the products of one manufacturer.

Each Contractor shall submit working scale drawings of all his apparatus and equipment which in any way varies from these Specifications and Plans, which shall be checked by the Engineer and approved before the work is started, and interferences with the structural conditions shall be corrected by the Contractor before the work proceeds.

Electrical equipment, such as switchgear, switchboards, panelboards, load centers and other power supply equipment, shall not be used as a common enclosure, pull box or junction box for routing conductors of different systems, unless the equipment is specifically designed for this purpose and indicated as such on the Plans.

All electrical equipment shall be securely mounted as indicated in the plans, as required by the contract specifications, as required by guidelines and codes, and as required by the manufacturer using hardware compliant with the environmental conditions.

Interior components of electrical enclosures shall be securely mounted using appropriate hardware within the enclosure. Adhesives or adhesive tapes/strips are not allowed and are prohibited.

Electrical components, including but not limited to, relays, circuit boards, electronics, etc., shall be installed within approved enclosures.

The Contractor shall keep ends of conduits, including those extending through roofs, equipment and fixtures covered or closed with caps or plugs to prevent foreign material from entering during construction.

Where portions of raceways are known to be subjected to different temperatures, where condensation is a problem, and where passing from interior to exterior of a building, the portion of raceway or sleeve shall be filled with an approved material to prevent the circulation of air, prevent condensation, and prevent moisture entry. Sealing of raceways shall not occur until after the conductors and cables have been installed, tested and accepted by the Engineer.

Shelby County Airport
Mass Storage Hangar T

The Contractor shall install any temporary lines and connections required to maintain electric services and safely remove and dispose of them when complete.

All temporary wiring shall conform to OSHA standards. Remove temporary services when work is complete. Any damage to electrical equipment caused by the Contractor shall be repaired at no cost to the Owner.

All non-current carrying parts and neutrals shall be grounded as indicated on the Drawings or as required by the Codes.

White and/or gray outer finish conductors may only be used as grounded conductors or neutral conductors in accordance with NEC.

Install insulated green equipment grounding conductors with all feeder and branch circuits.

Provide separate insulated equipment grounding conductors from grounding system to each electrical equipment, telecommunication equipment, other special electrical system equipment, and appurtenance item location in accordance with NFPA 70 and other applicable standard requirements.

The bidder shall inspect the site, thoroughly acquaint himself with conditions to be met and work to be accomplished. Failure to comply with this shall not constitute grounds for any additional payments.

Where electrical equipment is installed that causes electrical noise interference with other systems either existing or installed under this contract, the offending equipment shall be equipped with isolating transformers, filters, reactors, shielding, or any other means as required for the satisfactory suppression of the interferences, as determined by the Engineer.

All junction boxes, expansion joints, flexible connections, instruments and similar items requiring servicing or repairs shall be installed in an accessible location.

All salvage and equipment removed by the work shall remain the property of the Owner. Material removed from the project shall be stored on the project site where and as directed. Debris shall be removed from the job site and disposed of by the Contractor.

The Contractor shall maintain his work area clean and orderly at all times. Debris shall be removed promptly. The electrical system shall be thoroughly cleaned inside and outside of all enclosures to remove all metal shavings or other work debris, dust, concrete splatter, plaster, paint and lint.

The Contractor shall do all excavating and backfilling made necessary by electrical work and shall remove all surplus or supply any earth required to establish the proper finished grade.

The Contractor shall do all cutting and patching made necessary by electrical work, but in no case shall he cut through or into any structural member without written permission of the Engineer.

All steel conduits, supports, channels, fittings, nuts, bolts, etc. shall be galvanized, corrosion-resistant type unless otherwise noted.

An approved anti-seize compound shall be used on all threads to prevent equipment and thread damage.

Equipment shall be installed in accordance with manufacturer's recommendation. Make all final electrical connections and coordinate all items with other trades.

Correct unnecessary damage caused due to installation of work, brought about through carelessness or lack of coordination. All openings, sleeves, and holes to be properly sealed, fire proofed and waterproofed. Any water leaks arising from project construction will be immediately corrected to the satisfaction of the

Shelby County Airport
Mass Storage Hangar T

Owner and the Engineer.

300-3.6 Power supply equipment. Electrical equipment, such as switchgear, switchboards, panelboards, load centers, and other power supply equipment, shall not be used as a common enclosure, pull box or junction box for routing conductors of different systems, unless the equipment is specifically designed for this purpose and indicated as such on the Plans.

If shown in the plans, the power supply equipment shall be set on concrete housekeeping pads to provide a minimum space of 3-1/2 inches between the equipment and the floor. All equipment shall be secured to the floor or wall in accordance with the manufacturer's recommendations and these contract document requirements.

300-3.7 Duct and conduit. Conduits shall be galvanized rigid steel unless otherwise indicated or specified. Refer to one-line diagram conduit notes for specific requirements.

Conduit runs shall be one trade size continuously with no reducers allowed. Changing of conduit size is only permitted at manholes, handholes, and boxes and conduit bodies used as outlet, device, junction, or pull boxes, including approved, listed fittings with removable covers.

Use an approved, listed adapter/coupling to convert to other types of conduit. Reducer couplings are not allowed.

For underground service entrance, feeder and branch circuit raceways, offsets and bends over 30 degrees and elbows in Schedule 40 PVC conduit runs shall be Schedule 80 PVC conduit. Underground service entrance PVC conduits shall be concrete encased unless otherwise noted. Underground PVC conduits shall be concrete encased under driveways, roadways, parking lots and other paved areas.

Non-encased conduits shall convert to concrete encased ducts under all paved areas and shall extend at least 3 feet beyond the edges of the pavement unless otherwise noted.

The Contractor shall provide a staked centerline or offset for the duct and manhole system - utilizing the drawings and a site inspection of the existing grounds, grades and utility crossings. The Owner and Engineer shall approve the staking plan that shall be indicated on a drawing submitted for approval before starting any excavation for the ducts. The staking plan shall indicate the proposed location, elevation and dimensions of manholes and handholes. The Engineer reserves the right to adjust duct, manhole and handhole locations and elevations before installation at no additional cost to the Owner.

The bottom surface of trenches shall be essentially smooth and free from coarse aggregate.

Install grounding-and-bonding type bushings and bonding jumpers on all service entrance conduits and on all feeder and branch circuit conduits.

Use conduit bushings at each conduit termination. Where No. 4 AWG or larger ungrounded wire is installed, use insulated bushings.

When EMT is allowed, utilize only steel compression fittings. Die-cast and set-screw fittings shall not be used.

Use double lock nuts at each conduit termination. Use weather tight hubs in damp and wet locations. Sealing lock nuts shall not be used.

Grounding continuity to rigid metal conduit shall be accomplished by grounding bushings/adapters with lugs for connection to grounding counterpoise and/or grounding electrode conductor as defined by NEC.

Shelby County Airport
Mass Storage Hangar T

All exposed wiring shall be run in not less than 1/2 inch (12 mm) galvanized rigid steel conduit. All conduits shall be installed to provide for drainage. Conduit shall be attached to wooden structures with galvanized pipe straps and fastened with galvanized wood screws not less than No. 8 nor less than 1-1/4 inches (31 mm) long. There shall be at least two fastenings for each 10-foot (3 m) length.

Existing ducts may require clearing before use. It is the responsibility of the Contractor to locate the existing ducts, identify empty or partially empty conduits and clear the conduits as required. Where new cable is to be installed in existing duct, the full length of the duct shall be cleared of debris by mechanical means before the installation of the new cable. Acceptable methods of clearing existing ducts include "hydro-jetting" and "roto-rooting." All existing cables in each re-used duct shall be replaced for the length of the duct and properly spliced in a method approved by the Engineer. Clearing of existing duct banks or conduits is incidental to the cable pay item.

Dedicated ground rods shall be installed and exothermically welded to the counterpoise wire at each end of a duct bank crossing under pavement.

For concrete markers, the impression of letters shall be done in a manner, approved by the Engineer, to affect a neat, professional appearance. The letters shall be stenciled neatly. After placement, all markers shall be given one coat of high-visibility aviation orange paint, as approved by the Engineer.

300-3.8 Backfill, compaction, and restoration. Refer to the backfill, compaction and restoration requirements within Item P-152 where other compaction requirements are specified (under pavements, embankments, etc.)

Trenches shall be backfilled and compacted in 6" layers to 90% maximum density for cohesive soils and to 100% maximum density for non-cohesive soils, as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556, D2167, or D6938.

Backfilling from two directions will not be allowed. No backfilling will be accomplished without the approval of the Engineer or Construction Observer. The Contractor shall ensure all trenches are inspected prior to being covered and prior to encasement. Any uninspected trenches which are prematurely covered shall be exposed for inspection at the Engineer and Owner's convenience at no additional cost to the Owner. The Construction Observer will coordinate with the Contractor for advance scheduling of trench inspection.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD) and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

300-3.9 Cable and utility coordination. The existing and the proposed locations of lighting cable are approximate. The Contractor shall be responsible for field locating and identifying the existing lighting circuits to determine their exact routing. The Contractor shall also be responsible for maintaining the lighting systems in a working condition until the new lighting circuits have been installed and tested. The Contractor shall proactively and expeditiously accomplish this cable identification work prior to performing any modifications to the lighting circuits. Coordinate identification work with the Owner and Engineer and make all corrections, additions, etc. on the as-built drawings.

Underground cable and utilities exist within and adjacent to the limits of construction. An attempt has been made to locate these cables and utilities on the Plans. All existing cable and utilities may not be shown on the Plans and the location of the cables and utilities shown may vary from the location shown on the Plans. Prior to beginning of any type of excavation, the Contractor shall contact the utilities, the airport maintenance staff, FAA field personnel and other organizations as required and make arrangements for the location of the utilities on the ground. The Contractor shall maintain the cable and utility location markings until they are no longer required.

Shelby County Airport
Mass Storage Hangar T

The Contractor shall replace or repair any underground cable or utility that has been damaged by the Contractor during excavation to the satisfaction of the owner of the cable or utility at no additional cost to the Owner.

The Contractor shall be responsible for all coordination work associated with existing and new utilities, their marking, their identification, proposed outages/shutoffs, connections, cutovers, etc.

300-3.10 Wiring. The Contractor shall furnish all labor and materials and shall make complete electrical connections in accordance with the wiring diagram furnished with the project plans. The electrical installation shall conform to the requirements of the latest edition of National Fire Protection Association, NFPA-70, National Electrical Code.

Provide color-coding for phase identification.

Colors for 240/120V Circuits:

- a. Phase A: Black
- b. Phase B: Red
- c. Neutral: White

Colors for 208Y/120V Circuits:

- a. Phase A: Black
- b. Phase B: Red
- c. Phase C: Blue
- d. Neutral: White

All new electrical cable shall be marked using color-coded plastic electrical tape, which is specifically designed for application on polyethylene-jacketed cable. The tape shall be applied as detailed on the Plans. Marking tape shall be Scotch 35 Vinyl Plastic tape or approved equal.

300-3.11 Marking and labeling. Properly identify all electrical equipment.

Wire/Cable Designation Tape Markers:

a. Indoor Dry Locations: UL Recognized Materials, vinyl or vinyl-cloth, self-adhesive, wraparound, self-laminating, cable/conductor markers with computer printer-generated numbers and letters, minimum 1" width. Provide Brady B-427 with thermal transfer print type or approved equal.

b. Outdoor Locations and Indoor Wet and Damp Locations: White polyolefin, non-adhesive, full circle, heat-shrinkable sleeve, cable/conductor markers with computer printer-generated numbers and letters, minimum 1" width. Provide Brady B-342 with thermal transfer print type or approved equal.

Properly identify all electrical equipment, including but not limited to the following:

- a. Switchgear, switchboards, and control panels.
- b. Main distribution panel and individual devices within it.
- c. Panelboards and individual devices within it.
- d. Safety switches and disconnects.
- e. Contactors and lighting control center, including all branch circuits.
- f. Individually mounted circuit breakers.
- g. Starters and relays.
- h. Transformers.
- i. Generators and automatic transfer switches.

Use permanently attached black phenolic plates with 3/8" white engraved lettering on the face of each, attached with minimum two sheet metal screws. Starters and relays connected under this Specification

Shelby County Airport
Mass Storage Hangar T

shall be identified whether furnished under this Specification or under other Specifications of this contract. Plates shall be indoor or outdoor rated as required by installation location.

Panelboard identification plates shall indicate panel by identification name, voltage system, ampacity rating and type, AIC rating, and feeder source description.

Identify each receptacle, light switch, junction box, etc. with panelboard identification and circuit number. For all wiring device covers, use hot, stamped, or engraved machine printing with black-filled lettering on face of plate, and durable wire markers or tags inside outlet boxes.

Identify fire alarm junction boxes with red covers and mechanical control junction boxes with blue covers.

Install all identification as required by current adopted editions of the NFPA 70 - National Electrical Code and NFPA 70E - Standard for Electrical Safety in the Workplace.

300-3.12 Removal and relocation of existing equipment. The Contractor shall carefully remove all salvageable equipment as indicated on the Plans. Any equipment which is damaged during the removal operation shall be subject to a reduction in payment for removal of the equipment. All equipment which is removed during this project shall be transported to a site on the Airfield or removed from the Airfield and properly disposed of as directed by the Owner and the Engineer.

The Contractor shall carefully relocate existing equipment as indicated in the Plans. Any equipment that is damaged during the relocation operation shall be replaced at no additional cost to the Owner.

Any existing electrical equipment, conduit, cables, etc. that is damaged during construction shall be replaced at no additional cost to the Owner to the satisfaction of the Owner and the Engineer.

300-3.13 Certification and performance. Equipment and materials covered by FAA Advisory Circulars are referred to by item numbers and approved equipment is listed within the AC 150/5345-53 Airport Lighting Equipment Certification Program's monthly Addendum, which contains a complete and updated listing of the certified equipment and manufacturers and is listed in the FAA Buy American Preference equipment list, which is also updated monthly. The Contractor shall provide and install new certified equipment that works reliably and efficiently with the existing equipment to remain in service. The Contractor shall provide any additional accessories and/or appurtenances required to provide fully functional electrical systems to the satisfaction of the Owner and Engineer, at no additional cost to the Owner.

The Contractor shall ascertain that all lighting system components furnished (including FAA certified and approved equipment) are compatible in all respects with each other and the remainder of the new and existing systems. Any non-compatible components furnished by the Contractor shall be replaced at no additional cost to the Owner with a similar unit that is approved by the Engineer and compatible with the remainder of the airport lighting system.

300-3.14 As-built drawings. The Contractor shall keep one (1) full-sized set of prints for As-Built Drawings at the site, in good order, and annotated to show all changes made during the construction process.

The Contractor shall locate all underground and concealed work, identifying all equipment, conduit, circuit numbers, motors, feeders, breakers, switches, and starters. The Contractor will certify accuracy by endorsement. As-Built drawings shall be correct in every detail, so Owner can properly operate, maintain, and repair exposed and concealed work.

The As-Built drawings shall indicate all control system labeling and marking.

The Contractor shall store the As-Built drawings on the site. Drawings shall not be rolled. Make corrections,

Shelby County Airport
Mass Storage Hangar T

additions, etc., with pencil, with date and authorization of change.

As-Built drawings must be submitted to Engineer before project will be accepted.

Minor deviations from the Plans and Specifications shall be as approved by the Engineer.

Upon completion of the installation, the Contractor shall adjust the systems to the satisfaction of the Engineer.

300-3.15 Testing.

General Electrical Testing: Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification and certify compliance with test parameters. Tests shall be conducted in the presence of the Engineer and shall be to his/her satisfaction. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest. Perform infrared scan tests and inspections of service and power distribution equipment at the respective buildings and provide reports. Electrical equipment will be considered defective if it does not pass tests and inspections. Reports shall include notations of deficiencies, remedial action taken and observations after remedial action.

System and Equipment Testing: All installations shall be fully tested by continuous operation for not less than 24 hours as completed systems prior to acceptance. These tests shall include the functioning of each control not less than 10 times.

Test equipment and instruments utilized by the Contractor shall have been calibrated following the manufacturer's recommended schedule to verify their accuracy prior to performing the testing work. The Contractor shall provide instrument calibration certificates on test equipment when requested by the Engineer. Retesting work due to inaccurate or defective instruments shall be performed by the Contractor to the satisfaction of the Engineer at no additional cost to the Owner.

a. Ground Rod Impedance Testing:

The enclosed "Ground Rod Impedance Test Report" form shall be used, and testing shall be performed in the presence of the Engineer.

As-Built drawings shall indicate the location of all installed ground rods. Each ground rod shall have a unique identifier that corresponds with its submitted ground impedance test report.

Three-pole fall-of-potential testers that can measure the ground resistance of a ground rod using auxiliary electrodes (staked testing), such as a Fluke 1621 Earth Ground Tester, shall be used for testing individual dedicated equipment ground rods at fixtures and equipment, or for testing isolated counterpoise ground rods not yet connected to the counterpoise wire.

Clamp-on testers that can measure the ground resistance of a ground rod without using auxiliary ground rods (stakeless testing), such as a Fluke 1630 Earth Ground Clamp Meter or approved equal, shall be used for testing counterpoise ground rods which have already been connected to the counterpoise wire, or ground ring ground rods which have already been connected to the established ground ring system.

Ground impedance test equipment shall be submitted for review and approval by the Engineer prior to performing the tests.

If the ground rod's impedance exceeds 25 ohms, an additional rod shall be driven in a location suitable and approved by the Engineer. However, the additional rod must satisfy

Shelby County Airport
Mass Storage Hangar T

the requirements of NEC 250.53 and not be less than 6 feet away from any other ground rod electrode. Additional ground rods shall not be measured for separate payment but shall be considered subsidiary to the counterpoise or respective equipment pay item.

The Contractor shall perform additional tests if required and requested by the Engineer at no additional cost.

The Contractor shall coordinate with the resident Engineer to approve tests daily before proceeding. The Contractor shall fill out a separate test report for each date. Test reports shall be submitted weekly to the Engineer.

300-3.16 Inspection fees and permits. The Contractor shall obtain and pay for all necessary construction permits, licenses, government charges, and inspection fees necessary for prosecution of the Work. Unless otherwise noted, the Contractor shall pay all charges of utility owners for connections for providing permanent service to the Work, ready for subsequent utility account transfer to the Owner after final acceptance.

300-3.17 Work supervision.

State of Alabama: The Contractor shall designate in writing the qualified electrical supervisor who shall provide supervision to all electrical work on this project. The minimum qualifications for the electrical supervisor shall be an Electrical Contractor as defined by Alabama Electrical Contractors Board. The supervisor or his appointed alternate possessing at least a journeyman electrician license shall be on site whenever electrical work is being performed. The qualifications of the electrical supervisor shall be subject to approval of the Owner and the Engineer.

All Electrical Contractors and journeyman electricians shall be licensed in accordance with the Alabama Electrical Contractors Board. No unlicensed electrical workers shall perform electrical work on this project. Apprentice electricians in a ratio of not more than one apprentice per journeyman electrician will be allowed if the apprentices are licensed and actively participating in an apprenticeship program recognized and approved by the Alabama Electrical Contractors Board.

BASIS OF PAYMENT

300-5.1 All items in this specification shall be considered subsidiary to pay item SS-295-28.1.

MATERIAL REQUIREMENTS

Commercial Item Description A-A-59544	Cable and Wire, Electrical (Power, Fixed Installation)
Fed. Spec. W-C-1094	Conduit and Conduit Fittings; Plastic, Rigid
Fed. Spec. W-P-115	Panel, Power Distribution
Fed. Std. 595	Colors
Underwriters Laboratories Standard 6	Rigid Metal Conduit
Underwriters Laboratories Standard 514	Fittings for Conduit and Outlet Boxes

Shelby County Airport
Mass Storage Hangar T

Underwriters Laboratories Laboratories Standard 651	Schedule 40 and 80 Rigid PVC Conduit (for Direct Burial)
Underwriters Laboratories Standard 1242	Intermediate Metal Conduit
CFR 1910	Occupational Safety and Health Regulations
CFR 1926	Safety and Health Regulations for Construction
ANSI/IEEE C2	National Electrical Safety Code
NFPA 70	National Electrical Code (NEC)
NFPA 70E	Standard for Electrical Safety in the Workplace
NFPA 101	Life Safety Code
NFPA 780	Standard for the Installation of Lightning Protection Systems
29 CFR 1910	Occupational Safety and Health Standards (OSHA)
29 CFR 1926	Safety and Health Regulations for Construction
Jaquith Industries, Inc.	The Design, Installation, and Maintenance of In-Pavement Airport Lighting

Shelby County Airport
Mass Storage Hangar T

GROUND ROD IMPEDANCE TEST REPORT

Owner / Sponsor: Shelby County Commission

Engineer: Garver, LLC

Airport: Shelby County Airport

Contractor: _____

Project Title: Mass Storage Hangar T

Garver Project Number: 22A01080

Date: _____

Weather / Site Conditions: _____

Fall-of-Potential Style Tester (F):
Manufacturer: _____

Model #: _____

Clamp-On Style Tester (C):
Manufacturer: _____

Model #: _____

Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)	Ground Rod #	Test Equipment Style (F or C)	Impedance Value (Ohms)
Tested By:					
Engineer Witness:					

Provide signature/date in the fields above.

Page ____ of ____

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ITEM C-102 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

DESCRIPTION

102-1.1 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~~ Contractor 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 and a maximum of 34 inches above the ground surface. Posts shall be set no more than 10 feet 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 overlap and securely sealed. A trench shall be excavated approximately 4 inches deep by 4 inches 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.

102-3.5 Construction Methods. *Providing the temporary erosion control items and devices shown on the Plans is intended to minimize the erosion of soils during construction. However, the items and devices shown are not intended to represent all of the necessary items or procedures required to be implemented by the Contractor. The plans and specifications show the Engineer's estimate of a minimum effort needed to maintain proper erosion control during construction. Additional effort and materials may be required by the Contractor to minimize the erosion of soils during construction. It shall be the Contractor's responsibility*

to install and maintain all the items shown in the Plans and to coordinate, submit, obtain, and comply with all necessary Federal, State, and local permits.

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.
- b. Installation and removal of temporary silt fence will be measured by the linear foot.
- c. Temporary wattle ditch checks will be measured by the linear foot.

This work includes obtaining all necessary federal, state, and local permits required to complete this project.

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-102-5.1a	Temporary Seeding and Mulching – per Square Yard
Item C-102-5.1b	Temporary Silt Fence – per Linear Foot
Item C-102-5.1c	Temporary Wattle Ditch Check – 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.

Advisory Circulars (AC)

AC 150/5200-33	<i>Hazardous Wildlife Attractants on or Near Airports</i>
AC 150/5370-2	<i>Operational Safety on Airports During Construction</i>

ASTM International (ASTM)

ASTM D6461	<i>Standard Specification for Silt Fence Materials</i>
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United States Department of Agriculture (USDA)

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

END OF ITEM C-102

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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 percent of the total project cost.

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.

105-4.1 Engineer/RPR field office. An Engineer/RPR field office is not required.

105-4.2 Contractor's access / haul routes. *The Contractor shall layout, construct, maintain, and repair all access/haul roads needed to construct the work. Prior to beginning construction, the contractor shall document the existing conditions of any proposed haul routes. Documentation methods shall be approved by the Engineer. The existing access roads shown on the plans shall be repaired, as determined necessary by the Engineer, at the close of the project. All such work, including all materials and labor, involved in the layout, construction, maintenance, and repair of the Contractor's access/haul roads will not be measured for separate payment but will be considered subsidiary to the bid item "Mobilization."*

105-4.3 Contractor's Staging Area. *The areas designated in the plans or by the Engineer as the Contractor's staging area shall be cleared and graded by the Contractor as needed for use by the Contractor in constructing the work on this project. All areas used or otherwise occupied by the Contractor for his operations shall be cleaned, regraded, and seeded, as directed by the Engineer, prior to the final acceptance of the project by the Airport. All work involved in the preparation and restoration of areas used or occupied by the Contractor, including clearing, grubbing, regrading, and seeding, will not be measured for separate payment but will be considered subsidiary to the bid item "Mobilization."*

105-4.4 Instrument Control. *The Contractor will be furnished survey baselines and benchmarks to control the work as shown on the Plans. The Contractor shall be responsible for the additional instrument control necessary to layout and construct the work. The Contractor shall provide the instrument control as provided for in Section 50 of the General Provisions. The Contractor's instrument control of the work shall not be measured for separate payment, but will be considered subsidiary to the bid item "Mobilization".*

105-4.5 Location of Underground Utilities. *Prior to performing excavations, the Contractor shall be responsible for performing such spot digging or "potholing" as necessary to verify the location and depth of existing underground utilities. This work shall be in addition to requirements included the General Provisions and plan notes. Spot digging or "potholing" will not be paid separately, but shall be considered subsidiary to the bid item "Mobilization."*

105-4.6 Clean-Up. *From time to time, the Contractor shall clean up the site in order that the site presents a neat appearance and that the progress of work will not be impeded. One such clean up shall immediately precede final inspection.*

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

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-105-6.1 Mobilization (Maximum 10% of Total Bid) – 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

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ITEM D-701 PIPE FOR STORM DRAINS AND CULVERTS is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

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 *number 57 stone or 67 stone as defined in ASTM C 33 or approved equal.* ~~loosely placed uncompacted material under the middle third of the pipe prior to placement of the pipe.~~

Revise the following paragraph as noted:

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. *All reinforced concrete pipe shall be Class III pipe unless otherwise denoted on the plans. No pick-eye holes will be allowed.*

Revise the following paragraph as noted:

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.

END OF MOD D-701

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. *All reinforced concrete pipe shall be Class III pipe unless otherwise denoted on the plans. No pick-eye holes will be allowed.*

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 C76 Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

701-2.3 Concrete. Not used.

701-2.4 Rubber gaskets. Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C443.

701-2.5 Joint mortar. Not used.

701-2.6 Joint fillers. Not used.

701-2.7 Plastic gaskets. Not used.

701-2.8. Controlled low-strength material (CLSM). Not used.

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 *number 57 stone or 67 stone as defined in ASTM C 33 or approved equal*. ~~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 (0.075 mm) sieve. For all other areas, no more than 50% of the material shall pass the No. 200 (0.075 mm) 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 up grade. 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 up grade.

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.

d. Fiberglass pipe. Joints and fittings shall be as detailed on the plans and in accordance with the manufacturers recommendations.

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 D698. 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.

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet 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. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

701-4.2. The volume of excavation and bedding will not be measured for separate payment but will be considered subsidiary to pipe installation.

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 for 15-inch, Class III, Reinforced Concrete Pipe (RCP).

Payment will be made under:

Item D-701-5.1	15-Inch, Class III, Reinforced Concrete Pipe - per Linear Foot
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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.

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
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END ITEM D-701

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**CONCRETE CULVERTS, HEADWALLS, AND
MISCELLANEOUS DRAINAGE STRUCTURES**

ITEM D-752 CONCRETE CULVERTS, HEADWALLS, AND MISCELLANEOUS DRAINAGE STRUCTURES is hereby amended with respect to the paragraphs and sections cited below.

Add the following paragraph as noted:

Replace the following paragraph as noted:

Revise the following paragraph as noted:

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.~~ *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.*

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 *item which it is contained.* ~~contract unit price for "unclassified excavation for structures."~~

Delete the following paragraph:

END OF MOD D-752

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.~~ *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.*

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 *item which it is contained*. ~~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 Concrete culverts, headwalls, and miscellaneous drainage structures shall be measured by the unit, completed in place and accepted.

752-4.2 Reinforcing steel shall not be measured for separate payment but shall be considered subsidiary to the structure in which it is contained.

BASIS OF PAYMENT

752-5.1 Payment will be made at the contract unit price per each for concrete culverts, headwalls, and miscellaneous drainage structures. These prices shall be full compensation for furnishing all materials and for all preparation, excavation, and placing 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 plan; and for all labor, equipment, tools, and incidentals necessary to complete the structure.

Payment will be made under:

Item D-752 5.1 Slope Paved Headwall (ALDOT SD# HW-614-SP), 15-Inch RCP — 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 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 P-101 PREPARATION/REMOVAL OF EXISTING PAVEMENTS is hereby amended with respect to the paragraphs and sections cited below.

Add the following paragraph as noted:

101-1.2 Limits of pavement removal, pavement repair, and cold milling are estimated in the plans. Actual limits of these items shall be coordinated with the Engineer prior to construction.

Add the following paragraph as noted:

***d. Disposal.** All existing pavement removed shall be disposed of off-site. All hauling will be considered a necessary and incidental part of the work. Its costs shall be considered by the Contractor and included in the contract unit price for the pay items of work involved. No payment will be made separately or directly for hauling on any part of the work.*

Revise the following paragraph as noted:

101-3.5 Cold milling. Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall be removed and disposed off Airport property. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense. *Sawcutting will be required at the edge of the milled areas to establish a clean joint. The removal shall proceed to the depth necessary to accommodate the planned overlay thickness.*

a. Patching. The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. ~~The RPR-Contractor~~ shall layout the area to be milled with a straightedge in increments of 1-foot widths. *The Contractor's layout shall be approved by the RPR prior to beginning milling operations.* The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor's Expense.

Revise the following paragraph as noted:

101-3.8.3 Joint sealant. Joint material and installation will be in accordance with ~~Item P-605~~ ASTM D 6690.

Revise the following paragraph as noted:

101-3.9.3 Crack Sealant. Crack sealant material and installation will be in accordance with ~~Item P-605~~ ASTM D6690.

END OF MOD P-101

ITEM P-101 PREPARATION/REMOVAL OF EXISTING PAVEMENTS

DESCRIPTION

101-1.1 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.

101-1.2 *Limits of pavement removal, pavement repair, and cold milling are estimated in the plans. Actual limits of these items shall be coordinated with the Engineer prior to construction.*

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.

The Contractor's removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.

a. Concrete pavement removal. Full depth saw cuts shall be made perpendicular to the slab surface. The Contractor shall saw through the full depth of the slab including any dowels at the joint, removing the pavement and installing new dowels as shown on the plans and per the specifications. Where the perimeter of the removal limits is not located on the joint and there are no dowels present, the perimeter shall be saw cut the full depth of the pavement. The pavement inside the saw cut shall be removed by methods which will not cause distress in the pavement which is to remain in place. If the material is to be wasted on the airport site, it shall be reduced to a maximum size of 6 inches. Concrete slabs that are damaged by under breaking shall be repaired or removed and replaced as directed by the RPR.

The edge of existing concrete pavement against which new pavement abuts shall be protected from damage at all times. Spall and underbreak repair shall be in accordance with the plans. Any underlying material that is to remain in place, shall be recompact and/or replaced as shown on the plans. Adjacent areas damaged during repair shall be repaired or replaced at the Contractor's expense.

b. Asphalt pavement removal. Asphalt pavement to be removed shall be cut to the full depth of the asphalt pavement around the perimeter of the area to be removed. If the material is to be wasted on the airport site it shall be broken to a maximum size of 6 inches.

c. Repair or removal of Base, Subbase, and/or Subgrade. All failed material including surface, base course, subbase course, and subgrade shall be removed and repaired as shown on the plans or as directed by the RPR. Materials and methods of construction shall comply with the applicable sections of these specifications. Any damage caused by Contractor's removal process shall be repaired at the Contractor's expense.

d. Disposal. *All existing pavement removed shall be disposed of off-site. All hauling will be considered a necessary and incidental part of the work. Its costs shall be considered by the Contractor and included in the contract unit price for the pay items of work involved. No payment will be made separately or directly for hauling on any part of the work.*

101-3.2 Preparation of joints and cracks prior to overlay/surface treatment. Remove all vegetation and debris from cracks to a minimum depth of 1 inch. If extensive vegetation exists, treat the specific area with a concentrated solution of a water-based herbicide approved by the RPR. Fill all cracks greater than 1/4 inch wide with a crack sealant per ASTM D6690. The crack sealant, preparation, and application shall be compatible with the surface treatment/overlay to be used. To minimize contamination of the asphalt

with the crack sealant, underfill the crack sealant a minimum of 1/8 inch, not to exceed 1/4 inch. Any excess joint or crack sealer shall be removed from the pavement surface.

101-3.3 Removal of Foreign Substances/contaminates prior to overlay. Removal of foreign substances/contaminates from existing pavement that will affect the bond of the new treatment shall consist of removal of rubber, fuel spills, oil, crack sealer, at least 90% of paint, and other foreign substances from the surface of the pavement. Areas that require removal are designated on the plans and as directed by the RPR in the field during construction.

Chemicals, high-pressure water, heater scarifier (asphaltic concrete only), cold milling, rotary grinding, or sandblasting may be used. If chemicals are used, they shall comply with the state's environmental protection regulations. Removal methods used shall not cause major damage to the pavement, or to any structure or utility within or adjacent to the work area. Major damage is defined as changing the properties of the pavement, removal of asphalt causing the aggregate to ravel, or removing pavement over 1/8 inch deep. If it is deemed by the RPR that damage to the existing pavement is caused by operational error, such as permitting the application method to dwell in one location for too long, the Contractor shall repair the damaged area without compensation and as directed by the RPR.

Removal of foreign substances shall not proceed until approved by the RPR. Water used for high-pressure water equipment shall be provided by the Contractor at the Contractor's expense. No material shall be deposited on the pavement shoulders. All wastes shall be disposed of in areas indicated in this specification or shown on the plans.

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

a. Repair of concrete spalls in areas to be overlaid with asphalt. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The perimeter of the repair shall be saw cut a minimum of 2 inches outside the affected area and 2 inches deep. The deteriorated material shall be removed to a depth where the existing material is firm or cannot be easily removed with a geologist pick. The removed area shall be filled with asphalt mixture with aggregate sized appropriately for the depth of the patch. The material shall be compacted with equipment approved by the RPR until the material is dense and no movement or marks are visible. The material shall not be placed in lifts over 4 inches in depth. This method of repair applies only to pavement to be overlaid.

b. Asphalt pavement repair. The Contractor shall repair all spalled concrete as shown on the plans or as directed by the RPR. The failed areas shall be removed as specified in paragraph 101-3.1b. All failed material including surface, base course, subbase course, and subgrade shall be removed. Materials and methods of construction shall comply with the applicable sections of these specifications.

101-3.5 Cold milling. Milling shall be performed with a power-operated milling machine or grinder, capable of producing a uniform finished surface. The milling machine or grinder shall operate without tearing or gouging the underlying surface. The milling machine or grinder shall be equipped with grade and slope controls, and a positive means of dust control. All millings shall be removed and disposed off Airport property. If the Contractor mills or grinds deeper or wider than the plans specify, the Contractor shall replace the material removed with new material at the Contractor's Expense. *Sawcutting will be required at the edge of the milled areas to establish a clean joint. The removal shall proceed to the depth necessary to accommodate the planned overlay thickness.*

a. Patching. The milling machine shall be capable of cutting a vertical edge without chipping or spalling the edges of the remaining pavement and it shall have a positive method of controlling the depth of cut. ~~The RPR-Contractor~~ shall layout the area to be milled with a straightedge in increments of 1-foot widths. *The Contractor's layout shall be approved by the RPR prior to beginning milling operations.* The area to be milled shall cover only the failed area. Any excessive area that is milled because the Contractor doesn't have the appropriate milling machine, or areas that are damaged because of his negligence, shall be repaired by the Contractor at the Contractor's Expense.

b. Profiling, grade correction, or surface correction. The milling machine shall have a minimum width of 5 feet and it shall be equipped with electronic grade control devices that will cut the surface to the

grade specified. The tolerances shall be maintained within +0 inch and -1/4 inch of the specified grade. The machine must cut vertical edges and have a positive method of dust control. The machine must have the ability to windrow the millings or cuttings or remove the millings or cuttings from the pavement and load them into a truck. All millings shall be removed and disposed of off the airport.

c. Clean-up. The Contractor shall sweep the milled surface daily and immediately after the milling until all residual materials are removed from the pavement surface. Prior to paving, the Contractor shall wet down the milled pavement and thoroughly sweep and/or blow the surface to remove loose residual material. Waste materials shall be collected and removed from the pavement surface and adjacent areas by sweeping or vacuuming. Waste materials shall be removed and disposed off Airport property.

101-3.6. Preparation of asphalt pavement surfaces prior to surface treatment. Existing asphalt pavements to be treated with a surface treatment shall be prepared as follows:

a. Patch asphalt pavement surfaces that have been softened by petroleum derivatives or have failed due to any other cause. Remove damaged pavement to the full depth of the damage and replace with new asphalt pavement similar to that of the existing pavement in accordance with paragraph 101-3.4b.

b. Repair joints and cracks in accordance with paragraph 101-3.2.

c. Remove oil or grease that has not penetrated the asphalt pavement by scrubbing with a detergent and washing thoroughly with clean water. After cleaning, treat these areas with an oil spot primer.

d. Clean pavement surface immediately prior to placing the surface treatment so that it is free of dust, dirt, grease, vegetation, oil or any type of objectionable surface film.

101-3.7 Maintenance. The Contractor shall perform all maintenance work necessary to keep the pavement in a satisfactory condition until the full section is complete and accepted by the RPR. The surface shall be kept clean and free from foreign material. The pavement shall be properly drained at all times. If cleaning is necessary or if the pavement becomes disturbed, any work repairs necessary shall be performed at the Contractor's expense.

101-3.8 Preparation of Joints in Rigid Pavement prior to resealing. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method used cleans the joint and does not damage the joint.

101-3.8.1 Removal of Existing Joint Sealant. All existing joint sealants will be removed by plowing or use of hand tools. Any remaining sealant and or debris will be removed by use of wire brushes or other tools as necessary. Resaw joints removing no more than 1/16 inch from each joint face. Immediately after sawing, flush out joint with water and other tools as necessary to completely remove the slurry.

101-3.8.2 Cleaning prior to sealing. Immediately before sealing, joints shall be cleaned by removing any remaining laitance and other foreign material. Allow sufficient time to dry out joints prior to sealing. Joint surfaces will be surface-dry prior to installation of sealant.

101-3.8.3 Joint sealant. Joint material and installation will be in accordance with ~~Item P-605~~ *ASTM D 6690*.

101-3.9 Preparation of Cracks in Flexible Pavement prior to sealing. Prior to application of sealant material, clean and dry the joints of all scale, dirt, dust, old sealant, curing compound, moisture and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, the method used cleans the cracks and does not damage the pavement.

101-3.9.1 Preparation of Crack. Widen crack with router by removing a minimum of 1/16 inch from each side of crack. Immediately before sealing, cracks will be blown out with a hot air lance combined with oil and water-free compressed air.

101-3.9.2 Removal of Existing Crack Sealant. Existing sealants will be removed by routing. Following routing any remaining debris will be removed by use of a hot lance combined with oil and water-free compressed air.

101-3.9.3 Crack Sealant. Crack sealant material and installation will be in accordance with ~~Item P-605~~ *ASTM D6690*.

101-3.10 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.

b. Removal of Inlets/Manholes. Not used.

METHOD OF MEASUREMENT

101-4.1 Pavement removal. The unit of measurement for pavement removal shall be the number of square yards removed by the Contractor. Any pavement removed outside the limits of removal because the pavement was damaged by negligence on the part of the Contractor shall not be included in the measurement for payment. No direct measurement or payment shall be made for saw cutting. Saw cutting shall be incidental to pavement removal.

101-4.2 Pavement marking removal. The unit of measurement for foreign Substances/contaminates removal shall be the square foot.

101-4.3 Pavement repair. The unit of measure for failed asphalt pavement repair shall be square yard. All work and materials required to perform the pavement repair including Pavement Removal (P-101-5.1), Emulsified Asphalt Prime Coat (P-602-5.1), Emulsified Asphalt Tack Coat (P-603-5.1), Sawcut (Full Depth) (P-101-5.6), and all pavement layers (SS-230-6.1, SS-230-6.2, and SS-230-6.3) will not be measured for separate payment, but shall be considered subsidiary to pay item Pavement Repair (P-101-5.3).

101-4.4 Pavement milling. The unit of measure for cold milling shall be 2 inches of milling per square yard. The location and average depth of the cold milling shall be as shown on the plans. If the initial cut does not correct the condition, the Contractor shall re-mill the area and will be paid for the total depth of milling.

101-4.5 Pipe removal. The unit of measurement for removal of pipe and other buried structures will be by the linear foot of pipe removed, disposed of off-site and backfilled. This price shall be full compensation for all labor, equipment, tools, and incidentals necessary to complete this item in accordance with paragraph 101-3.10.

101-4.6 Sawcut (Full Depth). The unit of measure for full depth sawcutting shall be per linear foot. The location and average depth of the sawcut shall be as shown on the plans and shall correspond with the edge of the areas designated for full depth pavement removal. If the initial cut does not correct the condition, the Contractor shall re-sawcut the area with no additional measurement for payment. No measurement shall be made for sawcuts to facilitate the asphalt pavement repair.

101-4.8 Sawcut (Asphalt Cutback). No direct measurement shall be made for sawcuts required to cut back asphalt between paving lanes (where required). This cost shall be incidental to the paving.

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-101-5.1	Pavement Removal – per Square Yard
Item P-101-5.2	Pavement Markings Removal – per Square Foot

Item P-101-5.3	Pavement Repair – per Square Yard
Item P-101-5.4	Pavement Milling – per Square Yard
Item P-101-5.5	Pipe Removal – per Linear Foot
Item P-101-5.6	Sawcut (Full Depth) – 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.

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

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ITEM P-152 EXCAVATION, SUBGRADE AND EMBANKMENT is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed in designated waste areas ~~determined by the OWNER 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. *Undercutting of material unsatisfactory for subgrade foundation, roads, shoulders, or areas intended for turfing shall be considered unsuitable excavation and shall be excavated to the depth specified by the Engineer below the subgrade.*

Revise the following paragraph as noted:

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.~~

Revise the following paragraph as noted:

152-2.2 Excavation.

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 described in paragraph 152-1.3 shown on the plans.~~

a. Selective grading. ~~When the quality of material varies significantly 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 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 of at locations *designated by the owner shown on the plans.* This excavated material shall be paid for at the contract unit price per cubic yard for Unsuitable Excavation. 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 *necessary part of Unsuitable Excavation* ~~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 Unsuitable Excavation.

Revise the following paragraph as noted:

152-2.3 Borrow excavation. There are no borrow sources within the boundaries of the airport property. The Contractor shall locate and obtain borrow sources, subject to the approval of the RPR. The Contractor shall notify the RPR at least 15 days prior to beginning the excavation so necessary measurements and tests can be made by the RPR. 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.

EXCAVATION, SUBGRADE AND EMBANKMENT

Imported material for fill or backfill under pavements shall be *in conformance with recommendations provided within the geotechnical engineering report.*

Revise the following paragraph as noted:

152-2.8 Formation of embankments.

On all areas outside of the pavement areas, no compaction will be required on the top 2 inches which shall be prepared for a seedbed in accordance with sodding in accordance with T-904.

Revise the following paragraph as noted:

152-2.14 Topsoil.

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 subsidiary to *Unclassified Excavation*. ~~No direct payment will be made for topsoil under Item P-152.~~

END OF MOD P-152

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. Rock excavation. Not used.

c. Muck excavation. Not used.

d. Drainage excavation. Not used.

e. 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.

f. Other. Not used.

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed in designated waste areas ~~determined by the OWNER 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. *Undercutting of material unsatisfactory for subgrade foundation, roads, shoulders, or areas intended for turfing shall be considered unsuitable excavation and shall be excavated to the depth specified by the Engineer below the subgrade.*

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 shall not be 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.

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 0.04 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 described in paragraph 152-1.3 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 *the quality of material varies significantly* ~~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 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 of at locations *designated by the owner shown on the plans*. This excavated material shall be paid for at the contract unit price per cubic yard for Unsuitable Excavation. 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 *necessary part of Unsuitable Excavation* ~~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 Unsuitable 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. There are no borrow sources within the boundaries of the airport property. The Contractor shall locate and obtain borrow sources, subject to the approval of the RPR. The Contractor shall notify the RPR at least 15 days prior to beginning the excavation so necessary measurements and tests can be made by the RPR. 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.

Imported material for fill or backfill under pavements shall be *in conformance with recommendations provided within the geotechnical engineering report*.

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 7 inches of subgrade shall be compacted to not less than 95 % of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by ASTM D698. 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 D698. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the Contractor for every 3,000 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 (19.0 mm) 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 95% of maximum density for cohesive soils as determined by ASTM D698. Under all areas to be paved, the embankments shall be compacted to a depth of 7 inches and to a density of not less than 95% percent of the maximum density as determined by ASTM D698. 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.

On all areas outside of the pavement areas, no compaction will be required on the top 2 inches which shall be prepared for ~~a seedbed in accordance with~~ *sodding in accordance with T-904.*

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. The purpose of proof rolling the subgrade is to identify any weak areas in the subgrade and not for compaction of the subgrade. Before start of embankment, and after compaction is completed, the subgrade area shall be proof rolled with a 20 ton Tandem axle Dual Wheel Dump Truck loaded to the legal limit with tires inflated to 100 psi in the presence of the RPR. Apply a minimum of 25% coverage, or as specified by the RPR, under pavement areas. A coverage is defined as the application of one tire print over the designated area. Soft areas of subgrade that deflect more than 1 inch or show permanent deformation greater than 1 inch shall be removed and replaced with suitable material or reworked to conform to the moisture content and compaction requirements in accordance with these specifications. Removal and replacement of soft areas is incidental to this item.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 7 inches and to a density of not less than 95 percent of the maximum dry density as determined by ASTM D698. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 7 inches and to a density of not less than 95 percent of the maximum density as determined by ASTM D698.

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 D698. Tests for moisture content and compaction will be taken at a minimum of 3,000 S.Y. of subgrade. All quality assurance testing shall be done by the Contractor's laboratory in the presence of the RPR, and density test results shall be furnished upon completion to the RPR for acceptance determination.

The in-place field density shall be determined in accordance with ASTM D6938 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 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 $\pm 1/2$ 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. There shall be no additional payment for stockpiling or re-handling of topsoil. 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~~ *subsidiary to Unclassified Excavation. 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 for computation of neat line design quantities. The end area is that bound by the original ground line established by the design survey and the final theoretical pay line established by cross-sections shown on the plans, subject to verification by the RPR.

In cut sections, the additional cut required to construct the topsoil layer to the plan grade has not been measured and will not be measured for separate payment but will be subsidiary to "Unclassified Excavation". In fill sections, the additional fill required to replace the stripped material has not been measured and will not be measured for payment but will be subsidiary to "Unclassified Excavation".

No allowance has been made in the measurement for shrink/swell. The Contractor shall make his own determination as to the amount of shrink/swell involved in the construction of the embankment.

The Contractor shall make his/her own determination as to the suitability of the excavated material to be placed in embankments and the resulting additional off-site material required for the construction of the embankment. Additional off-site material required for the formation of embankment shall not be measured for separate payment but shall be considered subsidiary to "Unclassified Excavation".

Measurement of unclassified and borrow excavation shall be based on plan quantities. These quantities are believed to be correct and shall be utilized for final payment notwithstanding any adjustments to the project by written direction of the Engineer. Should the contractor find discrepancies and/or errors, he/she shall bring the discrepancy and/or error to the attention of the Engineer immediately and corrections shall be made to the quantity of excavation to be paid for by change order. It is expressly understood by the contractor that upon disturbance of the existing ground and no notification to the Engineer of possible errors, that the contractor accepts as final payment the quantities of excavation as detailed on the plans and laid out in the proposal.

No adjustment has been made to the plan quantities for the construction or demolition of existing drainage structures. The Contractor shall make his/her own determination as to the amount of unsuitable excavated material which may be encountered and the resulting additional borrow material required for the construction of the embankment. There will be no adjustment for additional embankment required to construct the project if the excavated material is deemed unsuitable.

152-3.2 The quantity of unclassified excavation to be paid for shall be the number of cubic yards measured in its original position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed. Unclassified excavation required to construct the Mass Hangar T foundation shall not be measured or paid under this specification, but shall be considered subsidiary to item SS-295-28.1.

152-3.3 The quantity of borrow excavation to be paid for shall be the number of cubic yards measured in its final. 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. Borrow

excavation required to construct the Mass Hangar T foundation shall not be measured or paid under this specification, but shall be considered subsidiary to item SS-295-28.1.

152-3.4 Stockpiled material shall not be measured for payment in the stockpiled position.

152-3.5 Unsuitable excavation shall be measured from the surface of the ground, after stripping has been accomplished, or from the bottom of the planned excavation, to the depth of the excavation as directed by the Engineer. The necessary refilling of unsuitable areas will not be measured for separate payment but will be subsidiary to "Unsuitable Excavation". The contractor shall notify the RPR of all unsuitable material discovered during construction, to include unsuitable material beneath Mass Hangar T, and the unsuitable material shall be approved for removal by the Engineer, and measured for payment by the RPR.

BASIS OF PAYMENT

152-4.1 Unclassified excavation payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item. Unclassified excavation required to construct the Mass Hangar T foundation shall not be measured or paid under this specification, but shall be considered subsidiary to item SS-295-28.1.

152-4.2 Borrow excavation payment shall be made at the contract unit price per cubic yard. This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item. Borrow excavation required to construct the Mass Hangar T foundation shall not be measured or paid under this specification, but shall be considered subsidiary to item SS-295-28.1.

152-4.3 Unsuitable excavation shall be paid for at the contract unit price bid per cubic yard for "Unsuitable Excavation", which price shall be full compensation for all excavation; for disposal or placement of unsuitable material (in accordance with section 152-1.3), including loading, hauling, spreading, and compaction; for compaction and preparation of subgrade; for the refilling, rolling, and compaction of all undercut areas; and for all equipment, tools, labor, and incidentals necessary to complete the work.

Payment will be made under:

Item P-152-4.1	Excavation (Unclassified) – per Cubic Yard
Item P-152-4.2	Excavation (Borrow) – per Cubic Yard
Item P-152-4.3	Excavation (Unsuitable) – 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 a 457-mm (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 (600 kN-m/m 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 (2700 kN-m/m 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

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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ITEM P-209 CRUSHED AGGREGATE BASE COURSE

DESCRIPTION

209-1.1 This item consists of a base course composed of crushed aggregate base constructed on a prepared course in accordance with these specifications and in conformity to the dimensions and typical cross-sections shown on the plans.

MATERIALS

209-2.1 Crushed aggregate base. Crushed aggregate shall consist of clean, sound, durable particles of crushed stone, crushed gravel, and shall be free from coatings of clay, silt, organic material, clay lumps or balls or other deleterious materials or coatings. The method used to produce the crushed gravel shall result in the fractured particles in the finished product as consistent and uniform as practicable. Fine aggregate portion, defined as the portion passing the No. 4 (4.75 mm) sieve shall consist of fines from the coarse aggregate crushing operation. The fine aggregate shall be produced by crushing stone, gravel, that meet the coarse aggregate requirements for wear and soundness. Aggregate base material requirements are listed in the following table.

CRUSHED AGGREGATE BASE MATERIAL REQUIREMENTS

Material Test	Requirement	Standard
Coarse Aggregate		
Resistance to Degradation	Loss: 45% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Percentage of Fractured Particles	Minimum 90% by weight of particles with at least two fractured faces and 98% with at least one fractured face ¹	ASTM D5821
Flat Particles, Elongated Particles, or Flat and Elongated Particles	10% maximum, by weight, of flat, elongated, or flat and elongated particles ²	ASTM D4791
Clay lumps and friable particles	Less than or equal to 3 percent	ASTM C142
Fine Aggregate		
Liquid limit	Less than or equal to 25	ASTM D4318
Plasticity Index	Not more than five (5)	ASTM D4318

¹ The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

² A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

209-2.2 Gradation requirements. The gradation of the aggregate base material shall meet the requirements of the gradation given in the following table when tested per ASTM C117 and ASTM C136. The gradation shall be well graded from coarse to fine and shall not vary from the lower limit on one sieve to the high limit on an adjacent sieve or vice versa.

GRADATION OF AGGREGATE BASE

Sieve Size	Design Range Percentage by Weight passing	Contractor's Final Gradation	Job Control Grading Band Tolerances ¹ (Percent)
2 inch (50 mm)	100		0
1-1/2 inch (37.5 mm)	95-100		±5
1 inch (25.0 mm)	70-95		±8
3/4 inch (19.0 mm)	55-85		±8
No. 4 (4.75 mm)	30-60		±8
No. 40 ² (425 µm)	10-30		±5
No. 200 ² (75 µm)	0-10		±3

¹ The "Job Control Grading Band Tolerances for Contractor's Final Gradation" in the table shall be applied to "Contractor's Final Gradation" to establish a job control grading band. The full tolerance still applies if application of the tolerances results in a job control grading band outside the design range.

² The fraction of material passing the No 200 (75 µm) sieve shall not exceed two-thirds the fraction passing the No 40 (425 µm) sieve.

209-2.3 Sampling and Testing.

a. Aggregate base materials. The Contractor shall take samples of the aggregate base in accordance with ASTM D75 to verify initial aggregate base requirements and gradation. Material shall meet the requirements in paragraph 209-2.1. This sampling and testing will be the basis for approval of the aggregate base quality requirements.

b. Gradation requirements. The Contractor shall take at least two aggregate base samples per day in the presence of the Resident Project Representative (RPR) to check the final gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 209-2.2. The samples shall be taken from the in-place, un-compacted material at sampling points and intervals designated by the RPR.

209-2.4 Separation Geotextile. Not used.

CONSTRUCTION METHODS

209-3.1 Control strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the 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 continue 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 by the RPR.

209-3.2 Preparing underlying subgrade and/or subbase. The underlying subgrade and/or subbase shall be checked and accepted by the RPR before base course placing and spreading operations begin. Re-proof rolling of the subgrade or proof rolling of the subbase in accordance with Item P-152, at the Contractor's expense, may be required by the RPR if the Contractor fails to ensure proper drainage or protect the subgrade and/or subbase. Any ruts or soft, yielding areas due to improper drainage conditions, hauling, or any other cause, shall be corrected before the base course is placed. To ensure proper drainage, the spreading of the base shall begin along the centerline of the pavement on a crowned section or on the high side of the pavement with a one-way slope.

209-3.3 Production. The aggregate shall be uniformly blended and, when at a satisfactory moisture content per paragraph 209-3.5, the approved material may be transported directly to the placement.

209-3.4 Placement. The aggregate shall be placed and spread on the prepared underlying layer by spreader boxes or other devices as approved by the RPR, to a uniform thickness and width. The equipment shall have positive thickness controls to minimize the need for additional manipulation of the material. Dumping from vehicles that require re-handling shall not be permitted. Hauling over the uncompacted base course shall not be permitted.

The aggregate shall meet gradation and moisture requirements prior to compaction. The base course shall be constructed in lifts as established in the control strip, but not less than 4 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 at the Contractor's expense.

209-3.5 Compaction. Immediately after completion of the spreading operations, compact each layer of the base course, as specified, with approved compaction equipment. The number, type, and weight of rollers shall be sufficient to compact the material to the required density within the same day that the aggregate is placed on the subgrade.

The field density of each compacted lift of material shall be at least 100% of the maximum density of laboratory specimens prepared from samples of the base material delivered to the jobsite. The laboratory specimens shall be compacted and tested in accordance with ASTM D698. The moisture content of the material during placing operations shall be within ± 2 percentage points of the optimum moisture content as determined by ASTM D698. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

209-3.6 Weather limitations. Material shall not be placed unless the ambient air temperature is at least 40°F and rising. Work on base course shall not be conducted when the subgrade or subbase is wet or frozen or the base material contains frozen material.

209-3.7 Maintenance. The base course shall be maintained in a condition that will meet all specification requirements. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meet all specification requirements. Equipment may be routed over completed sections of base course, provided that no damage results and the equipment is routed over the full width of the completed base course. Any damage resulting to the base course from routing equipment over the base course shall be repaired by the Contractor at the Contractor's expense.

209-3.8 Surface tolerances. After the course has been compacted, 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 recompact to grade until the required smoothness and accuracy are obtained and approved by the RPR. Any deviation

in surface tolerances shall be corrected by the Contractor at the Contractor's expense. The smoothness and accuracy requirements specified here apply only to the top layer when base course is constructed in more than one layer.

a. Smoothness. The finished surface shall not vary more than 3/8-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 and -1/2 inch of the specified grade.

209-3.9 Acceptance sampling and testing. Crushed aggregate base course shall be accepted for density and thickness on an area basis. Two tests shall be made for density and thickness for each 1200 square yards. Sampling locations will be determined on a random basis per ASTM D3665

a. Density. The RPR shall perform all density tests.

Each area shall be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens compacted and tested per ASTM D698. The in-place field density shall be determined per ASTM D6938 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. If the specified density is not attained, the area represented by the failed test must be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. Depth tests shall be made by test holes at least 3 inches in diameter that extend through the base. The thickness of the base course shall be within +0 and -1/2 inch of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch, the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches, adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

209-4.1 The quantity of 6-Inch thick, crushed aggregate base course to be used in construction of the concrete apron and vehicular parking area will be determined by measurement of the number of square yards of material actually constructed and accepted by the RPR as complying with the plans and specifications. Base materials shall not be included in any other excavation quantities.

209-4.2 The quantity of crushed aggregate base course, variable thickness, for miscellaneous use, shall be measured by the number of tons of crushed aggregate base course used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage.

209-4.3 No separate measurement will be made under this item for the aggregate used in construction of the hangar foundation, sidewalk, concrete flume or pipe bedding.

BASIS OF PAYMENT

209-5.1 Payment shall be made at the contract unit price per square yard of 6-Inch thick, for crushed aggregate base course used in construction of the concrete apron and vehicular parking area. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

209-5.2 Payment shall be made at the contract unit price per ton of crushed aggregate base course, variable thickness, for miscellaneous use. This price shall be full compensation for furnishing all materials, for

preparing, placing and compacting these materials in lifts, and for all labor, equipment tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-209-5.1 Crushed Aggregate Base Course, 6-Inch Thickness - per Square 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 C29	Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/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
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2700 kN-m/m ³))
ASTM D2167	Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4643	Standard Test Method for Determination of Water Content of Soil and Rock by Microwave Oven Heating
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile

ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D7928	Standard Test Method for Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis

American Association of State Highway and Transportation Officials (AASHTO)

M288	Standard Specification for Geosynthetic Specification for Highway Applications
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ITEM P-602 EMULSIFIED ASPHALT PRIME COAT

DESCRIPTION

602-1.1 This item shall consist of an application of emulsified asphalt material on the prepared base course in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

602-2.1 Emulsified Asphalt material. The emulsified asphalt material shall be as specified in ASTM D3628 for use as a prime coat appropriate to local conditions. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the emulsified asphalt material. The COA shall be provided to and approved by the Resident Project Representative (RPR) before the emulsified asphalt material is applied. The furnishing of the COA for the emulsified asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

602-3.1 Weather limitations. The emulsified asphalt prime coat shall be applied only when the existing surface is dry; the atmospheric temperature is 50°F or above, and the temperature has not been below 35°F for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

602-3.2 Equipment. The equipment shall include a self-powered pressure asphalt material distributor and equipment for heating asphalt material.

Provide a distributor with pneumatic tires of such size and number that the load produced on the base surface does not exceed 65.0 psi of tire width to prevent rutting, shoving or otherwise damaging the base, surface or other layers in the pavement structure. Design and equip the distributor to spray the asphalt material in a uniform coverage at the specified temperature, at readily determined and controlled rates from 0.05 to 1.0 gallons per square yard, with a pressure range of 25 to 75 psi and with an allowable variation from the specified rate of not more than $\pm 5\%$, and at variable widths. Include with the distributor equipment a separate power unit for the bitumen pump, full-circulation spray bars, tachometer, pressure gauges, volume-measuring devices, adequate heaters for heating of materials to the proper application temperature, a thermometer for reading the temperature of tank contents, and a hand hose attachment suitable for applying asphalt material manually to areas inaccessible to the distributor. Equip the distributor to circulate and agitate the asphalt material during the heating process. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

A power broom and power blower suitable for cleaning the surfaces to which the asphalt coat is to be applied shall be provided.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

602-3.3 Application of emulsified asphalt material. Immediately before applying the prime coat, the full width of the surface to be primed shall be swept with a power broom to remove all loose dirt and other objectionable material.

The asphalt emulsion material shall be uniformly applied with an asphalt distributor at the rate of 0.15 to 0.30 gallons per square yard depending on the base course surface texture. The type of asphalt material and application rate shall be approved by the RPR prior to application.

Following application of the emulsified asphalt material and prior to application of the succeeding layer of pavement, allow the asphalt coat to cure and to obtain evaporation of any volatiles or moisture. Maintain the coated surface until the succeeding layer of pavement is placed, by protecting the surface against

damage and by repairing and recoating deficient areas. Allow the prime coat to cure without being disturbed for a period of at least 48 hours or longer, as may be necessary to attain penetration into the treated course. Furnish and spread sand to effectively blot up and cure excess asphalt material. The Contractor shall remove blotting sand prior to asphalt concrete lay down operations at no additional expense to the Owner. Keep traffic off surfaces freshly treated with asphalt material. Provide sufficient warning signs and barricades so that traffic will not travel over freshly treated surfaces.

602-3.4 Trial application rates. The Contractor shall apply a minimum of three lengths of at least 100 feet for the full width of the distributor bar to evaluate the amount of emulsified asphalt material that can be satisfactorily applied with the equipment. Apply three different application rates of emulsified asphalt materials within the application range specified in paragraph 602-3.3. Other trial applications can be made using various amounts of material as directed by the RPR. The trial application is to demonstrate the equipment can uniformly apply the emulsified asphalt material within the rates specified and determine the application rate for the project.

602-3.5 Freight and waybills. The Contractor shall submit waybills and delivery tickets during the progress of the work. Before the final estimate is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

602-4.1 The emulsified asphalt material for prime coat shall be measured by the gallon. Volume shall be corrected to the volume at 60°F (16°C) in accordance with ASTM D4311. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

602-5.1 Payment shall be made at the contract unit price per gallon for emulsified asphalt prime coat. This price shall be full compensation for furnishing all materials and for all preparation, delivering, and applying the materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item P-602-5.1	Emulsified Asphalt Prime Coat - per Gallon
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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 D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END OF ITEM P-602

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ITEM P-603 EMULSIFIED ASPHALT TACK COAT

DESCRIPTION

603-1.1 This item shall consist of preparing and treating an asphalt or concrete surface with asphalt material in accordance with these specifications and in reasonably close conformity to the lines shown on the plans.

MATERIALS

603-2.1 Asphalt materials. The asphalt material shall be an emulsified asphalt as specified in ASTM D3628 as an asphalt application for tack coat appropriate to local conditions. The emulsified asphalt shall not be diluted. The Contractor shall provide a copy of the manufacturer's Certificate of Analysis (COA) for the asphalt material to the Resident Project Representative (RPR) before the asphalt material is applied for review and acceptance. The furnishing of COA for the asphalt material shall not be interpreted as a basis for final acceptance. The manufacturer's COA may be subject to verification by testing the material delivered for use on the project.

CONSTRUCTION METHODS

603-3.1 Weather limitations. The tack coat shall be applied only when the existing surface is dry and the atmospheric temperature is 50°F or above; the temperature has not been below 35°F for the 12 hours prior to application; and when the weather is not foggy or rainy. The temperature requirements may be waived when directed by the RPR.

603-3.2 Equipment. The Contractor shall provide equipment for heating and applying the emulsified asphalt material. The emulsion shall be applied with a manufacturer-approved computer rate-controlled asphalt distributor. The equipment shall be in good working order and contain no contaminants or diluents in the tank. Spray bar tips must be clean, free of burrs, and of a size to maintain an even distribution of the emulsion. Any type of tip or pressure source is suitable that will maintain predetermined flow rates and constant pressure during the application process with application speeds under eight (8) miles per hour or seven hundred (700) feet per minute.

The equipment will be tested under pressure for leaks and to ensure proper set-up before use to verify truck set-up (via a test-shot area), including but not limited to, nozzle tip size appropriate for application, spray-bar height and pressure and pump speed, evidence of triple-overlap spray pattern, lack of leaks, and any other factors relevant to ensure the truck is in good working order before use.

The distributor truck shall be equipped with a minimum 12-foot spreader spray bar with individual nozzle control with computer-controlled application rates. The distributor truck shall have an easily accessible thermometer that constantly monitors the temperature of the emulsion, and have an operable mechanical tank gauge that can be used to cross-check the computer accuracy. If the distributor is not equipped with an operable quick shutoff valve, the prime operations shall be started and stopped on building paper.

The distributor truck shall be equipped to effectively heat and mix the material to the required temperature prior to application as required. Heating and mixing shall be done in accordance with the manufacturer's recommendations. Do not overheat or over mix the material.

The distributor shall be equipped with a hand sprayer.

Asphalt distributors must be calibrated annually in accordance with ASTM D2995. The Contractor must furnish a current calibration certification for the asphalt distributor truck from any State or other agency as approved by the RPR.

A power broom and/or power blower suitable for cleaning the surfaces to which the asphalt tack coat is to be applied shall be provided.

603-3.3 Application of emulsified asphalt material. The emulsified asphalt shall not be diluted. Immediately before applying the emulsified asphalt tack coat, the full width of surface to be treated shall be swept with a power broom and/or power blower to remove all loose dirt and other objectionable material.

The emulsified asphalt material shall be uniformly applied with an asphalt distributor at the rates appropriate for the conditions and surface specified in the table below. The type of asphalt material and application rate shall be approved by the RPR prior to application.

EMULSIFIED ASPHALT

Surface Type	Residual Rate, gal/SY	Emulsion Application Bar Rate, gal/SY
New asphalt	0.02-0.05	0.03-0.07
Existing asphalt	0.04-0.07	0.06-0.11
Milled Surface	0.04-0.08	0.06-0.12
Concrete	0.03-0.05	0.05-0.08

After application of the tack coat, the surface shall be allowed to cure without being disturbed for the period of time necessary to permit drying and setting of the tack coat. This period shall be determined by the RPR. The Contractor shall protect the tack coat and maintain the surface until the next course has been placed. When the tack coat has been disturbed by the Contractor, tack coat shall be reapplied at the Contractor's expense.

603-3.4 Freight and waybills The Contractor shall submit waybills and delivery tickets, during progress of the work. Before the final statement is allowed, file with the RPR certified waybills and certified delivery tickets for all emulsified asphalt materials used in the construction of the pavement covered by the contract. Do not remove emulsified asphalt material from storage until the initial outage and temperature measurements have been taken. The delivery or storage units will not be released until the final outage has been taken.

METHOD OF MEASUREMENT

603-4.1 The emulsified asphalt material for tack coat shall be measured by the gallon. Volume shall be corrected to the volume at 60°F in accordance with ASTM D1250. The emulsified asphalt material paid for will be the measured quantities used in the accepted work, provided that the measured quantities are not 10% over the specified application rate. Any amount of emulsified asphalt material more than 10% over the specified application rate for each application will be deducted from the measured quantities, except for irregular areas where hand spraying of the emulsified asphalt material is necessary. Water added to emulsified asphalt will not be measured for payment.

BASIS OF PAYMENT

603.5-1 Payment shall be made at the contract unit price per gallon of emulsified asphalt material. This price shall be full compensation for furnishing all materials, for all preparation, delivery, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-603-5.1 Emulsified Asphalt Tack Coat – per Gallon

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 D1250	Standard Guide for Use of the Petroleum Measurement Tables
ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3628	Standard Practice for Selection and Use of Emulsified Asphalts

END ITEM P-603

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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. If expansion of either the coarse or fine aggregate exceeds 0.08% at 14 days, limit the alkali of the concrete to be less than or equal to 3.0 lb per cubic yard, calculated in accordance with EB 106.

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 ½ inch (37.5 mm)	467 or 4 and 67
1 inch (25 mm)	57
¾ inch (19 mm)	67
½ inch (12.5 mm)	7

610-2.2.1 Coarse Aggregate susceptibility to durability (D) cracking. Not 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.

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 D1751 or ASTM D1752.

610-2.9 Joint filler. The filler for joints shall meet the requirements of Item P-605, unless otherwise specified.

610-2.10 Steel reinforcement. Reinforcing shall consist of:

Reinforcing Steel	ASTM A615, ASTM A706, ASTM A775, ASTM A934
Welded Steel Wire Fabric	ASTM A1064, ASTM A884
Welded Deformed Steel Fabric	ASTM A1064
Bar Mats	ASTM A184 or ASTM A704

610-2.11 Materials for curing concrete. Curing materials shall conform to:

Waterproof paper	ASTM C171
Clear or white Polyethylene Sheeting	ASTM C171
White-pigmented Liquid Membrane-Forming Compound, Type 2, Class B	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 4,000 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, 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 measured by the number of square yards of 4-inch thick concrete pavement used in construction of the sidewalks, ramps, and concrete drainage features, complete in place and accepted. In computing the yardage of concrete for payment, the dimensions used shall be those shown on the plans or ordered by the Engineer.

610-5.2 Concrete for the hangar slab shall not be measured for separate payment but shall be considered subsidiary to SS-295.

BASIS OF PAYMENT

610-6.2 Payment shall be made at the contract price by the number of square feet of 4-inch thick sidewalk. This price shall be full compensation for furnishing all materials including reinforcement and embedded items and for all preparation, delivery, installation, and curing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-610-6.1	4-Inch Concrete Sidewalk – per Square Yard
Item P-610-6.2	4-Inch Concrete Ditch – per Square 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 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

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ITEM T-901 SEEDING is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

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 *specified in the Standard Specifications, Section 860 – Zone 1 – Areas not Subject to Frequent Mowing* ~~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.)
*	*	*	*
*	*	*	*

~~Seeding shall be performed during the period between [] and [] inclusive, unless otherwise approved by the RPR.~~

Additional ALDOT seed mixes may also be considered provided the Contractor can demonstrate adequate and timely grass establishment and site stabilization that will not create an undue maintenance and/or mowing burden on the Airport.

END OF MOD T-901

ITEM T-901 SEEDING

DESCRIPTION

901-1.1 This item shall consist of soil preparation, seeding and fertilizing 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 *specified in the Standard Specifications, Section 860 – Zone 1 – Areas not Subject to Frequent Mowing* 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.)
*	*	*	*
*	*	*	*

~~Seeding shall be performed during the period between [] and [] inclusive, unless otherwise approved by the RPR.~~

Additional ALDOT seed mixes may also be considered provided the Contractor can demonstrate adequate and timely grass establishment and site stabilization that will not create an undue maintenance and/or mowing burden on the Airport.

901-2.2 Lime. Not required.

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 dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
- A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or
- A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be 10-20-10 commercial fertilizer and shall be spread at the rate of 800 lbs per acre.

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. Not required.

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 pipe lines 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 case 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 Seeding shall not be measured for separate payment.

BASIS OF PAYMENT

901-5.1 Payment for seeding shall be subsidiary to other contract items.

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

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

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ITEM T-904 SODDING is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

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 *Centipede Grass* ~~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~~. Latest edition of the ALDOT Standard Specifications.

END OF MOD T-904

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 *Centipede Grass* ~~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~~. Latest edition of the ALDOT Standard Specifications.

904-2.2 Lime. Not Required.

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 8-8-8 commercial fertilizer and shall be spread at the rate of 1,500 pounds per 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 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 by discing, raking, or other suitable methods. Any stones larger than 2 inches 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. Sod sections or strips shall be cut in uniform widths, not less than 10 inches, and in lengths of not less than 18 inches, 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 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 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 in length and have a cross-sectional area of not less than 3/4 sq inch. 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 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 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-904-5.1	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
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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-904

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ITEM T-905 TOPSOILING is hereby amended with respect to the paragraphs and sections cited below.

Revise the following paragraph as noted:

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 (75 μ m) sieve as determined by the wash test in accordance with ASTM C117. *Topsoil testing shall be completed and paid for by the Contractor.*

Natural topsoil may be amended by the Contractor with approved materials and methods to meet the above specifications.

END OF MOD T-905

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 (75 μ m) sieve as determined by the wash test in accordance with ASTM C117. *Topsoil testing shall be completed and paid for by the Contractor.*

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 turving 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 shall not be measured for separate payment but shall be considered subsidiary to items under P-152 Excavation, Subgrade, and Embankment.

BASIS OF PAYMENT

905-5.1 Topsoil shall be considered subsidiary to items under P-152 Excavation, Subgrade and Embankment and shall be paid for as unclassified excavation. Additionally, testing as included in T-905-2.1 shall be completed and paid for by the Contractor.

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 μ m (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

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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. NOT PERMITTED.

b. Straw. NOT PERMITTED.

c. Hay mulch containing seed. NOT PERMITTED.

d. Manufactured mulch. Cellulose-fiber or wood-pulp mulch shall be products commercially available for use in spray applications.

e. Asphalt binder. Asphalt binder material shall conform to the requirements of ASTM D977, Type SS-1 or RS-1.

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 to provide a loose depth of not less than 1-1/2 inches nor more than 3 inches. 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 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 nor more than 2 inches.

908-3.2 Securing mulch. The mulch shall be held in place by light disking, 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 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 per 1,000 square feet, or as directed by the RPR, with a minimum of 6 gallons and a maximum of 10 gallons per 1,000 square feet 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 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 per 1,000 square feet or as directed by the RPR, with a minimum of 6 gallons and a maximum of 10 gallons per 1,000 square feet depending on the type of mulch and the effectiveness of the binder securing it.

METHOD OF MEASUREMENT

908-4.1 Mulching shall not be measured for separate payment.

BASIS OF PAYMENT

908-5.1 Payment for mulching shall be subsidiary to other contract items.

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

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