Manchester - Boston Regional Airport City of Manchester - Department of Aviation

REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A)

FAA AIP No. 3-33-0011-xxx-2024 (Design) FAA AIP No. 3-33-0011-xxx-2025 (Construction)

Bid # FY25-805-35



Bid Documents February 2025

PREPARED BY:



53 REGIONAL DRIVE CONCORD, NH 03301

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<u>SEALS</u>

Civil

Electrical

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ADVERTISEMENT FOR BIDS CITY OF MANCHESTER - DEPARTMENT OF AVIATION

REQUEST FOR BIDS FOR REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A) At MANCHESTER-BOSTON REGIONAL AIRPORT AIP # 3-33-0011-xxx-2024 (Design) AIP # 3-33-0011-xxx-2025 (Construction)

City Bid # FY25-805-35

The City of Manchester, New Hampshire, Department of Aviation is seeking bids for the completion of the proposed Rehabilitation of Taxiway G and Taxiway D (West of Taxiway A). The scope of work for the project includes all of the associated work with the following components: existing Taxiway pavement milling; Taxiway and shoulder asphalt pavement; pavement markings; taxiway edge light, taxiway centerline light and guidance signage replacement and modifications; drainage grading improvements; and all other incidental work.

Bids will be accepted only from contractors that have been pre-qualified with the Department of Aviation. Reference section INSTRUCTION TO BIDDERS (00100) or the Manchester-Boston Regional Airport website at <u>https://www.flymanchester.com/doing-business-with-mht/procurement-services/</u> for pre-qualification requirements. Each bidder must deposit with his/her bid, security in the amount of 5% of the total bid. A 100% performance and payment bond will be required with the contract. In addition, a warranty bond will also be required for the contract.

Bid documents are available for direct download upon registration at the McFarland Johnson Bid Portal (https://bidportal.mjinc.com/bidportal/index) at no cost after Thursday, 9:00 AM on February 20, 2025 and providing the Contractor's email address as part of the registration. Contract documents may also be viewed and downloaded, at no cost, in Portable Document Format at the Manchester-Boston Regional Airport's website link located at https://www.flymanchester.com/doing-business-with-mht/procurement-opportunities/. It is the bidder's sole responsibility to provide an e-mail address to the Engineer, as noted above, for use in issuance of any addenda.

A pre-bid informational meeting will be held at the Airport MHT Administrative Offices boardroom, located on the third floor of the Airport terminal at One Airport Road, Manchester, NH. The meeting will be held on <u>Thursday</u>, <u>February 27, 2025 at 2:30 PM</u>. Prospective bidders shall RSVP, not less 24 hours prior to the meeting, through Ms. Christina Adams at the Airport Administrative Offices, who can be reached at (603) 624-6539 Ext. 307 or <u>cadams@flymanchester.com</u>. It is anticipated that a "site walk" will be performed after the pre-bid informational meeting. No individual "on-site" visits will be provided for the project.

Bids will be publicly opened and read aloud on <u>Thursday</u>, <u>March 20</u>, <u>2025 at 2:30 PM (local time)</u> at the Airport Administrative Offices boardroom located on the third floor of the Airport terminal at One Airport Road, Manchester, NH. The contract will be awarded to lowest responsive and responsible bidder.

The Owner reserves the right to waive any informality in the bidding or to reject any or all bids.

In this bid process and the resulting Contract, if executed, all Bidders and Contractors must fully comply with the Contact Provision Guidelines for Obligated Sponsors and Airport Improvement Program Projects and contained within the Contract Documents. All requirements of the Federal funding and, as well as all administrative regulations shall apply to this project, as if herein written out in full. The attention of prospective bidders is called to the fact that this project is to be bid upon and the contract executed, under the Federal Funding Rules and Regulations for carrying out the provisions of:

- Affirmative Action Requirement (Executive Order 11246, as amended, and DOL Regulation 41 CFR Part 60-4)
- Buy American Preferences (Title 49 United States Code, §50101, Executive Order 14005, BIL, & BABA)
- Title VI Provisions of the Civil Rights Act of 1964, as amended and supplemented (Title 49 United States Code, § 47123 & FAA Order 1400.01)

- Davis-Bacon Act (2 CFR §200, Appendix II(D) and Regulation 29 CFR Part 5)
- Government Debarment and Suspension (2 CFR Part 180 (Subpart B), 2 CFR part 1200, DOT Order 4200.5 DOT Suspension & Debarment Procedures & Ineligibility)
- Disadvantaged Business Enterprise (49 CFR Part 26)
- Federal Fair Labor Standards Act (29 USC § 201, et seq; 2 CFR 200.430)
- Lobbying and Influencing Federal Employees (Title 31 United States Code, §1352-Byrd Anti-Lobbying Amendment, 2 CFR part 200, Appendix II(J), and 49 CFR Part 20, Appendix A)
- Prohibition of Segregated Facilities (2 CFR Part 200, Appendix II(C); 41 CFR § 60-1)
- Procurement of Recovered Materials (2 CFR § 200.323, 2 CFR Part 200, Appendix II(J), 40 CFR Part 247, 42 USC § 6901, et seq (Resource Conservation and Recovery Act (RCRA)))
- Tax Delinquency and Felony Convictions (Sections 8113 of the Consolidated Appropriations Act 2022; DOT Order 4200.6)
- Foreign Trade Restriction (Title 49 United States Code, §50104 and DOT Regulation 49 CFR Part 30)
- Domestic Preference for Procurements (2 CFR §200.322, 40 CFR Part 200)

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY

- 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:

Timetable (Rockingham County)

Goals for minority participation for each trade:4.0%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 subcontract; 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 **State of New Hampshire, County of Rockingham, Town of Londonderry.**

The, Manchester-Boston Regional Airport, 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 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 no businesses will 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. It is the policy of the Manchester-Boston Regional Airport to practice nondiscrimination based on race, color, sex, or national origin ADVERTISEMENT FOR BIDS

in the award or performance of this contract. All disadvantaged business enterprise firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this contract will be conditioned upon satisfying the requirements of this section.

2025 Aviation projects sponsored by the City of Manchester – Department of Aviation, Manchester, New Hampshire **utilize race-neutral DBE procedures**. There is no specific DBE goal for this project. Bidders must comply with the requirements of 49 CFR Part 26, including Appendix A, which discusses making good-faith efforts, to ensure that all DBE's and Small Businesses are afforded the maximum opportunity to work with them on federally funded projects. The City of Manchester – Department of Aviation, Manchester, New Hampshire has an overall DBE goal of 6.5% for FAA funded projects in Federal Fiscal Year (FFY) 2022.

The Bidder/Offeror shall make good faith efforts, as defined in Appendix A, 49 CRF Part 26 (Attachment 1), to meet the FFY 2025 overall DBE goal for DBE participation in the performance of this contract. The successful Bidder or Offeror must provide written confirmation of participation from each of the DBE firms the Bidder or Offeror lists in its commitment with the Bidding Documents.

All bidders will be required to execute a sworn Non-Collusion Affidavit statement, certifying that the bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such Contract.

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 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.

All requests for information should be directed in writing to: David Brouillet, McFarland Johnson, located at 53 Regional Drive, Concord, NH 03301, by email @ <u>dbrouillet@mjinc.com</u> with a cc: copy to Luis Elguezabal, Assistant Airport Director for Operations and Facilities, by email @ <u>lelguezabal@flymanchester.com</u>.

END OF SECTION

INFORMATION FOR BIDDERS

INFORMATION FOR BIDDERS

1.01 RECEIPT AND OPENING BIDS

The City of Manchester, Department of Aviation, Manchester, New Hampshire (herein called the Owner), invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Manchester-Boston Regional Airport Administration Office at One Airport Road Manchester, NH until **Thursday, March 20, 2025 at 2:30 PM (local time)** and then at said office publicly opened and read aloud.

The envelopes containing the bid must be sealed, addressed and designated as:

REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A)

The Owner may consider irregular any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. After submitting a bid, no Bidder may withdraw a bid for one-hundred eighty (180) calendar days.

1.02 DESCRIPTION OF WORK

The work involves the rehabilitation of the existing Taxiway G and Taxiway D (West of Taxiway A) using the same basic layout geometry. The scope of work for the taxiway area includes all of the associated work with the following components: pavement demolition relating to the milling of the existing pavement surfaces for replacement pavement; underlying pavement surface preparations including crack repairs; replace asphalt pavement for taxiways and shoulders; pavement markings; taxiway edge light, taxiway centerline light and airfield signage improvements and replacements including cabling and fixtures; drainage improvements; turf establishment for disturbed areas; and other incidental work.

All areas of the airport disturbed by the Contractor's operations not within the construction limits as set forth by the Owner shall be restored at least equal to original condition at no cost to the Owner.

Attention shall be directed to the Contract Documents for specific information of the work to be performed.

1.03 PREPARATION OF BID

Each bid must be prepared in strict accordance with the requirements of Section 20 of the General Provisions of these specifications.

1.04 SUBCONTRACTS

The bidder is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this Contract must be acceptable to the Owner and the Federal Aviation Administration.

The successful bidder will be required to submit a list of his/her potential subcontractors as part of the Bid Package for the opening of Bids and finalize the subcontractors before the award of a contract. The successful bidder will be required to submit all subcontracts to the Engineer for review after the contract is awarded.

1.05 BIDDER'S QUALIFICATIONS

All Bidders for projects with an estimated cost in excess of \$250,000 must be pre-qualified. Refer to Section 20-02 of the FAA General Contract Provisions for additional information.

1.06 BID MODIFICATION

Any bidder may modify his/her bid by written communication at any time prior to the schedule closing time for receipt of bids, providing such written communication is received by the Owner prior to the bid closing time. The written communication should not reveal the bid price but should provide the addition or subtraction or any other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened.

1.07 PROPOSAL GUARANTY BID SECURITY

Each bid must be accompanied by cash, certified check of the bidder, or a bid bond prepared on the form of bid bond included in the Contract Documents in the amount of five percent (5%) of the bid, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner. The bid bond shall be executed or countersigned for the surety by a person who has current power of attorney for the surety.

The bid security will be returned to all bidders, except the two lowest bidders, within three (3) days after the opening of bids, and the remaining cash, checks, or bid bonds will be returned promptly after the Owner and the accepted bidder have executed the Contract, or, if no award has been made prior to **One Hundred Eighty (180) calendar days after the bid opening,** upon demand of the bidder at any time thereafter, so long as he has not been notified of the acceptance of his bid.

1.08 TIME OF COMPLETION AND LIQUIDATED DAMAGES

It is anticipated that the overall project will have a Notice to Proceed issued during the month of early September for the work and to be constructed during fall 2025. The scheduling of the subphases noted below will be determined by the Contractor, but in accordance with other limitations noted in the Contract Documents.

Overall Project Completion

The bidder must agree to commence work on a date to be specified in the written Notice to Proceed of the Owner and to fully complete the project within **fifty-four** (**54**) **calendar days**. Bidders must agree to pay to the Owner as liquidated damages with the amount of money as **identified in the Contract** for each and every calendar day the work remains incomplete beyond the above specified time for all work to obtain substantial completion for function use.

1.09 SECURITY FOR FAITHFUL PERFORMANCE

Simultaneously with his/her delivery of the executed Contract, the successful bidder shall furnish Surety bonds as security for faithful performance of this Contract and for the payment of all persons performing labor on the project under this Contract and furnishing materials in connection with this Contract, as specified in the General Provisions included herein. The bonds shall be of the form provided hereinafter and shall be executed by Surety acceptable to the Owner. The bonds shall be executed by or countersigned by an agent for Surety and said agent to have current power of attorney for the Surety. Each bond shall be in the amount of one hundred percent (100%) of Contract awarded. Contractors should also submit with all bonds evidence showing the financial strength of the Surety.

Prior to the final payment for the project, the Contractor shall deliver to the Owner a Warranty Bond in the amount of five percent (5%) of the final cost of the construction.

1.10 ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. Every request for such interpretation shall be in writing addressed to David Brouillet, Project Manager with McFarland Johnson, 53 Regional Drive, Concord, NH 03301, by email <u>dbrouillet@mjinc.com</u> and to be given consideration, <u>must be received no later than 9:00 AM (EST) on</u> <u>THURSDAY, MARCH 13, 2025</u>. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be emailed to all prospective bidders (at email address furnished for such purposes or the provided fax number), <u>not later than 11:00</u> <u>AM (EST) on MONDAY, MARCH 17, 2025</u>. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his/her bid as submitted. All addenda so issued shall become part of the Contract Documents.

1.11 **POWER OF ATTORNEY**

Attorneys-in-fact or others who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

1.12 LAWS AND REGULATIONS

The bidder's attention is directed to the fact that all applicable Federal and State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though therein written out in Full. The Contractor shall be responsible for payment of all taxes, fees, and assessments as levied by Federal, State and Local authorities.

1.13 EXECUTION OF CONTRACT

The individual, firm, partnership, or corporation to whom or to which the Contract has been awarded shall sign the necessary agreements entering into a Contract with the Owner and return them to the Office of the Owner (with the required contract bonds) within fifteen (15) calendar days after the Contract is mailed.

1.14 APPROVAL OF CONTRACT

Approval of the Contract shall be in accordance with paragraph 30-07 of the General Provisions. No Contract is binding upon the Owner until it has been executed by the Owner and delivered to the Contractor.

1.15 FAILURE TO EXECUTE CONTRACT

Failure of a bidder to comply with any of the requirements of the proposal, failure to execute the Contract within fifteen (15) calendar days after mailing, as specified, or failure to furnish contract bonds as required shall be just cause for the annulment of the award. In the event of such annulment of the award, the amount of bid security shall become the property of the Owner, not as a penalty but as fixed and agreed liquidated damages. Award may then be made to the next best qualified bidder, or the work re-bid, or otherwise handled as the Owner may elect.

1.16 NOTICE OF SPECIAL CONDITIONS

Attention is particularly called to those parts of the Contract Documents which deal with the following:

- a. Inspection of work.
- b. Insurance requirements.
- c. Scheduling the contract work.
- d. Liquidated damages for failure to complete the various portions of the specified times.
- e. Airport safety and security.
- f. Buy American Act.
- g. Wage Rates.

1.17 EMPLOYMENT OF WOMEN

Women will be afforded equal opportunity in all areas of employment. However, the employment of women shall not diminish the standards or requirements for the employment of minorities.

1.18 EQUAL EMPLOYMENT OPPORTUNITY

- a. Each bidder will be required to comply with the affirmative action plan for equal employment opportunity prescribed by the OFCC, United States Department of Labor, Regulations of the Secretary of Labor (41 CFR 60), or by other designated trades used in the performance of the contract and other non-federally involved contracts in the area geographically defined in the plan.
- b. The proposed contract is under and subject to Executive Order 11246 of September 26, 1965, as amended, and to the equal opportunity clause; and
- c. The successful bidder will be required to submit a Certification of Nonsegregated Facilities prior to award of the contract, and to notify prospective subcontractors of the requirement for such a certification where the subcontract exceeds \$10,000. Samples of the certification and the notice to subcontractors appear in the specifications.
- d. When a determination has been made to award a contract or subcontract to a specific contractor, such contractor is required, prior to the award or after the award, or both, to furnish such other information as the FAA, the sponsor, or the Director of OFCC requests.
- e. A bidder must indicate whether he has previously had a contract subject to the equal opportunity clause, whether he has filed all report forms required in such contract, and if not, compliance report Standard Form (SF) 100 must be submitted with his bid.
- f. Equal Employment Opportunity (EEO) and labor provisions, when applicable, are included in the bidding documents of specifications.
- g. Contractors and subcontractors may satisfy EEO requirements of paragraph 2 of the EEO contract clause by stating in all solicitations or advertisements for employees that: "All qualified applicants will receive consideration for employment without regard to race, color, sex, or national origin." or by using a single advertisement in which appears in clearly distinguished type, the phrase: "an equal opportunity employer".
- h. A contractor having 50 or more employees and his subcontractors having 50 or more employees and who may be awarded a subcontract of \$50,000 or more will, within 120 days from contract commencement, be required to develop a written affirmative action compliance program for each of its establishments (state and local governments are exempt).

1.19 ELECTRONICALLY PROVIDED BID DOCUMENTS

Bid Documents provided electronically are provided as a convenience to the Bidder and are not the controlling data for the contract. The original hard copy (paper) contract plans and specifications and modifications thereto reviewed and signed by the Engineer are the legal construction documents and shall be used for interpretations and determinations for the project, overriding any alterable electronic files. Bidder agrees to accept full responsibility for their use of the electronic files and the completeness, correctness, and/or readability of the electronic media file, and shall indemnify, defend and hold harmless, McFarland Johnson Inc. and the Owner from any and all claims (including third party) arising from discrepancies between the electronic media file and the sealed drawings or report.

END OF INFORMATION FOR BIDDERS

BID PROPOSAL

BID BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THE UNDERSIGNED,

(Name of Principal)

as PRINCIPAL, and _____

(Name of Surety)

as SURETY, are held and are firmly bound unto **The City of Manchester**, **New Hampshire**, **Department of Aviation** hereinafter called the Owner, in the penal sum of

lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying Bid, for:

Rehabilitation of Taxiway G and Taxiway D (West of Taxiway A)

MHT Bid No. FY25-805-35

(Enter Title and Number of Contract/Project)

NOW, THEREFORE, if the Principal shall not withdraw said bid within 180 calendar days after the opening thereof, and shall within fifteen (15) calendar days after the prescribed forms are presented to him/her for signature, enter into a written Contract with the Owner in accordance with the bid as accepted, and give bonds with good and sufficient Surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract; or in the event of the withdrawal of said bid within the period specified, or the failure to enter into such Contract and give such bonds within the time specified, if the Principal shall pay the Owner the difference between the amount specified in said bid and the amount for which the Owner may procure the required work or supplies or both, if the latter amount be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above named Principal and Surety have executed this instrument under their several seals this ______day of ______, name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In presence of:

Attest:

SEAL
-

Individual Principal

Business Address

SEAL

Individual Principal

Business Address

Corporate Principal

Business Address

Affix Corporate Seal

By: _____

Corporate Surety

Business Address

Affix Corporate Seal

By:_____

Attorney-in-Fact

* Power of attorney for person(s) signing for surety company must be attached to this bond.

CERTIFICATE AS TO CORPORATE PRINCIPAL

BID BOND

that I am the
in the within
said bond on
genuine, and
orporation by

Affix Corporate Seal

BID PROPOSAL

for

REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A)

at Manchester-Boston Regional Airport

Proposal of	<u>*</u> hereinafter called "Bidder") a
corporation organized under the laws of the State of	, a partnership, or an
individual** doing business as	, to the City of Manchester ,

New Hampshire, Department of Aviation (hereinafter called "Owner").

The bidder in compliance with your invitation for bids for the construction of airport improvements having examined the plans and specifications with related documents and the site of the proposed work if required, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials, and labor, hereby proposes to furnish all plant, labor, materials, supplies, equipment, services, and to construct the work in accordance with the Contract Documents, within the time set forth therein, and at the amount in U.S. dollars provided herein. This price is to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

Time of Completion and Liquidated Damages

Bidder hereby agrees to commence work under this Contract on the date to be specified in written "Notice to Proceed" of the Owner, and to fully complete the project within:

Rehabilitation of Taxiway G and Taxiway D (West of Taxiway A): Fifty-seven (57) calendar days. Bidder further agrees to pay to the Owner, as liquidated damages:

For the project, the sum of **two thousand five hundred dollars** (**\$2,500.00**) for each and every **calendar day** that the work remains incomplete beyond the time specified for milestone dates and completion as hereinafter provided in the Contract Documents.

Bidder acknowledges receipt of the addenda shown on the attached form entitled:

ACKNOWLEDGMENT OF ADDENDA.

Bidder agrees to perform all the work described in the specifications, shown on the plans or directed, for the following unit prices:

*The name of the bidder must be exactly the same as the name under which the bidder was pre-qualified with the City of Manchester.

** Strike out inapplicable terms.

ACKNOWLEDGMENT OF ADDENDA

Addendum No.	 Date:
Addendum No.	 Date:

	REH	Manchester-Boston Re ABILITATION OF TAXIWAY G AND T SCHEDULE A – BASE BID	TAXIWAY	D (WEST (IWAY A)	
ı	ESTIMATED			FIGURES			
ITEM NO.	QUANTITY/	DESCRIPTION AND UNIT PRICE (IN WORDS)		UNIT P	RICE	EXTEN	SION
	UNIT			Dollars	Cents	Dollars	Cents
		MOBILIZATION (3%)					
C-105-1	LS	Dollars and	1				
		Cents					
M-100-1	ALL	ALLOWANCE – GATE GUARDS <u>Thirty-Five Thousand</u> Dollars and <u>Zero</u> Cents	1	\$35,000	00	\$35,000	00
		ENGINEER FIELD OFFICE					
M-150-1	LS	Dollars and	1				
		Cents					
		FIELD SURVEY AND LAYOUT					
M-200-2	LS	Dollars and	1				
		Cents					
		RECORD DOCUMENTS					
M-250-1	LS	Dollars and	1				
		Cents					
		FIELD DATA COLLECTION FOR GIS SURVEY CONVERSION					
M250-2	LS	Dollars and	1				
		Cents					
		MAINTENANCE AND PROTECTION OF TRAFFIC					
M-200-1	LS	Dollars and	1				
		Cents					
		CONTRACTOR QUALITY CONTROL PROGRAM					
C-100-1	LS	Dollars and	1				
		Cents					
		INSTALLATION AND REMOVAL OF INLET PROTECTION FILTER BAGS					
C-102-5.1	EA	Dollars and	5				
		Cents					

	REH	Manchester-Boston I ABILITATION OF TAXIWAY G AND SCHEDULE A – BASE BII	TAXIWAY	D (WEST (IWAY A)	
	ESTIMATED			FIGURES			
ITEM NO.	QUANTITY/ UNIT	DESCRIPTION AND UNIT PRICE (IN WORDS)		UNIT P	RICE	EXTEN	SION
	UNII			Dollars	Cents	Dollars	Cents
C-102-5.2	LF	INSTALLATION AND REMOVAL OF EROSION CONTROL LOGS	1,000				
0 102 0.2		Dollars andCents	1,000				
C-102-5.4	LBS	INSTALLATION OF BONDED FIBER MATRIX Dollars and Cents	3,400				
P-101- 5.2A	LF	JOINT AND CRACK REPAIR - TYPE 1Dollars andCents	400				
P-101-5.2B	LF	JOINT AND CRACK REPAIR - TYPE 2 Dollars and Cents	200				
P-101-5.6	SY	COLD MILLINGDollars andCents	32,900				
P-101- 5.7A	LF	CABLE REMOVALDollars andCents	3,300				

Manchester-Boston Regional Airport REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A) SCHEDULE A – BASE BID – PROPOSAL FORM							
,	ESTIMATED		FIGURES				
ITEM NO.	QUANTITY/ UNIT	DESCRIPTION AND UNIT PRICE (IN WORDS)		UNIT P	RICE	EXTEN	SION
	UNII			Dollars	Cents	Dollars	Cents
P-152-4.1	СҮ	UNCLASSIFIED EXCAVATIONDollars andCents	550				
P-401-8.1	TON	ASPHALT SURFACE COURSE Dollars and Cents	8,500				
P-603-5.1	GAL	EMULSIFIED ASPHALT TACK COATDollars andCents	4,600				
P-605-5.1	LF	JOINT SEALING FILLER (SAW & SEAL)Dollars andCents	2,350				
P-620- 5.1a	SF	SURFACE PREPARATIONDollars andCents	100				
P-620- 5.2b	SF	MARKINGSDollars andCents	8,150				

	REH	Manchester-Boston R ABILITATION OF TAXIWAY G AND T SCHEDULE A – BASE BID	AXIWAY	D (WEST (IWAY A)		
	ESTIMATED		FIGURES					
ITEM NO.	QUANTITY/	DESCRIPTION AND UNIT PRICE (IN WORDS)		UNIT P	RICE	EXTENSION		
	UNIT			Dollars	Cents	Dollars	Cents	
P-620- 5.3c	LBS	REFLECTIVE MEDIADollars andCents	200					
D-701-5.1	LF	12IN CLASS V REINFORCED CONCRETE PIPEDollars and Cents	80					
D-751-5.2	EA	AIRCRAFT-RATED CATCH BASIN Dollars and Cents	1					
D-751-5.3	EA	ADJUST STRUCTURE RIM/GRATE ELEVATIONDollars and Cents	9					
T-901-5.1	KSF	SEEDING Dollars and Cents	44					
F-162-5.1A	LF	RELOCATED CHAIN-LINK FENCE ON CONCRETE BARRIER Dollars and Cents	420					
T-905-5.2	CY	TOPSOIL (FURNISHED FROM OFF THE SITEDollars and Cents)	550					
T-908-5.1	SY	MULCHING Dollars and Cents	4,900					

Manchester-Boston Regional Airport REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A) SCHEDULE A – BASE BID – PROPOSAL FORM								
	FIGURES							
ITEM NO.	QUANTITY/	DESCRIPTION AND UNIT PRICE (IN WORDS)		UNIT P	RICE	EXTENSION		
	UNIT			Dollars	Cents	Dollars	Cents	
L-108-5.1	LF	NO. 8 AWG, 5KV, L-824 TYPE C CABLE Dollars and Cents LE	9,650					
L-108-5.2	LF	NO. 6 AWG, SOLID BARE COPPER COUNTERPOISE WIRE Dollars and Cents	1,050					
L-110-5.1	LF	CONCRETE ENCASED ELECTRICAL CONDUIT, 1-WAY-2-INCH Dollars and Cents	1,050					
L-110-5.3	LF	REMOVAL OF CONCRETE ENCASED OR NON-ENCASED ELECTRICAL CONDUIT/DUCT AND CABLE Dollars and Cents	375					
L-125-5.1A	EA	NEW L-861T ELEVATED TAXIWAY EDGE LIGHT ON NEW BASE CAN Dollars and Cents	16					
L-125-5.1B	EA	NEW L-861T ELEVATED TAXIWAY EDGE LIGHT ON EXISTING BASE CAN Dollars and Cents	6					
L-125-5.1C	EA	REINSTALL EXISTING L-861T ELEVATED TAXIWAY EDGE LIGHT ON EXISTING BASE CAN Dollars and Cents	7					
L-125-5.1D	EA	REINSTALL EXISTING L-852C(L) IN- PAVEMENT TAXIWAY CENTERLINE LIGHT ON EXISTING BASE CA Dollars and Cents N	8					

	REH	Manchester-Boston Re ABILITATION OF TAXIWAY G AND T SCHEDULE A – BASE BID -	AXIWAY	D (WEST (IWAY A)	
	ESTIMATED				FIGU	RES	
ITEM NO.	QUANTITY/	DESCRIPTION AND UNIT PRICE (IN WORDS)		UNIT P	RICE	EXTEN	SION
	UNIT			Dollars	Cents	Dollars	Cents
L-125-5.2A	EA	NEW L-852C(L) IN-PAVEMENT TAXIWAY CENTERLINE LIGHT Dollars and Cents	22				
L-125-5.2B	EA	NEW L-852K(L) IN-PAVEMENT TAXIWAY CENTERLINE LIGHT Dollars and Cents	35				
L-125-5.3A	EA	NEW L-858(L) AIRFIELD GUIDANCE SIGN - 1 MODULE Dollars and Cents	1				
L-125-5.3B	EA	NEW L-858(L) AIRFIELD GUIDANCE SIGN - 2 MODULE Dollars and Cents	1				
L-125-5.3C	EA	NEW L-858(L) AIRFIELD GUIDANCE SIGN - 3 MODULE Dollars and Cents	2				
L-125-5.4	EA	REMOVE EXISTING LIGHT AND PROVIDE PLATE ON EXISTING BASE CAN Dollars and Cents	6				
L-125-5.5	EA	REMOVE AND STORE EXISTING LIGHT AND PROVIDE PLATE ON EXISTING BASE CAN Dollars and Cents	15				
L-125-5.6	EA	REMOVE EXISTING ELEVATED TAXIWAY EDGE LIGHT AND BASE CA Dollars and Cents N	16				
L-125-5.7	EA	REMOVE EXISTING IN-PAVEMENT TAXIWAY CENTERLINE LIGHT AND BASE CAN Dollars and Cents	51				

	Manchester-Boston Regional Airport REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A) SCHEDULE A – BASE BID – PROPOSAL FORM						
	ESTIMATED				FIGU	RES	
ITEM NO.	QUANTITY/	DESCRIPTION AND UNIT PRICE		UNIT PRICE		EXTEN	SION
	UNIT			Dollars	Cents	Dollars	Cents
L-125-5.8	EA	REMOVE EXISTING CONCRETE ENCASED IN-PAVEMENT TAXIWAY CENTERLINE LIGHT AND BASE CAN Dollars and Cents	4				
L-125-5.9	EA	REMOVE AIRFIELD GUIDANCE SIGN & FOUNDATION Dollars and Cents	4				

SCHEDULE A – BASE BID SUBTOTAL (Pages BP-7 to BP-15)

<u>\$</u>_____

BID SUMMARY – BASE BID

TOTAL BASE BID:

	dollars
(amount in words)	
(\$).	
(amount in figures)	

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn prior to a period of one-hundred eighty (180) calendar days after the bid opening.

The Bidder agrees that the Owner may reduce the quantities or may delete work items altogether if necessary to bring the contract awarded within funds available to finance the project. Such reduction or deletion of work shall not constitute a basis for withdrawal of this proposal.

Upon receipt of written notice of acceptance of this Bid, Bidder will execute the formal contract attached within fifteen (15) calendar days and deliver the Surety Bonds as required by the General Provisions. The bid security attached in the sum of

is to become the property of the Owner in the event the contract and bonds are not executed within the time above set forth, as liquidated damages for the delay and additional expenses to the Owner caused thereby.

Respectfully submitted:

Name of Bidder:	
By:	
Name and Title:	
Business Address:	

(Affix corporate seal if bid is by a corporation)

CERTIFICATE AS TO CORPORATE PRINCIPAL

BID PROPOSAL

I,	certify that I am the	of the
corporation named as Bidder in the a	bove Proposal; that	
who signed the said Proposal on beha	lf of the Bidder was then	
of said Corporation; that I know his/h	her signature and his/her signature there	to is genuine; and that said
Proposal was duly signed, sealed and	attested to for and in behalf of said Co	rporation by authority of its
governing body and is within the sco	pe of its corporate powers.	

(Corporate Seal)

(Signature)

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BID PROPOSAL CERTIFICATES OF COMPLIANCE FOR AIP PROJECTS

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BID PROPOSAL CERTIFICATES OF COMPLIANCE FOR AIP PROJECTS CERTIFICATION OF BIDDING REQUIREMENTS SIGNATURE PAGE

This signature page is included in this Contract Document to provide assistance to all Bidders in the form of a checklist and to stipulate that if any of the items mentioned below, but not limited to, are incomplete or otherwise incorrect, the Manchester-Boston Regional Airport may reject the bid.

I. REQUIRED FORMS AND SIGNATURE

А.	Certification of Bidding Requirements Signature PageBPC-1
B.	Bid BondBP-1 to BP-2
C.	Bid Proposal Forms and SummariesBP-5 to P-14
D.	Certificate as to Corporate Principal – Bid Proposal (If applicable)BP-15
E.	Certification of Compliance with Federally Required Contract RequirementsBPC-3
F.	Affirmative Action Certification
G.	Buy American Certification
H.	Certification Regarding Debarment, Suspension, and Other Responsibility Matters BPC-7
I.	Proposed Disadvantaged Business (DBE) Utilization Plan – Race-Neutral Projects BPC-9
J.	Letter of Intent to Perform as a Qualified Disadvantaged Business (No. as needed) BPC-10
K.	Bidder's Project Subcontractor and Suppliers
L.	Disclosure of Lobbying Activities
M.	Certification of Prohibition of Segregated Facilities
N.	Certification of Offerer/Bidder Regarding Tax Delinquency and Felony Convictions BPC-16
0.	Trade Restriction Certification
P.	Non-Collusion AffidavitBPC-18

II. BID PROPOSAL FORMS

Unit Price Bids will be considered to be incomplete if any of the following conditions exist:

- A. All written words and figures shall be in INK or TYPED
- B. Unit price in words is omitted
- C. Unit price in figures is omitted
- D. A zero, *N*/*A*, or blank is used as a bid price

III. CERTIFICATION SUMMARY

I hereby certify that I have read all of the above requirements and understand that it affects the acceptability of my bid(s).

Contractor's Signature

Date

1.01 ALL CONTRACTS

- a. The bidder (proposer) must supply all the information required by the proposal forms and specifications.
- b. The City of Manchester Department of Aviation, New Hampshire, in accordance with Title VI of the Civil Rights Act of 1964, hereby notifies all bidders that they (bidders) must affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full 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 award.

1.02 INSTRUCTIONS TO BIDDERS

- a. Section 60-1.7(b) of the Regulations of the Secretary of Labor requires each bidder or prospective prime Contractor and proposed subcontractors, where appropriate, to state in the bid whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and if so, whether it has filed with the Joint Reporting Committee, the Director, an agency, or the former President's Committee on Equal Employment Opportunity all reports due under the applicable filing requirements. In any case in which a bidder or prospective prime Contractor or proposed subcontractor has participated in a previous contract subject to Executive Orders 10Y25, 11114, or 11246 and has not filed a report due under the applicable filing requirements, no contract nor subcontract shall be awarded unless such Contractor submits a report covering the delinquent period or such other period specified by the FAA or the Director, OFCC.
- b. To achieve these requirements, the Bidder shall complete and sign the attached statement.

CERTIFICATION OF COMPLIANCE WITH FEDERALLY REQUIRED CONTRACT REQUIREMENTS

The bidder certifies, by submission of this proposal or acceptance of this, that he/she has read the federally mandated contract requirements as listed in within these Bid Documents. Federal Contract Conditions and that compliance with said references will be incorporated into the terms of the Contract Documents.

I hereby certify that I have read and will comply with all of the above requirements.

Signature of Authorized Contractor and/or Consultant Representative

Date

AFFIRMATIVE ACTION CERTIFICATION

The Bidder (has / has not)* participated in a previous contract subject to the equal opportunity clause prescribed by Executive Order 10925, or Executive Order 11246, or Executive Order 11114.

The Bidder (has / has not)* submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontracts.

If the Bidder has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the Bidder (Proposer) shall submit a compliance report on Standard Form 100, "Employee Information Report EE0-1" prior to the award of contract.

The Bidder (has / has not) been considered for sanction due to violation of Executive Order 11246, as amended.

Dated _____, 20____

Legal Name of Person, Firm or Corporation

By: _____

Title

*Strike out inappropriate term.

Certificate of Buy American Compliance – Construction 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 (\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.

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

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION (For Bids Exceeding \$25,000)

The bidder/offeror certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. It further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder/offeror/contractor or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

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.

GOALS AND ASSURANCES FOR DISADVANTAGED BUSINESS ENTERPRISES

The Contractor 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.

The requirements of CFR 49 Part 26, Regulations of the U. S. Department of Transportation, apply to this contract. It is the policy of The City of Manchester-Department of Aviation to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this contract will be conditioned upon satisfying the requirements of this bid specification. These requirements apply to all bidders/offerors, including those who qualify as a DBE. The City of Manchester-Department of Aviation encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

The Contractor must comply with the Federal DBE, Equal Employment Opportunity (EEO), and Affirmative Action Requirements contained within the Contract Documents.

2025 Aviation projects sponsored by the City of Manchester – Department of Aviation, Manchester, New Hampshire **utilize race-neutral DBE procedures**. There is no specific DBE goal for this project. Bidders must comply with the requirements of 49 CFR Part 26, including Appendix A, which discusses making good-faith efforts, to ensure that all DBE's and Small Businesses are afforded the maximum opportunity to work with them on federally funded projects. The City of Manchester – Department of Aviation, Manchester, New Hampshire has an overall DBE goal of 6.5% for FAA funded projects in Federal Fiscal Year (FFY) 2025.

The Bidder/Offeror shall make good faith efforts, as defined in Appendix A, 49 CRF Part 26 (Attachment 1), to meet the FFY 2025 overall DBE goal for DBE participation in the performance of this contract.

The successful Bidder or Offeror must provide written confirmation of participation from each of the DBE firms the Bidder or Offeror lists in its commitment within five (5) days after bid opening.

The Bidder or Offeror must submit the following information on the forms provided herein:

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1)
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal; and
- 5) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26.

PROPOSED DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION RACE-NEUTRAL PROJECTS

The undersigned Bidder/Offeror has made a good faith effort to make subcontracting and supplier opportunities available to all firms including, but not limited to, DBE's as defined in 49 CFR 26. As a result of these efforts:

• The Bidder/Offeror is committed to a minimum of _____% DBE utilization on this Contract.

Name of Bidder/Offeror's firm:

State Registration No.

By:

(Signature)

(Title)

DBE LETTER OF INTENT

Name of bidder'/offeror's firm:			
Address:			
City:	State:	Zip:	
Name of DBE firm:			
Address:			
City:	State:	Zip:	
Telephone:	-		
Description of work to be performed by DBE firm:			
The bidder/offeror is committed to utilizing the above estimated dollar value of this work is \$	-named DBE		The
Affirmation			
The above named DBE firm affirms that it will perfor	rm the portion	n of the contract for the estimated d	lolla

By: _____(Signature)

value as stated above.

(Title)

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

(Submit this page for each DBE subcontractor.)

BIDDER'S PROJECT SUBCONTRACTORS & SUPPLIERS

The Bidder advises herein that the following Subcontractors are proposed for the item of work listed. Subcontractors are subject to review and approval per the requirements of the Contract Documents and the technical requirements specified. List firms that will supply labor at the site and major suppliers.

Failure to provide this information may result in the bid being considered non-responsive.

SUBCONTRACTOR N	DBE AME <u>(Y/N)</u> TRADE	CONTRACT WORK ITEMS	VALUE (\$)
1			
2			
3			
4			
14			
13			
RESPECTFULLY SUBMI	ITED:		
(Bidder)			
By:		Title: D	Pate:

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

1. Type of Federal Action: 2. Status of Federal Action:	ffer/application X a. initial filing award b. material change		
4. Name and Address of Reporting Entity	5. If Reporting Entity in No. 4 is Subawardee,		
Prime Subawardee	Enter Name and address of Prime:		
6. Federal Department Agency: Federal Aviation Administration	7. Federal Program Name/Description: Airport Improvement Program Grant		
8. Federal Action Number, if known:	9. Award Amount, if known:		
	\$		
10a. Name and Address of Lobbying Entity,	10b. Individuals performing Services (including address if		
(if individual, last name, first name, MI)	different from No. 10a.), (if individual, last name, first name, MI)		
11. Amount of Payment (check all that apply):	13. Type of Payment (check all that apply)		
\$actual planned	a. retainer		
12. Form of Payment (check all that apply):	b. one-time fee c. commission		
a. cash	d. contingent fee		
b. In-kind; specify; nature	e. deferred		
value	f. other specify		
14. Brief Description of services preformed or performed and date(s) of Service, including officer(s), employer(s), or member(s) contacted for payment indicated in Item 11.			
15. Continuation Sheet(s) SF-LLL-A attached: Yes	No		
16. Information requested through this form is authorized by Title 31 U.S.C. Section 1362. This disclosure of	Signature:		
lobbying activities is a material representation of fact upon which reliance was placed by the tier above when	Print Name:		
this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This	Title		
information will be reported to Congress semi-annually	Title:		
and will be available for public inspection. Any person	Telephone No Date:		
who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more			
than \$100,000 for each failure			
Federal Use Only	Authorized for Local		
	Reproduction Standard Form - LLL		

DISCLOSURE OF LOBBYING ACTIVITIES CONTINUATION SHEET

Reporting Entity:

Page _ of _____

Authorized for Local Reproduction Standard Form – LLL-A

CERTIFICATION OF PROHIBIITION OF SEGREGATED FACILITIES INSTRUCTIONS

1. <u>Notice to Prospective Federal Assisted Construction Contractors.</u>

- a. A Certification of Prohibition of Segregated Facilities must be submitted prior to the award of a contract exceeding \$10,000 which is not exempt from the provisions of the equal opportunity clause.
- b. Contractors receiving contract awards exceeding \$10,000 which are not exempt from the provisions of the equal opportunity clause will be required to provide for the forwarding of the 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. NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.
- 2. <u>Notice to Prospective Construction Subcontractors.</u>
 - a. A Certification of Prohibition of Segregated Facilities must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the equal opportunity clause.
 - b. Contractors receiving subcontract awards exceeding \$10,000 which are not exempt from the provisions of the equal opportunity clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontractors exceed \$10,000 and are not exempt from the provisions of the equal opportunity clause. NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

3. <u>Notice to Prospective Contractors of Requirement for Certification for Prohibition of Segregated</u> <u>Facilities.</u>

A Certification of Prohibition of Segregated Facilities must be submitted prior to the award of a contract or subcontract exceeding \$10,000 which is not exempt from the provisions of the equal opportunity clause.

CERTIFICATION OF PROHIBITION OF SEGREGATED FACILITIES (CONTRACTORS/ SUBCONTRACTORS)

- (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 Employment 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, 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 Employment Opportunity clause of this contract.

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

Name and Title of Signer (Please type)

Signature

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

Date

CERTIFICATION OF OFFERER/BIDDER REGARDING TAX DELINQUENCY AND FELONY CONVICTIONS

The 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 (\checkmark) in the space following the applicable response. The Bidder agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification in all lower tier subcontracts.

Certifications

- The Bidder 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 Bidder represents that it is (✓) is not (✓) is not a corporation that was convicted of a criminal violation under any Federal law within the preceding 24 months.

Note

If a Bidder responds in the affirmative to either of the above representations, the Bidder 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 Bidder 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.

Date

Signature

Company Name

Title

TRADE RESTRICTION CERTIFICATION

The Contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

a. 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 published by the Office of the United States Trade Representative (USTR);

b. 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 on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;

c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

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 a contractor or subcontractor who is unable to certify to the above. If the Contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract at no cost to the Government.

Further, the Contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

The Contractor shall provide immediate written notice to the sponsor if the Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide written notice to the contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

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

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.

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, United States Code, Section 1001.

Date

Signature

Company Name

Title

NON-COLLUSION AFFIDAVIT (Bidder or Offeror)

I, (enter full legal name),

representing (name of person, firm, association, or corporation)

of (Town or City and State)

being duly sworn, depose and certify that, under the penalties of perjury under the laws of this state and the United States that on behalf of, the person, firm, association, or corporation submitting this bid, that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with submitting a bid for this project.

REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A) Manchester-Boston Regional Airport

Name of Individual, Partnership, or Corporation (Please Print or Type)

Signature of Official Authorized to Sign Contracts and Agreements

Name of Individual Signing Affidavit

Title of Individual Signing Affidavit

Sworn to before me this _____ day of _____, 20___

CONTRACT DOCUMENTS REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A)

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THIS AGREEMENT, made this ______day of ______, 2025, (execution date by Owner) by and between **City of Manchester - Department of Aviation,** hereinafter called "OWNER" and

doing business as a corporation hereinafter called "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete the project entitled:

REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A) City Bid # FY25-805-35

2. CONTRACTOR will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the PROJECT described herein.

3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS on or before a date to be specified in the NOTICE TO PROCEED and will complete the work within the **FIFTY-FOUR** (54) calendar days from the effective date of the NOTICE TO PROCEED unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS. The final completion date will be only extended by a modification to the CONTRACT DOCUMENTS.

The CONTRACTOR shall pay as liquidated damages the sum of **two thousand five hundred dollars** (**\$2,500.00**) for each and every calendar day that the work remains incomplete beyond the above specified time and the noted date certain, as provided in the General Provisions of the CONTRACT DOCUMENTS.

4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of _______, or as shown in the BID Schedule.

5. The term "CONTRACT DOCUMENTS" means and includes the following:

(A) This Contract Agreement
(B) Addenda as listed herein
(C) Advertisement for Bids
(D) Information for Bidders
(E) Signed Copy of Bid Proposal
(F) Bid Proposal Certificates of Compliance
(G) Contract Documents (Bonds, Insurance)
(H) General Contract Provisions
(I) Supplemental Provisions
(J) FAA Required Contract Provisions for AIP Projects
(K) Construction Safety and Phasing Plan (CSPP)
(L) Safety Plan Compliance Document (SPCD)
(M) Technical Specifications
(N) Contract Drawings (as listed in Schedule of Drawings)

In the event that any provision in any component part of the CONTRACT DOCUMENTS conflicts with any provision of any other component part, the provision of the component part first enumerated in this Paragraph 5 shall govern. The various provisions in Addenda shall be construed in the order of preference of the component part of the CONTRACT DOCUMENTS which each modified.

Addendum No.	Dated

6. The OWNER will pay to the CONTRACTOR in the manner and at such times as set forth in the General Provisions such amounts as required by the CONTRACT DOCUMENTS.

7. This Contract Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

8. The CONTRACTOR shall indemnify, hold harmless and defend the OWNER, the United States of America, the Engineer, the Engineer's consultants, and their officers, board members, agents and employees (the "Indemnities") from and against all losses, suits, claims, liabilities, penalties, fines, judgments, costs and expenses, including without limitation attorneys' fees, consultants' fees and experts' fees arising out of, or in any manner predicated upon personal injury, death or property damage resulting from, relating to, caused by or arising out of (or which may be claimed to arise out of) the CONTRACTOR's performance of its obligations under this Contract Agreement; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, its subcontractors, anyone directly or indirectly employed by either the CONTRACTOR or its subcontractors, or anyone for whose acts any of the foregoing may be liable. The agreements contained in the preceding sentence do not extend to claims for damages caused by gross negligence or willful misconduct of the Indemnities without contributory fault on the part of any person, firm, or corporation.

In any and all claims against the Indemnitee or any one of the Indemnitees by any employee of the CONTRACTOR, its subcontractors, anyone directly or indirectly employed by an employee or subcontractor of the CONTRACTOR, or anyone for whose acts of such employees and subcontractors may be liable, the indemnification obligation shall not be limited to in any way by a limitation on the amount of damages, compensation or benefits payable by or for the CONTRACTOR or any subcontractor under workers compensation acts, disability benefit acts or other employee benefits acts.

In the event that any action or proceeding is brought against the Indemnitee or any one of the Indemnitee by reason of any matter for which the CONTRACTOR has hereby agreed to indemnify, hold harmless and defend, the CONTRACTOR, upon notice from the Indemnitee or any one of them, covenants to resist or defend such action or proceeding with counsel acceptable to the Indemnitee or any one of them as the case may be.

Notwithstanding the foregoing, nothing herein shall be deemed to constitute a waiver of the sovereign immunity of the **City of Manchester - Department of Aviation** which is hereby reserved to the **City of Manchester - Department of Aviation**.

The provision of this indemnification shall survive the expiration or termination of this Contract Agreement,

and the CONTRACTOR's obligations hereunder shall apply whenever any one of the Indemnitees incurs costs or liabilities described above.

9. This Contract Agreement is executed in a number of counterparts, each of which is an original and constitutes the entire agreement between the parties. This Contract Agreement shall be construed according to the laws of the **City of Manchester - Department of Aviation**. No portion of this Contract Agreement shall be understood to waive the sovereign immunity of the **City of Manchester - Department of Aviation**. This Contract Agreement shall not be amended, except as specified in the FAA General Contract Provisions.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in Four (4) Originals on the date first above written.

CITY OF MANCHESTER – DEPARTMENT OF AVIATION	Witnessed:	
By:	Notary Public	
	My Commission Expires:	
Name:(type or print)	(5	SEAL)
Title:		
CONTRACTOR	Witnessed:	
By:	Neterry Dublic	
	Notary Public My Commission Expires:	
Name:		
(type or print)		
Title:	(S	SEAL)

CERTIFICATES OF INSURANCE

The Contractor shall furnish Certificates of Insurance as described in Supplemental Provisions, INSURANCE REQUIREMENTS and shall list the policies as follows:

Type of Insurance	Policy Limit <u>Coverage</u>	Number_	Insurance Co.	Expiration <u>Date</u>
Workman's Compensation				
General Liability				
Automobile Liability				
Umbrella				

These Insurance Certificates as well as Performance and Payment Bonds must be furnished at or before the time of the execution of this document. Such certificates shall, with respect to comprehensive general liability and auto liability insurance, name the **City of Manchester, Departments of Aviation**, and any **Architect and Engineering firms** designated by the Owner **as an additional insured** (except worker's compensation).

IN WITNESS WHEREOF, the parties to these presents have executed this Contract Agreement in four (4) counterparts each of which shall be deemed an original, as of the year and day first above mentioned.

(Seal) ATTEST:

	By:		
Witness	· · ·	CONTRACTOR	Date
	By:		
Witness		Department of Aviation	Date
		Department of Tritation	Dute

SAFETY RESPONSIBILITY COVENANT

It is hereby understood and agreed that the CONTRACTOR is responsible for health and safety on this project including, but not limited to, compliance with all applicable federal, state, and local regulations, codes, rules, orders, laws and ordinances regarding health and safety and shall, at all times, exercise and enforce reasonable precautions for the safety and welfare of all persons and property associated with or affected by this project. The CONTRACTOR's responsibility shall include providing adequate equipment and facilities necessary (including, if required, removal to a hospital) to furnish first aid to any person or person's who may be injured on the project site.

The CONTRACTOR further agrees to defend, indemnify and hold harmless the OWNER and the ENGINEER from any expense, cost or loss including but not limited to fines, demands, suits, legal fees, or penalties, including costs of corrective measures, that the CONTRACTOR, OWNER or ENGINEER may sustain by reason of the CONTRACTOR's failure to provide a safe workplace or to comply with all health and safety laws, rules and regulations in connection with the performance of this Contract Agreement.

To achieve the safety goals for this project, the CONTRACTOR shall designate a SAFETY OFFICER whose duty shall be to monitor the project on a daily basis in order to insure that all required safety measures are strictly adhered to and site safety is insured. The SAFETY OFFICER shall act for the CONTRACTOR on safety issues and shall have the right to shut down work on the site until safety deficiencies have been corrected. The project SAFETY OFFICER is designated as:

NAME:_____

TITLE:_____

SIGNED:

DATE:_____

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CONTRACT BONDS

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FORM OF PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS

That we,
an individual*, a partnership*, a corporation* organized under the laws of the State of
having a usual place of business in the State of
as Principal, and
a corporation organized under the laws of the State of
and having a usual place of business in the State of
as Surety, are holden and stand firmly bound and obligated unto the City of Manchester, New Hampshire,
Department of Aviation (hereinafter the Owner), its successors and assigns, in the sum of
Dollars
(\$).
lawful money of the United States of America, to and for the true payment whereof, we bind ourselves and
each of us, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by
these presents. WHEREAS, the said Principal has by means of a written agreement dated
, 2025, entered into a Contract Agreement with the Owner for:
REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A)
at Manchester-Boston Regional Airport

A copy of which Contract Agreement is attached hereto and by reference made a part hereon.

*Strike out inapplicable terms.

NOW, THEREFORE, THE CONDITION of this obligation is such that if the said Principal and his/her subcontractors shall well and truly keep and perform all the agreements, terms and conditions in said Contract Agreement set forth and specified to be by said Principal kept and performed, and shall well and truly indemnify and save harmless the Owner against all counsel fees paid or incurred by the Owner as a result of a breach of any condition of this bond, and against all claims and suits for damage to person or property arising from carelessness or want of due care, or any act or omission on the part of said Principal during the performance of said Contract Agreement, then this obligation shall be void; otherwise, it shall remain in full force and virtue.

PROVIDED, FURTHER, that said Surety, for value received, hereby stipulates and agrees that no extension of time, or change in, alteration or addition to the terms of the Contract Agreement or to the work to be performed there under or the Contract Documents accompanying the same and no failure or refusal of the Owner to withhold any monies from the Principal shall in any way affect its obligations on this bond, and it does hereby waive notice of any such extension of time, change, alterations or addition to the terms of the Contract Agreement or the work or to the Contract Documents.

In the event that the Contract Agreement is abandoned by the Principal, or is terminated by the Owner under the provisions of said Contract Agreement, said Surety hereby further agrees that said Surety shall, if requested in writing by the Owner, take action as is necessary to complete said Contract Agreement.

This bond shall become effective at the same time as the Contract Agreement annexed hereto for the work hereinbefore mentioned.

IN WITNESS WHEREOF, we have hereunto set out hands and seals to this bond this _____

day of _____, 2025.

WITNESS:

Name of Principal

(SEAL)

By:

WITNESS:

Name of Surety

(SEAL)

Power of Attorney for person signing for the Surety Company must be attached.

CERTIFICATE AS TO CORPORATE PRINCIPAL

PERFORMANCE BOND

I, ______, certify that I am the ______ of the Corporation named as Principal in the within bond; that, ______ who signed the said bond on behalf of the principal was then _______, of said Corporation; that I know his/her signature and his/her signature thereto is genuine; and that said bond was duly signed, sealed and attested to for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

(Power of attorney of person(s) signing Bond for Surety Company must be attached.)

NOTE: Date of Bond must not be prior to date of Contract Agreement. If Principal is Partnership, all partners must execute bond.

SEAL

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FORM OF PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS

That we
an individual*, a partnership*, a corporation* organized under the laws of the State of
having a usual place of business in the State of
as Principal, and
,
a corporation organized under the laws of the State of
and having a usual place of business in the State of
,
as Surety, are holden and stand firmly bound and obligated unto the City of Manchester, New Hampshire,
Department of Aviation (hereinafter the Owner), its successors and assigns, in the sum of
Dollars (\$), lawful money of
the United States of America, to and for the true payment whereof, we bind ourselves and each of us, our
heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.
WHEREAS, the said Principal has by means of a written agreement dated, 2022

entered into a Contract Agreement with the Owner for:

REHABILITATION OF TAXIWAY G AND TAXIWAY D (WEST OF TAXIWAY A) at Manchester-Boston Regional Airport

A copy of which Contract Agreement is attached hereto and by reference made a part hereof.

* Strike out inapplicable terms.

NOW, THEREFORE, THE CONDITION Of this obligation is such that is the said Principal and his/her subcontractors shall pay for all labor performed or furnished, for all equipment hired, including trucks, for all material used or employed in such construction, including lumber so employed which is not incorporated in the work, and for fuels, lubricants, power, tools, hardware, and supplies purchased by said principal and used in carrying out said Contract Agreement, and for labor and parts furnished upon the order of said Contractor for the repair of equipment used in carrying out said Contract Agreement, this agreement to make such payments being in compliance with the requirements of Section 16 of Chapter 447, of New Hampshire Revised Statutes, Annotated, 1955, to furnish security there under and being in fact such security, and if said Principal shall well and fully indemnify and save harmless the Owner against all counsel fees paid or incurred by the Owner as a result of a breach of any condition of this bond, and against all claims and suits for damage to person or property arising from carelessness or want of due care, or any act or omission on the part of said Principal during the performance of said Contract Agreement, then this obligation shall be void; otherwise, it shall remain in full force and virtue.

PROVIDED, FURTHER, that said Surety, for value received, hereby stipulates and agrees (1) that no extension of time, or change in, alteration or addition to the terms of the Contract Agreement or to the work to be performed there under or the Contract Documents accompanying the same and no failure or refusal of the Owner to withhold any monies from the Principal shall in any way affect its obligations on this bond, and it does hereby waive notice of any such extension of time, change, alterations, or addition to the terms of the Contract Agreement or the work or to the Contract Documents; (2) that in case of liabilities not covered by said Section 16 of Chapter 447 RSA, as amended, but covered by this bond, then the provisions of this bond shall control.

In addition to the obligations of the undersigned enumerated above, the bond is also made for the use and benefit of all persons, firms and corporations, who may furnish any material or perform any labor on account of said Contract Agreement, or rent or hire out any appliances or equipment used or employed in the execution of said Contract Agreement and they and each of them are hereby made Obligees hereunder the same as if their own proper respective names were written herein as such, and they and each of them may proceed or sue hereon, and in case of failure of said Principal to carry out the foregoing provisions made for the use and benefit of any said persons, firms and corporations, the Owner as an additional remedy may maintain an action against the undersigned in its own name, but in trust for and for the benefit of said persons, firms and corporations.

This bond shall become effective at the same time as the Contract Agreement annexed hereto for the work hereinbefore mentioned.

SEAL

Individual Principal

Business Address

SEAL

Individual Principal

Business Address

Attest:

SEAL

Corporate Principal

By:_____

Attest:

SEAL

Corporate Surety

Business Address

Countersigned:

By:

By: _____

CERTIFICATE AS TO CORPORATE PRINCIPAL

PAYMENT BOND

I,	, certify that I am the
	of the Corporation named as Principal in
the within bond; that,	who signed the said
bond on behalf of the principal was then	,
of said Corporation; that I know his/her signature and his/her	signature thereto is genuine; and that said
bond was duly signed, sealed and attested to for and in behal	f of said Corporation by authority of its
governing body and is within the scope of its corporate power	ers.

_____ SEAL

(Power of attorney of person(s) signing Bond for Surety Company must be attached.)

NOTE: Date of Bond must not be prior to date of Contract Agreement. If Principal is Partnership, all partners must execute bond.

WARRANTY BOND

KNOW ALL MEN BY THESE PRESENTS

That we	, an individual*, a
partnership*, a company* organized under the laws of the State of	
, having a usual place of business in the State of	
, as Principal, and	, a company organized
under the laws of the State of	, and having a usual
place of business in the State of	, as Surety, are holden
and stand firmly bound and obligated unto the <u>City of Manchester, New Ham</u>	oshire – Department of
Aviation, (hereinafter the Owner), its successors and assigns, in the sum of	
(\$00), lawful money of	the United States of
America, to and for the true payment whereof, we bind ourselves and each of	us, our heirs, executors,
administrators, successors, and assigns, jointly and severally, firmly by these prese	ents.

WHEREAS, the said Principal has, by means of a written agreement dated ______,2025, entered into a Contract Agreement with the Owner for a copy of which contract is attached hereto and by reference made a part hereof.

* Strike out inapplicable terms.

NOW, THEREFORE, THE CONDITION of this obligation is such that is the said Principal and his subcontractors shall remedy any defects due the contractor's failure to conform to the contract requirements or to faulty materials or workmanship, defect of equipment, or design furnished by the Contractor, and pay for any damage to other work resulting therefrom, which shall appear **within a period of one (1) year from the date of final acceptance** of the work provided for in the Contract Agreement, then this obligation to be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that the Owner shall give Contractor and Surety notice of Observed defects with reasonable promptness.

PROVIDED, FURTHER, that said Surety, for value received, hereby stipulates and agrees that no extension of time, or change in, alteration or addition to the terms of the Contract Agreement or to the work to be performed thereunder or the specifications accompanying the same and no failure or refusal of the Owner to withhold any monies from the Principal shall in any way affect its obligations on this bond, and it does hereby waive notice of any such extension of time, change, alterations, or addition to the terms of the Contract Agreement or the work or to the specifications.

IN WITNESS WHEREOF		n presence of:	, ,
			SEAL
	-	Individual Principal	SEAL
	-	Business Address	
	_		<u>_</u> SEAL
		Individual Principal	
	<u>.</u>	Business Address	
Attest:			
	 	Corporate Principal	SEAI
	By:		
Attest:			
			SEAI
		Corporate Surety	
		Business Address	
Countersigned:		By:	

By:

CERTIFICATE AS TO CORPORATE PRINCIPAL

WARRANTY BOND

I,	, certify that I am	the
	of the Corporation named as Principal in the within bond; th	nat,
who signed the said bond on behalf of	of the principal was then	
, of said Corporation; that I know hi	is/her signature and his/her signature thereto is genuine; and that s	aid
bond was duly signed, sealed and attested to for and in behalf of said Corporation by authority of its		
governing body and is within the sco	ope of its corporate powers.	

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FAA GENERAL CONTRACT PROVISIONS (Advisory Circular 150-5370-10H dated 12/21/2018) THIS PAGE INTENTIONALLY LEFT BLANK

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Section 10 Definition of Terms

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

Paragraph Number	Term	Definition
10-01	AASHTO	The American Association of State Highway and Transportation Officials.
10-02	Access Road	The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public roadway.
10-03	Advertisement	A public announcement, as required by local law, inviting bids for work to be performed and materials to be furnished.
10-04	Airport	Airport means an area of land or water which is used or intended to be used for the landing and takeoff of aircraft; an appurtenant area used or intended to be used for airport buildings or other airport facilities or rights of way; airport buildings and facilities located in any of these areas, and a heliport.
10-05	Airport Improvement Program (AIP)	A grant-in-aid program, administered by the Federal Aviation Administration (FAA).
10-06	Air Operations Area (AOA)	The term air operations area (AOA) shall mean any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An air operation area shall include such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway, or apron.
10-07	Apron	Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
10-08	ASTM International (ASTM)	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	Award	The Owner's notice to the successful bidder of the acceptance of the submitted bid.
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.
10-11	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.

Paragraph Number	Term	Definition
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	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. 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.
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 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.

Paragraph Number	Term	Definition
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.
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.
10-31	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

Paragraph Number	Term	Definition
		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.
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: City of Manchester, NH – Department of Aviation d/b/a Manchester-Boston Regional Airport
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.'

Paragraph Number	Term	Definition
10-43	Project	The agreed scope of work for accomplishing specific airport development with respect to a particular airport.
10-44	Proposal	The written offer of the bidder (when submitted on the
10-44	TTOPOSAL	approved proposal form) to perform the contemplated work
		and furnish the necessary materials in accordance with the
		provisions of the plans and specifications.
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)	An authorized representative of the Engineer and/or
	Inspector	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
10-49	Quality Assumance (QA)	by the Contractor. The official quality assurance testing laboratories of the
10-49	Quality Assurance (QA) Laboratory	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	The individual, partnership, firm, or corporation duly
	Representative (RPR)	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
10.50		of aircraft.
10-52	Runway Safety Area	A defined surface surrounding the runway prepared or
	(RSA)	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	Details how the Contractor will comply with the CSPP.
10-33	Document (SPCD)	Details now the Contractor will comply with the CSPP.
10-54	Specifications	A part of the contract containing the written directions and
10 07	Specifications	requirements for completing the contract work. Standards
		for specifying materials or testing which are cited in the
		contract specifications by reference shall have the same
		force and effect as if included in the contract physically.
10-55	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.

Paragraph Number	Term	Definition
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.
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.

END OF SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 Advertisement (Notice to Bidders). See Advertisement for Bids and Instruction to Bidders of these specifications.

20-02 Qualification of bidders. 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.

Bidders must be pre-qualified for this project in accordance with the City of Mancehester Procurement code. Please refer to the Airport's website for additional information regarding pre qualification.

Each bidder shall submit "evidence of competency" and "evidence of financial responsibility" to the Owner at the time of bid opening.

20-03 Contents of proposal forms. The Owner's 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*.

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. Refer to the Advertisement of Bids for the time, date, and place of the meeting.

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.

20-07 Preparation of proposal. 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. 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. 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.

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. 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. 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. 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 or 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. 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. 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. 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 the number of days outlined in the Advertisement of Bids prior to bid opening.

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

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END OF SECTION 20

Section 30 Award and Execution of Contract

30-01 Consideration of proposals. 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. The award of a contract, if it is to be awarded, shall be made within **One Hundred Eighty (180) 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. 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. 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 **fifteen** (15) calendar days from the date mailed or otherwise delivered to the successful bidder.

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

30-08 Failure to execute contract. Failure of the successful bidder to execute the contract and furnish an acceptable surety bond or bonds within the period specified in paragraph 30-06, *Execution of Contract*, of this section shall be just cause for cancellation of the award and forfeiture of the 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.

Supplemental agreements shall be approved by the FAA and shall include all applicable Federal contract provisions for procurement and contracting required under AIP. Supplemental agreements shall also require consent of the Contractor's surety and separate performance and payment bonds.

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.

All change orders, supplemental agreements, and contract modifications must be reviewed by the FAA.

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). The Contractor shall also refer to AC 150/5210-5 (latest revision), Painting, Marking and Lighting of Vehicles Used on an Airport and AC 150/5370-2 (latest revision), Operational Safety on Airports During Construction for applicable standards.

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) (<u>http://mutcd.fhwa.dot.gov/</u>), 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. Unless otherwise specified herein, the Contractor will not be required to furnish snow removal for such existing road, street, or highway.

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.

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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. 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. Special Provisions (as applicable) are included in the Supplemental General Conditions and Special Provision Section of the Contract Documents.

50-05 Cooperation of Contractor. The Contractor shall be supplied with five (5) 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, Microsoft Excel and PDF 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, 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 ten (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.

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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.

All Contractor QC test data may be provided to the RPR in electronic PDF format, in lieu of hard copies.

The Contractor shall employ a Quality Control (QC) testing organization to perform all Contractor required QC tests in accordance with Item C-100 Contractor Quality Control Program (CQCP), as applicable.

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

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

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

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

a. Conformance to the specified performance, testing, quality or dimensional requirements; and,

b. Suitability of the material or assembly for the use intended in the contract work.

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

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

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

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

a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.

b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

c. If required by the RPR, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Place office or working space in a convenient location with respect to the plant.

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

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

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 Ownerfurnished 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.

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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:

No other major work anticipated within or adjacent to the project location during construction.

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 the CS sheet(s) of the project plans and in the narrative located within the specifications.

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 nonexecution 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.

REFER TO THE PROJECT AND CSPP PLANS FOR THE SCHEDULE OF WORK FOR ALL PROJECT PHASING AND ALLOWED TIME.

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.

REFER TO THE PROJECT PLANS FOR ANY KNOWN UTILITY SERVICE LOCATIONS WITHIN THE PROJECT LIMITS AND ASSOCIATED CONTACT INFORMATION.

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

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

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

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

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

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

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

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

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

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

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

c. If execution of the project work requires a facility outage, the Contractor shall contact the FAA Point-of-Contact a minimum of 72 hours prior to the time of the required outage.

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

e. If the project work requires the cutting or splicing of FAA owned cables, the FAA Point-of-Contact shall be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have a FAA representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA specifications and require approval by the FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA, the Contractor shall furnish and install a sufficient length of new cable that eliminates the need for any splice.

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. Refer to the Project Contract Agreement for the insurance requirements.

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 **twenty-five percent (25%)** 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.

The Contractor shall provide copies of all subcontracts to the RPR fourteen (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 ten (10) days of the NTP date. The Contractor shall notify the RPR at least twenty-four (24) hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner.

80-03 Execution and progress. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the RPR's review and acceptance at least **ten (10) days** prior to the start of work. The Contractor's progress schedule, once accepted by the RPR, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The RPR will compare actual Contractor progress against the baseline schedule to determine that status of the Contractor's performance. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the completion of the project in accordance with the plans and specifications within the time set forth in the 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 **twenty-four (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 project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall

show all work items identified in the project proposal for each work area and shall include the project start date and end date.

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 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 **forty-eight (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:

REFER TO THE PROJECT PLANS FOR THE CSPP AND THE OPERATIONS IMPACTS.

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. The Owner shall coordinate any changes with the FAA.

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

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

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

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

All equipment that is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the work shall not cause injury to previously 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 and contract and shall be known as the Contract Time.

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

80-07.1 Contract time based on calendar days. Contract Time based on calendar days shall consist of the number of calendar days stated in the contract counting from the effective date of the Notice to Proceed and including all Saturdays, Sundays, holidays, and non-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.

REFER TO THE INFORMATION TO BIDDERS, BID PROPOSAL SUMMARY, AND CONTRACT AGREEMENT OF THE CONTRACT DOCUMENTS FOR THE LIQUIDATED DAMAGES AND ALLOWED CONSTRUCTION TIME.

The maximum construction time allowed for the Project will be the sum of the time allowed for individual phase schedules as outlined in the CSPP but not more than the overall calendar days allowed. Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

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

a. Fails to begin the work under the contract within the time specified in the Notice to Proceed, or

b. Fails to perform the work or fails to provide sufficient workers, equipment and/or materials to assure completion of work in accordance with the terms of the contract, or

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such

work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the execution of the work, or

e. Fails to resume work which has been discontinued within a reasonable time after notice to do so, or

f. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g. Allows any final judgment to stand against the Contractor unsatisfied for a period of ten (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 ten (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.

Term	Description
Excavation and	In computing volumes of excavation, the average end area method will be used
Embankment	unless otherwise specified.
Volume	
Measurement and	The term "ton" will mean the short ton consisting of 2,000 pounds (907 km)
Proportion by	avoirdupois. All materials that are measured or proportioned by weights shall be
Weight	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 (liter) or ton (kg). When measured by volume, such volumes will be measured at 60° F (16° C) or will be

Measurement and Payment Terms

Term	Description
	corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net
	certified scale weights or weights based on certified volumes in the case of rail
	shipments will be used as a basis of measurement, subject to correction when
	asphalt material has been lost from the car or the distributor, wasted, or otherwise
	not incorporated in the work. When asphalt materials are shipped by truck or
	transport, net certified weights by volume, subject to correction for loss or
	foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as
	altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually
	incorporated in the structure. Measurement will be based on nominal widths and
	thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated
	metal pipe, metal plate pipe culverts and arches, and metal cribbing will be
	specified and measured in decimal fraction of inch.
Miscellaneous	When standard manufactured items are specified such as fence, wire, plates, rolled
Items	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	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.
	Scales shall be accurate within 0.5% of the correct weight throughout the range of
	use. The Contractor shall have the scales checked under the observation of the
	RPR before beginning work and at such other times as requested. The intervals
	shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but
	not less than one pound (454 grams). The use of spring balances will not be
	permitted. 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%.
	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.
	Beams, dials, platforms, and other scale equipment shall be so arranged that the
	operator and the RPR can safely and conveniently view them.
	Scale installations shall have available ten standard 50-pound (2.3 km) weights for
	testing the weighing equipment or suitable weights and devices for other approved
	equipment.
	All costs in connection with furnishing, installing, certifying, testing, and
	maintaining scales; for furnishing check weights and scale house; and for all other

Term	Description
	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 Payment for Extra Work.
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.

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, **ten percent (10%)** 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 thirty (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 thirty (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 ninety-five percent (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 the Owner against any potential lien or other such claim. The bond or collateral shall include all costs, expenses, and attorney fees the Owner may be compelled to pay in discharging any such lien or claim.

90-07 Payment for materials on hand. Partial payments may be made to the extent of the delivered cost

of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications and are delivered to acceptable sites on the airport property or at other sites in the vicinity that are acceptable to the Owner. Such delivered costs of stored or stockpiled materials may be included in the next partial payment after the following conditions are met:

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

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

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

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

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

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

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

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

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

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

a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.

b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.

c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.

d. The Contractor shall obtain the written consent of the surety to such agreement.

90-09 Acceptance and final payment. When the contract work has been accepted in accordance with the requirements of Section 50, paragraph 50-15, *Final Acceptance*, the RPR will prepare the final estimate of the items of work actually performed. The Contractor shall approve the RPR's final estimate or advise the RPR of the Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities to be paid under the contract as amended by change order or supplemental agreement. The Contractor and the RPR shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within thirty (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 (1) 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 (1) year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.

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 fourteen (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

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FAA CONTRACT PROVISION GUIDELINES FOR OBLIGATED SPONSORS AND AIRPORT IMPROVEMENT PROGRAM PROJECTS (As of May 24,2023)

Reference: https://www.faa.gov/airports/aip/procurement/federal_contract_provisions/may_2023 THIS PAGE INTENTIONALLY LEFT BLANK



FAA Airports

Contract Provision Guidelines for Obligated Sponsors and Airport Improvement Program Projects (As of May 24, 2023)

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ACCESS TO RECORDS AND REPORTS (2 CFR § 200.334, 2 CFR § 200.337, FAA Order 5100.38)

CONTRACT CLAUSE

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.

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION to ENSURE EQUAL EMPLOYMENT OPPORTUNITY (41 CFR part 60-4, Executive Order 11246)

SOLICITATION CLAUSE

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 (**Rockingham County**): 4.0%

Goals for female participation in each trade:

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 nonfederally involved construction.

6.9%

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 **State of New Hampshire, Rockingham County, Town of Londonderry**.

This solicitation clause is applicable for all contracts that exceed \$10,000.

BREACH OF CONTRACT TERMS (2 CFR § 200, Appendix II(A))

CONTRACT CLAUSE

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 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 the 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.

This contract clause is applicable for all contracts that exceed \$250,000.

BUY AMERICAN PREFERENCE (Title 49 USC § 50101, Executive Order 14005, Bipartisan Infrastructure Law (Pub. L. No. 117-58), Buy America, Build America (BABA))

SOLICITATION CLAUSE

FAA 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,¹ 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 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.

¹ Per Executive Order 14005 "Made in America Laws" means all statutes, regulations, rules, and Executive Orders relating to federal financial assistance awards or federal procurement, including those that refer to "Buy America" or "Buy American," that require, or provide a preference for, the purchase or acquisition of goods, products, or materials produced in the United States, including iron, steel, and manufactured products offered in the United States.

By reference, the Contractor is directed to additional Buy American guidance in the cited documents, and specifically in the required documentation section, which is contained in the original document entitled:

Federal Aviation Administration, FAA Airports, *Guidelines for Contract Provisions for Obligated Sponsors and Airport Improvement Program Projects, Appendix A Section A4 Buy American Preference,*. Document found at: <u>https://www.faa.gov/airports/aip/procurement/federal_contract_provisions</u>

Certificate of Buy American Compliance – Construction 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 (\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.

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	

Certificate of Buy American Compliance – Equipment/Building Projects

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101, and other Made in America Laws, U.S. statutes, guidance, and FAA policies by selecting one on the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (not both) by inserting a checkmark (\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 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 FAA evidence that documents the source and origin of the steel and manufactured product.
- b) To faithfully comply with providing U.S. domestic product.
- c) To furnish U.S. domestic product for any waiver request that the FAA rejects.
- d) To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

□ 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 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

- a) To 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 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 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 the item components and subcomponents produced in the United States is more that 60 percent of the cost of all components and subcomponents of the "item". The required documentation for a Type 3 waiver is:

- a) Completed Content Percentage Worksheet and Final Assembly Questionnaire including;
- b) Listing of all product components and subcomponents 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 at place of manufacture.
- d) Percentage of non-domestic component and subcomponent cost as compared to total "item" component and subcomponent costs, excluding labor costs associated with final assembly at place of manufacture.

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) Completed Content Percentage Worksheet and Final Assembly Questionnaire from
- b) At minimum two comparable equal bidders and/or offerors;
- 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

GENERAL CIVIL RIGHTS PROVISIONS (49 USC § 47123)

CONTRACT CLAUSES

GENERAL CIVIL RIGHTS PROVISIONS

In all its activities within the scope of its airport program, 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, 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.

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

GENERAL CIVIL RIGHTS – TITLE VI ASSURANCES (49 USC § 47123, FAA Order 1400.11)

TITLE VI SOLICITATION NOTICE:

The **City of Manchester - Department of Aviation**, 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 or offerors that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, select businesses or disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and no businesses will 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.

CONTRACT CLAUSE 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 USC § 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 USC § 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 USC § 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 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-259) (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 U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration's Nondiscrimination statute (49 USC § 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 USC § 1681, et seq).

TITLE VI CONTRACT CLAUSES FOR 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 nondiscrimination 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.

CLEAN AIR AND WATER POLLUTION CONTROL (2 CFR § 200, Appendix II(G), 42 USC § 7401, 33 USC § 1251)

CONTRACT CLAUSE

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 USC § 740-7671q) and the Federal Water Pollution Control Act as amended (33 USC § 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.

This contract clause is applicable for all contracts that exceed \$150,000.

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CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS (2 CFR § 200, Appendix II(E); 2 CFR § 5.5(b); 40 USC § 3702; 40 USC § 3704)

CONSTRUCTION CONTRACT CLAUSE

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.

This contract clause is applicable for all construction projects and equipment projects with on-site installation construction contracts that exceed \$100,000.

COPELAND "ANTI-KICKBACK" ACT (2 CFR § 200, Appendix II(D), 29 CFR Parts 3 and 5)

CONSTRUCTION CONTRACT CLAUSE

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.

This contract clause is applicable for all construction projects and equipment projects with on-site installation construction contracts that exceed \$2000.

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DAVIS-BACON REQUIREMENTS (2 CFR § 200, Appendix II(D); 29 CFR Part 5; 49 USC§ 47112(b); 40 USC §§ 3141-3144, 3146, and 3147)

CONSTRUCTION CONTRACT CLAUSE

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 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;

(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, Employment Standards Administration, U.S. Department of Labor, Washington, DC 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.

(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 that 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 that 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:

<u>https://www.dol.gov/agencies/whd/government-contracts/construction/payroll-certification</u> 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) 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) 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) 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.

(C) 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.

(D) 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, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, 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 Bureau of Apprenticeship and Training 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 Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, 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 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).

(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, 18 USC § 1001.

This contract clause is applicable for all construction projects and equipment projects with on-site installation construction contracts that exceed \$2000.

DEBARMENT AND SUSPENSION (2 CFR Part 180 (Subpart B); 2 CFR part 200, Appendix II(H); 2 CFR part 1200; DOT Order 4200.5; Executive Orders 12549 and 12689)

SOLICITATION PROVISION

CERTIFICATION OF OFFEROR/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: <u>http://www.sam.gov</u>.
- 2. Collecting a certification statement similar to the Certification of Offerer/Bidder Regarding Debarment, above.
- 3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the Federal Aviation Administration 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.

DISADVANTAGED BUSINESS ENTERPRISES (49 CFR part 26)

SOLICITATION PROVISION (FOR CONTRACT GOAL PROJECTS)

The Owner's award of this contract is conditioned upon Bidder or Offeror satisfying the good faith effort requirements of 49 CFR §26.53.

As a condition of bid responsiveness, the Bidder or Offeror <u>must submit the following information</u> with its proposal on the forms provided herein:

- 1) The names and addresses of Disadvantaged Business Enterprise (DBE) firms that will participate in the contract;
- 2) A description of the work that each DBE firm will perform;
- 3) The dollar amount of the participation of each DBE firm listed under (1);
- 4) Written statement from Bidder or Offeror that attests their commitment to use the DBE firm(s) listed under (1) to meet the Owner's project goal
- 5) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment; and
- 6) If Bidder or Offeror cannot meet the advertised project DBE goal, evidence of good faith efforts undertaken by the Bidder or Offeror as described in appendix A to 49 CFR part 26. The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract.

SOLICITATION PROVISION (FOR RACE/GENDER NEUTRAL PROJECTS)

The requirements of 49 CFR part 26 apply to this contract. It is the policy of the **City of Manchester-Department of Aviation** to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. The Owner encourages participation by all firms qualifying under this solicitation regardless of business size or ownership.

PRIME CONTRACT PROVISIONS

Contract Assurance (§ 26.13) -

The Contractor 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 Department of Transportation-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 Owner 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 (§26.29) – The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than **thirty (30) calendar** 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 **thirty (30) calendar** 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 **City of Manchester-Department of Aviation**. This clause applies to both DBE and non-DBE subcontractors.

Termination of DBE Subcontracts (49 CFR § 26.53(f))

The prime contractor must not terminate a DBE subcontractor listed in response to the Solicitation as shown above in this Section (or an approved substitute DBE firm) without prior written consent of **City of Manchester-Department of Aviation**. 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 fir

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 **City of Manchester-Department of Aviation**. Unless **City of Manchester-Department of Aviation** 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 City of Manchester-Department of Aviation may provide such written consent only if the **City of Manchester-Department of Aviation** 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 **City of Manchester-Department of Aviation** 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 **City of Manchester-Department of Aviation**, of its intent to request to terminate and/or substitute, and the reason for the request.

The prime contractor must give the DBE five (5) calendar days to respond to the prime contractor's notice and advise the **City of Manchester-Department of Aviation** and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the **City of Manchester-Department of Aviation** should not approve the prime contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the **City of Manchester-Department of Aviation** may provide a response period shorter than five (5) calendar days.

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

DISTRACTED DRIVING (Executive Order 13513, DOT Order 3902.10)

TEXTING WHEN DRIVING CONTRACT CLAUSE

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 Federal Aviation Administration 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 sub-tier contracts exceeding \$3,500 that involve driving a motor vehicle in performance of work activities associated with the project.

This contract clause is applicable for all contracts that exceed \$10,000.

PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT (2 CFR § 200, Appendix II(K); 2 CFR 200.216)

CONTRACT CERTIFICATION CLAUSE

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)].

EQUAL EMPLOYMENT OPPORTUNITY (2 CFR 200, Appendix II(C), 41 CFR § 60-1.4, 41 CFR § 60-4.3, Executive Order 11246)

EQUAL OPPORTUNITY CONTRACT CLAUSE

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 identify, 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 consideration 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, 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 labor union or workers' representative 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 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 such 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 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 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 may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance: *Provided*, however, that in the event the 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 part 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 must 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 areas 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 nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must 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 therefor, 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 woman 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 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 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 work force.

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 nonsegregated except that separate or singleuser 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 group 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 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, the Contractor may be in violation of the Executive Order if a 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 part 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 numbers, 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).

This EEO contract clauses and specifications are applicable for all construction projects and equipment projects with on-site installation construction contracts that exceed \$10,000.

FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE) (29 USC § 201, et seq; 2 CFR 200.430)

SOLICITATION CLAUSE

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.

LOBBYING AND INFLUENCING FEDERAL EMPLOYEES (31 USC § 1352 – Byrd Anti-Lobbying Amendment; 2 CFR part 200, Appendix II(i); 49 CFR part 20, Appendix A)

SOLICITATION CERTIFICATION REGARDING LOBBYING

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.

This solicitation clause is applicable for all construction projects and equipment projects with on-site installation construction contracts that exceed \$100,000.

PROHIBITION OF SEGREGATED FACILITIES (2 CFR Part 200, Appendix II(C); 41 CFR § 60-1)

PROHIBITION OF SEGREGATED FACILITIES CONTRACT CLAUSE

(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 Employment 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, 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 Employment Opportunity clause of this contract.

This contract clause is applicable for all construction projects and equipment projects with on-site installation construction contracts.

OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (29 CFR Part 1910)

CONTRACT CLAUSE

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. The *Employer* 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.

PROCUREMENT OF RECOVERED MATERIALS (2 CFR § 200.323; 2 CFR Part 200, Appendix II(J); 40 CFR Part 247; 42 USC § 6901, et seq (Resource Conservation and Recovery Act (RCRA)))

CONTRACT CLAUSE

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 products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

- 1) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or
- 2) 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 <u>www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products</u>.

Section 6002[©] establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

- 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.

This contract clause is applicable for all construction projects and equipment projects contracts that exceed \$10,000.

SEISMIC SAFETY (49 CFR Part 41)

CONTRACT CLAUSE (For Building Related Construction Projects, including Electrical Vaults & Additions)

The Contractor agrees to ensure that all work performed under this contract, including work performed by subcontractors, conforms to a building code standard that provides a level of seismic safety substantially equivalent to standards established by the National Earthquake Hazards Reduction Program (NEHRP). Local building codes that model their code after the current version of the International Building Code (IBC) meet the NEHRP equivalency level for seismic safety.

TAX DELINQUENCY AND FELONY CONVICTIONS (Sections 8113 of the Consolidated Appropriations Act 2022; DOT Order 4200.6)

CERTIFICATION CLAUSE

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

Certifications

- 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.
- The applicant represents that it is (✓) is not (✓) 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.

TERMINATION OF CONTRACT (2 CFR Part 200 Appendix II(B); FAA Advisory Circular 150/5370-10 Sections 80-90)

CONTRACT CLAUSES

TERMINATION FOR CONVENIENCE (CONSTRUCTION & EQUIPMENT CONTRACTS)

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.
- 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;
- 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 CAUSE (CONSTRUCTION) (FAA Advisory Circular 150/5370-10, Section 80-09)

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

TERMINATION FOR CAUSE (EQUIPMENT)

The Owner may, by written notice of default to the Contractor, terminate all or part of this Contract if the Contractor:

- 1. Fails to commence the Work under the Contract within the time specified in the Notice- to-Proceed;
- 2. Fails to make adequate progress as to endanger performance of this Contract in accordance with its terms;
- 3. Fails to make delivery of the equipment within the time specified in the Contract, including any Owner approved extensions;
- 4. Fails to comply with material provisions of the Contract;
- 5. Submits certifications made under the Contract and as part of their proposal that include false or fraudulent statements; or
- 6. Becomes insolvent or declares bankruptcy.

If one or more of the stated events occur, the Owner will give notice in writing to the Contractor and Surety of its intent to terminate the contract for cause. At the Owner's discretion, the notice may allow the Contractor and Surety an opportunity to cure the breach or default.

If within ten (10) days of the receipt of notice, the Contractor or Surety fails to remedy the breach or default to the satisfaction of the Owner, the Owner has authority to acquire equipment by other procurement action. The Contractor will be liable to the Owner for any excess costs the Owner incurs for acquiring such similar equipment.

Payment for completed equipment delivered to and accepted by the Owner shall be at the Contract price. The Owner may withhold from amounts otherwise due the Contractor for such completed equipment, such sum as the Owner determines to be necessary to protect the Owner against loss because of Contractor default.

Owner will not terminate the Contractor's right to proceed with the Work under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such acceptable causes include: acts of God, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, and severe weather events that substantially exceed normal conditions for the location.

If, after termination of the Contractor's right to proceed, the Owner determines that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the Owner issued the termination for the convenience the Owner.

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

These contract termination clauses are applicable for all construction projects and equipment projects contracts that exceed \$10,000.

TRADE RESTRICTION CERTIFICATION (49 USC § 50104; 49 CFR Part 30)

TRADE RESTRICTION CERTIFICATION SOLICITATION CLAUSE

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

- 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);
- 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 Section 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 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.

VETERAN'S PREFERENCE (49 USC § 47112(c))

CONTRACT CLAUSE

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.

DOMESTIC PREFERENCE FOR PROCUREMENTS (2 CFR § 200.322; 2 CFR Part 200, Appendix II(L))

SOLICITATION & CONTRACT CERTIFICATION REGARDING 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, 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.

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CONTRACT REFERENCE DOCUMENTS

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CONTRACT REFERENCE DOCUMENT I EQUAL EMPLOYMENT OPPORTUNITY

41 CFR 60-4.2 & 4.3

§60-4.2 Solicitations.

(a) All Federal contracting officers and all applicants shall include the notice set forth in paragraph (d) of this section and the Standard Federal Equal Employment Opportunity Construction Contract Specifications set forth in §60-4.3 of this part in all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts to be performed in geographical areas designated by the Director pursuant to §60-4.6 of the part. Administering agencies shall require the inclusion of the notice set forth in paragraph (d) of this section and the specifications set forth in §60-4.3 of this part as a condition of any grant, contract, subcontract, loan, insurance or guarantee involving federally assisted construction covered by this part 60-4.

(b) All nonconstruction contractors covered by Executive Order 11246 and the implementing regulations shall include the notice in paragraph (d) of this section in all construction agreements which are necessary in whole or in part to the performance of the covered nonconstruction contract.

(c) Contracting officers, applicants and nonconstruction contractors shall given written notice to the Director within 10 working days of award of a contract subject to these provisions. The notification shall include the name, address and telephone number of the contractor; employer identification number; dollar amount of the contract, estimated starting and completion dates of the contract; the contract number; and geographical area in which the contract is to be performed. CFR 60-4.6

(d) The following notice shall be included in, and shall be a part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to 60-4.6 of this part (see 41 CFR 60-4.2(a)):

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment 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:

Time- tables	Goals for minority participation for each trade	Goals for female participation in each trade
Current Project	4.0% for Rockingham County	6.9%

These goals are applicable to all 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 nonfederally 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 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 (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

[43 FR 49254, Oct. 20, 1978; 43 FR 51401, Nov. 3, 1978, as amended at 45 FR 65977, Oct. 3, 1980]

§60-4.3 Equal opportunity clauses.

(a) The equal opportunity clause published at 41 CFR 60-1.4(a) of this chapter is required to be included in, and is part of, all nonexempt Federal contracts and subcontracts, including construction contracts and subcontracts. The equal opportunity clause published at 41 CFR 60-1.4(b) is required to be included in, and is a part of, all nonexempt federally assisted construction contracts and subcontracts. In addition to the clauses described above, all Federal contracting officers, all applicants and all nonconstruction contractors, as applicable, shall include the specifications set forth in this section in all Federal and federally assisted construction contracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to \$60-4.6 of this part and in construction subcontracts in excess of \$10,000 necessary in whole or in part to the performance of nonconstruction Federal contracts and subcontracts covered under the Executive order.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

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, United States 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:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

(iii) 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

(iv) 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 must 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 Subcontractor's 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 7 a through p 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 geographical areas 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 nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must 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 on-site 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 therefor, 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 woman 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 newpaper, 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 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 work force.

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 nonsegregated except that separate or singleuser 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 supervisors' 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 p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p 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, the Contractor may be in violation of the Executive Order if a 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 numbers, 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).

(b) The notice set forth in 41 CFR 60-4.2 and the specifications set forth in 41 CFR 60-4.3 replace the New Form for Federal Equal Employment Opportunity Bid Conditions for Federal and Federally Assisted Construction published at 41 FR 32482 and commonly known as the Model Federal EEO Bid Conditions, and the New Form shall not be used after the regulations in 41 CFR part 60-4 become effective.

[43 FR 49254, Oct. 20, 1978; 43 FR 51401, Nov. 3, 1978, as amended at 45 FR 65978, Oct. 3, 1980; 79 FR 72995, Dec. 9, 2014]

CONTRACT REFERENCE DOCUMENT II DISADVANTAGED BUSINESS ENTERPRISE <u>49 CFR Part 26</u>

Title 49: Transportation

PART 26—PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES IN DEPARTMENT OF TRANSPORTATION FINANCIAL ASSISTANCE PROGRAMS

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AUTHORITY: 23 U.S.C. 324; 42 U.S.C. 2000d, *et seq.*; Sec. 1101(b), Pub. L. 114-94, 129 Stat. 1312, 1324; 49 U.S.C. 47113, 47123; Sec. 150, Pub. L. 115-254, 132 Stat. 3215.

SOURCE: 64 FR 5126, Feb. 2, 1999, unless otherwise noted.

Subpart A—General

§26.1 What are the objectives of this part?

This part seeks to achieve several objectives:

(a) To ensure nondiscrimination in the award and administration of DOT-assisted contracts in the Department's highway, transit, and airport financial assistance programs;

(b) To create a level playing field on which DBEs can compete fairly for DOT-assisted contracts;

(c) To ensure that the Department's DBE program is narrowly tailored in accordance with applicable law;

(d) To ensure that only firms that fully meet this part's eligibility standards are permitted to participate as DBEs;

(e) To help remove barriers to the participation of DBEs in DOT-assisted contracts;

(f) To promote the use of DBEs in all types of federally-assisted contracts and procurement activities conducted by recipients.

(g) To assist the development of firms that can compete successfully in the marketplace outside the DBE program; and

(h) To provide appropriate flexibility to recipients of Federal financial assistance in establishing and providing opportunities for DBEs.

[64 FR 5126, Feb. 2, 1999, as amended at 79 FR 59592, Oct. 2, 2014]

§26.3 To whom does this part apply?

(a) If you are a recipient of any of the following types of funds, this part applies to you:

(1) Federal-aid highway funds authorized under Titles I (other than Part B) and V of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Pub. L. 102-240, 105 Stat. 1914, or Titles I, III, and V of the Transportation Equity Act for the 21st Century (TEA-21), Pub. L. 105-178, 112 Stat. 107. Titles I, III, and V of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub. L. 109-59, 119 Stat. 1144; and Divisions A and B of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Pub. L. 112-141, 126 Stat. 405.

(2) Federal transit funds authorized by Titles I, III, V and VI of ISTEA, Pub. L. 102-240 or by Federal transit laws in Title 49, U.S. Code, or Titles I, III, and V of the TEA-21, Pub. L. 105-178. Titles I, III, and V of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub. L. 109-59, 119 Stat. 1144; and Divisions A and B of the Moving Ahead for Progress in the 21st Century Act (MAP-21), Pub. L. 112-141, 126 Stat. 405.

(3) Airport funds authorized by 49 U.S.C. 47101, et seq.

(b) [Reserved]

(c) If you are letting a contract, and that contract is to be performed entirely outside the United States, its territories and possessions, Puerto Rico, Guam, or the Northern Marianas Islands, this part does not apply to the contract.

(d) If you are letting a contract in which DOT financial assistance does not participate, this part does not apply to the contract.

[64 FR 5126, Feb. 2, 1999, as amended at 79 FR 59592, Oct. 2, 2014]

§26.5 What do the terms used in this part mean?

Affiliation has the same meaning the term has in the Small Business Administration (SBA) regulations, 13 CFR part 121.

(1) Except as otherwise provided in 13 CFR part 121, concerns are affiliates of each other when, either directly or indirectly:

(i) One concern controls or has the power to control the other; or

(ii) A third party or parties controls or has the power to control both; or

(iii) An identity of interest between or among parties exists such that affiliation may be found.

(2) In determining whether affiliation exists, it is necessary to consider all appropriate factors, including common ownership, common management, and contractual relationships. Affiliates must be considered together in determining whether a concern meets small business size criteria and the statutory cap on the participation of firms in the DBE program.

Alaska Native means a citizen of the United States who is a person of one-fourth degree or more Alaskan Indian (including Tsimshian Indians not enrolled in the Metlaktla Indian Community), Eskimo, or Aleut blood, or a combination of those bloodlines. The term includes, in the absence of proof of a minimum blood quantum, any citizen whom a Native village or Native group regards as an Alaska Native if their father or mother is regarded as an Alaska Native.

Alaska Native Corporation (ANC) means any Regional Corporation, Village Corporation, Urban Corporation, or Group Corporation organized under the laws of the State of Alaska in accordance with the Alaska Native Claims Settlement Act, as amended (43 U.S.C. 1601, *et seq.*).

Assets mean all the property of a person available for paying debts or for distribution, including one's respective share of jointly held assets. This includes, but is not limited to, cash on hand and in banks, savings accounts, IRA or other retirement accounts, accounts receivable, life insurance, stocks and bonds, real estate, and personal property.

Business, business concern or business enterprise means an entity organized for profit with a place of business located in the United States, and which operates primarily within the United States or which makes a significant contribution to the United States economy through payment of taxes or use of American products, materials, or labor.

Compliance means that a recipient has correctly implemented the requirements of this part.

Contingent Liability means a liability that depends on the occurrence of a future and uncertain event. This includes, but is not limited to, guaranty for debts owed by the applicant concern, legal claims and judgments, and provisions for federal income tax.

Contract means a legally binding relationship obligating a seller to furnish supplies or services (including, but not limited to, construction and professional services) and the buyer to pay for them. For purposes of this part, a lease is considered to be a contract.

Contractor means one who participates, through a contract or subcontract (at any tier), in a DOT-assisted highway, transit, or airport program.

Days mean calendar days. In computing any period of time described in this part, the day from which the period begins to run is not counted, and when the last day of the period is a Saturday, Sunday, or Federal holiday, the period extends to the next day that is not a Saturday, Sunday, or Federal holiday. Similarly, in circumstances where the recipient's offices are closed for all or part of the last day, the period extends to the next day on which the agency is open.

Department or *DOT* means the U.S. Department of Transportation, including the Office of the Secretary, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Federal Aviation Administration (FAA).

Disadvantaged business enterprise or DBE means a for-profit small business concern-

(1) That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and

(2) Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

DOT-assisted contract means any contract between a recipient and a contractor (at any tier) funded in whole or in part with DOT financial assistance, including letters of credit or loan guarantees, except a contract solely for the purchase of land.

Good faith efforts means efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.

Home state means the state in which a DBE firm or applicant for DBE certification maintains its principal place of business.

Immediate family member means father, mother, husband, wife, son, daughter, brother, sister, grandfather, grandmother, father-in-law, mother-in-law, sister-in-law, brother-in-law, and domestic partner and civil unions recognized under State law.

Indian tribe means any Indian tribe, band, nation, or other organized group or community of Indians, including any ANC, which is recognized as eligible for the special programs and services provided by the

United States to Indians because of their status as Indians, or is recognized as such by the State in which the tribe, band, nation, group, or community resides. See definition of "tribally-owned concern" in this section.

Joint venture means an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

Liabilities mean financial or pecuniary obligations. This includes, but is not limited to, accounts payable, notes payable to bank or others, installment accounts, mortgages on real estate, and unpaid taxes.

Native Hawaiian means any individual whose ancestors were natives, prior to 1778, of the area which now comprises the State of Hawaii.

Native Hawaiian Organization means any community service organization serving Native Hawaiians in the State of Hawaii which is a not-for-profit organization chartered by the State of Hawaii, is controlled by Native Hawaiians, and whose business activities will principally benefit such Native Hawaiians.

Noncompliance means that a recipient has not correctly implemented the requirements of this part.

Operating Administration or *OA* means any of the following parts of DOT: the Federal Aviation Administration (FAA), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA). The "Administrator" of an operating administration includes his or her designees.

Personal net worth means the net value of the assets of an individual remaining after total liabilities are deducted. An individual's personal net worth does not include: The individual's ownership interest in an applicant or participating DBE firm; or the individual's equity in his or her primary place of residence. An individual's personal net worth includes only his or her own share of assets held jointly or as community property with the individual's spouse.

Primary industry classification means the most current North American Industry Classification System (NAICS) designation which best describes the primary business of a firm. The NAICS is described in the North American Industry Classification Manual—United States, which is available on the Internet at the U.S. Census Bureau Web site: *http://www.census.gov/eos/www/naics/*.

Primary recipient means a recipient which receives DOT financial assistance and passes some or all of it on to another recipient.

Principal place of business means the business location where the individuals who manage the firm's day-to-day operations spend most working hours. If the offices from which management is directed and where the business records are kept are in different locations, the recipient will determine the principal place of business.

Program means any undertaking on a recipient's part to use DOT financial assistance, authorized by the laws to which this part applies.

Race-conscious measure or program is one that is focused specifically on assisting only DBEs,

including women-owned DBEs.

Race-neutral measure or program is one that is, or can be, used to assist all small businesses. For the purposes of this part, *race-neutral* includes gender-neutrality.

Recipient is any entity, public or private, to which DOT financial assistance is extended, whether directly or through another recipient, through the programs of the FAA, FHWA, or FTA, or who has applied for such assistance.

Secretary means the Secretary of Transportation or his/her designee.

Set-aside means a contracting practice restricting eligibility for the competitive award of a contract solely to DBE firms.

Small Business Administration or SBA means the United States Small Business Administration.

SBA certified firm refers to firms that have a current, valid certification from or recognized by the SBA under the 8(a) BD or SDB programs.

Small business concern means, with respect to firms seeking to participate as DBEs in DOT-assisted contracts, a small business concern as defined pursuant to section 3 of the Small Business Act and Small Business Administration regulations implementing it (13 CFR part 121) that also does not exceed the cap on average annual gross receipts specified in §26.65(b).

Socially and economically disadvantaged individual means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who has been subjected to racial or ethnic prejudice or cultural bias within American society because of his or her identity as a members of groups and without regard to his or her individual qualities. The social disadvantage must stem from circumstances beyond the individual's control.

(1) Any individual who a recipient finds to be a socially and economically disadvantaged individual on a case-by-case basis. An individual must demonstrate that he or she has held himself or herself out, as a member of a designated group if you require it.

(2) Any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:

(i) "Black Americans," which includes persons having origins in any of the Black racial groups of Africa;

(ii) "Hispanic Americans," which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;

(iii) "Native Americans," which includes persons who are enrolled members of a federally or State recognized Indian tribe, Alaska Natives, or Native Hawaiians;

(iv) "Asian-Pacific Americans," which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau),

Republic of the Northern Marianas Islands, Samoa, Macao, Fiji, Tonga, Kirbati, Tuvalu, Nauru, Federated States of Micronesia, or Hong Kong;

(v) "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;

(vi) Women;

(vii) Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

(3) Being born in a particular country does not, standing alone, mean that a person is necessarily a member of one of the groups listed in this definition.

Spouse means a married person, including a person in a domestic partnership or a civil union recognized under State law.

Transit vehicle manufacturer means any manufacturer whose primary business purpose is to manufacture vehicles specifically built for public mass transportation. Such vehicles include, but are not limited to: Buses, rail cars, trolleys, ferries, and vehicles manufactured specifically for paratransit purposes. Producers of vehicles that receive post-production alterations or retrofitting to be used for public transportation purposes (e.g., so-called cutaway vehicles, vans customized for service to people with disabilities) are also considered transit vehicle manufacturers. Businesses that manufacture, mass-produce, or distribute vehicles solely for personal use and for sale "off the lot" are not considered transit vehicle manufacturers.

Tribally-owned concern means any concern at least 51 percent owned by an Indian tribe as defined in this section.

You refers to a recipient, unless a statement in the text of this part or the context requires otherwise (i.e., 'You must do XYZ' means that recipients must do XYZ).

[64 FR 5126, Feb. 2, 1999, as amended at 64 FR 34570, June 28, 1999; 68 FR 35553, June 16, 2003; 76 FR 5096, Jan. 28, 2011; 79 FR 59592, Oct. 2, 2014]

§26.7 What discriminatory actions are forbidden?

(a) You must never exclude any person from participation in, deny any person the benefits of, or otherwise discriminate against anyone in connection with the award and performance of any contract covered by this part on the basis of race, color, sex, or national origin.

(b) In administering your DBE program, you must not, directly or through contractual or other arrangements, use criteria or methods of administration that have the effect of defeating or substantially impairing accomplishment of the objectives of the program with respect to individuals of a particular race, color, sex, or national origin.

§26.9 How does the Department issue guidance and interpretations under this part?

(a) Only guidance and interpretations (including interpretations set forth in certification appeal

decisions) consistent with this part 26 and issued after March 4, 1999 express the official positions and views of the Department of Transportation or any of its operating administrations.

(b) The Secretary of Transportation, Office of the Secretary of Transportation, FHWA, FTA, and FAA may issue written interpretations of or written guidance concerning this part. Written interpretations and guidance are valid, and express the official positions and views of the Department of Transportation or any of its operating administrations, only if they are issued over the signature of the Secretary of Transportation or if they contain the following statement:

The General Counsel of the Department of Transportation has reviewed this document and approved it as consistent with the language and intent of 49 CFR part 26.

[72 FR 15617, Apr. 2, 2007]

§26.11 What records do recipients keep and report?

(a) You must transmit the Uniform Report of DBE Awards or Commitments and Payments, found in Appendix B to this part, at the intervals stated on the form.

(b) You must continue to provide data about your DBE program to the Department as directed by DOT operating administrations.

(c) You must create and maintain a bidders list.

(1) The purpose of this list is to provide you as accurate data as possible about the universe of DBE and non-DBE contractors and subcontractors who seek to work on your Federally-assisted contracts for use in helping you set your overall goals.

(2) You must obtain the following information about DBE and non-DBE contractors and subcontractors who seek to work on your Federally-assisted contracts:

(i) Firm name;

(ii) Firm address;

(iii) Firm's status as a DBE or non-DBE;

(iv) Age of the firm; and

(v) The annual gross receipts of the firm. You may obtain this information by asking each firm to indicate into what gross receipts bracket they fit (*e.g.*, less than \$500,000; \$500,000-\$1 million; \$1-2 million; \$2-5 million; etc.) rather than requesting an exact figure from the firm.

(3) You may acquire the information for your bidders list in a variety of ways. For example, you can collect the data from all bidders, before or after the bid due date. You can conduct a survey that will result in statistically sound estimate of the universe of DBE and non-DBE contractors and subcontractors who seek to work on your Federally-assisted contracts. You may combine different data collection approaches (*e.g.*, collect name and address information from all bidders, while conducting a survey with respect to age and gross receipts information).

(d) You must maintain records documenting a firm's compliance with the requirements of this part. At a minimum, you must keep a complete application package for each certified firm and all affidavits of no-change, change notices, and on-site reviews. These records must be retained in accordance with applicable record retention requirements for the recipient's financial assistance agreement. Other certification or compliance related records must be retained for a minimum of three (3) years unless otherwise provided by applicable record retention requirements for the recipient's financial assistance agreement, whichever is longer.

(e) The State department of transportation in each UCP established pursuant to §26.81 of this part must report to the Department of Transportation's Office of Civil Rights, by January 1, 2015, and each year thereafter, the percentage and location in the State of certified DBE firms in the UCP Directory controlled by the following:

- (1) Women;
- (2) Socially and economically disadvantaged individuals (other than women); and

(3) Individuals who are women and are otherwise socially and economically disadvantaged individuals.

[64 FR 5126, Feb. 2, 1999, as amended at 65 FR 68951, Nov. 15, 2000; 76 FR 5096, Jan. 28, 2011; 79 FR 59593, Oct. 2, 2014]

§26.13 What assurances must recipients and contractors make?

(a) Each financial assistance agreement you sign with a DOT operating administration (or a primary recipient) must include the following assurance: The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements 49 CFR part 26. The recipient shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under 49 CFR part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 et seq.).

(b) Each contract you sign with a contractor (and each subcontract the prime contractor signs with a subcontractor) must include the following assurance: The contractor, sub recipient 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.

[79 FR 59593, Oct. 2, 2014]

§26.15 How can recipients apply for exemptions or waivers?

(a) You can apply for an exemption from any provision of this part. To apply, you must request the exemption in writing from the Office of the Secretary of Transportation, FHWA, FTA, or FAA. The Secretary will grant the request only if it documents special or exceptional circumstances, not likely to be generally applicable, and not contemplated in connection with the rulemaking that established this part, that make your compliance with a specific provision of this part impractical. You must agree to take any steps that the Department specifies to comply with the intent of the provision from which an exemption is granted. The Secretary will issue a written response to all exemption requests.

(b) You can apply for a waiver of any provision of Subpart B or C of this part including, but not limited to, any provisions regarding administrative requirements, overall goals, contract goals or good faith efforts. Program waivers are for the purpose of authorizing you to operate a DBE program that achieves the objectives of this part by means that may differ from one or more of the requirements of Subpart B or C of this part. To receive a program waiver, you must follow these procedures:

(1) You must apply through the concerned operating administration. The application must include a specific program proposal and address how you will meet the criteria of paragraph (b)(2) of this section. Before submitting your application, you must have had public participation in developing your proposal, including consultation with the DBE community and at least one public hearing. Your application must include a summary of the public participation process and the information gathered through it.

(2) Your application must show that—

(i) There is a reasonable basis to conclude that you could achieve a level of DBE participation consistent with the objectives of this part using different or innovative means other than those that are provided in subpart B or C of this part;

(ii) Conditions in your jurisdiction are appropriate for implementing the proposal;

(iii) Your proposal would prevent discrimination against any individual or group in access to contracting opportunities or other benefits of the program; and

(iv) Your proposal is consistent with applicable law and program requirements of the concerned operating administration's financial assistance program.

(3) The Secretary has the authority to approve your application. If the Secretary grants your application, you may administer your DBE program as provided in your proposal, subject to the following conditions:

(i) DBE eligibility is determined as provided in subparts D and E of this part, and DBE participation is counted as provided in §26.49;

(ii) Your level of DBE participation continues to be consistent with the objectives of this part;

(iii) There is a reasonable limitation on the duration of your modified program; and

(iv) Any other conditions the Secretary makes on the grant of the waiver.

(4) The Secretary may end a program waiver at any time and require you to comply with this part's provisions. The Secretary may also extend the waiver, if he or she determines that all requirements of paragraphs (b)(2) and (3) of this section continue to be met. Any such extension shall be for no longer than period originally set for the duration of the program.

Subpart B—Administrative Requirements for DBE Programs for Federally-Assisted Contracting

§26.21 Who must have a DBE program?

(a) If you are in one of these categories and let DOT-assisted contracts, you must have a DBE program meeting the requirements of this part:

(1) All FHWA primary recipients receiving funds authorized by a statute to which this part applies;

(2) FTA recipients receiving planning, capital and/or operating assistance who will award prime contracts (excluding transit vehicle purchases) the cumulative total value of which exceeds \$250,000 in FTA funds in a Federal fiscal year;

(3) FAA recipients receiving grants for airport planning or development who will award prime contracts the cumulative total value of which exceeds \$250,000 in FAA funds in a Federal fiscal year.

(b)(1) You must submit a DBE program conforming to this part by August 31, 1999 to the concerned operating administration (OA). Once the OA has approved your program, the approval counts for all of your DOT-assisted programs (except that goals are reviewed by the particular operating administration that provides funding for your DOT-assisted contracts).

(2) You do not have to submit regular updates of your DBE programs, as long as you remain in compliance. However, you must submit significant changes in the program for approval.

(c) You are not eligible to receive DOT financial assistance unless DOT has approved your DBE program and you are in compliance with it and this part. You must continue to carry out your program until all funds from DOT financial assistance have been expended.

[64 FR 5126, Feb. 2, 1999, as amended at 64 FR 34570, June 28, 1999; 65 FR 68951, Nov. 15, 2000; 79 FR 59593, Oct. 2, 2014]

§26.23 What is the requirement for a policy statement?

You must issue a signed and dated policy statement that expresses your commitment to your DBE program, states its objectives, and outlines responsibilities for its implementation. You must circulate the statement throughout your organization and to the DBE and non-DBE business communities that perform work on your DOT-assisted contracts.

§26.25 What is the requirement for a liaison officer?

You must have a DBE liaison officer, who shall have direct, independent access to your Chief Executive Officer concerning DBE program matters. The liaison officer shall be responsible for implementing all aspects of your DBE program. You must also have adequate staff to administer the program in compliance with this part.

§26.27 What efforts must recipients make concerning DBE financial institutions?

You must thoroughly investigate the full extent of services offered by financial institutions owned and controlled by socially and economically disadvantaged individuals in your community and make reasonable efforts to use these institutions. You must also encourage prime contractors to use such institutions.

§26.29 What prompt payment mechanisms must recipients have?

(a) You must establish, as part of your DBE program, a contract clause to require prime contractors to pay subcontractors for satisfactory performance of their contracts no later than 30 days from receipt of each payment you make to the prime contractor.

(b) You must ensure prompt and full payment of retainage from the prime contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed. You must use one of the following methods to comply with this requirement:

(1) You may decline to hold retainage from prime contractors and prohibit prime contractors from holding retainage from subcontractors.

(2) You may decline to hold retainage from prime contractors and require a contract clause obligating prime contractors to make prompt and full payment of any retainage kept by prime contractor to the subcontractor within 30 days after the subcontractor's work is satisfactorily completed.

(3) You may hold retainage from prime contractors and provide for prompt and regular incremental acceptances of portions of the prime contract, pay retainage to prime contractors based on these acceptances, and require a contract clause obligating the prime contractor to pay all retainage owed to the subcontractor for satisfactory completion of the accepted work within 30 days after your payment to the prime contractor.

(c) For purposes of this section, 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 recipient. When a recipient 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.

(d) Your DBE program must provide appropriate means to enforce the requirements of this section. These means may include appropriate penalties for failure to comply, the terms and conditions of which you set. Your program may also provide that any delay or postponement of payment among the parties may take place only for good cause, with your prior written approval.

(e) You may also establish, as part of your DBE program, any of the following additional mechanisms to ensure prompt payment:

(1) A contract clause that requires prime contractors to include in their subcontracts language providing that prime contractors and subcontractors will use appropriate alternative dispute resolution mechanisms to resolve payment disputes. You may specify the nature of such mechanisms.

(2) A contract clause providing that the prime contractor will not be reimbursed for work performed by subcontractors unless and until the prime contractor ensures that the subcontractors are promptly paid for the work they have performed.

(3) Other mechanisms, consistent with this part and applicable state and local law, to ensure that DBEs and other contractors are fully and promptly paid.

[68 FR 35553, June 16, 2003]

§26.31 What information must you include in your DBE directory?

(a) In the directory required under §26.81(g) of this Part, you must list all firms eligible to participate as DBEs in your program. In the listing for each firm, you must include its address, phone number, and the types of work the firm has been certified to perform as a DBE.

(b) You must list each type of work for which a firm is eligible to be certified by using the most specific NAICS code available to describe each type of work. You must make any changes to your current directory entries necessary to meet the requirement of this paragraph (a) by August 26, 2011.

[76 FR 5096, Jan. 28, 2011]

§26.33 What steps must a recipient take to address overconcentration of DBEs in certain types of work?

(a) If you determine that DBE firms are so overconcentrated in a certain type of work as to unduly burden the opportunity of non-DBE firms to participate in this type of work, you must devise appropriate measures to address this overconcentration.

(b) These measures may include the use of incentives, technical assistance, business development programs, mentor-protégé programs, and other appropriate measures designed to assist DBEs in performing work outside of the specific field in which you have determined that non-DBEs are unduly burdened. You may also consider varying your use of contract goals, to the extent consistent with §26.51, to unsure that non-DBEs are not unfairly prevented from competing for subcontracts.

(c) You must obtain the approval of the concerned DOT operating administration for your determination of overconcentration and the measures you devise to address it. Once approved, the measures become part of your DBE program.

§26.35 What role do business development and mentor-protégé programs have in the DBE program?

(a) You may or, if an operating administration directs you to, you must establish a DBE business development program (BDP) to assist firms in gaining the ability to compete successfully in the marketplace outside the DBE program. You may require a DBE firm, as a condition of receiving assistance through the BDP, to agree to terminate its participation in the DBE program after a certain time has passed or certain

objectives have been reached. See Appendix C of this part for guidance on administering BDP programs.

(b) As part of a BDP or separately, you may establish a "mentor-protégé" program, in which another DBE or non-DBE firm is the principal source of business development assistance to a DBE firm.

(1) Only firms you have certified as DBEs before they are proposed for participation in a mentorprotégé program are eligible to participate in the mentor-protégé program.

(2) During the course of the mentor-protégé relationship, you must:

(i) Not award DBE credit to a non-DBE mentor firm for using its own protégé firm for more than one half of its goal on any contract let by the recipient; and

(ii) Not award DBE credit to a non-DBE mentor firm for using its own protégé firm for more than every other contract performed by the protégé firm.

(3) For purposes of making determinations of business size under this part, you must not treat protégé firms as affiliates of mentor firms, when both firms are participating under an approved mentor-protégé program. See Appendix D of this part for guidance concerning the operation of mentor-protégé programs.

(c) Your BDPs and mentor-protégé programs must be approved by the concerned operating administration before you implement them. Once approved, they become part of your DBE program.

§26.37 What are a recipient's responsibilities for monitoring the performance of other program participants?

(a) You must implement appropriate mechanisms to ensure compliance with the part's requirements by all program participants (e.g., applying legal and contract remedies available under Federal, state and local law). You must set forth these mechanisms in your DBE program.

(b) Your DBE program must also include a monitoring and enforcement mechanism to ensure that work committed to DBEs at contract award or subsequently (*e.g.*, as the result of modification to the contract) is actually performed by the DBEs to which the work was committed. This mechanism must include a written certification that you have reviewed contracting records and monitored work sites in your state for this purpose. The monitoring to which this paragraph refers may be conducted in conjunction with monitoring of contract performance for other purposes (*e.g.*, close-out reviews for a contract).

(c) This mechanism must provide for a running tally of actual DBE attainments (e.g., payments actually made to DBE firms), including a means of comparing these attainments to commitments. In your reports of DBE participation to the Department, you must display both commitments and attainments.

[64 FR 5126, Feb. 2, 1999, as amended at 65 FR 68951, Nov. 15, 2000; 68 FR 35554, June 16, 2003; 76 FR 5097, Jan. 28, 2011]

§26.39 Fostering small business participation.

(a) Your DBE program must include an element to structure contracting requirements to facilitate competition by small business concerns, taking all reasonable steps to eliminate obstacles to their participation, including unnecessary and unjustified bundling of contract requirements that may preclude

small business participation in procurements as prime contractors or subcontractors.

(b) This element must be submitted to the appropriate DOT operating administration for approval as a part of your DBE program by February 28, 2012. As part of this program element you may include, but are not limited to, the following strategies:

(1) Establishing a race-neutral small business set-aside for prime contracts under a stated amount (e.g., \$1 million).

(2) In multi-year design-build contracts or other large contracts (*e.g.*, for "megaprojects") requiring bidders on the prime contract to specify elements of the contract or specific subcontracts that are of a size that small businesses, including DBEs, can reasonably perform.

(3) On prime contracts not having DBE contract goals, requiring the prime contractor to provide subcontracting opportunities of a size that small businesses, including DBEs, can reasonably perform, rather than self-performing all the work involved.

(4) Identifying alternative acquisition strategies and structuring procurements to facilitate the ability of consortia or joint ventures consisting of small businesses, including DBEs, to compete for and perform prime contracts.

(5) To meet the portion of your overall goal you project to meet through race-neutral measures, ensuring that a reasonable number of prime contracts are of a size that small businesses, including DBEs, can reasonably perform.

(c) You must actively implement your program elements to foster small business participation. Doing so is a requirement of good faith implementation of your DBE program.

[76 FR 5097, Jan. 28, 2011]

Subpart C—Goals, Good Faith Efforts, and Counting

§26.41 What is the role of the statutory 10 percent goal in this program?

(a) The statutes authorizing this program provide that, except to the extent the Secretary determines otherwise, not less than 10 percent of the authorized funds are to be expended with DBEs.

(b) This 10 percent goal is an aspirational goal at the national level, which the Department uses as a tool in evaluating and monitoring DBEs' opportunities to participate in DOT-assisted contracts.

(c) The national 10 percent goal does not authorize or require recipients to set overall or contract goals at the 10 percent level, or any other particular level, or to take any special administrative steps if their goals are above or below 10 percent.

§26.43 Can recipients use set-asides or quotas as part of this program?

- (a) You are not permitted to use quotas for DBEs on DOT-assisted contracts subject to this part.
- (b) You may not set-aside contracts for DBEs on DOT-assisted contracts subject to this part, except

that, in limited and extreme circumstances, you may use set-asides when no other method could be reasonably expected to redress egregious instances of discrimination.

§26.45 How do recipients set overall goals?

(a)(1) Except as provided in paragraph (a)(2) of this section, you must set an overall goal for DBE participation in your DOT-assisted contracts.

(2) If you are a FTA or FAA recipient who reasonably anticipates awarding (excluding transit vehicle purchases) \$250,000 or less in FTA or FAA funds in prime contracts in a Federal fiscal year, you are not required to develop overall goals for FTA or FAA respectively for that fiscal year. However, if you have an existing DBE program, it must remain in effect and you must seek to fulfill the objectives outlined in \$26.1.

(b) Your overall goal must be based on demonstrable evidence of the availability of ready, willing and able DBEs relative to all businesses ready, willing and able to participate on your DOT-assisted contracts (hereafter, the "relative availability of DBEs"). The goal must reflect your determination of the level of DBE participation you would expect absent the effects of discrimination. You cannot simply rely on either the 10 percent national goal, your previous overall goal or past DBE participation rates in your program without reference to the relative availability of DBEs in your market.

(c) *Step 1*. You must begin your goal setting process by determining a base figure for the relative availability of DBEs. The following are examples of approaches that you may take toward determining a base figure. These examples are provided as a starting point for your goal setting process. Any percentage figure derived from one of these examples should be considered a basis from which you begin when examining all evidence available in your jurisdiction. These examples are not intended as an exhaustive list. Other methods or combinations of methods to determine a base figure may be used, subject to approval by the concerned operating administration.

(1) Use DBE Directories and Census Bureau Data. Determine the number of ready, willing and able DBEs in your market from your DBE directory. Using the Census Bureau's County Business Pattern (CBP) data base, determine the number of all ready, willing and able businesses available in your market that perform work in the same NAICS codes. (Information about the CBP data base may be obtained from the Census Bureau at their web site, *www.census.gov/epcd/cbp/view/cbpview.html*.) Divide the number of DBEs by the number of all businesses to derive a base figure for the relative availability of DBEs in your market.

(2) Use a bidders list. Determine the number of DBEs that have bid or quoted (successful and unsuccessful) on your DOT-assisted prime contracts or subcontracts in the past three years. Determine the number of all businesses that have bid or quoted (successful and unsuccessful) on prime or subcontracts in the same time period. Divide the number of DBE bidders and quoters by the number of all businesses to derive a base figure for the relative availability of DBEs in your market. When using this approach, you must establish a mechanism (documented in your goal submission) to directly capture data on DBE and non-DBE prime and subcontractors that submitted bids or quotes on your DOT-assisted contracts.

(3) *Use data from a disparity study.* Use a percentage figure derived from data in a valid, applicable disparity study.

(4) Use the goal of another DOT recipient. If another DOT recipient in the same, or substantially similar, market has set an overall goal in compliance with this rule, you may use that goal as a base figure

for your goal.

(5) Alternative methods. Except as otherwise provided in this paragraph, you may use other methods to determine a base figure for your overall goal. Any methodology you choose must be based on demonstrable evidence of local market conditions and be designed to ultimately attain a goal that is rationally related to the relative availability of DBEs in your market. The exclusive use of a list of prequalified contractors or plan holders, or a bidders list that does not comply with the requirements of paragraph (c)(2) of this section, is not an acceptable alternative means of determining the availability of DBEs.

(d) *Step 2*. Once you have calculated a base figure, you must examine all of the evidence available in your jurisdiction to determine what adjustment, if any, is needed to the base figure to arrive at your overall goal. If the evidence does not suggest an adjustment is necessary, then no adjustment shall be made.

(1) There are many types of evidence that must be considered when adjusting the base figure. These include:

(i) The current capacity of DBEs to perform work in your DOT-assisted contracting program, as measured by the volume of work DBEs have performed in recent years;

(ii) Evidence from disparity studies conducted anywhere within your jurisdiction, to the extent it is not already accounted for in your base figure; and

(iii) If your base figure is the goal of another recipient, you must adjust it for differences in your local market and your contracting program.

(2) If available, you must consider evidence from related fields that affect the opportunities for DBEs to form, grow and compete. These include, but are not limited to:

(i) Statistical disparities in the ability of DBEs to get the financing, bonding and insurance required to participate in your program;

(ii) Data on employment, self-employment, education, training and union apprenticeship programs, to the extent you can relate it to the opportunities for DBEs to perform in your program.

(3) If you attempt to make an adjustment to your base figure to account for the continuing effects of past discrimination (often called the "but for" factor) or the effects of an ongoing DBE program, the adjustment must be based on demonstrable evidence that is logically and directly related to the effect for which the adjustment is sought.

(e) Once you have determined a percentage figure in accordance with paragraphs (c) and (d) of this section, you should express your overall goal as follows:

(1) If you are an FHWA recipient, as a percentage of all Federal-aid highway funds you will expend in FHWA-assisted contracts in the forthcoming three fiscal years.

(2) If you are an FTA or FAA recipient, as a percentage of all FT or FAA funds (exclusive of FTA funds to be used for the purchase of transit vehicles) that you will expend in FTA or FAA-assisted contracts in the three forthcoming fiscal years.

(3) In appropriate cases, the FHWA, FTA or FAA Administrator may permit or require you to express your overall goal as a percentage of funds for a particular grant or project or group of grants and/or projects, including entire projects. Like other overall goals, a project goal may be adjusted to reflect changed circumstances, with the concurrence of the appropriate operating administration.

(i) A project goal is an overall goal, and must meet all the substantive and procedural requirements of this section pertaining to overall goals.

(ii) A project goal covers the entire length of the project to which it applies.

(iii) The project goal should include a projection of the DBE participation anticipated to be obtained during each fiscal year covered by the project goal.

(iv) The funds for the project to which the project goal pertains are separated from the base from which your regular overall goal, applicable to contracts not part of the project covered by a project goal, is calculated.

(f)(1)(i) If you set your overall goal on a fiscal year basis, you must submit it to the applicable DOT operating administration by August 1 at three-year intervals, based on a schedule established by the FHWA, FTA, or FAA, as applicable, and posted on that agency's Web site.

(ii) You may adjust your three-year overall goal during the three-year period to which it applies, in order to reflect changed circumstances. You must submit such an adjustment to the concerned operating administration for review and approval.

(iii) The operating administration may direct you to undertake a review of your goal if necessary to ensure that the goal continues to fit your circumstances appropriately.

(iv) While you are required to submit an overall goal to FHWA, FTA, or FAA only every three years, the overall goal and the provisions of Sec. 26.47(c) apply to each year during that three-year period.

(v) You may make, for informational purposes, projections of your expected DBE achievements during each of the three years covered by your overall goal. However, it is the overall goal itself, and not these informational projections, to which the provisions of section 26.47(c) of this part apply.

(2) If you are a recipient and set your overall goal on a project or grant basis as provided in paragraph (e)(3) of this section, you must submit the goal for review at a time determined by the FHWA, FTA or FAA Administrator, as applicable.

(3) You must include with your overall goal submission a description of the methodology you used to establish the goal, incuding your base figure and the evidence with which it was calculated, and the adjustments you made to the base figure and the evidence you relied on for the adjustments. You should also include a summary listing of the relevant available evidence in your jurisdiction and, where applicable, an explanation of why you did not use that evidence to adjust your base figure. You must also include your projection of the portions of the overall goal you expect to meet through race-neutral and race-consioous measures, respectively (*see* 26.51(c)).

(4) You are not required to obtain prior operating administration concurrence with your overall goal. However, if the operating administration's review suggests that your overall goal has not been correctly calculated or that your method for calculating goals is inadequate, the operating administration may, after consulting with you, adjust your overall goal or require that you do so. The adjusted overall goal is binding on you. In evaluating the adequacy or soundness of the methodology used to derive the overall goal, the operating administration will be guided by goal setting principles and best practices identified by the Department in guidance issued pursuant to §26.9.

(5) If you need additional time to collect data or take other steps to develop an approach to setting overall goals, you may request the approval of the concerned operating administration for an interim goal and/or goal-setting mechanism. Such a mechanism must:

(i) Reflect the relative availability of DBEs in your local market to the maximum extent feasible given the data available to you; and

(ii) Avoid imposing undue burdens on non-DBEs.

(6) Timely submission and operating administration approval of your overall goal is a condition of eligibility for DOT financial assistance.

(7) If you fail to establish and implement goals as provided in this section, you are not in compliance with this part. If you establish and implement goals in a way different from that provided in this part, you are not in compliance with this part. If you fail to comply with this requirement, you are not eligible to receive DOT financial assistance.

(g)(1) In establishing an overall goal, you must provide for consultation and publication. This includes:

(i) Consultation with minority, women's and general contractor groups, community organizations, and other officials or organizations which could be expected to have information concerning the availability of disadvantaged and non-disadvantaged businesses, the effects of discrimination on opportunities for DBEs, and your efforts to establish a level playing field for the participation of DBEs. The consultation must include a scheduled, direct, interactive exchange (e.g., a face-to-face meeting, video conference, teleconference) with as many interested stakeholders as possible focused on obtaining information relevant to the goal setting process, and it must occur before you are required to submit your methodology to the operating administration for review pursuant to paragraph (f) of this section. You must document in your goal submission the consultation process you engaged in. Notwithstanding paragraph (f)(4) of this section, you may not implement your proposed goal until you have complied with this requirement.

(ii) A published notice announcing your proposed overall goal before submission to the operating administration on August 1st. The notice must be posted on your official Internet Web site and may be posted in any other sources (e.g., minority-focused media, trade association publications). If the proposed goal changes following review by the operating administration, the revised goal must be posted on your official Internet Web site.

(2) At your discretion, you may inform the public that the proposed overall goal and its rationale are available for inspection during normal business hours at your principal office and for a 30-day comment period. Notice of the comment period must include addresses to which comments may be sent. The public comment period will not extend the August 1st deadline set in paragraph (f) of this section.

(h) Your overall goals must provide for participation by all certified DBEs and must not be subdivided into group-specific goals.

[64 FR 5126, Feb. 2, 1999, as amended at 64 FR 34570, June 28, 1999; 65 FR 68951, Nov. 15, 2000; 68 FR 35553, June 16, 2003; 75 FR 5536, Feb. 3, 2010; 76 FR 5097, Jan. 28, 2011; 79 FR 59593, Oct. 2, 2014]

§26.47 Can recipients be penalized for failing to meet overall goals?

(a) You cannot be penalized, or treated by the Department as being in noncompliance with this rule, because your DBE participation falls short of your overall goal, unless you have failed to administer your program in good faith.

(b) If you do not have an approved DBE program or overall goal, or if you fail to implement your program in good faith, you are in noncompliance with this part.

(c) If the awards and commitments shown on your Uniform Report of Awards or Commitments and Payments at the end of any fiscal year are less than the overall goal applicable to that fiscal year, you must do the following in order to be regarded by the Department as implementing your DBE program in good faith:

(1) Analyze in detail the reasons for the difference between the overall goal and your awards and commitments in that fiscal year;

(2) Establish specific steps and milestones to correct the problems you have identified in your analysis and to enable you to meet fully your goal for the new fiscal year;

(3)(i) If you are a state highway agency; one of the 50 largest transit authorities as determined by the FTA; or an Operational Evolution Partnership Plan airport or other airport designated by the FAA, you must submit, within 90 days of the end of the fiscal year, the analysis and corrective actions developed under paragraphs (c)(1) and (2) of this section to the appropriate operating administration for approval. If the operating administration approves the report, you will be regarded as complying with the requirements of this section for the remainder of the fiscal year.

(ii) As a transit authority or airport not meeting the criteria of paragraph (c)(3)(i) of this section, you must retain analysis and corrective actions in your records for three years and make it available to FTA or FAA on request for their review.

(4) FHWA, FTA, or FAA may impose conditions on the recipient as part of its approval of the recipient's analysis and corrective actions including, but not limited to, modifications to your overall goal methodology, changes in your race-conscious/race-neutral split, or the introduction of additional race-neutral or race-conscious measures.

(5) You may be regarded as being in noncompliance with this Part, and therefore subject to the remedies in §26.103 or §26.105 of this part and other applicable regulations, for failing to implement your DBE program in good faith if any of the following things occur:

(i) You do not submit your analysis and corrective actions to FHWA, FTA, or FAA in a timely manner as required under paragraph (c)(3) of this section;

(ii) FHWA, FTA, or FAA disapproves your analysis or corrective actions; or

(iii) You do not fully implement the corrective actions to which you have committed or conditions

that FHWA, FTA, or FAA has imposed following review of your analysis and corrective actions.

(d) If, as recipient, your Uniform Report of DBE Awards or Commitments and Payments or other information coming to the attention of FTA, FHWA, or FAA, demonstrates that current trends make it unlikely that you will achieve DBE awards and commitments that would be necessary to allow you to meet your overall goal at the end of the fiscal year, FHWA, FTA, or FAA, as applicable, may require you to make further good faith efforts, such as by modifying your race-conscious/race-neutral split or introducing additional race-neutral or race-conscious measures for the remainder of the fiscal year.

[64 FR 5126, Feb. 2, 1999, as amended at 76 FR 5098, Jan. 28, 2011]

§26.49 How are overall goals established for transit vehicle manufacturers?

(a) If you are an FTA recipient, you must require in your DBE program that each transit vehicle manufacturer, as a condition of being authorized to bid or propose on FTA-assisted transit vehicle procurements, certify that it has complied with the requirements of this section. You do not include FTA assistance used in transit vehicle procurements in the base amount from which your overall goal is calculated.

(1) Only those transit vehicle manufacturers listed on FTA's certified list of Transit Vehicle Manufacturers, or that have submitted a goal methodology to FTA that has been approved or has not been disapproved, at the time of solicitation are eligible to bid.

(2) A TVM's failure to implement the DBE Program in the manner as prescribed in this section and throughout 49 CFR part 26 will be deemed as non-compliance, which will result in removal from FTA's certified TVMs list, resulting in that manufacturer becoming ineligible to bid.

(3) FTA recipient's failure to comply with the requirements set forth in paragraph (a) of this section may result in formal enforcement action or appropriate sanction as determined by FTA (e.g., FTA declining to participate in the vehicle procurement).

(4) FTA recipients are required to submit within 30 days of making an award, the name of the successful bidder, and the total dollar value of the contract in the manner prescribed in the grant agreement.

(b) If you are a transit vehicle manufacturer, you must establish and submit for FTA's approval an annual overall percentage goal.

(1) In setting your overall goal, you should be guided, to the extent applicable, by the principles underlying §26.45. The base from which you calculate this goal is the amount of FTA financial assistance included in transit vehicle contracts you will bid on during the fiscal year in question, less the portion(s) attributable to the manufacturing process performed entirely by the transit vehicle manufacturer's own forces.

(i) You must consider and include in your base figure all domestic contracting opportunities made available to non-DBE firms; and

(ii) You must exclude from this base figure funds attributable to work performed outside the United States and its territories, possessions, and commonwealths.

(iii) In establishing an overall goal, the transit vehicle manufacturer must provide for public participation. This includes consultation with interested parties consistent with §26.45(g).

(2) The requirements of this part with respect to submission and approval of overall goals apply to you as they do to recipients.

(c) Transit vehicle manufacturers awarded must comply with the reporting requirements of §26.11 of this part including the requirement to submit the Uniform Report of Awards or Commitments and Payments, in order to remain eligible to bid on FTA assisted transit vehicle procurements.

(d) Transit vehicle manufacturers must implement all other applicable requirements of this part, except those relating to UCPs and DBE certification procedures.

(e) If you are an FHWA or FAA recipient, you may, with FHWA or FAA approval, use the procedures of this section with respect to procurements of vehicles or specialized equipment. If you choose to do so, then the manufacturers of this equipment must meet the same requirements (including goal approval by FHWA or FAA) as transit vehicle manufacturers must meet in FTA-assisted procurements.

(f) As a recipient you may, with FTA approval, establish project-specific goals for DBE participation in the procurement of transit vehicles in lieu of complying through the procedures of this section.

[79 FR 59594, Oct. 2, 2014]

§26.51 What means do recipients use to meet overall goals?

(a) You must meet the maximum feasible portion of your overall goal by using race-neutral means of facilitating race-neutral DBE participation. Race-neutral DBE participation includes any time a DBE wins a prime contract through customary competitive procurement procedures or is awarded a subcontract on a prime contract that does not carry a DBE contract goal.

(b) Race-neutral means include, but are not limited to, the following:

(1) Arranging solicitations, times for the presentation of bids, quantities, specifications, and delivery schedules in ways that facilitate participation by DBEs and other small businesses and by making contracts more accessible to small businesses, by means such as those provided under §26.39 of this part.

(2) Providing assistance in overcoming limitations such as inability to obtain bonding or financing (e.g., by such means as simplifying the bonding process, reducing bonding requirements, eliminating the impact of surety costs from bids, and providing services to help DBEs, and other small businesses, obtain bonding and financing);

(3) Providing technical assistance and other services;

(4) Carrying out information and communications programs on contracting procedures and specific contract opportunities (e.g., ensuring the inclusion of DBEs, and other small businesses, on recipient mailing lists for bidders; ensuring the dissemination to bidders on prime contracts of lists of potential subcontractors; provision of information in languages other than English, where appropriate);

(5) Implementing a supportive services program to develop and improve immediate and long-term

business management, record keeping, and financial and accounting capability for DBEs and other small businesses;

(6) Providing services to help DBEs, and other small businesses, improve long-term development, increase opportunities to participate in a variety of kinds of work, handle increasingly significant projects, and achieve eventual self-sufficiency;

(7) Establishing a program to assist new, start-up firms, particularly in fields in which DBE participation has historically been low;

(8) Ensuring distribution of your DBE directory, through print and electronic means, to the widest feasible universe of potential prime contractors; and

(9) Assisting DBEs, and other small businesses, to develop their capability to utilize emerging technology and conduct business through electronic media.

(c) Each time you submit your overall goal for review by the concerned operating administration, you must also submit your projection of the portion of the goal that you expect to meet through race-neutral means and your basis for that projection. This projection is subject to approval by the concerned operating administration, in conjunction with its review of your overall goal.

(d) You must establish contract goals to meet any portion of your overall goal you do not project being able to meet using race-neutral means.

(e) The following provisions apply to the use of contract goals:

(1) You may use contract goals only on those DOT-assisted contracts that have subcontracting possibilities.

(2) You are not required to set a contract goal on every DOT-assisted contract. You are not required to set each contract goal at the same percentage level as the overall goal. The goal for a specific contract may be higher or lower than that percentage level of the overall goal, depending on such factors as the type of work involved, the location of the work, and the availability of DBEs for the work of the particular contract. However, over the period covered by your overall goal, you must set contract goals so that they will cumulatively result in meeting any portion of your overall goal you do not project being able to meet through the use of race-neutral means.

(3) Operating administration approval of each contract goal is not necessarily required. However, operating administrations may review and approve or disapprove any contract goal you establish.

(4) Your contract goals must provide for participation by all certified DBEs and must not be subdivided into group-specific goals.

(f) To ensure that your DBE program continues to be narrowly tailored to overcome the effects of discrimination, you must adjust your use of contract goals as follows:

(1) If your approved projection under paragraph (c) of this section estimates that you can meet your entire overall goal for a given year through race-neutral means, you must implement your program without setting contract goals during that year, unless it becomes necessary in order meet your overall goal.

Example to paragraph (f)(1): Your overall goal for Year 1 is 12 percent. You estimate that you can obtain 12 percent or more DBE participation through the use of race-neutral measures, without any use of contract goals. In this case, you do not set any contract goals for the contracts that will be performed in Year 1. However, if part way through Year 1, your DBE awards or commitments are not at a level that would permit you to achieve your overall goal for Year 1, you could begin setting race-conscious DBE contract goals during the remainder of the year as part of your obligation to implement your program in good faith.

(2) If, during the course of any year in which you are using contract goals, you determine that you will exceed your overall goal, you must reduce or eliminate the use of contract goals to the extent necessary to ensure that the use of contract goals does not result in exceeding the overall goal. If you determine that you will fall short of your overall goal, then you must make appropriate modifications in your use of race-neutral and/or race-conscious measures to allow you to meet the overall goal.

Example to paragraph (f)(2): In Year II, your overall goal is 12 percent. You have estimated that you can obtain 5 percent DBE participation through use of race-neutral measures. You therefore plan to obtain the remaining 7 percent participation through use of DBE goals. By September, you have already obtained 11 percent DBE participation for the year. For contracts let during the remainder of the year, you use contract goals only to the extent necessary to obtain an additional one percent DBE participation. However, if you determine in September that your participation for the year is likely to be only 8 percent total, then you would increase your use of race-neutral and/or race-conscious means during the remainder of the year in order to achieve your overall goal.

(3) If the DBE participation you have obtained by race-neutral means alone meets or exceeds your overall goals for two consecutive years, you are not required to make a projection of the amount of your goal you can meet using such means in the next year. You do not set contract goals on any contracts in the next year. You continue using only race-neutral means to meet your overall goals unless and until you do not meet your overall goal for a year.

Example to paragraph (f)(3): Your overall goal for Years I and Year II is 10 percent. The DBE participation you obtain through race-neutral measures alone is 10 percent or more in each year. (For this purpose, it does not matter whether you obtained additional DBE participation through using contract goals in these years.) In Year III and following years, you do not need to make a projection under paragraph (c) of this section of the portion of your overall goal you expect to meet using race-neutral means. You simply use race-neutral means to achieve your overall goals. However, if in Year VI your DBE participation falls short of your overall goal, then you must make a paragraph (c) projection for Year VII and, if necessary, resume use of contract goals in that year.

(4) If you obtain DBE participation that exceeds your overall goal in two consecutive years through the use of contract goals (*i.e.*, not through the use of race-neutral means alone), you must reduce your use of contract goals proportionately in the following year.

Example to paragraph (f)(4): In Years I and II, your overall goal is 12 percent, and you obtain 14 and 16 percent DBE participation, respectively. You have exceeded your goals over the two-year period by an average of 25 percent. In Year III, your overall goal is again 12 percent, and your paragraph (c) projection estimates that you will obtain 4 percent DBE participation through race-neutral means and 8 percent through contract goals. You then reduce the contract goal projection by 25 percent (*i.e.*, from 8 to 6 percent) and set contract goals accordingly during the year. If in Year III you obtain 11 percent participation, you do not

use this contract goal adjustment mechanism for Year IV, because there have not been two *consecutive* years of exceeding overall goals.

(g) In any year in which you project meeting part of your goal through race-neutral means and the remainder through contract goals, you must maintain data separately on DBE achievements in those contracts with and without contract goals, respectively. You must report this data to the concerned operating administration as provided in §26.11.

[64 FR 5126, Feb. 2, 1999, as amended at 76 FR 5098, Jan. 28, 2011; 79 FR 59595, Oct. 2, 2014]

§26.53 What are the good faith efforts procedures recipients follow in situations where there are contract goals?

(a) When you have established a DBE contract goal, you must award the contract only to a bidder/offeror who makes good faith efforts to meet it. You must determine that a bidder/offeror has made good faith efforts if the bidder/offeror does either of the following things:

(1) Documents that it has obtained enough DBE participation to meet the goal; or

(2) Documents that it made adequate good faith efforts to meet the goal, even though it did not succeed in obtaining enough DBE participation to do so. If the bidder/offeror does document adequate good faith efforts, you must not deny award of the contract on the basis that the bidder/offeror failed to meet the goal. See Appendix A of this part for guidance in determining the adequacy of a bidder/offeror's good faith efforts.

(b) In your solicitations for DOT-assisted contracts for which a contract goal has been established, you must require the following:

(1) Award of the contract will be conditioned on meeting the requirements of this section;

(2) All bidders or offerors will be required to submit the following information to the recipient, at the time provided in paragraph (b)(3) of this section:

(i) The names and addresses of DBE firms that will participate in the contract;

(ii) A description of the work that each DBE will perform. To count toward meeting a goal, each DBE firm must be certified in a NAICS code applicable to the kind of work the firm would perform on the contract;

(iii) The dollar amount of the participation of each DBE firm participating;

(iv) Written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet a contract goal; and

(v) Written confirmation from each listed DBE firm that it is participating in the contract in the kind and amount of work provided in the prime contractor's commitment.

(vi) If the contract goal is not met, evidence of good faith efforts (see Appendix A of this part). The documentation of good faith efforts must include copies of each DBE and non-DBE subcontractor quote

submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract; and

(3)(i) At your discretion, the bidder/offeror must present the information required by paragraph (b)(2) of this section—

(A) Under sealed bid procedures, as a matter of responsiveness, or with initial proposals, under contract negotiation procedures; or

(B) No later than 7 days after bid opening as a matter of responsibility. The 7 days shall be reduced to 5 days beginning January 1, 2017.

(ii) Provided that, in a negotiated procurement, including a design-build procurement, the bidder/offeror may make a contractually binding commitment to meet the goal at the time of bid submission or the presentation of initial proposals but provide the information required by paragraph (b)(2) of this section before the final selection for the contract is made by the recipient.

(c) You must make sure all information is complete and accurate and adequately documents the bidder/offeror's good faith efforts before committing yourself to the performance of the contract by the bidder/offeror.

(d) If you determine that the apparent successful bidder/offeror has failed to meet the requirements of paragraph (a) of this section, you must, before awarding the contract, provide the bidder/offeror an opportunity for administrative reconsideration.

(1) As part of this reconsideration, the bidder/offeror must have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so.

(2) Your decision on reconsideration must be made by an official who did not take part in the original determination that the bidder/offeror failed to meet the goal or make adequate good faith efforts to do so.

(3) The bidder/offeror must have the opportunity to meet in person with your reconsideration official to discuss the issue of whether it met the goal or made adequate good faith efforts to do so.

(4) You must send the bidder/offeror a written decision on reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so.

(5) The result of the reconsideration process is not administratively appealable to the Department of Transportation.

(e) In a "design-build" or "turnkey" contracting situation, in which the recipient lets a master contract to a contractor, who in turn lets subsequent subcontracts for the work of the project, a recipient may establish a goal for the project. The master contractor then establishes contract goals, as appropriate, for the subcontracts it lets. Recipients must maintain oversight of the master contractor's activities to ensure that they are conducted consistent with the requirements of this part.

(f)(1)(i) You must require that a prime contractor not terminate a DBE subcontractor listed in response to paragraph (b)(2) of this section (or an approved substitute DBE firm) without your prior written consent.

This includes, but is not limited to, instances in which a 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.

(ii) You must include in each prime contract a provision stating:

(A) That the contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which each is listed unless the contractor obtains your written consent as provided in this paragraph (f); and

(B) That, unless your consent is provided under this paragraph (f), the contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE.

(2) You may provide such written consent only if you agree, for reasons stated in your concurrence document, that the prime contractor has good cause to terminate the DBE firm.

(3) For purposes of this paragraph, good cause includes the following circumstances:

(i) The listed DBE subcontractor fails or refuses to execute a written contract;

(ii) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contracor;

(iii) The listed DBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements.

(iv) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;

(v) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1,200 or applicable state law;

(vii) You have determined that the listed DBE subcontractor is not a responsible contractor;

(vi) The listed DBE subcontractor voluntarily withdraws from the project and provides to you written notice of its withdrawal;

(vii) The listed DBE is ineligible to receive DBE credit for the type of work required;

(viii) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;

(ix) Other documented good cause that you determine compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime contractor can self-perform the work for which the DBE contractor was engaged or so that the prime contractor can substitute another DBE or non-DBE contractor after contract award.

(4) Before transmitting to you 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 you, of its intent to request to terminate and/or substitute, and the reason for the request.

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

(6) 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.

(g) When a DBE subcontractor is terminated as provided in paragraph (f) of this section, or fails to complete its work on the contract for any reason, you must require the prime contractor to make good faith efforts to find another DBE subcontractor to substitute for the original DBE. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contractor. If the recipient requests documentation under this provision, the contractor shall submit the documentation within 7 days, which may be extended for an additional 7 days if necessary at the request of the contractor, and the recipient shall provide a written determination to the contractor stating whether or not good faith efforts have been demonstrated.

(h) You must include in each prime contract the contract clause required by §26.13(b) stating that failure by the contractor to carry out the requirements of this part is a material breach of the contract and may result in the termination of the contract or such other remedies set forth in that section you deem appropriate if the prime contractor fails to comply with the requirements of this section.

(i) You must apply the requirements of this section to DBE bidders/offerors for prime contracts. In determining whether a DBE bidder/offeror for a prime contract has met a contract goal, you count the work the DBE has committed to performing with its own forces as well as the work that it has committed to be performed by DBE subcontractors and DBE suppliers.

(j) You must require the contractor awarded the contract to make available upon request a copy of all DBE subcontracts. The subcontractor shall ensure that all subcontracts or an agreement with DBEs to supply labor or materials require that the subcontract and all lower tier subcontractors be performed in accordance with this part's provisions.

[64 FR 5126, Feb. 2, 1999, as amended at 76 FR 5098, Jan. 28, 2011; 79 FR 59595, Oct. 2, 2014]

§26.55 How is DBE participation counted toward goals?

(a) When a DBE participates in a contract, you count only the value of the work actually performed by the DBE toward DBE goals.

(1) Count the entire amount of that portion of a construction contract (or other contract not covered by paragraph (a)(2) of this section) that is performed by the DBE's own forces. Include the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contract or its affiliate).

(2) Count the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, toward DBE goals, provided you determine the fee to be reasonable and not excessive as compared with fees customarily allowed for similar services.

(3) When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBE's subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.

(b) When a DBE performs as a participant in a joint venture, count a portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces toward DBE goals.

(c) Count expenditures to a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract.

(1) A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, you must evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

(2) A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, you must examine similar transactions, particularly those in which DBEs do not participate.

(3) If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, you must presume that it is not performing a commercially useful function.

(4) When a DBE is presumed not to be performing a commercially useful function as provided in paragraph (c)(3) of this section, the DBE may present evidence to rebut this presumption. You may determine that the firm is performing a commercially useful function given the type of work involved and normal industry practices.

(5) Your decisions on commercially useful function matters are subject to review by the concerned operating administration, but are not administratively appealable to DOT.

(d) Use the following factors in determining whether a DBE trucking company is performing a commercially useful function:

(1) The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the

purpose of meeting DBE goals.

(2) The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

(3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.

(4) The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

(5) The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE that leases trucks equipped with drivers from a non-DBE is entitled to credit for the total value of transportation services provided by non-DBE leased trucks equipped with drivers not to exceed the value of transportation services on the contract provided by DBE-owned trucks or leased trucks with DBE employee drivers. Additional participation by non-DBE owned trucks equipped with drivers receives credit only for the fee or commission it receives as a result of the lease arrangement. If a recipient chooses this approach, it must obtain written consent from the appropriate DOT operating administration.

Example to paragraph (d)(5): DBE Firm X uses two of its own trucks on a contract. It leases two trucks from DBE Firm Y and six trucks equipped with drivers from non-DBE Firm Z. DBE credit would be awarded for the total value of transportation services provided by Firm X and Firm Y, and may also be awarded for the total value of transportation services provided by four of the six trucks provided by Firm Z. In all, full credit would be allowed for the participation of eight trucks. DBE credit could be awarded only for the fees or commissions pertaining to the remaining trucks Firm X receives as a result of the lease with Firm Z.

(6) The DBE may lease trucks without drivers from a non-DBE truck leasing company. If the DBE leases trucks from a non-DBE truck leasing company and uses its own employees as drivers, it is entitled to credit for the total value of these hauling services.

Example to paragraph (d)(6): DBE Firm X uses two of its own trucks on a contract. It leases two additional trucks from non-DBE Firm Z. Firm X uses its own employees to drive the trucks leased from Firm Z. DBE credit would be awarded for the total value of the transportation services provided by all four trucks.

(7) For purposes of this paragraph (d), a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

(e) Count expenditures with DBEs for materials or supplies toward DBE goals as provided in the following:

(1)(i) If the materials or supplies are obtained from a DBE manufacturer, count 100 percent of the cost of the materials or supplies toward DBE goals.

(ii) For purposes of this paragraph (e)(1), a manufacturer is a firm that operates or maintains a factory

or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

(2)(i) If the materials or supplies are purchased from a DBE regular dealer, count 60 percent of the cost of the materials or supplies toward DBE goals.

(ii) For purposes of this section, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

(A) To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

(B) A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided in this paragraph (e)(2)(ii) if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.

(C) Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph (e)(2).

(3) With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, toward DBE goals, provided you determine the fees to be reasonable and not excessive as compared with fees customarily allowed for similar services. Do not count any portion of the cost of the materials and supplies themselves toward DBE goals, however.

(4) You must determine the amount of credit awarded to a firm for the provisions of materials and supplies (e.g., whether a firm is acting as a regular dealer or a transaction expediter) on a contract-by-contract basis.

(f) If a firm is not currently certified as a DBE in accordance with the standards of subpart D of this part at the time of the execution of the contract, do not count the firm's participation toward any DBE goals, except as provided for in §26.87(i)).

(g) Do not count the dollar value of work performed under a contract with a firm after it has ceased to be certified toward your overall goal.

(h) Do not count the participation of a DBE subcontractor toward a contractor's final compliance with its DBE obligations on a contract until the amount being counted has actually been paid to the DBE.

[64 FR 5126, Feb. 2, 1999, as amended at 65 FR 68951, Nov. 15, 2000; 68 FR 35554, June 16, 2003; 79 FR 59595, Oct. 2, 2014]

Subpart D—Certification Standards

§26.61 How are burdens of proof allocated in the certification process?

(a) In determining whether to certify a firm as eligible to participate as a DBE, you must apply the standards of this subpart.

(b) The firm seeking certification has the burden of demonstrating to you, by a preponderance of the evidence, that it meets the requirements of this subpart concerning group membership or individual disadvantage, business size, ownership, and control.

(c) You must rebuttably presume that members of the designated groups identified in §26.67(a) are socially and economically disadvantaged. This means they do not have the burden of proving to you that they are socially and economically disadvantaged. In order to obtain the benefit of the rebuttable presumption, individuals must submit a signed, notarized statement that they are a member of one of the groups in §26.67(a). Applicants do have the obligation to provide you information concerning their economic disadvantage (*see* §26.67).

(d) Individuals who are not presumed to be socially and economically disadvantaged, and individuals concerning whom the presumption of disadvantage has been rebutted, have the burden of proving to you, by a preponderance of the evidence, that they are socially and economically disadvantaged. (See Appendix E of this part.)

(e) You must make determinations concerning whether individuals and firms have met their burden of demonstrating group membership, ownership, control, and social and economic disadvantage (where disadvantage must be demonstrated on an individual basis) by considering all the facts in the record, viewed as a whole.

[64 FR 5126, Feb. 2, 1999, as amended at 68 FR 35554, June 16, 2003]

§26.63 What rules govern group membership determinations?

(a)(1) If, after reviewing the signed notarized statement of membership in a presumptively disadvantaged group (see \$26.61(c)), you have a well founded reason to question the individual's claim of membership in that group, you must require the individual to present additional evidence that he or she is a member of the group.

(2) You must provide the individual a written explanation of your reasons for questioning his or her group membership and a written request for additional evidence as outlined in paragraph (b) of this section.

(3) In implementing this section, you must take special care to ensure that you do not impose a disproportionate burden on members of any particular designated group. Imposing a disproportionate burden on members of a particular group could violate §26.7(b) and/or Title VI of the Civil Rights Act of 1964 and 49 CFR part 21.

(b) In making such a determination, you must consider whether the person has held himself out to be a member of the group over a long period of time prior to application for certification and whether the person is regarded as a member of the group by the relevant community. You may require the applicant to produce appropriate documentation of group membership.

(1) If you determine that an individual claiming to be a member of a group presumed to be disadvantaged is not a member of a designated disadvantaged group, the individual must demonstrate social and economic disadvantage on an individual basis.

(2) Your decisions concerning membership in a designated group are subject to the certification appeals procedure of §26.89.

[64 FR 5126, Feb. 2, 1999, as amended at 68 FR 35554, June 16, 2003]

§26.65 What rules govern business size determinations?

(a) To be an eligible DBE, a firm (including its affiliates) must be an existing small business, as defined by Small Business Administration (SBA) standards. As a recipient, you must apply current SBA business size standard(s) found in 13 CFR part 121 appropriate to the type(s) of work the firm seeks to perform in DOT-assisted contracts, including the primary industry classification of the applicant.

(b) Even if it meets the requirements of paragraph (a) of this section, a firm is not an eligible DBE for the purposes of Federal Highway Administration and Federal Transit Administration-assisted work in any Federal fiscal year if the firm (including its affiliates) has had average annual gross receipts, as defined by SBA regulations (see 13 CFR 121.104), over the firm's previous three fiscal years, in excess of \$26.29 million. The Department will adjust this amount for inflation on an annual basis. The adjusted amount will be published on the Department's website in subsequent years.

(c) The Department adjusts the number in paragraph (b) of this section annually using the Department of Commerce price deflators for purchases by State and local governments as the basis for this adjustment.

[74 FR 15224, Apr. 3, 2009, as amended at 79 FR 59596, Oct. 2, 2014; 85 FR 80647, Dec. 14, 2020]

§26.67 What rules determine social and economic disadvantage?

(a) *Presumption of disadvantage*. (1) You must rebuttably presume that citizens of the United States (or lawfully admitted permanent residents) who are women, Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Subcontinent Asian Americans, or other minorities found to be disadvantaged by the SBA, are socially and economically disadvantaged individuals. You must require applicants to submit a signed, notarized certification that each presumptively disadvantaged owner is, in fact, socially and economically disadvantaged.

(2)(i) You must require each individual owner of a firm applying to participate as a DBE, whose ownership and control are relied upon for DBE certification, to certify that he or she has a personal net worth that does not exceed \$1.32 million.

(ii) You must require each individual who makes this certification to support it with a signed, notarized statement of personal net worth, with appropriate supporting documentation. To meet this requirement, you must use the DOT personal net worth form provided in appendix G to this part without change or revision. Where necessary to accurately determine an individual's personal net worth, you may, on a case-by-case basis, require additional financial information from the owner of an applicant firm (e.g., information concerning the assets of the owner's spouse, where needed to clarify whether assets have been transferred to the spouse or when the owner's spouse is involved in the operation of the company). Requests for additional information shall not be unduly burdensome or intrusive.

- (iii) In determining an individual's net worth, you must observe the following requirements:
- (A) Exclude an individual's ownership interest in the applicant firm;

(B) Exclude the individual's equity in his or her primary residence (except any portion of such equity that is attributable to excessive withdrawals from the applicant firm). The equity is the market value of the residence less any mortgages and home equity loan balances. Recipients must ensure that home equity loan balances are included in the equity calculation and not as a separate liability on the individual's personal net worth form. Exclusions for net worth purposes are not exclusions for asset valuation or access to capital and credit purposes.

(C) Do not use a contingent liability to reduce an individual's net worth.

(D) With respect to assets held in vested pension plans, Individual Retirement Accounts, 401(k) accounts, or other retirement savings or investment programs in which the assets cannot be distributed to the individual at the present time without significant adverse tax or interest consequences, include only the present value of such assets, less the tax and interest penalties that would accrue if the asset were distributed at the present time.

(iv) Notwithstanding any provision of Federal or State law, you must not release an individual's personal net worth statement nor any documents pertaining to it to any third party without the written consent of the submitter. Provided, that you must transmit this information to DOT in any certification appeal proceeding under §26.89 of this part or to any other State to which the individual's firm has applied for certification under §26.85 of this part.

(b) *Rebuttal of presumption of disadvantage*. (1) An individual's presumption of economic disadvantage may be rebutted in two ways.

(i) If the statement of personal net worth and supporting documentation that an individual submits under paragraph (a)(2) of this section shows that the individual's personal net worth exceeds 1.32 million, the individual's presumption of economic disadvantage is rebutted. You are not required to have a proceeding under paragraph (b)(2) of this section in order to rebut the presumption of economic disadvantage in this case.

Example to paragraph (b)(1)(i): An individual with very high assets and significant liabilities may, in accounting terms, have a PNW of less than \$1.32 million. However, the person's assets collectively (e.g., high income level, a very expensive house, a yacht, extensive real or personal property holdings) may lead a reasonable person to conclude that he or she is not economically disadvantaged. The recipient may rebut the individual's presumption of economic disadvantage under these circumstances, as provided in this section, even though the individual's PNW is less than \$1.32 million.

(ii)(A) If the statement of personal net worth and supporting documentation that an individual submits under paragraph (a)(2) of this section demonstrates that the individual is able to accumulate substantial wealth, the individual's presumption of economic disadvantage is rebutted. In making this determination, as a certifying agency, you may consider factors that include, but are not limited to, the following:

(1) Whether the average adjusted gross income of the owner over the most recent three year period exceeds \$350,000;

- (2) Whether the income was unusual and not likely to occur in the future;
- (3) Whether the earnings were offset by losses;

(4) Whether the income was reinvested in the firm or used to pay taxes arising in the normal course of operations by the firm;

(5) Other evidence that income is not indicative of lack of economic disadvantage; and

(6) Whether the total fair market value of the owner's assets exceed \$6 million.

(B) You must have a proceeding under paragraph (b)(2) of this section in order to rebut the presumption of economic disadvantage in this case.

(2) If you have a reasonable basis to believe that an individual who is a member of one of the designated groups is not, in fact, socially and/or economically disadvantaged you may, at any time, start a proceeding to determine whether the presumption should be regarded as rebutted with respect to that individual. Your proceeding must follow the procedures of §26.87.

(3) In such a proceeding, you have the burden of demonstrating, by a preponderance of the evidence, that the individual is not socially and economically disadvantaged. You may require the individual to produce information relevant to the determination of his or her disadvantage.

(4) When an individual's presumption of social and/or economic disadvantage has been rebutted, his or her ownership and control of the firm in question cannot be used for purposes of DBE eligibility under this subpart unless and until he or she makes an individual showing of social and/or economic disadvantage. If the basis for rebutting the presumption is a determination that the individual's personal net worth exceeds \$1.32 million, the individual is no longer eligible for participation in the program and cannot regain eligibility by making an individual showing of disadvantage, so long as his or her PNW remains above that amount.

(c) *Transfers within two years.* (1) Except as set forth in paragraph (c)(2) of this section, recipients must attribute to an individual claiming disadvantaged status any assets which that individual has transferred to an immediate family member, to a trust a beneficiary of which is an immediate family member, or to the applicant firm for less than fair market value, within two years prior to a concern's application for participation in the DBE program or within two years of recipient's review of the firm's annual affidavit, unless the individual claiming disadvantaged status can demonstrate that the transfer is to or on behalf of an immediate family member for that individual's education, medical expenses, or some other form of essential support.

(2) Recipients must not attribute to an individual claiming disadvantaged status any assets transferred by that individual to an immediate family member that are consistent with the customary recognition of special occasions, such as birthdays, graduations, anniversaries, and retirements.

(d) *Individual determinations of social and economic disadvantage*. Firms owned and controlled by individuals who are not presumed to be socially and economically disadvantaged (including individuals whose presumed disadvantage has been rebutted) may apply for DBE certification. You must make a caseby-case determination of whether each individual whose ownership and control are relied upon for DBE certification is socially and economically disadvantaged. In such a proceeding, the applicant firm has the burden of demonstrating to you, by a preponderance of the evidence, that the individuals who own and control it are socially and economically disadvantaged. An individual whose personal net worth exceeds \$1.32 million shall not be deemed to be economically disadvantaged. In making these determinations, use the guidance found in Appendix E of this part. You must require that applicants provide sufficient information to permit determinations under the guidance of appendix E of this part. [79 FR 59596, Oct. 2, 2014]

§26.69 What rules govern determinations of ownership?

(a) In determining whether the socially and economically disadvantaged participants in a firm own the firm, you must consider all the facts in the record viewed as a whole, including the origin of all assets and how and when they were used in obtaining the firm. All transactions for the establishment and ownership (or transfer of ownership) must be in the normal course of business, reflecting commercial and arms-length practices.

(b) To be an eligible DBE, a firm must be at least 51 percent owned by socially and economically disadvantaged individuals.

(1) In the case of a corporation, such individuals must own at least 51 percent of the each class of voting stock outstanding and 51 percent of the aggregate of all stock outstanding.

(2) In the case of a partnership, 51 percent of each class of partnership interest must be owned by socially and economically disadvantaged individuals. Such ownership must be reflected in the firm's partnership agreement.

(3) In the case of a limited liability company, at least 51 percent of each class of member interest must be owned by socially and economically disadvantaged individuals.

(c)(1) The firm's ownership by socially and economically disadvantaged individuals, including their contribution of capital or expertise to acquire their ownership interests, must be real, substantial, and continuing, going beyond pro forma ownership of the firm as reflected in ownership documents. Proof of contribution of capital should be submitted at the time of the application. When the contribution of capital is through a loan, there must be documentation of the value of assets used as collateral for the loan.

(2) Insufficient contributions include a promise to contribute capital, an unsecured note payable to the firm or an owner who is not a disadvantaged individual, mere participation in a firm's activities as an employee, or capitalization not commensurate with the value for the firm.

(3) The disadvantaged owners must enjoy the customary incidents of ownership, and share in the risks and be entitled to the profits and loss commensurate with their ownership interests, as demonstrated by the substance, not merely the form, of arrangements. Any terms or practices that give a non-disadvantaged individual or firm a priority or superior right to a firm's profits, compared to the disadvantaged owner(s), are grounds for denial.

(4) Debt instruments from financial institutions or other organizations that lend funds in the normal course of their business do not render a firm ineligible, even if the debtor's ownership interest is security for the loan.

Examples to paragraph (*c*): (i) An individual pays \$100 to acquire a majority interest in a firm worth \$1 million. The individual's contribution to capital would not be viewed as substantial.

(ii) A 51% disadvantaged owner and a non-disadvantaged 49% owner contribute \$100 and \$10,000, respectively, to acquire a firm grossing \$1 million. This may be indicative of a pro forma arrangement that does not meet the requirements of (c)(1).

(iii) The disadvantaged owner of a DBE applicant firm spends \$250 to file articles of incorporation and obtains a \$100,000 loan, but makes only nominal or sporadic payments to repay the loan. This type of contribution is not of a continuing nature.

(d) All securities that constitute ownership of a firm shall be held directly by disadvantaged persons. Except as provided in this paragraph (d), no securities or assets held in trust, or by any guardian for a minor, are considered as held by disadvantaged persons in determining the ownership of a firm. However, securities or assets held in trust are regarded as held by a disadvantaged individual for purposes of determining ownership of the firm, if—

(1) The beneficial owner of securities or assets held in trust is a disadvantaged individual, and the trustee is the same or another such individual; or

(2) The beneficial owner of a trust is a disadvantaged individual who, rather than the trustee, exercises effective control over the management, policy-making, and daily operational activities of the firm. Assets held in a revocable living trust may be counted only in the situation where the same disadvantaged individual is the sole grantor, beneficiary, and trustee.

(e) The contributions of capital or expertise by the socially and economically disadvantaged owners to acquire their ownership interests must be real and substantial. Examples of insufficient contributions include a promise to contribute capital, an unsecured note payable to the firm or an owner who is not a disadvantaged individual, or mere participation in a firm's activities as an employee. Debt instruments from financial institutions or other organizations that lend funds in the normal course of their business do not render a firm ineligible, even if the debtor's ownership interest is security for the loan.

(f) The following requirements apply to situations in which expertise is relied upon as part of a disadvantaged owner's contribution to acquire ownership:

(1) The owner's expertise must be—

(i) In a specialized field;

(ii) Of outstanding quality;

(iii) In areas critical to the firm's operations;

- (iv) Indispensable to the firm's potential success;
- (v) Specific to the type of work the firm performs; and

(vi) Documented in the records of the firm. These records must clearly show the contribution of expertise and its value to the firm.

(2) The individual whose expertise is relied upon must have a significant financial investment in the firm.

(g) You must always deem as held by a socially and economically disadvantaged individual, for purposes of determining ownership, all interests in a business or other assets obtained by the individual—

(1) As the result of a final property settlement or court order in a divorce or legal separation, provided that no term or condition of the agreement or divorce decree is inconsistent with this section; or

(2) Through inheritance, or otherwise because of the death of the former owner.

(h)(1) You must presume as not being held by a socially and economically disadvantaged individual, for purposes of determining ownership, all interests in a business or other assets obtained by the individual as the result of a gift, or transfer without adequate consideration, from any non-disadvantaged individual or non-DBE firm who is—

(i) Involved in the same firm for which the individual is seeking certification, or an affiliate of that firm;

(ii) Involved in the same or a similar line of business; or

(iii) Engaged in an ongoing business relationship with the firm, or an affiliate of the firm, for which the individual is seeking certification.

(2) To overcome this presumption and permit the interests or assets to be counted, the disadvantaged individual must demonstrate to you, by clear and convincing evidence, that—

(i) The gift or transfer to the disadvantaged individual was made for reasons other than obtaining certification as a DBE; and

(ii) The disadvantaged individual actually controls the management, policy, and operations of the firm, notwithstanding the continuing participation of a non-disadvantaged individual who provided the gift or transfer.

(i) You must apply the following rules in situations in which marital assets form a basis for ownership of a firm:

(1) When marital assets (other than the assets of the business in question), held jointly or as community property by both spouses, are used to acquire the ownership interest asserted by one spouse, you must deem the ownership interest in the firm to have been acquired by that spouse with his or her own individual resources, provided that the other spouse irrevocably renounces and transfers all rights in the ownership interest in the manner sanctioned by the laws of the state in which either spouse or the firm is domiciled. You do not count a greater portion of joint or community property assets toward ownership than state law would recognize as belonging to the socially and economically disadvantaged owner of the applicant firm.

(2) A copy of the document legally transferring and renouncing the other spouse's rights in the jointly owned or community assets used to acquire an ownership interest in the firm must be included as part of the firm's application for DBE certification.

(j) You may consider the following factors in determining the ownership of a firm. However, you must not regard a contribution of capital as failing to be real and substantial, or find a firm ineligible, solely because—

(1) A socially and economically disadvantaged individual acquired his or her ownership interest as the result of a gift, or transfer without adequate consideration, other than the types set forth in paragraph

(h) of this section;

(2) There is a provision for the co-signature of a spouse who is not a socially and economically disadvantaged individual on financing agreements, contracts for the purchase or sale of real or personal property, bank signature cards, or other documents; or

(3) Ownership of the firm in question or its assets is transferred for adequate consideration from a spouse who is not a socially and economically disadvantaged individual to a spouse who is such an individual. In this case, you must give particularly close and careful scrutiny to the ownership and control of a firm to ensure that it is owned and controlled, in substance as well as in form, by a socially and economically disadvantaged individual.

[64 FR 5126, Feb. 2, 1999, as amended at 79 FR 59597, Oct. 2, 2014]

§26.71 What rules govern determinations concerning control?

(a) In determining whether socially and economically disadvantaged owners control a firm, you must consider all the facts in the record, viewed as a whole.

(b) Only an independent business may be certified as a DBE. An independent business is one the viability of which does not depend on its relationship with another firm or firms.

(1) In determining whether a potential DBE is an independent business, you must scrutinize relationships with non-DBE firms, in such areas as personnel, facilities, equipment, financial and/or bonding support, and other resources.

(2) You must consider whether present or recent employer/employee relationships between the disadvantaged owner(s) of the potential DBE and non-DBE firms or persons associated with non-DBE firms compromise the independence of the potential DBE firm.

(3) You must examine the firm's relationships with prime contractors to determine whether a pattern of exclusive or primary dealings with a prime contractor compromises the independence of the potential DBE firm.

(4) In considering factors related to the independence of a potential DBE firm, you must consider the consistency of relationships between the potential DBE and non-DBE firms with normal industry practice.

(c) A DBE firm must not be subject to any formal or informal restrictions which limit the customary discretion of the socially and economically disadvantaged owners. There can be no restrictions through corporate charter provisions, by-law provisions, contracts or any other formal or informal devices (e.g., cumulative voting rights, voting powers attached to different classes of stock, employment contracts, requirements for concurrence by non-disadvantaged partners, conditions precedent or subsequent, executory agreements, voting trusts, restrictions on or assignments of voting rights) that prevent the socially and economically disadvantaged owners, without the cooperation or vote of any non-disadvantaged individual, from making any business decision of the firm. This paragraph does not preclude a spousal co-signature on documents as provided for in §26.69(j)(2).

(d) The socially and economically disadvantaged owners must possess the power to direct or cause the direction of the management and policies of the firm and to make day-to-day as well as long-term

decisions on matters of management, policy and operations.

(1) A disadvantaged owner must hold the highest officer position in the company (e.g., chief executive officer or president).

(2) In a corporation, disadvantaged owners must control the board of directors.

(3) In a partnership, one or more disadvantaged owners must serve as general partners, with control over all partnership decisions.

(e) Individuals who are not socially and economically disadvantaged or immediate family members may be involved in a DBE firm as owners, managers, employees, stockholders, officers, and/or directors. Such individuals must not, however possess or exercise the power to control the firm, or be disproportionately responsible for the operation of the firm.

(f) The socially and economically disadvantaged owners of the firm may delegate various areas of the management, policymaking, or daily operations of the firm to other participants in the firm, regardless of whether these participants are socially and economically disadvantaged individuals. Such delegations of authority must be revocable, and the socially and economically disadvantaged owners must retain the power to hire and fire any person to whom such authority is delegated. The managerial role of the socially and economically disadvantaged owners be such that the recipient can reasonably conclude that the socially and economically disadvantaged owners actually exercise control over the firm's operations, management, and policy.

(g) The socially and economically disadvantaged owners must have an overall understanding of, and managerial and technical competence and experience directly related to, the type of business in which the firm is engaged and the firm's operations. The socially and economically disadvantaged owners are not required to have experience or expertise in every critical area of the firm's operations, or to have greater experience or expertise in a given field than managers or key employees. The socially and economically disadvantaged owners must have the ability to intelligently and critically evaluate information presented by other participants in the firm's activities and to use this information to make independent decisions concerning the firm's daily operations, management, and policymaking. Generally, expertise limited to office management, administration, or bookkeeping functions unrelated to the principal business activities of the firm is insufficient to demonstrate control.

(h) If state or local law requires the persons to have a particular license or other credential in order to own and/or control a certain type of firm, then the socially and economically disadvantaged persons who own and control a potential DBE firm of that type must possess the required license or credential. If state or local law does not require such a person to have such a license or credential to own and/or control a firm, you must not deny certification solely on the ground that the person lacks the license or credential. However, you may take into account the absence of the license or credential as one factor in determining whether the socially and economically disadvantaged owners actually control the firm.

(i)(1) You may consider differences in remuneration between the socially and economically disadvantaged owners and other participants in the firm in determining whether to certify a firm as a DBE. Such consideration shall be in the context of the duties of the persons involved, normal industry practices, the firm's policy and practice concerning reinvestment of income, and any other explanations for the differences proffered by the firm. You may determine that a firm is controlled by its socially and economically disadvantaged owner although that owner's remuneration is lower than that of some other participants in the firm.

(2) In a case where a non-disadvantaged individual formerly controlled the firm, and a socially and economically disadvantaged individual now controls it, you may consider a difference between the remuneration of the former and current controller of the firm as a factor in determining who controls the firm, particularly when the non-disadvantaged individual remains involved with the firm and continues to receive greater compensation than the disadvantaged individual.

(j) In order to be viewed as controlling a firm, a socially and economically disadvantaged owner cannot engage in outside employment or other business interests that conflict with the management of the firm or prevent the individual from devoting sufficient time and attention to the affairs of the firm to control its activities. For example, absentee ownership of a business and part-time work in a full-time firm are not viewed as constituting control. However, an individual could be viewed as controlling a part-time business that operates only on evenings and/or weekends, if the individual controls it all the time it is operating.

(k)(1) A socially and economically disadvantaged individual may control a firm even though one or more of the individual's immediate family members (who themselves are not socially and economically disadvantaged individuals) participate in the firm as a manager, employee, owner, or in another capacity. Except as otherwise provided in this paragraph, you must make a judgment about the control the socially and economically disadvantaged owner exercises vis-a-vis other persons involved in the business as you do in other situations, without regard to whether or not the other persons are immediate family members.

(2) If you cannot determine that the socially and economically disadvantaged owners—as distinct from the family as a whole—control the firm, then the socially and economically disadvantaged owners have failed to carry their burden of proof concerning control, even though they may participate significantly in the firm's activities.

(1) Where a firm was formerly owned and/or controlled by a non-disadvantaged individual (whether or not an immediate family member), ownership and/or control were transferred to a socially and economically disadvantaged individual, and the nondisadvantaged individual remains involved with the firm in any capacity, there is a rebuttable presumption of control by the non-disadvantaged individual unless the disadvantaged individual now owning the firm demonstrates to you, by clear and convincing evidence, that:

(1) The transfer of ownership and/or control to the disadvantaged individual was made for reasons other than obtaining certification as a DBE; and

(2) The disadvantaged individual actually controls the management, policy, and operations of the firm, notwithstanding the continuing participation of a nondisadvantaged individual who formerly owned and/or controlled the firm.

(m) In determining whether a firm is controlled by its socially and economically disadvantaged owners, you may consider whether the firm owns equipment necessary to perform its work. However, you must not determine that a firm is not controlled by socially and economically disadvantaged individuals solely because the firm leases, rather than owns, such equipment, where leasing equipment is a normal industry practice and the lease does not involve a relationship with a prime contractor or other party that compromises the independence of the firm.

(n) You must grant certification to a firm only for specific types of work in which the socially and economically disadvantaged owners have the ability to control the firm. To become certified in an additional type of work, the firm need demonstrate to you only that its socially and economically disadvantaged owners are able to control the firm with respect to that type of work. You must not require

that the firm be recertified or submit a new application for certification, but you must verify the disadvantaged owner's control of the firm in the additional type of work.

(1) The types of work a firm can perform (whether on initial certification or when a new type of work is added) must be described in terms of the most specific available NAICS code for that type of work. If you choose, you may also, in addition to applying the appropriate NAICS code, apply a descriptor from a classification scheme of equivalent detail and specificity. A correct NAICS code is one that describes, as specifically as possible, the principal goods or services which the firm would provide to DOT recipients. Multiple NAICS codes may be assigned where appropriate. Program participants must rely on, and not depart from, the plain meaning of NAICS code descriptions in determining the scope of a firm's certification. If your Directory does not list types of work for any firm in a manner consistent with this paragraph (a)(1), you must update the Directory entry for that firm to meet the requirements of this paragraph (a)(1) by August 28, 2011.

(2) Firms and recipients must check carefully to make sure that the NAICS codes cited in a certification are kept up-to-date and accurately reflect work which the UCP has determined the firm's owners can control. The firm bears the burden of providing detailed company information the certifying agency needs to make an appropriate NAICS code designation.

(3) If a firm believes that there is not a NAICS code that fully or clearly describes the type(s) of work in which it is seeking to be certified as a DBE, the firm may request that the certifying agency, in its certification documentation, supplement the assigned NAICS code(s) with a clear, specific, and detailed narrative description of the type of work in which the firm is certified. A vague, general, or confusing description is not sufficient for this purpose, and recipients should not rely on such a description in determining whether a firm's participation can be counted toward DBE goals.

(4) A certifier is not precluded from changing a certification classification or description if there is a factual basis in the record. However, certifiers must not make after-the-fact statements about the scope of a certification, not supported by evidence in the record of the certification action.

(o) A business operating under a franchise or license agreement may be certified if it meets the standards in this subpart and the franchiser or licenser is not affiliated with the franchisee or licensee. In determining whether affiliation exists, you should generally not consider the restraints relating to standardized quality, advertising, accounting format, and other provisions imposed on the franchisee or licensee by the franchise agreement or license, provided that the franchisee or licensee has the right to profit from its efforts and bears the risk of loss commensurate with ownership. Alternatively, even though a franchisee or licensee may not be controlled by virtue of such provisions in the franchise agreement or license, affiliation could arise through other means, such as common management or excessive restrictions on the sale or transfer of the franchise interest or license.

(p) In order for a partnership to be controlled by socially and economically disadvantaged individuals, any non-disadvantaged partners must not have the power, without the specific written concurrence of the socially and economically disadvantaged partner(s), to contractually bind the partnership or subject the partnership to contract or tort liability.

(q) The socially and economically disadvantaged individuals controlling a firm may use an employee leasing company. The use of such a company does not preclude the socially and economically disadvantaged individuals from controlling their firm if they continue to maintain an employer-employee relationship with the leased employees. This includes being responsible for hiring, firing, training, assigning, and otherwise controlling the on-the-job activities of the employees, as well as ultimate

responsibility for wage and tax obligations related to the employees.

[64 FR 5126, Feb. 2, 1999, as amended at 76 FR 5099, Jan. 28, 2011; 79 FR 59597, Oct. 2, 2014]

§26.73 What are other rules affecting certification?

(a)(1) Consideration of whether a firm performs a commercially useful function or is a regular dealer pertains solely to counting toward DBE goals the participation of firms that have already been certified as DBEs. Except as provided in paragraph (a)(2) of this section, you must not consider commercially useful function issues in any way in making decisions about whether to certify a firm as a DBE.

(2) You may consider, in making certification decisions, whether a firm has exhibited a pattern of conduct indicating its involvement in attempts to evade or subvert the intent or requirements of the DBE program.

(b)(1) You must evaluate the eligibility of a firm on the basis of present circumstances. You must not refuse to certify a firm based solely on historical information indicating a lack of ownership or control of the firm by socially and economically disadvantaged individuals at some time in the past, if the firm currently meets the ownership and control standards of this part.

(2) You must not refuse to certify a firm solely on the basis that it is a newly formed firm, has not completed projects or contracts at the time of its application, has not yet realized profits from its activities, or has not demonstrated a potential for success. If the firm meets disadvantaged, size, ownership, and control requirements of this Part, the firm is eligible for certification.

(c) DBE firms and firms seeking DBE certification shall cooperate fully with your requests (and DOT requests) for information relevant to the certification process. Failure or refusal to provide such information is a ground for a denial or removal of certification.

(d) Only firms organized for profit may be eligible DBEs. Not-for-profit organizations, even though controlled by socially and economically disadvantaged individuals, are not eligible to be certified as DBEs.

(e) An eligible DBE firm must be owned by individuals who are socially and economically disadvantaged. Except as provided in this paragraph, a firm that is not owned by such individuals, but instead is owned by another firm—even a DBE firm—cannot be an eligible DBE.

(1) If socially and economically disadvantaged individuals own and control a firm through a parent or holding company, established for tax, capitalization or other purposes consistent with industry practice, and the parent or holding company in turn owns and controls an operating subsidiary, you may certify the subsidiary if it otherwise meets all requirements of this subpart. In this situation, the individual owners and controllers of the parent or holding company are deemed to control the subsidiary through the parent or holding company.

(2) You may certify such a subsidiary only if there is cumulatively 51 percent ownership of the subsidiary by socially and economically disadvantaged individuals. The following examples illustrate how this cumulative ownership provision works:

Example 1: Socially and economically disadvantaged individuals own 100 percent of a holding company, which has a wholly-owned subsidiary. The subsidiary may be certified, if it meets all other

requirements.

Example 2: Disadvantaged individuals own 100 percent of the holding company, which owns 51 percent of a subsidiary. The subsidiary may be certified, if all other requirements are met.

Example 3: Disadvantaged individuals own 80 percent of the holding company, which in turn owns 70 percent of a subsidiary. In this case, the cumulative ownership of the subsidiary by disadvantaged individuals is 56 percent (80 percent of the 70 percent). This is more than 51 percent, so you may certify the subsidiary, if all other requirements are met.

Example 4: Same as Example 2 or 3, but someone other than the socially and economically disadvantaged owners of the parent or holding company controls the subsidiary. Even though the subsidiary is owned by disadvantaged individuals, through the holding or parent company, you cannot certify it because it fails to meet control requirements.

Example 5: Disadvantaged individuals own 60 percent of the holding company, which in turn owns 51 percent of a subsidiary. In this case, the cumulative ownership of the subsidiary by disadvantaged individuals is about 31 percent. This is less than 51 percent, so you cannot certify the subsidiary.

Example 6: The holding company, in addition to the subsidiary seeking certification, owns several other companies. The combined gross receipts of the holding companies and its subsidiaries are greater than the size standard for the subsidiary seeking certification and/or the gross receipts cap of §26.65(b). Under the rules concerning affiliation, the subsidiary fails to meet the size standard and cannot be certified.

(f) Recognition of a business as a separate entity for tax or corporate purposes is not necessarily sufficient to demonstrate that a firm is an independent business, owned and controlled by socially and economically disadvantaged individuals.

(g) You must not require a DBE firm to be prequalified as a condition for certification.

(h) A firm that is owned by an Indian tribe or Native Hawaiian organization, rather than by Indians or Native Hawaiians as individuals, may be eligible for certification. Such a firm must meet the size standards of §26.65. Such a firm must be controlled by socially and economically disadvantaged individuals, as provided in §26.71.

(i) The following special rules apply to the certification of firms related to Alaska Native Corporations (ANCs).

(1) Notwithstanding any other provisions of this subpart, a direct or indirect subsidiary corporation, joint venture, or partnership entity of an ANC is eligible for certification as a DBE if it meets all of the following requirements:

(i) The Settlement Common Stock of the underlying ANC and other stock of the ANC held by holders of the Settlement Common Stock and by Natives and descendents of Natives represents a majority of both the total equity of the ANC and the total voting power of the corporation for purposes of electing directors;

(ii) The shares of stock or other units of common ownership interest in the subsidiary, joint venture, or partnership entity held by the ANC and by holders of its Settlement Common Stock represent a majority of both the total equity of the entity and the total voting power of the entity for the purpose of electing directors, the general partner, or principal officers; and

(iii) The subsidiary, joint venture, or partnership entity has been certified by the Small Business Administration under the 8(a) or small disadvantaged business program.

(2) As a recipient to whom an ANC-related entity applies for certification, you do not use the DOT uniform application form (*see* Appendix F of this part). You must obtain from the firm documentation sufficient to demonstrate that entity meets the requirements of paragraph (i)(1) of this section. You must also obtain sufficient information about the firm to allow you to administer your program (*e.g.*, information that would appear in your DBE Directory).

(3) If an ANC-related firm does not meet all the conditions of paragraph (i)(1) of this section, then it must meet the requirements of paragraph (h) of this section in order to be certified, on the same basis as firms owned by Indian Tribes or Native Hawaiian Organizations.

[64 FR 5126, Feb. 2, 1999, as amended at 68 FR 35555, June 16, 2003; 76 FR 5099, Jan. 28, 2011; 79 FR 59598, Oct. 2, 2014]

Subpart E—Certification Procedures

§26.81 What are the requirements for Unified Certification Programs?

(a) You and all other DOT recipients in your state must participate in a Unified Certification Program (UCP).

(1) Within three years of March 4, 1999, you and the other recipients in your state must sign an agreement establishing the UCP for that state and submit the agreement to the Secretary for approval. The Secretary may, on the basis of extenuating circumstances shown by the recipients in the state, extend this deadline for no more than one additional year.

(2) The agreement must provide for the establishment of a UCP meeting all the requirements of this section. The agreement must specify that the UCP will follow all certification procedures and standards of this part, on the same basis as recipients; that the UCP shall cooperate fully with oversight, review, and monitoring activities of DOT and its operating administrations; and that the UCP shall implement DOT directives and guidance concerning certification matters. The agreement shall also commit recipients to ensuring that the UCP has sufficient resources and expertise to carry out the requirements of this part. The agreement shall include an implementation schedule ensuring that the UCP is fully operational no later than 18 months following the approval of the agreement by the Secretary.

(3) Subject to approval by the Secretary, the UCP in each state may take any form acceptable to the recipients in that state.

(4) The Secretary shall review the UCP and approve it, disapprove it, or remand it to the recipients in the state for revisions. A complete agreement which is not disapproved or remanded within 180 days of its receipt is deemed to be accepted.

(5) If you and the other recipients in your state fail to meet the deadlines set forth in this paragraph (a), you shall have the opportunity to make an explanation to the Secretary why a deadline could not be met and why meeting the deadline was beyond your control. If you fail to make such an explanation, or the explanation does not justify the failure to meet the deadline, the Secretary shall direct you to complete the required action by a date certain. If you and the other recipients fail to carry out this direction in a timely manner, you are collectively in noncompliance with this part.

(b) The UCP shall make all certification decisions on behalf of all DOT recipients in the state with respect to participation in the DOT DBE Program.

(1) Certification decisions by the UCP shall be binding on all DOT recipients within the state.

(2) The UCP shall provide "one-stop shopping" to applicants for certification, such that an applicant is required to apply only once for a DBE certification that will be honored by all recipients in the state.

(3) All obligations of recipients with respect to certification and nondiscrimination must be carried out by UCPs, and recipients may use only UCPs that comply with the certification and nondiscrimination requirements of this part.

(c) All certifications by UCPs shall be pre-certifications; i.e., certifications that have been made final before the due date for bids or offers on a contract on which a firm seeks to participate as a DBE.

(d) A UCP is not required to process an application for certification from a firm having its principal place of business outside the state if the firm is not certified by the UCP in the state in which it maintains its principal place of business. The "home state" UCP shall share its information and documents concerning the firm with other UCPs that are considering the firm's application.

(e) Subject to DOT approval as provided in this section, the recipients in two or more states may form a regional UCP. UCPs may also enter into written reciprocity agreements with other UCPs. Such an agreement shall outline the specific responsibilities of each participant. A UCP may accept the certification of any other UCP or DOT recipient.

(f) Pending the establishment of UCPs meeting the requirements of this section, you may enter into agreements with other recipients, on a regional or inter-jurisdictional basis, to perform certification functions required by this part. You may also grant reciprocity to other recipient's certification decisions.

(g) Each UCP shall maintain a unified DBE directory containing, for all firms certified by the UCP (including those from other states certified under the provisions of this part), the information required by §26.31. The UCP shall make the directory available to the public electronically, on the internet, as well as in print. The UCP shall update the electronic version of the directory by including additions, deletions, and other changes as soon as they are made and shall revise the print version of the Directory at least once a year.

(h) Except as otherwise specified in this section, all provisions of this subpart D of this part pertaining to recipients also apply to UCPs.

[64 FR 5126, Feb. 2, 1999, as amended at 76 FR 5100, Jan. 28, 2011]

§26.83 What procedures do recipients follow in making certification decisions?

(a) You must ensure that only firms certified as eligible DBEs under this section participate as DBEs in your program.

(b) You must determine the eligibility of firms as DBEs consistent with the standards of subpart D of this part. When a UCP is formed, the UCP must meet all the requirements of subpart D of this part and this subpart that recipients are required to meet.

(c)(1) You must take all the following steps in determining whether a DBE firm meets the standards of subpart D of this part:

(i) Perform an on-site visit to the firm's principal place of business. You must interview the principal officers and review their résumés and/or work histories. You may interview key personnel of the firm if necessary. You must also perform an on-site visit to job sites if there are such sites on which the firm is working at the time of the eligibility investigation in your jurisdiction or local area. You may rely upon the site visit report of any other recipient with respect to a firm applying for certification;

(ii) Analyze documentation related to the legal structure, ownership, and control of the applicant firm. This includes, but is not limited to, Articles of Incorporation/Organization; corporate by-laws or operating agreements; organizational, annual and board/member meeting records; stock ledgers and certificates; and State-issued Certificates of Good Standing

(iii) Analyze the bonding and financial capacity of the firm; lease and loan agreements; bank account signature cards;

(iv) Determine the work history of the firm, including contracts it has received, work it has completed; and payroll records;

(v) Obtain a statement from the firm of the type of work it prefers to perform as part of the DBE program and its preferred locations for performing the work, if any.

(vi) Obtain or compile a list of the equipment owned by or available to the firm and the licenses the firm and its key personnel possess to perform the work it seeks to do as part of the DBE program;

(vii) Obtain complete Federal income tax returns (or requests for extensions) filed by the firm, its affiliates, and the socially and economically disadvantaged owners for the last 3 years. A complete return includes all forms, schedules, and statements filed with the Internal Revenue Service.

(viii) Require potential DBEs to complete and submit an appropriate application form, except as otherwise provided in §26.85 of this part.

(2) You must use the application form provided in Appendix F to this part without change or revision. However, you may provide in your DBE program, with the written approval of the concerned operating administration, for supplementing the form by requesting specified additional information not inconsistent with this part.

(3) You must make sure that the applicant attests to the accuracy and truthfulness of the information on the application form. This shall be done either in the form of an affidavit sworn to by the applicant before a person who is authorized by State law to administer oaths or in the form of an unsworn declaration executed under penalty of perjury of the laws of the United States.

(4) You must review all information on the form prior to making a decision about the eligibility of the firm. You may request clarification of information contained in the application at any time in the application process.

(d) When another recipient, in connection with its consideration of the eligibility of a firm, makes a written request for certification information you have obtained about that firm (e.g., including application

materials or the report of a site visit, if you have made one to the firm), you must promptly make the information available to the other recipient.

(e) [Reserved]

(f) Subject to the approval of the concerned operating administration as part of your DBE program, you may impose a reasonable application fee for certification. Fee waivers shall be made in appropriate cases.

(g) You must safeguard from disclosure to unauthorized persons information gathered as part of the certification process that may reasonably be regarded as proprietary or other confidential business information, consistent with applicable Federal, state, and local law.

(h)(1) Once you have certified a DBE, it shall remain certified until and unless you have removed its certification, in whole or in part, through the procedures of 26.87 of this part, except as provided in 26.67(b)(1) of this part.

(2) You may not require DBEs to reapply for certification or undergo a recertification process. However, you may conduct a certification review of a certified DBE firm, including a new on-site review, if appropriate in light of changed circumstances (e.g., of the kind requiring notice under paragraph (i) of this section or relating to suspension of certification under §26.88), a complaint, or other information concerning the firm's eligibility. If information comes to your attention that leads you to question the firm's eligibility, you may conduct an on-site review on an unannounced basis, at the firm's offices and job sites.

(i) If you are a DBE, you must inform the recipient or UCP in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, or control requirements of this part or any material change in the information provided in your application form.

(1) Changes in management responsibility among members of a limited liability company are covered by this requirement.

(2) You must attach supporting documentation describing in detail the nature of such changes.

(3) The notice must take the form of an affidavit sworn to by the applicant before a person who is authorized by state law to administer oaths or of an unsworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under §26.109(c).

(j) If you are a DBE, you must provide to the recipient, every year on the anniversary of the date of your certification, an affidavit sworn to by the firm's owners before a person who is authorized by State law to administer oaths or an unsworn declaration executed under penalty of perjury of the laws of the United States. This affidavit must affirm that there have been no changes in the firm's circumstances affecting its ability to meet size, disadvantaged status, ownership, or control requirements of this part or any material changes in the information provided in its application form, except for changes about which you have notified the recipient under paragraph (i) of this section. The affidavit shall specifically affirm that your firm continues to meet SBA business size criteria and the overall gross receipts cap of this part, documenting this affirmation with supporting documentation of your firm's size and gross receipts (e.g., submission of Federal tax returns). If you fail to provide this affidavit in a timely manner, you will be deemed to have failed to cooperate under §26.109(c).

(k) If you are a recipient, you must make decisions on applications for certification within 90 days of receiving from the applicant firm all information required under this part. You may extend this time period once, for no more than an additional 60 days, upon written notice to the firm, explaining fully and specifically the reasons for the extension. You may establish a different time frame in your DBE program, upon a showing that this time frame is not feasible, and subject to the approval of the concerned operating administration. Your failure to make a decision by the applicable deadline under this paragraph is deemed a constructive denial of the application, on the basis of which the firm may appeal to DOT under §26.89.

(l) As a recipient or UCP, you must advise each applicant within 30 days from your receipt of the application whether the application is complete and suitable for evaluation and, if not, what additional information or action is required.

(m) Except as otherwise provided in this paragraph, if an applicant for DBE certification withdraws its application before you have issued a decision on the application, the applicant can resubmit the application at any time. As a recipient or UCP, you may not apply the waiting period provided under §26.86(c) of this part before allowing the applicant to resubmit its application. However, you may place the reapplication at the "end of the line," behind other applications that have been made since the firm's previous application was withdrawn. You may also apply the waiting period provided under §26.86(c) of this part to a firm that has established a pattern of frequently withdrawing applications before you make a decision.

[64 FR 5126, Feb. 2, 1999, as amended at 68 FR 35555, June 16, 2003; 76 FR 5100, Jan. 28, 2011; 79 FR 59598, Oct. 2, 2014]

§26.85 Interstate certification.

(a) This section applies with respect to any firm that is currently certified in its home state.

(b) When a firm currently certified in its home state ("State A") applies to another State ("State B") for DBE certification, State B may, at its discretion, accept State A's certification and certify the firm, without further procedures.

(1) To obtain certification in this manner, the firm must provide to State B a copy of its certification notice from State A.

(2) Before certifying the firm, State B must confirm that the firm has a current valid certification from State A. State B can do so by reviewing State A's electronic directory or obtaining written confirmation from State A.

(c) In any situation in which State B chooses not to accept State A's certification of a firm as provided in paragraph (b) of this section, as the applicant firm you must provide the information in paragraphs (c)(1) through (4) of this section to State B.

(1) You must provide to State B a complete copy of the application form, all supporting documents, and any other information you have submitted to State A or any other state related to your firm's certification. This includes affidavits of no change (*see* §26.83(j)) and any notices of changes (*see* §26.83(i)) that you have submitted to State A, as well as any correspondence you have had with State A's UCP or any other recipient concerning your application or status as a DBE firm.

(2) You must also provide to State B any notices or correspondence from states other than State A

relating to your status as an applicant or certified DBE in those states. For example, if you have been denied certification or decertified in State C, or subject to a decertification action there, you must inform State B of this fact and provide all documentation concerning this action to State B.

(3) If you have filed a certification appeal with DOT (*see* §26.89), you must inform State B of the fact and provide your letter of appeal and DOT's response to State B.

(4) You must submit an affidavit sworn to by the firm's owners before a person who is authorized by State law to administer oaths or an unsworn declaration executed under penalty of perjury of the laws of the United States.

(i) This affidavit must affirm that you have submitted all the information required by 49 CFR 26.85(c) and the information is complete and, in the case of the information required by 26.85(c)(1), is an identical copy of the information submitted to State A.

(ii) If the on-site report from State A supporting your certification in State A is more than three years old, as of the date of your application to State B, State B may require that your affidavit also affirm that the facts in the on-site report remain true and correct.

(d) As State B, when you receive from an applicant firm all the information required by paragraph (c) of this section, you must take the following actions:

(2) Determine whether there is good cause to believe that State A's certification of the firm is erroneous or should not apply in your State. Reasons for making such a determination may include the following:

(i) Evidence that State A's certification was obtained by fraud;

(ii) New information, not available to State A at the time of its certification, showing that the firm does not meet all eligibility criteria;

(iii) State A's certification was factually erroneous or was inconsistent with the requirements of this part;

(iv) The State law of State B requires a result different from that of the State law of State A.

(v) The information provided by the applicant firm did not meet the requirements of paragraph (c) of this section.

(3) If, as State B, unless you have determined that there is good cause to believe that State A's certification is erroneous or should not apply in your State, you must, no later than 60 days from the date on which you received from the applicant firm all the information required by paragraph (c) of this section, send to the applicant firm a notice that it is certified and place the firm on your directory of certified firms.

(4) If, as State B, you have determined that there is good cause to believe that State A's certification is erroneous or should not apply in your State, you must, no later than 60 days from the date on which you received from the applicant firm all the information required by paragraph (c) of this section, send to the applicant firm a notice stating the reasons for your determination.

(i) This notice must state with particularity the specific reasons why State B believes that the firm does not meet the requirements of this Part for DBE eligibility and must offer the firm an opportunity to respond to State B with respect to these reasons.

(ii) The firm may elect to respond in writing, to request an in-person meeting with State B's decision maker to discuss State B's objections to the firm's eligibility, or both. If the firm requests a meeting, as State B you must schedule the meeting to take place within 30 days of receiving the firm's request.

(iii) The firm bears the burden of demonstrating, by a preponderance of evidence, that it meets the requirements of this Part with respect to the particularized issues raised by State B's notice. The firm is not otherwise responsible for further demonstrating its eligibility to State B.

(iv) The decision maker for State B must be an individual who is thoroughly familiar with the provisions of this Part concerning certification.

(v) State B must issue a written decision within 30 days of the receipt of the written response from the firm or the meeting with the decision maker, whichever is later.

(vi) The firm's application for certification is stayed pending the outcome of this process.

(vii) A decision under this paragraph (d)(4) may be appealed to the Departmental Office of Civil Rights under s§26.89 of this part.

(e) As State B, if you have not received from State A a copy of the site visit review report by a date 14 days after you have made a timely request for it, you may hold action required by paragraphs (d)(2) through (4) of this section in abeyance pending receipt of the site visit review report. In this event, you must, no later than 30 days from the date on which you received from an applicant firm all the information required by paragraph (c) of this section, notify the firm in writing of the delay in the process and the reason for it.

(f)(1) As a UCP, when you deny a firm's application, reject the application of a firm certified in State A or any other State in which the firm is certified, through the procedures of paragraph (d)(4) of this section, or decertify a firm, in whole or in part, you must make an entry in the Department of Transportation Office of Civil Rights' (DOCR's) Ineligibility Determination Online Database. You must enter the following information:

- (i) The name of the firm;
- (ii) The name(s) of the firm's owner(s);
- (iii) The type and date of the action;
- (iv) The reason for the action.

(2) As a UCP, you must check the DOCR Web site at least once every month to determine whether any firm that is applying to you for certification or that you have already certified is on the list.

(3) For any such firm that is on the list, you must promptly request a copy of the listed decision from the UCP that made it. As the UCP receiving such a request, you must provide a copy of the decision to the requesting UCP within 7 days of receiving the request. As the UCP receiving the decision, you must then consider the information in the decision in determining what, if any, action to take with respect to the certified DBE firm or applicant.

(g) You must implement the requirements of this section beginning January 1, 2012.

[76 FR 5100, Jan. 28, 2011]

§26.86 What rules govern recipients' denials of initial requests for certification?

(a) When you deny a request by a firm, which is not currently certified with you, to be certified as a DBE, you must provide the firm a written explanation of the reasons for the denial, specifically referencing the evidence in the record that supports each reason for the denial. All documents and other information on which the denial is based must be made available to the applicant, on request.

(b) [Reserved]

(c) When a firm is denied certification, you must establish a time period of no more than twelve months that must elapse before the firm may reapply to the recipient for certification. You may provide, in your DBE program, subject to approval by the concerned operating administration, a shorter waiting period for reapplication. The time period for reapplication begins to run on the date the explanation required by paragraph (a) of this section is received by the firm. An applicant's appeal of your decision to the Department pursuant to \$26.89 does not extend this period.

(d) When you make an administratively final denial of certification concerning a firm, the firm may appeal the denial to the Department under §26.89.

[64 FR 5126, Feb. 2, 1999. Redesignated and amended at 68 FR 35555, June 16, 2003; 79 FR 59598, Oct. 2, 2014]

§26.87 What procedures does a recipient use to remove a DBE's eligibility?

(a) *Ineligibility complaints*. (1) Any person may file with you a written complaint alleging that a currently-certified firm is ineligible and specifying the alleged reasons why the firm is ineligible. You are not required to accept a general allegation that a firm is ineligible or an anonymous complaint. The complaint may include any information or arguments supporting the complainant's assertion that the firm is ineligible and should not continue to be certified. Confidentiality of complainants' identities must be protected as provided in §26.109(b).

(2) You must review your records concerning the firm, any material provided by the firm and the complainant, and other available information. You may request additional information from the firm or conduct any other investigation that you deem necessary.

(3) If you determine, based on this review, that there is reasonable cause to believe that the firm is

ineligible, you must provide written notice to the firm that you propose to find the firm ineligible, setting forth the reasons for the proposed determination. If you determine that such reasonable cause does not exist, you must notify the complainant and the firm in writing of this determination and the reasons for it. All statements of reasons for findings on the issue of reasonable cause must specifically reference the evidence in the record on which each reason is based.

(b) *Recipient-initiated proceedings*. If, based on notification by the firm of a change in its circumstances or other information that comes to your attention, you determine that there is reasonable cause to believe that a currently certified firm is ineligible, you must provide written notice to the firm that you propose to find the firm ineligible, setting forth the reasons for the proposed determination. The statement of reasons for the finding of reasonable cause must specifically reference the evidence in the record on which each reason is based.

(c) *DOT directive to initiate proceeding*. (1) If the concerned operating administration determines that information in your certification records, or other information available to the concerned operating administration, provides reasonable cause to believe that a firm you certified does not meet the eligibility criteria of this part, the concerned operating administration may direct you to initiate a proceeding to remove the firm's certification.

(2) The concerned operating administration must provide you and the firm a notice setting forth the reasons for the directive, including any relevant documentation or other information.

(3) You must immediately commence and prosecute a proceeding to remove eligibility as provided by paragraph (b) of this section.

(d) *Hearing*. When you notify a firm that there is reasonable cause to remove its eligibility, as provided in paragraph (a), (b), or (c) of this section, you must give the firm an opportunity for an informal hearing, at which the firm may respond to the reasons for the proposal to remove its eligibility in person and provide information and arguments concerning why it should remain certified.

(1) In such a proceeding, you bear the burden of proving, by a preponderance of the evidence, that the firm does not meet the certification standards of this part.

(2) You must maintain a complete record of the hearing, by any means acceptable under state law for the retention of a verbatim record of an administrative hearing. If there is an appeal to DOT under §26.89, you must provide a transcript of the hearing to DOT and, on request, to the firm. You must retain the original record of the hearing. You may charge the firm only for the cost of copying the record.

(3) The firm may elect to present information and arguments in writing, without going to a hearing. In such a situation, you bear the same burden of proving, by a preponderance of the evidence, that the firm does not meet the certification standards, as you would during a hearing.

(e) *Separation of functions.* You must ensure that the decision in a proceeding to remove a firm's eligibility is made by an office and personnel that did not take part in actions leading to or seeking to implement the proposal to remove the firm's eligibility and are not subject, with respect to the matter, to direction from the office or personnel who did take part in these actions.

(1) Your method of implementing this requirement must be made part of your DBE program.

(2) The decisionmaker must be an individual who is knowledgeable about the certification

requirements of your DBE program and this part.

(3) Before a UCP is operational in its state, a small airport or small transit authority (*i.e.*, an airport or transit authority serving an area with less than 250,000 population) is required to meet this requirement only to the extent feasible.

(f) *Grounds for decision*. You may base a decision to remove a firm's eligibility only on one or more of the following grounds:

(1) Changes in the firm's circumstances since the certification of the firm by the recipient that render the firm unable to meet the eligibility standards of this part;

(2) Information or evidence not available to you at the time the firm was certified;

(3) Information relevant to eligibility that has been concealed or misrepresented by the firm;

(4) A change in the certification standards or requirements of the Department since you certified the firm;

(5) Your decision to certify the firm was clearly erroneous;

(6) The firm has failed to cooperate with you (see §26.109(c));

(7) The firm has exhibited a pattern of conduct indicating its involvement in attempts to subvert the intent or requirements of the DBE program (see \$26.73(a)(2)); or

(8) The firm has been suspended or debarred for conduct related to the DBE program. The notice required by paragraph (g) of this section must include a copy of the suspension or debarment action. A decision to remove a firm for this reason shall not be subject to the hearing procedures in paragraph (d) of this section.

(g) *Notice of decision.* Following your decision, you must provide the firm written notice of the decision and the reasons for it, including specific references to the evidence in the record that supports each reason for the decision. The notice must inform the firm of the consequences of your decision and of the availability of an appeal to the Department of Transportation under §26.89. You must send copies of the notice to the complainant in an ineligibility complaint or the concerned operating administration that had directed you to initiate the proceeding. Provided that, when sending such a notice to a complainant other than a DOT operating administration, you must not include information reasonably construed as confidential business information without the written consent of the firm that submitted the information.

(h) [Reserved]

(i) *Status of firm during proceeding*. (1) A firm remains an eligible DBE during the pendancy of your proceeding to remove its eligibility.

(2) The firm does not become ineligible until the issuance of the notice provided for in paragraph (g) of this section.

(j) Effects of removal of eligibility. When you remove a firm's eligibility, you must take the following

action:

(1) When a prime contractor has made a commitment to using the ineligible firm, or you have made a commitment to using a DBE prime contractor, but a subcontract or contract has not been executed before you issue the decertification notice provided for in paragraph (g) of this section, the ineligible firm does not count toward the contract goal or overall goal. You must direct the prime contractor to meet the contract goal with an eligible DBE firm or demonstrate to you that it has made a good faith effort to do so.

(2) If a prime contractor has executed a subcontract with the firm before you have notified the firm of its ineligibility, the prime contractor may continue to use the firm on the contract and may continue to receive credit toward its DBE goal for the firm's work. In this case, or in a case where you have let a prime contract to the DBE that was later ruled ineligible, the portion of the ineligible firm's performance of the contract remaining after you issued the notice of its ineligibility shall not count toward your overall goal, but may count toward the contract goal.

(3) *Exception:* If the DBE's ineligibility is caused solely by its having exceeded the size standard during the performance of the contract, you may continue to count its participation on that contract toward overall and contract goals.

(k) *Availability of appeal*. When you make an administratively final removal of a firm's eligibility under this section, the firm may appeal the removal to the Department under §26.89.

[64 FR 5126, Feb. 2, 1999, as amended at 68 FR 35556, June 16, 2003; 76 FR 5101, Jan. 28, 2011; 79 FR 59599, Oct. 2, 2014]

§26.88 Summary suspension of certification.

(a) A recipient shall immediately suspend a DBE's certification without adhering to the requirements in §26.87(d) of this part when an individual owner whose ownership and control of the firm are necessary to the firm's certification dies or is incarcerated.

(b)(1) A recipient may immediately suspend a DBE's certification without adhering to the requirements in §26.87(d) when there is adequate evidence to believe that there has been a material change in circumstances that may affect the eligibility of the DBE firm to remain certified, or when the DBE fails to notify the recipient or UCP in writing of any material change in circumstances as required by §26.83(i) of this part or fails to timely file an affidavit of no change under §26.83(j).

(2) In determining the adequacy of the evidence to issue a suspension under paragraph (b)(1) of this section, the recipient shall consider all relevant factors, including how much information is available, the credibility of the information and allegations given the circumstances, whether or not important allegations are corroborated, and what inferences can reasonably be drawn as a result.

(c) The concerned operating administration may direct the recipient to take action pursuant to paragraph (a) or (b) this section if it determines that information available to it is sufficient to warrant immediate suspension.

(d) When a firm is suspended pursuant to paragraph (a) or (b) of this section, the recipient shall immediately notify the DBE of the suspension by certified mail, return receipt requested, to the last known address of the owner(s) of the DBE.

(e) Suspension is a temporary status of ineligibility pending an expedited show cause hearing/proceeding under §26.87 of this part to determine whether the DBE is eligible to participate in the program and consequently should be removed. The suspension takes effect when the DBE receives, or is deemed to have received, the Notice of Suspension.

(f) While suspended, the DBE may not be considered to meet a contract goal on a new contract, and any work it does on a contract received during the suspension shall not be counted toward a recipient's overall goal. The DBE may continue to perform under an existing contract executed before the DBE received a Notice of Suspension and may be counted toward the contract goal during the period of suspension as long as the DBE is performing a commercially useful function under the existing contract.

(g) Following receipt of the Notice of Suspension, if the DBE believes it is no longer eligible, it may voluntarily withdraw from the program, in which case no further action is required. If the DBE believes that its eligibility should be reinstated, it must provide to the recipient information demonstrating that the firm is eligible notwithstanding its changed circumstances. Within 30 days of receiving this information, the recipient must either lift the suspension and reinstate the firm's certification or commence a decertification action under §26.87 of this part. If the recipient commences a decertification proceeding, the suspension remains in effect during the proceeding.

(h) The decision to immediately suspend a DBE under paragraph (a) or (b) of this section is not appealable to the US Department of Transportation. The failure of a recipient to either lift the suspension and reinstate the firm or commence a decertification proceeding, as required by paragraph (g) of this section, is appealable to the U.S. Department of Transportation under §26.89 of this part, as a constructive decertification.

[79 FR 59599, Oct. 2, 2014]

§26.89 What is the process for certification appeals to the Department of Transportation?

(a)(1) If you are a firm that is denied certification or whose eligibility is removed by a recipient, including SBA-certified firms, you may make an administrative appeal to the Department.

(2) If you are a complainant in an ineligibility complaint to a recipient (including the concerned operating administration in the circumstances provided in §26.87(c)), you may appeal to the Department if the recipient does not find reasonable cause to propose removing the firm's eligibility or, following a removal of eligibility proceeding, determines that the firm is eligible.

(3) Send appeals to the following address: U.S. Department of Transportation, Departmental Office of Civil Rights, 1200 New Jersey Avenue SE., Washington, DC 20590-0001.

(b) Pending the Department's decision in the matter, the recipient's decision remains in effect. The Department does not stay the effect of the recipient's decision while it is considering an appeal.

(c) If you want to file an appeal, you must send a letter to the Department within 90 days of the date of the recipient's final decision, including information and setting forth a full and specific statement as to why the decision is erroneous, what significant fact that the recipient failed to consider, or what provisions of this Part the recipient did not properly apply. The Department may accept an appeal filed later than 90 days after the date of the decision if the Department determines that there was good cause for the late filing of the appeal or in the interest of justice.

(d) When it receives an appeal, the Department requests a copy of the recipient's complete administrative record in the matter. If you are the recipient, you must provide the administrative record, including a hearing transcript, within 20 days of the Department's request. The Department may extend this time period on the basis of a recipient's showing of good cause. To facilitate the Department's review of a recipient's decision, you must ensure that such administrative records are well organized, indexed, and paginated. Records that do not comport with these requirements are not acceptable and will be returned to you to be corrected immediately. If an appeal is brought concerning one recipient's certification decision concerning a firm, and that recipient relied on the decision and/or administrative record of another recipient, this requirement applies to both recipients involved.

(e) The Department makes its decision based solely on the entire administrative record as supplemented by the appeal. The Department does not make a de novo review of the matter and does not conduct a hearing. The Department may also supplement the administrative record by adding relevant information made available by the DOT Office of Inspector General; Federal, State, or local law enforcement authorities; officials of a DOT operating administration or other appropriate DOT office; a recipient; or a firm or other private party.

(f) As a recipient, when you provide supplementary information to the Department, you shall also make this information available to the firm and any third-party complainant involved, consistent with Federal or applicable state laws concerning freedom of information and privacy. The Department makes available, on request by the firm and any third-party complainant involved, any supplementary information it receives from any source.

(1) The Department affirms your decision unless it determines, based on the entire administrative record, that your decision is unsupported by substantial evidence or inconsistent with the substantive or procedural provisions of this part concerning certification.

(2) If the Department determines, after reviewing the entire administrative record, that your decision was unsupported by substantial evidence or inconsistent with the substantive or procedural provisions of this part concerning certification, the Department reverses your decision and directs you to certify the firm or remove its eligibility, as appropriate. You must take the action directed by the Department's decision immediately upon receiving written notice of it.

(3) The Department is not required to reverse your decision if the Department determines that a procedural error did not result in fundamental unfairness to the appellant or substantially prejudice the opportunity of the appellant to present its case.

(4) If it appears that the record is incomplete or unclear with respect to matters likely to have a significant impact on the outcome of the case, the Department may remand the record to you with instructions seeking clarification or augmentation of the record before making a finding. The Department may also remand a case to you for further proceedings consistent with Department instructions concerning the proper application of the provisions of this part.

(5) The Department does not uphold your decision based on grounds not specified in your decision.

(6) The Department's decision is based on the status and circumstances of the firm as of the date of the decision being appealed.

(7) The Department provides written notice of its decision to you, the firm, and the complainant in an ineligibility complaint. A copy of the notice is also sent to any other recipient whose administrative record

or decision has been involved in the proceeding (*see* paragraph (d) of this section). The Department will also notify the SBA in writing when DOT takes an action on an appeal that results in or confirms a loss of eligibility to any SBA-certified firm. The notice includes the reasons for the Department's decision, including specific references to the evidence in the record that supports each reason for the decision.

(8) The Department's policy is to make its decision within 180 days of receiving the complete administrative record. If the Department does not make its decision within this period, the Department provides written notice to concerned parties, including a statement of the reason for the delay and a date by which the appeal decision will be made.

(g) All decisions under this section are administratively final, and are not subject to petitions for reconsideration.

[64 FR 5126, Feb. 2, 1999, as amended at 65 FR 68951, Nov. 15, 2000; 68 FR 35556, June 16, 2003; 73 FR 33329, June 12, 2008; 79 FR 59599, Oct. 2, 2014]

§26.91 What actions do recipients take following DOT certification appeal decisions?

(a) If you are the recipient from whose action an appeal under §26.89 is taken, the decision is binding. It is not binding on other recipients.

(b) If you are a recipient to which a DOT determination under §26.89 is applicable, you must take the following action:

(1) If the Department determines that you erroneously certified a firm, you must remove the firm's eligibility on receipt of the determination, without further proceedings on your part. Effective on the date of your receipt of the Department's determination, the consequences of a removal of eligibility set forth in §26.87(i) take effect.

(2) If the Department determines that you erroneously failed to find reasonable cause to remove the firm's eligibility, you must expeditiously commence a proceeding to determine whether the firm's eligibility should be removed, as provided in §26.87.

(3) If the Department determines that you erroneously declined to certify or removed the eligibility of the firm, you must certify the firm, effective on the date of your receipt of the written notice of Department's determination.

(4) If the Department determines that you erroneously determined that the presumption of social and economic disadvantage either should or should not be deemed rebutted, you must take appropriate corrective action as determined by the Department.

(5) If the Department affirms your determination, no further action is necessary.

(c) Where DOT has upheld your denial of certification to or removal of eligibility from a firm, or directed the removal of a firm's eligibility, other recipients with whom the firm is certified may commence a proceeding to remove the firm's eligibility under §26.87. Such recipients must not remove the firm's eligibility absent such a proceeding. Where DOT has reversed your denial of certification to or removal of eligibility from a firm, other recipients must take the DOT action into account in any certification action involving the firm. However, other recipients are not required to certify the firm based on the DOT decision.

Subpart F—Compliance and Enforcement

§26.101 What compliance procedures apply to recipients?

(a) If you fail to comply with any requirement of this part, you may be subject to formal enforcement action under §26.103 or §26.105 or appropriate program sanctions by the concerned operating administration, such as the suspension or termination of Federal funds, or refusal to approve projects, grants or contracts until deficiencies are remedied. Program sanctions may include, in the case of the FHWA program, actions provided for under 23 CFR 1.36; in the case of the FAA program, actions consistent with 49 U.S.C. 47106(d), 47111(d), and 47122; and in the case of the FTA program, any actions permitted under 49 U.S.C. chapter 53 or applicable FTA program requirements.

(b) As provided in statute, you will not be subject to compliance actions or sanctions for failing to carry out any requirement of this part because you have been prevented from complying because a Federal court has issued a final order in which the court found that the requirement is unconstitutional.

§26.103 What enforcement actions apply in FHWA and FTA programs?

The provisions of this section apply to enforcement actions under FHWA and FTA programs:

(a) *Noncompliance complaints*. Any person who believes that a recipient has failed to comply with its obligations under this part may file a written complaint with the concerned operating administration's Office of Civil Rights. If you want to file a complaint, you must do so no later than 180 days after the date of the alleged violation or the date on which you learned of a continuing course of conduct in violation of this part. In response to your written request, the Office of Civil Rights may extend the time for filing in the interest of justice, specifying in writing the reason for so doing. The Office of Civil Rights may protect the confidentiality of your identity as provided in §26.109(b). Complaints under this part are limited to allegations of violation of the provisions of this part.

(b) *Compliance reviews*. The concerned operating administration may review the recipient's compliance with this part at any time, including reviews of paperwork and on-site reviews, as appropriate. The Office of Civil Rights may direct the operating administration to initiate a compliance review based on complaints received.

(c) *Reasonable cause notice*. If it appears, from the investigation of a complaint or the results of a compliance review, that you, as a recipient, are in noncompliance with this part, the appropriate DOT office promptly sends you, return receipt requested, a written notice advising you that there is reasonable cause to find you in noncompliance. The notice states the reasons for this finding and directs you to reply within 30 days concerning whether you wish to begin conciliation.

(d) *Conciliation*. (1) If you request conciliation, the appropriate DOT office shall pursue conciliation for at least 30, but not more than 120, days from the date of your request. The appropriate DOT office may extend the conciliation period for up to 30 days for good cause, consistent with applicable statutes.

(2) If you and the appropriate DOT office sign a conciliation agreement, then the matter is regarded as closed and you are regarded as being in compliance. The conciliation agreement sets forth the measures you have taken or will take to ensure compliance. While a conciliation agreement is in effect, you remain eligible for FHWA or FTA financial assistance.

(3) The concerned operating administration shall monitor your implementation of the conciliation

agreement and ensure that its terms are complied with. If you fail to carry out the terms of a conciliation agreement, you are in noncompliance.

(4) If you do not request conciliation, or a conciliation agreement is not signed within the time provided in paragraph (d)(1) of this section, then enforcement proceedings begin.

(e) Enforcement actions. (1) Enforcement actions are taken as provided in this subpart.

(2) Applicable findings in enforcement proceedings are binding on all DOT offices.

§26.105 What enforcement actions apply in FAA programs?

(a) Compliance with all requirements of this part by airport sponsors and other recipients of FAA financial assistance is enforced through the procedures of Title 49 of the United States Code, including 49 U.S.C. 47106(d), 47111(d), and 47122, and regulations implementing them.

(b) The provisions of §26.103(b) and this section apply to enforcement actions in FAA programs.

(c) Any person who knows of a violation of this part by a recipient of FAA funds may file a complaint under 14 CFR part 16 with the Federal Aviation Administration Office of Chief Counsel.

§26.107 What enforcement actions apply to firms participating in the DBE program?

(a) If you are a firm that does not meet the eligibility criteria of subpart D of this part and that attempts to participate in a DOT-assisted program as a DBE on the basis of false, fraudulent, or deceitful statements or representations or under circumstances indicating a serious lack of business integrity or honesty, the Department may initiate suspension or debarment proceedings against you under 2 CFR parts 180 and 1200.

(b) If you are a firm that, in order to meet DBE contract goals or other DBE program requirements, uses or attempts to use, on the basis of false, fraudulent or deceitful statements or representations or under circumstances indicating a serious lack of business integrity or honesty, another firm that does not meet the eligibility criteria of subpart D of this part, the Department may initiate suspension or debarment proceedings against you under 2 CFR parts 180 and 1200.

(c) In a suspension or debarment proceeding brought under paragraph (a) or (b) of this section, the concerned operating administration may consider the fact that a purported DBE has been certified by a recipient. Such certification does not preclude the Department from determining that the purported DBE, or another firm that has used or attempted to use it to meet DBE goals, should be suspended or debarred.

(d) The Department may take enforcement action under 49 CFR Part 31, Program Fraud and Civil Remedies, against any participant in the DBE program whose conduct is subject to such action under 49 CFR part 31.

(e) The Department may refer to the Department of Justice, for prosecution under 18 U.S.C. 1001 or other applicable provisions of law, any person who makes a false or fraudulent statement in connection with participation of a DBE in any DOT-assisted program or otherwise violates applicable Federal statutes.

[64 FR 5126, Feb. 2, 1999, as amended at 76 FR 5101, Jan. 28, 2011]

§26.109 What are the rules governing information, confidentiality, cooperation, and intimidation or retaliation?

(a) *Availability of records*. (1) In responding to requests for information concerning any aspect of the DBE program, the Department complies with provisions of the Federal Freedom of Information and Privacy Acts (5 U.S.C. 552 and 552a). The Department may make available to the public any information concerning the DBE program release of which is not prohibited by Federal law.

(2) Notwithstanding any provision of Federal or state law, you must not release any information that may reasonably be construed as confidential business information to any third party without the written consent of the firm that submitted the information. This includes applications for DBE certification and supporting information. However, you must transmit this information to DOT in any certification appeal proceeding under §26.89 of this part or to any other state to which the individual's firm has applied for certification under §26.85 of this part.

(b) *Confidentiality of information on complainants*. Notwithstanding the provisions of paragraph (a) of this section, the identity of complainants shall be kept confidential, at their election. If such confidentiality will hinder the investigation, proceeding or hearing, or result in a denial of appropriate administrative due process to other parties, the complainant must be advised for the purpose of waiving the privilege. Complainants are advised that, in some circumstances, failure to waive the privilege may result in the closure of the investigation or dismissal of the proceeding or hearing. FAA follows the procedures of 14 CFR part 16 with respect to confidentiality of information in complaints.

(c) *Cooperation*. All participants in the Department's DBE program (including, but not limited to, recipients, DBE firms and applicants for DBE certification, complainants and appellants, and contractors using DBE firms to meet contract goals) are required to cooperate fully and promptly with DOT and recipient compliance reviews, certification reviews, investigations, and other requests for information. Failure to do so shall be a ground for appropriate action against the party involved (e.g., with respect to recipients, a finding of noncompliance; with respect to DBE firms, denial of certification or removal of eligibility and/or suspension and debarment; with respect to a complainant or appellant, dismissal of the complaint or appeal; with respect to a contractor which uses DBE firms to meet goals, findings of non-responsibility for future contracts and/or suspension and debarment).

(d) *Intimidation and retaliation*. If you are a recipient, contractor, or any other participant in the program, you must not intimidate, threaten, coerce, or discriminate against any individual or firm for the purpose of interfering with any right or privilege secured by this part or because the individual or firm has made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing under this part. If you violate this prohibition, you are in noncompliance with this part.

[64 FR 5126, Feb. 2, 1999, as amended at 68 FR 35556, June 16, 2003; 76 FR 5101, Jan. 28, 2011]

Appendix A to Part 26—Guidance Concerning Good Faith Efforts

I. When, as a recipient, you establish a contract goal on a DOT-assisted contract for procuring construction, equipment, services, or any other purpose, a bidder must, in order to be responsible and/or responsive, make sufficient good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate

good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.

II. In any situation in which you have established a contract goal, Part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, you have the responsibility to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made, based on the regulations and the guidance in this Appendix.

The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call. Determinations should not be made using quantitative formulas.

III. The Department also strongly cautions you against requiring that a bidder meet a contract goal (*i.e.*, obtain a specified amount of DBE participation) in order to be awarded a contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring bona fide good faith efforts.

IV. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

A. (1) Conducing market research to identify small business contractors and suppliers and soliciting through all reasonable and available means the interest of all certified DBEs that have the capability to perform the work of the contract. This may include attendance at pre-bid and business matchmaking meetings and events, advertising and/or written notices, posting of Notices of Sources Sought and/or Requests for Proposals, written notices or emails to all DBEs listed in the State's directory of transportation firms that specialize in the areas of work desired (as noted in the DBE directory) and which are located in the area or surrounding areas of the project.

(2) The bidder should solicit this interest as early in the acquisition process as practicable to allow the DBEs to respond to the solicitation and submit a timely offer for the subcontract. The bidder should determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units (for example, smaller tasks or quantities) to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces. This may include, where possible, establishing flexible timeframes for performance and delivery schedules in a manner that encourages and facilitates DBE participation.

C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation with their offer for the subcontract.

D. (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional Agreements could not be reached for DBEs to perform the work.

(2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

E. (1) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal. Another practice considered an insufficient good faith effort is the rejection of the DBE because its quotation for the work was not the lowest received. However, nothing in this paragraph shall be construed to require the bidder or prime contractor to accept unreasonable quotes in order to satisfy contract goals.

(2) A prime contractor's inability to find a replacement DBE at the original price is not alone sufficient to support a finding that good faith efforts have been made to replace the original DBE. The fact that the contractor has the ability and/or desire to perform the contract work with its own forces does not relieve the contractor of the obligation to make good faith efforts to find a replacement DBE, and it is not a sound basis for rejecting a prospective replacement DBE's reasonable quote.

F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.

G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

H. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, State, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

V. In determining whether a bidder has made good faith efforts, it is essential to scrutinize its documented efforts. At a minimum, you must review the performance of other bidders in meeting the contract goal. For example, when the apparent successful bidder fails to meet the contract goal, but others meet it, you may reasonably raise the question of whether, with additional efforts, the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts. As provided in

§26.53(b)(2)((vi), you must also require the contractor to submit copies of each DBE and non-DBE subcontractor quote submitted to the bidder when a non-DBE subcontractor was selected over a DBE for work on the contract to review whether DBE prices were substantially higher; and contact the DBEs listed on a contractor's solicitation to inquire as to whether they were contacted by the prime. Pro forma mailings to DBEs requesting bids are not alone sufficient to satisfy good faith efforts under the rule.

VI. A promise to use DBEs after contract award is not considered to be responsive to the contract solicitation or to constitute good faith efforts.

[79 FR 59600, Oct. 2, 2014]

Appendix B to Part 26—Uniform Report of DBE Awards or Commitments and Payments Form

INSTRUCTIONS FOR COMPLETING THE UNIFORM REPORT OF DBE AWARDS/COMMITMENTS AND PAYMENTS

Recipients of Department of Transportation (DOT) funds are expected to keep accurate data regarding the contracting opportunities available to firms paid for with DOT dollars. Failure to submit contracting data relative to the DBE program will result in noncompliance with Part 26. All dollar values listed on this form should represent the DOT share attributable to the Operating Administration (OA): Federal Highway Administration (FHWA), Federal Aviation Administration (FAA) or Federal Transit Administration (FTA) to which this report will be submitted.

1. Indicate the DOT (OA) that provides your Federal financial assistance. If assistance comes from more than one OA, use separate reporting forms for each OA. If you are an FTA recipient, indicate your Vendor Number in the space provided.

2. If you are an FAA recipient, indicate the relevant AIP Numbers covered by this report. If you are an FTA recipient, indicate the Grant/Project numbers covered by this report. If more than ten attach a separate sheet.

3. Specify the Federal fiscal year (*i.e.*, October 1-September 30) in which the covered reporting period falls.

4. State the date of submission of this report.

5. Check the appropriate box that indicates the reporting period that the data provided in this report covers. For FHWA and FTA recipients, if this report is due June 1, data should cover October 1-March 31. If this report is due December 1, data should cover April 1-September 30. If the report is due to the FAA, data should cover the entire year.

6. Provide the name and address of the recipient.

7. State your overall DBE goal(s) established for the Federal fiscal year of the report being submitted to and approved by the relevant OA. Your overall goal is to be reported as well as the breakdown for specific Race Conscious and Race Neutral projections (both of which include gender-conscious/neutral projections). The Race Conscious projection should be based on measures that focus on and provide benefits only for DBEs. The use of contract goals is a primary example of a race conscious measure. The Race Neutral projection should include measures that, while benefiting DBEs, are not solely focused on DBE firms. For example, a small business outreach program, technical assistance, and prompt payment clauses can assist a

wide variety of businesses in addition to helping DBE firms.

Section A: Awards and Commitments Made During This Period

The amounts in items 8(A)-10(I) should include all types of prime contracts awarded and all types of subcontracts awarded or committed, including: professional or consultant services, construction, purchase of materials or supplies, lease or purchase of equipment and any other types of services. All dollar amounts are to reflect only the Federal share of such contracts and should be rounded to the nearest dollar.

Line 8: Prime contracts awarded this period: The items on this line should correspond to the contracts directly between the recipient and a supply or service contractor, with no intermediaries between the two.

8(A). Provide the *total dollar amount* for all prime contracts assisted with DOT funds and awarded during this reporting period. This value should include the entire Federal share of the contracts without removing any amounts associated with resulting subcontracts.

8(B). Provide the *total number* of all prime contracts assisted with DOT funds and awarded during this reporting period.

8(C). From the total dollar amount awarded in item 8(A), provide the *dollar amount* awarded in prime contracts to certified DBE firms during this reporting period. This amount should not include the amounts sub contracted to other firms.

8(D). From the total number of prime contracts awarded in item 8(B), specify the *number* of prime contracts awarded to certified DBE firms during this reporting period.

8(E&F). This field is closed for data entry. Except for the very rare case of DBE-set asides permitted under 49 CFR part 26, all prime contracts awarded to DBES are regarded as race-neutral.

8(G). From the total dollar amount awarded in item 8(C), provide the *dollar amount* awarded to certified DBEs through the use of Race Neutral methods. See the definition of Race Neutral in item 7 and the explanation in item 8 of project types to include.

8(H). From the total number of prime contracts awarded in 8(D), specify the *number* awarded to DBEs through Race Neutral methods.

8(I). Of all prime contracts awarded this reporting period, calculate the *percentage* going to DBEs. Divide the dollar amount in item 8(C) by the dollar amount in item 8(A) to derive this percentage. Round percentage to the nearest tenth.

Line 9: Subcontracts awarded/committed this period: Items 9(A)-9(I) are derived in the same way as items 8(A)-8(I), except that these calculations should be based on subcontracts rather than prime contracts. Unlike prime contracts, which may only be awarded, subcontracts may be either awarded or committed.

9(A). If filling out the form for general reporting, provide the total dollar amount of subcontracts assisted with DOT funds awarded or committed during this period. This value should be a subset of the total dollars awarded in prime contracts in 8(A), and therefore should never be greater than the amount awarded in prime contracts. If filling out the form for project reporting, provide the total dollar amount of subcontracts assisted with DOT funds awarded or committed during this period. This value should be a

subset of the total dollars awarded or previously in prime contracts in 8(A). The sum of all subcontract amounts in consecutive periods should never exceed the sum of all prime contract amounts awarded in those periods.

9(B). Provide the total number of all sub contracts assisted with DOT funds that were awarded or committed during this reporting period.

9(C). From the total dollar amount of sub contracts awarded/committed this period in item 9(A), provide the total dollar amount awarded in sub contracts to DBEs.

9(D). From the total number of sub contracts awarded or committed in item 9(B), specify the number of sub contracts awarded or committed to DBEs.

9(E). From the total dollar amount of sub contracts awarded or committed to DBEs this period, provide the amount in dollars to DBEs using Race Conscious measures.

9(F). From the total number of sub contracts awarded orcommitted to DBEs this period, provide the number of sub contracts awarded or committed to DBEs using Race Conscious measures.

9(G). From the total dollar amount of sub contracts awarded/committed to DBEs this period, provide the amount in dollars to DBEs using Race Neutral measures.

9(H). From the total number of sub contracts awarded/committed to DBEs this period, provide the number of sub contracts awarded to DBEs using Race Neutral measures.

9(I). Of all subcontracts awarded this reporting period, calculate the *percentage* going to DBEs. Divide the dollar amount in item 9(C) by the dollar amount in item 9(A) to derive this percentage. Round percentage to the nearest tenth.

Line 10: Total contracts awarded or committed this period. These fields should be used to show the total dollar value and number of contracts awarded to DBEs and to calculate the overall percentage of dollars awarded to DBEs.

10(A)-10(B). These fields are unavailable for data entry.

10(C-H). Combine the total values listed on the prime contracts line (Line 8) with the corresponding values on the subcontracts line (Line 9).

10(I). Of all contracts awarded this reporting period, calculate the *percentage* going to DBEs. Divide the total dollars awarded to DBEs in item 10(C) by the dollar amount in item 8(A) to derive this percentage. Round percentage to the nearest tenth.

Section B: Breakdown by Ethnicity & Gender of Contracts Awarded to DBEs This Period

11-17. Further breakdown the contracting activity with DBE involvement. The Total Dollar Amount to DBEs in 17(C) should equal the Total Dollar Amount to DBEs in 10(C). Likewise the total number of contracts to DBEs in 17(F) should equal the Total Number of Contracts to DBEs in 10(D).

Line 16: The "Non-Minority" category is reserved for any firms whose owners are not members of

the presumptively disadvantaged groups already listed, but who are either "women" OR eligible for the DBE program on an individual basis. All DBE firms must be certified by the Unified Certification Program to be counted in this report.

Section C: Payments on Ongoing Contracts

Line 18(A-E). Submit information on contracts that are currently in progress. All dollar amounts are to reflect only the Federal share of such contracts, and should be rounded to the nearest dollar.

18(A). Provide the total dollar amount paid to all firms performing work on contracts.

18(B). Provide the total number of contracts where work was performed during the reporting period.

18(C). From the total number of contracts provided in 18(A) provide the total number of contracts that are currently being performed by DBE firms for which payments have been made.

18(D). From the total dollar amount paid to all firms in 18(A), provide the total dollar value paid to DBE firms currently performing work during this period.

18(E). Provide the total number of DBE firms that received payment during this reporting period. For example, while 3 contracts may be active during this period, one DBE firm may be providing supplies or services on all three contracts. This field should only list the number of DBE firms performing work.

18(F). Of all payments made during this period, calculate the percentage going to DBEs. Divide the total dollar value to DBEs in item 18(D) by the total dollars of all payments in 18(B). Round percentage to the nearest tenth.

Section D: Actual Payments on Contracts Completed This Reporting Period

This section should provide information only on contracts that are closed during this period. All dollar amounts are to reflect the entire Federal share of such contracts, and should be rounded to the nearest dollar.

19(A). Provide the total number of contracts completed during this reporting period that used Race Conscious measures. Race Conscious contracts are those with contract goals or another race conscious measure.

19(B). Provide the total dollar value of prime contracts completed this reporting period that had race conscious measures.

19(C). From the total dollar value of prime contracts completed this period in 19(B), provide the total dollar amount of dollars awarded or committed to DBE firms in order to meet the contract goals. This applies only to Race Conscious contracts.

19(D). Provide the actual total DBE participation in dollars on the race conscious contracts completed this reporting period.

19(E). Of all the contracts completed this reporting period using Race Conscious measures, calculate the percentage of DBE participation. Divide the total dollar amount to DBEs in item 19(D) by the total dollar value provided in 19(B) to derive this percentage. Round to the nearest tenth.

20(A)-20(E). Items 21(A)-21(E) are derived in the same manner as items 19(A)-19(E), except these figures should be based on contracts completed using Race Neutral measures.

20(C). This field is closed.

21(A)-21(D). Calculate the totals for each column by adding the race conscious and neutral figures provided in each row above.

21(C). This field is closed.

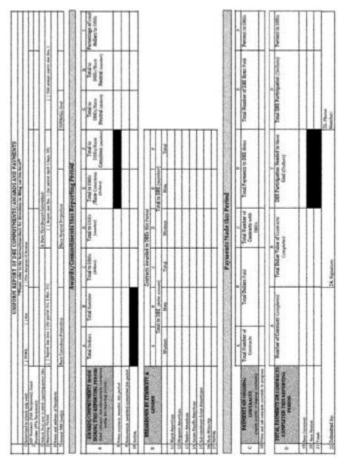
21(E). Calculate the overall percentage of dollars to DBEs on completed contracts. Divide the Total DBE participation dollar value in 21(D) by the Total Dollar Value of Contracts Completed in 21(B) to derive this percentage. Round to the nearest tenth.

23. Name of the Authorized Representative preparing this form.

24. Signature of the Authorized Representative.

25. Phone number of the Authorized Representative.

**Submit your completed report to your Regional or Division Office.



[79 FR 59601, Oct. 2, 2014]

Appendix C to Part 26—DBE Business Development Program Guidelines

The purpose of this program element is to further the development of DBEs, including but not limited to assisting them to move into non-traditional areas of work and/or compete in the marketplace outside the DBE program, via the provision of training and assistance from the recipient.

(A) Each firm that participates in a recipient's business development program (BDP) program is subject to a program term determined by the recipient. The term should consist of two stages; a developmental stage and a transitional stage.

(B) In order for a firm to remain eligible for program participation, it must continue to meet all eligibility criteria contained in part 26.

(C) By no later than 6 months of program entry, the participant should develop and submit to the recipient a comprehensive business plan setting forth the participant's business targets, objectives and goals. The participant will not be eligible for program benefits until such business plan is submitted and approved by the recipient. The approved business plan will constitute the participant's short and long term goals and the strategy for developmental growth to the point of economic viability in non-traditional areas of work and/or work outside the DBE program.

(D) The business plan should contain at least the following:

(1) An analysis of market potential, competitive environment and other business analyses estimating the program participant's prospects for profitable operation during the term of program participation and after graduation from the program.

(2) An analysis of the firm's strengths and weaknesses, with particular attention paid to the means of correcting any financial, managerial, technical, or labor conditions which could impede the participant from receiving contracts other than those in traditional areas of DBE participation.

(3) Specific targets, objectives, and goals for the business development of the participant during the next two years, utilizing the results of the analysis conducted pursuant to paragraphs (C) and (D)(1) of this appendix;

(4) Estimates of contract awards from the DBE program and from other sources which are needed to meet the objectives and goals for the years covered by the business plan; and

(5) Such other information as the recipient may require.

(E) Each participant should annually review its currently approved business plan with the recipient and modify the plan as may be appropriate to account for any changes in the firm's structure and redefined needs. The currently approved plan should be considered the applicable plan for all program purposes until the recipient approves in writing a modified plan. The recipient should establish an anniversary date for review of the participant's business plan and contract forecasts.

(F) Each participant should annually forecast in writing its need for contract awards for the next program year and the succeeding program year during the review of its business plan conducted under paragraph (E) of this appendix. Such forecast should be included in the participant's business plan. The forecast should include:

(1) The aggregate dollar value of contracts to be sought under the DBE program, reflecting compliance with the business plan;

(2) The aggregate dollar value of contracts to be sought in areas other than traditional areas of DBE participation;

(3) The types of contract opportunities being sought, based on the firm's primary line of business; and

(4) Such other information as may be requested by the recipient to aid in providing effective business development assistance to the participant.

(G) Program participation is divided into two stages; (1) a developmental stage and (2) a transitional stage. The developmental stage is designed to assist participants to overcome their social and economic disadvantage by providing such assistance as may be necessary and appropriate to enable them to access relevant markets and strengthen their financial and managerial skills. The transitional stage of program participation follows the developmental stage and is designed to assist participants to overcome, insofar as practical, their social and economic disadvantage and to prepare the participant for leaving the program.

(H) The length of service in the program term should not be a pre-set time frame for either the developmental or transitional stages but should be figured on the number of years considered necessary in normal progression of achieving the firm's established goals and objectives. The setting of such time could be factored on such items as, but not limited to, the number of contracts, aggregate amount of the contract received, years in business, growth potential, etc.

(I) Beginning in the first year of the transitional stage of program participation, each participant should annually submit for inclusion in its business plan a transition management plan outlining specific steps to promote profitable business operations in areas other than traditional areas of DBE participation after graduation from the program. The transition management plan should be submitted to the recipient at the same time other modifications are submitted pursuant to the annual review under paragraph (E) of this section. The plan should set forth the same information as required under paragraph (F) of steps the participant will take to continue its business development after the expiration of its program term.

(J) When a participant is recognized as successfully completing the program by substantially achieving the targets, objectives and goals set forth in its program term, and has demonstrated the ability to compete in the marketplace, its further participation within the program may be determined by the recipient.

(K) In determining whether a concern has substantially achieved the goals and objectives of its business plan, the following factors, among others, should be considered by the recipient:

- (1) Profitability;
- (2) Sales, including improved ratio of non-traditional contracts to traditional-type contracts;
- (3) Net worth, financial ratios, working capital, capitalization, access to credit and capital;
- (4) Ability to obtain bonding;

(5) A positive comparison of the DBE's business and financial profile with profiles of non-DBE businesses in the same area or similar business category; and

(6) Good management capacity and capability.

(L) Upon determination by the recipient that the participant should be graduated from the developmental program, the recipient should notify the participant in writing of its intent to graduate the firm in a letter of notification. The letter of notification should set forth findings, based on the facts, for every material issue relating to the basis of the program graduation with specific reasons for each finding. The letter of notification should also provide the participant 45 days from the date of service of the letter to submit in writing information that would explain why the proposed basis of graduation is not warranted.

(M) Participation of a DBE firm in the program may be discontinued by the recipient prior to expiration of the firm's program term for good cause due to the failure of the firm to engage in business practices that will promote its competitiveness within a reasonable period of time as evidenced by, among other indicators, a pattern of inadequate performance or unjustified delinquent performance. Also, the recipient can discontinue the participation of a firm that does not actively pursue and bid on contracts, and a firm that, without justification, regularly fails to respond to solicitations in the type of work it is qualified for and in the geographical areas where it has indicated availability under its approved business plan. The recipient should take such action if over a 2-year period a DBE firm exhibits such a pattern.

Appendix D to Part 26—Mentor-Protégé Program Guidelines

(A) The purpose of this program element is to further the development of DBEs, including but not limited to assisting them to move into non-traditional areas of work and/or compete in the marketplace outside the DBE program, via the provision of training and assistance from other firms. To operate a mentor-protégé program, a recipient must obtain the approval of the concerned operating administration.

(B)(1) Any mentor-protégé relationship shall be based on a written development plan, approved by the recipient, which clearly sets forth the objectives of the parties and their respective roles, the duration of the arrangement and the services and resources to be provided by the mentor to the protégé. The formal mentor-protégé agreement may set a fee schedule to cover the direct and indirect cost for such services rendered by the mentor for specific training and assistance to the protégé through the life of the agreement. Services provided by the mentor may be reimbursable under the FTA, FHWA, and FAA programs.

(2) To be eligible for reimbursement, the mentor's services provided and associated costs must be directly attributable and properly allowable to specific individual contracts. The recipient may establish a line item for the mentor to quote the portion of the fee schedule expected to be provided during the life of the contract. The amount claimed shall be verified by the recipient and paid on an incremental basis representing the time the protégé is working on the contract. The total individual contract figures accumulated over the life of the agreement shall not exceed the amount stipulated in the original mentor/protégé agreement.

(C) DBEs involved in a mentor-protégé agreement must be independent business entities which meet the requirements for certification as defined in subpart D of this part. A protégé firm must be certified *before* it begins participation in a mentor-protégé arrangement. If the recipient chooses to recognize mentor/protégé agreements, it should establish formal general program guidelines. These guidelines must be submitted to the operating administration for approval prior to the recipient executing an individual contractor/ subcontractor mentor-protégé agreement.

Appendix E to Part 26—Individual Determinations of Social and Economic Disadvantage

The following guidance is adapted, with minor modifications, from SBA regulations concerning social

and economic disadvantage determinations (see 13 CFR 124.103(c) and 124.104).

SOCIAL DISADVANTAGE

I. Socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias within American society because of their identities as members of groups and without regard to their individual qualities. Social disadvantage must stem from circumstances beyond their control. Evidence of individual social disadvantage must include the following elements:

(A) At least one objective distinguishing feature that has contributed to social disadvantage, such as race, ethnic origin, gender, disability, long-term residence in an environment isolated from the mainstream of American society, or other similar causes not common to individuals who are not socially disadvantaged;

(B) Personal experiences of substantial and chronic social disadvantage in American society, not in other countries; and

(C) Negative impact on entry into or advancement in the business world because of the disadvantage. Recipients will consider any relevant evidence in assessing this element. In every case, however, recipients will consider education, employment and business history, where applicable, to see if the totality of circumstances shows disadvantage in entering into or advancing in the business world.

(1) *Education*. Recipients will consider such factors as denial of equal access to institutions of higher education and vocational training, exclusion from social and professional association with students or teachers, denial of educational honors rightfully earned, and social patterns or pressures which discouraged the individual from pursuing a professional or business education.

(2) *Employment*. Recipients will consider such factors as unequal treatment in hiring, promotions and other aspects of professional advancement, pay and fringe benefits, and other terms and conditions of employment; retaliatory or discriminatory behavior by an employer or labor union; and social patterns or pressures which have channeled the individual into non-professional or non-business fields.

(3) *Business history*. The recipient will consider such factors as unequal access to credit or capital, acquisition of credit or capital under commercially unfavorable circumstances, unequal treatment in opportunities for government contracts or other work, unequal treatment by potential customers and business associates, and exclusion from business or professional organizations.

II. With respect to paragraph I.(A) of this appendix, the Department notes that people with disabilities have disproportionately low incomes and high rates of unemployment. Many physical and attitudinal barriers remain to their full participation in education, employment, and business opportunities available to the general public. The Americans with Disabilities Act (ADA) was passed in recognition of the discrimination faced by people with disabilities. It is plausible that many individuals with disabilities—especially persons with severe disabilities (e.g., significant mobility, vision, or hearing impairments)—may be socially and economically disadvantaged.

III. Under the laws concerning social and economic disadvantage, people with disabilities are not a group presumed to be disadvantaged. Nevertheless, recipients should look carefully at individual showings of disadvantage by individuals with disabilities, making a case-by-case judgment about whether such an individual meets the criteria of this appendix. As public entities subject to Title II of the ADA, recipients must also ensure their DBE programs are accessible to individuals with disabilities. For example, physical barriers or the lack of application and information materials in accessible formats cannot be permitted to

thwart the access of potential applicants to the certification process or other services made available to DBEs and applicants.

ECONOMIC DISADVANTAGE

(A) *General*. Economically disadvantaged individuals are socially disadvantaged individuals whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same or similar line of business who are not socially disadvantaged.

(B) *Submission of narrative and financial information*. (1) Each individual claiming economic disadvantage must describe the conditions which are the basis for the claim in a narrative statement, and must submit personal financial information.

(2) [Reserved]

(C) *Factors to be considered.* In considering diminished capital and credit opportunities, recipients will examine factors relating to the personal financial condition of any individual claiming disadvantaged status, including personal income for the past two years (including bonuses and the value of company stock given in lieu of cash), personal net worth, and the fair market value of all assets, whether encumbered or not. Recipients will also consider the financial condition of the applicant compared to the financial profiles of small businesses in the same primary industry classification, or, if not available, in similar lines of business, which are not owned and controlled by socially and economically disadvantaged individuals in evaluating the individual's access to credit and capital. The financial profiles that recipients will compare include total assets, net sales, pre-tax profit, sales/working capital ratio, and net worth.

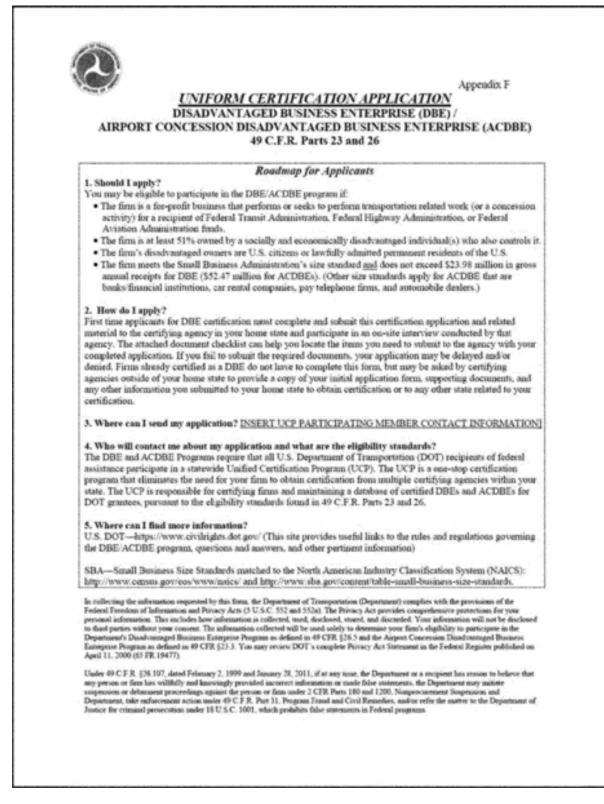
(D) *Transfers within two years*. (1) Except as set forth in paragraph (D)(2) of this appendix, recipients will attribute to an individual claiming disadvantaged status any assets which that individual has transferred to an immediate family member, or to a trust, a beneficiary of which is an immediate family member, for less than fair market value, within two years prior to a concern's application for participation in the DBE program, unless the individual claiming disadvantaged status can demonstrate that the transfer is to or on behalf of an immediate family member for that individual's education, medical expenses, or some other form of essential support.

(2) Recipients will not attribute to an individual claiming disadvantaged status any assets transferred by that individual to an immediate family member that are consistent with the customary recognition of special occasions, such as birthdays, graduations, anniversaries, and retirements.

(3) In determining an individual's access to capital and credit, recipients may consider any assets that the individual transferred within such two-year period described by paragraph (D)(1) of this appendix that are not considered in evaluating the individual's assets and net worth (e.g., transfers to charities).

[64 FR 5126, Feb. 2, 1999, as amended at 68 FR 35559, June 16, 2003]

Appendix F to Part 26—Uniform Certification Application Form





INSTRUCTIONS FOR COMPLETING THE DISADVANTAGED BUSINESS ENTERPRISE (DBE) AIRPORT CONCESSIONS DISADVANTAGED BUSINESS ENTERPRISE (ACDBE) UNIFORM CERTIFICATION APPLICATION

NOTE: All participating firms must be for-profit enterprises. If your firm is not for profit, then you do NOT quality for the DBE ACDBE program and should not complete this application. If you require additional space for any question in this application, please attach additional sheets or copies as needed, taking care to indicate on each attached sheet copy the section and number of this application to which it refers.

Section 1: CERTIFICATION INFORMATION

Basic Contact Information

- (1) Enter the contact mane and title of the person completing this application and the person who will serve as your first's contact for this application
- (2) Enter the legsl name of your firm, as indicated in your firm's Articles of Incorporation or charter.
- (3) Enter the primary phone number of your farm.
- (4) Easter a secondary phone number, if any.
 (5) Easter your firm's tax usedow, if any.

from your fam's street address.

- (6) Enter the contact person's email address.
- Eater your firm's website addresses, if any, (8) Eater the street address of the farm where its offices
- are physically located (not a P.O. Box). (9) Enter the mailing address of your firm, if it is different

Prior Other Certifications and Applications

- (10) Check the appropriate box isdicating whether your firm is coverify certified in the DBE/ACDBE programs, and provide the name of the certifying agency that certified your firm. List the dates of any site visits conducted by your home state and any other states or UCP members. Also provide the names of state/UCP members that conducted the review.
- (11) Indicate whether your firm or any of the persons listed has ever been denied certification as a DBE, 8(a), or Small Disadvantaged Business (SDB) firm, or state and local MIRE/WIRE firm. Indicate if the firm has ever been decertified from one of these programs. Indicate if the application was withdrawn or whether the firm was debarred, unspended, or otherwise had its bidding privileges denied or restricted by any state or local agency, or Federal earlity. If your answer is yes, identify the name of the agency, and explain fully the nature of the nation in the space provided. Indicate if you have ever appealed this decision to the Department and if so, attach a copy of USDOT's final agency decision(s).

Section 2: GENERAL INFORMATION

A. Business profile:

(1) Give a concise description of the firm's primary activities, the product(s) or services the company provides, or type of construction. If your company offers more than one product/service, list primary product or service first (attach additional sheets if necessary). This description rany be used in our UCP rolline directory if you are certified in a DBE.

- (2) If you know the appropriate NAICS Code for the line(s) of work you identified in your business profile, enter the codes in the space provided.
- (3) State the date on which your firm was established as stated in your firm's Articles of Incorporation or charter.
- (4) State the date each person became a firm owner.
- (5) Check the appropriate box describing the manuer in which you and each other owner acquired ownership of your firm. If you checked "Other," explain in the
- space provided.
 (6) Check the appropriate box that indicates whether your firm is "for profit." If you ehecked "No," then you do NOT quality for the DBE/ACDBE program and should not complete this application. All participating firms must be for-profit marprises. If the firm is a for profit enterprise, provide the Federal Tax ID number as stated on your firm's Federal tax return.
- (7) Check the appropriate box that describes the type of Enclose up appropriate cost una securices sur cype of legal buniness structure of your firm, as indicated in your firm's Articles of locorporation or similar document. Identify all joint venture partners if applicable. If you checked "Other," briefly explain in the space provided.
- (8) Indicate in the spaces provided how many employees your firm has, specifying the number of employees who work on a full-time, part-time, and seasonal basis. Attach a list of employees, their job titles, and dates of enaployment, to your application.
- (9) Specify the firm's gross receipts for each of the past three years, as stated in your firm's filed Federal tax returns. You must submit complete copies of the firm's Federal tax returns for each year. If there are any affiliates or subsidiaries of the applicant firm or owners, you must provide these firms' gross receipts and submit complete copies of these firm(s) Federal tax returns. Affiliation is defined in 49 C.F.R. §26.5 and 13 C.F.R. Part 121.

B. Relationships and Dealings with Other Businesses

 Check the appropriate box that indicates whether your firm is co-located at any of its business locations, or whether your fam shares a telephone number(s), a post office box, any office space, a yard, warehouse, other facilities, any equipment, financing, or any office staff and/or employees with any other business, organizations or entity of any kind. If you navwered "Yes," then specify the name of the other firm(s) and fully explain the nature of your relationship with these other businesses by identifying the business or person with whom you have any formal, informal, written, or



oral agreement. Provide an explanation of any items shared with other firms in the space provided.

- (2) Check the appropriate box indicating whether any other firm currently has or had an ownership intere in your firm at present or at any time in the past. If you checked yes, please explain.
- (3) Check the appropriate box that indicates whether at present or at any time in the past your firm:
- (a) ever existed under different comership, a different type of ownership, or a different name;
- (b) existed as a subsidiary of any other firm; (c) existed as a partnership in which one or more of the partners are were other fams;
- (d) owned any percentage of any other firm; and
- (e) had any subsidiaries of its own.
- (f) served as a subcontractor with another firm constituting more than 25% of your firm's receipts.

If you answered "Yes" to any of the questions in (3)(a-f), you may be asked to explain the arrangement in detail.

Section 3: MAJORITY OWNER INFORMATION

Identify all individuals or holding companies with any ownership interest in your firm, providing the information requested below (if your firm has more than one owner, provide completed copies of this section for each owner):

A. Identify the majority owner of the firm holding 51% or more ownership interest

- (1) Enter the full name of the owner.
- (2) Enter his/her title or position within your firm.
- (3) Give his/her home phone number.
- (4) Enter his/her home (street) address.
- (5) Indicate this owner's gender.
- (6) Identify the owner's ethnic group membership. If you checked "Other," specify this owner's ethnic group/identity not otherwise listed.
- (7) Check the appropriate box to indicate whether this owner is a U.S. citizen or a lawfully admitted permanent resident. If this owner is neither a U.S. citizen nor a lawfully admitted permanent resident of the U.S., then this owner is NOT eligible for certification as a DBE owner.
- (8) Enter the number of years during which this owner has been an owner of your firm.
- (9) Indicate the percentage of the total ownership this person holds and the date acquired, including (if appropriate), the class of stock owned.
- (10) Indicate the dollar value of this owner's initial investment to acquire an ownership interest in your firm, broken down by cash, real estate, equipment, and/or other investment. Describe how you acquired your business and attach documentation substantiating this investment.
- **B. Additional Owner Information**
- (1) Describe the familial relationship of this owner to each other owner of your firm and employees. (2) Indicate whether this owner performs a management
- or supervisory function for any other business. If you

checked "Yes," state the name of the other business and this owner's function title held in that business.

(3) (a) Check the appropriate box that indicates whether this owner owns or works for any other firm(s) that has any relationship with your firm. If you checked "Yes," identify the name of the other business, the nature of the business relationship, and the owner's on at the firm.

(b) If the owner works for any other firm, non-profit organization, or is engaged in any other activity more than 10 hours per week, plense identify this activity. (4) (a) Provide the personal net worth of the owner

- applying for certification in the space provided. Complete and attach the seconsparying "Personal Net Worth Statement for DBE/ACDBE Program Eligibility" with your application. Note, complete this section and accompanying statement only for each owner applying for DBE qualification (i.e., for each owner claiming to be socially and economically disadvantaged).
- (b) Check the appropriate box that indicates whether any trust has been created for the benefit of the disadvantaged owner(s). If you answered "Yes," you may be asked to provide a copy of the trust
- (5) Check the appropriate to indicate whether any of your instruction family members, managers, or employees, own, manage, or are associated with another company. Immediate family member is defined in 49 CF.R. §26.5. If you answered "Yes," provide the name of each person, your relationship to them, the name of the company, the type of business, and whether they own or manage the company.

Section 4: CONTROL

- A. Identify the firm's Officers and Board of Directory
- (1) In the space provided, state the name, title, date of sppointment, ethnicity, and gender of each officer. (2) In the space provided, state the name, title, date of
- appointment, ethnicity, and gender of each individual serving on your firm's Board of Directors.
- (3) Check the appropriate box to indicate whether any of your firm's officers and/or directors listed above performs a management or supervisory function for any other business. If you answered "Yes," identify each purson by same, his/her title, the same of the other business in which she is involved, and his her function performed in that other business
- (4) Check the appropriate box that indicates whether any of your fina's officers and/or directors listed above own or work for any other firm(s) that has a relationship with your firm. (e.g., ownership interest, shured office space, firancial investments, equipment leases, personnel sharing, etc.) If you answered "Yes," identify the name of the firm, the individual's name. and the nature of his/her business relationship with that other firm.



B. Duties of Owners, Officers, Directors, Managers and Key Personnel

(1), (2) Specify the roles of the majority and minority owners, directors, officers, and managers, and key personnel who control the functions listed for the business Submit resumes for each owner and non-owner identified below. State the name of the individual, title, race and gender and percentage ownership if any. Circle the frequency of each person's involvement as follows: "always, frequently, seldom, or never" in each area.

Indicate whether any of the persons listed in this section. perform a management or supervisory function for any other business. Identify the person, business, and their title function. Identify if any of the persons listed above own or work for any other firm(s) that has a relationship with this firm (e.g. ownership interest, shared office space, financial investment, equipment, lesses, personnel sharing, etc.) If you answered "Yes," describe the nature of his/her business relationship with that other firm.

C. Inventory: Indicate firm inventory in these categories.

(1) Equipment and Vehicles

State the make and model, and current dollar value of each piece of equipment and motor vehicle held and/or used by your firm. Indicate whether each piece is either owned or lessed by yoar firm or owner, whether it is used as collateral, and where this item is stored.

(2) Office Space

State the street address of each office space held and/or used by your firm. Indicate whether your firm or owner owns or leases the office space and the current dollar value of that property or its lease.

(3) Storage Space

State the street address of each storage space held and/or used by your firm. Indicate whether your firm or owner owns or leases the storage space and the current dellar value of that property or its lease. Provide a signed lease agreement for each property.

D. Does your firm rely on any other firm for management functions or employee payroll?

Check the appropriate box that indicates whether your firm relies on any other firm for management functions or for employee payroll. If you answered "Yes," you may be asked to explain the nature of that reliance and the extent to which the other firm carries out such functions.

E. Financial / Banking Information

Banking Information. State the name, City and State of your firm's bank. In the space provided, identify the persons able to sign checks on this account. Provide bank nuthorization and signature cards

Bouding Information. State your firm's bonding limits (in dollars), specifying both the aggregate and project limits.

F. Sources, amounts, and purposes of money loaned to your firm, including the names of persons or firms guaranteeing the loan.

State the name and address of each source, the name of person securing the loss, original dollar amount and the current balance of each loss, and the purpose for which each loss was made to your firm. Provide copies of signed loan agreements and socurity agreements

G. Contributions or transfers of assets to from your firm and to from any of its owners or another individual over the past two years:

Indicate in the spaces provided, the type of contribution or asset that was transferred, its current dollar value, the person or firm from where it was transferred, the person or firm to whom it was transferred, the relationship between the two persons and/or fams, and the date of the transfer.

H. Current liceuses permits held by any owner or employee of your firm.

List the name of each person in your firm who holds a professional license or permit, the type of permit or license, the expiration date of the permit or license, and issuing State of the license or persuit. Attach copies of licenses, license renewal forms, permits, and houl authority forms.

I. Largest contracts completed by your firm in the past three years, if any.

List the asme of each owner or contractor for each contract, the name and location of the projects under each contract, the type of work performed on each contract, and the dollar value of each cont net.

J. Largest active jobs on which your firm is currently working.

For each active job listed, state the name of the prime contractor and the project number, the location, the type of work performed, the project start date, the anticipated completion date, and the dollar value of the contract

AIRPORT CONCESSION (ACDBE) APPLICANTS Mentify the concession space, address and location at the

sisport, the value of the property or lease, and fees/lease payments paid to the surport. Provide information concerning any other airport concession businesses the applicant firms or any affiliate owns and/or operates, achading name. location, type of concession, and start date of the concession enterprise.

AFFIDAVIT & SIGNATURE The Affidavit of Certification must accompany your application for certification. Carefully read the attached affidavit in its entirety. Fill in the required information for esch black space, and sign and date the affidavit in the presence of a Notary Public, who must then noterize the form.

A. Basic Contact Information				1.0
(1) Contact person and Title:	(2)	Legal name of firm:		
(3) Phone #: () (4) O	ther Phone #: ((5)1	Fax #: ()·
6) E-mail:	(7) Firm	n Websites:		
(8) Street address of firm (No P.O. Box):		County Parish:		
9) Mailing address of firm (#different):	Giņi	County Parish:	State	
B. Prior/Other Certifications and Applica	ations			
(10) Is your firm currently certified for a DBE ACDBE Names of certifying a	ny of the followin	g U.S. DOT programs	2	
8 If you are certified in your home state as a DI Ask your state UCP about the interstate certification of the state of		and have to complete this	appearson b	or other states.
List the dates of any site visits conducted	by your home str	te and any other state	s or UCP #	embers:
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6) Is your firm "for profit"? 🖬 Yo Federal Tax ID#	s ⊒No→ ⊗ qu	STOP! If your fa alify for this prog		ll out this application.	S)
7) Type of Legal Business Structu	e; (check all that	at apphy:			
 Sole Proprietorship Partnership 	Limited Li	iability Partnersh	ip		
Partnership	Corporation	0			
Limited Liability Company	Joint Vent	ure (Identify all J	partuers		
Applying as an ACDBE	Other, Des	cnbe			
8) Number of employees: Full-time (Provide a list of employees, their job	P titles, and dates of	art-time of employment, to	Seasonal	Total	-
9) Specify the firm's gross receipt ach year. If there are affiliates or subsi- irms' Foderal tax returns).					
Canar Games Receipts of Ann	licant Firm \$		mer Paceinte of A	Oilista Firme S	
fear Gross Receipts of App fear Gross Receipts of App	dicant Firm \$		iross Receipts of A	ffiliate Firms \$	
Cear Gross Receipts of App	licant Firm S	(iross Receipts of A	ffiliate Firms \$	
tanan as says a fara da			÷.		
3. Relationships and Dealings with	Other Busines	ses.			
Yes, explain the nature of your relation	whip with these o	or entity? I Ye	identifying the busin		ип уюм
Y Yes, explain the nature of your relation	whip with these o	or entity? I Ye	s IN0 stentifying the busin		un 30m
Y Yes, explain the nature of your relation	whip with these o	or entity? I Ye	s IN0 identifying the busin		en 31011
If Yes, explain the nature of your relation	ship with these a al agreement. Ab	or entity? 🗆 Ye ther businesses by so detail the items	s DNo stentifying the busin shared.	ets or person with who	
lf Tes, explatu the nature of your relation have any formal, toformal, written, or or	uhip with these a al agreement. Ab	or entity? I Ye ther businesses by no detail the items	s DNo identifying the basin shared.	ens or person with who	
employees with any other business. If Tea, explatu the nature of your relation have any formal, informal, written, or or	uhip with these a al agreement. Ab	or entity? I Ye ther businesses by no detail the items	s DNo identifying the basin shared.	ens or person with who	
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() Tes, explain the nature of your relation have any formal, informal, written, or or 2) Has any other: firm had an owne 3) Yes I No If Yes, explain 5) At present, or at any time in the (a) Ever existed under different ow	ahip with these a al agreement. Ab rship interest i past, has your nership, a differ	or entity? I Ye ober businesses by no detail the items in your firm at p firm: rent type of own	is DNo identifying the basin abared.	ers or person with who ine in the past?	
(7 Tes, explain the nature of your relation have any formal, informal, written, or or bare any formal, informal, written, or or (2) Has any other firm had an owned (2) Yes □ No If Yes, explain (3) At present, or at any time in the (a) Ever existed under different ow (b) Existed as a subsidiary of any o (c) Existed as a partnership in whic (d) Owned any percentage of any o	ship utiti these o al agreement. Ali rship interest i past, has your nership, a differ ther firm? □ Yo h one or more o ther firm? □ Y	or entity? □ Ye ther businesses by so detail the items in your firm at p firm: rent type of own of the partners ar	s DNo edentifying the basis abared.	t name? 🗆 Yes 🗆 N	
 (7 Tes, explain the nature of your relation have any formal, informal, written, or or (2) Has any other firm had an owned (3) Has any other firm had an owned (4) Ever existed under different owned (5) At present, or at any time in the (a) Ever existed under different owned (b) Existed as a subsidiary of any of (c) Existed as a partnership in which 	ship with these of al agreement. All rship interest i past, has your nership, a differ ther firm? □ Yo h one or more of ther firm? □ Yo No	or entity? □ Ye ther businesses by so detail the items in your firm at p firm: rent type of own es □ No of the partners ar es □ No	es DNo identifying the basin shared. present or at any ti- ership, or a difference e/were other firms?	ens or person with who ine in the past? t name? Yes No	
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	iou 3: MAJORI	TY OWNER IN	FORMAT	ION	$\langle \mathcal{A} \rangle$
A. Identify the majority owner of	he firm holding	51% or more of	vuership in	terest.	Amen 2
(1) Full Name:	(2) Title:			me Phone #	
(4) Home Address (Street and Number)		City:		State:	
(5) Gender: 🗆 Male 🗆 Female		(8) Number of (9) Percentage Class of sto	owned:		÷
(6) Ethnic group membership (Che	ck all that apply):	Date acquir	ed		
Black Hispanic Asian Pacific Native Ameri Subcontinent Asian Other (specify)		(10) Initial inv acquire owner interest in firm	ship	Cash Real Estat Equipmen	s c \$
(7) U.S. Citizenship:		Describe how y	siness nivse	l your busin lf	*
 U.S. Citizen Lawfully Admitted Permanent Re 	sident	 I bought it I inherited Other 	from:		investment)
 (2) Does this owner perform a man If Yes, identify: Name of Business:	k for any other f	Fun firm(s) that has a uses, personnel short	relationshing etc.)	ip with this i'es I No	firm? (e.g. osoroship
If Yes, identify: Name of Business: (3)(a) Does this owner own or work	k for any other f matt, quipment, in d the nature of th ther firm, non-j	Fun firm(s) that has a uses, personnel shart e relationship, an profit organizatio	etion/Title: relationsh rg. etc.)	ip with this i'es I No i's function a	firm? (e.g., ownership at the firm:
If Yes, identify: Name of Business: (3)(a) Does this owner own or work interest, shared office space, financial invast Identify the name of the business, an (b) Does this owner work for any of more than 10 hours per week? If y (4)(a) What is the personal net work	k for any other f ments, equipment, let d the nature of th ther firm, non-p rs, identify this a rth of this disady	Fun Irm(s) that has a user, personnel shart the relationship, an profit organization ctivity: rantaged owner	a relation Title: relationsh ug. en.) d the owner on, or is en; applying fo	ip with this 'es I No 's function : gaged in au r certificati	firm? (e.g., ownership at the firm: y other activity ion ? \$
If Yes, identify: Name of Business: (3)(a) Does this owner own or work interest, shared office space, financial instat Identify the name of the business, an (b) Does this owner work for any of more than 10 hours per week? If y	k for any other f ments, opispment, lo d the nature of th ther firm, non-p rs, identify this a rth of this disadu he benefit of thi	Fun frm(s) that has a user, personnel shart e relationship, an profit organization ctivity: rantaged owner is disadvantaged	a relation Title: relationsh ug. en.) d the owner on, or is en; applying fo	ip with this 'es I No 's function : gaged in au r certificati	firm? (e.g., ownership at the firm: y other activity ion ? \$
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. Identify all individuals, firms, or h rm (Attach separate sheets for each addi		uics o	IN DOU LESS	- mail	21700411(1)	suip interest in the
(1) Full Name:	(2) Title:				me Phone #	
(4) Home Address (Street and Number):			Citys	<u> </u>	Leve	Z)pr
(5) Gender:	all that apply)	(9) F	umber of yea ercentage ow lass of stock o	wned:	uer:%	
Black Hispanic Asian Pacific Native America Subcontinent Asian Other (specify) (7) U.S. Citizenship:		(10)	Date acquired _ Initial investo fre ownership vest in firm:	nent to	Type	\$ \$ \$
U.S. Citizen Lawfully Admitted Permanent Resi	dent	00000	I bought it fro I inherited it fi Other	ss mysel om: m: om:	ŕ	S:
1) Describe familial relationship to	other owners	and e	mployees:			
2) Does this owner perform a mana	gement or su	ervis	ory function f	or any o	ther business	
 2) Does this owner perform a mana f Yes, identify: Name of Business: 3)(a) Does this owner own or work interest, shared office space, financial teventue dentify the name of the business, and b) Does this owner work for any oth 	gement or sug for any other ntr. equipment, is the nature of the per firm, non-	firm(s san, p be rela profit	ory function fo Patetic) that has a re erseened sharing, tionship, and t organization,	or any of w/Title: dationsh etc.)	ther business ip with this i Yes □ No 's function a gaged in any	s? Yes No
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		Nat	ne		Т	itle	Date	Ethnicity	the second se
1) Officers of the Comp	pany (a)						Appointed		Gender
i) onicers of the Comp	(b)								
	(6)								
	1.1.2					and the second			
2) Board of Directors	(d) (a)								
1) Board of Directory	(b)								+
	(c)								
	(d)								
(4) Do any of the pers with this firm? (e.g. or Yes No If Yes Finn Name: Nature of Business Relat	sons listed in se unerablp interest, si , identify for eac tionship:	ction A wred offi h:	above o cespace, f	WB OF	work for	any other equipment i	firm(s) that eases, persons	has a relat el shoring, esc	ionship)
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he firm. (Attach separate sheets as need	Office	Directo	Manage	er/Key Personnel					
A= Always S = Seldom					Name:				
F - Frequently N - Never	Title:				Title: Race and Gender:				
- riequeury is - sever	Race a	and Gend	ler:		Race and Gender: Percent Owned:				
ويستعد المتحدث المحفظ وبالمحتو والمحاد ويستعد الشالات	Perces	of Owned			Per	cent Ow	ned:		
Sets policy for company direction/scope of operations	A	F	8	N	A	F	s	N	
Bidding and estimating	A	F	8	N	A	F	s	N	
Major purchasing decisions	A	F	S	N	A		8	N	
Marketing and sales	A	F	8	N	A		8	N	
Supervises field operations	A	F	S	N	A		S	N	
Attend bid opening and lettings	A	F	S	N	A	F	S	N	
Perform office management (billing, accounts receivable/payable, etc.)	A	F	s	N	A	F	s	N	
fires and fires management staff	A	F	S	N	Α.	F	8	N	
Hire and fire field staff or crew	A	F	8	N	A	F	8	N	
Designates profits speading or investment	a contract of the second second	F	S	N		F	s	N	
Obligates business by contract/credit	A	F	\$	N	A		5	N	
Purchase equipment	A	F	8	N	A	F	8	N	
Signs business checks	A	F	8	N	A	F	S	N	
Do any of the persons listed above ow www.wip.onevezt. zhared office space, financi he business relationship:	n or we	ork for a monte, op	ny other apment, h	firm(s) that has man, personnel sho	a rela	tionshi w.) If Y	p with thi res, descr	s firm? (e.g. ibe the nature of	
dentify the person, the business, and t Do any of the persons listed above ow warship onerest, shared office space, finance he business relationship: C. Inventory: Indicate your firm's inv 1. Equipment and Vehicles Make and Model Current	n or we	in the fo	ny other apprent h Mowing or Lease	firm(s) that has nave, personnel sha categories (Plea ed Used as c	a rela ring, o se att	tionshij w.) If Y ach add	p with thi 'es, descr	s firm? (e.g. ibe the nature of	
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1.001	ert Address	Owned or L Firm or O		urrent Value of Pro	operty or Lease
D. Does your firm	n rely on any other fi	rm for management f	unctions or emp	ployee payroll? 🛛	Yes 🛛 No
E. Financial/Bank	king Information (Pro	wide bank authorization	and signature car	ds)	
Name of bank:		City a n checks on this accou	nd State:		-
The following indi	ividuals are able to sig	n checks on this accou	01:		
Name of bank:		City a n checks on this accou	nd State:		
The following indi	ividuals are able to sig	n checks on this accou	ot:		(in strand and a strand get
Bonding Informa Aggregate limit \$	tion: If you have bond	ling capacity, identify Project limit \$	the firm's bondi	ng aggregate and pro	oject limits:
institutions. Iden DBE/ACDBE. In-	tify whether you the o clude the names of an	surposes of money loa owner and any other ay persons or firms gr ad security agroements).	person or firm l taranteeing the	loaned money to th	e applicant
Name of Source	Address of Source	Name of Person Guaranteeing the Loan	Original Amount	Current Pe Balance	urpose of Loan
L					
2					
G. List all contrib	outions or transfers o	f assets to/from your ach additional shoets if n	firm and to from		s or another
	et Dollar Value	Transferred	To Whom Transferred	Relationship	Date of Transfer
1.5					
2					
2		y any owner and/or e		r firm	
2 3 H. List current lie	censes/permits held b storer, architect, etc.)(A)	tach additional sheets if i		100110-0010-020	State
2 3 H. List current lie (e.g. contractor, eng		Type of Liceus	Permit	Expiration Date	
2 3. H. List current lie (e.g. contractor, eng Name of Licens 1.	sineer, architect, etc.)(A)	Type of License	Permit	Expiration Date	

Name of	Name/Location of	Type of Work Perform	ned D	ollar Value of
Owner/Contractor	Project			Contract
2				
3				
J. List the three largest ac	tive jobs on which your fire	n is currently working:		
Name of Prime		e of Work Project	Anticipated	Dollar Value
Contractor and Project Number	Project	Start Date	Completion Date	of Contract
4	AND REAL PROPERTY AND A REAL PROPERTY AND ADDRESS OF ADDRE		and the second se	and the second sec
2.				Contraction of the Contract of the Contract
2				
2				
3.				
2	ESSION (ACDBE) APPLIC	ANTS ONLY MUST COMP		
2		ANTS ONLY MUST COMP DBE applicant firm:	LETE THIS S	
2	ESSION (ACDBE) APPLIC rmation concerning the AC Address / Location at	ANTS ONLY MUST COMP DBE applicant firm: Value of Property or	LETE THIS S	SECTION ase Payments
2	ESSION (ACDBE) APPLIC rmation concerning the AC Address / Location at	ANTS ONLY MUST COMP DBE applicant firm: Value of Property or Lease	LETE THIS S	SECTION ase Payments
2	ESSION (ACDBE) APPLIC rmation concerning the AC Address / Location at <u>Airport</u>	ANTS ONLY MUST COMP DBE applicant firm: Value of Property or Lease	LETE THIS S	SECTION ase Pavinents o the Airport
2	ESSION (ACDBE) APPLIC rmation concerning the AC <u>Address / Location at</u> <u>Airport</u>	ANTS ONLY MUST COMP DBE applicant firm: Value of Property or Lease	LETE THIS S Paid to Paid to cant firm or as	SECTION ase Pavinents o the Airport
2	ESSION (ACDBE) APPLIC rmation concerning the AC <u>Address / Location at</u> <u>Airport</u>	ANTS ONLY MUST COMP DBE applicant firm: Value of Property or Lease ncession businesses the applie	LETE THIS S	SECTION ase Pavinents o the Airport
2	ESSION (ACDBE) APPLIC rmation concerning the AC <u>Address / Location at</u> <u>Airport</u> eruing any other airport co name, location, type of co	CANTS ONLY MUST COMP DBE applicant firm: Value of Property or Lease 	LETE THIS S	ECTION ase Paviments o the Airport
2	ESSION (ACDBE) APPLIC rmation concerning the AC <u>Address / Location at</u> <u>Airport</u> eruing any other airport co name, location, type of co	CANTS ONLY MUST COMP DBE applicant firm: Value of Property or Lease 	LETE THIS S	ECTION ase Paviments o the Airport



AFFIDAVIT OF CERTIFICATION

This form must be signed and notarized for each owner upon which disadvantaged status is relied.

A MATERIAL OR FALSE STATEMENT OR OMISSION MADE IN CONNECTION WITH THIS APPLICATION IS SUFFICIENT CAUSE FOR DENIAL OF CERTIFICATION, REVOCATION OF A PRIOR APPROVAL, INITIATION OF SUSPENSION OR DEBARMENT PROCEEDINGS, AND MAY SUBJECT THE PERSON AND/OR ENTITY MAKING THE FALSE STATEMENT TO ANY AND ALL CIVIL AND CRIMINAL PENALTIES AVAILABLE PURSUANT TO APPLICABLE FEDERAL AND STATE LAW.

and that I have read and understood all of the questions in this application and that all of the foregoing information and statements submitted in this application and its attachments and supporting documents are true and correct to the best of my knowledge, and that all responses to the questions are full and complete, omitting no material information. The responses include all material information necessary to fully and accurately identify and explain the operations, capabilities and pertinent history of the named firm as well as the ownership, countrol, and affiliations thereof.

I recognize that the information submitted in this application is for the purpose of inducing certification approval by a government agency. I understand that a government agency may, by means it deems appropriate, determine the accuracy and truth of the statements in the application, and I authorize such agency to contact any entity named in the application, and the named firm's bonding companies, bunking institutions, credit agencies, contractors, clients, and other certifying agencies for the purpose of verifying the information supplied and determining the named firm's eligibility.

I agree to submit to government andit, examination and review of books, records, documents and files, in whatever form they exist, of the named firm and its affiliates, inspection of its places(s) of business and equipment, and to permit interviews of its principals, agents, and employees. I understand that refinal to permit such inquiries shall be grounds for denial of certification.

If awarded a contract, subcontract, concession lease or sublease. I agree to promptly and directly provide the prime contractor, if may, and the Department, recipient togency, or federal funding agency on an ongoing basis, current, complete and accurate information regarding (1) work performed on the project; (2) payments; and (3) proposed changes, if any, to the foregoing arrangements.

I agree to provide written notice to the recipient agency or Unified Certification Program of any material change in the information contained in the original application within 30 calendar days of such change (e.g., ownership changes, address/telephone number, personal net worth exceeding \$1.32 million, etc.). I acknowledge and agree that any misrepresentations in this application or in records pertaining to a contract or subcontract will be grounds for terminating any contract or subcontract which may be awarded; denial or revocation of certification; suspension and debarment; and for initiating action under federal and/or state law concerning false statement, fixed or other applicable offenses.

I certify that I am a socially and economically disadvantaged individual who is an owner of the above-referenced firm seeking certification as a Disadvantaged Business Enterprise or Airport Concession Disadvantaged Business Enterprise. In support of my application, I certify that I am a member of one or more of the following groups, and that I have held myself out as a member of the group(s): (Check all that apply):

Fenale
 Black American
 Hispanic American
 Native American
 Asian-Pacific American
 Subcontinent Asian American
 Other (specify)

I certify that I am socially disadvantaged because I have been subjected to racial or ethnic prejudice or cultural bias, or have suffered the effects of discrimination, because of my identity as a member of one or more of the groups identified above, without regard to my individual qualities.

I further certify that my personal net worth does not exceed \$1.32 million, and that I am ecenomically disadvantaged because my ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same or similar line of business who are not socially and economically disadvantaged.

I declare under penalty of perjury that the information provided in this application and supporting documents is true and correct.

(DBE/ACDBE Applicant)

licant) (Date)

NOTARY CERTIFICATE

U.S. DOT Uniform DBE/ACDBE Certification Application • Page 13 of 14



UNIFORM CERTIFICATION APPLICATION SUPPORTING DOCUMENTS CHECKLIST

In order to complete your application for DBE or ACDBE certification, you must attach copies of all of the following REQUIRED documents. A failure to supply any information requested by the UCP may result in your firm denied DBE/ACDBE certification.

Required Documents for All Applicants

C Résumés (that include places of employment with corresponding dates), for all owners, officers, and key personnel of the applicant firm

Personal Net Worth Statement for each socially and economically disadvantaged owners comprising 51% or more of the ownership percentage of the applicant firm.

Personal Federal tax returns for the past 3 years, if

applicable, for each disadvantaged owner Federal tax returns (and requests for extensions) filed by

the firm and its affiliates with related schedules, for the past 3

C Documented proof of contributions used to acquire ownership for each owner (e.g., both sides of cancelled checks)

Signed Ioan and security agreements, and bonding forms C List of equipment and/or vehicles owned and leased including VIN numbers, copy of titles, proof of ownership. insurance cards for each vehicle.

Title(s), registration certificate(s), and U.S. DOT numbers for each truck owned or operated by your firm Licenses, license renewal forms, permits, and haul

authority forms Descriptions of all real estate (including office/storage)

space, etc.) owned leased by your firm and documented proof of ownership/signed leases

Documented proof of any transfers of assets to/from your firm and/or to/from any of its owners over the past 2 years DBE/ACDBE and SBA 8(a), SDB, MBE/WBE

certifications, denials, and/or decertifications, if applicable; and any U.S. DOT appeal decisions on these action

Bank authorization and signatory cards Schedule of salaries (or other remuneration) paid to all

officers, managers, owners, and/or directors of the firm List of all employees, job titles, and dates of employment. Proof of warehouse/storage facility ownership or lease arrangements

Partnership or Joint Venture

Original and any amended Partnership or Joint Venture Agreements

Corporation or LLC

Official Articles of Incorporation (signed by the state official)

Both sides of all corporate stock certificates and your

firm's stock transfer ledger

Shareholders' Agreement(s)

Minutes of all stockholders and board of directors meetings

U.S. DOT Uniform DBE/ACDBE Certification Application • Page 14 of 14

- Corporate by-laws and any amendments
- Corporate bank resolution and bank signature cards
- COfficial Certificate of Formation and Operating Agreement with any amendments (for LLCs)

Optional Documents to Be Provided on Request

The UCP to which you are applying may require the submission of the following documents. If requested to provide these document, you must supply them with your application or at the on-site visit.

- D Proof of citizenship
- Insurance agreements for each truck owned or operated by your firm
- C Andited financial statements (if available)
- D Personal Federal Tax returns for the past 3 years, if
- applicable, for other disadvantaged owners of the firm.
- Trust agreements held by any owner claiming
- disadvantaged status
- Year-end balance sheets and income statements for the past 3 years (or life of firm, if less than three years)

Suppliers

List of product lines carried and list of distribution equipment owned and/or lessed

View or download PDF

[79 FR 59603, Oct. 2, 2014]

Appendix G to Part 26—Personal Net Worth Statement

	artment of ortation					APPROVALINO OPPRATION DATE:
This form is used by all participants in the U.S. Dep owner of a firm applying to perticipate as a DBE or Each parson signing this form authorizes the Unifie statements made. The agency you apply to will use the DBE program regulations 49 C.F.R. Parts 23 at		ACDBE, whose ow d Certification Prog the information pro	nership and co ram (UCP) rec wided to deter	ntrol are tolied upon for pient to make inquiries mine whether an owner	DBE certifical as nucessary is economical	tion must complete this form to verify the accuracy of the hy disadvantaged as define
Name						Business Phone
Residence Address (As reported to the IRS) City, State and Zip Code						Residence Phone
Business Name of Applicant Firm	usiness Name of Applicant Fem					
Spouse's Full Name (Marital Status: Single, Married, I	Devarced, Union)					
ASSETS		(Omit C	ents) LIA	BILITIES		(Omit Cents)
Cash and Cash Equivalents		\$		n on Life Insurance mplete Section 5)		\$
Relivement Accounts (IRAs, 401 Persons, etc.) (Report full value interest penalties that would appl distributed today) (Complete Sec	minus tax and y if assets were	\$	Exc	tgages on Real Estate lading Primary Residen repiete Section 4)	ce Debt	\$
Brokerage, Investment Accounts		\$		es, Obligations on Pers mplete Section 6)	onal Property	\$
Assets Held in Trust		\$	Not	es & Accounts Payable Others (Complete Sec	to Banks fon 2)	\$
Loans to Shareholders & Other R (Complete section 6)	leceivables	\$		er Liubilities mplete Section 8)		\$
Real Estate Excluding Primary R (Complete Section 4)	esidence	\$		and Taxes mplete Section 8)		5
Life Insurance (Cash Sumender V (Complete Section 5)	/alue Only)	5				
Other Personal Property and Ass (Complete Section 6)	wts.	\$				
Business Interests Other Than th (Complete Section 7.)	e Applicant Firm	\$				
	Total Assets	\$		Totel Linbitries		\$
Section 2 Notes Payable to B	anks and Others			NET WORTH		
Name of Noteholder(s)	Original Balance	Current Balance	Payment Amount	Frequency (monthly, etc.)	How Se	cured or Endorsed Type of Collateral

Name of Security / Brokeray	an Account / Re	deemont		Market Value	Date of	
Accou			Cost	Quotation/Exchange	Quotation/Exchan	pa Totol Value
Section 4. Real Estate Own	ed (Including P	timary Resi	dence, Investm	ent Properties, Person	al Property Leased	or Rented for Business
Purposes, Farm Properties,		ncome Prod ary Rosiden	2014/2411/2414/2). (List each parcel sépar Property B	ately Add additional	shoots if nocessary). Property C
Type of Property						
Address						
Date Acquired and Method of Acquisition (purchase, inherit, divorce, gift, etc.)						
Names on Deed						
Purchase Price						
Present Market Value						
Source of Market Valuation Name of all Mortgage Holders						
Mortgage Acc. # and balance (as of date of form)						
Equity line of credit balance						
Amount of Payment Per Month/Year (Specify)						
Section 5. Life Insurance He	and the second part of the second	mount and c	ash surrender ve	lue of policies, name of	nsurance company a	nd beneficiaries).
Insurance Company	Face Value	Cash Sur	ender Amount	Beneficiaries	Loan	on Policy Information
	1		an Tana a Share and a			

	istaty)	105526	1.5.1.52	A. 650 S. 650
Type of Property or Asset	Total Present Value	Amount of Labbity (Ealance)	In this association of the second of the sec	Lies or Note amount and Terms of Payment
Automobiles and Vehicles (including recreation whicles, motorcycles, boats, vik;) include personally owned valucles that are leased or rented to businesses or other individuals.				
Household Goods / Jeweliny				
Other (Lisi)				
Accounts and Notes Receivables.				
Section 7. Value of Other Business Investments, Other Businesses Over Sole Proprietorships, General Partners, Jam Veritures, Limited Liability Com			ded Corporat	ors
	panies, Closofy he	id and Public Tra	innella bo a lip	oouse, domestic
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General Instructions for Completing the Personal Net Worth Statement for DBE/ACDBE Program Eligibility

Please do not make adjustments to your figures pursuant to U.S. DOT regulations 49 C.F.R. Parts 23 and 26. The agency that you apply to will use the information provided on your completed Personal Net Worth (PNW) Statement to determine whether you meet the economic disadvantage requirements of 49 C.F.R. Parts 23 and 26. If there are discrepancies or questions regarding your form, it may be retarned to you to correct and complete again.

An individual's personal net worth according to 49 C.F.R. Parts 23 and 26 includes only his or her own share of assets held separately, jointly, or as community property with the individual's sponse and excludes the following:

- · Individual's ownership interest in the applicant firm.
- · Individual's equity in his or her primary residence;
- Tax and interest penalties that would accuse if retirement savings or investments (e.g., pension plans, Individual Retirement Accounts, 401(k) accounts, etc.) were distributed at the present time.

Indicate on the form, if any items are jointly owned. If the personal net worth of the majority owner(s) of the firm exceeds \$1.32 million, as defined by 49 C.F.R. Parts 23 and 26, the firm is not eligible for DBE or ACDBE certification. If the personal net worth of the majority owner(s) exceeds the \$1.32 million cap at any time after your firm is certified, the firm is no longer eligible for certification. Should that occur, it is your responsibility to contact your certifying agency in writing to advise that your firm no longer qualifies as a DBE or ACDBE. You must fill out all line items on the Personal Net Worth Statement.

If necessary, use additional sheets of paper to report all information and details. If you have any questions about completing this form, please contact one of the UCP certifying agencies.

Assets

All assets must be reported at their current fair market values as of the date of your statement. Assessor's assessed value for real estate, for example, is not acceptable. Assets held in a must should be included.

Cash and Cash Equivalents: On page 1, enter the total amount of cash or cash equivalents in bank accounts, including checking, savings, money market, certificates of deposit held domestic or foreign. Provide copies of the bank statement.

Retirement Accounts, IRA, 401Ks, 403Bs, Pensions: On page 1, enter the full value minutes tax and interest penalties that would apply if assets were distributed as of the date of the form. Describe the number of shares, name of securities, cost market value, date of quotation, and total value in section 3 on page 2. Brokerage and Custodial Accounts, Stocks, Bonds, Retirement Accounts: Report total value on page 1, and on page 2, section 3, enter the name of the security, brokerage account, retirement account, etc.; the cost, market value of the asset: the date of quotation; and total value as of the date of the FNW statement.

Assets Held in Trust: Enter the total value of the assets held in trust on page 1, and provide the names of beneficiaries and trustees, and other information in Section 6 on page 3.

Loans to Shareholders and Other Receivables not listed: Enter amounts loaned to you from your firm, from any other business entity in which you hold an ownership interest, and other receivables not listed above. Complete Section 6 on page 3.

Real Estate: The total value of real estate excluding your primary residence should be listed on page 1. In section 4 ou page 2, please list your primary residence in column 1, including the address, method of acquisition, date of acquired, names of deed, purchase price, present fair market value, source of market valuation, names of all mortgage holders, mortgage account number and balance, equiry line of credit balance, and annount of payment. List this information for all real estate hold. Please ensure that this section contains all real estate owned, including rental properties, vacation properties, commercial properties, personal property leased or rented for business purposes, farm properties and any other income producing properties, etc. Attach additional sheets if needed.

Life Insurance: On page 1, enter the cash surrender value of this asset. In section 5 on page 2, enter the name of the insurance company, the face value of the policy, cash surrender value, beneficiary names, and loans on the policy.

Other Personal Property and Assets: Enter the total value of personal property and assets you own on page 1. Personal property includes motor vehicles, boats, trailers, jewelry, furniture, household goods, collectibles, clothing, and personally owned vehicles that are leased or rented to businesses or other individuals. In section 6 on page 3, list these assets and enter the present value, the balance of any liabilities, whether the asset is insured, and lien or note information and terms of payments. For accounts and notes receivable, enter the total value of all monies owed to you personally, if any. This should include shareholder loans to the applicant firm, if those exist. If the asset is insured, you may be asked to provide a copy of the policy. You may also be asked to provide a copy of any liens or notes on the property.

Other Business Interests Other than Applicant Firm: On page 1, enter the total value of your other business investments (excluding the applicant firm). In section 7 on page 3, enter information concerning the businesses you

U.S. DOT Personal Net Worth Statement for DBE/ACDBE Program Eligibility • Page 4 of 5

hold an ownership interest in, such as sole proprietorships, partnerships, joint ventures, corporations, or limited liability corporations (other than the applicant firm). Do not reduce the value of these entries by any loans from the outside firm to the DBE/ACDBE applicant business.

Liabilities

Mortgages on Real Estate: Enter the total balance on all suortgages payable on real estate on page 1.

Loans on Life Insurance: Enter the total value of all loans due on life insurance policies on page 1, and complete section 5 on page 2.

Notes & Accounts Payable to Bank and Others: On page 1, section 2, enter details concerning my liability, including name of noteholders, original and current balances, payment terms, and security/collateral information. The entries should include automobile installment accounts. This should not, however, include any mortgage balances as this information is captured in section 4. Do not include loans for your business or mortgages for your properties in this section. You may be asked to submit copy of note security agreement, and the most recent account statement.

Other Liabilities: On page 1, enter the total value due on all other liabilities not listed in the previous entries. In section 8, page 3, report the name of the individual obligated, names of co-signers, description of the liability, the name of the eatity owed, the date of the obligation, payment amounts and terms. Note: Do not include contingent liabilities in this section. Contingent liabilities are liabilities that belong to you only if an event(s) should occur. For example, if you have co-signed on a relative's loan, but you are not responsible for the debt until your relative defaults, that is a contingent liability. Contingent liabilities de not count toward your net worth until they become actual liabilities.

Unpaid Taxes: Enter the total amount of all taxes that are currently due, but are unpaid on page 1, and complete section 8 on page 3. Contingent tax liabilities or anticipated taxes for current year should not be included. Describe in detail the name of the individual obligated, names of cosigners, the type of unpaid tax, to whom the tax is payable, due date, amount, and to what property, if any, the tax lieu attaches. If none, state "NONE." You must include documentation, such as tax lieus, to support the amounts.

Transfers of Assets:

Transfers of Assets: If you checked the box indicating yes on page 3 in this category, provide details on all asset transfers (within 2 years of the date of this personal net worth statement) to a spouse, demestic partner, relative, or entity in which you have an ownership or beneficial interest including a trust. Include a description of the asset, names of individuals on the deed, title, note or other instrument indicating ownership rights: the names of individuals receiving the assets and their relation to the transferor; the date of the transfer; and the value or consideration received. Solumit documentation requested on the form related to the transfer.

Affidavit

Be sure to sign and date the statement. The Personal Net Worth Statement must be notarized

U.S. DOT Personal Net Worth Statement for DBE/ACDBE Program Eligibility • Page 5 of 5

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DAVIS-BACON WAGE SCHEDULE

STATE OF NEW HAMPSHIRE ROCKINGHAM COUNTY – HIGHWAY NH20250040 01/03/2025 THIS PAGE INTENTIONALLY LEFT BLANK

General Decision Number: NH20250040 01/03/2025

Superseded General Decision Number: NH20240040

State: New Hampshire

Construction Type: Highway

County: Rockingham County in New Hampshire.

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).

<u>If the contract is entered into on or after January 30, 2022</u>, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022, Executive Order 14026 generally applies to the contract. The Contractor must pay all covered workers at least \$17.75 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 2025.

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, Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least \$13.30 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 2025.

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 www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025

SUNH2019-009 11/22/2022

	Rates	Fringes
CARPENTER (Form Work Only)	\$ 24.02	2.82
CARPENTER (Excludes Form Work)	\$ 26.09	2.51
CEMENT MASON/CONCRETE FINISHER	\$ 22.44	0.00
ELECTRICIAN	\$ 28.08	2.78
FENCE ERECTOR (Chain Link Fence)	\$ 19.59	0.00
HIGWAY/PARKING LOT STRIPING – Painter	\$ 21.63	0.00
INSTALLER – GUARDRAIL	\$ 31.12	9.72
IRONWORKER, REINFORCING	\$ 22.71	8.19
IRONWORKER, STRUCTURAL	\$ 34.45	17.20

LABORER: Asphalt, Includes: Raker, Shoveler Spreader, and Distributor		2.75
LABORER: Common or General	\$ 19.15	2.60
LABORER: Landscape	\$ 18.06	0.00
LABORER: Pipelayer	\$ 19.66	5.28
OPERATOR: Auger	\$ 26.07	3.42
OPERATOR: Backhoe/Excavator/Trackhoe	\$ 26.98	6.50
OPERATOR: Bobcat/Skid Steer/Skid Loader	\$ 21.54	7.11
OPERATOR: Broom/Sweeper	\$ 25.73	0.00
OPERATOR: Bucket	\$ 30.00	0.00
OPERATOR: Bulldozer	\$ 25.99	6.75
OPERATOR: Crane	\$ 29.56	3.29
OPERATOR: Grader/Blade	\$ 27.77	6.79
OPERATOR: Loader	\$ 25.69	6.28
OPERATOR: Mechanic	\$ 24.53	8.36
OPERATOR: Milling Machine	\$ 28.55	6.88
OPERATOR: Paver (Asphalt, Aggregate, and	Concrete)\$ 25.32	6.23
OPERATOR: Pounder	\$ 36.82	10.41
OPERATOR: Roller	\$ 23.35	5.98
PAINTER: Spray	\$ 27.29	6.95
TRAFFIC CONTROL: Flagger	\$ 13.17 **	1.37
TRUCK DRIVER: Dump Truck	\$ 19.47	3.22
TRUCK DRIVER: Lowboy Truck	\$ 22.76	5.07

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 (\$17.75) or 13658 (\$13.30). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

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 <u>https://www.dol.gov/agencies/whd/government-contracts</u>.

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) (iii)).

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

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have 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.

END OF GENERAL DECISION"

SUPPLEMENTAL PROVISIONS

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SUPPLEMENTAL PROVISIONS

I. CONTRACT DOCUMENT DRAWINGS

Attention shall be directed to the General Provisions, FAA Required Contract Provisions for AIP Project, and these Supplemental Provisions for complete definition and enumeration of the Contract Documents. Attention shall be paid to the drawings, specifications, and addenda and other items enumerated in Contract Agreement which also form a part of this Contract.

A. Dimensions

The drawings are made to scale, unless otherwise noted, but all working dimensions shall be taken from the figured dimensions or by actual measurements at the work, and in no case by scaling the prints. The CONTRACTOR (and his/her subcontractors) shall study and compare all drawings and verify all figures before laying out or constructing the work and shall be responsible for any and all errors in the Contract work which might have been avoided thereby. Whether or not an error is believed to exist, deviations from the drawings and the dimensions given thereon shall be made only after approval in writing is obtained from the Engineer. The CONTRACTOR (and his/her subcontractors) shall take all measurements of existing established conditions notwithstanding the figured dimensions are not in agreement with the CONTRACTOR's (or his/her subcontractors) measurements, the Engineer shall be immediately notified and the Engineer will promptly adjust same.

B. Diagrammatic Drawings

1. Work and Materials Included

Plans or drawings where the work is shown diagrammatically indicate approved working systems. Every piece of material, fitting, fixture or small equipment is not shown nor is every difficulty or interference that may be encountered. To carry out the true intent and purpose of the Contract Documents, all necessary parts to make complete, approved working systems, or installations shall be included as if detailed on the drawings.

2. Location of Construction

The location of construction or installations shown on the drawings, unless exactly dimensioned, shall be considered as approximate only. The CONTRACTOR (and his/her subcontractors) shall adjust the position of the construction and installation in accordance with good working practices and as directed or approved by the Engineer to meet interferences, provide proper clearance and provide proper access space for operations and maintenance.

C. Typical Details

Where shown on the drawings, typical details shall apply to each and every item of the Contract work where such items are incorporated and the detail is applicable. Unless noted otherwise, such typical details shall be applicable in full.

II. SPECIAL INSPECTION REQUIREMENTS

A. The project will be financially aided by grants from the Federal Aviation Administration (U. S. Government) and from the New Hampshire Department of Transportation, Bureau of Aeronautics. All work done under this Contract will be subject to the rules and regulations and the approval of said Administration and Department. The CONTRACTOR shall provide authorized representatives of said Administration and Department with proper access to the work for inspection purposes at any time during the preparation for or progress on the Contract work.

B. The Contractor shall throughout the course of the work give proper notice to the Engineer and all others having jurisdiction of his/her schedule of operations. It shall be the Contractor's responsibility to have all parts of the work inspected and approved by the proper authorities as required.

C. All applicable inspection and certification requirements of the Standard Specifications referred to herein

will be enforced, in addition to any other inspections or certifications deemed necessary by the Engineer. **III. "OR EQUAL" CLAUSE**

Whenever a material, article or piece of equipment is identified on the plans or in the specifications by reference to manufacturer's or vendor's names, trade names, catalogue numbers, etc., it is intended merely to establish a standard; and, any material, article, or equipment of other manufacturers and vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or equipment so proposed, is, in the opinion of the Engineer, of equal substance and function. It shall not be purchased or installed by the Contractor without the Engineer's written approval.

IV . CONTRACTOR AGREEMENT NEGLIGENCE & WRONGDOING INDEMNIFICATION DURING PROSECUTION OF THE WORK

In consideration of the utilization of CONTRACTOR's services by the City of Manchester, Department of Aviation (Owner) – Manchester-Boston Regional Airport (AIRPORT) and other valuable considerations, the receipt of which is hereby acknowledged, CONTRACTOR agrees that all persons furnished by CONTRACTOR shall be considered the CONTRACTOR's employees or agents and that CONTRACTOR shall be responsible for payment of all unemployment, social security and other payroll taxes including contributions from them when required by law.

CONTRACTOR hereby agrees to protect, defend, indemnify and hold the Owner, AIRPORT and Architect/Engineer and their respective employees, agents, officers and servants free and harmless **from their acts of negligence or wrongdoing to add airport operational risks during construction** and for any and all associated losses, claims, liens, demands and causes of action of every kind and character including but not limited to, the amounts of judgements, penalties, interests, court costs, legal fees and all other expenses incurred by the Owner, AIRPORT or Architect/Engineer arising in favor of any party, including claims, liens, debts, personal injuries, including employees of the Owner, AIRPORT and Architect/Engineer death or damages to property (including property of the Owner, AIRPORT and Architect/Engineer) and without limitation by enumeration, all other claims or demands of every character occurring or in any way incident to, in connection with or arising or directly indirectly out of the Contract Agreement for such negligence or wrongdoing in their performance by adding airport operational risk and any resulting associated costs.

CONTRACTOR agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands or suits at the sole handle, of the CONTRACTOR. CONTRACTOR also agrees to bear all other costs and expense related thereto. This provision is not intended to create any cause of action in favor of any third party against CONTRACTOR or the Owner/AIRPORT or to enlarge in any way the CONTRACTOR'S liability, but is intended solely to provide for indemnification of the Owner/AIRPORT from liability for damages or injuries to third persons or property arising from CONTRACTOR'S negligent or wrongdoing performance hereunder.

V. INSURANCE REQUIREMENTS

CONTRACTOR shall maintain in effect certain insurance coverage, which is described as follows:

COVERAGE	LIMIT OF LIABILITY	
Commercial General Liability: Bodily and Personal Injury; Products and Completed Operations Coverage	Bodily Injury and Property Damage, Combined Limits of \$2,000,000 each Occurrence, and \$5,000,000 aggregate	
Automobile Liability	\$1,000,000 combined single limit for:(1) Any Auto or (2) All Owned, Hired, and Non-Owned Autos	
Excess Liability Coverage, or Umbrella Coverage, for Commercial General Liability and Automobile Liability	\$5,000,000.00	
All-Risks or Builder's Risk	Not Applicable for this Project	
Workers' Compensation	Statutory for Workers' Compensation	
Aggregate Limits are per 12-month policy period unless otherwise indicated.		

At all times during the term of the Contract Agreement and any extensions or renewals, CONTRACTOR shall provide and maintain insurance coverage that meets the Contract Agreement requirements. Prior to beginning performance under this Contract Agreement or any extensions thereof, or at any time upon the AIRPORT'S request, or each time coverage is renewed or updated, the CONTRACTOR shall furnish to the AIRPORT current certificates of insurance, endorsements, all policies, or other policy documents evidencing adequate coverage, as necessary. CONTRACTOR shall be responsible for and pay (a) all premiums and (b) any claims or losses to the extent of any deductible amounts. CONTRACTOR waives any claim it may have for premiums or deductibles against the OWNER, its officers, agents, or employees.

Subcontractor's Commercial General Liability and Property Damage Insurance and Automobile Liability Insurance

The CONTRACTOR shall either: (a) require each of his/her subcontractors to procure, and to maintain during the life of his/her subcontract, Subcontractor's Public Liability and Property Damage Insurance and Automobile Liability and Property Damage Insurance of the types and amount specified above, or (b) insure the activities of all subcontractors under the CONTRACTOR's own policies as specified above.

<u>Form of Insurance</u>. The form of the insurance shall be approved by the AIRPORT; such approval (or lack thereof) shall never (a) excuse non- compliance with the terms of this Section, or (b) waive or estop the Owner from asserting its rights to terminate the Contract Agreement. The policy issuer shall (1) have a Certificate of Authority to transact insurance business in the State of New Hampshire, or (2) be an eligible non-admitted insurer in the State of New Hampshire and have a Best's rating of at least B+, and a Best's Financial Size Category of Class VI or better, according to the most current <u>Best's Key Rating Guide</u>.

<u>Required Coverage</u>. The Owner, AIRPORT and the Architect/Engineer shall be an Additional Insured under this Contract Agreement, and all policies, except Worker's Compensation, shall explicitly name the Owner, AIRPORT and Architect/Engineer as an Additional Insured. The Owner, AIRPORT and Architect/Engineer shall enjoy the same coverage as the Named Insured without regard to other contract provisions. CONTRACTOR waives any claim or right of subrogation to recover against the OWNER, its officers, agents, or employees. Each of CONTRACTOR'S insurance policies, except Worker's Compensation, must contain coverage waiving such claim. Each policy, except Workers' Compensation, must also contain an endorsement that the policy is primary to any other insurance available to the Additional Insured with respect to claims arising under the Contract Agreement.

<u>Notice</u>. CONTRACTOR SHALL GIVE 30 DAYS' ADVANCE WRITTEN NOTICE TO THE AIRPORT IF ANY OF ITS INSURANCE POLICIES ARE CANCELED OR NON-RENEWED. Within the 30-day period, CONTRACTOR shall provide other suitable policies in order to maintain the required coverage. If CONTRACTOR does not comply with this requirement, the AIRPORT, at their sole discretion, may immediately suspend CONTRACTOR from any further performance under the Contract Agreement and begin procedures to terminate the Contract Agreement for default.

VI. SPECIAL HAZARDS

The Contractor's and Subcontractor's Public Liability, Property Damage, Automobile Liability, and Automobile Property Damage insurance coverages shall provide adequate protection against the following special hazards:

A. Damage or injury to aircraft or persons in aircraft operating on or near the project site, resulting from any operations under this Contract.

B. Damage or injury resulting from the use, storage, handling or transportation of explosives in connection with the Contract work, as applicable.

VII. PROTECTION OF LIVES AND HEALTH

In order to protect the lives and health of his/her employees under the contract, the CONTRACTOR shall comply with all pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc., and shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. He/she alone shall be responsible for the safety, efficiency, and adequacy of his/her plant, appliances, and methods, and for any damage which may result from their failure of their improper construction, maintenance or operation.

VIII. PRICING OF CONSTRUCTION CONTRACT CHANGE ORDER OR SUPPLEMENTAL AGREEMENT DOCUMENTATION

A. GENERAL

- The contract language contained in this Section will supplement and take precedence over all other Change Order (CO) or Supplemental Agreement (SA) pricing contract provisions in the Contract Documents provided by the Owner, Design-Builder (CONTRACTOR), Construction Manager (CONTRACTOR), General Contractor (CONTRACTOR) and/or Architect/Engineer. It is understood that these contract provisions will govern the pricing and administration of all change order proposals to be submitted by the Construction Manager and/or the General Contractor and/or the Trade Contractors and/or the Subcontractors and/or all other lower tier sub-subcontractors (All referred to as "CONTRACTOR" in this Section). In the event of a conflict between the other Contract Documents used for the Project, the change order pricing contract provisions in this Section shall govern.
- 2. Contractor agrees that it will incorporate the provisions of this Section into all agreements with lower tier Contractors. It is understood that these change order pricing provisions apply to all types of contracts and/or subcontracts specifically including lump sum (or fixed price contracts), and/or, unit price contracts. It is further understood that these change order provisions will apply to all methods of change order pricing specifically including lump sum change order proposals and unit price change order proposals.
- 3. Whenever change order or Supplemental Agreement proposals to adjust the contract price become necessary, the Owner will have the right to select the method of pricing to be used by the Contractor in accordance with the pricing provisions found in this Section. The options will be (1) lump sum change order proposal, or (2) unit price change order proposal as defined in the following provisions.
- 4. The words "Change Order" in this Section applies to both Change Orders and Supplemental Agreements as defined by Section 10-12 and 10-48 of the General Provisions of these specifications.

B. CHANGE ORDER TYPES

- 1. Lump Sum Change Orders. Provides a single lump sum amount for extra work that comprises of multiple task and a well-defined amount of effort.
- 2 Unit Price Change Orders. Provides a per unit amount for a single task that will be measured for payment upon completion of the task.
- 3. If a CO proposal is not acceptable to the Owner and prompt agreement between the two parties cannot be reached, the Owner at its sole option, may order the Contractor to proceed with the work

on a "Time and Material" basis. The resulting CO will be treated as a Lump Sum CO for determining cost. A Time and Material worksheet will be used to track time and materials on a daily basis and must be signed by the Contractor and the Engineer each day.

C. CHANGE ORDER PROPOSALS

- 1. The following will apply to all types of Change Orders:
 - a. For all labor the Contractor shall receive the rate of the personnel reasonably anticipated to perform the work, or in the case of Time and Materials, the wage actually paid as shown by his certified payroll, which shall be at least the minimum rate established by the Contract Documents.
 - i. The labor rate shall include allowable overhead labor burden defined as employer's net actual cost of payroll taxes (FICA, Medicare, SUTA, FUTA), net actual cost for employer's cost of union benefits (or other usual and customary fringe benefits if the employees are not union employees), and net actual cost to employer for worker's compensation insurance.
 - ii. For all foremen in direct charge of the work the Contractor shall receive the actual wage paid the foremen, as shown on (his certified payroll). No part of the salary or expense of anyone above the grade of foreman and having general supervision of the work will be included in the labor item.
 - iii. Contractor shall receive the actual cost of such labor and labor burden, to which shall be added a maximum of fifteen percent (15%) of the sum thereof.
 - b. For all materials used by the Contractor, he shall receive the actual cost of such materials, less any allowable cash discounts, delivered on the work, including delivery charges as shown by original receipted bills, to which shall be added a maximum of five percent (5%) of the sum thereof.
 - c. For any major power operated machinery, trucks or equipment, which it may be necessary to use, the Owner shall allow the Contractor the rental price as set forth in the standard schedule of equipment rental prices established by the Rental Rate Blue Book for Construction Equipment, current edition as published by Dataquest, or equivalent publication.
 - i. Should the proper completion of the work require equipment of a type not covered by the above-mentioned schedule, the Owner shall allow the Contractor a reasonable rental price to be agreed upon in writing before the work is begun.
 - ii. No percentage shall be added to the amounts of any of the above stated equipment rental prices, but the price as set forth in the schedule or agreed upon shall be total compensation allowed for the use of such equipment.
 - iii. Major equipment is defined as tools and equipment with an individual purchase cost of more than \$750.
 - d. For all cost of all insurance, bonds, and taxes imposed by law on labor employed on the work, the Contractor shall receive the actual amount paid without being marked up.
 - i. In the event the Contractor has been required to furnish comprehensive general liability insurance and/or performance and/or payment bonds as part of the base contract price, a final contract change order will be processed to account for the Contractor's net increase or decrease in comprehensive general liability insurance costs and/or bond premium costs associated with change orders to Contractor's base contract price.
 - e. All extra work performed by a subcontractor will be according to the above requirements as if the work were preformed directly by the Contractor. Extra work performed by a subcontractor may be marked up by the General Contractor by a maximum of five percent (5%). If there are second and third tier subcontractors, subcontractors can markup lower tier subcontractors by a maximum of five percent (5%), the aggregate mark-up of all subcontractors involved shall be a maximum of twenty percent (20%), including the General Contractors markup. The maximum mark-up for all labor, materials and subcontractors is twenty-five percent (25%).
 - f. In no event will any lump sum or percentage amounts for "contingency" be allowed to be added as a separate line item in change order estimates. Unknowns attributable to labor hours will be accounted for when estimating labor hours anticipated performing the work. Unknowns attributable to material scrap and waste will be estimated as part of material costs.
 - g. The Contractor's proposals for changes in the contract amount or time shall be submitted within

seven (7) calendar days of the Owner's request, unless the Owner extends such period of time due to the circumstances involved. If such proposals are not received in a timely manner, if the proposals are not acceptable to Owner, or if the changed work should be started immediately to avoid damage to the project or costly delay, the Owner may direct the Contractor to proceed with the changes without waiting for the Contractor's proposal or for the formal change order to be issued. In the case of an unacceptable Contractor proposal, the Owner may direct the Contractor to proceed with the changed work on a time and material basis with an agreed upon "not-to-exceed" price for the work to be performed. Such directions to the Contractor by the Owner shall be confirmed in writing within seven (7) calendar days. The cost or credit, and or time extensions will be determined by negotiations as soon as practical thereafter and incorporated in a Change Order to the Contract.

D. UNAUTHORIZED CHANGES IN THE WORK

1. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented.

IX. AIRPORT SECURITY

A. DESCRIPTION

- 1. The Contractor shall comply with all applicable federal (FAA, TSA, etc.), state and local laws. This includes but is not limited to: 14 CFR Part 77 (Obstructions to Navigable Airspace), 14 CFR Part 139 (Certification of Airports), 49 CFR 1540 (Civil Aviation Security General Rules) and 49 CFR Part 1542 (Airport Security), as amended.
- 2. Provide protection for materials, tools and equipment being employed on the Project including the tools of workers. The Owner shall not be held to have incurred any liability for loss of, and damage to, materials, tools and equipment of the Contractor, or of those employed by him, by contract or otherwise.
- 3. The Contractor shall employ such security service as he may deem necessary to properly protect and safeguard the work. The Owner shall not in any way be liable or responsible for the damage or loss to the work due to trespass or theft.
- 4. The Owner may provide such security service as they deem necessary to protect his/her interest during the progress of the work. Any protection provided by the Owner shall not in any way relieve the Contractor of the responsibility for the safety of the work and acceptance thereof.
- 5. The Contractor shall be responsible for controlling access to the work area and insuring that airport security is maintained at all times, including set-back security clearances enforced at the Airport, parking garage(s) and parking lots. The Federal Aviation Administration (FAA) and Transportation Security Administration (TSA) may impose fines of \$11,000.00 or more for security violations and incursions into active aircraft operation areas. In addition, the Owner may impose additional fines and/or penalties for such violations. The Contractor shall pay all fines assessed against the Airport due to violations caused by the Contractor and his personnel, subcontractors, and vendors.
- 6. Parking of personal cars at the work sites will not be permitted, except in areas indicated on Contract Drawings. The Contractor, as a subsidiary obligation shall provide adequate and safe transportation for his employees from the area where the cars are parked, to and from the work area. Employees and drivers of work vehicles will be instructed as to proper access roads and will be cautioned that unauthorized use of aircraft pavements or other areas outside the designated work area may lead to their arrest and subsequent payment of fines.
- 7. Trucks delivering material to an actual work area will be subject to search and provided with an escort.
- 8. All orders for material shall instruct the supplier of the procedures to be followed.
- 9. The Contractor shall submit to the Owner within ten (10) days after signing of the contract a written Safety Plan Compliance Document (SPCD) detailing his methods of operations including but not limited the precautions the Contractor proposes for the control of vehicle traffic including flag person, signs, escorts and any other measures the Contractor proposes. After Owner approval of the operations, the Contractor shall follow it explicitly. The Owner may close the work at any time this schedule is violated so as not to endanger airport or aircraft operations. Such closure shall not be

considered a valid reason for extending the contract time or for any claim for extras by the Contractor.

- 10. All security arrangements shall be subject to the approval of the Owner.
- 11. The Contractor's personnel and vehicles will not have access to the entire airport, but shall be limited to work areas and the staging area.
- 12. In addition to the information contained herein, the Contractor shall reference the requirements of the Manchester-Boston Regional Airport Safety and Security Phasing Plan, including for the project badging and gate security requirements.
- 13. This section contains supplemental information and/or requirements for Airport Improvement Program (AIP) projects on the AOA.

B. PROTECTION

- 1. Continuously maintain protection as necessary to protect the work as a whole and in part, and adjacent property and improvements from accidents, injuries or damage.
- 2. Properly protect the work:
 - a. With lights approved by the Owner, guard rails, temporary covers, and barricades.
 - b. Enclose excavations with proper barricades.
 - c. Brace and secure all parts of the work against storm and accident.
 - d. Provide such additional forms of protection which may be necessary under existing circumstances.
- 3. Provide and maintain in good condition all protective measures required to adequately protect the public from hazards resulting from the work and to exclude unauthorized persons from the work area. When regulated by Building Code, OSHA or other authority, such legal requirements for protection shall be considered as minimum requirements; be responsible for the protection in excess of such minimum requirements as required

C. WORK IN THE AIR OPERATIONS AREA

1. If the Contractor is required to perform work within the AIR OPERATIONS AREA (AOA), the Contractor shall be required to follow the requirements outlined herein and in accordance with Section X. entitled Security Badging Requirements.

These requirements include, but are not limited to, the following:

- a. Badging and identifying Contractor personnel;
- b. Securing access point to the AOA.

D. CONTROL OF SITE

- 1. The Contractor shall ensure that no alcohol, firearm, weapon or controlled substance enters or is used at the Project site. The Contractor shall immediately remove from the site and terminate the employment of any employee found in violation of this provision.
- 2. Install approved temporary enclosure of partially completed construction areas to prevent unauthorized entrance, vandalism and theft.
- 3. Secure temporary storage areas as required to prevent theft.
- 4. To the extent possible through reasonable control and protection methods, supervise performance of work in a manner and by means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging, or otherwise deleterious exposures during construction period. Such exposures include (where applicable, but not by way of limitation) static loading, dynamic loading, internal pressures, external pressures, high or low temperatures, thermal shock, high or low humidity, air contamination or pollution, water, solvents, chemicals, light, radiation, puncture, abrasion, heavy traffic, soiling, bacteria, insect infestation, combustion, electrical current, high-speed operation, improper lubrication, unusual wear, misuse, incompatible interface, destructive testing, misalignment excessive weathering, unprotected storage, improper shipping and handling, theft and vandalism.
- 5. The airfield is a completely secured and controlled access site. The primary means for controlling access to the site is the surrounding fence and gates. For any given work area, the access for vehicles, equipment, materials, and manpower shall be restricted to the routes depicted in the plans and in the Construction Safety and Phasing Plan (CSPP).

- 6. <u>Controlled access points to the work area that impact the AOA shall be manned by an approved and trained gate guard.</u> The Owner will provide gate guards to control access to the work areas through gates that are identified as contractor access points. Any and all vehicles entering the airfield are subject to search by gate guards or Owner personnel.
- 7. Failure to provide sufficient security and safety can result in serious penalties and fines of up to \$10,000 per incident. If for any reason, the Owner is fined for actions or inactions of the Contractor, the Contractor shall be liable for any and all fines incurred.

X. SECURITY BADGING REQUIREMENTS

A. AIRPORT SECURITY IDENTIFICATION DISPLAY AREA (SIDA) BADGES:

Full-time competent and responsible employees of the Contractor, such as superintendents and foremen, and all subcontractors supervisory personnel being on-site for at least 2 continuous weeks, shall obtain an Airport SIDA badge. The SIDA badge requires fingerprint screening, a criminal history check, and successful completion of security training upon receiving approval to undergo the training. The badge application process may take up to fourteen (14) days, the Contractor shall plan accordingly.

The Contractor shall have a minimum of 1/2 (50%) of on-site workers submit to the badging process, unless otherwise approved by MHT Operations Management. Badged individuals must display their Airport issued badges on their outermost garment at all times while on the airfield.

At all times while on the airfield, non-badged workers must be escorted by a badged worker and comply with the following:

- 1. Within 100 ft of a badged worker
- 2. Within visual contact of a badged worker
- 3. Able to respond to the requests of a badged worker
- 4. Able to command the attention of a badged worker

Any non-badged workers <u>will not</u> be allowed on the airfield without valid picture identification acceptable to the TSA (current and valid driver's license, passport, etc.), and shall remain with a badged worker or Airport escort at all times. All non-badged workers under escort of a badged worker and will be required to have a temporary construction badge approved by the Owner.

Refer to the Construction Safety and Phasing Plan (CSPP) documents for more information associated with obtaining badges and vehicle permit stickers or inspections. The Contractor will need to appoint a badge coordinator that will coordinate with the Airport Security Badging Office. The cost for a New Badge application process and training is \$45 per applicant and will be billed directly to the Contractor.

The Contractor is responsible for the cost of security badges, including replacements thereof at no cost to the Owner. The Contractor's personnel and its Subcontractor's personnel losing badges will be charged for replacement and/or lost badges at the current rate at no cost to the Owner. All badging costs (including the complete application process and training) shall be considered <u>incidental</u> to the cost of the contract and shall not be measured or paid for separately.

B. INDENTIFICATION OF EMPLOYEES

The Contractor shall provide the Owner with a list of all employees on the job site and their badge number. The list shall include subcontractors and temporary badged employees. The list shall be updated and submitted weekly.

END OF SECTION

CONSTRUCTION SAFETY AND PHASING PLAN (DRAFT PRIOR TO FAA DETERMINATION)

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SUPPLEMENTAL PROVISIONS

CONSTRUCTION SAFETY AND PHASING PLAN

A. GENERAL

Construction Safety and Phasing Plan as submitted to FAA is attached as part of the Project Documents in Supplemental General Provisions as Section II.

The Contractor shall be responsible for controlling access to the work area and that airport security is maintained at all times. The FAA can impose fines of \$10,000 or more for security violations and incursions into active aircraft operation areas. The Contractor shall pay all fines assessed against the Airport due to violations caused by the Contractor and his/her personnel, subcontractors and vendors.

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CONSTRUCTION SAFETY AND PHASING PLAN

TAXIWAY G & TAXIWAY D REHABILITATION

AT



MANCHESTER-BOSTON REGIONAL AIRPORT MANCHESTER, NEW HAMPSHIRE

AIRPORT IMPROVEMENT PROGRAM NO. 3-33-0011-XXX-2024

Prepared by McFarland Johnson

> 53 Regional Drive Concord, NH 03301

February 2025 – Bid Documents

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CSPP Appendix List

CSPP Appendix A	KeyPersonnel Contact List
CSPP Appendix B	Airside Phasing Plan
CSPP Appendix D	Daily Safety Inspection Checklist
CSPP Appendix E	Safety Plan Compliance Document

AIRPORT DESCRIPTION / AIRCRAFT OPERATIONS

Manchester Boston Regional Airport (MHT) located in Manchester and Londonderry, New Hampshire is a Part 139 commercial service airport with regularly scheduled passenger service, terminal building and air traffic control tower manned 24 hours per day.

MHT has a normal airport reference code (ARC) of D-IV. The airport has two paved runways: 17/35 and 6/24.

Runway 17/35 dimensions are 9250' x 150'. Runway 6/24 dimensions are 7650' x 150'. Navigational aids for the runways are as follows:

Runway 17:	Runway 35:
4-light PAPI - Right	4-light PAPI - Left
MALSR Approach lights	ALSF2 Approach Lights
ILS/DME	ILS/ DME
Runway 6:	Runway 24:
4-light PAPI - Left	4-light PAPI - Left
REILs	REILs
ILS	

The airport also has a VOR located towards the south of the airfield. This project is not within any portion of the VOR critical area.

PROJECT DESCRIPTION

The Manchester-Boston Regional Airport (MHT) is proposing a rehabilitation of Taxiway G and Taxiway D (West of Taxiway A) pavement and airfield lighting systems. The proposed project involves the milling and replacement of the existing pavements and replacement of the taxiway airfield lighting systems (taxiway centerline and edge lights with new cabling). Rehabilitation also includes airfield signage replacements and drainage improvements. Scope of work items will include, but not be limited to: milling and removal of existing pavement, installation of new pavement to replace milled sections, removal of existing and replacement with new taxiway edge lights on the existing base cans, removal of existing and replacement of existing airfield guidance signs and foundations with new signs and foundations, new pavement markings, drainage improvement with the addition of a new catch basin structure and piping, and turf restoration for disturbed areas.

1. COORDINATION

Date	Attendees	Description
February 2024	Design Engineer, MHT Staff, & FAA	Design Scoping Meeting
Fall 2024 to Early Winter 2024	Design Engineer, MHT Staff, & FAA	Design Coordination
December 2024	Design Engineer, MHT Staff & Tenants	Design Coordination

Preconstruction Conference:

• Construction Safety and Phasing Plan (CSPP) & Safety Plan Compliance Document (SPCD) to be reviewed and discussed.

 Key Attendees: Airport Management representatives MHT Operations & Maintenance representatives Design Engineer Representative Contractor Superintendent Subcontractor representative(s) FAA MHT Service Sector Center (SSC) (Tech Ops) Representative(s)

FAA MHT ATCT Representative(s) FAA Airports Project Manager

During Construction:

Daily Coordination Meeting will be held prior to starting work each day

- Standing Discussion Item will be the day's activities and safety of the project site
- Key Attendees: MHT Operations and Maintenance Shift Manager Resident Project Representative Contractor Superintendent Subcontractor representative(s), as applicable

Prior to the start of construction activities, the Contractor shall be required to provide a complete schedule for the project. Should the overall schedule change during the course of construction, the overall schedule will be updated and distributed to stakeholders.

2. PHASING

WORK AREA 1 - South End of Taxiway G to Taxiway E TOFA

<u>Work Area 1 Limits:</u> Work Area 1 consists of the portion of existing Taxiway G between the westerly edge of the Gate 14 Taxilane Object Free Area to the edge of the Taxiway E Taxiway Object Free Area. This work zone allows access for Gates 14 and 15 aircraft operations. However aircraft operations for Gates 11 and 12 are closed during this work phase. This work zone also impacts the Taxiway N and Taxiway G intersection, but continues to allow for aircraft operations for Gate 10.

Duration: Twenty-Seven (27) consecutive calendar days from the completion of Work Area 1 work.

<u>Work Hours:</u> 6 AM - 6 PM, Monday to Friday and 7 AM - 4 PM, Saturdays, unless otherwise approved by Owner & Resident Project Representative (RPR) with prior approval

Primary work to be performed in this Work Area 1:

- Install the temporary Airside Access Gate (Gate 32C) as the first work item
- Maintenance and protection of the Work Zone with work zone barricades and all other safety devices and measures as required
- Remove and dispose of existing Taxiway edge light fixtures and cabling, plate the base cans and maintain existing conduit for re-use
- Remove and dispose of existing Taxiway centerline light fixture, base cans and cabling, but maintain existing conduit for re-use
- Remove and dispose of existing airfield guidance signs and cabling, but maintain existing conduit for re-use
- Cold mill and dispose of the existing pavement in preparation for new pavement
- Crack repair of the underlying milled pavement surface as required
- Install new taxiway centerline lights and base cans and cabling re-using existing conduit
- Install new taxiway edge lights and cabling re-using existing base cans and conduit
- Install new asphalt pavement with saw/seal joints to existing pavement
- Install new pavement markings
- Loam with hydroseed and mulch for any disturbed areas

WORK AREA 2 - Taxiway D and North End of Taxiway G

<u>Work Area 2 Limits:</u> Work Area 2 consists of the westerly end of existing Taxiway D and northerly end of Taxiway G adjacent to the Terminal Apron using a closure for a portion of Taxiway D from the westerly edge of the Taxiway A Taxiway Object Free Area to the Taxiway G intersection AND a portion of Taxiway

G from its Northern Limits to Gate 14 Taxilane Object Free Area's Southerly Side. This work zone allows access for Gates 11 and 12 aircraft operations. However, aircraft operations for Gates 14 and 15 are closed during this work phase.

Work area limits will also include the new project construction access from the existing Landside Staging/Parking Area onto the South Cargo Apron and Vehicle Service Road with the installation of a new temporary security gate.

Duration: Twenty-Seven (27) consecutive calendar day from the Notice to Proceed date.

<u>Allowable Work Hours:</u> 6 AM - 6 PM, Monday to Friday and 7 AM - 4 PM, Saturdays, unless otherwise approved by Owner & Resident Project Representative (RPR) with prior approval

Primary work to be performed in this Work Area 2:

- Maintenance and protection of the Work Zone with work zone barricades and all other safety devices and measures as required
- Remove and disposal of existing Taxiway edge light fixtures and cabling, plate the base cans and maintain existing conduit for re-use
- Remove and dispose of existing Taxiway centerline light fixture, base cans and cabling, but maintain existing conduit for re-use
- Remove and dispose of existing airfield guidance signs, foundations and cabling, but maintain existing conduit for re-use
- Cold mill and dispose of the existing pavement in preparation for new pavement
- Crack repair of the underlying milled pavement surface as required
- Install new taxiway centerline lights and base cans and cabling re-using existing conduit
- Install new taxiway edge lights and cabling re-using existing base cans and conduit
- Install new airfield guidance signs and cabling
- Install new drainage improvements (catch basin and pipe extension) with any grading
- Install new asphalt pavement with saw/seal joints to existing pavement
- Install new pavement markings
- Loam with hydroseed and mulch for any disturbed areas

3. AREAS AND OPERATIONS AFFECTED BY CONSTRUCTION:

The affected areas and aircraft operations for this project are shown on the Safety and Phasing Plans located in Appendix B of this CSPP. All of the work will be performed "Airside" within the Airport Operations Area (AOA). All work locations within the AOA Movement Area will require coordination and advanced notification in accordance with Section 1 - *Coordination*. As noted and referenced above in Section 2 – *Phasing*, the work will have taxiway closures for Taxiway D (from Taxiways G to A), and Taxiway G (from Taxiway D to Taxiway E) broken into 2 different work zones. All phases will also have a restriction that all "parked" equipment and vehicles are to remain outside of any Runway Safety Area or Taxiway Object Free Areas. As shown in the phasing in Section 2 - Phasing, access for aircraft operations will be maintained for at least 2 Southwest Airlines Gates at all times during construction.

Refer to Section 11 - Underground Utilities for underground utilities impacted by the construction.

The two (2) phases of this project are outlined above in Section 2 - Phasing. As noted above, all of the work in Phase 1 must be completed prior to the start of work in Phase 2.

Contained within the tables below are anticipated operational impacts to Airport Operations during the course of the project. The contractor is required to coordinate with Airport Operations prior to impacting operations on the Airport.

PROJECT	Taxiway G and Taxiway D Rehabilitation		
PHASE	Work Area 1: Taxiway G (South End)		
	Work Associated with the modifications to provide:		
	1. Pavement Rehabilitation (Mill & Inlay		
SCOPE OF WORK	2. Electrical Rehabilitation (Replace TW Edge & Centerline Lights and Sig		
	Twenty-seven (27) consecutive calendar day for Work Area 1 Duration.		
OPERATIONAL	Normal (Existing)	Phase 1 (Anticipated)	
REQUIREMENTS	Normal (Existing)	Flase I (Anticipated)	
RW 17-35 ARC	D-IV	D-IV	
RW 17 Declared Distances	TORA: 9,250 & TODA: 9,250	TORA: 9,250 & TODA: 9,250	
	ASDA: 9,250 & LDA: 8,914	ASDA: 9,250 & LDA: 8,914	
RW 17 Approach Procedures	ILS or LOC/DME,	ILS or LOC/DME,	
···· • •	RNAV(GPS), RNAV(RNP)	RNAV(GPS), RNAV(RNP)	
RW 17 NAVAIDs	MALSR / TDZL / PAPI(4PR) /	MALSR / TDZL / PAPI(4PR) /	
	ILS/DME – Class IE	ILS/DME – Class IE	
RW 35 Declared Distances	TORA: 9,250 & TODA: 9,250	TORA: 9,250 & TODA: 9,250	
	ASDA: 8,500 & LDA: 7,650	ASDA: 8,500 & LDA: 7,650	
RW 35 Approach Procedures	ILS or LOC, ILS (SA Cat I), ILS (Cat II or III), RNAV(GPS), RNAV(RNP), VOR	ILS or LOC, ILS (SA Cat I), ILS (Cat II or III), RNAV(GPS), RNAV(RNP), VOR	
	ALSF2 / TDZL / PAPI(4PL) /	ALSF2 / TDZL / PAPI(4PL) /	
RW 35 NAVAIDs	ILS/DME – Class IIIE	ILS/DME – Class IIIE	
RW 6-24 ARC	D-IV	D-IV	
RW 6 Declared Distances	TORA: 7,650 & TODA: 7,650	TORA: 7,650 & TODA: 7,650	
NW o Declarea Distances	ASDA: 7,650 & LDA: 7,208	ASDA: 7,650 & LDA: 7,208	
RW 6 Approach Procedures	ILS or LOC, RNAV(GPS)	ILS or LOC, RNAV(GPS)	
RW 6 NAVAIDs REIL, PAPI(P4L), ILS – Class IT		REIL, PAPI(P4L), ILS – Class IT	
RW 24 Declared Distances	TORA: 7,650 & TODA: 7,650	TORA: 7,650 & TODA: 7,650	
	ASDA: 6,850 & LDA: 6,850 ASDA: 6,850 & LDA: 6,8		
RW 24 Approach Procedures	RNAV(GPS)	RNAV(GPS)	
RW 24 NAVAIDs	REIL, PAPI(P4L)	REIL, PAPI(P4L)	
Taxiway A ADG	IV	IV	
Taxiway D – East (RW 17-35	N/	N/	
to Taxiway A) ADG	IV	IV	
Taxiway D – West (Taxiway	III	Ш	
A to Taxiway G) ADG	(Wing span Restriction – 145')	(Wing span Restriction – 145')	
Taxiway G – North (Taxiway	III	III	
D to Gate 14 S. TOFA) ADG	(Wing span Restriction – 145')	(Wing span Restriction – 145')	
Taxiway G – South (Gate 14		CLOSED	
S. TOFA to Taxiway E) ADG	(Wing span Restriction – 145')		
Taxiway N ADG	III (Wing span Postriction – 145')	III (Wing span Postriction – 145')	
Taxiway E ADG	(Wing span Restriction – 145') IV	(Wing span Restriction – 145') IV	
Private Hangar Taxilane ADG		I	
ACTC (hours open) 24 Hours		24 Hours	
ARFF Index	C	C	
	RW 17-35 & RW 6-24 OPEN	RW 17-35 & RW 6-24 OPEN	
	No Restrictions	No Restrictions	
Special Conditions	Terminal Gates 10, 11, 12, 14 & 15	Terminal Gates 10, 14 & 15 OPEN	
	OPEN	Terminal Gates 10, 14 & 15 OF LN	
	No Restrictions	VSR is OPEN	

PROJECT	Taxiway G and Taxiy	vay D Rehabilitation	
PHASE	Taxiway G and Taxiway D Rehabilitation Work Area 2: Taxiway G (North End) and Taxiway D		
	Work Associated with the modifications to provide:		
	1. Pavement Rehabilitation (Mill & Inlay)		
SCOPE OF WORK	2. Electrical Rehabilitation (Replace TW E		
	3. Drainage Improvements		
	Twenty-seven (27) consecutive cale	ndar day for Work Area 2 Duration.	
OPERATIONAL			
REQUIREMENTS	Normal (Existing)	Phase 1 (Anticipated)	
RW 17-35 ARC	D-IV	D-IV	
RW 17 Declared Distances	TORA: 9,250 & TODA: 9,250	TORA: 9,250 & TODA: 9,250	
	ASDA: 9,250 & LDA: 8,914	ASDA: 9,250 & LDA: 8,914	
	ILS or LOC/DME,	ILS or LOC/DME,	
RW 17 Approach Procedures	RNAV(GPS), RNAV(RNP)	RNAV(GPS), RNAV(RNP)	
	MALSR / TDZL / PAPI(4PR) /	MALSR / TDZL / PAPI(4PR) /	
RW 17 NAVAIDs	ILS/DME – Class IE	ILS/DME – Class IE	
RW 35 Declared Distances	TORA: 9,250 & TODA: 9,250	TORA: 9,250 & TODA: 9,250	
	ASDA: 8,500 & LDA: 7,650	ASDA: 8,500 & LDA: 7,650	
RW 35 Approach Procedures	ILS or LOC, ILS (SA Cat I), ILS (Cat II or III),	ILS or LOC, ILS (SA Cat I), ILS (Cat II or III),	
A so Approach Floceudies	RNAV(GPS), RNAV(RNP), VOR	RNAV(GPS), RNAV(RNP), VOR	
RW 35 NAVAIDs	ALSF2 / TDZL / PAPI(4PL) /	ALSF2 / TDZL / PAPI(4PL) /	
RW 35 NAVAIDs	ILS/DME – Class IIIE	ILS/DME – Class IIIE	
RW 6-24 ARC	D-IV	D-IV	
RW 6 Declared Distances	TORA: 7,650 & TODA: 7,650	TORA: 7,650 & TODA: 7,650	
	ASDA: 7,650 & LDA: 7,208	ASDA: 7,650 & LDA: 7,208	
RW 6 Approach Procedures	ILS or LOC, RNAV(GPS)	ILS or LOC, RNAV(GPS)	
RW 6 NAVAIDs	REIL, PAPI(P4L), ILS – Class IT	REIL, PAPI(P4L), ILS – Class IT	
RW 24 Declared Distances	TORA: 7,650 & TODA: 7,650	TORA: 7,650 & TODA: 7,650	
	ASDA: 6,850 & LDA: 6,850	ASDA: 6,850 & LDA: 6,850	
RW 24 Approach Procedures	RNAV(GPS)	RNAV(GPS)	
RW 24 NAVAIDs	REIL, PAPI(P4L)	REIL, PAPI(P4L)	
Taxiway A ADG	IV	IV	
Taxiway D – East (RW 17-35	IV	IV	
to Taxiway A) ADG			
Taxiway D – West (Taxiway	III (Mine and Destriction 1450)	CLOSED	
A to Taxiway G) ADG	(Wing span Restriction – 145')		
Taxiway G – North (Taxiway D to Gate 14 TOFA) ADG	III (Wing span Restriction – 145')	CLOSED	
Taxiway G – South (Gate 14			
TOFA to Taxiway E) ADG	(Wing span Restriction – 145')	(Wing span Restriction – 145')	
Taxiway N ADG	(Wing span Restriction – 145')	(Wing span Restriction – 145')	
Taxiway E ADG	IV	IV	
Private Hangar Taxilane ADG			
ACTC (hours open) 24 Hours		24 Hours	
ARFF Index	C	C	
	RW 17-35 & RW 6-24 OPEN	RW 17-35 & RW 6-24 OPEN	
	No Restrictions	No Restrictions	
Special Conditions		Terminal Gates 10, 11 & 12 OPEN	
	Terminal Gates 10, 11, 12, 14 & 15 OPEN	Terminal Gates 14 & 15 CLOSED	
	No Restrictions	VSR is OPEN	
	1		

4. NAVIGATIONAL AID (NAVAID) PROTECTION:

- a. Prior to commencing any construction activities or operating equipment near a NAVAID, the Contractor shall coordinate through the Resident Project Representative, with the FAA Technical Operations, to evaluate the effect of construction activity for the project duration and the required distance and direction from the NAVAID.
- b. The Contractor is solely responsible for locating all existing NAVAID electrical feeds and other utilities within the project limits. Prior to initiation of any construction in the field, the Contractor shall provide a written notice (return receipt requested) to each of the impacted utility companies (including the FAA) and MHT Operations, as applicable. The Contractor shall provide the MHT Operations and Maintenance, the Resident Project Representative, and each of the utility companies (including the FAA) with a copy of the receipt of said written notification. This requirement is in addition to any other state laws regarding public notification prior to excavation.
- c. There shall be no construction activities, equipment operation, materials/equipment storage, or vehicle parking near any NAVAIDs, unless otherwise allowed by the Contract Documents. All construction activities and materials/equipment stored near a NAVAID must not obstruct access to the equipment and instruments for maintenance by Airport Staff/FAA personnel. NAVAIDs require special consideration since construction activities may interfere with signals essential to air navigation. No construction activities are anticipated within the Runway 17 Instrument Landing System (ILS) Glide Slope Antennae Critical Area and the Runway 35 ILS Localizer Critical Area.
- d. The Contractor will not be permitted within the critical areas of active NAVAIDs, unless allowed by the Contract Documents. The stockpiling of construction material, as well as the movement and parking of construction equipment, shall not be permitted in areas where materials or equipment may interfere with line of sight from the FAA ATCT or with electronic emissions devices. Interference from construction equipment and activities may require NAVAID shutdown or adjustment of instrument approach minimums for low visibility operations. If these conditions are required, a NOTAM will be needed per Section 9 – Notification of Construction Activities.
- e. <u>Facility Outage Coordination</u>: Strategic Event Coordination (SEC) is required if construction operations require FAA equipment to be removed from service, such as NAVAID/VISAID (i.e., ILS, VOR, MALSR, etc.) for 24 hours or greater in duration, or interruptions that may generate Traffic Management Initiatives. If the proponent of the NAVAID is the Sponsor (MHT), and FAA will not be directly involved, then the proponent shall plan accordingly to ensure adequate advance notice, in addition to the 30 days, is provided to the FAA Planning & Requirements Section in order for SEC process to be initiated. None are anticipated for this project.

There are no SEC notifications required for this project.

- 1. <u>Runway 17-35 Approach Impacts</u>: The FAA-owned NAVAIDs for Runways 17 and 35 approaches <u>WILL NOT need to be shut down or inactive during any phase of the project</u> as noted above in Section 3 *Areas and Operations Affected by Construction*.
- <u>Runway 6-24 Impacts:</u> The FAA-owned NAVAIDs for Runways 6 and 24 approaches <u>WILL</u> <u>NOT need to be shut down or inactive during any phase of the project</u> as noted above in Section 3 – Areas and Operations Affected by Construction.
- f. **<u>FAA Flight Check</u>**: Not Required by this project.

5. CONTRACTOR ACCESS:

Stockpile Locations:

a. The Contractor shall stockpile all material in the Contractor Stockpile Area as shown on the phasing plan located in Appendix B.

- c. Stockpiled material at the construction site shall be prominently marked with orange flags and lighted by light units during hours of restricted visibility and/or darkness. Orange flags shall be no less than twenty (20) inches square for day marking. The Contractor shall use wire stiffener to hold the flag in an extended position. The lights used shall be steady burning red lights at least ten (10) candelas or flashing yellow lights of at least four (4) candelas. Flags and lights shall be mounted so they are not a hazard and sufficiently close together to clearly delineate the area.
- d. Stockpiled material shall be constrained in a manner to prevent movement resulting from wind conditions.

Site Access:

a. Refer to the phasing plan in Appendix B for site access points and haul routes.

Ingress and Egress Procedures:

- a. The MHT Operations and Maintenance will unlock and lock airport gates needed for access at the beginning and end of all shifts.
- b. The Contractor shall control all construction access through the airport perimeter gates. The gates shall be locked at all times unless continuously manned by security personnel employed by the Contractor. Haul routes and staging areas, including employee parking for this project are to be as shown on the phasing plan.
- c. Contractor's vehicles will not be allowed access to portions of the Airport other than the work and staging areas. All construction employee vehicles will be parked in the designated staging area. Privately-owned vehicles will not be allowed on the airfield. The Contractor will be permitted to store equipment needed for the immediate work on hand within the work area as approved by the MHT Operations and Maintenance or Resident Project Representative. All equipment will be parked in the staging area at the close of work each day and whenever it is not in use. All equipment booms shall be lowered at the close of each day's work or when stored.
- d. Each Contractor's motorized vehicle operating on airport property shall be equipped with an operating amber flashing beacon displayed in full view above the vehicle. The contractor's construction equipment shall have a checkered flag. The 3' x 3' flag shall be made of 1'x 1' international orange and white squares. The flag should be placed at the highest point on the vehicle to allow for an unobstructed view of the flag. Any vehicles not meeting these criteria will be denied access to the work zones until the problem is rectified. Any vehicle operating on the movement areas during hours of darkness or reduced visibility must be equipped with a flashing beacon, the color of which is in accordance with local or state codes.
- e. In addition, all Contractors vehicles shall have the company identification plainly visible on both sides of the vehicle in order to identify the vehicle. They may be applied either by using tape or a water-soluble paint to facilitate removal. Magnetic signs are also acceptable. Any vehicles transporting fuel or other potentially harmful substances shall be equipped with a spill control plan and required decontamination equipment as required by Federal, State and local regulations.

Radio Communications:

- a. The Air Traffic Control Tower (ATCT) will communicate with and update pilots as required.
- b. Radio escorts will be provided by MHT Operations and Maintenance and will communicate with ATCT when necessary. <u>A representative for the Engineer of Record will also act as the Resident Project Representative (RPR) for the project</u>. The RPR and the Contractor will not communicate with ATCT at any time.
- c. The RPR and Contractor superintendent will monitor air traffic ground control frequency of 121.9 MHz at all times to maintain situational awareness. See Section 13 *Special Conditions*.

Granite Frequency:

- i. Granite Channel (1): General airport operations, building maintenance and emergency frequency.
- ii. Granite Channel (2): Backup frequency.
- iii. Granite Channel (3): Airport law enforcement unit communications.
- iv. Granite Channel (4): Airport operations and maintenance, construction coordination, and security communications.

Granite Frequency - Call Signs:

- i. Airport Communications Center: Granite 100
- ii. Airport Emergency contact: Granite 100
- iii. Security gate guard: Company, followed by gate number
- iv. Contractor site superintendent: Company, followed by predetermined call sign/number.
- v. Airport operations representative(s): Coordinate daily on site.

The ATCT will have direct communication with the MHT Operations and Maintenance personnel providing the contractor escorts and having operational safety oversight. This communication will take place on the MHT ground frequency.

<u>Airport Security</u>

All personnel with regular job duties and responsibilities within the Airport Operations Area (AOA), including contractors, subcontractors, general workers and/or security personnel will obtain an MHT Security Identification Badge. In addition, all applicants will attend an airport security briefing prior to being granted access to any secure area. Superintendents shall also be required to have driver training.

All authorized visitors and short-term workers will be issued a white temporary escorted badge. Issuance of escorted badges will be noted in the daily security access log. The log and badges will be returned to airport operations at the close of each work day. The Contractor's MHT badged supervisor(s) are required to coordinate AOA escort assignments with MHT Operations and Maintenance. An escorted worker will be informed (by the contractor) as to their MHT badged escort and will at all times remain within line of sight and within control of the escort.

All personnel and vehicles that are granted access to the AOA will submit to random security inspections conducted by airport law enforcement, security, operations, and Transportation Security Administration personnel. Random inspections may occur at any time and may take place at the perimeter gates, on the AOA, and/or within other secure areas of the airport. Mirrors will be used to ensure a thorough inspection of the undercarriage of vehicles.

The Temporary Secure Access Gate on Perimeter Road as shown in the Contract Documents will be manned by an MHT Airport-approved Security Guard for contractor access to the site. The following procedures will be followed for contractor access:

- a. MHT Airport-approved Security Guard will have an approved means of communication (i.e. "granite" radio contact) with his/her supervisors, the Contractor, MHT Operations and Maintenance personnel, and Airport Communications in the event of an emergency.
- b. Vehicle inspections will take place on the public side of the security fence prior to the gate being opened.
- c. All personnel entering an AOA access gate will sign the daily security/AOA access log (once per day for all personnel except when leaving the secured area or hauling material off site). The daily log will be maintained by MHT Airport-approved Security Guard and turned over to MHT Operations and Maintenance at the close of each work day.

d. During periods of minimal activity, the Secure Access Gate shall be secured or have the MHT Airport-approved Security Guard's vehicle parked across the gate opening such that a vehicle cannot pass through the gate opening. Gates will be secured by MHT Operations and Maintenance at the beginning and ending of each work day.

6. WILDLIFE MANAGEMENT

The Airport will mitigate wildlife hazards during construction as follows:

Trash:

a. The Contractor shall keep the construction site free of paper, boxes, litter, and other debris which could be blown onto the runways and taxiways and aircraft operating areas. All trash must be disposed of in an appropriate manner off site.

Wildlife Sightings:

- a. The RPR and/or Superintendent will immediately notify MHT Operations and Maintenance Management by phone of wildlife sited on the airfield.
- b. See Section 9 *Notification of Construction Activities*, for notification procedures.

7. FOD MANAGEMENT:

The Airport will manage foreign object debris (FOD) control during construction as follows:

Housekeeping:

a. All construction personnel will secure any items that may be carried by wind onto the Air Operations Area (AOA). See Section 5 – *Contractor Access*, regarding stockpile locations.

Airfield:

- a. All construction vehicle drivers will enter AOA paved areas from local streets only; construction vehicles will not transverse from non-paved surfaces to AOA paved surfaces. See Section 5 *Contractor Access* and Appendix B for access routes.
- b. The Contractor will immediately sweep or otherwise remove any FOD located on an AOA paved surface. See Section 10 *Inspection Requirements*.
- c. The Contractor shall furnish and retain, at the construction site, equipment for the application of water to control dust within the construction site and on haul roads. The equipment shall be equipped with a shut-off control valve that can be operated from the cab by the operator. The Contractor shall apply water for dust control as necessary to prevent dust from the construction site and/or haul roads from being a hazard to aircraft and from being a nuisance to the public and as directed by the RPR.

8. HAZMAT MANAGEMENT:

The Airport will manage hazard material transported during construction as follows:

Fuel or Hydraulic Fluid Spills:

- a. All Contractors' vehicles shall have hazmat placards plainly visible on both sides of the vehicle. Any vehicles transporting potentially harmful substances shall be equipped with a spill control plan and required decontamination equipment as required by Federal, State and local regulations.
- b. The Contractor will immediately notify the Airport Communications Center by phone of all spills. See Section 9 *Notification of Construction Activities*, for notification procedures.

Fueling:

a. All construction vehicles will be fueled in the staging area.

Other HAZMAT:

a. No other hazardous material is expected to be transported on-site during construction.

9. NOTIFICATION OF CONSTRUCTION ACTIVITIES:

Contact List and Emergency Notification:

The Contact List of Airport and Consultant personnel and emergency contacts is located in Appendix A. Contractor contacts will be included in the SPCD.

The Contractor shall be required to submit a tentative schedule as described in Section 1 - Coordination. The schedule shall be given to the Airport prior to 72 hours in advance of the commencement of work. A 72-hour lead time is required by the Airport and FAA to issue a proper Notice to Airmen (NOTAM) of the pending construction activities.

To facilitate the specific requirements and intent of this section, the Contractor shall prepare a schedule of operations for the project. The schedule shall be subject to the approval of the MHT Operations and Maintenance or RPR and shall include as a minimum, the following:

Major work items to be accomplished.

- a. Subcontractors to be on site.
- b. Number of personnel to be on site.
- c. Type and quantity of equipment to be on site.
- d. Areas of the site where construction is scheduled.
- e. Any anticipated closing of facilities that will be required.
- f. Any anticipated power outages and/or system to be inoperable including anticipated length of downtime in hours.
- g. Other information requested by MHT Operations and Maintenance, Airport Management or the RPR.

The primary contact for construction activities will be MHT Operations and Maintenance since they are acting as the RPR. The contacts for the Airport will be as assigned by Airport Management.

All emergencies shall be directed to 911 or the Airport Communications Center at (603) 628-6222.

FAA Notification:

- The Airport Representatives will submit a 7460 case for construction equipment.
- The Airport will notify MHT SSC officials (see *Contact List*, Appendix A) as required by Section 4 *Navigational Aid* (*NAVAID*) *Protection*, and Section 11 *Underground Utilities*.

Airport User Notification:

- MHT Operations and Maintenance or Airport Management has been in contact with affected parties throughout the project.
- Airport Operations will notify the airport users of the proposed construction activities via telephone, flyer, or email.

NOTAMs:

• MHT Operations Management will issue all NOTAMs through the eNOTAM system, except as noted below.

• The FAA will issue all FAA facility related and Flight Procedure related NOTAMs.

Morning Safety Meetings

• As noted in Section 1 – *Coordination*, safety and coordination meetings will be held every morning prior to beginning construction operations for the day. The meeting will be located on the construction site and attended by MHT Operations and Maintenance, the RPR and the Construction Superintendent. The primary purpose is to discuss construction operations for the day and any safety issues that need resolution.

10. INSPECTION REQUIREMENTS:

Airport Requirements:

- a. MHT Operations and Maintenance will inspect all closed paved surfaces prior to opening to air traffic operations.
- b. The entire work area should be inspected for foreign object debris (FOD) periodically throughout the workday and at the end of each day's work. Refer to Section 7 *Foreign Object Debris (FOD) Management*, for corrective measures.
- c. If emergency maintenance is required after work hours, refer to Section 9 *Notification of Construction Activities* and Appendix A for primary contact procedures and information.
- d. As soon as the work is completed, the area shall be cleaned and made available for inspection.
- e. The MHT Operations and Maintenance shall inspect all work areas prior to reopening the Taxiway and associated areas to aircraft operations.
- f. The MHT Operations and Maintenance and Airport Management will conduct a final inspection.

Resident Project Representative (RPR) Requirements:

- a. The RPR will be the field point of contact for all concerns during construction. The RPR will notify all appropriate parties relating to the concern.
- b. The RPR will conduct routine inspections of the worksite(s) at the end of all daily work shifts and at the request of MHT Operations and Maintenance Management.
- c. The RPR and the Engineer of Record will attend the final inspection.

Contractor Requirements:

- a. The Contractor Superintendent will conduct routine inspections of the worksite(s) to ensure compliance with the CSPP and SPCD.
- b. The Contractor Superintendent will attend the RPR's daily inspections and the final inspection.

11. UNDERGROUND UTILITIES

FAA and Airport Utilities

a. Locations of utilities and underground cables shown are based on record documents and field survey. The accuracy of the utility locations is not guaranteed. Prior to commencement of any excavation, the Contractor shall verify the utility locations. The Contractor will coordinate all work on and in the vicinity of the underground utilities and cables with the RPR and MHT Operations and Maintenance.

Municipal Utilities:

As applicable, the Contractor Superintendent will contact Dig Safe to delineate all municipal utilities a minimum of seven (7) days prior to any excavation work. The Contractor's DIG SAFE # for the Project shall be recorded as part of the Safety Plan Compliance Document (SPCD).

Utility Damage

- b. Should the Contractor damage any underground utilities, the Contractor will suspend all construction activity and notify the RPR. The Contractor shall then repair or replace the underground utility immediately.
- c. See Section 9 Notification of Construction Activities, for notification requirements.

12. PENALTIES:

Construction Suspension:

- a. MHT Operations and Maintenance Management will immediately suspend all construction if and when:
 - i. A Contractor or subcontractor employee enters the Air Operations Area (AOA) outside of the designated work area.
 - ii. Any unescorted construction vehicle operates on any active AOA surface.
- b. The MHT Operations and Maintenance Management will allow construction work to resume only when the discrepancy is corrected to his/her satisfaction.
- c. The penalty for non-compliance with the Airport rules, regulations and/or safety plans shall be suspension of driving privileges and or suspension of airport access.
- d. The Contractor shall be responsible for controlling access to the work area and ensuring that airport security is maintained at all times. The FAA can impose fines of \$10,000 or more for security violations and incursions into active aircraft operation areas. The Contractor shall pay all fines assessed against the airport due to violations caused by the Contractor and his/her personnel, subcontractors and vendors.
- e. Any construction related runway incursion, as described in Section 1 Special Conditions will require immediate suspension of all construction activity on the airport until a thorough investigation on cause is completed.

Expulsion of Non-compliant Employees:

a. The MHT Operations and Maintenance Management may permanently prohibit any consultant, or contractor employee, acting in violation with Airport rules and regulations from entering or working on Airport property.

13. SPECIAL CONDITIONS:

Aircraft in Distress:

a. MHT Operations and Maintenance, the RPR, and/or the Contractor Superintendent will immediately clear all construction personnel of all runways and approach areas upon monitoring a distress call on the airport ground frequency. See Section 5 – *Contractor Access*, for ground frequency monitoring requirements.

Aircraft Accident:

- a. The Contractor will notify MHT Operations and Maintenance of any suspicious persons or behavior on Airport property. No unauthorized vehicles shall enter through the construction access gates.
- b. There are four categories of runway incursions:
 - > Category A is a serious incident in which a collision was narrowly avoided.
 - Category B is an incident in which separation decreases and there is a significant potential for collision, which may result in a time critical corrective/evasive response to avoid a collision.
 - Category C is an incident characterized by ample time and/or distance to avoid a collision.

- Category D is an incident that meets the definition of runway incursion such as incorrect presence of a single vehicle/person/aircraft on the protected area of a surface designated for the landing and take-off of aircraft but with no immediate safety consequences.
- c. Incursions will be prevented by thorough training of ground vehicle operators; radio communication; coordination among all parties; and clearly marking the boundaries of construction operations established in this safety plan. Construction related runway incursion will be subject to penalties as described in Section 12 *Penalties*.
- d. All construction personnel will immediately vacate Airport property and remain off until cleared by the MHT Operations and Maintenance Management.

Vehicle / Pedestrian Deviation (V/PD)

a. MHT Operations and Maintenance Management may temporarily suspend construction on the Air Operations Area (AOA) in the event of a non-construction related V/PD. See Section 12 – *Penalties*, for construction related construction suspension V/PD procedures.

14. RUNWAY AND TAXIWAY VISUAL AIDS:

Temporary Runway Closures:

a. Temporary runway closures are not anticipated for this project.

Temporary Taxiway Closures:

- a. A portion of Taxiway G (North) Northern Section will be closed temporarily during PHASE 2 on a phase duration as outlined in the Airside phasing plans in Appendix B.
- b. Taxiway D All of TW D will be closed temporarily during PHASE 2 on a phase duration as outlined in the Airside phasing plans in Appendix B.
- c. A portion of Taxiway G (South) Southern Section will be closed temporarily during PHASES 1 on a phase duration as outlined in the Airside phasing plans in Appendix B.
- d. Closures will use barricades and/or channelizer cones as outlined in Section 16, *Hazard Marking and Lighting*.

Runway Safety Areas:

a. Work within the Runway Safety Area is not anticipated for this project.

Taxiway Visual Aids:

- a. The Contractor will be required to provide temporary "jumpers" to keep portions of a taxiway edge light system operational in order to bypass closed portions of a taxiway.
- b. Guidance signs on taxiways closed for the entire phase duration shall have the circuit "locked out-tagged out" or be adequately covered with plastic securely fastened or temporary blank panels installed. Whereas, guidance signs for taxiways and/or runways guidance signs for phases having a daily closure will not be required to be covered.

Temporary Pavement Markings:

a. Temporary pavement markings and not required for this project.

15. MARKINGS AND SIGNS FOR ACCESS ROUTES:

Haul Route Markings:

a. Contractor to provide and install a "stop" sign and a "use caution give way to all aircraft" sign at the intersection of the vehicle service road and the entrance to the North Cargo Apron.

16. HAZARD MARKING AND LIGHTING

All Phases

- a. Construction low-profile barricades and/or channelizer cones will be used to delineate all closed construction airfield movement areas from the active aircraft.
- b. Barricades and cones shall be provided as shown on the phasing plans in Appendix B. These devices will delineate closed taxi routes that are not available to air traffic and will ensure that the Contractor's vehicles will not interfere with airport operations.
- c. Barricades and cones shall be weighted to protect against inadvertent movement from wind currents or prop/jet wash. These materials will be securely fastened to prevent FOD.
- d. Cones will be at 4' maximum intervals and low-profile barricades will be interlocking.
- e. For night-time closures, barricades and cones will be equipped with a flashing or steady-burn light (red in color) meeting the luminescence requirements of NHDOT and have a maximum spacing of 10'.
- f. Supplemental signs (i.e. "No Entry") and barricades will be used, as required, to limit vehicle movement.
- g. The Contractor shall maintain all barricades and cones as required and will have an "On-Call" person available for 24 hours/day, for emergency maintenance.

17. PROTECTION OF AREAS, ZONES, & SURFACES:

- a. The Airport will remain open during the project.
- b. Construction equipment is not anticipated to penetrate any approach surface when available for use, as well as any departure surface. See Section 9 *Notification of Construction Activities*, for 7460 case file information.
- c. All Safety Areas (SAs), Object Free Areas (OFAs) and Obstacle Free Zones (OFZs) will be protected from construction activity using the temporary barricades described in Section 16 *Hazard Marking & Lighting*, and as depicted on the phasing plans.
- d. The Contractor will be responsible to instruct all workers and subcontractors on where travel is permitted on the Airport property. The Contractor will also instruct all subcontractors on the vehicle identification requirements as described in Section 5 *Contractor Access*.
- e. Open trenches or excavations are not permitted within the safety area adjacent to active Runways or Taxiways, unless temporarily allowed by the Engineer with special precautions (i.e. plates over a small width trench).
- f. Open trenches or excavations must be prominently marked.

18. OTHER LIMITS ON CONSTRUCTION:

Prohibitions:

- a. Cranes and other tall equipment (i.e. concrete pumpers, etc.) will not be deployed without a 7460 approval determination letter.
- b. Open flame welding, torches, and flare pots will not be used at any time.
- c. No blasting (with electronic blasting caps) will be permitted for this project.
- d. Smoking is not allowed on the AOA.

Restrictions:

- a. Calendar days for phases are consecutive, except as noted in Section 2 *Phasing* or in the phasing plans in Appendix B. Once work has begun in an area the area must be worked daily during work hours until the work area is complete, unless otherwise allowed by the phasing plans in Appendix B.
- b. Refer to Section 2 Phasing for restrictions on calendar days or limits on the number of hours for each phase of the project.
- c. The Contractor's work hours will be limited to 6:00 AM to 6:00 PM, Monday through Friday, unless otherwise authorized by the MHT Operations and Maintenance Management. No work shall be permitted on Sundays or legal holidays, except in cases of emergency. No work will be permitted at night, unless a Night Work Lighting Plans is approved by the RPR

19. AIRPORT WATCH PROGRAM.

The "Airport Watch Program" was established to visually remind all Airport employees, users, and tenants of their role in maintaining a safe and secure Airport. If you see something suspicious, report it to your supervisor and to the Airport Communications Center immediately. With the willing assistance of many watchful eyes and alert ears, the Airport will remain a safe and secure environment for travelers, employees, contractors, and the general public.

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CSPP Appendix A KEY PERSONNEL CONTACT LIST

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KEY PERSONNEL & CONTACT LIST			
Communications Offi		Emergency:	(603) 628-6222
		Non-Emergency:	(603) 624-6439
Luis Elguezabal	Airport Operat	ions & Facilities, Asst. Dir.	Manchester Boston Regional Airport
Office:	(603) 624-6539	,	1 Airport Road, Suite 300
Cell:	(603) 851-1106		Manchester, NH 03103
E-Mail:	lelguezabal@fly	manchester.com	
Andrew Fournier		ions, Superintendent	Manchester Boston Regional Airport
Office:	(603) 624-6592		Operations and Maintenance
Cell:	(603) 344-3127		402 Kelly Avenue
E-Mail:	afournier@flym	anchester.com	Manchester, NH 03103
Mark Tower	Airport Mainte	enance, Superintendent	Manchester Boston Regional Airport
Office:	(603) 624-6592	· •	Operations and Maintenance
Cell:	(603) 660-7242		402 Kelly Avenue
E-Mail:	mtower@flymar	nchester.com	Manchester, NH 03103
Mark Blad	MHT ATC Air	Traffic Manager	8 Ammon Drive
Office:	(603) 621-1701		Manchester, NH 03103
ATCT Gen. Phone:	(603) 621-1700		
Cell:	(603) 779-4301		
E-Mail:	Mark.Blad@faa	.gov	
Jen Levie	MHT FAA Tec	hnical Operations	FAA Granite State SSC
Office:	(603) 594-5494		25 Robert Milligan Pkwy
Cell:	(603) 759-4883		Merrimack, NH 03054
E-Mail:	Jennifer.F.Levie	*	
Craig Pankey		C A Manager, Acting	FAA Granite State SSC
Office:	(603) 594-5405		25 Robert Milligan Pkwy
Cell:			Merrimack, NH 03054
Email:			
Kevin Belanger	Manchester SS	C B Manager	FAA Granite State SSC
Office:	(603) 594-5404		25 Robert Milligan Pkwy
Cell:	(603) 493-8242		Merrimack, NH 03054
Email:	kevin.belanger@	@faa.gov	
Sean Tiney		Div., Project Manager	FAA Airports Division ANE-600
Office:	New England Di	ivision	1200 District Avenue
Cell:			Burlington, MA 01803
E-mail:	Sean.S.Tiney@f	aa.gov	
Radio: Manchester Ground (ATCT): UNICOM Frequency:		121.9 MHz 122.95 MHz	
MHT Communication	ns Center	Non Emergency: (603)-624-6	349 - Emergency (603) 628-6222
Police (Manchester Airport):		Non Emergency: (603)-624-6349 <u>Emergencies:</u> CALL 911 or Comm Cntr (603) 628-6222	
Fire (Manchester Airport):		Non Emergency: (603)-624-1 Emergencies: CALL 911 or	

CSPP Appendix A – Key Personnel Contact List

KEY PERSONNEL & CONTACT LIST – CONT.			
David Brouillet	Project Manager	McFarland Johnson	
Office:	(603) 225-2978 (in Concord)	53 Regional Drive	
Cell:	(603) 731-7237	Concord, NH 03301	
E-Mail:	dbrouillet@mjinc.com		
McFarland Johnson	Resident Project Representative	McFarland Johnson	
Office:	(603) 225-2978 (in Concord)	53 Regional Drive	
Cell:	TBD	Concord, NH 03301	
E-Mail:	TBD		
CONTRACTOR	Site Superintendent	TBD	
Office:	TBD		
Cell:	TBD		
E-Mail:	TBD		
CONTRACTOR	Project Manager	TBD	
Office:	TBD		
Cell:	TBD		
E-Mail:	TBD		

CSPP Appendix B PHASING PLAN

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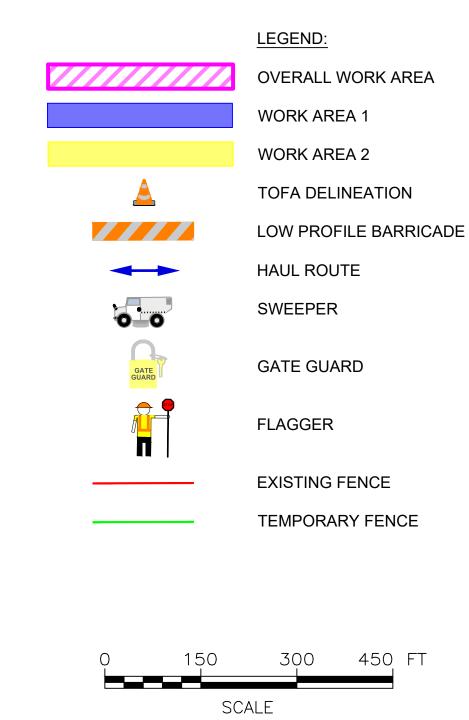
OVERALL CONSTRUCTION SAFETY AND PHASING PLAN NOTES

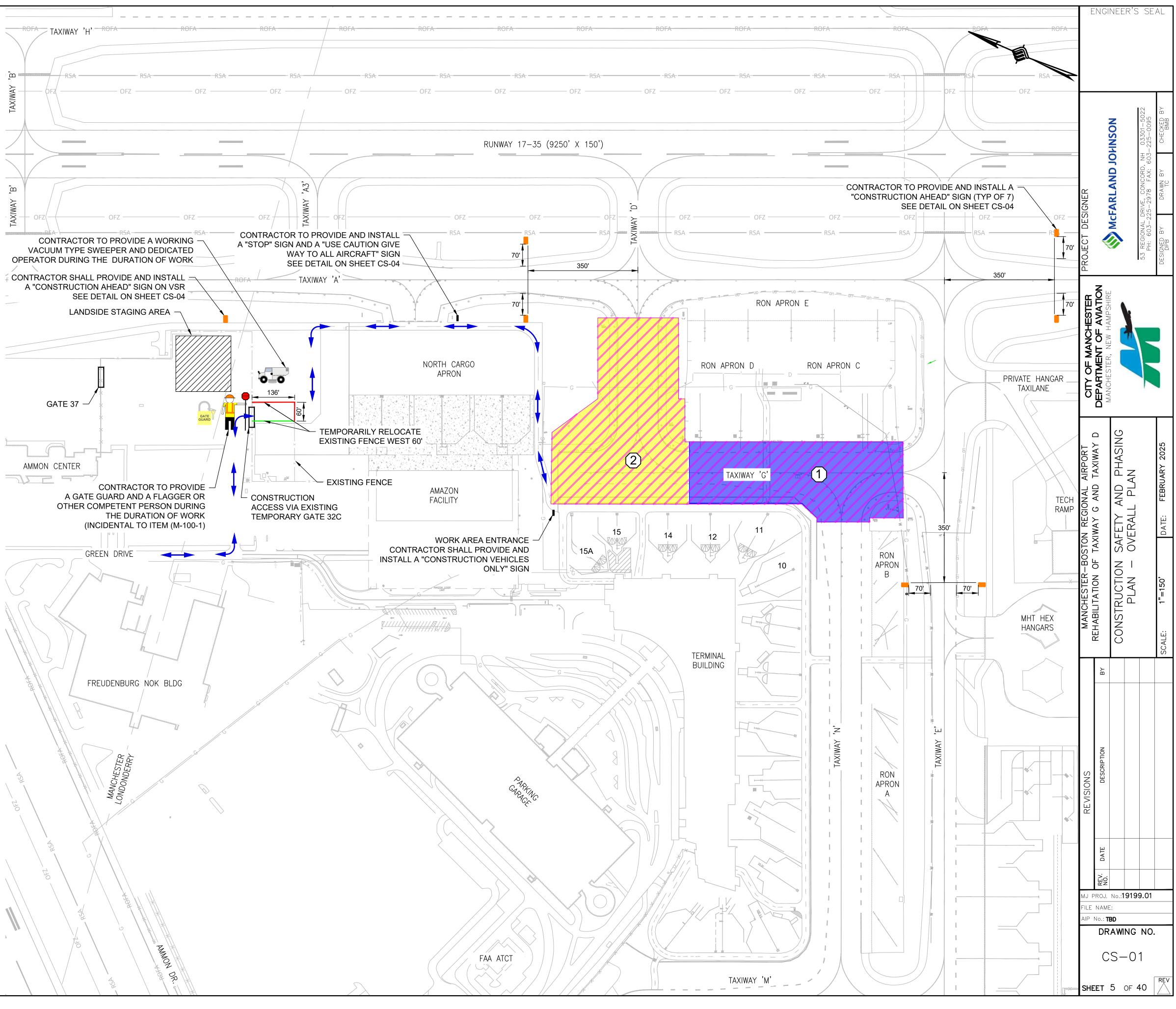
TOTAL CONTRACT DURATION: 54 CALENDAR DAYS

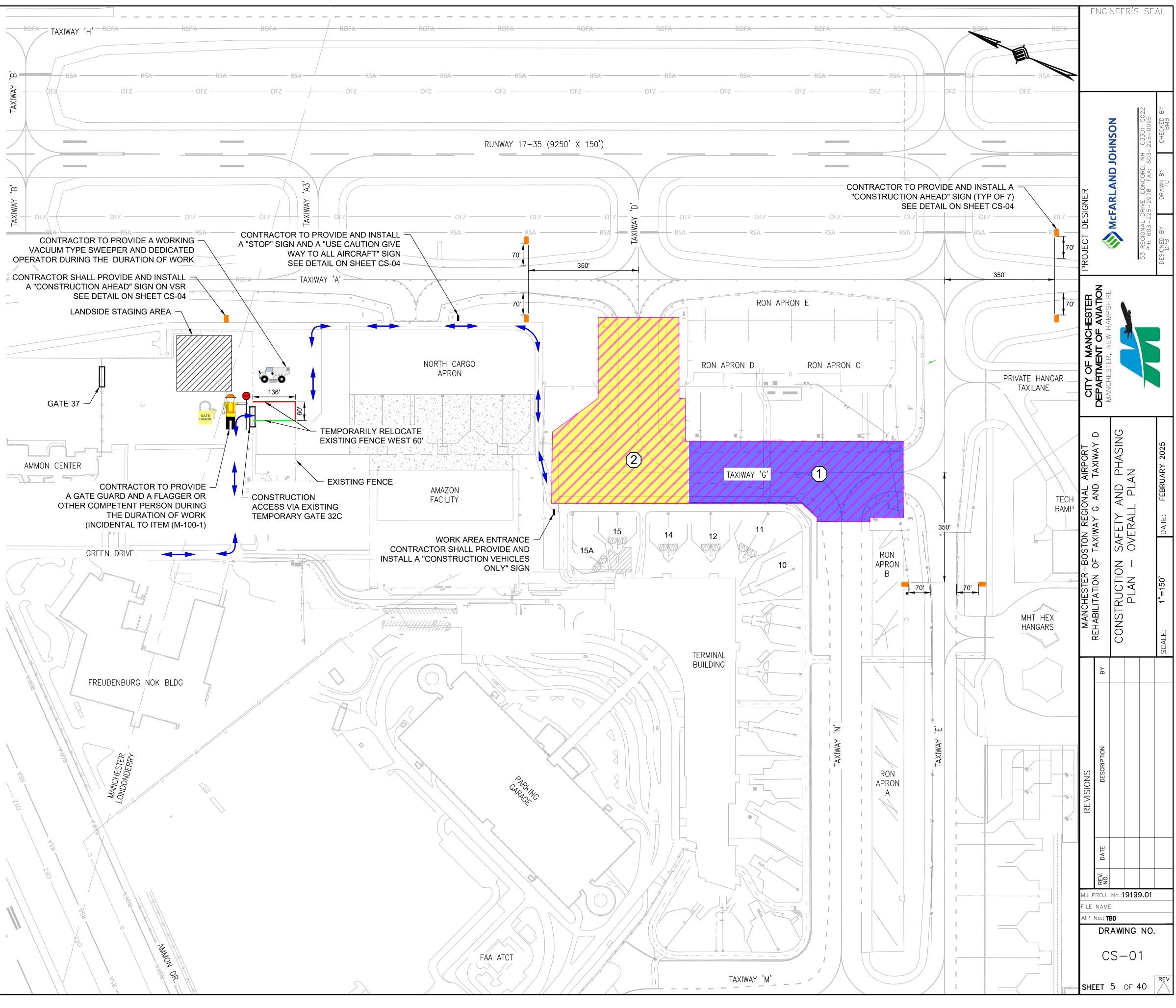
- 1. CONTRACTOR SHALL PLACE LIGHTED BARRICADES FOR EACH INDIVIDUAL WORK AREA AS SHOWN ON SHEETS CS-02 TO CS-03 TO THE APPROVAL OF THE RESIDENT PROJECT REPRESENTATIVE (RPR) AND MHT OPERATIONS PRIOR TO THE COMMENCEMENT OF WORK. SEE DETAIL ON SHEET CS-04.
- 2. ALL CONSTRUCTION PERSONNEL AND EQUIPMENT SHALL REMAIN WITHIN ALL WORK AREAS. NO WORK MAY OCCUR WITHIN 121.5' OF THE CENTERLINE OF ANY OPEN 3.
- TAXIWAY, OR WITHIN 250' OF THE CENTERLINE OF ANY OPEN RUNWAY, UNLESS EXPLICITLY DETAILED ON THE SAFETY AND PHASING PLANS.
- 4. ALL WORK WITHIN TAXIWAY OBJECT FREE AREAS MUST BE COORDINATED WITH THE RPR AND AIRPORT OPERATIONS 72 HOURS IN ADVANCE TO THE THE START OF WORK.
- 5. WHEN SWITCHING WORK AREAS, MHT OPERATIONS MUST BE NOTIFIED, AT A MINIMUM, 72 HOURS IN ADVANCE. CONTRACTOR SHALL COORDINATE A LOOK-AHEAD PHASING SCHEDULE WITH THE RPR.
- 6. ALL VEHICLES FROM THE CONSTRUCTION WORK AREAS SHALL BE CLEAR FROM FOREIGN OBJECT DEBRIS (FOD) PRIOR TO ENTERING AND LEAVING THE MANCHESTER-BOSTON REGIONAL AIRPORT AIR OPERATIONS AREA (AOA).
- 7. THE CONTRACTOR SHALL PROVIDE A VACUUM SWEEPER AND A DEDICATED OPERATOR TO PROVIDE ADEQUATE SWEEPING AND MAINTENACE OF HAUL ROUTES AND OPEN AIRFIELD PAVEMENTS AT ALL TIMES. AN ADDITIONAL VACUUM SWEEPER WILL BE REQUIRED ON HEAVY CONSTRUCTION TRAFFIC DAYS.
- ALL HAUL ROUTES SHALL BE RESTORED TO THEIR EXISTING CONDITION 8. FOLLOWING CONSTRUCTION.
- ACCESS TO THE AIRPORT WILL BE VIA EXISTING GATE 32C. CONTRACTOR SHALL 9 HIRE A DEDICATED GATE GUARD TO LOG PERSONNEL AND ISSUE TEMPORARY BADGES. IN ADDITION, THE CONTRACTOR SHALL HAVE A FLAGGER OR OTHER COMPETENT PERSON TO ASSIST THE GATE GUARD AND MHT OPERATIONS ESCORT WITH TRAFFIC CONTROL.
- 10. THE AIRPORT SHALL PROVIDE ESCORTS DURING THE DURATION OF WORK. 11. ANY PAVEMENT OR OTHER STRUCTURE DAMAGED DUE TO CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 12. ANY PAVEMENT MARKING DAMAGED OR OBSCURED DUE TO HEAVY TRAFFIC SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 13. STOCK PILE HEIGHTS SHALL NOT EXCEED A HEIGHT OF 25 FEET UNLESS OTHERWISE SHOWN ON THE PLANS.
- 14. CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT BEST MANAGEMENT PRACTICES PRIOR TO COMMENCEMENT OF WORK.
- 15. THE CONTRACTOR SHALL NOT STAGE ANY EQUIPMENT WITHIN ANY OPEN TAXIWAY OBJECT FREE AREAS.
- 16. CONTRACTOR VEHICLES SHALL YIELD TO AIRCRAFT TRAFFIC WITHIN AOA AT ALL TIMES.

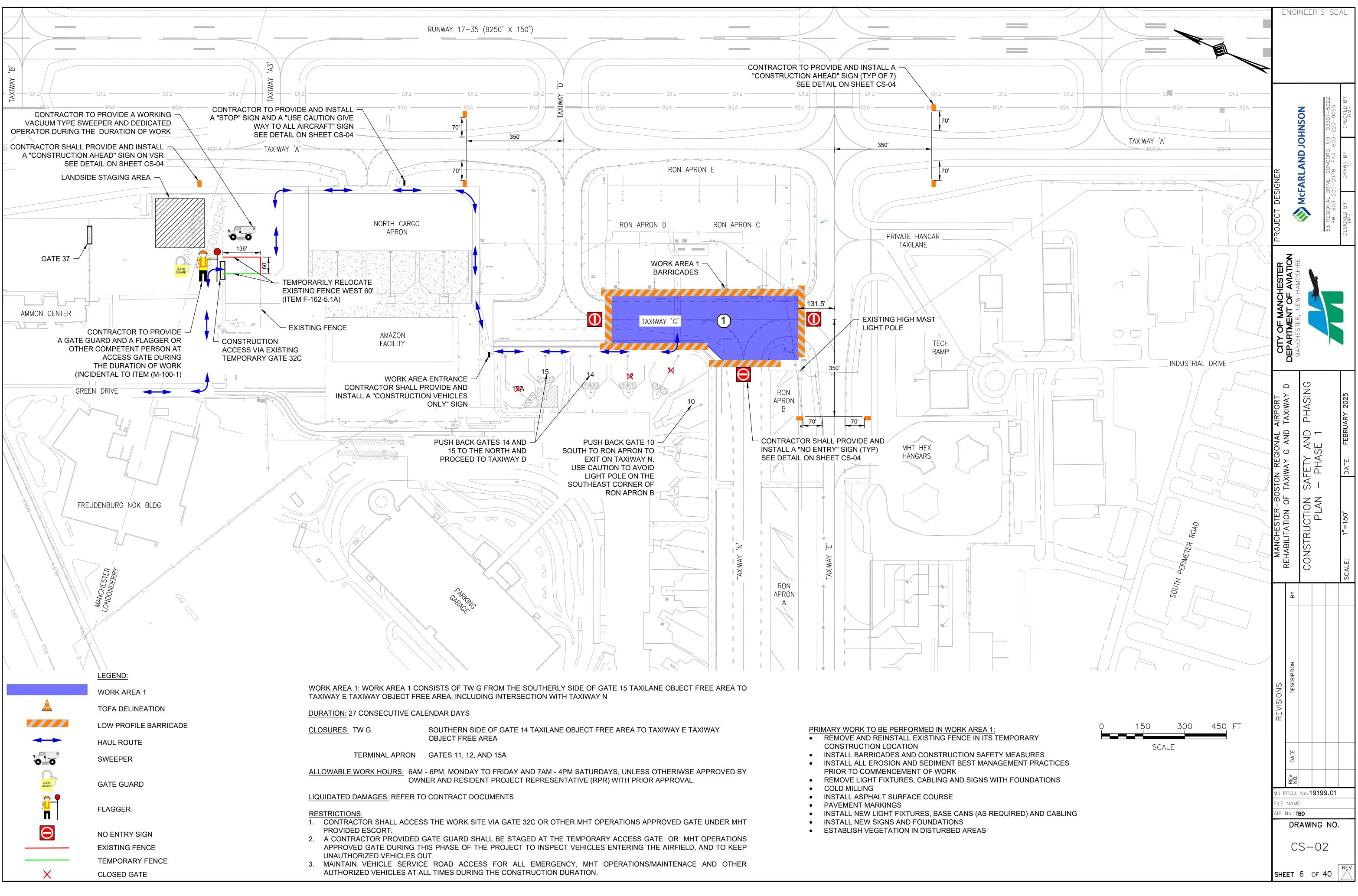
	CONTRACT DURATION		
	WORK AREA 1	27 CONSECUTIVE CALENDAR DAYS	
WOR	WORK AREA 2	27 CONSECUTIVE CALENDAR DAYS	

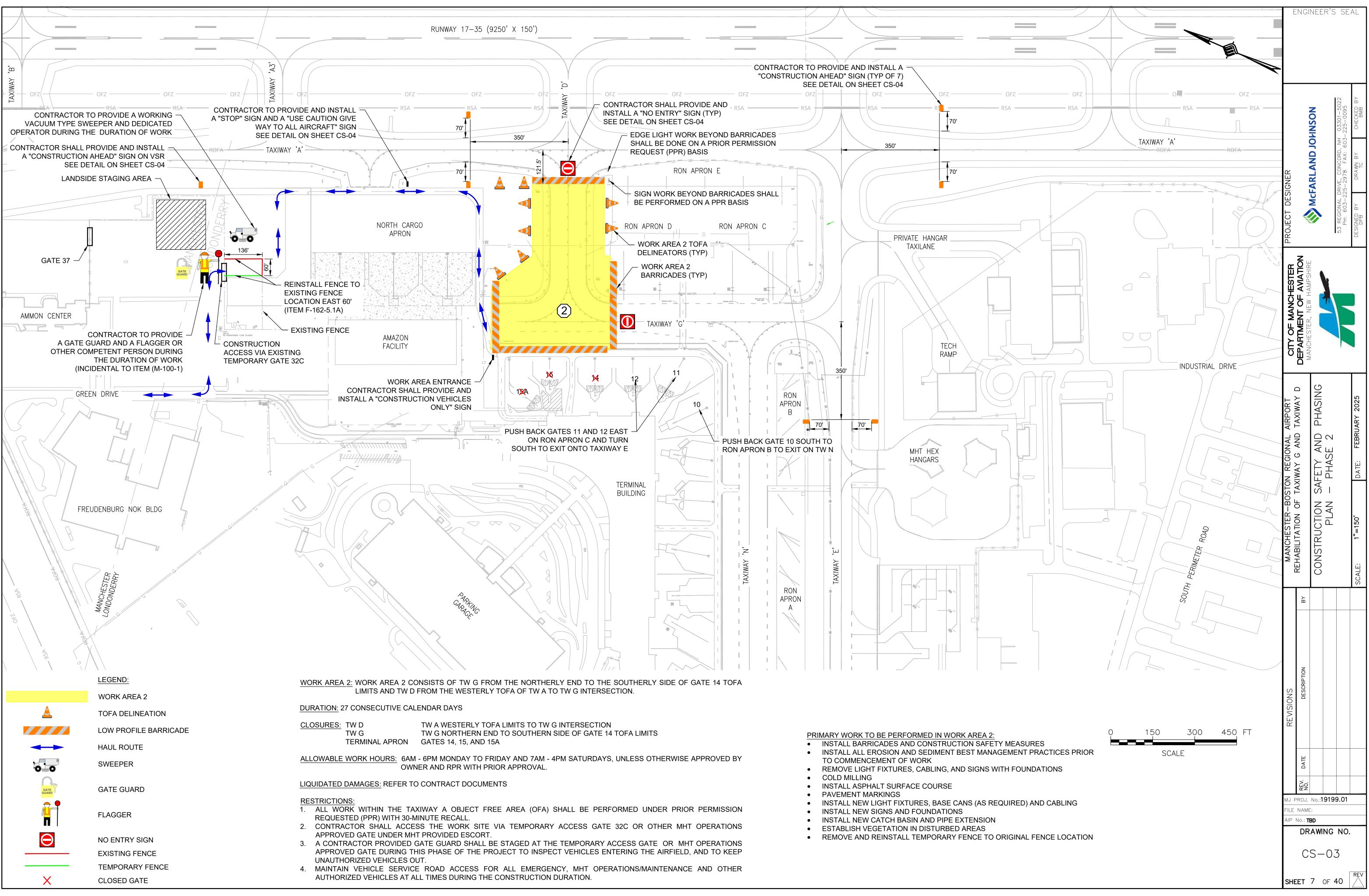
TOTAL DURATION: 54 CONSECUTIVE CALENDAR DAYS





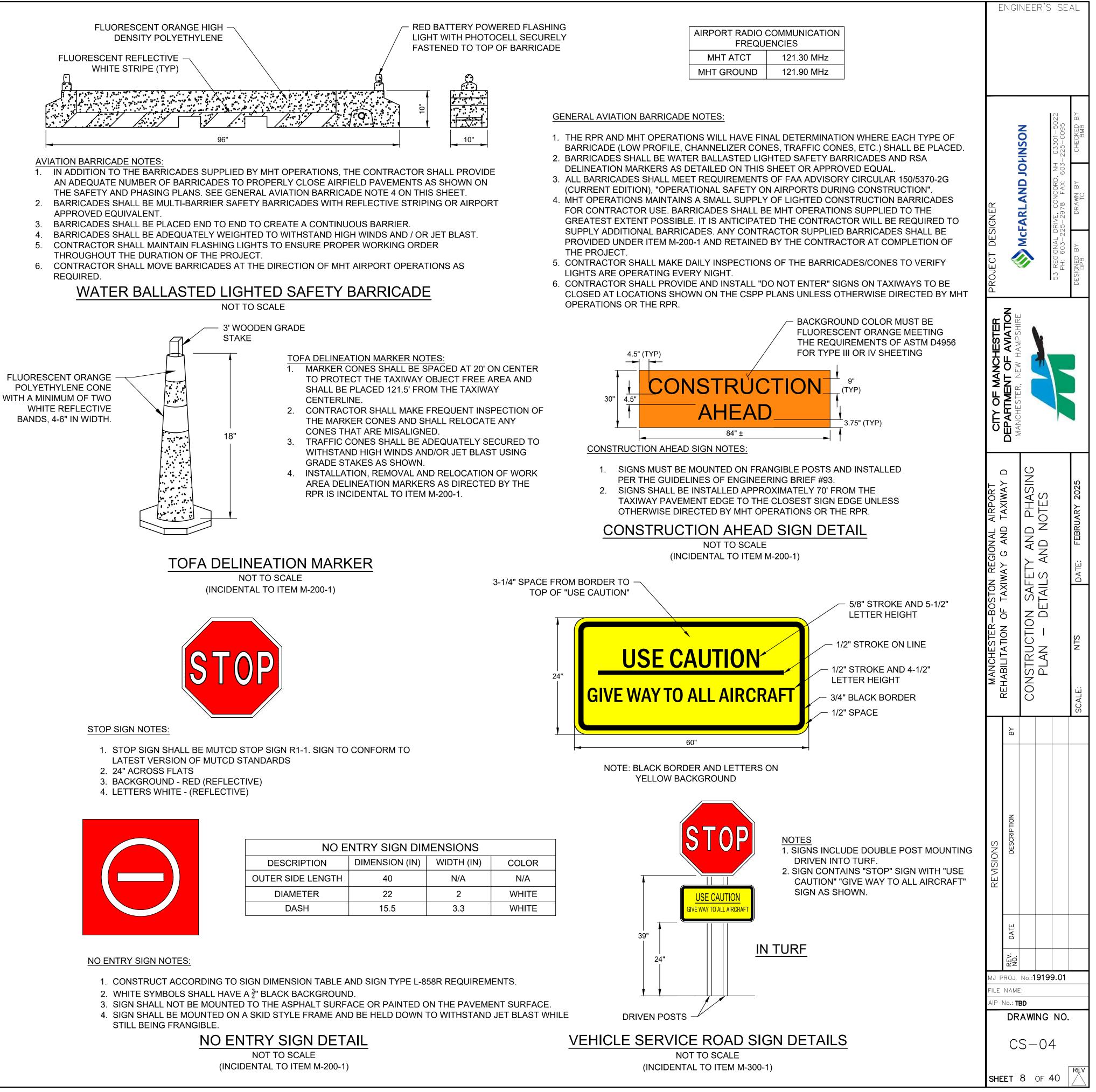






CONSTRUCTION SAFETY AND PHASING NOTES

- 1. CONTRACTOR SHALL SUBMIT A WRITTEN SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) TO THE RESIDENT PROJECT REPRESENTATIVE (RPR), CITY OF MANCHESTER-DEPARTMENT OF AVIATION, AND FAA FOR REVIEW AND APPROVAL PRIOR TO MOBILIZATION AND BEFORE ANY CONSTRUCTION IS ALLOWED TO BE PERFORMED. ANY DELAY IN THE ISSUANCE OF THE NOTICE TO PROCEED DUE TO THE FAILURE BY THE CONTRACTOR TO OBTAIN AN APPROVED SPCD WILL NOT BE GROUNDS FOR ANY CONTRACT TIME EXTENSION. THE CONTRACTOR SHALL BECOME KNOWLEDGEABLE OF THE REQUIREMENTS AND PROCEDURES OF THE FAA ADVISORY CIRCULAR NO. 150/5370-2G OR (CURRENT EDITION) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION" AND THE APPROVED "CONSTRUCTION SAFETY AND PHASING PLAN" (CSPP), AND INCORPORATE RELEVANT ITEMS INTO THE SPCD WHICH MUST MEET OR EXCEED THE PROJECT'S CSPP REQUIREMENTS. THE SPCD SHALL BE MODIFIED AND UPDATED AS REQUIRED THROUGHOUT THE PROJECT TO ADDRESS EACH PHASE AND/OR SUB PHASE AS WORK PROGRESSES. SOME, BUT NOT ALL OF THE ITEMS, TO BE ADDRESSED IN THE SPCD ARE AS FOLLOWS:
 - IDENTIFICATION AND QUALIFICATIONS OF DEDICATED SAFETY & SECURITY POINT OF CONTACT.
 - WORK SCHEDULING, COORDINATION, AND NOTIFICATION PROCEDURES OF CONSTRUCTION ACTIVITIES.
 - AIRFIELD COMMUNICATIONS AND 24-HOUR EMERGENCY NOTIFICATION PROCEDURES.
 - CONSTRUCTION OPERATIONS ADJACENT TO OR WITHIN SAFETY AREAS, OBJECT FREE.
 - AREAS, NAVAID CRITICAL AREAS, AND APPROACH SURFACES. (I.E. GRADING, HAULING MATERIALS, ETC.).
 - METHODS AND REQUIREMENTS FOR SEPARATING CONSTRUCTION AREAS FROM AIRPORT OPERATIONS AREAS (AOA).
 - PREVENTING INTERFERENCE WITH FAA NAVAID (ILS OR OTHER) CRITICAL AREAS.
 - CONTROL OF FOREIGN OBJECT DEBRIS (FOD) AND DUST.
 - CONSTRUCTION VEHICLE REQUIREMENTS, PROCEDURES AND DRIVER TRAINING FOR ESCORT DRIVERS.
 - OPERATIONS WITHIN MOVEMENT AND NON-MOVEMENT AREAS TO PREVENT RUNWAY INCURSIONS.
 - CONTRACTOR ACCESS POINTS, VEHICLE CROSSING LOCATIONS, SECURITY FENCING AND GATES, AND EMPLOYEE SECURITY TRAINING
 - PROCEDURES, REQUIREMENTS, AND COORDINATION OF RUNWAY AND/OR TAXIWAY CLOSURES, INCLUDING NOTICE TO AIR MISSIONS (NOTAM) COORDINATION.
 - RSA DELINEATION MARKER PLACEMENT LOCATIONS, AND TEMPORARY CONSTRUCTION SIGN LOCATIONS
 - PROCEDURES FOR MANAGING HAZARDOUS MATERIALS.
 - PROCEDURES FOR LOCATING & PROTECTING EXISTING UNDERGROUND UTILITIES.
- 2. THE CONSTRUCTION SAFETY AND PHASING PLANS HAVE BEEN REVIEWED AND ACCEPTED BY THE FAA AND MHT OPERATIONS. COMBINING, MODIFYING, OR ALTERING WORK AREAS WILL NOT BE ALLOWED WITHOUT APPROVAL FROM THE FAA AND MHT OPERATIONS. THE CONTRACTOR SHALL PREPARE THEIR BID BASED ON THE CONSTRUCTION PHASING SHOWN IN THESE DOCUMENTS. APPROVED MODIFICATIONS AFTER THE BID SHALL RESULT IN NO ADDITIONAL COST TO THE OWNER. ANY PROPOSED CHANGES FROM THE CONTRACTOR SHALL BE SUBMITTED THROUGH THE RPR WHO SHALL SUBMIT IT TO THE AIRPORT AND FAA. HOWEVER, CHANGES MAY NOT BE ACCEPTED
- 3. CONTRACTOR SHALL PROVIDE A COMPETENT SAFETY PERSON (WHO ALSO COULD BE THE SUPERINTENDENT OR OTHER SUPERVISORY PERSON) FAMILIAR WITH AIRPORT SAFETY TO MONITOR CONSTRUCTION ACTIVITIES. THIS INDIVIDUAL WILL BE RESPONSIBLE FOR MONITORING CONSTRUCTION ACTIVITIES AND PERSONNEL FOR COMPLIANCE WITH THE SAFETY REQUIREMENTS ESTABLISHED BY THE CONTRACT DOCUMENTS, THE SPCD, THE REGULATIONS AND REQUIREMENTS OF THE AIRPORT, FAA, AND OTHER APPLICABLE AGENCIES.
- 4. CONTRACTOR SHALL PROVIDE A POINT OF CONTACT TO THE OWNER AND RPR WHO CAN BE CONTACTED AT ANY TIME THROUGHOUT THE COURSE OF THE CONTRACT. THIS INDIVIDUAL WILL BE CAPABLE OF COORDINATING AN IMMEDIATE RESPONSE TO CORRECT ANY CONSTRUCTION RELATED ACTIVITY THAT MAY ADVERSELY AFFECT THE OPERATIONAL SAFETY OF THE AIRPORT
- 5. THE PRIMARY ACCESS POINT FOR AIRSIDE WORK AREAS 1 AND 2 SHALL BE THROUGH AN EXISTING TWMPORARY ACCESS GATE (GATE 32C). ALL VEHICLES ENTERING THE AIRFIELD SHALL BE ESCORTED TO AND FROM THE WORK AREA BY MHT OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL PROJECT SUPPLIERS AND SUBCONTRACTORS OF THE HAUL ROUTE AND ACCESS POINT.
- 6. THE CONTRACTOR SHALL PROVIDE A GATE GUARD AT ALL TIMES WHEN THE GATE IS UNLOCKED. GATE GUARD RESPONSIBILITIES WILL BE TO IDENTIFY, REGULATE, AND DIRECT ALL CONSTRUCTION VEHICLES ENTERING THE AIR OPERATIONS AREA (AOA). ALL VEHICLES SHALL BE INSPECTED PRIOR TO ENTERING AOA. TEMPORARY CONSTRUCTION BADGES WILL BE ISSUED TO INDIVIDUALS THAT DO NOT HAVE A MHT BADGE. INDIVIDUALS ENTERING THE AOA MUST BE IN A VEHICLE. WALKING THROUGH A VEHICLE GATE IS NOT PERMITTED.
- 7. ALL CONTRACTOR'S MOTORIZED VEHICLES OPERATING IN AIRCRAFT MOVEMENT AREAS SHALL BE EQUIPPED WITH AN AMBER FLASHING LIGHT AND/OR A 3 SQUARE-FOOT FLAG CONSISTING OF INTERNATIONAL ORANGE AND WHITE SQUARES NOT LESS THAN ONE SQUARE-FOOT DISPLAYING IN FULL VIEW ABOVE THE VEHICLE. ALL CONTRACTOR VEHICLES SHALL HAVE THE COMPANY IDENTIFICATION AND TELEPHONE NUMBER PLAINLY VISIBLE ON BOTH SIDES OF THE VEHICLE.
- 8. UPON RECEIPT OF APPROVAL FOR A CLOSURE AND BEFORE EQUIPMENT ENTERS THE AIRFIELD AND CONSTRUCTION COMMENCES, THE WORK AREA SHALL BE SECURED. LIGHTING EQUIPMENT, RSA DELINEATION MARKERS AND SAFETY BARRICADES SHALL BE PLACED AND OPERATIONAL AS APPLICABLE. THE WORK AREA SHALL BE CLEARLY DELINEATED AND ALL SAFETY REQUIREMENTS SHALL BE APPROVED BY THE RPR PRIOR TO BEGINNING ANY WORK
- 9. CONSTRUCTION SIGNS (I.E. "CONSTRUCTION TRAFFIC" WITH ARROWS, "NO UNAUTHORIZED VEHICLES BEYOND THIS POINT" OR OTHER STANDARD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICE (MUTCD) SIGNS) SHALL BE LOCATED AT THE WORK AREA EGRESS/INGRESS POINTS. THERE SHALL BE NO SEPARATE PAYMENT FOR PROVIDING THESE SIGNS. 10. CONTRACTOR SHALL ENSURE THAT NO PAVEMENT LIPS, PAVEMENT EDGES, SIGN FOUNDATIONS, STRUCTURES OR
- OTHER APPURTENANCES EXCEED 3 INCHES WITHIN ACTIVE AIRCRAFT OPERATIONAL AREAS.
- 11. DAILY COORDINATION OF CONSTRUCTION ACTIVITIES SHALL BE HELD ON-SITE WITH THE RPR AND MHT OPERATIONS TO CLEARLY IDENTIFY THE LIMITS OF WORK FOR THE DAY. THE CONTRACTOR SHALL NOT EXCEED THE LIMITS OF WORK WITHOUT APPROVAL FROM THE RPR.
- 12. TEMPORARY TAXIWAY CLOSURES OR CAUTIONS IN ACCORDANCE WITH THE CSPP ARE SUBJECT TO WIND/WEATHER AVAILABILITY AND ARE SUBJECT TO A RECALL TIME TO BE DETERMINED BY MHT OPERATIONS
- 13. IF ALLOWED, WHEN WORKING UNDER A TAXIWAY CAUTION, ALL ADJACENT PAVEMENTS WILL BE AVAILABLE FOR UNLIMITED AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL CONDUCT OPERATIONS IN SUCH A MANNER THAT NO INTERFERENCE WITH AIRCRAFT OPERATIONS WILL OCCUR. THE CONTRACTOR SHALL BE ESCORTED BY MHT OPERATIONS AND THE CONTRACTOR SHALL RELOCATE PERSONNEL AND EQUIPMENT A MINIMUM OF 121.5 FEET FROM THE TAXIWAY CENTERLINE, OR A MINIMUM OF 250' FROM RUNWAY CENTERLINE, TO ALLOW FOR SAFE PASSAGE OF AIRCRAFT AS REQUIRED.
- 14. DURING NIGHT WORK (IF ALLOWED), ALL LIGHTING EQUIPMENT UTILIZED SHALL BE CONTROLLED TO PREVENT STRAY LIGHT. THE CONTRACTOR SHALL DIRECT ALL LIGHTING AWAY FROM ADJACENT NEIGHBORHOODS AND IN A MANNER THAT DOES NOT INTERFERE WITH THE AIR TRAFFIC CONTROL TOWER AND AIRCRAFT OPERATIONS. THE CONTRACTOR SHALL PREPARE A LIGHTING PLAN TO BE REVIEWED AND APPROVED BY MHT OPERATIONS. MHT OPERATIONS SHALL APPROVE THE LOCATION AND OPERATION OF ALL LIGHTING EQUIPMENT.



CSPP Appendix D DAILY SAFETY INSPECTION CHECKLIST

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APPENDIX D. CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

Table D-1. Potentially Hazardous Conditions

Item	Action Required (Describe)	No Action Required (Check)
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

Item	Action Required (Describe)	No Action Required (Check)
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

Item	Action Required (Describe)	No Action Required (Check)
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

CSPP Appendix \underline{E} SAFETY PLAN COMPLIANCE DOCUMENT

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APPENDIX E

SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

This document **MUST** be submitted and approved prior to the Notice to Proceed being issued.

Name of Co	ontractor:
------------	------------

Project Name:

Taxiway G & Taxiway D Rehabilitation Manchester-Boston Regional Airport, Manchester, New Hampshire

Please check appropriate box for each of sections. If the Construction Phasing and Safety Plan will be followed without exception for any given topic, the "No Supplemental Information" box may be checked. If not, provide supplemental information components and comment as applicable (add attachments as needed). Any comments below will be discussed and require approval of the Airport prior to issuance of a Notice to Proceed.

(1) **Coordination.** Discuss details of proposed safety meetings with the airport operator and with contractor and subcontractor employees.

No Supplemental Information	□ Supplemental Information as follows:
-----------------------------	--

- (2) **Phasing.** Discuss proposed construction schedule elements:
 - □ No Supplemental Information □ Supplemental Information as follows:
 - (a) Planned duration of each phase:

Provide anticipated duration for each work phase via attachment.

(b) Daily start and finish of construction, including "night only" construction:

Provide anticipated daily start/finish for each phase via attachment.

- (c) Duration of construction activities during:
 - (i) Normal runway operations
 - (ii) Closed runway operations
 - (iii) Modified runway "Aircraft Reference Code" usage
- (3) Areas and operations affected by the construction activity. Areas and operations are identified in the CSPP.
 - No Supplemental Information
- **G** Supplemental Information as follows:

(4)	Protection of NAVAIDs.	Discuss specific methods proposed to protect operating
	NAVAIDs.	

	No Supplemental Information	Supplemental Information as follows:
	ntractor access. Provide the followir	5
		Supplemental Information as follows: maintain the integrity of the airport security truction personnel, and other):
(b)	Listing of individuals requiring dri requested).	iver training (for certificated airports and a
(c)		apabilities.
	(iii) Whom to contact if the ATCT	cannot reach the contractor's designated perso
(d)		cort material delivery vehicles.
Wil	Idlife management. Discuss the follo	owing:
□ (a)	No Supplemental Information Methods and procedures to prevent v	Supplemental Information as follows: wildlife attraction
(b)	Wildlife reporting procedures	
	reign Object Debris (FOD) managentrol of FOD, including construction de	Jement. Discuss equipment and methods for bris and dust.
	No Supplemental Information	Supplemental Information as follows:

	Hazardous material (HAZMAT) management. Discuss equipment and methods or responding to hazardous spills.
[☐ No Supplemental Information ☐ Supplemental Information as follows:
-	
I	Notification of construction activities. Provide the following:
-	J No Supplemental Information Image: Description
	a) Contractor points of contact
	b) Contractor emergency contact
(c) Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airpor operator
-	
5	nspection requirements. Discuss daily (or more frequent) inspections and special inspection procedures.
: [Jnderground utilities. Discuss proposed methods of identifying and protecting
22 [- ((Special inspection procedures. J No Supplemental Information Image: Supplemental Information as follows:
22 [- ((Special inspection procedures. Inderground utilities. Discuss proposed methods of identifying and protecting underground utilities.
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• - - - - - - - - - - - - - - - - - - -	Image: Supplemental Information Supplemental Information as follows: Image: Supplemental Information Supplemental Information as follows: Image: Supplemental Information Inderground utilities. Image: Supplemental Information Supplemental Information Image: Supplemental Information Penalties. Penalties are identified in the CSPP.

(a)	Equipment and methods for covering signage and airfield lights
(a)	
(b)	Equipment and methods for temporary closure markings (paint, fabric, other)
(c)	Types of temporary Visual Guidance Slope Indicators (VGSI)
	Irking and signs for access routes. Discuss proposed methods of demarca cess routes for vehicle drivers.
	No Supplemental Information
ide	zard marking and lighting. Discuss proposed equipment and methods for intifying excavation areas.
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(18	Other limitations of	n construction Th	hese are identified ir	the CSPP.
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□ No Supplemental Information □ Supplemental Information as follows:

LIST OF ATTACHMENTS PROVIDED AS PART OF THE SAFETY PLAN COMPLICANCE **DOCUEMENT:**



Contractor's Certification and Acknowledgement

I have read the Project Construction Safety and Phasing Plan (CSPP) for the above referenced project, which has been approved by FAA on _______, 20_____, and certify the Contractor and its subcontractors will abide by it as written, unless any additions and changes are approved by the Manchester-Boston Regional Airport in writing. This Safety Plan Compliance Document (SPCD) will conform to the CSPP and will provide additional safety information for the Project.

CONTRACTOR

Signature

Printed Name and Title

Date

GEOTECHNICAL REPORT

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GEOTECHNICAL INVESTIGATION REPORT

TAXIWAY G & D REHABILITAITON

Manchester-Boston Regional Airport (MHT) Manchester, New Hampshire

Prepared for:

McFarland Johnson, Inc. 53 Regional Drive Concord, New Hampshire 03301

Prepared by:

John Turner Consulting, Inc. 19 Dover Street Dover, New Hampshire 03820

JTC Project No. 24-04-065

July 26, 2024

Quentyn Guglielmo, PE Senior Geotechnical Engineer <u>aguglielmo@consultjtc.com</u> Ph: (831) 578-6620

Ym

Steve Lanne, PE Vice President of Engineering <u>slanne@consultjtc.com</u> Ph: (413) 222-4668

Construction Engineering & Inspections |Geotechnical | Environmental | Building Sciences Special Inspections & Testing | Pavement Consulting | Forensic Investigations

www.consultjtc.com

July 26, 2024

David Brouillet

McFarland Johnson

McFarland Johnson, Inc. 53 Regional Drive Concord, New Hampshire 03301 E: <u>dbrouillet@mjinc.com</u>

RE: Geotechnical Investigation Report Taxiway G & D Rehabilitation, Manchester-Boston Regional Airport (MHT) Manchester, New Hampshire

Dear Mr. Brouillet:

In accordance with our proposal and authorization to proceed, John Turner Consulting, Inc. (JTC) has performed a geotechnical investigation for the above captioned project. Presented herein and attached are the results of the site subsurface investigation, laboratory analysis results, and our recommendations regarding the construction of the taxiways.

OHN TURNER

This report completes our scope of services under the approved contract. We appreciate the opportunity to assist you and we look forward to working with you on this project through its completion. Please do not hesitate to contact us if you have any questions or require additional information.

Sincerely, JOHN TURNER CONSULTING, INC.

Steve Lanne, PE Vice President of Engineering <u>slanne@consultjtc.com</u> Ph: (413) 222-4668

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Geotechnical Investigation Report Taxiway G & D Rehabilitation Manchester-Boston Airport (MHT) Manchester, New Hampshire Page 2 of 9

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APPENDIX C: Boring Logs & Key to Symbols and Descriptions

- APPENDIX D: Laboratory testing Results
- APPENDIX E: Site Photographs
- APPENDIX F: Dynamic Cone Penetrometer CBR Calculation

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Geotechnical Investigation Report Taxiway G & D Rehabilitation Manchester-Boston Airport (MHT) Manchester, New Hampshire Page 3 of 9

1.0 INTRODUCTION

John Turner Consulting, Inc. (JTC) is pleased to present this *Geotechnical Investigation Report* for the proposed Taxiway G & D Rehabilitation at Manchester-Boston Airport (MHT) in Manchester, New Hampshire. JTC conducted geotechnical explorations, laboratory testing, and engineering evaluations in general accordance with the *Subconsultant Agreement* between McFarland Johnson, Inc. and John Turner Consulting, Inc. dated May 24,2024.

The purpose of the geotechnical investigation was to obtain information on the subsurface conditions at the site and to provide geotechnical engineering recommendations to support the planning, design, and construction of the proposed development. Geotechnical explorations and laboratory testing services were performed in July 2024.

This report summarizes available project information, presents the geotechnical exploration and laboratory testing programs, describes the subsurface conditions encountered, and provides geotechnical engineering recommendations to support the planning, design, and construction of the proposed taxiways. The contents of this report are subject to the attached *Limitations*.

2.0 **PROJECT INFORMATION**

The following subsections provide general descriptions of the site, the regional geologic setting, and the proposed development.

2.1 Site & Project Description

The subject property is an airport facility located at 1 Airport Road, Manchester, New Hampshire. JTC understands that the proposed project includes evaluating the existing condition of Taxiway G & D to assess the extent of possible remediation efforts. Refer to the attached *Exploration Location Plan* for the approximate locations of the areas explored.

2.2 Regional Geologic Setting

JTC's review of the Surficial Geology of the Manchester South Quadrangle, Hillsborough and Rockingham Counties, New Hampshire (Koteff and Stone, 2000) indicates that native site soils underlying possible fill soils are most likely to consist of Lake-bottom Deposits (Lake Merrimack Area) comprised of sands, silts, and clays.

3.0 GEOTECHNICAL EXPLORATIONS

JTC subcontracted GeoSearch to drill three (3) geotechnical borings from July 7 through July 8, 2024. JTC performed Dynamic Cone Penetrometer (DCP) testing at three (3) boring locations. Soil samples were recovered within the DCP test strata and transported to the laboratory for California Bearing Ratio (CBR) testing and gradation analysis. Bituminous concrete pavement coring of the runway surface was performed at all boring locations and at ten (10) alternate

locations within the taxiway selected by McFarland-Johnson. The approximate locations of the subsurface explorations and testing are shown on the attached *Exploration Location Plan*.

3.1 Soil Borings

GeoSearch drilled three (3) geotechnical borings designated as B-1 through B-3, using a truckmounted drill rig. JTC directed the drilling, testing, and sampling activities and logged the subsurface conditions encountered at each boring location.

The boring locations were selected by the client and altered under the constraints of drill rig access and utility conflicts. Subsequently, the relative location of each boring was established by the client via measurements from existing site features. The approximate locations of the borings are shown on the attached *Exploration Location Plan*.

All borings were advanced to depths of 10 feet bgs (below ground surface) utilizing a 3-inch inside-diameter hollow stem auger (HSA). As the borings were advanced, standard penetration tests (SPTs) were conducted at regular intervals and soil samples were obtained via 2-inch outside-diameter split-spoon samplers driven by a 140-pound automatic hammer. SPTs were performed in general accordance with ASTM D1586, Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils. Soil samples were sealed in moisture-tight containers and returned to JTC's office for further review, classification, and/or geotechnical laboratory testing.

The borings were backfilled with soil cuttings upon completion of drilling. Bituminous concrete pavement at boring and core locations was patched with high early strength concrete. Detailed records of the drilling, testing, and sampling performed, and the soil, bedrock, and groundwater conditions observed at each boring location are provided on the attached *Boring Logs*.

3.2 Bituminous Concrete Pavement Coring

GeoSearch drilled ten bituminous concrete pavement cores at exploration locations PC-1 through PC-10. At borings a lightweight asphalt core machine with a 10-inch ID coring bit. For the pavement cores a 4-inch ID coring bit was used. Bituminous concrete pavement cores were measured and photographed. The core locations were patched at the completion of coring with high early strength concrete. Results of the coring operations are summarized in the *Subsurface Conditions* section and photographs are attached in the *Site Photographs* appendix.

4.0 GEOTECHNICAL FIELD TESTING

4.1 Dynamic Cone Penetrometer Testing

JTC performed Dynamic Cone Penetrometer (DCP) testing at B-1, B-2, and B-3 designated as CBR-1, CBR-2, and CBR-3, respectively. The tests were performed via a Kessler K-100 Dynamic Cone Penetrometer. DCP testing was performed from a depth of about 17 inches to 21 inches bgs. The results of the DCP testing are tabulated below and included in Appendix F.

The results of the CBR field testing are provided in the following table.

CBR Testing Results								
Sample Location #			Field CBR Values from DCP Testing					
	Stratum	USCS Soil Type	Depth Range of Field Testing (bgs)	Field Tested CBR Value				
CBR-1 (B-1)	Base Course Gravel		1.4 – 1.7 ft	58.9				
CBR-2 (B-2)	Base Course	SP-SM with Gravel	1.5 – 1.6 ft	72.0				
CBR-3 (B-3)	Native Sand	SP-SM with Gravel	1.8 – 1.9 ft	70.5				

CBR testing was performed in accordance with ASTM D1883.

5.0 GEOTECHNICAL LABORATORY TESTING

JTC selected representative soil samples for geotechnical laboratory testing. The following tests were performed:

- 6 Moisture Content Determinations
- 6 Washed Sieve Analyses

Geotechnical laboratory testing was performed in general accordance with ASTM procedures. Test results are provided in the attached *Geotechnical Laboratory Testing Reports* appendix.

5.1 Particle Size Analyses

Particle size analyses, consisting of washed sieve analyses, were performed on six (6) samples. The following table summarizes the particle size data obtained from the analyses.

Summary of Sieve Analysis Results											
Exploration	Depth		Percent by Weight Passing Sieve								
Location	Range (bgs)	USCS Desc.	No. 4	No. 10	No. 40	No. 200					
B-1	1.6 – 3.6 ft	SP-SM	90.1	87.9	62.4	8.1					
B-1	6 – 8 ft	SP	100	91.9	75.6	6.0					
B-2	3.4 – 5.4 ft	SP-SM	96.1	95.0	63.9	9.3					
B-2	8 – 10 ft	SP	100	99.8	78.0	2.6					
B-3	2.8 – 4.8 ft	SP-SM	98.7	98.3	79.3	8.9					
B-3	8 – 10 ft	SP	100	100	92.0	2.4					

6.0 SUBSURFACE CONDITIONS

The following subsections describe the site pavement, soil, bedrock, and groundwater conditions encountered, based on results of the geotechnical explorations and laboratory testing. Detailed descriptions of the conditions observed at each boring are provided on the attached *Boring Logs*.

6.1 Soil Profile

The primary soil strata are briefly described in the paragraphs below.

6.2 Asphalt Pavement and Concrete

Pavement cores were recovered from within the taxiways during the exploration program. The asphalt thicknesses were recorded during the exploration program. The thickness of the pavement cores ranged from 8.0 inches to 15.0 inches and have been tabulated below. Photos of the cores have been appended.

Pavement Thickness							
Location	Location Bituminous Concrete Thickness (in.)						
B-1	8.0	15.0					
B-2	8.0	17.75					
B-3	14.25	14.25					
PC-1	12.0	16.0					
PC-2	10.0	15.5					
PC-3	8.0	17.0					
PC-4	11.0	16.75					
PC-5	15.0	16.0					
PC-6	12.0	13.5					
PC-7	14.25	14.25					
PC-8	12.5	13					
PC-9	14.25	14.5					
PC-10	14.25	14.25					

6.2.1 Base Course Materials

Soils interpreted to be Base Course materials were encountered underlying the pavement at all boring locations. The Base Course material typically consisted of grey to dark grey poorly graded Sand (SP-SM) with Silt and Gravel with a thickness of 7 to 44 inches that extended to a depth of approximately 1.8 to 5 feet bgs. The Base Course material was dense to very dense based on SPT N-values.

6.2.2 Native Sand

Soils interpreted to be Native Sand materials were encountered underlying the Base Course at

Geotechnical Investigation Report Taxiway G & D Rehabilitation Manchester-Boston Airport (MHT) Manchester, New Hampshire Page 7 of 9

all boring locations. The Native Sand typically consisted of orange-brown to tan poorly graded Sand (SP) with Silt and trace Gravel and extended to the full depth of exploration at each boring location. The native materials were typically medium dense to dense based on SPT N-values.

6.3 Bedrock

Bedrock was not encountered at any of the exploration locations.

6.4 Groundwater

Groundwater was encountered only in boring two (B-2) at a depth of approximately 8.8 feet bgs. JTC estimates that this investigation occurred during a period of seasonally normal to high groundwater. Site groundwater levels should also be expected to fluctuate seasonally and in response to precipitation events, construction activity, site use, and adjacent site use.

7.0 GEOTECHNICAL ANALYSIS & RECOMMENDATIONS

The evaluation of the site and the proposed project was based on the subsurface conditions encountered at the exploration locations and results of geotechnical laboratory and field testing.

7.1 California Bearing Ratio and Subgrade Preparation

Based on the results of California Bearing Ratio (CBR) field testing, subgrade soil conditions, and the potential for freeze-thaw softening of the subgrade soils. JTC recommends using a CBR design value of **20** percent for the native soils encountered at the proposed subgrade elevation.

Subgrade soils should be compacted to the FAA standards provided in *AC 150/5320-6F*. Based on JTC's observations, existing taxiway subgrade soils as well as proposed subgrade soils should be suitable to meet the FAA standards. Subgrade soils should consist of competent, Native Sand. A geotechnical engineer should evaluate the subgrade soils during construction. Any loose, soft, wet, and/or otherwise unsuitable soils should be over-excavated to expose suitable soils, or other remedial measures should be taken, as approved by the on-site geotechnical engineer. The over-excavation should then be backfilled with properly placed and compacted *Structural Fill*.

7.2 Frost Susceptibility

Hydrometer analyses of soils within the depth range of 4 to 6 feet bgs indicate the percentage of particles smaller than .02 mm to be less than 30% percent by weight. Based on the gradation and hydrometer analysis results and Table 2-2 of *AC 150/5320-6F*, JTC recommends the native subgrade soils be classified as frost group FG-3.

7.3 Seismic Considerations

Based on site class definitions of the American Society of Civil Engineers (ASCE) Standard 7-10, Minimum Design Loads for Buildings and Other Structures and the conditions encountered at the

boring locations, the site is classified as:

Site Class D: Stiff Soil Profile.

Liquefaction refers to the loss of strength in saturated cohesionless soils due to the buildup of pore water pressures during cyclic or seismic loading. Based on the conditions encountered at the boring locations, the soils are not considered to be susceptible to liquefaction.

7.4 Re-Use of Site Soils

Based on the gradation requirements provided in the FAA AC 150/5370-10H and the results of the particle size analyses, the Native Sand is too poorly graded, with a high concentration of fine sands, and therefore does not meet the specification for *P-154 Subbase Course* or *P-209 Crushed Aggregate Base Course*. Existing base course materials are close to meeting the P-154 specification. However, there is an overall lack of coarse material, and the fines content is generally very near or slightly above the recommendation for P-209. It may be possible blend this material with more granular soils or screen the material to meet the recommended gradation.

7.5 Construction Monitoring and Quality Control Testing

A qualified geotechnical engineer or representative should be retained to review the site preparation and grading activities at a minimum. Similarly, quality control testing, including inplace field density and moisture tests, should be performed to confirm that the specified compaction is achieved. It is recommended that JTC be retained to provide earthwork construction monitoring and quality control testing services.

Quality control testing recommendations are provided as follows:

- During site grading, 3 field density tests should be performed for every 1,000 square feet (per lift) of fill placement, at a minimum. At least 3 tests should be performed on each lift of material even if the lift is less than 1,000 square feet;
- During backfilling of utility trenches, at least 1 test should be conducted per 50 linear feet (per lift) of trench; and

If FAA specifications require more frequent testing, then the quality control testing provider should adhere to the stricter requirements.

7.6 Additional Considerations

Additional construction considerations/recommendations are provided as follows:

- Safe temporary excavation and/or fill slopes are the responsibility of the Contractor. Excavations should be conducted in accordance with local, state, and federal (OSHA 29 CFR 1926) requirements, at a minimum.
- Proper groundwater control and stormwater management are necessary to maintain site stability. Groundwater should be removed in advance and continuously maintained at

least 2 feet below the working construction grade until earthworks and/or backfilling are complete;

• All slopes should be protected from erosion during (and after) construction.

8.0 CLOSING

We trust the contents of this report are responsive to your needs at this time. Should you have any questions or require additional assistance, please do not hesitate to contact our office.



APPENDIX A: LIMITATIONS

Explorations

- 1. The analyses and recommendations presented in this report are based in part upon the data obtained from widely-spaced subsurface explorations. Subsurface conditions between exploration locations may vary from those encountered at the exploration locations. The nature and extent of variations between explorations may not become evident until construction. If variations appear, it will be necessary to re-evaluate the recommendations of this report.
- The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretation of widely-spaced explorations and samples; actual strata transitions are probably more gradual. For specific information, refer to the individual test pit and/or boring logs.
- 3. Water level readings have been made in the test pits and/or test borings under conditions stated on the logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, and other factors differing from the time the measurements were made.

<u>Review</u>

- 4. It is recommended that John Turner Consulting, Inc. be given the opportunity to review final design drawings and specifications to evaluate the appropriate implementation of the geotechnical engineering recommendations provided herein.
- 5. In the event that any changes in the nature, design, or location of the proposed areas are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and conclusions of the report modified or verified in writing by John Turner Consulting, Inc.

Construction

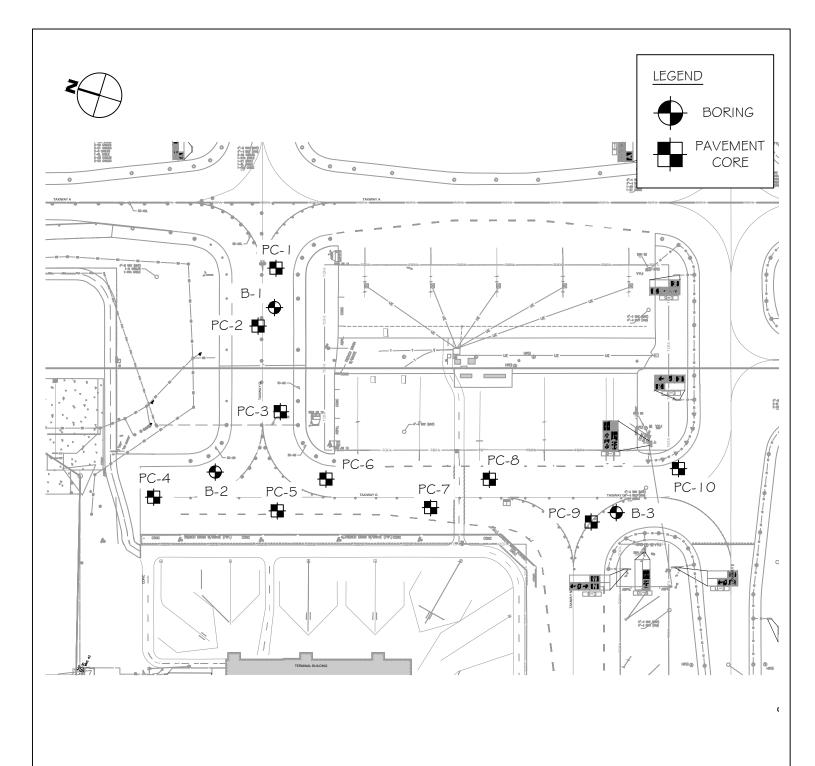
6. It is recommended that John Turner Consulting, Inc. be retained to provide geotechnical engineering services during the installation phases of the work. This is to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

Use of Report

- 7. This report has been prepared for the exclusive use of the addressee for the noted project. All considerations are based on the available information and is in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.
- 8. This report has been prepared for this project by John Turner Consulting, Inc. This report was completed for preliminary design purposes and may be limited in its scope to complete an accurate bid. Contractors wishing a copy of the report may secure it with the understanding that its scope is limited to preliminary geotechnical design consideration.



APPENDIX B: EXPLORATION LOCATION PLAN



Notes:

- I. Explorations were performed on July 7th \$ 8th, 2024 by Geosearch of Sterling, MA under the direction of JTC.
- 2. Exploration locations should be considered approximate.
- 3. Refer to the Exploration Logs for the subsurface conditions encountered at each exploration location.
- 4.Basemap source: June 2024 "BP-01" prepared by McFarland Johnson, Inc.
- 5.Drawing Scale: I inch = 200 feet

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			CONCORD, NEW HAMPSHIRE				



APPENDIX C: BORING LOGS & KEY TO SYMBOLS AND DESCRIPTIONS

Recessed Cover Set in Concrete Top of Well, TO SYMBOLS AND DESCRIPTIONS Bentonite Pellets Capped Riser w/ Locking Cover Bentonite Slurry Endcap on Pipe SYMBOLS Packed in Sand Silica Sand, No Pipe (End Plug) Recessed Pipe Slotted Pipe w/ **Gravel Backfill** Covered Riser Concrete Seal Silica Sand, WELL blank PVC Pipe Riser Assorted Cuttings Sand Vibro-Core Sample Bulk/Grab Sample SOIL MOISTURE MODIFIERS The descriptor "saturated" should not be used (use "wet"). Auger Cuttings Dynamic Cone The descriptor "damp" should not be used (use "moist"). 3" Split Spoon dry to touch Penetrometer 2 CONSULTING Water Table JOHN TURNE (after 24 hours) Sample Ŋ Sonic or TYPICAL SYMBOL Absence of moisture; dusty, Damp but no visible water n) Visible free water Geoprobe Sample Descriptior Spoon Sample Standard Split Shelby Tube Water Table (at time of drilling) Vane Shear Rock Core KEY Moist Term Wet Dry \bowtie Poorly graded gravels or gravel-sand mixtures, little or no Inorganic clays of low to medium plasticity, gravelly clays, Inorganic silts, micaceous or diatomaceous fine sandy or Well-graded gravels or gravel-sand mixtures, little or no fines Organic clays of medium to high plasticity, organic silty Poorly graded sands or gravelly sands, little or no fines Inorganic silts and very fine sands, rock flour, silty or Well-graded sand or gravelly sands, little or no fines clayey fine sands or clayey silts with slight plasticity Organic silts and organic silty clays of low plasticity Clayey gravels, gravel-sand-clay mixtures Inorganic clays of high plasticity, fat clays *TYPICAL NAMES* Peat and other highly organic soils Silty gravels, gravel-sand mixtures Clayey sands, sand-clay mixtures sandy clays, silty clays, lean clays Silty sand, sand-silt mixtures silty soils, elastic silts clays, organic silts fines マシマ SYMBOI א ט ל Ъ ЫS С С Ξ SV S D SN SC Z CH HO С Р Р **GRAVELS WITH GRAVELS WITH** LESS THAN 5% **FINES** FINES CLEAN SANDS WITH LESS SANDS WITH OVER 15% FINES LIQUID LIMIT GREATER THAN 50% OVER 15% FINES CLEAN FINES LIQUID LIMIT 50% OR LESS HIGHLY ORGANIC SOILS MAJOR DIVISIONS SILTS & CLAYS SILTS & CLAYS FRACTION < No.4 FRACTION > No.4 SIEVE SIZE MORE THAN 1/2 MORE THAN 1/2 OF COARSE OF COARSE GRAVELS SIEVE SIZE SANDS OVER 50% > No.200 SIEVE SIZE OVER 50% < No.200 SIEVE SIZE COARSE-GRAINED SOILS FINE-GRAINED SOILS

PERCENT OR PORTIONS OF SOIL Alternating seams or layers of silt and/or clay More than one per foot of thickness One or less per foot of thickness and sometimes f. sand Small erratic deposit Lenticular deposit .⊆ 12 in. to 0.5 in. 0.5 in. to 1/16 Description > 1/16 in 12 in. Occasional: Frequent Parting: Stratum: Pocket: Varved Seam: Layer: Lens: Term RELATIVE DENSITY/CONSISTENCY Medium Stiff Consistency Standard Penetration Testing (SPT) N₆₀ based on blows per 12 Very Soft 16 - 30 2001 - 4000 Very Stiff Hard Silt (plastic) and Clay Soft 9 - 15 |1001 - 2000 |Stiff 501 - 1000 251 - 500 WR = Weight of Rods; WH = Weight of Hammer 0 - 250 4001+ Su N-Value 5 - 8 0 - 2 3 - 4 31+ **Relative Density** Medium Dense Gravel, Sand, and Silt Very Dense Very Loose Dense Loose N-Value 31 - 50 5 - 10 11-30 inches. 0 - 4 51+ 4.75 to 2.00 2.00 to 0.425 0.425 to 0.075 76.2 to 19.1 19.1 to 4.75 4.75 to 0.075 Below 0.075 76.2 to 4.75 Grain Size 305 to 76.2 n Millimeter Above 305 **RANGE OF GRAIN SIZES** No. 4 to No. 10 No. 10 to No. 40 No. 40 to No. 200 No. 4 to No. 200 3/4" to No. 4 Below No. 200 Standard U.S. Star. Sieve Size 3" to No. 4 Above 12" to 3" 3" to 3/4" 12" **CLASSIFICATION** SILT & CLAY BOULDERS COBBLES medium fine coarse GRAVEL coarse SAND fine

REFERENCE: UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2488-93

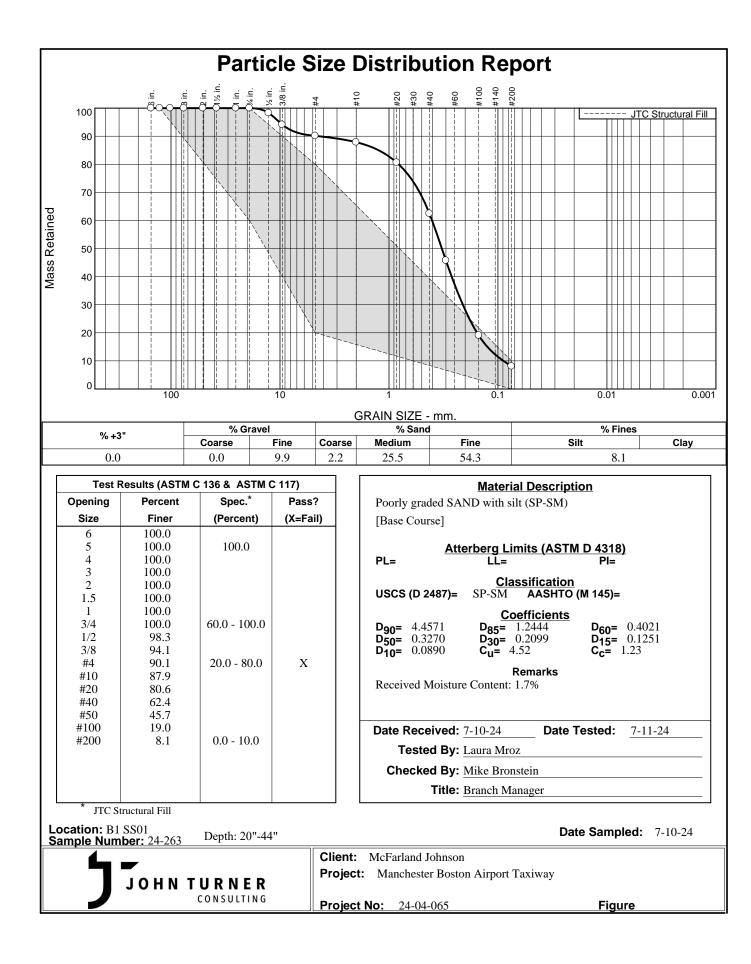
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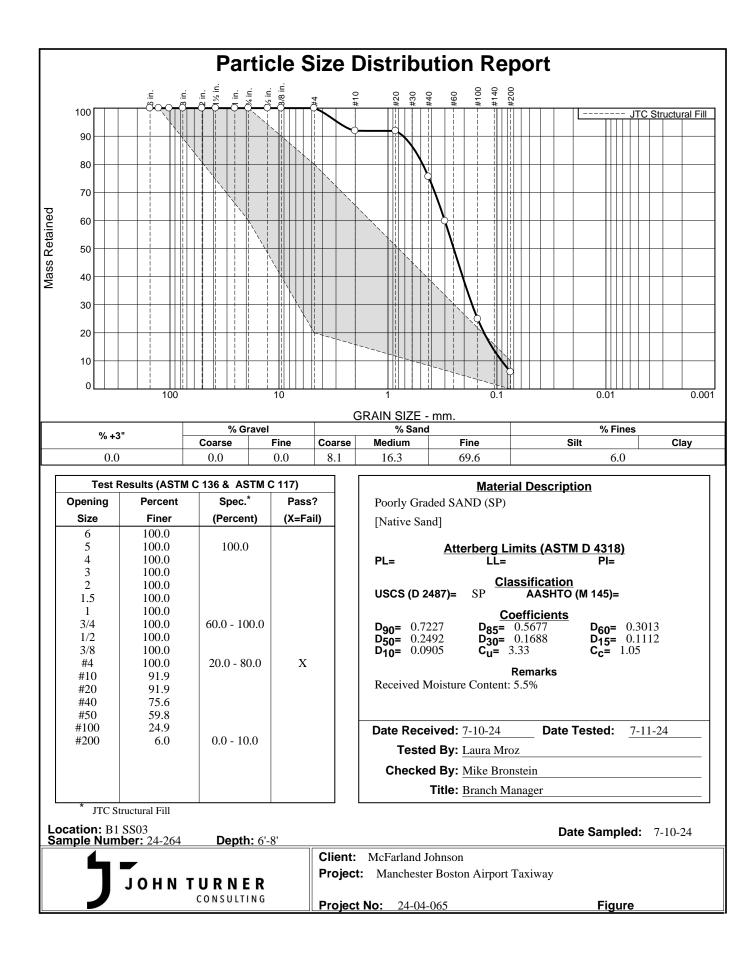
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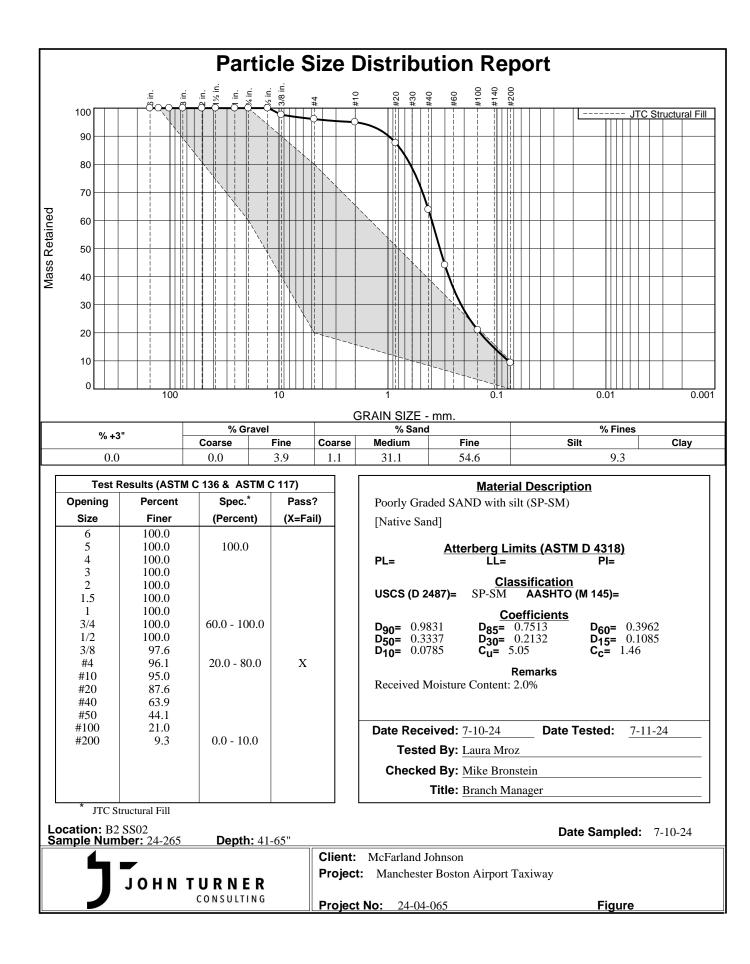
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	CONSULTING	PROJECT LOCATION: <u>Manchester, New F</u> LOCATION: Manchester-Boston Airport Taxi					FI	EVATION:		
		DRILLER: GeoSearch	way O				-	DGGED BY:		Sawa
LOG	GOF BORING	DRILLING METHOD: Truck Mounted Drill	Rig					DATE:		/2024
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- 5 -									·····	
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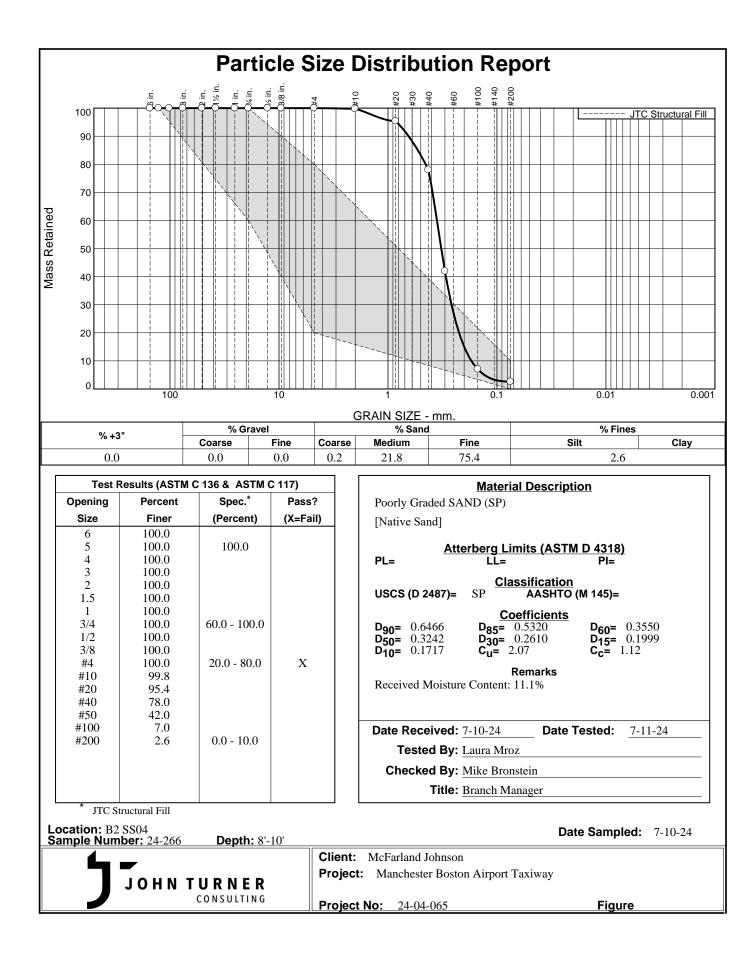


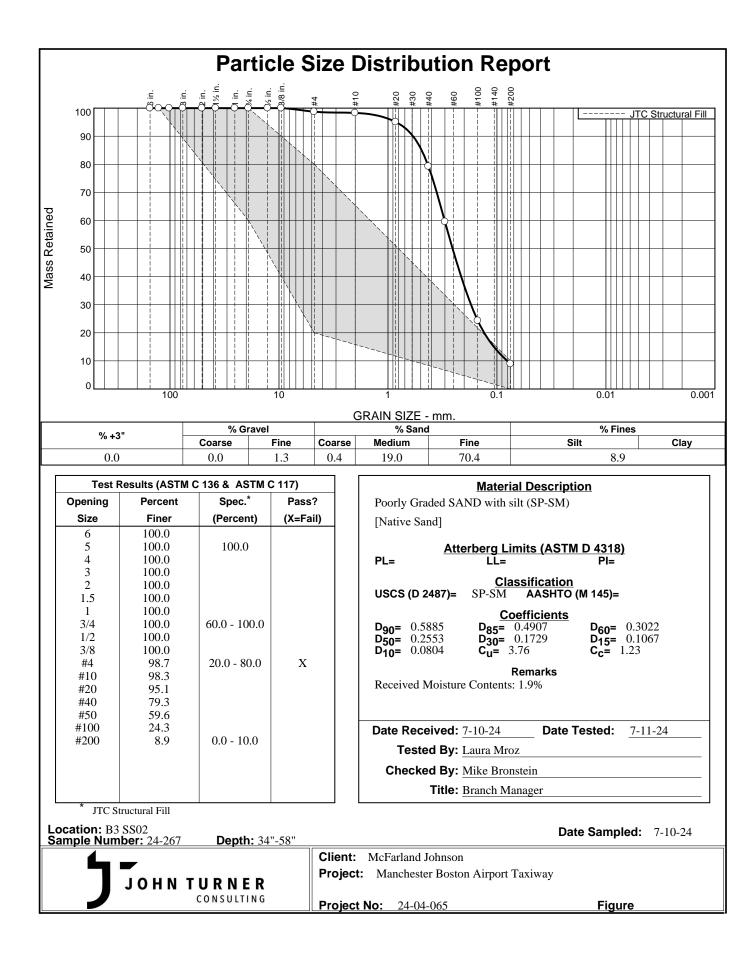
APPENDIX D: LABORATORY TESTING RESULTS

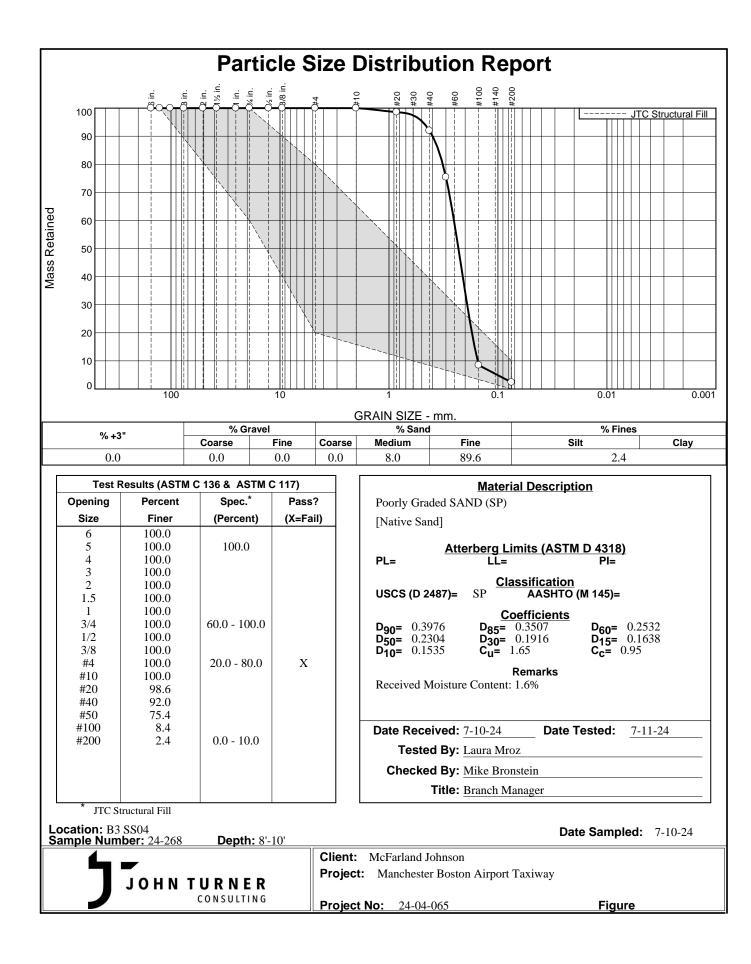










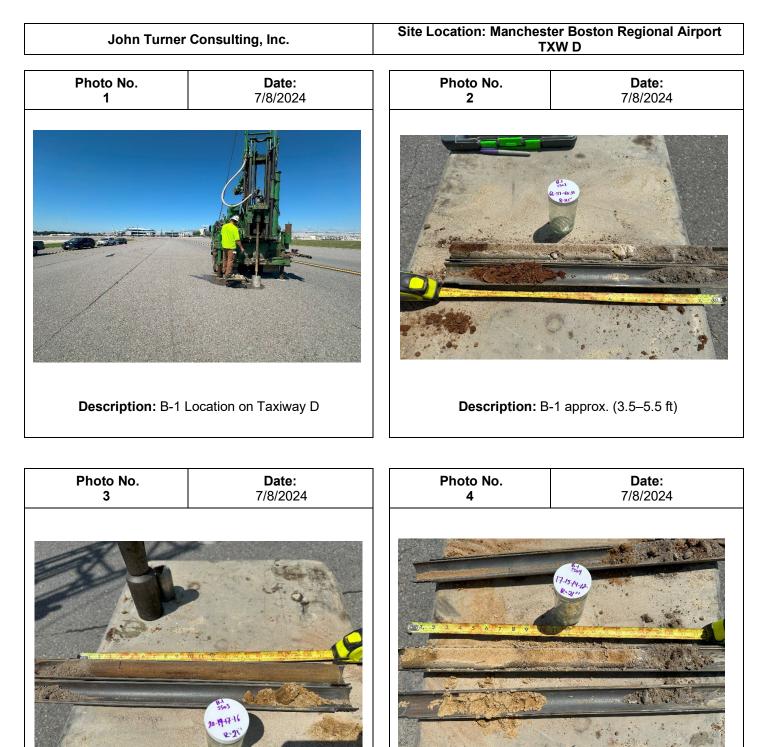




APPENDIX E: SITE PHOTOGRAPHS



PHOTO LOG



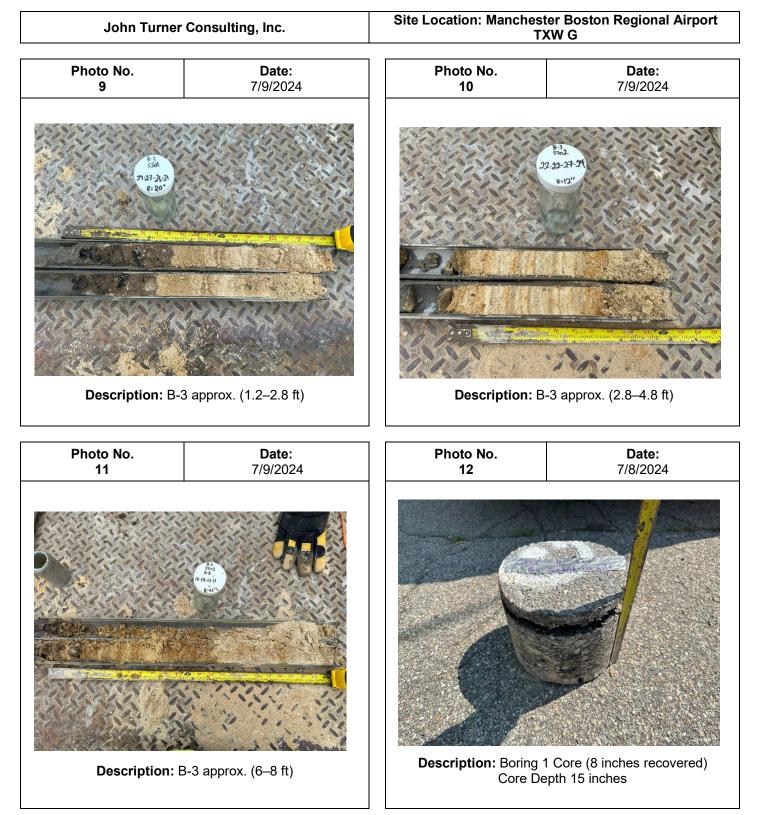
Description: B-2 approx. (6-8 ft)

Description: B-1 approx. (8-10 ft)

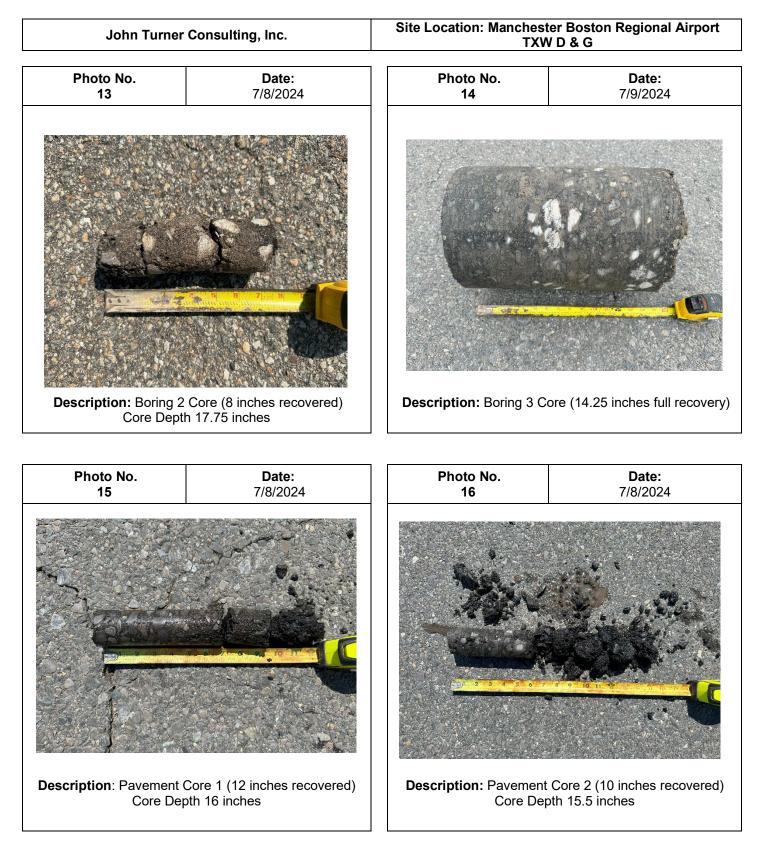






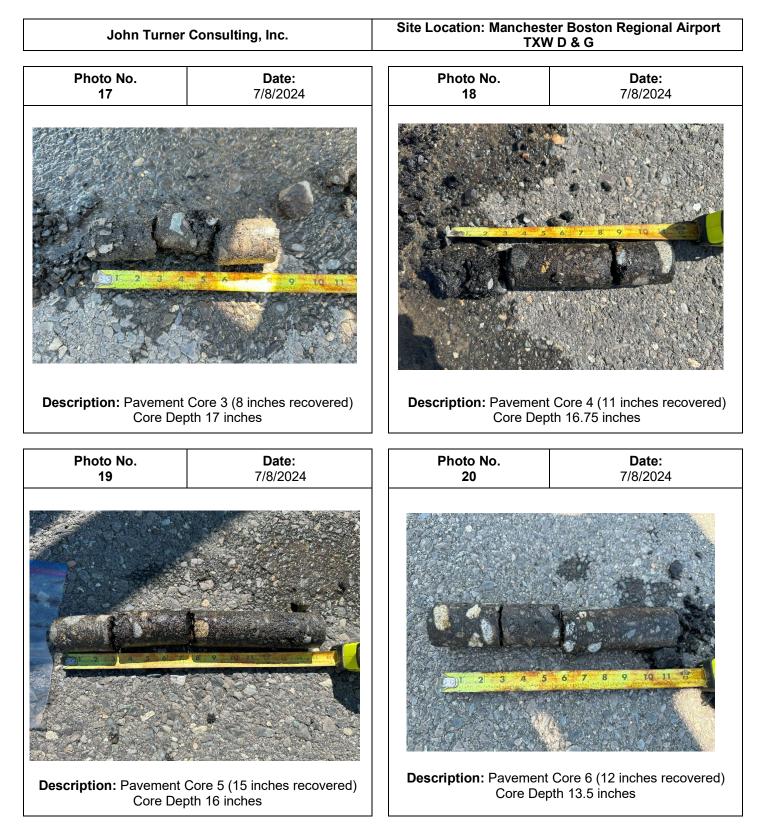




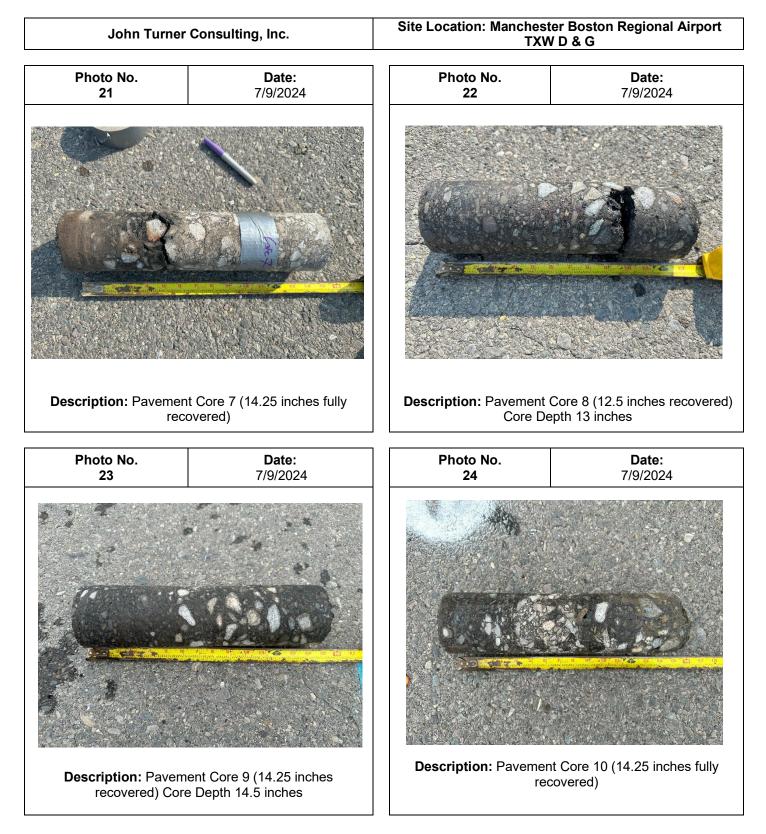


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APPENDIX F: DYNAMIC CONE PENETROMETER CBR CALCULATION

Test Location: DCP-1 [Boring1] Date: 7/8/2024

Soil Type: SP-SM with Gravel

Test Setup

 Vertical Scale Reading at Start (V ¹)	Length of Shaft (L)	Depth of Cone Below Ground Surface at Start (D	
23.2 in	40.0 in	16.8 in	

Test Data							
Blows (B)	Vertical Scale Reading (V)	Depth of Cone bgs (d)	Penetration per Blow (P ⁱⁿ)	Penetration per Blow (P ^{mm})	Hammer Factor	DCP Index (mm/blow)	CBR (%)
5	26.0 in	19.6 in	0.56 in	14.2 mm	1	14.2	14.9
12	27.2 in	20.8 in	0.10 in	2.5 mm	1	2.5	102.8
						Average CBR (%):	58.9
						Bearing Capacity (PSF)	8178

Depth of Cone Below Ground Surface at Start D=L-V¹ Vertical Scale Readings taken after each segment of blows Depth of Cone bgs d = $(D \cdot V^1) + V$ Penetration per Blow $P^{Im} = (d-D)/B$ Penetration per Blow $P^{Imm} = ((d-D)^*25.4)/B$ Hammer Factor: = 1 for 8-kg (17.6-lb) hammer, = 2 for 4.6-kg (10.1-lb) hammer DCP Index = $(P^{Imm})^*$ Hammer Factor CBR= 292 / DCP¹¹² Bearing Capacity = (3.794*CBR^{0.664})*144

Test Location: DCP-2 [Boring 2] Date: 7/8/2024 Soil Type: SP-SM with Gravel

Test Setup

Vertical Scale Reading at Start (V ¹)	Length of Shaft (L)	Depth of Cone Below Ground Surface at Start (D)	
22.2 in	40 in	17.8 in	

Test Data							
Blows (B)	Vertical Scale Reading (V)	Depth of Cone bgs (d)	Penetration per Blow (P ⁱⁿ)	Penetration per Blow (P ^{mm})	Hammer Factor	DCP Index (mm/blow)	CBR (%)
8	23.3 in	18.9 in	0.1 in	3.5 mm	1	3.5	72.0
						Average CBR (%):	72.0
						Bearing Capacity (PSF)	9344

Depth of Cone Below Ground Surface at Start D=L-V¹ Vertical Scale Readings taken after each segment of blows Depth of Cone bgs d = (D-V¹) + V Penetration per Blow P^m = (d-D)/B Penetration per Blow P^{mm} = ((d-D)*25.4)/B Hammer Factor: = 1 for 8-kg (17.6-lb) hammer, = 2 for 4.6-kg (10.1-lb) hammer DCP Index = (P^{mm}) * Hammer Pactor CBR= 292 / DCP^{1.12} Bearing Capacity = (3.794*CBR^{0.664})*144

Test Location: DCP-3 [Boring 3] Date: 7/9/2024 Soil Type: SP-SM with Gravel

Test Setup

Vertical Scale Reading at Start (V ¹)	Length of Shaft (L)	Depth of Cone Below Ground Surface at Start (D)	
19 in	40 in	21 in	

Test Data							
Blows (B)	Vertical Scale Reading (V)	Depth of Cone bgs (d)	Penetration per Blow (P ⁱⁿ)	Penetration per Blow (P ^{mm})	Hammer Factor	DCP Index (mm/blow)	CBR (%)
10	20.4 in	22.4 in	0.1 in	3.6 mm	1	3.6	70.5
						Average CBR (%):	70.5
						Bearing Capacity (PSF)	9220

Depth of Cone Below Ground Surface at Start D=L-V¹ Vertical Scale Readings taken after each segment of blows Depth of Cone bgs d = (D-V¹) + V Penetration per Blow P^{im} = (d-D)/8 Penetration per Blow P^{im} = ((d-D)*25.4)/B Hammer Factor: = 1 for 8-kg (17.6-lb) hammer, = 2 for 4.6-kg (10.1-lb) hammer DCP Index = (P^{im}) * Hammer Factor CBR= 292 / DCP¹¹² Bearing Capacity = (3.794*CBR^{0.664})*144 Represent cell requiring input

TECHNICAL SPECIFICATIONS

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L-125	Installation of Airport Lighting Systems
	Latest Revision: FAA Standard Specifications taken from AC 150/5370-10H dated 12/21/2018 with 08/19/20 updates

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ITEM G-001 SPECIAL WORK REQUIREMENTS

GENERAL

001-1.1 General. The purpose of these requirements is to ensure that the Contract work does not damage private property or create any hazard to aircraft operations, and to bring to the Contractor's attention special coordination that the Contractor should be aware of that may be unique to airfield construction or unique to the Owner's Facility. It is Contractor's responsibility to conduct all work in strict accordance with the requirements set forth herein and to fully cooperate with the Resident Project Representative (RPR) in every way necessary to fulfill the purposes of these requirements as set forth above.

001-1.2 Work Limitations. All work shall be performed during the hours of **6 AM to 6 PM Monday through Friday and 7AM – 4PM Saturdays. Work on weekends is permitted and shall be requested to the RPR 72 hours in advance.** Work may not be allowed on specific days as determined by the RPR and/or the Owner. Such days will not count towards exhausted contract time.

The following specification sections and regulations further define how work must be executed.

- General Provisions Section 80-04 Limitation of Operations
- General Provisions Section 80-04.1 Operational Safety on Airport During Construction
- FAA Advisory Circular 150/5370-2 (latest revision) "Operational Safey on Airports during Construction"
- The Construction Safety and Phasing Plans
- Airport Security and Compliance Requirements

001-1.3 Prior Notification. In accordance with Section 100-04 *Project Progress Schedule* of the General Provisions, the Contractor shall provide an overall project schedule prior to the pre-construction meeting. This schedule shall be updated during the project as specified.

In addition, the Contractor shall coordinate with the RPR and Owner and submit a detailed written weekly schedule of work that provides the work task by specification number for each day of the following week. The weekly schedule shall be submitted each week for the duration of the project, a minimum of 3-days prior to the week covered by the schedule.

In accordance with Section 80-04 of the General Provisions, the Contractor shall notify the RPR at least 48 hours in advance of the time he intends to start work or begin work in a new work area. It should be noted by the Contractor that 48 hours is the minimum time required by the Owner to issue a proper Notice to Airmen (NOTAM) of the pending construction activities. The Contractor's weekly construction schedules will also provide advance notice. The RPR and/or Owner may disallow work in areas not included in the weekly schedule and for which the required 48-hours advance notice is not provided. Such instance shall not be a valid claim for delays. Prior to the beginning of work each day, the Contractor's Site Superintendent shall meet with the RPR to discuss the day's work schedule. The Contractor must notify the RPR at least 24-hours in advance of any items that will require acceptance testing. 72-hours' notice must be provided for testing on Mondays or testing the day immediately following a Holiday.

001-1.4 Operational Safety. Work performed under this contract will require safety and phasing in accordance with FAA regulations defined in Section 80-04.1 *Operational Safety on Airports During Construction* of the General Provisions. The Contractor shall take all precautions necessary to ensure the safety of operating aircraft, as well as his/her own equipment and personnel.

001-1.5 Coordination. The Contractor must coordinate all operations with the RPR and/or Owner. The RPR or Owner will handle coordination with the Federal Aviation Administration, Air Traffic Control Tower, and Tenants.

001-1.6 Regulations. All work shall be performed in accordance with FAA Advisory Circular 150/5370-2 (latest revision), "*Operational Safety on Airports during Construction*".

001-1.7 Construction Safety and Phasing Plans (CSPP). In addition, all work shall be performed in accordance with the approved Construction Safety and Phasing Plans. The plans have been prepared by the Owner and RPR and approved by the FAA. It outlines the site-specific requirements for safely performing the work in accordance with AC 150/5370-2 (latest revision). The Contractor shall review, in detail, the Construction Safety and Phasing Plans.

001-1.8 Contractor's Safety Plan Compliance (SPCD). Once the Contractor has read and fully understands the CSPP, they shall prepare and submit for approval a Safety Plan Compliance Document (SPCD) as required by FAA AC 150/5370-2 (latest revision).

Similar to a shop drawing the SPCD, including all requirements of this specification, shall be submitted to the RPR for review prior to the Pre-Construction Meeting. The SPCD must be reviewed and approved by the Owner prior to issuance of the Notice-to-Proceed.

The Contractor shall designate an individual as the Site Safety Officer (SSO). The SSO may be the Contractor's Site Superintendent who is responsible for day to day operations on the site. The SSO shall be on site daily and work on a daily basis to implement and enforce the CSPP and SPCD. The SSO shall conduct daily inspections. Among other items, the daily inspections shall include inspection of the barricades, lights, closure markers and protection of the taxiway/runway safety and object free areas. When necessary, the SSO will work with the RPR and Owner on safety related items.

001-1.9 Barricades. The Contractor shall place and maintain construction barricades to clearly define and close work areas to aircraft operations. The barricades are shown in the safety and phasing plans. Barricades shall be placed as shown or as directed by the RPR and/or Owner. Barricades shall meet the minimum requirement of FAA AC 150/5370-2 (latest revision). Refer to details in the Contract Documents. All temporary lights and barricades shall be weighted against jet blasts (100 mph). <u>The barricades shall be supplied by the Contractor. The Contractor will maintain ownership of the barricades at the completion of the project.</u> Reference Section 70-08 *Barricades, Warning Signs, and Hazard Markings* of the General Provisions for further requirements.

001-1.10 Runway and Taxiway Closure Markers. The Contractor shall transport, place, and maintain runway and taxiway closure markers to clearly define surfaces closed to aircraft operations. <u>The Runway Closure and Taxiway Closure Markers shall be supplied by the Owner.</u> The required markers are shown in the Contract Drawings. Markers shall be placed as shown or as directed by the RPR and/or Owner. Closure Markers shall meet the minimum requirement of FAA AC 150/5370-2 (latest revision) and AC 150/5345-55A *Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure*. The method and procedure for securing the markers from dislodging must be approved by the Owner and RPR. Refer to marker details in the Contract Documents.

001-1.11 Height Restrictions. No equipment will be allowed to penetrate the Runway approach surfaces and transitions defined in 49 CFR Part 77 when the runway is active. Tall equipment, such as cranes or boom trucks, will be required to have a flag attached to the highest point. Additionally, during periods of darkness or reduced visibility a red light at the highest point shall also be required.

001-1.12 Marking of Vehicles and Equipment. Each motorized vehicle operating on the airport shall be equipped with an amber flashing light. All equipment must have a 3-foot square flag consisting of international orange and white squares not less than one foot square displayed in full view above the vehicle. Equipment must also have an amber flashing light when operated during periods of limited visibility including darkness, fog, and rain. When not in use, all equipment shall be returned to the designated staging area and lowered to the maximum extent possible. All Contractor and subcontractor vehicles shall have the company identification plainly visible on both sides of the vehicle in order to identify the vehicle.

001-1.13 Setback Requirements. No construction operations shall be carried on within 129.5 feet from the centerline of any active taxiway or within 250 feet of the centerline of any active runway unless prior approval has been obtained and such actions are included in the phasing plans. The distances above represent the Taxiway Object Free Area and the Runway Object Free Area respectively.

001-1.14 Protection of Restricted Areas. The Contractor shall stake and permanently mark on the ground with a readily recognizable marking (flagging, cones, or similar material) the restriction lines adjacent to the work area so that workmen can readily recognize the limitations. The restricted areas are defined in the phasing plans and Contract Drawings.

001-1.15 Trenches and Excavations. The Contractor will not be permitted to leave any trenches or other excavations open at night, on weekends or at other times when the Contractor is not on the site, except as approved by the RPR. Open trenches must be clearly defined, confined to the work area(s), and completely surrounded with construction barricades. In addition, no excavations exceeding three inches (3") in depth shall be left open within the object free areas while the runway, taxiways, or aprons, are in use. All excavations in paved areas must be backfilled and the pavement repaired and properly cured prior to the area being opened to traffic.

001-1.16 Grading of Temporary Conditions. The following applies when runways or taxiways must be re-opened. The Contractor shall ensure that the work area within the safety areas of the runways, taxiways and aprons are graded away from the pavements at a maximum slope of 5% and shall be left in such condition that it will drain readily and effectively and will not pose a hazard to aircraft. No piles of soil shall be left unspread, no drops or projections in excess of three inches, no sharp changes in grade will be permitted, and the surface shall be thoroughly compacted.

001-1.17 Radio Control and Communication. At a minimum, the Contractor shall have two-way communications between the superintendent, escorts, and gate guards to coordinate access to and from the work site. No FAA or airport frequency shall be used for this purpose.

When work areas are adjacent to, within, or require traversing active movement areas (such as taxiways and the runway) the Contractor shall have on site at all times at least two radios capable of monitoring the airport ground frequency (121.9). The radio shall be capable of reliable two-way communications from any location on the airport. The Contractor shall, before the start of construction, test his/her radio(s) with the appropriate agencies to demonstrate the capabilities and to demonstrate the performance of the operator and the equipment. Only MHT Operations will communicate directly with the ATCT. The Contractor shall operate these radios, at his/her expense

001-1.18 Flag persons. The Contractor shall provide flag persons, or uniformed officers, at locations where the haul routes enter public streets or highways from airport property in accordance with the applicable local requirements. Additionally, the Contractor shall provide flag persons whenever the service road is restricted to one lane of traffic.

001-1.19 Owner Provided Escorts. The Owner will provide escorts throughout the duration of

construction. Contractor to coordinate schedule of activities at least one (1) week in advance so that the Owner can schedule escorts.

001-1.20 Contractor Provided Escorts. Not required or allowed for this project.

001-1.21 Haul Routes. When public highways must be used for haul routes, it will become the Contractors responsibility to obtain the proper permits needed for this function and to obey all rules and regulations pertinent to the public highways.

Haul routes on the airport are shown on the Contract Drawings and the safety plans. The Contractor's vehicles and equipment shall operate within the limits of the indicated haul route.

The Contractor's personnel and vehicles will not have access to the entire airport, but shall be limited to the designated work area(s), staging area(s), and haul route(s).

All paved haul roads or access roads shall be kept clean at all times to prevent the accumulation of dirt and mud and the generation of dust by sweeping, washing or other methods as directed by the Airport. Unpaved haul roads, if any, shall be maintained by blading and filling when directed by the Airport and dust shall be controlled at all times.

All paved haul roads disturbed shall be restored to their original condition or better before the contract will be considered complete. All restoration and dust control on haul roads shall be at the Contractors expense.

All non-paved areas on the airport which are disturbed by the Contractors operations shall be scarified or otherwise loosened to a depth not less than five inches (5"). Clods shall be broken and the top three inches (3") of soil shall be worked into a satisfactory seedbed by disking, or by use of cultipackers, rollers, drags, harrows, or other appropriate means. This area shall be seeded, fertilized and mulched.

001-1.22 Security and Contractor Provided Gate Guards. The Contractor shall comply with all airport security requirements as directed by the Owner. The Contractor's personnel, equipment, materials and deliveries shall be subject to security checks prior to or while on airport property. Any delays incurred due to security inspections shall not be a valid claim for delays.

The Contractor is responsible for maintaining controlled access to the airfield via any and all project access gates. The Contractor must provide an Owner approved security gate guard during all work hours. Gate guards are required to have an Airport issued SIDA badge. The Contractor shall only allow access to personnel directly working on the project. The access gate will be opened and closed by a MHT Airport Operations Specialist.

Personal Owned Vehicles (POV) are not permitted on the Airfield. The Contractor shall provide safe and adequate transportation to and from the area where POV s are parked and the work area(s).

001-1.23 Disposal of Surplus and Unsuitable Materials. All surplus and unsuitable materials not identified to be retained by the Owner, whether suitable or unsuitable, shall be legally disposed of by the Contractor off airport property. No separate measurement or payment will be made for the handling, hauling or disposal, but rather shall be incidental to the item that generated that material.

001-1.24 Storm Water Management. The Contractor is responsible for managing all storm water for the duration of the project including all diversion and dewatering of the site. The Contractor is also responsible for repairing all damage caused by storm water. All costs associated with the storm water management shall be incidental to the overall project. The Contractor shall follow all U. S. Environmental Protection Agency and N.H. Department of Environmental Service regulations.

001-1.25 U. S. EPA National Pollutant Discharge Elimination System (NPDES) Construction General

Permit for Stormwater Discharges during Construction. The Contractor shall refer to Section C-102 *Temporary Air and Water Pollution, Soil Erosion, And Siltation Control* for additional information concerning the notification requirements to be covered under the US Environmental Protection Agency (EPA) NPDES Construction General Permit for Stormwater Discharges during Construction and the preparation of a Storm Water Pollution Prevention Plan (SWPPP). The permit conditions and other requirements under the New Hampshire Department of Environmental Services Alteration of Terrain Permit shall also be covered under the Section C-102 *Temporary Air and Water Pollution, Soil Erosion, And Siltation Control.*

001-1.26 Storage of Materials and Equipment. The area for storing materials and parking/servicing equipment is shown in the Contract Drawings. The Contractor will be required to return all equipment to the appropriate Contractor's staging area at the end of work, each day, unless otherwise approved.

Equipment shall be parked in the designated area when not in use.

The Contractor shall provide all necessary temporary fencing and gates to protect materials and equipment from pilferage. The Owner is not responsible for any vandalized equipment or materials stored on the property.

Any area occupied or utilized by the Contractor shall be maintained in a clean and orderly condition satisfactory to the Owner. At the completion of the project, all Contractors' facilities shall be removed promptly and in a workman like manner and the area left clean and free of all debris or surplus material. The Contractor is responsible for restoring to original condition any areas used for the Contractor's operation at no additional cost to the Owner.

001-1.27 Maintenance of the Construction Site. The Contractor shall keep the construction site free of paper, boxes, and other debris that could be blown onto the runways, taxiways, and/or aprons.

All airport pavements shall be kept clear and clean at all times. All rocks, mud, and other debris carried on to the airport pavement by the Contractor's equipment must be report to the RPR or Airport Operations. Airport Operations will then close the affected area to air traffic and the Contractor will immediately sweep the area to the satisfaction of Airport Operations.

The Contractor shall have access to the equipment for the application of water to control dust within the construction site and on haul roads. The equipment shall be equipped with a shut-off control valve which can be operated from the cab by the operator. The Contractor shall apply water for dust control as necessary to prevent dust from the construction site and/or haul roads from being a hazard to aircraft and from being a nuisance to the public as direct by the RPR. All water shall be supplied by the Contractor.

The Contractor shall maintain at the job site at all times while the construction under this contract is in progress a self-propelled, self-contained vacuum sweeper with rotating brooms and with a 4-cubic yard capacity approved by the RPR. The sweeper shall operate as necessary to keep active aircraft pavements, access roads and the work areas clean. At the close of each day's work, all active aircraft pavements and airport paved roads used or dirtied by the Contractor shall again be swept.

The Contractor shall also be responsible for supplying any other equipment as may be necessary to clean all areas that are contaminated as a result of his/her operations to the complete satisfaction of the RPR and the Owner.

Trucks loaded in the construction area shall have loads trimmed as necessary to ensure that no particles, stones, or debris will fall off and that no legal load limits are exceeded.

The Contractor shall be particularly careful not to track foreign material onto pavements outside of the work area(s) (e.g., tack-coat, rocks, etc). The Contractor shall be responsible for removing foreign materials from vehicle tires prior to the vehicle leaving its work area.

001-1.28 Maintenance of the Existing Airfield Lighting. All existing airfield lighting systems required to safely operate aircraft shall be operational each night and during inclement weather throughout the construction period.

It shall be the responsibility of the Contractor to check the operation of the existing lights each day, to notify the RPR and the Owner of any problems and make any repairs necessary due to his/her operation.

The Contractor shall furnish and install all materials necessary to provide temporary lighting and make any temporary connections to keep the existing airfield lighting operational until the new lighting fixtures, cables, etc. can be installed.

001-1.29 Smoking. <u>Absolutely no smoking will be permitted within the AOA</u>. Any Contractor violating this rule shall be asked to leave the premises.

001-1.30 Employee Identification Badges. Full-time competent and responsible employees of the Contractor, such as superintendents and foremen, shall obtain an Airport SIDA badge. Additionally, employees, including subcontractors, who will be onsite for more than two continuous weeks shall obtain an Airport SIDA badge. The SIDA badge requires finger printing screening and a criminal history check. The badge application process may take up to fourteen (14) days, the Contractor shall plan accordingly.

The Contractor shall have a minimum of 1/2 (50%) of on-site workers, including sub-contractors, submit to the badging process, unless otherwise approved by MHT Operations Management. Badged individuals must display their Airport issued badges on their outermost garment at all times while on the airfield.

Refer to the Construction Safety and Phasing Plan (CSPP) and Supplemental Provision documents for more information and costs associated with obtaining badges and vehicle permit stickers. The costs associated with security access badges are the responsibility of the Contractor and shall not be paid for by the Owner.

At all times while on the airfield, non-badged workers must be:

- 1. Within 100 feet of a badged worker
- 2. Within visual contact of a badged worker
- 3. Able to respond to the requests of a badged worker
- 4. Able to command the attention of a badged worker.

Any non-badged workers will not be allowed on the airfield without valid picture identification acceptable to the TSA (current and valid driver's license, passport, etc.), and shall remain with a badged worker or Airport escort at all times.

The Contractor shall provide the Owner with a list of employees on the job site and their badge number. The list shall include subcontractors and employees. The list shall be updated and submitted weekly.

Upon completion of the contract the Contractor shall turn all the badges in to the Owner for disposal.

001-1.31 Construction Layout. The Engineer/RPR will provide layout information that includes horizontal and vertical control points. Prior to layout, the Contractor shall inverse between these points and satisfy to them self as to the accuracy of the control points provided. The layout for construction shall be the sole responsibility of the Contractor.

The Contractor shall furnish assistance to the Engineer/RPR as requested to check the layout or otherwise control the work. Such assistance shall be understood to include the provision of suitable manpower to assist the Engineer/RPR in taping measurements, holding a survey rod for checking grades and the like. The Contractor's obligations for layout and furnishing assistance to the Engineer/RPR shall be deemed incidental to the completion of the various work items and no separate payment will be made for such layout, final survey, and assistance.

Refer to Specification Section M-200 for additional requirements.

001-1.32 Record "As-Built" Drawings, Record Documentation and Final Survey. The Contractor shall prepare the following documentation as part of the Record "As-Built" Drawings, Record Documentation and Final Survey:

- A. The Contractor shall provide all Final Project Documentation as specified throughout the projects specifications and summarized in FAA General Provisions Section 90 *Measurement and Payment* paragraph 90-11 *Contractor Final Project Documentation*. The Record Drawings shall also include digital submission as outlined in Section M-250 *Record Documents* and other sections, as well as provided in AutoCAD and PDF formats.
- B. The Contractor shall maintain at the site, a set of drawings on which shall be recorded accurately as the work progresses, the actual "As-Built" dimensions, areas, and all clearing methods and grades of all their work, indicating thereon all variations from the Plans. This record of "As-Built" conditions shall include the work of all Subcontractors. Notations for any mechanical and electrical drawings shall include nameplate data for all installed equipment. These drawings shall be kept current and available for review by the Engineer/RPR at all times.

The Contractor shall record on the final "As-Built" drawings any unknown active or abandoned underground cables discovered during construction. If a cable is damaged during construction, the permanent repair must be clearly marked in full description on the Record "As-Built" drawings.

C. Prior to final acceptance of the work, the Contractor shall have a final survey made by a land surveyor licensed in the State the project is located. The final survey shall consist of taking cross sections at the same stations as the design cross sections with elevations recorded at every location where a proposed grade was shown on the design cross section, at all changes in grade, at the top and toes of slopes, and at the limits of work. The survey shall include the distance from the construction baseline or centerline of each elevation, measured horizontally to the nearest 0.1 foot. The Record "As-Built" locations (station and offset from the construction baseline or centerline) and Record "As-Built" rim and invert elevations of all drainage structures and pipes and electrical structures will be included in the survey. The elevation of all pavements and structures and pipes shall be measured to the nearest 0.01 foot and elevation in turf area shall be measured to the nearest 0.1 foot and shall be based on NGVD MSL from the project benchmarks.

All Record "As-Built" information from the final survey shall be shown on the Record "As-Built" drawings. In addition, a copy of the electronic survey information prepared in a standard surveyor's format that can be easily followed and checked shall be provided.

The Contractor shall record on the final Record "As-Built" drawings any unknown active or abandoned underground cables discovered during construction. If a cable is damaged during construction, the permanent repair must be clearly marked in full description on the Record "As-Built" drawings.

D. The final Record "As-Built" Drawings (Record Drawings) shall be submitted to the Engineer/RPR for review and shall be corrected by the Contractor as required. <u>The Record "As-Built" drawings shall be completed and accepted by the Engineer/RPR before the time when the final payment shall be due and payable</u>. The preparation of the Record "As-Built" drawings shall be deemed incidental to the completion of the various work items and no separate payment will be made for such.

MATERIALS

001-2.1 Materials. Prior to ordering, the Contractor shall submit shop drawings to the RPR for all materials to be used on the project. The submittals and shop drawings shall include a manufacturer's certification that each product meets the specified standard(s), when applicable. Materials not reviewed and approved

prior to any installation for the project are subject to having the Contractor remove the unacceptable materials and replaced with approved materials at no additional expense to the Owner.

METHOD OF MEASUREMENT

001-3.1 Mobilization. Mobilization shall be measured in accordance with Item C-105 *Mobilization* lump sum item.

001-3.2 Safety and Phasing. Safety and Phasing items, as outlined in Section M-300 *Maintenance and Protection of Traffic* and the Contract Documents, shall include: Contractor provided barricades, cones, taxiway closure markers (to be provided by the Owner, but maintained by Contractor), lighted runway closure marker ("X") (to be provided by the Owner as required, but maintained by Contractor), construction signs, furnishing and installing blank panels for existing guidance signs, covering lights during closures as indicated, disabling circuits during closures as indicated, routing new temporary FAA L-824 cable with temporary connections (i.e. "jumpers") to keep light circuits active as indicated, lockout/tagout of circuits, maintenance of the construction site, sweeping, application of water for dust control and clean-up of stockpiles on pavements, flaggers, radios, training, badging, badging fees, preparation of required schedules, and all requirements of the project safety and phasing plans. It shall also include all work associated with the Owner provided barricades. Assembly, transport, placement, repositioning, maintaining, disassembly and removal of all safety and phasing items shall not be measured separately but rather shall be considered incidental to the item. All Safety and Phasing materials and work will not be measured separately and shall be incidental to the lump sum item for the requirements outlined in Section M-300 *Maintenance and Protection of Traffic*.

001-3.3 Contractor's Safety Plan Compliance Document (SPCD). The Contactor's preparation and submission of the SPCD will not be measured separately under this section and shall be incidental to the lump sum item for the requirements outlined in Section M-300 *Maintenance and Protection of Traffic*.

001-3.4 Safety Barricades. Safety barricades will not be separately measured under this section and shall be incidental to the lump sum item as outlined in Item M-300 *Maintenance and Protection of Traffic*.

001-3.5 Gate Guard - Allowance. Measurement for this allowance will be as outlined in Item M-100 *Gate Guard Allowance Item*.

001-3.6. USEPA NPDES Construction General Permit (CGP) for Stormwater Discharges during Construction/SWPPP. The preparation of the SWPPP and submission of the Notice of Intent (NOI) for coverage under the USEPA NPDES CGP, or complying the NHDES Alteration of Terrain Permit requirements if required, will not be measured separately under this section and shall be incidental to items as outlined in Item C-102 *Temporary Air and Pollution, Soil Erosion, and Siltation Control.*

BASIS OF PAYMENT

001-4.1 Mobilization. Mobilization will be paid for in accordance with the Item C-105 Mobilization lump sum item.

001-4.2 Safety and Phasing. Payment for all Safety and Phasing materials and work will not be paid for separately under this section and will be incidental to lump sum items as outlined in Item M-300 *Maintenance and Protection of Traffic*. Payment thereof shall constitute full compensation for all labor, preparation, materials, equipment, expenses and incidentals. Payment shall be made after review and upon acceptance of the document by the Owner and in accordance with the requirements in Item M-300 *Maintenance and Protection of Traffic* Basis of Payment.

001-4.3 Safety Plan Compliance Document (SPCD). Payment for the preparing, furnishing materials and implementing the SPCD, will not be paid for separately under this section and will be incidental to lump sum items as outlined in Item M-300 *Maintenance and Protection of Traffic*. Payment thereof shall constitute full compensation for all labor, preparation, materials, equipment, expenses and incidentals. Payment shall be made after review and upon acceptance of the document by the Owner and in accordance with the requirements in Item M-300 *Maintenance and Protection of Traffic* Basis of Payment.

001-4.4 Safety Barricades. Safety barricades will not be paid for separately under this section and will be incidental to the lump sum item as outlined in Item M-300 *Maintenance and Protection of Traffic*. Payment thereof shall constitute full compensation for all labor, preparation, materials, equipment, expenses and incidentals. Payment shall be made after review and upon acceptance of the materials by the Owner and in accordance with the requirements in Item M-300 *Maintenance and Protection of Traffic* Basis of Payment.

001-4.5 Gate Guard - Allowance. Payment for this allowance will be paid as outlined in Item M-100 *Allowance Items.*

001-4.6. USEPA NPDES Construction General Permit (CGP) for Stormwater Discharges during Construction/SWPPP. Payment for this item will be paid as outlined in Item *C-102 Temporary Air and Pollution, Soil Erosion, and Siltation Control.*

Payment shall be made under:

Refer to the individual item descriptions from this Section for measurement and payment as referenced above. These referenced items from this section are to be measured and paid under other referenced item sections of the Contract. Any other General Conditions or Requirement items, not identified under the Method of Measurement and Basis of Payment as outlined above, shall be considered incidental to the overall project and will not be measured or paid for separately.

END OF ITEM G-001

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ITEM M-100 GATE GUARD ALLOWANCE

CONTRACT DOCUMENTS

100-0.1 This section of these Specifications is a part of the Contract Documents as defined in the General Provisions. All applicable parts of the balance of the Contract Documents are equally as binding for this section as for all other sections.

a. All Allowances, if noted on the Bid Form, shall be included in the Base Bid and shall be carried by the Contractor, unless specifically noted to be carried by a subcontractor.

b. The Contractor shall cause the work covered by these Allowances to be performed for such amounts and by such persons as the Owner may direct, but the Contractor will not be required to employ persons against whom the Contractor makes a reasonable objection.

c. If the cost, when determined, is more than or less than the Allowance, the Contract Sum shall be adjusted accordingly by Change Order, and if allowable herein, will include additional or reduced handling costs on the site, labor, installation costs, overhead, profit and other expenses resulting to the Contractor from any increase over or decrease from the original Allowance.

d. Refer to related Drawings and Specifications for additional information regarding Work to be included as part of Allowances.

DESCRIPTION

100-1.1 Under this item, the Contractor shall contract with a security company that is able to meet the latest Airport Security Agreement and the Airport Security Plan adopted pursuant to 49 CFR 1542 for the Manchester-Boston Regional Airport. The gate guard security company is to provide gate guards for the project under the allowance provided by this specification. The Contractor shall coordinate with a gate guard security company with regard to scheduling the gate guards and when the gate guards will be required to be performing their duties.

MATERIALS

100-2.1 Not Used.

CONSTRUCTION DETAILS

100-3.1 Not Used.

METHOD OF MEASUREMENT

100-4.1 Measurement for the allowance for gate guards will be based on the actual time worked by the gate guard and any allowable associated costs. The exact amount of reimbursement to the gate guard security company will be indicated on the Gate Guard Security Company's invoice and will be the basis of measurement for the allowance without any additional mark-up by the Contractor.

There shall be no separate measurement for the Contractor's cost to coordinate and administer the scheduling of the gate guards and it shall be considered incidental to the overall project.

BASIS OF PAYMENT

100-5.1 The amount paid to the Contractor shall be the exact amount indicated on the Contractor's invoice from the gate guard security company without mark-up. There shall be no separate payment to the Contractor to coordinate and administer the scheduling of the gate guards and these costs are considered incidental to the overall project.

Payment will be made under:

Project Item M-100-1 A

Allowance – Gate Guards

\$35,000 - Allowance

END OF ITEM M-100

ITEM M-150 ENGINEER FIELD OFFICE

CONTRACT DOCUMENTS

150-0.1 This section of these Specifications is a part of the Contract Documents as defined in the General Provisions. All applicable parts of the balance of the Contract Documents are equally as binding for this section as for all other sections.

DESCRIPTION

150-1.1 Description. The work included under this section of these specifications shall consist of furnishing and maintaining the Engineer's Field Office and associated equipment in accordance with Section C-105 Mobilization and Section 60-05 of the General Provisions.

EQUIPMENT AND MATERIALS

150-2.1 General. Equipment used in the performance of the work required by this section of the specifications shall be subject to the approval of the Resident Project Representative (RPR). The equipment shall be maintained to satisfactory working conditions at all times or replaced at the discretion of the RPR.

150-2.2 Engineer's Field Office. The Contractor shall furnish and maintain during construction of the improvements contained in this Contract, a suitable field office for the RPR at the site of the work.

The field office, including all requirements of this specification, shall be available for use by the RPR on the first day of work on the project. The field office shall remain on the site, for the RPR's use, until the project has been approved and accepted during the project's Final Inspection. This shall include the duration of all awarded work under the contract to include base bid and multiple project areas if applicable.

The office shall be equipped with electric lights, heating, and air conditioning, with sanitary facilities in the direct vicinity. Drinking water shall be provided. The field office shall contain not less than 300 square feet of floor area and shall be equipped with locks for doors, and window shades for all windows. The office shall be equipped with the following furniture and equipment:

- 1. 1 standard-size, flat top desk
- 2. 2 desk chairs
- 3. 1 6-foot folding table
- 4. 8 folding chairs
- 5. 1 four-drawer steel file cabinet
- 6. 1 OSHA compliant first aid kit
- 7. 1 UL listed dry chemical fire extinguisher with minimum rating for Type 2A:10B:C
- 8. 1 internet connection for computer (min. 4G Wireless Broadband Access Card or equivalent) capable of establishing an internet connection from any location on the job site.
- 9. 1 small, office-type refrigerator
- 10. 1 multifunction printer/scanner/copier with ink and supplies provided for the duration of the project
- 11. 1 30-gallon and 1 15-gallon waste baskets with liner supplies and disposal
- 12. 1 laser auto-level, graduated level rod and receiver with recent calibration certificate by a certified technician (or access to the Contractor's level equipment and/or Surveyor)

The location of the field office shall be approved by the Owner and the RPR. The Contractor shall maintain

the office during construction and remove it upon completion of the work.

The Contractor shall pay all internet/data service, sanitary facility, heating and electric bills applicable to the Contract.

METHOD OF MEASUREMENT

150-3.1 Engineer's Field Office. All work and costs involved in furnishing and maintaining the Engineer's field office shall be measured as a lump sum.

In the event that the construction schedule is modified or extended beyond the identified allowed construction duration and extends the Substantial Completion and/or Final Inspection date, there shall be no modifications to the lump sum amount for the Engineer's Field Office for the extended time.

150-3.2 Engineer's Field Office Amount Limit. Engineer's Field Office cost shall be limited to **one (1.0) percent** of the total project cost.

BASIS OF PAYMENT

150-4.1 Engineer's Field Office. Payment shall be made at the contract unit price, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, utilities, expenses, setup, removal, and incidentals required.

The first payment equal to 75% of the amount shall be made when the office is completely set up as specified, usable and accepted by the RPR. The remaining 25% of the amount shall be made upon final completion and acceptance of all work and the removal of the office.

Payment will be made under:

Project Item M-150-1 Engineer Field Office per Lump Sum

END OF SECTION M-150

ITEM M-200 FIELD SURVEY AND STAKEOUT

CONTRACT DOCUMENTS

200-0.1 This section of these Specifications is a part of the Contract Documents as defined in the General Provisions. All applicable parts of the balance of the Contract Documents are equally as binding for this section as for all other sections.

Attention shall be directed to Paragraphs 001-1.31 *Construction Layout* and 001-1.32 *Record "As-Built" Drawings, Record Documentation and Final Survey* of these Specifications entitled, Section G-001 "Special Work Requirements" for additional information.

DESCRIPTION

200-1.1 Under this item, the Contractor shall do all necessary surveying required to construct all elements of the Project as shown on the Contract Drawings and specified in the Proposal and Specifications. This shall include but not be limited to computations, checking existing baseline traverse, control points, stakeout, layout and elevations for pavements, structures, forms, pile layouts and appurtenances as shown and required, consistent with current practices and shall be performed by qualified personnel acceptable to the Engineer/RPR.

The stakeout survey shall proceed immediately following the award of the Contract and shall be expeditiously progressed to completion in a manner and at a rate satisfactory to the Engineer/Resident Project Representative (RPR). The Contractor shall keep the Engineer/RPR fully informed as to the progress of the stakeout survey. **All survey fieldwork and computations shall be performed under the direction of a Licensed Land Surveyor, licensed in the State in which the project is located.**

In addition, the surveyor shall be experienced in:

- 1. Survey projects utilizing Global Positioning System (GPS) collection methods.
- 2. National Geodetic Survey (NGS) specifications, standards, and software.
- 3. Knowledge of the National Spatial Reference System (NSRS), NGS Continuously Operating Reference Stations (CORS), horizontal and vertical controls, and the High Accuracy Reference Network (HARN).
- 4. Using CORS data to establish geodetic ties to NSRS.
- 5. Establishing aerial photography, photo control points, reading and annotating information on aerial photography.
- 6. Recovering marks, setting marks, and writing station descriptions of survey marks to NGS standards.

200-1.2 As part of the Final Survey and Record ("As-Built") Drawings work, the Contractor (and their surveyor if a subcontractor) shall include the requirements for providing aeronautical data collection and conversion associated with work Tasks herein. This includes but is not limited to collection of airfield features within the project limits for GIS conversion in accordance with FAA criteria. Refer to Section M-250 *Record Documents* for additional information.

CONSTRUCTION METHODS AND MATERIALS

200-2.1 PROTECTION OF EXISTING SURVEY CONTROL POINTS. The Contractor shall protect all existing survey control points disturbance during construction. Any survey control point disturbed by the Contractor, shall be replace with a control point of equal accuracy and value at no additional cost to the Owner.

200-2.2 SURVEY METHODS. Conventional Total Positioning System (TPS) survey methods are required for vertical stakeout, quality assurance checks during construction and basis for acceptance of construction. GPS survey methods will be allowed for rough grading during construction and horizontal stakeout only.

200-2.3 SURVEY MATERIALS. All survey equipment shall be properly calibrated according to the manufacturer's guidelines. All GPS survey equipment shall be certified as achieving the minimum standards by comparison to conventional survey methods.

All instruments, equipment, stakes, and any other material necessary to perform the work satisfactorily shall be provided by the Contractor. All stakes used shall be of a type approved by the Engineer/RPR. It shall be the Contractor's responsibility to maintain these stakes in their proper position and location at all times.

200-2.4 SUBMITTALS.

Preconstruction: The Contractor shall provide to the Engineer/RPR a submittal containing the overseeing surveyor's license and experience information demonstrating qualifications for construction stakeout personnel. In addition, the submittal shall include a complete list of the survey equipment (mfg. make and model) proposed for use during the project, including the equipment calibration certification.

Construction: The Contractor shall provide survey computations in the form of surface elevations at the grid locations to the Engineer/RPR for approval before beginning the next construction operation. Construction of the next phase shall not commence until the submittal is approved by the Engineer/RPR. All construction submittals of grade information by the Contractor shall be signed and sealed by a licensed land surveyor.

Postconstruction: The Contractor submit all collected data (in AutoCAD format), and associated required deliverables specified in FAA AC 150/5300-18B, or latest revision. This includes, but is not limited to:

- 1. Survey Quality Control Plan (completed prior to the start of Final Survey work)
- 2. Final Project Report
- 3. Documentation required for each feature as defined by Chapter 5 of FAA AC 150/5300-18B
- 4. All final processing, adjustment, or reduction files used to produce the final data. This includes the results of independent software files produced during the reduction of the final data, and any other product necessary to recreate the data.

CONSTRUCTION DETAILS

200-3.1 GENERAL. The position of all work shall be established from control points, baseline traverse points or other points of similar nature which are shown on the Contract Drawings and/or modified by the Contractor. Prior to layout, the Contractor shall inverse between these points and satisfy to them self as to the accuracy of the control points provided. Any error, apparent discrepancy or absence in or of data shown or required for accurately accomplishing the stakeout survey shall be referred to the Engineer/RPR for interpretation or furnishing when such is observed or required. The Engineer/RPR shall be made aware of any discrepancies between the topographical information shown on the contract drawings and the Contractor survey before construction commences.

The Contractor shall place references marks at each baseline station and quarter stations and at such intermediate locations as the Engineer/RPR may direct. Offset marks shall be installed at a maximum of 50-foot intervals, unless otherwise noted, with 25-foot maximum intervals required for pavement areas. From computations and measurements made by the Contractor, these marks shall be clearly and legibly marked with the correct centerline station number, offset and cut or fill so as to permit the establishment of the exact baseline location and elevation during construction. If markings become faded or blurred for any reason, the markings shall be restored by the Contractor. The Contractor shall locate and place all cut, fill, slope, fine

grade, structures or other stakes and points, as the Engineer/RPR may direct, for the proper progress of the work. All control points shall be properly guarded and flagged for easy identification.

During the progress of the construction work, the Contractor will be required to furnish all of the surveying and stakeout incidental to establish the proper location by line and grade for each phase of the work. For paving and any other operation requiring extreme accuracy, the Contractor will re-stake with pins or other acceptable hubs located directly adjacent to the work at a spacing directed by the Engineer/RPR.

The Contractor shall be responsible for the accuracy of his work and shall maintain all reference points, stakes, etc., throughout the life of the Contract. Damaged or destroyed points, benchmarks, or stakes, or any reference points made inaccessible by the progress of the construction, shall be replaced or transferred by the Contractor. All control points shall be referenced by ties to acceptable objects and recorded. Any alterations or revisions in the ties shall be so noted and the information furnished to the Engineer/RPR immediately. All stakeout survey work shall be referenced to the baseline shown on the Contract Drawings. All computations necessary to establish the exact position of the work from control points shall be made and preserved by the Contractor. All computations, survey notes and other records necessary to accomplish the work, shall be neatly made. Such computations, survey notes and other records shall be made available to the Engineer/RPR and shall become the property of the Owner.

The Contractor shall perform complete construction survey, stakeout and cross sections of the proposed work area, prior to any excavation, after excavation or embankment placement, subbase placement, cold milling, and successive asphalt courses are completed. Construction survey shall be based upon a maximum 25–foot grid, unless otherwise noted, based upon the horizontal and vertical control lines provided on the plans.

The Engineer/RPR may check all, or any portion of the stakeout survey work or notes made by the Contractor. Any necessary correction to the work shall be made immediately by the Contractor. Such checking by the Engineer/RPR shall not relieve the Contractor of any responsibility for the accuracy or completeness of his work. The Contractor shall furnish assistance to the Engineer/RPR as requested to check the layout or otherwise control the work. Such assistance shall be understood to include the provision of suitable manpower to assist the Engineer/RPR in taping measurements, holding a survey rod for checking grades and the like. The Contractor's obligations for layout, final survey and furnishing assistance to the Engineer/RPR shall be deemed incidental to the completion of the various work items and no separate payment will be made for such layout, final survey and assistance.

200-3.2 DATA COLLECTION. The Contractor shall ensure that all relevant layers/features are collected and/or converted in accordance with FAA AC 150/5300-18B, or latest revision.

200-3.3 TOLERANCES. All surveys shall meet the following tolerances. Contractor shall provide verification that acceptable tolerances are obtained.

Pavement: All stakes, points or locations shall be set within 0.08 foot horizontally and 0.02 foot vertically of calculated position.

Drainage Structures: All stakes, points or locations shall be set within 0.08 foot horizontally and 0.05 foot vertically of calculated position.

Earthwork: All stakes, points or locations shall be set within 0.1 foot horizontally and 0.1 foot vertically of calculated position

Permanent Runway End Survey Points shall be set within 0.05 foot horizontal and 0.01 foot vertical.

200-3.4 PERMANENT RUNWAY END BRASS CONTROL DISK. Not Used.

200-3.5 ACCEPTANCE. The Engineer/RPR reserves the right to perform an independent survey for the basis of acceptance and payment purposes.

METHOD OF MEASUREMENT

200-4.1 FIELD SURVEY AND STAKEOUT. Measurement will be made based on the percent progression of the work on a basis of project completion, at the discretion of the RPR, at the lump sum price amount for this item. Also, the final ten percent (10%) of the lump sum payment will not be released for final measurement until the Record "As-Built" Documents have been submitted and accepted by the Engineer and the RPR.

In addition, the Field Survey and Stakeout amount shall be limited to a maximum of one percent (1%) of the total project bid cost.

200-4.2 PROTECTION OF EXISTING SURVEY CONTROL POINTS. No separate measurement will be made for the protection of existing survey control points. Rather this work shall be considered incidental to the project.

200-4.3 RECORD "AS BUILT" DOCUMENT FINAL SURVEY. No separate measurement will be made for the Final field survey collection for the Record "As-Built" Documents. Rather this work shall be considered incidental to the project as part of the field survey item lump sum. Refer to Section M-250 *Record Documents* for additional Record Document survey requirements.

BASIS OF PAYMENT

200-5.1 FIELD SURVEY AND STAKEOUT. Payment for the lump sum price amount shall include the cost of furnishing all labor, equipment, instruments, and all other material necessary to satisfactorily complete the project surveying and stakeout, including the final submission of Record "As-Built" Documents.

As noted above under Method of Measurement, partial payments for the percent progression shall be made at the discretion of the RPR as the work progresses.

200-5.2 PROTECTION OF EXISTING SURVEY CONTROL POINTS. No separate payment will be made for the protection of existing survey control points. Rather this work shall be considered incidental to the project.

200-5.3 RECORD "AS BUILT" DOCUMENT FINAL SURVEY. No separate payment will be made for the Final field survey collection for the Record "As-Built" Documents. Refer to Section M-250 *Record Documents* for additional Record Document survey requirements.

Payment will be made under:

Item M-200-1 Field Survey and Stakeout Per Lump Sum

REFERENCE DOCUMENTS

Federal Aviation Administration (FAA) Advisory Circulars (AC):

- 150/5300-16A General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submissions to the National Geodetic Survey
- 150/5300-17C Standards for Using Remote Sensing Technologies in Airport Surveys
- 150/5300-18B General Guidance and Specifications for Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards

END OF ITEM M-200

ITEM M-250 RECORD DOCUMENTS

DESCRIPTION

250-1.1 General. The Contractor's attention is also directed to Section G-001 *Special Work Requirements* paragraph 001-1.30 *Record Documents* and Section 90 *Measurement and* Payment paragraph 90-11 *Contractor Final Project Documentation* of the General Conditions for additional project closeout documents and requirements.

The work included under this section of these specifications shall consist of preparing and submitting project record documents to the owner as specified in the items outlined below:

- a. Record Documents. This item includes the following items:
 - 1. Record "As-Built" Plans.
 - 2. Project Photographs
 - 2. Aerial Photos
 - 4. Final DBE Participation Statement.

b. Field Data Collection for GIS Survey Conversion. This item includes requirements for providing aeronautical data collection and conversion associated with work Tasks herein. This includes but is not limited to: collection of airfield features within the project limits for GIS conversion in accordance with FAA criteria. This work shall be performed in addition to the Record Drawings as required in Section G-001 *Special Work Requirements* paragraph 001-1.32 *Record "As-Built" Drawings, Record Documents and Final Survey* and Section 90 *Measurement and* Payment paragraph 90-11 *Contractor Final Project Documentation* of the General Conditions.

RELATED DOCUMENTS

250-2.1 Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5300-16B, "General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submissions to the National Geodetic Survey."

250-2.2 FAA AC 150/5300-17C, "Standards for Using Remote Sensing Technologies in Airport Surveys."

250-2.3 FAA AC 150/5300-18B, "General Guidance and Specifications for Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards."

REQUIREMENTS

250-3.1 RECORD DOCUMENTS

a. Record "As-Built" Plans. The Contractor shall maintain at the site a set of drawings on which shall be accurately recorded the actual as-built locations and dimensions of all his/her work. Changes and variations from the Contract Drawings should be clearly noted. The location an elevation of utilities and other items encountered during progress of the work shall be recorded. Notations on mechanical and electrical work shall include nameplate data for all installed equipment. The Contractor shall keep these drawings current as work progresses and available for review by the Engineer at all times. This record of "as-built" conditions shall include the work of all subcontractors.

Prior to final acceptance of the work, the Contractor shall have a final survey made by a **Land Surveyor licensed in the State of New Hampshire**. The final survey shall consist of taking shots at the same stations

as the design cross sections with elevations recorded at every location where a proposed grade was shown on the design cross section, at all changes in grade, at the top and toes of slopes, and at the limits of work.

It shall also include the location and elevation of all structures, lights, signs, installed utilities, pavement markings, and joints. For drainage items the survey shall include rim elevations, invert elevations, and sump elevations. All survey shall be referenced to the National Geodetic Survey (NGS) Primary Airport Control Station (PAC) and/or Secondary Airport Control Stations (SACS). PAC and SAC locations and data may be obtained from <u>http://www.ngs.noaa.gov/cgi-bin/airports.prl?TYPE=PACSAC</u>. A copy of the Survey information shall be delivered to the Engineer in the appropriate vertical datum, in State Plane coordinate system, and in AutoCAD® 2018 format (or later). All elevations shall be to the nearest 0.01 foot with the exception of turf areas which may be to the nearest 0.1 foot.

All "As-Built" information from the final survey shall be shown on the As-Built Drawings and submitted to the Engineer for review. Any errors shall be corrected by the Contractor as required. The As-Built Drawings and final survey shall be completed and accepted by the Engineer before final payment will be made.

b. Project Photographs. The Contractor shall furnish photographs of the project, the views shall be as directed or approved by the Engineer. The photographs shall show the project site prior to construction, the work in progress and the project site at the completion of work.

A minimum of 60 color photographs will be taken during each 30-day period of the contract. A digital camera shall be used to take the photographs. At the completion of each 30-day period of the project, the Contractor shall deliver to the Engineer one Color print of each view and a CD/USB flash drive with each photo. Each view shall be clearly labeled with the date, project and identification of the view.

c. Aerial Photos. The Contractor shall furnish four (4) sets of four 11-inch by 14-inch unmounted, oblique aerial color photographs taken from an altitude to completely cover the site of the work, with sufficient detail to shown the work from four different quadrants. These photographs shall be taken after completion of the contract. The Contractor shall inscribe on the reverse side of each photograph all pertinent information such as description, date, compass direction on which the picture was taken, AIP project number, photograph shall include all the airport boundaries.

All sets of photographs shall be delivered to the Engineer. These photographs to be taken with a digital format aerial camera with a photo resolution no less than 2750 x 2200 pixels, minimum photo size shall be 16 MP unless approved by the Engineer.

1. The Contractor shall furnish eleven (11) color aerial photographs of the entire airport, including all airport boundaries, I-293 on the north, the F.E. Everett Turnpike on the west, Route 28 on the east, and Delta Drive on the south. This photograph shall be taken with a mapping quality (cartographic) camera.

The Contractor shall submit certification that the camera has been calibrated within the last three (3) years in accordance with USGS mapping standards. The photo shall be vertical and shall be enlarged to 1'' = 400'. The 1'' = 400' enlargements shall be mounted on 48" x 48" Gator Board (or approved equal) and shall be identified on the back of the Gator Board. The Contractor shall also provide a digital image of the aerial photo on CD/USB flash drive.

2. The Contractor shall furnish six (6) color aerial photographs of the entire airport, including all airport boundaries, North Perimeter Road on the north, Brown Avenue on the west, Harvey Road on the east, and South Perimeter Road on the south. This photograph shall be taken with a mapping quality (cartographic) camera. The contractor shall submit certification that the camera has been calibrated within the last three (3) years in accordance with USGS mapping standards. The photo shall be vertical and shall be enlarged to 1" = 200'. The 1" = 200' enlargements shall be mounted on 48" x 65" Gator Board (or approved equal) and shall be identified on the back of the Gator Board.

3. The Contractor shall furnish one (1) color aerial photographs of the entire airport, including all

airport boundaries, I-293 on the north, the F.E. Everett Turnpike on the west, Route 28 on the east, and Delta Drive on the south. This photograph shall be taken with a mapping quality (cartographic) camera. The Contractor shall submit certification that the camera has been calibrated within the last three (3) years in accordance with USGS mapping standards. The photo shall be vertical and shall be enlarged to approximately 1" = 800' and have the ability to fit on a 24" x 24" mount. This enlargement shall be mounted on 24" x 24" DiBond Mounting Material (or approved equal) and shall be identified on the back of the mount.

Snow cover will not be permitted. Cloud cover shall not obscure photos. The photos shall be taken at the time of day when shadows from the sun will be minimal. Photos shall be clear, in focus, with high resolution and sharpness. Color and tint shall be correct; washed out photos will not be accepted. The Contractor shall submit to the Engineer, contact prints of the photograph for approval prior to making enlargements. Enlargements shall be mounted on Gator Board as indicated above and shall be identified on the back of the Gator Board. Photos shall be suitable for photogrammetric mapping.

d. Final DBE Participation Statement. The Contractor shall submit a statement showing the final accounting of all DBE participation actually used in the execution of the work prior to the final acceptance of the project. Should the actual DBE participation be less than the contract goals and/or contractor's assurance submitted with the bid proposal, than the Contractor shall provide written documentation of their good faith effort to achieve the goal per the requirements of the MHT DBE Plan.

250-3.2 FIELD DATA COLLECTION FOR GIS SURVEY CONVERSION

a. GIS Survey Conversion Personnel Qualifications. This work shall be performed by a registered licensed surveyor or professional engineer in the State of New Hampshire. The Contractor (or their subcontractor) shall be experienced in:

- 1. Survey projects utilizing Global Positioning System (GPS) collection methods;
- 2. National Geodetic Survey (NGS) specifications, standards, and software;
- 3. Knowledge of the National Spatial Reference System (NSRS), NGS Continuously Operating Reference Stations (CORS), horizontal and vertical controls, and the High Accuracy Reference Network (HARN);
- 4. Using CORS data to establish geodetic ties to NSRS;
- 5. Establishing aerial photography, photo control points, reading and annotating information on aerial photography;
- 6. Recovering marks, setting marks, and writing station descriptions of survey marks to NGS standards.

b. Collection of Data.

- 1. The Contractor shall ensure that all relevant layers/features for the final as-built survey are collected and/or converted in accordance with FAA AC 150/5300-18B.
- 2. The Contractor shall assist the Resident Project Representative (RPR) with the collection of data inside the electrical manholes or other structures, including but not limited to: location, size and orientation of conduits inside the manholes.

c. **Preparation of Deliverables.** The Contractor shall submit all collected data (in AutoCAD format), and associated required deliverables specified in FAA AC 150/5300-18B and as amended by Manchester-Boston Regional Airport, and herein. This includes, but is not limited to:

- 1. Survey Quality Control Plan (completed prior to the start of work)
- 2. Final Project Report
- 3. Documentation required for each feature as defined by Chapter 5 of FAA AC 150/5300-18B
- 4. All final processing, adjustment, or reduction files used to produce the final data. This includes the results of independent software files produced during the reduction of the final data, and any other product necessary to recreate the data.

METHOD OF MEASUREMENT

250-4.1 Record Documents (As Built Plans, Project Photographs, Aerial Photos, & DBE Statement) shall be measured as a single fixed lump sum unit, complete and accepted by the Engineer/RPR.

Any other project record documentation outlined in the Contract Documents, not stated herein, shall not be measured separately and shall be considered as incidental to the overall project items.

250-4.2 Field Data Collection for GIS Survey Conversion shall be measured as a single lump sum unit complete and accepted by the Engineer/RPR.

Verification of the existing Airport Control shall not be measured separately and shall be considered incidental to the overall GIS/Field Survey work during the installation of the work.

BASIS OF PAYMENT

250-5.1 Payment for the Record Documents (As Built Plans, Project Photographs, Aerial Photos, & DBE Statement) shall be made at the fixed lump sum price specified in the bid proposal for furnishing the Record Documents, as measured and specified above, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, expenses, survey, preparation, printing, mounting, processing, and all incidentals to provide the required Record Documents accepted by the Engineer/RPR and Owner.

Any other project record documentation outlined in the Contract Documents, not stated herein, shall not be paid separately and shall be considered as incidental to the overall project items.

250-5.2 Payment shall be made at the contract lump sum price for the Field Data Collection for GIS Survey Conversion of the GIS Data collected, submitted and approved by the Owner. This shall include compensation for all labor, equipment, and incidentals associated with collecting, analyzing, processing, reviewing and submitting this data.

Payment will be made under:

Project Item M-250-1Record Documents per Lump SumProject Item M-250-2Field Data Collection for GIS Survey Conversion per Lump Sum

END OF SECTION M-250

ITEM M-300 MAINTENANCE AND PROTECTION OF TRAFFIC

CONTRACT DOCUMENTS

300-0.1 This section of these Specifications is a part of the Contract Documents as defined in the General Provisions. All applicable parts of the balance of the Contract Documents are equally as binding for this section as for all other sections.

DESCRIPTION

300-1.1 GENERAL. This work shall consist of maintaining aircraft and vehicular traffic and protecting the public from damage to person and property within the limits of and for the duration of the Contract.

The Contractor shall comply with all guidelines regarding construction safety set forth in FAA Advisory Circular 150/5370-2 (latest revision), *Operational Safety on Airports During Construction* and Special Provisions.

The following items are specifically included without limiting the generality implied by these Specifications and the Contract Drawings.

- Preparation of the Safety Plan Compliance Document with submission to the Engineer and Airport for review and implementation. This document will address all construction phasing compliance requirements.
- Prepare temporary aircraft traffic control plan, including construction phasing requirements, for review and approval by the Resident Project Representative (RPR) and Owner.
- Prepare temporary haul route and roadway traffic control plan, including construction phasing requirements, for review and approval by the Resident Project Representative (RPR) and Owner.
- Providing qualified flag persons, as required, at the locations shown on the plans or as directed by the Owner's representative.
- Providing a qualified Contractor-provided Gate Guard to supplement the Security Gate Guard, as outlined in Section M-100 Allowance Gate Guards, at the access location for to assist the Security Gate Guard to control badging and the associated documentation of personnel working within the Airport Operations Area.
- Locating and marking of existing underground electric and lighting, including all other types of airfield circuits or FAA communication lines, within the project work areas.
- Staged or phased construction as outlined in the Contract Documents or as directed by the RPR and Owner.
- Off-peak construction periods, including both day and night shift work
- Temporary construction lighting for night shift construction periods, if applicable.
- Installation, relocation, maintenance and removal of temporary work zone delineation markers, including the furnishing of stakes and cones which will remain the property of the Contractor at the completion of the project.
- Provision of materials, installation, relocations (as necessary), maintenance and removal of temporary or permanent barricades, warning signs, hazard markings/markers, runway closure markings, including lighted runway marker, and taxiway closure markers. The materials are to be supplied by

the Contractor, except for materials as noted within the Contract Documents to be supplied by the Airport. Any temporary barricades or other materials furnished for the project by the Contractor will remain the property of the Contractor at the completion of the project.

- Temporary alteration or decommissioning of any existing Runway or Taxiway lighting and signage and coordination with MHT Ops/FAA Tech Ops for NAVAIDs shutdowns, if required.
- Provision of materials, maintenance, and removal of temporary lights and lighting circuits, including "jumpers" of circuits as required.
- Provision of materials, installation, maintenance, and removal of temporary guidance sign coverings
- Provision of materials, installation, maintenance, and removal of temporary light coverings
- Provision of materials, installation, maintenance, and removal of temporary lights and lighting
- Testing and maintenance of existing, temporary, and new lighting circuitry.
- Provision of materials, installation, maintenance, and removal of any temporary pavement tapers, transitions or temporary accesses to any airport facilities, if applicable.
- Provision of materials, installation, maintenance, and removal of any temporary asphalt pavement tapers and/or transitions in accordance with FAA Advisory Circular 150/5370-13 *Off-Peak Construction using Hot Mix Asphalt* (latest revision).
- Provision of materials, maintenance, and removal of any temporary drainage, including, ditches, swales, piping and de-watering of work areas.
- Alteration, adjustment, maintenance of any drainage inlets, structures or systems necessary to maintain runway drainage during construction.
- Cleaning and maintenance of all areas within construction limits and haul routes or areas disturbed by the Contractor's operation via Contractor provided vacuum sweeper trucks.
- Restoration of all surfaces disturbed, including haul routes, because of the Contractor's Operations, which are not otherwise paid for under a specific item.
- Provide temporary stake-mounted threshold lights and other edge lighting revisions, if required.
- Placement of temporary markings, including removals or black primer coatings, prior to placing the temporary marking as shown on the plans, in accordance with FAA AC 150/5340-1 *Standards for Airport Markings* (latest revision), and meeting the requirements of Specification Section P-620, if required.
- Removal of temporary markings by approved techniques, as shown on the Plans, in accordance with FAA Advisory Circular 150/5340-1 *Standards for Airport Markings* (latest revision) and meeting the requirements of Specification Section P-620, if required.

METHOD OF MEASUREMENT

300-2.1 MAINTENANCE AND PROTECTION OF TRAFFIC. Measurement for payment of the maintenance and protection of traffic will be made on a lump sum basis. The lump sum shall include all items required to satisfy this Specification. Measurement for this item will be made in proportion to the total amount of contract work completed, less any deductions for unsatisfactory maintenance and protection of traffic defined below.

BASIS OF PAYMENT

300-3.1 MAINTENANCE AND PROTECTION OF TRAFFIC. The payment for the lump sum price bid for maintenance and protection of traffic shall include all equipment, materials, and labor necessary to adequately and safely maintain and protect traffic. Progress payments will be made for this item in proportion to the total amount of contract work completed, less any deductions for unsatisfactory maintenance and protection of traffic.

In the event the contract completion date is extended, no additional payment will be made for maintenance and protection of traffic.

No payment will be made under maintenance and protection of traffic for each calendar day during which there are substantial deficiencies in compliance with the Specification requirements of any subsection of this Section as determined by the Engineer. The amount of such calendar day non-payment will be determined by dividing the lump sum amount bid for maintenance and protection of traffic by the number of calendar days between the date the Contractor commences work and the date of completion as designated in this proposal, without regard to any extension of time.

If the Contractor fails to maintain and protect traffic adequately and safely for a period of four (4) hours, the Owner shall correct the adverse conditions by any means it deems appropriate and shall deduct the cost of the corrective work from any monies due the Contractor. The cost of this work shall be in addition to the liquidated damages and non-payment for maintenance and protection of traffic listed above.

However, where major non-conformance with the requirement of this Specification is noted by the Engineer and prompt Contractor compliance is deemed not to be obtainable, all contract work may be stopped by direct order of the Engineer regardless of whether corrections are made by the Owner as stated in the paragraph above.

Payment will be made under:

Project Item M-300-1

Maintenance and Protection of Traffic - per Lump Sum

END OF SECTION M-300

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ITEM C-100 CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)

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

The Contractor shall establish a CQCP that will:

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

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

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

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

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

100-2 Description of program.

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

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

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

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

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

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

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

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

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

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

- (1) Professional Engineer with one (1) year of airport paving experience.
- (2) Engineer-in-training with two (2) years of airport paving experience.
- (3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.
- (4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications.

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

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

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

- (1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.
- (2) Performance of all QC tests as required by the technical specifications and paragraph100-8.
- (3) Performance of tests for the RPR when required by the technical specifications.

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

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

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

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

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

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

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

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

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the

technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

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

- 8.1.3 Equipment Calibration and Checks;
- 8.1.9 Equipment Calibration, Standardization, and Check Records;
- 8.1.12 Test Methods and Procedures

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

- 7 Test Methods and Procedures
- 8 Facilities, Equipment, and Supplemental Procedures

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

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

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

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

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

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

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

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

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

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

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

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

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

- (1) Technical specification item number and description
- (2) Test designation
- (3) Location
- (4) Date of test
- (5) Control requirements
- (6) Test results
- (7) Causes for rejection
- (8) Recommended remedial actions
- (9) Retests

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

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

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

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

100-11 Inspection and/or observations by the RPR. All items of material and equipment are subject to inspection and/or observation by the RPR at the point of production, manufacture or shipment to determine

if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the RPR at the site for the same purpose.

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

100-12 Noncompliance.

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

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

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

METHOD OF MEASUREMENT

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

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

BASIS OF PAYMENT

100-14 Payment will be made under:

Item C-100 Contractor Quality Control Program (CQCP)

REFERENCES

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

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

- ASTM C1077 Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
- ASTM D3665 Standard Practice for Random Sampling of Construction Materials

ASTM D3666 Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF ITEM C-100

ITEM C-102 TEMPORARY AIR AND WATER POLLUTION, SOIL EROSION, AND SILTATION CONTROL

DESCRIPTION

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

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

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

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

MATERIALS

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

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

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

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

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

102-2.6 Inlet Protection Filter Bags. Inlet protection filter bags shall be manufactured from a specially designed woven polypropylene geotextile and have lifting straps as an integral part of the system. Inlet protection filter bags shall be manufactured to fit the opening of the catch basin or drop inlet. The inlet protection filter bags should have overflows built into the bag.

102-2.7 Erosion/Sedimentation Control Logs. Erosion/sedimentation control log materials shall be in accordance with AASHTO Designation: MP 9-06 (2007 or latest version). Compost filter material shall be in accordance with AASHTO Designation: MP 9-06 (2007 or latest revision). Compost material shall also meet all applicable Federal and State Regulations. For erosion control logs 18 inches or less in diameter, wooden stakes shall be min. 1 inch by min. 1 inch, at 10-foot intervals on center, and of a length that shall

project into the soil 1 foot leaving 3 inches to 4 inches protruding above the filter sock. For erosion control logs greater than 18 inches in diameter wooden stakes shall be 2-inch by 2-inch, at 10-foot intervals on center, and of a length that shall project into the soil 1 foot leaving 3 inches to 4 inches protruding above the filter sock.

102-2.8 Bonded Fiber Matrix Erosion Control Material. The bonded fiber matrix erosion control material shall be a Hydraulic Erosion Control Product (HECP) material mixed with water and applied in a slurry with, or without, the turf establishment hydroseeding. The material shall be included on the State's Department of Transportation Qualified Product List (i.e. NHDOT Item 645.611 – Bonded Fiber Matrix for NH).

102-2.9 Stabilized Construction Entrance Materials.

The underlying geotextile fabric shall be a nonwoven, medium strength polyethylene fabric to be used a separation between the stone and underlying materials.

The crushed stone used for the temporary stabilized construction entrance access shall meet the following gradation requirements:

Gradation – Percent Passing				
Sieve Size Crushed Stone or Crushed Grave				
2"	100			
1 1/2"	90-100			
1"	30-55			
3/4"	0-25			
1/2"	0-10			
#100	0-1			

102-2.10 Other. All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

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

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

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

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

needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

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

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

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

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

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

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

102-3.5 Installation, maintenance and removal of inlet protection filter bags. Inlet protection filter bags shall be installed in the locations shown on the Plans and according to the details shown on the Plans. The Contractor shall remove and dispose of sediment that accumulates during construction and prior to establishment of permanent erosion control. The inlet protection filter bags shall be maintained in good working condition until permanent erosion control is established. Inlet protection filter bags shall be either replaced or repaired within 24 hours of inspection notification. Filter bags shall be removed upon establishment of permanent erosion control measures.

102-3.6 Installation, maintenance and removal of erosion control logs.

a. Installation. Erosion control logs shall be installed at the locations, and in accordance with the details, as indicated on the plans, or as directed by the RPR. The following stipulations also apply:

- 1. Erosion control logs may be either fabricated on site or delivered to the site.
- 2. Trenching is not required. erosion control logs shall be placed over the top of ground, wooden stakes shall be driven through the center of the filter socks to anchor them to the ground. To ensure optimum performance, heavy vegetation shall be cut down or removed, and extremely uneven surfaces shall be graded to ensure that the erosion control log uniformly contacts the ground surface.
- 3. Filter socks shall be placed in a continuous line. Where ends intersect, they shall be sleeved to create an interlock with a two (2) foot overlap. After one section is filled and the ends tied off, the next section shall be pulled over the tied-off end of the previous section, to create a 2-foot overlap. The overlap shall be staked. The intersecting overlaps shall be constructed to ensure that stormwater does not break through at these intersection points.
- **b. Maintenance**. The Contractor shall remove and dispose of sediment that accumulates during construction and prior to establishment of permanent erosion control. The sock shall be maintained in good working condition until permanent erosion control is established.

Socks shall be inspected weekly and after each runoff event. Damaged socks shall be either replaced or repaired within 24 hours of inspection notification.

c. Removal. This work, if required, shall include the removal of the erosion control log and stakes. Unless biodegradable, the mesh filter sock material shall be cut open and the mesh removed. In general, the compost filter material may be left in place, however the material will be raked out leveled to surrounding grades, then seeded. Prior to such removal, however, all silt, mud and debris entrapped outside of the erosion control log shall be removed and the area cleaned up. Immediately upon removal of the erosion control logs, the remaining exposed areas will be finished as specified in specification T-901, T-905, and T-908.

102-3.7 Installation, maintenance and removal of the temporary stabilized construction entrance. The area of the construction entrance shall be cleared of all vegetation, roots, stumps, or other objectionable material. The area shall then be excavated to subgrade and graded. Filter fabric shall be placed on the prepared subgrade prior to the placement of the stone pad. The stone shall be placed in accordance with the details and to the dimensions shown on the Plans. The entrance/exit shall be maintained in a condition that will prevent tracking or flowing of sediment onto public rights of way. All sediment spilled, dropped, washed, or tracked onto public rights of way must be removed immediately. Periodic inspection and as needed maintenance shall be provided according to general maintenance and/or permit requirements. Stone and filter fabric shall be removed upon completion of construction. Immediately upon removal, the remaining exposed area will be finished as specified in specification T-901, T-905, and T-908.

102-3.8 Installation and maintenance of bonded fiber matrix. The anticipated application rate for the bonded fiber matrix material shall be 3500 pounds per acre, unless otherwise directed by the RPR and/or the hydroseeding subcontractor based on the existing site conditions for the turf establishment.

102-3.9 Installation and maintenance of other temporary device materials. Any other temporary erosion or sedimentation devices approved by the RPR shall be installed in accordance with the construction plan details (if available), the device's manufacturer's recommendations, or industry approved/recommended installation methods. The Contractor shall remove and dispose of silt that accumulates during construction and prior to establishment of permanent erosion control and/or restoration of turf growth. All device materials shall be maintained in good working condition until permanent erosion control is established. All temporary devices shall be removed upon approval of the RPR for the permanent erosion control and/or restoration of turf growth.

102-3.10 Stormwater Prevention Pollution Plan. The Contractor shall be responsible for and develop a customized Storm Water Pollution Prevention Plan (SWPPP) for the project. The Contractor shall prepare the SWPPP in conjunction with the Contract Document and any environmental permit requirements which may be required. The Owner and RPR shall review and approve the SWPPP, in writing, prior to commencing work.

The Contractor shall identify Best Management Practices (BMPs) to be implemented during construction in addition to the minimum requirements shown in the Contract Documents and for any stockpile, material storage, or staging locations. BMPs are designed to minimize potential contamination of stormwater as a result of contact with soil stockpiles, materials, equipment and vehicles. The SWPPP BMPs shall also be considered for temporary stockpile or storage locations not immediately on the project site, but used for the project.

However due to the minimal impact of the project (i.e. less than the U.S. Environmental Protection Agency (USEPA) NPDES threshold criteria), the Contractor **SHALL NOT BE REQUIRED** to prepare and submit a Notice of Intent (NOI) to the USEPA for coverage under the Construction General Permit (CGP) for Stormwater Discharge from Construction Sites as part of the USEPA NPDES program.

METHOD OF MEASUREMENT

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

- a. Temporary seeding and mulching will be measured by the square yard (square meter) NOT USED
- **b.** Temporary slope drains will be measured by the linear foot (meter) NOT USED
- **c.** Temporary benches, dikes, dams, and sediment basins will be measured by the cubic yard (cubic meter) of excavation performed, including necessary cleaning of sediment basins, and the cubic yard (cubic meter) of embankment placed as directed by the RPR NOT USED
- d. All fertilizing will be measured by the ton (kg) NOT USED
- e. Installation and removal of silt fence will be measured by the linear foot NOT USED
- **f.** Installation and removal of inlet protection filter bags per each.
- **g.** Installation and removal of erosion control log per linear feet.
- h. Installation and removal of stabilized construction entrance per each. NOT USED
- i. Installation of bonded fiber matrix per pound

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.

102-4.3 The Storm Water Pollution Prevention Plan (SWPPP) submission to the Engineer for review, and any subsequent monitoring required during the project, will not be measured separately 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-x	Temporary seeding and mulching - per square yard - NOT USED
Item C-102-x	Temporary slope drains - per linear foot – NOT USED

Item C-102-x	Temporary benches, dikes, dams and sediment basins - per cubic yard - NOT USED
Item C-102-x	Fertilizing - per ton (kg) – NOT USED
Item C-102-x	Installation and removal of silt fence per linear feet – NOT USED
Item C-102-5.1	Installation and removal of inlet protection filter bags per each
Item C-102-5.2	Installation and removal of erosion control log per linear feet
Item C-102-5.3	Installation and removal of stabilized construction entrance per each – NOT USED
Item C-102-5.4	Installation of bonded fiber matrix per pound

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

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

REFERENCES

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

Advisory Circulars (AC)AC 150/5200-33Hazardous Wildlife Attractants on or Near AirportsAC 150/5370-2Operational Safety on Airports During Construction

ASTM International (ASTM) ASTM D6461 Standard Specification for Silt Fence Materials

United States Department of Agriculture (USDA)

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

END OF ITEM C-102

ITEM C-105 MOBILIZATION

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

105-2 Mobilization limit. Mobilization shall be limited to five (5) 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 Engineer/RPR field office. The Contractor shall provide dedicated space for the use of the field RPR and inspectors, as a field office for the duration of the project. This space shall be located conveniently near the construction and shall be separate from any space used by the Contractor. The Contractor shall furnish water, sanitary facilities, heat, air conditioning, and electricity in accordance with local building codes. Refer to Section M-150 Engineer Field Office for additional requirements.

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 Mobilization

REFERENCES

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

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

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

United States Department of Labor, Wage and Hour Division (WHD)

WH 1321 - Employee Rights under the Davis-Bacon Act Poster

END OF ITEM C-105

ITEM C-110 METHOD OF ESTIMATING PERCENTAGE OF MATERIAL WITHIN SPECIFICATION LIMITS (PWL)

110-1 General. When the specifications provide for acceptance of material based on the method of estimating percentage of material within specification limits (PWL), the PWL will be determined in accordance with this section. All test results for a lot will be analyzed statistically to determine the total estimated percent of the lot that is within specification limits. The PWL is computed using the sample average (X) and sample standard deviation (S_n) of the specified number (n) of sublots for the lot and the specification tolerance limits, L for lower and U for upper, for the particular acceptance parameter. From these values, the respective Quality index, Q_L for Lower Quality Index and/or Q_U for Upper Quality Index, is computed and the PWL for the lot for the specified n is determined from Table 1. All specification limits specified in the technical sections shall be absolute values. Test results used in the calculations shall be to the significant figure given in the test procedure.

There is some degree of uncertainty (risk) in the measurement for acceptance because only a small fraction of production material (the population) is sampled and tested. This uncertainty exists because all portions of the production material have the same probability to be randomly sampled. The Contractor's risk is the probability that material produced at the acceptable quality level is rejected or subjected to a pay adjustment. The Owner's risk is the probability that material produced at the rejectable quality level is accepted.

It is the intent of this section to inform the Contractor that, in order to consistently offset the Contractor's risk for material evaluated, production quality (using population average and population standard deviation) must be maintained at the acceptable quality specified or higher. In all cases, it is the responsibility of the Contractor to produce at quality levels that will meet the specified acceptance criteria when sampled and tested at the frequencies specified.

110-2 Method for computing PWL. The computational sequence for computing PWL is as follows:

- **a.** Divide the lot into n sublots in accordance with the acceptance requirements of the specification.
- **b**. Locate the random sampling position within the sublot in accordance with the requirements of the specification.
- **c.** Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with the testing requirements of the specification.
- **d.** Find the sample average (X) for all sublot test values within the lot by using the following formula:

 $\mathbf{X} = (\mathbf{x}_1 + \mathbf{x}_2 + \mathbf{x}_3 + \dots \mathbf{x}_n) / \mathbf{n}$

Where: X = Sample average of all sublot test values within a lot

 $x_1, x_2, \ldots x_n$ = Individual sublot test values

n = Number of sublot test values

e. Find the sample standard deviation (S_n) by use of the following formula:

 $S_n = [(d_1^2 + d_2^2 + d_3^2 + \dots + d_n^2)/(n-1)]^{1/2}$

Where: $S_n =$ Sample standard deviation of the number of sublot test values in the set

 $d_1,\,d_2,\,\ldots\,d_n$ = Deviations of the individual sublot test values $x_1,\,x_2,\,\ldots$ from the average value X

that is: $d_1 = (x_1 - X), d_2 = (x_2 - X) \dots d_n = (x_n - X)$

n = Number of sublot test values

f. For single sided specification limits (i.e., L only), compute the Lower Quality Index Q_L by use of the following formula:

 $\mathbf{Q}_{\mathbf{L}} = (\mathbf{X} - \mathbf{L}) / \mathbf{S}_{\mathbf{n}}$

Where: L = specification lower tolerance limit

Estimate the percentage of material within limits (PWL) by entering Table 1 with Q_L , using the column appropriate to the total number (n) of measurements. If the value of Q_L falls between values shown on the table, use the next higher value of PWL.

g. For double-sided specification limits (i.e., L and U), compute the Quality Indexes Q_L and Q_U by use of the following formulas:

 $\begin{aligned} Q_{L} &= (X - L) / S_{n} \\ and \\ Q_{U} &= (U - X) / S_{n} \end{aligned}$

Where: L and U = specification lower and upper tolerance limits

Estimate the percentage of material between the lower (L) and upper (U) tolerance limits (PWL) by entering Table 1 separately with Q_L and Q_U , using the column appropriate to the total number (n) of measurements, and determining the percent of material above P_L and percent of material below P_U for each tolerance limit. If the values of Q_L fall between values shown on the table, use the next higher value of P_L or P_U . Determine the PWL by use of the following formula:

 $PWL = (P_U + P_L) - 100$

Where: P_L = percent within lower specification limit P_U = percent within upper specification limit

EXAMPLE OF PWL CALCULATION

Project: Example Project **Test Item:** Item P-401, Lot A.

A. PWL Determination for Mat Density.

1. Density of four random cores taken from Lot A.

A-1 = 96.60 A-2 = 97.55 A-3 = 99.30 A-4 = 98.35n = 4

2. Calculate average density for the lot.

$$\begin{split} X &= (x_1 + x_2 + x_3 + \dots x_n) \ / \ n \\ X &= (96.60 + 97.55 + 99.30 + 98.35) \ / \ 4 \\ X &= 97.95\% \ density \end{split}$$

3. Calculate the standard deviation for the lot.

$$\begin{split} S_n &= \left[((96.60 - 97.95)^2 + (97.55 - 97.95)^2 + (99.30 - 97.95)^2 + (98.35 - 97.95)^2) \right) / (4 - 1) \right]^{1/2} \\ S_n &= \left[(1.82 + 0.16 + 1.82 + 0.16) / 3 \right]^{1/2} \\ S_n &= 1.15 \end{split}$$

4. Calculate the Lower Quality Index Q_L for the lot. (L=96.3)

 $\begin{array}{l} Q_L = (X \ -L) \ / \ S_n \\ Q_L = (97.95 \ - \ 96.30) \ / \ 1.15 \\ Q_L = 1.4348 \end{array}$

5. Determine PWL by entering Table 1 with $Q_L = 1.44$ and n = 4.

PWL = 98

B. PWL Determination for Air Voids.

- 1. Air Voids of four random samples taken from Lot A.
 - $\begin{array}{l} A-1 = 5.00 \\ A-2 = 3.74 \\ A-3 = 2.30 \\ A-4 = 3.25 \end{array}$

2. Calculate the average air voids for the lot.

$$\begin{split} X &= (x_1 + x_2 + x_3 \dots n) \ / \ n \\ X &= (5.00 + 3.74 + 2.30 + 3.25) \ / \ 4 \\ X &= 3.57\% \end{split}$$

3. Calculate the standard deviation S_n for the lot.

$$\begin{split} S_n &= \left[((3.57 - 5.00)^2 + (3.57 - 3.74)^2 + (3.57 - 2.30)^2 + (3.57 - 3.25)^2) \, / \, (4 - 1) \right]^{1/2} \\ S_n &= \left[(2.04 + 0.03 + 1.62 + 0.10) \, / \, 3 \right]^{1/2} \\ S_n &= 1.12 \end{split}$$

4. Calculate the Lower Quality Index Q_L for the lot. (L= 2.0)

 $\begin{array}{l} Q_L = (X - L) \; / \; S_n \\ Q_L = (3.57 - 2.00) \; / \; 1.12 \\ Q_L = 1.3992 \end{array}$

- **5.** Determine P_L by entering Table 1 with $Q_L = 1.41$ and n = 4.
 - $P_{L} = 97$
- 6. Calculate the Upper Quality Index Q_U for the lot. (U= 5.0)

2

$$\begin{array}{l} Q_{\rm U} = ({\rm U} - {\rm X}) \; / \; S_{\rm n} \\ Q_{\rm U} = (5.00 \; - \; 3.57) \; / \; 1.1 \\ Q_{\rm U} = 1.2702 \end{array}$$

7. Determine P_U by entering Table 1 with $Q_U = 1.29$ and n = 4.

 $P_{\rm U} = 93$

8. Calculate Air Voids PWL

$$\begin{split} PWL &= (P_L + P_U) \text{ - } 100 \\ PWL &= (97 + 93) \text{ - } 100 = 90 \end{split}$$

Example of Outlier Calculation (Reference ASTM E178)

Project: Example Project **Test Item:** Item P-401, Lot A.

A. Outlier Determination for Mat Density.

- **1.** Density of four random cores taken from Lot A arranged in descending order.
 - A-3 = 99.30A-4 = 98.35A-2 = 97.55A-1 = 96.60
- **2.** From ASTM E178, Table 1, for n=4 an upper 5% significance level, the critical value for test criterion = 1.463.
- 3. Use average density, standard deviation, and test criterion value to evaluate density measurements.
 - **a.** For measurements greater than the average:

If (measurement - average)/(standard deviation) is less than test criterion, then the measurement is not considered an outlier.

For A-3, check if (99.30 - 97.95) / 1.15 is greater than 1.463.

Since 1.174 is less than 1.463, the value is not an outlier.

b. For measurements less than the average:

If (average - measurement)/(standard deviation) is less than test criterion, then the measurement is not considered an outlier.

For A-1, check if (97.95 - 96.60) / 1.15 is greater than 1.463.

Since 1.435 is less than 1.463, the value is not an outlier.

Note: In this example, a measurement would be considered an outlier if the density were:

Greater than $(97.95 + 1.463 \times 1.15) = 99.63\%$

OR

less than $(97.95 - 1.463 \times 1.15) = 96.27\%$.

Percent			Positive '	Values of C) (Q _L and () 11)		
Within Limits	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
(P _L and P _U)	n -0		n-c	n –0		n -0		n -10
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520	1.9994	2.0362
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053	1.8379	1.8630
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993	1.7235	1.7420
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127	1.6313	1.6454
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381	1.5525	1.5635
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4717	1.4829	1.4914
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112	1.4199	1.4265
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554	1.3620	1.3670
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032	1.3081	1.3118
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541	1.2576	1.2602
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075	1.2098	1.2115
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630	1.1643	1.1653
87	1.0597	1.1100	1.1173	1.1192	1.1199	1.1204	1.1208	1.1212
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794	1.0791	1.0789
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399	1.0389	1.0382
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015	1.0000	0.9990
83	0.9939	0.9900	0.9785	0.9715	0.9671	0.9643	0.9624	0.9610
82	0.9749	0.9600	0.9452	0.9367	0.9315	0.9281	0.9258	0.9241
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928	0.8901	0.8882
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583	0.8554	0.8533
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245	0.8214	0.8192
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915	0.7882	0.7858
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590	0.7556	0.7531
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271	0.7236	0.7211
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958	0.6922	0.6896
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649	0.6613	0.6587
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344	0.6308	0.6282
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044	0.6008	0.5982
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747	0.5712	0.5686
70	0.6787	0.6000	0.5719	0.5582	0.5504	0.5454	0.5419	0.5394
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164	0.5130	0.5105
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877	0.4844	0.4820
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592	0.4560	0.4537
66	0.5563	0.4800	0.4545	0.4424	0.4355	0.4310	0.4280	0.4257
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4030	0.4001	0.3980
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753	0.3725	0.3705
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477	0.3451	0.3432
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203	0.3179	0.3161
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931	0.2908	0.2892
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660	0.2639	0.2624
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391	0.2372	0.2358
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122	0.2105	0.2093
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855	0.1840	0.1829
56	0.2164	0.1800	0.1688	0.1636	0.1607	0.1588	0.1575	0.1566
55	0.1806	0.1500	0.1406	0.1363	0.1338	0.1322	0.1312	0.1304
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057	0.1049	0.1042
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0793	0.0786	0.0781
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528	0.0524	0.0521
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264	0.0262	0.0260
50	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

 Table 1. Table for Estimating Percent of Lot Within Limits (PWL)

Percent			Positive	Values of Q	Q (QL and C) U)		
Within Limits (P _L and P _U)	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
49	-0.0363	-0.0300	-0.0281	-0.0272	-0.0267	-0.0264	-0.0262	-0.0260
48	-0.0725	-0.0600	-0.0562	-0.0544	-0.0534	-0.0528	-0.0524	-0.0521
47	-0.1087	-0.0900	-0.0843	-0.0817	-0.0802	-0.0793	-0.0786	-0.0781
46	-0.1447	-0.1200	-0.1125	-0.1090	-0.1070	-0.1057	-0.1049	-0.1042
45	-0.1806	-0.1500	-0.1406	-0.1363	-0.1338	-0.1322	-0.1312	-0.1304
44	-0.2164	-0.1800	-0.1688	-0.1636	-0.1607	-0.1588	-0.1575	-0.1566
43	-0.2519	-0.2100	-0.1971	-0.1911	-0.1877	-0.1855	-0.1840	-0.1829
42	-0.2872	-0.2400	-0.2254	-0.2186	-0.2147	-0.2122	-0.2105	-0.2093
41	-0.3222	-0.2700	-0.2537	-0.2461	-0.2418	-0.2391	-0.2372	-0.2358
40	-0.3568	-0.3000	-0.2822	-0.2738	-0.2691	-0.2660	-0.2639	-0.2624
39	-0.3911	-0.3300	-0.3107	-0.3016	-0.2964	-0.2931	-0.2908	-0.2892
38	-0.4251	-0.3600	-0.3392	-0.3295	-0.3239	-0.3203	-0.3179	-0.3161
37	-0.4586	-0.3900	-0.3679	-0.3575	-0.3515	-0.3477	-0.3451	-0.3432
36	-0.4916	-0.4200	-0.3967	-0.3856	-0.3793	-0.3753	-0.3725	-0.3705
35	-0.5242	-0.4500	-0.4255	-0.4139	-0.4073	-0.4030	-0.4001	-0.3980
34	-0.5563	-0.4800	-0.4545	-0.4424	-0.4355	-0.4310	-0.4280	-0.4257
33	-0.5878	-0.5100	-0.4836	-0.4710	-0.4638	-0.4592	-0.4560	-0.4537
32	-0.6187	-0.5400	-0.5129	-0.4999	-0.4924	-0.4877	-0.4844	-0.4820
31	-0.6490	-0.5700	-0.5423	-0.5290	-0.5213	-0.5164	-0.5130	-0.5105
30	-0.6787	-0.6000	-0.5719	-0.5582	-0.5504	-0.5454	-0.5419	-0.5394
29	-0.7077	-0.6300	-0.6016	-0.5878	-0.5798	-0.5747	-0.5712	-0.5686
28	-0.7360	-0.6600	-0.6316	-0.6176	-0.6095	-0.6044	-0.6008	-0.5982
27	-0.7636	-0.6900	-0.6617	-0.6477	-0.6396	-0.6344	-0.6308	-0.6282
26	-0.7904	-0.7200	-0.6921	-0.6781	-0.6701	-0.6649	-0.6613	-0.6587
25	-0.8165	-0.7500	-0.7226	-0.7089	-0.7009	-0.6958	-0.6922	-0.6896
24	-0.8417	-0.7800	-0.7535	-0.7401	-0.7322	-0.7271	-0.7236	-0.7211
23	-0.8662	-0.8100	-0.7846	-0.7716	-0.7640	-0.7590	-0.7556	-0.7531
22	-0.8897	-0.8400	-0.8160	-0.8036	-0.7962	-0.7915	-0.7882	-0.7858
21	-0.9124	-0.8700	-0.8478	-0.8360	-0.8291	-0.8245	-0.8214	-0.8192
20	-0.9342	-0.9000	-0.8799	-0.8690	-0.8625	-0.8583	-0.8554	-0.8533
19	-0.9550	-0.9300	-0.9123	-0.9025	-0.8966	-0.8928	-0.8901	-0.8882
18	-0.9749	-0.9600	-0.9452	-0.9367	-0.9315	-0.9281	-0.9258	-0.9241
17	-0.9939	-0.9900	-0.9785	-0.9715	-0.9671	-0.9643	-0.9624	-0.9610
16	-1.0119	-1.0200	-1.0124	-1.0071	-1.0037	-1.0015	-1.0000	-0.9990
15	-1.0288	-1.0500	-1.0467	-1.0435	-1.0413	-1.0399	-1.0389	-1.0382
14	-1.0448	-1.0800	-1.0817	-1.0808	-1.0800	-1.0794	-1.0791	-1.0789
13	-1.0597	-1.1100	-1.1173	-1.1192	-1.1199	-1.1204	-1.1208	-1.1212
12	-1.0736	-1.1400	-1.1537	-1.1587	-1.1613	-1.1630	-1.1643	-1.1653
11	-1.0864	-1.1700	-1.1909	-1.1995	-1.2043	-1.2075	-1.2098	-1.2115
10	-1.0982	-1.2000	-1.2290	-1.2419	-1.2492	-1.2541	-1.2576	-1.2602
9	-1.1089	-1.2300	-1.2683	-1.2860	-1.2964	-1.3032	-1.3081	-1.3118
8	-1.1184	-1.2600	-1.3088	-1.3323	-1.3461	-1.3554	-1.3620	-1.3670
7	-1.1269	-1.2900	-1.3508	-1.3810	-1.3991	-1.4112	-1.4199	-1.4265
6	-1.1342	-1.3200	-1.3946	-1.4329	-1.4561	-1.4717	-1.4829	-1.4914
5	-1.1405	-1.3500	-1.4407	-1.4887	-1.5181	-1.5381	-1.5525	-1.5635
4	-1.1456	-1.3800	-1.4897	-1.5497	-1.5871	-1.6127	-1.6313	-1.6454
3	-1.1496	-1.4100	-1.5427	-1.6181	-1.6661	-1.6993	-1.7235	-1.7420
2	-1.1524	-1.4400	-1.6016	-1.6982	-1.7612	-1.8053	-1.8379	-1.8630
1	-1.1541	-1.4700	-1.6714	-1.8008	-1.8888	-1.9520	-1.9994	-2.0362

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 E178 Standard Practice for Dealing with Outlying Observations

END OF ITEM C-110

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ITEM P-101 PREPARATION/REMOVAL OF EXISTING PAVEMENTS

DESCRIPTION

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

EQUIPMENT AND MATERIALS

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

CONSTRUCTION

101-3.1 Removal of existing pavement.

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 **three inches (3")**. 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 underlaying material that is to remain in place, shall be recompacted 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 meet the following gradation:

Sieve Size	Percent Finer
(Screen Size)	After Processing or Milling
1.5 in (37.5 mm)	100
1.0 in (25 mm)	95 - 100
3/4 in (19 mm)	84 - 100
1/2 in (12.5 mm)	70 - 100
3/8 in (9.5 mm)	58 - 95
No. 4 (75 mm)	38 - 75
No. 8 (2.36 mm)	25 - 60
No. 16 (1.18 mm)	17 - 40
No. 30 (0.60 mm)	10 - 35ª
No. 50 (0.30 mm)	5 - 25 ^b
No. 100 (0.15 mm)	3 - 20°
No. 200 (0.075 mm)	2 - 15 ^d

a. Usually less than 30 percent

^{b.} Usually less than 20 percent

^{c.} Usually less than 15 percent

d. Usually less than 10 percent

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.

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 (25 mm). 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 (6 mm) 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 (3 mm), not to exceed ¹/₄ inch (6 mm). Any excess joint or crack sealer shall be removed from the pavement surface. These cracks are considered to be Type 1 Cracks.

Wider cracks (over 1-1/2 inch wide (38 mm)), considered to be Type 2 Cracks, along with soft or sunken spots, indicate that the pavement or the pavement base should be repaired or replaced as stated below:

Cracks and joints may use a geomembrane overlaying the crack as shown on the details. Or the cracks and joints may be filled with a mixture of emulsified asphalt and aggregate. The aggregate shall consist of limestone, volcanic ash, sand, or other material that will cure to form a hard substance. The combined gradation shall be as shown in the following table.

Sieve Size	Percent Passing
No. 4 (4.75 mm)	100
No. 8 (2.36 mm)	90-100
No. 16 (1.18 mm)	65-90
No. 30 (600 µm)	40-60
No. 50 (300 µm)	25-42
No. 100 (150 µm)	15-30
No. 200 (75 µm)	10-20

Gradation

Up to 3% cement can be added to accelerate the set time. The mixture shall not contain more than 20%

natural sand without approval in writing from the RPR.

The proportions of asphalt emulsion and aggregate shall be determined in the field and may be varied to facilitate construction requirements. Normally, these proportions will be approximately one part asphalt emulsion to five parts aggregate by volume. The material shall be poured or placed into the joints or cracks and compacted to form a voidless mass. The joint or crack shall be filled to within +0 to -1/8 inches (+0 to -3 mm) of the surface. Any material spilled outside the width of the joint shall be removed from the pavement surface prior to constructing the overlay. Where concrete overlays are to be constructed, only the excess joint material on the pavement surface and vegetation in the joints need to be removed.

101-3.3 Removal of Foreign Substances/contaminates prior to overlay, seal-coat or remarking. 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.

High-pressure water, cold milling, or rotary grinding 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 (3 mm) 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 (50 mm) outside the affected area and 2 inches (50 mm) 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 (100 mm) 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 underlaying 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.

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 shall layout the area to be milled with a straightedge in increments of 1-foot (30 cm) widths. 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 7 feet (2 m) 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 (+0 mm and -6mm) 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 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] [in areas designated on the plans].

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 acceptable to the RPR.

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 (2 mm) 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.

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, that the method used cleans the cracks and does not damage the pavement.

101-3.9.1 Preparation of Crack. Widen crack with router **or** random crack saw by removing a minimum of 1/16 inch (2 mm) 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 **or** random crack saw. Following routing **or** sawing, 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.

101-3.9.4 Removal of Pipe and other Buried Structures.

- a. Removal of Existing Pipe Material. Not used.
- b. Removal of Inlets/Manholes. Not used.

c. Removal of Existing Cable. Remove the various types of cabling as indicated on the plans. The cabling material shall be legally disposed of off-site in a timely manner following removal.

METHOD OF MEASUREMENT

101-4.1 Pavement removal. The unit of measurement for pavement removal shall be the number of square yards (square meters) 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. Dowel bar installation shall be incidental to pavement removal.

101-4.2 Joint and crack repair. The unit of measurement for joint and crack repair shall be the linear foot (meter) of joint.

101-4.3 Removal of Foreign Substances/contaminates. Not Used.

101-4.4 Spalled and failed asphalt pavement repair. Not Used.

101-4.5 Concrete Spall Repair. Not Used.

101-4.6 Cold milling. The unit of measure for cold milling shall be **up to four and one-half (4.5) inches per lift** of milling per square yard (square meter). 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.

101-4.7 Removal of Existing Cable. The unit of measurement for removal of cabling will be made at the contract unit price for each linear foot completed and accepted item. There shall be no separate measurement whether there is only one cable or multiple conductors for the linear section of duct bank or conduit for each circuit of cabling being removed.

101-4.8 Removal of Pipe and other Buried Structures. Not required.

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 (square meter) - Not Used	
Item P 101-5.2A	Joint and Crack Repair Type 1 – per linear foot (meter)	
Item P 101-5.2B	Joint and Crack Repair Type 2 – per linear foot (meter)	
Item P 101-5.3	Removal of Foreign Substances/contaminates - Not Used.	
Item P-101-5.4	Spalled and Failed Asphalt Pavement Repair - Not Used.	
Item P-101-5.5	Concrete Spall Repair – Not Used.	
Item P-101-5.6	Cold Milling – per square yard (square meter)	
Item P-101-5.7A	Removal of Cabling – per linear foot (meter)	
Item P-101-5.7B	Removal of Pipe and other Buried Structures - Not required.	

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.

ASTM International (ASTM)

ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

END OF ITEM P-101

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.

152-1.3 Unsuitable excavation. Unsuitable material shall be disposed in designated waste areas as shown on the plans. Materials containing vegetable or organic matter, such as muck, peat, organic silt, or sod shall be considered unsuitable for use in embankment construction. Material suitable for topsoil may be used on the embankment slope when approved by the RPR.

CONSTRUCTION METHODS

152-2.1 General. Before beginning excavation, grading, and embankment operations in any area, the area shall be cleared or cleared and grubbed in accordance with Item P-151.

The suitability of material to be placed in embankments shall be subject to approval by the RPR. All unsuitable material shall be disposed of in waste areas as shown on the plans. All waste areas shall be graded to allow positive drainage of the area and adjacent areas. The surface elevation of waste areas shall be specified on the plans or approved by the RPR.

When the Contractor's excavating operations encounter artifacts of historical or archaeological significance, the operations shall be temporarily discontinued and the RPR notified per Section 70, paragraph 70-20. At the direction of the RPR, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and allow for their removal. Such excavation will be paid for as extra work.

Areas outside the limits of the pavement areas where the top layer of soil has become compacted by hauling or other Contractor activities shall be scarified and disked to a depth of 4 inches (100 mm), to loosen and pulverize the soil. Stones or rock fragments larger than 4 inches (100 mm) in their greatest dimension will not be permitted in the top 6 inches (150 mm) 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.

Digital terrain model (DTM) files of the existing surfaces, finished surfaces and other various surfaces were used to develop the design plans.

Volumetric quantities were calculated by comparing DTM files of the applicable design surfaces and generating Triangle Volume Reports. Electronic copies of DTM files and a paper copy of the original topographic map will be issued to the successful bidder.

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 (30 mm) of the stated elevations for ground surfaces, or within 0.04 foot (12 mm) for hard surfaces (pavements, buildings, foundations, structures, etc.) shall be considered "no change". Only deviations in excess of these will be considered for adjustment of the original ground surface. If Contractor's verification identifies discrepancies in the topographic map, Contractor shall notify the RPR in writing at least two weeks before disturbance of existing grade to allow sufficient time to verify the submitted information and make adjustments to the design cross sections or DTM's. Disturbance of existing grade in any area shall constitute acceptance by the Contractor of the accuracy of the original elevations shown on the topographic map for that area.

All areas to be excavated shall be stripped of vegetation and topsoil. Topsoil shall be stockpiled for future use in areas designated on the plans or by the RPR. All suitable excavated material shall be used in the formation of embankment, subgrade, or other purposes **as** shown on the plans. All unsuitable material shall be disposed of as shown on the plans.

The grade shall be maintained so that the surface is well drained at all times.

When the volume of the excavation exceeds that required to construct the embankments to the grades as indicated on the plans, the excess shall be used to grade the areas of ultimate development or disposed as directed by the RPR. When the volume of excavation is not sufficient for constructing the embankments to the grades indicated, the deficiency shall be obtained from borrow areas.

a. Selective grading. When selective grading is indicated on the plans, the more suitable material designated by the RPR shall be used in constructing the embankment or in capping the pavement subgrade. If, at the time of excavation, it is not possible to place this material in its final location, it shall be stockpiled in approved areas until it can be placed. The more suitable material shall then be placed and compacted as specified. Selective grading shall be considered incidental to the work involved. The cost of stockpiling and placing the material shall be included in the various pay items of work involved.

b. Undercutting. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for safety areas, subgrades, roads, shoulders, or any areas intended for turf shall be excavated to a minimum depth of 12 inches (300 mm) below the subgrade or to the depth specified by the RPR. Muck, peat, matted roots, or other yielding material, unsatisfactory for subgrade foundation, shall be removed to the depth specified. Unsuitable materials shall be disposed off the airport. The cost is incidental to this item. This excavated material shall be paid for at the contract unit price per cubic yard (per cubic meter) for unclassified

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 part of the embankment. Where rock cuts are made, backfill with select material. Any pockets created in the rock surface shall be drained in accordance with the details shown on the plans. Undercutting will be paid as unclassified excavation.

c. Over-break. Over-break, including slides, is that portion of any material displaced or loosened beyond the finished work as planned or authorized by the RPR. All over-break shall be graded or removed by the Contractor and disposed of as directed by the RPR. The RPR shall determine if the displacement of such material was unavoidable and their own decision shall be final. Payment will not be made for the removal and disposal of over-break that the RPR determines as avoidable. Unavoidable over-break will be classified as "Unclassified Excavation."

d. Removal of utilities. The removal of existing structures and utilities required to permit the orderly progress of work will be accomplished [by someone other than the Contractor] [by the Contractor as indicated on the plans]. All existing foundations shall be excavated at least 2 feet (60 cm) below the top of subgrade or as indicated on the plans, and the material disposed of as directed by the RPR. All foundations thus excavated shall be backfilled with suitable material and compacted as specified for embankment or as shown on the plans.

152-2.3 Borrow excavation. Borrow areas are not required.

152-2.4 Drainage excavation. Drainage excavation shall consist of excavating drainage ditches including intercepting, inlet, or outlet ditches; or other types as shown on the plans. The work shall be performed in sequence with the other construction. Ditches shall be constructed prior to starting adjacent excavation operations. All satisfactory material shall be placed in embankment fills; unsuitable material shall be placed in designated waste areas or as directed by the RPR. All necessary work shall be performed true to final line, elevation, and cross-section. The Contractor shall maintain ditches constructed on the project to the required cross-section and shall keep them free of debris or obstructions until the project is accepted.

152-2.5 Preparation of cut areas or areas where existing pavement has been removed. In those areas on which a subbase or base course is to be placed, the top 12 inches (300 mm) of subgrade shall be compacted to not less than 100 % of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by **ASTM D1557**. 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 (150 mm) 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 (300 mm) 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 (300 mm) 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 (150 mm) nor more than 12 inches (300 mm) of compacted thickness.

When more than one lift is required to establish the layer thickness shown on the plans, the construction procedure described here shall apply to each lift. No lift shall be covered by subsequent lifts until tests verify that compaction requirements have been met. The Contractor shall rework, re-compact and retest any material placed which does not meet the specifications.

The lifts shall be placed, to produce a soil structure as shown on the typical cross-section or as directed by the RPR. Materials such as brush, hedge, roots, stumps, grass and other organic matter, shall not be incorporated or buried in the embankment.

Earthwork operations shall be suspended at any time when satisfactory results cannot be obtained due to rain, freezing, or other unsatisfactory weather conditions in the field. Frozen material shall not be placed in the embankment nor shall embankment be placed upon frozen material. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. The Contractor shall drag, blade, or slope the embankment to provide surface drainage at all times.

The material in each lift shall be within $\pm 2\%$ of optimum moisture content before rolling to obtain the prescribed compaction. The material shall be moistened or aerated as necessary to achieve a uniform moisture content throughout the lift. Natural drying may be accelerated by blending in dry material or manipulation alone to increase the rate of evaporation.

The Contractor shall make the necessary corrections and adjustments in methods, materials or moisture content to achieve the specified embankment density.

The Contractor will take samples of excavated materials which will be used in embankment for testing and develop a Moisture-Density Relations of Soils Report (Proctor) in accordance with **ASTM D 1557**. A new Proctor shall be developed for each soil type based on visual classification.

Density tests will be taken by the Contractor for every 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 100% of maximum density for non-cohesive soils, and 95% of maximum density for cohesive soils as determined by **ASTM D1557**. Under all areas to be paved, the embankments shall be compacted to a depth of **12 inches** and to a density of not less than **100** percent of the maximum density as determined by **ASTM D1557**. 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 4 inches (100 mm) which shall be prepared for a seedbed in accordance with Item T-901.

The in-place field density shall be determined in accordance with ASTM D1556 or 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 (100 mm) in their greatest dimensions will not be allowed in the top 12 inches (300 mm) 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 (60 cm) 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 (1.2 m) below the finished subgrade.

There will be no separate measurement of payment for compacted embankment. All costs incidental to placing in lifts, compacting, discing, watering, mixing, sloping, and other operations necessary for construction of embankments will be included in the contract price for excavation, borrow, or other items.

152-2.9 Proof rolling. Not Used.

152-2.10 Compaction requirements. The subgrade under areas to be paved shall be compacted to a depth of 12 inches (300 mm) and to a density of not less than 100 percent of the maximum dry density as determined by **ASTM D1557**. The subgrade in areas outside the limits of the pavement areas shall be compacted to a depth of 12 inches (300 mm) and to a density of not less than 95 percent of the maximum density as determined by **ASTM D1557**.

The material to be compacted shall be within $\pm 2\%$ of optimum moisture content before being rolled to obtain the prescribed compaction (except for expansive soils). When the material has greater than 30 percent retained on the $\frac{3}{4}$ inch (19.0 mm) sieve, follow the procedures in AASHTO T180 Annex for correction of maximum dry density and optimum moisture for oversized particles. Tests for moisture content and compaction will be taken at a minimum of **2,000** 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 D1556 or 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, recompacted, 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 (75 mm), 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 $+/-\frac{1}{2}$ inch (12 mm) when tested with a 12-foot (3.7-m) 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 (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.
- **b.** Grade. The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +/- 0.05 feet (15 mm) of the specified grade.

On safety areas, turfed areas and other designated areas within the grading limits where no subbase or base is to placed, grade shall not vary more than 0.10 feet (30 mm) from specified grade. Any deviation in excess of this amount shall be corrected by loosening, adding or removing materials, and reshaping.

152-2.14 Topsoil. When topsoil is specified or required as shown on the plans or under Item T-905, it shall be salvaged from stripping or other grading operations. The topsoil shall meet the requirements of Item T-905. If, at the time of excavation or stripping, the topsoil cannot be placed in its final section of finished construction, the material shall be stockpiled at approved locations. Stockpiles shall be located as shown on the plans and the approved CSPP, and shall not be placed on areas that subsequently will require any excavation or embankment fill. If, in the judgment of the RPR, it is practical to place the salvaged topsoil at the time of excavation or stripping, the material shall be placed in its final position without stockpiling or further re-handling.

Upon completion of grading operations, stockpiled topsoil shall be handled and placed as shown on the

plans and as required in Item T-905. Topsoil shall be paid for as provided in Item T-905. No direct payment will be made for topsoil under Item P-152.

METHOD OF MEASUREMENT

152-3.1 Measurement for payment specified by the cubic yard (cubic meter) shall be computed by the the comparison of digital terrain model (DTM) surfaces for computation of neat line design quantities. The end area is that bound by the original ground line established by field cross-sections and the final theoretical pay line established by cross-sections shown on the plans, subject to verification by the RPR.

152-3.1 The quantity of unclassified excavation to be paid for shall be the number of cubic yards (cubic meters) measured in its original position. Measurement shall not include the quantity of materials excavated without authorization beyond normal slope lines, or the quantity of material used for purposes other than those directed.

BASIS OF PAYMENT

152-4.1 Unclassified excavation payment shall be made at the contract unit price per cubic yard (cubic meter). This price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-152-4.1 Unclassified Excavation - per cubic yard (cubic meter)

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-180Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10- lb) Rammer and a 457-mm (18-in.) Drop			
ASTM Internationa ASTM D698	al (ASTM) 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 150/5370-2	(AC) Operational Safety on Airports During Construction Software		
Software FAARFIELD – FA	Software FAARFIELD – FAA Rigid and Flexible Iterative Elastic Layered Design		
U.S. Department of FAA RD-76-66	f Transportation Design and Construction of Airport Pavements on Expansive Soils		

END OF ITEM P-152

ITEM P-401 ASPHALT MIX PAVEMENT

DESCRIPTION

401-1.1 This item shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared base or stabilized course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.

MATERIALS

401-2.1 Aggregate. Aggregates shall consist of crushed stone, crushed gravel, crushed slag, screenings, natural sand, and mineral filler, as required. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 (4.75 mm) sieve. Fine aggregate is the material passing the No. 4 (4.75 mm) sieve.

a. Coarse aggregate. Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum	ASTM C131
Soundness of Aggregates	Loss after 5 cycles:	ASTM C88
by Use of Sodium Sulfate or	12% maximum using Sodium sulfate - or -	
Magnesium Sulfate	18% maximum using magnesium sulfate	
Clay lumps and friable particles	1.0 % maximum	ASTM C142
Percentage of Fractured	For pavements designed for aircraft gross weights of	ASTM D5821
Particles	60,000 pounds (27200 kg) or more:	
	Minimum 75% by weight of particles with at least	
	two fractured faces and 85% with at least one	
	fractured face ¹	
	For pavements designed for aircraft gross weights	
	less than 60,000 pounds (27200 kg):	
	Minimum 50% by weight of particles with at least	
	two fractured faces and 65% with at least one	
	fractured face ¹	
Flat, Elongated, or Flat and	8% maximum, by weight, of flat, elongated, or flat	ASTM D4791
Elongated Particles	and elongated particles at 5:1 ²	
Bulk density of slag ³	Weigh not less than 70 pounds per cubic foot (1.12	ASTM C29.
	Mg/cubic meter)	

Coarse Aggregate Material Requirements

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).

³ Only required if slag is specified.

b. Fine aggregate. Fine aggregate shall consist of clean, sound, tough, durable, angular shaped particles produced by crushing stone, slag, or gravel and shall be free from coatings of clay, silt, or other objectionable matter. Natural (non-manufactured) sand may be used to obtain the gradation of the fine aggregate blend or to improve the workability of the mix. Fine aggregate material requirements are listed in the table below.

Material Test	Requirement	Standard
Liquid limit	25 maximum	ASTM D4318
Plasticity Index	4 maximum	ASTM D4318
Soundness of Aggregates	Loss after 5 cycles:	ASTM C88
by Use of Sodium Sulfate or	10% maximum using Sodium sulfate - or -	
Magnesium Sulfate	15% maximum using magnesium sulfate	
Clay lumps and friable	1.0% maximum	ASTM C142
particles		
Sand equivalent	45 minimum	ASTM D2419
Natural Sand	15% maximum by weight of total aggregate	ASTM D1073

Fine Aggregate Material	Requirements
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c. Sampling. ASTM D75 shall be used in sampling coarse and fine aggregate.

401-2.2 Mineral filler. Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral Filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

401-2.3 Asphalt binder. Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) 76-28.

Asphalt Binder PG Plus Test Requirements

Material Test	Requirement	Standard
Elastic Recovery	75% minimum	ASTM D6084 ¹
Eallow procedure D on DTEO and hinder		

¹ Follow procedure B on RTFO aged binder.

401-2.4 Anti-stripping agent. Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

COMPOSITION

401-3.1 Composition of mixture(s). The asphalt mix shall be composed of a mixture of aggregates, filler and anti-strip agent if required, and asphalt binder. The aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

401-3.2 Job mix formula (JMF) laboratory. The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF; and be listed on the accrediting authority's website. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Resident Project Representative (RPR) prior to start of construction.

401-3.3 Job mix formula (JMF). No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the

Contractor of the responsibility to select and proportion the materials to comply with this section.

When the project requires asphalt mixtures of differing aggregate gradations and/or binders, a separate JMF shall be submitted for each mix. Add anti-stripping agent to meet tensile strength requirements.

The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 401-3.2. The asphalt mixture shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition. Samples shall be prepared and compacted using the gyratory compactor in accordance with ASTM D6925.

Should a change in sources of materials be made, a new JMF must be submitted to the RPR for review and accepted in writing before the new material is used. After the initial production JMF has been approved by the RPR and a new or modified JMF is required for whatever reason, the subsequent cost of the new or modified JMF, including a new control strip when required by the RPR, will be borne by the Contractor.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

The JMF shall be submitted in writing by the Contractor at least thirty (30) days prior to the start of paving operations. The JMF shall be developed within the same construction season using aggregates proposed for project use.

The JMF shall be dated, and stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items as a minimum:

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 401-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.
- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 401-2.4.
- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 401-2.1.
- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.
- Specific Gravity and absorption of each coarse and fine aggregate.
- Percent natural sand.
- Percent fractured faces.
- Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).
- Percent of asphalt.
- Number of blows or gyrations
- Laboratory mixing and compaction temperatures.
- Supplier-recommended field mixing and compaction temperatures.
- Plot of the combined gradation on a 0.45 power gradation curve.
- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.
- Tensile Strength Ratio (TSR).
- Type and amount of Anti-strip agent when used.
- Asphalt Pavement Analyzer (APA) results.
- Date the JMF was developed. Mix designs that are not dated or which are from a prior construction

season shall not be accepted.

Test Property	Value	Test Method
Number of blows (ASTM 6926) gyrations (ASTM 6925)	75	
Air voids (%)	3.5	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
Tensile Strength Ratio (TSR) ¹	not less than 80 at a saturation of 70-80%	ASTM D4867
Asphalt Pavement Analyzer (APA) ^{2,3}	Less than 10 mm @ 4000 passes	AASHTO T340 at 250 psi hose pressure at 64°C test temperature

Table 1. Asphalt Design Criteria

¹ Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867

² AASHTO T340 at 100 psi hose pressure at 64°C test temperature may be used in the interim. If this method is used the required Value shall be less than 5 mm @ 8000 passes

³ Where APA not available, use Hamburg Wheel test (AASHTO T-324) 10mm @ 20,000 passes at 50°C.

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 2 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 2 represent the limits that shall determine the suitability of aggregate for use from the sources of supply; be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa.

Sione Size	Percentage by Weight
Sieve Size	Passing Sieve
1 inch (25.0 mm)	
3/4 inch (19.0 mm)	100
1/2 inch (12.5 mm)	90-100
3/8 inch (9.5 mm)	72-88
No. 4 (4.75 mm)	53-73
No. 8 (2.36 mm)	38-60
No. 16 (1.18 mm)	26-48
No. 30 (600 µm)	18-38
No. 50 (300 µm)	11-27
No. 100 (150 μm)	6-18
No. 200 (75 μm)	3-6
Minimum Voids in Mineral Aggregate (VMA) ¹	15.0
Asphalt Percent:	
Stone or gravel	5.0-7.5
Slag	6.5-9.5
Recommended Minimum Construction Lift Thickness	2 inch

 Table 2. Aggregate - Asphalt Pavements

¹ To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as

indicated in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition.

401-3.4 Reclaimed asphalt pavement (RAP). RAP shall not be used.

401-3.5 Control Strip. Full production shall not begin until an acceptable control strip has been constructed and accepted in writing by the RPR. The Contractor shall prepare and place a quantity of asphalt according to the JMF. The underlying grade or pavement structure upon which the control strip is to be constructed shall be the same as the remainder of the course represented by the control strip.

The Contractor will not be allowed to place the control strip until the Contractor quality control program (CQCP), showing conformance with the requirements of paragraph 401-5.1, has been accepted, in writing, by the RPR.

The control strip will consist of at least 250 tons (227 metric tons) or 1/2 sublot, whichever is greater. The control strip shall be placed in two lanes of the same width and depth to be used in production with a longitudinal cold joint. The cold joint must be cut back in accordance with paragraph 401-4.14 using the same procedure that will be used during production. The cold joint for the control strip will be an exposed construction joint at least four (4) hours old or when the mat has cooled to less than 160°F (71°C). The equipment used in construction of the control strip shall be the same type, configuration and weight to be used on the project.

The control strip will be considered acceptable by the RPR if the gradation, asphalt content, and VMA are within the action limits specified in paragraph 401-5.5a; and Mat density greater than or equal to 94.5%, air voids 3.5% +/- 1%, and joint density greater than or equal to 92.5%.

If the control strip is unacceptable, necessary adjustments to the JMF, plant operation, placing procedures, and/or rolling procedures shall be made and another control strip shall be placed. Unacceptable control strips shall be removed at the Contractor's expense.

The control strip will be considered one lot for payment based upon the average of a minimum of 3 samples (no sublots required for control strip). Payment will only be made for an acceptable control strip in accordance with paragraph 401-8.1 using a lot pay factor equal to 100.

CONSTRUCTION METHODS

401-4.1 Weather limitations. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

Mat Thiskness	Base Temperature (Minimum)	
Mat Thickness	°F	°C
3 inches (7.5 cm) or greater	40 ¹	4
Greater than 2 inches (50 mm) but less than 3 inches (7.5 cm)	45	7

 Table 4. Surface Temperature Limitations of Underlying Course

401-4.2 Asphalt plant. Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items.

a. Inspection of plant. The RPR, or RPR's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

b. Storage bins and surge bins. The asphalt mixture stored in storage and/or surge bins shall meet the

same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation, or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.

401-4.3 Aggregate stockpile management. Aggregate stockpiles shall be constructed in a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the asphalt batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

A continuous supply of materials shall be provided to the work to ensure continuous placement.

401-4.4 Hauling equipment. Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the RPR. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

401-4.4.1 Material transfer vehicle (MTV). Material transfer vehicles used to transfer the material from the hauling equipment to the paver, shall use a self-propelled, material transfer vehicle with a swing conveyor that can deliver material to the paver without making contact with the paver. The MTV shall be able to move back and forth between the hauling equipment and the paver providing material transfer to the paver, while allowing the paver to operate at a constant speed. The Material Transfer Vehicle will have remixing and storage capability to prevent physical and thermal segregation.

401-4.5 Asphalt pavers. Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface. The asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

If the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued.

The paver shall be capable of paving to a minimum width specified in paragraph 401-4.12.

401-4.6 Rollers. The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, clean, and capable of operating at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used.

401-4.7 Density device. The Contractor shall have on site a density gauge during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall supply a qualified technician during all paving operations to calibrate the gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

401-4.8 Preparation of asphalt binder. The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt binder to the mixer at a uniform temperature. The temperature of unmodified asphalt binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325°F

 $(160^{\circ}C)$ when added to the aggregate. The temperature of modified asphalt binder shall be no more than $350^{\circ}F$ (175°C) when added to the aggregate.

401-4.9 Preparation of mineral aggregate. The aggregate for the asphalt shall be heated and dried. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350° F (175° C) when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

401-4.10 Preparation of Asphalt mixture. The aggregates and the asphalt binder shall be weighed or metered and mixed in the amount specified by the JMF. The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

401-4.11 Application of Prime and Tack Coat. Immediately before placing the asphalt mixture, the underlying course shall be cleaned of all dust and debris.

A prime coat in accordance with Item P-602 shall not be used for this project.

A tack coat shall be applied in accordance with Item P-603 to all vertical and horizontal asphalt and concrete surfaces prior to placement of the first and each subsequent lift of asphalt mixture.

401-4.12 Laydown plan, transporting, placing, and finishing. Prior to the placement of the asphalt, the Contractor shall prepare a laydown plan with the sequence of paving lanes and width to minimize the number of cold joints; the location of any temporary ramps; laydown temperature; and estimated time of completion for each portion of the work (milling, paving, rolling, cooling, etc.). The laydown plan and any modifications shall be approved by the RPR.

Deliveries shall be scheduled so that placing and compacting of asphalt is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to approximately ambient temperature. The Contractor, at their expense, shall be responsible for repair of any damage to the pavement caused by hauling operations.

Contractor shall survey each lift of asphalt surface course and certify to RPR that every lot of each lift meets the grade tolerances of paragraph 401-6.2d before the next lift can be placed.

Edges of existing asphalt pavement abutting the new work shall be saw cut and the cut off material and laitance removed. Apply a tack coat in accordance with P-603 before new asphalt material is placed against it.

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of **12.5** feet (m) except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least one foot (30 cm); however, the joint in the surface top course shall be at the centerline of crowned

pavements. Transverse joints in one course shall be offset by at least 10 feet (3 m) from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet (3 m). On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools.

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

Areas of segregation in the surface course, as determined by the RPR, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of the construction lift thickness as specified in paragraph 401-3.3, Table 2 for the approved mix design. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet (3 m) long.

401-4.13 Compaction of asphalt mixture. After placing, the asphalt mixture shall be thoroughly and uniformly compacted by self-propelled rollers. The surface shall be compacted as soon as possible when the asphalt has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any surface defects and/or displacement occurring as a result of the roller, or from any other cause, shall be corrected at the Contractor's expense.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross-section, and the required field density is obtained. To prevent adhesion of the asphalt to the roller, the wheels shall be equipped with a scraper and kept moistened with water as necessary.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power tampers.

Any asphalt that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed.

401-4.14 Joints. 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 when 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°F (80°C); or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a cutting wheel or pavement saw a maximum of 3 inches (75 mm) 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.

401-4.15 Saw-cut grooving. Saw-cut grooving is not required.

401-4.16 Diamond grinding. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet (0.9 m) wide. The saw blades shall be 1/8-inch (3-mm) wide with a sufficient number of blades to create grooves between 0.090 and 0.130 inches (2 and 3.5 mm) wide; and peaks and ridges approximately 1/32 inch (1 mm) higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that cause ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted. Contractor shall demonstrate to the RPR that the grinding equipment will produce satisfactory results prior to making corrections to surfaces. Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

401-4.17 Nighttime paving requirements. The Contractor shall provide adequate lighting during any nighttime construction. A lighting plan shall be submitted by the Contractor and approved by the RPR prior to the start of any nighttime work. All work shall be in accordance with the approved CSPP and lighting plan.

CONTRACTOR QUALITY CONTROL (CQC)

401-5.1 General. The Contractor shall develop a Contractor Quality Control Program (CQCP) in accordance with Item C-100. No partial payment will be made for materials without an approved CQCP.

401-5.2 Contractor quality control (QC) facilities. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. 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.

401-5.3 Contractor QC testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications and as set forth in the approved CQCP. 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 QC Testing Plan shall be developed as part of the CQCP.

a. Asphalt content. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per day from mechanical analysis of extracted aggregate in accordance with ASTM D5444, ASTM C136, and ASTM C117.

c. Moisture content of aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per day in accordance with ASTM C566.

d. Moisture content of asphalt. The moisture content shall be determined once per day in accordance with AASHTO T329 or ASTM D1461.

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. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¹/₄ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12-foot (3.7 m) "straightedge, a rolling inclinometer meeting the requirements of ASTM E2133 or rolling external reference device that can simulate a 12-foot (3.7m) straightedge approved by the RPR. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using either the FAA profile program, ProFAA, or FHWA ProVal, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) **Transverse measurements.** Transverse measurements shall be taken for each day's production placed. Transverse measurements shall be taken perpendicular to the pavement centerline each 50 feet (15 m) or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests shall be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6 m); and at the third points of paving lanes when widths of paving lanes are 20 ft (6 m) or greater. When placement abuts previously placed material the first measurement shall start with one half the length of the straight edge on the previously placed material.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch (6 mm) shall be corrected with diamond grinding per paragraph 401-4.16 or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 401-6.1d(3). Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. 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.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically. The documentation will be provided by the Contractor to the RPR by the end of the following working day.

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 (12 mm) less than the thickness specified on the plans. Grinding shall be in accordance with paragraph 401-4.16.

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 $\frac{1}{2}$ inch and replacing with new material. Skin patching is not allowed.

401-5.4 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.

401-5.5 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:

Sieve	Action Limit	Suspension Limit
3/4 inch (19.0 mm)	±6%	±9%
1/2 inch (12.5 mm)	±6%	±9%
3/8 inch (9.5 mm)	±6%	±9%
No. 4 (4.75 mm)	±6%	±9%
No. 16 (1.18 mm)	±5%	±7.5%
No. 50 (300 µm)	±3%	$\pm 4.5\%$
No. 200 (75 µm)	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

Control Chart Limits for Individual Measurements

b. Range. Control charts shall be established to control gradation process variability. The range shall be plotted as the difference between the two test results for each control parameter. The Suspension Limits

specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

Sieve	Suspension Limit
1/2 inch (12.5 mm)	11%
3/8 inch (9.5 mm)	11%
No. 4 (4.75 mm)	11%
No. 16 (1.18 mm)	9%
No. 50 (300 µm)	6%
No. 200 (75 µm)	3.5%
Asphalt Content	0.8%

Control Chart Limits Based on Range

c. Corrective Action. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

(1) One point falls outside the Suspension Limit line for individual measurements or range; or(2) Two points in a row fall outside the Action Limit line for individual measurements.

401-5.6 QC reports. The Contractor shall maintain records and shall submit reports of QC activities daily, in accordance with Item C-100.

MATERIAL ACCEPTANCE

401-6.1 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 will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.

b. Lot size. A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

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 on a sublot basis.

(1) **Sampling.** Material from each sublot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for not less than 30 minutes nor more than 60 minutes to maintain the material at or above the compaction temperature as specified in the JMF.

(2) **Testing.** Air voids will be determined for each sublot in accordance with ASTM D3203 for a set of three compacted specimens prepared in accordance with ASTM D6925.

d. In-place asphalt mat and joint density. Each sublot 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 inch (125 mm) 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 sublot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch (6 mm) 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 sublot 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 sublot. 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 (30 cm) 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 sublot sample by the TMD for that sublot.

(5) Joint density. One core centered over the longitudinal joint shall be taken for each sublot that has 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.

401-6.2 Acceptance criteria.

a. General. Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, and grade.

b. Air Voids and Mat density. Acceptance of each lot of plant produced material for mat density and air voids will be based on the percentage of material within specification limits (PWL). If the PWL of the lot equals or exceeds 90%, the lot will be acceptable. Acceptance and payment will be determined in accordance with paragraph 401-8.1.

c. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the PWL. If the PWL of the lot is equal to or exceeds 90%, the lot will be considered acceptable. If the PWL is less than 90%, the Contractor shall evaluate the reason and act accordingly. If the PWL is less than 80%, the Contractor shall cease operations and until the reason for poor compaction has been determined. If the PWL is less than 71%, the pay factor for the lot used to complete the joint will be reduced by five (5) percentage points. This lot pay factor reduction will be incorporated and evaluated in accordance with paragraph 401-8.1.

d. Grade. The final finished surface of the pavement shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch (12 mm) vertically.

Cross-sections of the pavement shall be taken at a minimum 50-foot (15-m) longitudinal spacing, at all

longitudinal grade breaks, and at start and end of each lane placed. Minimum cross-section grade points shall include grade at centerline, [± 10 feet of centerline], and edge of [runway] [taxiway] pavement.

The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for sublots that do not meet grade for over 25% of the sublot shall not be more than 95%.

e. Profilograph roughness for QA Acceptance. Not used.

401-6.3 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 Table 5.

Test Property	Pavements Specification Tolerance Limits	
	L	U
Air Voids Total Mix (%)	2.0	5.0
Surface Course Mat Density (%)	92.8	-
Base Course Mat Density (%)	92.0	-
Joint density (%)	90.5	

 Table 5. Acceptance Limits for Air Voids and Density

a. Outliers. All individual tests for mat density and air voids 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.

401-6.4 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 401-6.1d and 401-6.2b. Only one resampling per lot will be permitted.

(1) A redefined PWL will be calculated for the resampled lot. The number of tests used to calculate the redefined PWL 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 PWL for a resampled lot will be used to calculate the payment for that lot in accordance with Table 6.

c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%.

METHOD OF MEASUREMENT

401-7.1 Measurement. Asphalt shall be measured by the number of tons of asphalt used in the accepted

work. Batch weights or truck scale weights will be used to determine the basis for the tonnage.

BASIS OF PAYMENT

401-8.1 Payment. Payment for a lot of asphalt meeting all acceptance criteria as specified in paragraph 401-6.2 shall be made based on results of tests for mat density and air voids. Payment for acceptable lots shall be adjusted according to paragraph 401-8.1c for mat density and air voids; and paragraph 401-6.2c for joint density, subject to the limitation that:

a. The total project payment for plant mix asphalt pavement shall not exceed **one hundred percent (100%)** of the product of the contract unit price and the total number of tons of asphalt used in the accepted work.

b. The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

c. Basis of adjusted payment. The pay factor for each individual lot shall be calculated in accordance with Table 6. A pay factor shall be calculated for both mat density and air voids. The lot pay factor shall be the higher of the two values when calculations for both mat density and air voids are 100% or higher. The lot pay factor shall be the product of the two values when only one of the calculations for either mat density or air voids is 100% or higher. The lot pay factor shall be the lower of the two values when calculations for both mat density and air voids when calculations for both mat density or factor shall be the lower of the two values when calculations for both mat density is less than 71% then the lot pay factor shall be reduced by 5% but be no higher than 95%.

For each lot accepted, the adjusted contract unit price shall be the product of the lot pay factor for the lot and the contract unit price. Payment shall be subject to the total project payment limitation specified in paragraph 401-8.1a. Payment in excess of 100% for accepted lots of asphalt shall be used to offset payment for accepted lots of asphalt pavement that achieve a lot pay factor less than 100%.

Payment for sublots which do not meet grade in accordance with paragraph 401-6.2d after correction for over 25% of the sublot shall be reduced by 5%.

Percentage of material within specification limits (PWL)	Lot pay factor (percent of contract unit price)
96 - 100	106
90 - 95	PWL + 10
75 - 89	0.5 PWL + 55
55 - 74	1.4 PWL – 12
Below 55	Reject ²

Table 6. Price adjustment schedule¹

¹ Although it is theoretically possible to achieve a pay factor of 106% for each lot, actual payment above 100% shall be subject to the total project payment limitation specified in paragraph 401-8.1a.

² The lot shall be removed and replaced. However, the RPR may decide to allow the rejected lot to remain. In that case, if the RPR and Contractor agree in writing that the lot shall not be removed, it shall be paid for at 50% of the contract unit price and the total project payment shall be reduced by the amount withheld for the rejected lot.

d. Profilograph Roughness. Not used.

401-8.1 Payment.

Payment will be made under:

Item P-401-8.1 Asphalt Surface Course - per ton

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-µm (No. 200) Sieve in Mineral
	Aggregates by Washing
ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity) and Absorption
	of Coarse Aggregate
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 C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement
	Construction
ASTM D979	Standard Practice for Sampling Asphalt Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Asphalt Paving Mixtures
ASTM D1188	Standard Test Method for Bulk Specific Gravity and Density of Compacted
	Bituminous Mixtures Using Coated Samples
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Asphalt Paving
	Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Asphalt Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of
	Bituminous Paving Mixtures
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate
	Mixtures
ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive
	Compacted Bituminous Mixtures
ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear
	Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open
	Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement
	Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and
	Inspecting Road and Paving Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated
	Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5361	Standard Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing

ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6084	
	Standard Test Method for Elastic Recovery of Bituminous Materials by Ductilometer
ASTM D6307	Standard Test Method for Asphalt Content of Hot Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted
	Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6925	Standard Test Method for Preparation and Determination of the Relative Density of
	Hot Mix Asphalt (HMA) Specimens by Means of the SuperPave Gyratory Compactor.
ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific
	Gravity of the Mix (Gmm)
ASTM E11	Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
ASTM E178	Standard Practice for Dealing with Outlying Observations
ASTM E1274	Standard Test Method for Measuring Pavement Roughness Using a Profilograph
ASTM E950	Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces
	with an Accelerometer Established Inertial Profiling Reference
ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and
	Transverse Profiles of a Traveled Surface

American Association of State Highway and Transportation Officials (AASHTO)

- AASHTO M156 Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
- AASHTO T329 Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
- AASHTO T324 Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures
- AASHTO T 340 Standard Method of Test for Determining the Rutting Susceptibility of Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)

Asphalt Institute (AI)

Asphalt Institute Handbook MS-26, Asphalt Binder Asphalt Institute Handbook MS-2 Mix Design Manual, 7th Edition AI State Binder Specification Database

Federal Highway Administration (FHWA)

Long Term Pavement Performance Binder Program

Advisory Circulars (AC)

AC 150/5320-6 Airport Pavement Design and Evaluation

FAA Orders 5300.1

Modifications to Agency Airport Design, Construction, and Equipment Standards

FAA Software

FAARFIELD

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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 (10° C) or above; the temperature has not been below 35° F (2° C) 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 (13 km per hour) or seven (700) feet per minute (213 m 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, spraybar 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 (3.7-m) 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.

Surface Type	Residual Rate, gal/SY (L/square meter)	Emulsion Application Bar Rate, gal/SY (L/square meter)
New asphalt	0.02-0.05 (0.09-0.23)	0.03-0.07 (0.13-0.32)
Existing asphalt	0.04-0.07 (0.18-0.32)	0.06-0.11 (0.27-0.50)
Milled Surface	0.04-0.08 (0.18-0.36)	0.06-0.12 (0.27-0.54)
Concrete	0.03-0.05 (0.13-0.23)	0.05-0.08 (0.23-0.36)

Emulsified Asphalt

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 (liter). Volume shall be corrected to the volume at 60° F (16° C) 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 (liter) 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 (liter)

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-605 JOINT SEALANTS FOR PAVEMENTS

DESCRIPTION

605-1.1 This item shall consist of providing and installing a resilient and adhesive joint sealing material capable of effectively sealing joints in pavement; joints between different types of pavements; and cracks in existing pavement.

MATERIALS

605-2.1 Joint sealants. Joint sealant materials shall meet the requirements of:

ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

Each lot or batch of sealant shall be delivered to the jobsite in the manufacturer's original sealed container. Each container shall be marked with the manufacturer's name, batch or lot number, the safe heating temperature, and shall be accompanied by the manufacturer's certification stating that the sealant meets the requirements of this specification.

605-2.2 Backer rod. The material furnished shall be a compressible, non-shrinking, non-staining, non-absorbing material that is non-reactive with the joint sealant in accordance with ASTM D5249. The backer-rod material shall be $25\% \pm 5\%$ larger in diameter than the nominal width of the joint.

605-2.3 Bond breaking tapes. Provide a bond breaking tape or separating material that is a flexible, non-shrinkable, non-absorbing, non-staining, and non-reacting adhesive-backed tape. The material shall have a melting point at least 5°F (3°C) greater than the pouring temperature of the sealant being used when tested in accordance with ASTM D789. The bond breaker tape shall be approximately 1/8 inch (3 mm) wider than the nominal width of the joint and shall not bond to the joint sealant.

CONSTRUCTION METHODS

605-3.1 Time of application. Joints shall be sealed as soon after completion of the curing period as feasible and before the pavement is opened to traffic, including construction equipment. The pavement temperature shall be 50° F (10° C) and rising at the time of application of the poured joint sealing material. Do not apply sealant if moisture is observed in the joint.

605-3.2 Equipment. Machines, tools, and equipment used in the performance of the work required by this section shall be approved before the work is started and maintained in satisfactory condition at all times. Submit a list of proposed equipment to be used in performance of construction work including descriptive data **ten (10)** days prior to use on the project.

a. Tractor-mounted routing tool. Provide a routing tool, used for removing old sealant from the joints, of such shape and dimensions and so mounted on the tractor that it will not damage the sides of the joints. The tool shall be designed so that it can be adjusted to remove the old material to varying depths as required. The use of V-shaped tools or rotary impact routing devices will not be permitted. Hand-operated spindle routing devices may be used to clean and enlarge random cracks.

b. Concrete saw. Provide a self-propelled power saw, with water-cooled diamond or abrasive saw blades, for cutting joints to the depths and widths specified.

c. Sandblasting equipment. Sandblasting is not allowed.

d. Waterblasting equipment. Waterblasting is not allowed.

e. Hand tools. Hand tools may be used, when approved, for removing defective sealant from a crack and repairing or cleaning the crack faces. Hand tools should be carefully evaluated for potential spalling effects prior to approval for use.

f. Hot-poured sealing equipment. The unit applicators used for heating and installing ASTM D6690 joint sealant materials shall be mobile and shall be equipped with a double-boiler, agitator-type kettle with an oil medium in the outer space for heat transfer; a direct-connected pressure-type extruding device with a nozzle shaped for inserting in the joint to be filled; positive temperature devices for controlling the temperature of the transfer oil and sealant; and a recording type thermometer for indicating the temperature of the sealant. The applicator unit shall be designed so that the sealant will circulate through the delivery hose and return to the inner kettle when not in use.

g. Cold-applied, single-component sealing equipment. The equipment for installing ASTM D5893 single component joint sealants shall consist of an extrusion pump, air compressor, following plate, hoses, and nozzle for transferring the sealant from the storage container into the joint opening. The dimension of the nozzle shall be such that the tip of the nozzle will extend into the joint to allow sealing from the bottom of the joint to the top. Maintain the initially approved equipment in good working condition, serviced in accordance with the supplier's instructions, and unaltered in any way without obtaining prior approval. Small hand-held air-powered equipment (i.e., caulking guns) may be used for small applications.

605-3.3 Preparation of joints. Pavement joints for application of material in this specification must be dry, clean of all scale, dirt, dust, curing compound, and other foreign matter. The Contractor shall demonstrate, in the presence of the RPR, that the method cleans the joint and does not damage the joint.

a. Sawing. All joints shall be sawed in accordance with specifications and plan details. Immediately after sawing the joint, the resulting slurry shall be completely removed from joint and adjacent area by flushing with a jet of water, and by use of other tools as necessary.

b. Sealing. Immediately before sealing, the joints shall be thoroughly cleaned of all remaining laitance, curing compound, filler, protrusions of hardened concrete, old sealant and other foreign material from the sides and upper edges of the joint space to be sealed. Cleaning shall be accomplished by concrete saw as specified in paragraph 605-3.2. The newly exposed concrete joint faces and the pavement surface extending a minimum of 1/2 inch (12 mm) from the joint edge shall be sandblasted clean. Sandblasting shall be accomplished in a minimum of two passes. One pass per joint face with the nozzle held at an angle directly toward the joint face and not more than 3 inches (75 mm) from it. After final cleaning and immediately prior to sealing, blow out the joints with compressed air and leave them completely free of debris and water. The joint faces shall be surface dry when the seal is applied.

c. Backer Rod. When the joint opening is of a greater depth than indicated for the sealant depth, plug or seal off the lower portion of the joint opening using a backer rod in accordance with paragraph 605-2.2 to prevent the entrance of the sealant below the specified depth. Take care to ensure that the backer rod is placed at the specified depth and is not stretched or twisted during installation.

d. Bond-breaking tape. Where inserts or filler materials contain bitumen, or the depth of the joint opening does not allow for the use of a backup material, insert a bond-separating tape breaker in accordance with paragraph 605-2.3 to prevent incompatibility with the filler materials and three-sided adhesion of the sealant. Securely bond the tape to the bottom of the joint opening so it will not float up into the new sealant.

605-3.4 Installation of sealants. Joints shall be inspected for proper width, depth, alignment, and preparation, and shall be approved by the RPR before sealing is allowed. Sealants shall be installed in accordance with the following requirements:

Immediately preceding, but not more than 50 feet (15 m) ahead of the joint sealing operations, perform a final cleaning with compressed air. Fill the joints from the bottom up to 1/4 inch (6 mm) $\pm 1/16$ inch (2 mm)

below the top of pavement surface; or bottom of groove for grooved pavement. Remove and discard excess or spilled sealant from the pavement by approved methods. Install the sealant in such a manner as to prevent the formation of voids and entrapped air. In no case shall gravity methods or pouring pots be used to install the sealant material. Traffic shall not be permitted over newly sealed pavement until authorized by the RPR. When a primer is recommended by the manufacturer, apply it evenly to the joint faces in accordance with the manufacturer's instructions. Check the joints frequently to ensure that the newly installed sealant is cured to a tack-free condition within the time specified.

605-3.5 Inspection. The Contractor shall inspect the joint sealant for proper rate of cure and set, bonding to the joint walls, cohesive separation within the sealant, reversion to liquid, entrapped air and voids. Sealants exhibiting any of these deficiencies at any time prior to the final acceptance of the project shall be removed from the joint, wasted, and replaced as specified at no additional cost to the airport.

605-3.6 Clean-up. Upon completion of the project, remove all unused materials from the site and leave the pavement in a clean condition.

METHOD OF MEASUREMENT

605-4.1 Joint sealing material shall be measured by the linear foot (meter) of sealant in place, completed, and accepted.

BASIS OF PAYMENT

605-5.1 Payment for joint sealing material shall be made at the contract unit price per linear foot (meter). The price shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-605-5.1 Joint Sealing Filler, per linear foot (meter)

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 D789 Standard Test Method for Determination of Relative Viscosity of Polyamide (PA)
- ASTM D5249 Standard Specification for Backer Material for Use with Cold- and Hot-Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints
- ASTM D6690 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt

Advisory Circulars (AC)

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

END ITEM P-605

ITEM P-606 ADHESIVE COMPOUNDS, TWO-COMPONENT FOR SEALING WIRE AND LIGHTS IN PAVEMENT

DESCRIPTION

606-1.1 This specification covers two types of material; a liquid suitable for sealing electrical wire in saw cuts in pavement and for sealing light fixtures or bases in pavement, and a paste suitable for embedding light fixtures in the pavement. Both types of material are two-component filled formulas with the characteristics specified in paragraph 606-2.4. Materials supplied for use with asphalt and/or concrete pavements must be formulated so they are compatible with the asphalt and/or concrete.

MATERIALS

606-2.1 Curing. When pre-warmed to 77°F (25°C), mixed, and placed in accordance with manufacturer's directions, the materials shall cure at temperatures of 45°F (7°C) or above without the application of external heat.

606-2.2 Storage. The adhesive components shall not be stored at temperatures over $86^{\circ}F$ ($30^{\circ}C$), unless otherwise specified by the manufacturer.

606-2.3 Caution. Installation and use shall be in accordance with the manufacturer's recommended procedures. Avoid prolonged or repeated contact with skin. In case of contact, wash with soap and flush with water. If taken internally, call doctor. Keep away from heat or flame. Avoid vapor. Use in wellventilated areas. Keep in cool place. Keep away from children.

606-2.4 Characteristics. When mixed and cured in accordance with the manufacturer's directions, the materials shall have the following properties shown in Table 1.

Minimum	Maximum	ASTM Method
		·
1,000 psi (70 kg/sq cm)		D 638
500 psi (35 kg/sq cm)		
	See note ¹	D 638
50%		D 638
0.00090	0.00120	D 1168
0.000030	0.000040	D 1168
350 volts/mil.		D 149
125 sec		
1,000 psi (70 kg/sq cm)		
200 psi (14 kg/sq cm)		
No test available.		
250 psi		
	1,000 psi (70 kg/sq cm) 500 psi (35 kg/sq cm) 50% 0.00090 0.000030 350 volts/mil. 125 sec 1,000 psi (70 kg/sq cm) 200 psi (14 kg/sq cm) No test available.	1,000 psi (70 kg/sq cm) 500 psi (35 kg/sq cm) 500 psi (35 kg/sq cm) 50% 0.00090 0.00120 0.000030 0.000040 350 volts/mil. 125 sec 1,000 psi (70 kg/sq cm) 200 psi (14 kg/sq cm) No test available.

Table 1.	Property	Requirements
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20% or more (without filler) for formulations to be supplied for areas subject to freezing.

SAMPLING, INSPECTION, AND TEST PROCEDURES

606-3.1 Tensile properties. Tests for tensile strength and elongation shall be conducted in accordance with

ASTM D638.

606-3.2 Expansion. Tests for coefficients of linear and cubical expansion shall be conducted in accordance with, Method B, except that mercury shall be used instead of glycerine. The test specimen shall be mixed in the proportions specified by the manufacturer, and cured in a glass tub approximately 2 inch (50 mm) long by 3/8 inch (9 mm) in diameter. The interior of the tube shall be precoated with a silicone mold release agent. The hardened sample shall be removed from the tube and aged at room temperature for one (1) week before conducting the test. The test temperature range shall be from $35^{\circ}F$ ($2^{\circ}C$) to $140^{\circ}F$ ($60^{\circ}C$).

606-3.3 Test for dielectric strength. Test for dielectric strength shall be conducted in accordance with ASTM D149 for sealing compounds to be furnished for sealing electrical wires in pavement.

606-3.4 Test for arc resistance. Test for arc resistance shall be conducted for sealing compounds to be furnished for sealing electrical wires in pavement.

606-3.5 Test for adhesion to steel. The ends of two smooth, clean, steel specimens of convenient size (1 inch by 1 inch by 6 inch) (25 mm by 25 mm by 150 mm) would be satisfactory when bonded together with adhesive mixture and allowed to cure at room temperature for a period of time to meet formulation requirements and then tested to failure on a Riehle (or similar) tensile tester. The thickness of adhesive to be tested shall be 1/4 inch (6 mm).

606-3.6 Adhesion to Portland cement concrete

a. Concrete test block preparation. The aggregate grading shall be as shown in Table 2.

The coarse aggregate shall consist of crushed rock having a minimum of 75% of the particles with at least one fractured face and having a water absorption of not more than 1.5%. The fine aggregate shall consist of crushed sand manufactured from the same parent rock as the coarse aggregate. The concrete shall have a water-cement ratio of 5.5 gallons (21 liters) of water per bag of cement, a cement factor of 6, ± 0.5 , bags of cement per cubic yard (0.76 cubic meter) of concrete, and a slump of 2-1/2 inch (60 mm), $\pm 1/2$ inch (60 mm ± 12 mm). The ratio of fine aggregate to total aggregate shall be approximately 40% by solid volume. The air content shall be 5.0%, ± 0.5 %, and it shall be obtained by the addition to the batch of an air-entraining admixture such as Vinsol® resin. The mold shall be of metal and shall be provided with a metal base plate.

Means shall be provided for securing the base plate to the mold. The assembled mold and base plate shall be watertight and shall be oiled with mineral oil before use. The inside measurement of the mold shall be such that several one inch (25 mm) by 2-inch (75 mm) by 3-inch (25 mm by 50 mm by 75 mm) test blocks can be cut from the specimen with a concrete saw having a diamond blade. The concrete shall be prepared and cured in accordance with ASTM C192.

Туре	Sieve Size	Percent Passing	
	3/4 inch (19.0 mm)	97 to 100	
Coores Aggregate	1/2 inch (12.5 mm)	63 to 69	
Coarse Aggregate	3/8 inch (9.5 mm)	30 to 36	
	No. 4 (4.75 mm)	0 to 3	
	No. 4 (4.75 mm)	100	
	No. 8 (2.36 mm)	82 to 88	
Fine Aggregate	No. 16 (1.18 mm)	60 to 70	
r me Aggregate	No. 30 (600 µm)	40 to 50	
	No. 50 (300 µm)	16 to 26	
	No. 100 (150 µm)	5 to 9	

b. Bond test. Prior to use, oven-dry the test blocks to constant weight at a temperature of 220°F to 230°F (104°C to 110°C), cool to room temperature, 73.4°F \pm 3°F (23°C \pm 1.6°C), in a desiccator, and clean the

surface of the blocks of film or powder by vigorous brushing with a stiff-bristled fiber brush. Two test blocks shall be bonded together on the one inch by 3 inch (25 mm by 75 mm) sawed face with the adhesive mixture and allowed to cure at room temperature for a period of time to meet formulation requirements and then tested to failure in a Riehle (or similar) tensile tester. The thickness of the adhesive to be tested shall be 1/4 inch (6 mm).

606-3.7 Compatibility with asphalt mix. Test for compatibility with asphalt in accordance with ASTM D5329.

606-3.8 Adhesive compounds - Contractor's responsibility. The Contractor shall furnish the vendor's certified test reports for each batch of material delivered to the project. The report shall certify that the material meets specification requirements and is suitable for use with concrete or asphalt concrete pavements. The report shall be provided to and accepted by the Resident Project Representative (RPR) before use of the material. In addition, the Contractor shall obtain a statement from the supplier or manufacturer that guarantees the material for one year. The supplier or manufacturer shall furnish evidence that the material has performed satisfactorily on other projects.

606-3.9 Application. Adhesive shall be applied on a dry, clean surface, free of grease, dust, and other loose particles. The method of mixing and application shall be in strict accordance with the manufacturer's recommendations. When used with Item P-605, such as light can installation, Item P-605 shall not be applied until the Item P-606 has fully cured.

METHOD OF MEASUREMENT

606-4.1 The adhesive compound shall be measured by the gallon (l) of adhesive as specified, in place, complete and accepted.

When required in the installation of an in-runway lighting system or portion thereof, no measurement will be made for direct payment of adhesive, as the cost of furnishing and installing shall be considered as a subsidiary obligation in the completion of the installation.

BASIS OF PAYMENT

606-5.1 Payment shall be made, where applicable, at the contract unit price per gallon (1) for the adhesive. This price shall be full compensation for furnishing all materials, and for all preparation, delivering, and application of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

When required in the installation of an in-runway lighting system or portion thereof, no separate payment will be made for the adhesive, as the cost of furnishing and installing shall be considered as a subsidiary obligation in the completion of the installation.

Item P-606-5.1 Adhesive Compound - per gallon (1) – Not Used

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 C192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
ASTM D149	Standard Test Method for Dielectric Breakdown Voltage and Dielectric Strength of
	Solid Electrical Insulating Materials at Commercial Power Frequencies
ASTM D638	Standard Test Method for Tensile Properties of Plastics
ASTM D5329	Standard Test Methods for Sealants and Fillers, Hot-applied, for Joints and Cracks in
	Asphaltic and Portland Cement Concrete Pavements

END OF ITEM P-606

ITEM P-610 CONCRETE FOR MISCELLANEOUS STRUCTURES

DESCRIPTION

610-1.1 This item shall consist of concrete and reinforcement, as shown on the plans, prepared and constructed in accordance with these specifications. This specification shall be used for all concrete other than airfield pavement which are cast-in-place.

MATERIALS

610-2.1 General. Only approved materials, conforming to the requirements of these specifications, shall be used in the work. Materials may be subject to inspection and tests at any time during their preparation or use. The source of all materials shall be approved by the Resident Project Representative (RPR) before delivery or use in the work. Representative preliminary samples of the materials shall be submitted by the Contractor, when required, for examination and test. Materials shall be stored and handled to ensure preservation of their quality and fitness for use and shall be located to facilitate prompt inspection. All equipment for handling and transporting materials and concrete must be clean before any material or concrete is placed in them.

The use of pit-run aggregates shall not be permitted unless the pit-run aggregate has been screened and washed, and all fine and coarse aggregates stored separately and kept clean. The mixing of different aggregates from different sources in one storage stockpile or alternating batches of different aggregates shall not be permitted.

a. Reactivity. Fine aggregate and coarse aggregates to be used in all concrete shall have been tested separately within six months of the project in accordance with ASTM C1260. Test results shall be submitted to the RPR. The aggregate shall be considered innocuous if the expansion of test specimens, tested in accordance with ASTM C1260, does not exceed 0.08% at 14 days (16 days from casting). If the expansion either or both test specimen is greater than 0.08% at 14 days, but less than 0.20%, a minimum of 25% of Type F fly ash, or between 40% and 55% of slag cement shall be used in the concrete mix.

If the expansion is greater than 0.20%, the aggregates shall not be used, and test results for other aggregates must be submitted for evaluation; or aggregates that meet P-501 reactivity test requirements may be utilized.

610-2.2 Coarse aggregate. The coarse aggregate for concrete shall meet the requirements of ASTM C33 and the requirements of Table 4, Class Designation 5S; and the grading requirements shown below, as required for the project.

Maximum Aggregate Size	ASTM C33, Table 3 Grading Requirements (Size No.)	
1 1/2 inch (37.5 mm)	467 or	
1 1/2 men (37.3 mm)	4 and 67	
1 inch (25 mm)	57	
³ / ₄ inch (19 mm)	67	
¹ / ₂ inch (12.5 mm)	7	

Coarse Aggregat	e Grading	Requirements
Coarse Aggregat	c Oraung	Keyun ements

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 **III (High Early Strength)** for in-pavement base cans and **ASTM C150** Type **I or II** for general use concrete.

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.**

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 conforming to the requirements of ASTM A615, ASTM A706, ASTM A775 or ASTM A934.

610-2.11 Materials for curing concrete. Curing materials shall conform to one of the following:

Materials for Curing

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 4000 psi (28 MPa) 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 (280 kg per cubic meter). 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 (100 mm) 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 (4° C) 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 (10° C) nor more than 100° F (38° C). 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 (1.5 m). 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 (4°C), follow the cold weather concreting recommendations found in ACI 306R, Cold Weather Concreting.

610-3.14 Hot weather placing. When concrete is placed in hot weather greater than 85°F (30 °C), follow the hot weather concreting recommendations found in ACI 305R, Hot Weather Concreting.

QUALITY ASSURANCE (QA)

610-4.1 Quality Assurance sampling and testing. Concrete for each day's placement will be accepted on the basis of the compressive strength specified in paragraph 610-3.2. The RPR will sample the concrete in accordance with ASTM C172; test the slump in accordance with ASTM C143; make and cure compressive strength specimens in accordance with ASTM C31; and test in accordance with ASTM C39. The QA testing agency will meet the requirements of ASTM C1077.

The Contractor shall provide adequate facilities for the initial curing of cylinders.

610-4.2 Defective work. Any defective work that cannot be satisfactorily repaired as determined by the RPR, shall be removed and replaced at the Contractor's expense. Defective work includes, but is not limited to, uneven dimensions, honeycombing and other voids on the surface or edges of the concrete.

METHOD OF MEASUREMENT

610-5.1 Concrete shall be considered incidental and no separate measurement shall be made.

BASIS OF PAYMENT

610-6.1 Payment for concrete shall be considered incidental and no separate payment shall be made. 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 Concrete, incidental to other work 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 Internation	al (ASTM)
ASTM A184	Standard Specification for Welded Deformed Steel Bar Mats for Concrete
	Reinforcement
ASTM A615	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete
	Reinforcement
ASTM A704	Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete
	Reinforcement
ASTM A706	Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete
	Reinforcement
ASTM A775	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A884	Standard Specification for Epoxy-Coated Steel Wire and Welded Wire
	Reinforcement
ASTM A934	Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars
ASTM A1064	Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain
	and Deformed, for Concrete
ASTM C31	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33	Standard Specification for Concrete Aggregates
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM C114	Standard Test Methods for Chemical Analysis of Hydraulic Cement
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C143	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete
ASTM C172	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C231	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure
	Method
ASTM C260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing
	Concrete
ASTM C311	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for
	Use in Portland-Cement Concrete
ASTM C494	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for
	Use in Concrete
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing
ASTM C685	Standard Specification for Concrete Made by Volumetric Batching and Continuous
	Mixing
ASTM C989	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1017	Standard Specification for Chemical Admixtures for Use in Producing Flowing
	Concrete

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in
	Construction and Criteria for Testing Agency Evaluation
ASTM C1157	Standard Performance Specification for Hydraulic Cement
ASTM C1260	Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar
	Method)
ASTM C1365	Standard Test Method for Determination of the Proportion of Phases in Portland
	Cement and Portland-Cement Clinker Using X-Ray Powder Diffraction Analysis
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic
	Cement Concrete
ASTM D1751	Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and
	Structural Construction (Nonextruding and Resilient Asphalt Types)
ASTM D1752	Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC
	Expansion Joint Fillers for Concrete Paving and Structural Construction

American Concrete Institute (ACI)

ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather Concreting
ACI 308R	Guide to External Curing of Concrete
ACI 309R	Guide for Consolidation of Concrete

END OF ITEM P-610

ITEM P-620 RUNWAY AND TAXIWAY MARKING

DESCRIPTION

620-1.1 This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms "paint" and "marking material" as well as "painting" and "application of markings" are interchangeable throughout this specification.

MATERIALS

620-2.1 Materials acceptance. The Contractor shall furnish manufacturer's certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer's surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

620-2.2 Marking materials.

Paint ¹			Glass Beads ²		
Туре	Color	Fed Std. 595 Number	Application Rate Maximum	Туре	Application Rate Minimum
Waterborne Type II	White ³	37925	115 ft ² /gal	Type I, Gradation A	7 lb/gal
Waterborne Type II	White ⁴	37925	115 ft ² /gal	Type III	10 lb/gal
Waterborne Type II	Yellow	33538 or 33655	115 ft ² /gal	Type I, Gradation A	7 lb/gal
Waterborne Type II	Red	31136	115 ft ² /gal	Type I, Gradation A	5 lb/gal
Waterborne Type II	Black	37038	115 ft ² /gal	No Beads	No Beads
Waterborne Type II	Green	34108	115 ft ² /gal	No Beads	No Beads
Temporary Marking Waterborne Type II	ALL	See Above for Color Used	230 ft ² /gal	No beads	No beads

Table 1. Marking Materials

¹ See paragraph 620-2.2a

² See paragraph 620-2.2b

³ General Application for White Paint

⁴ Application of White Paint for Designator in Surface Painted Hold Sign

a. Paint. Paint shall be waterborne in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595.

Waterborne. Paint shall meet the requirements of Federal Specification TT-P-1952F, Type II. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis.

b. Reflective media. Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type I, Gradation A, except white paint in Surface Painted Hold Signs shall be Type III.

Glass beads for red and pink paint shall meet the requirements for Type I, Gradation A.

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black and green paint.

Type III glass beads shall not be used in red and pink paint.

CONSTRUCTION METHODS

620-3.1 Weather limitations. Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

620-3.2 Equipment. Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

620-3.3 Preparation of surfaces. Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminates that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

a. Preparation of new pavement surfaces. The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

b. Preparation of pavement to remove existing markings. Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings.

c. Preparation of pavement markings prior to remarking. Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufactures application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

620-3.4 Layout of markings. The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

620-3.5 Application. A period of **thirty (30) days** shall elapse between placement of surface course or seal coat and application of the permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m), and marking dimensions and spacing shall be within the following tolerances:

Dimension and Spacing	Tolerance
36 inch (910 mm) or less	$\pm 1/2$ inch (12 mm)
greater than 36 inch to 6 feet (910 mm to 1.85 m)	±1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	±2 inch (50 mm)
greater than 60 feet (18.3 m)	±3 inch (76 mm)

Marking Dimensions and Spacing Tolerance

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

620-3.6 Application--preformed thermoplastic airport pavement markings.

Preformed thermoplastic pavement markings not used.

620-3.7 Control strip. Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

620-3.8 Retro-reflectance. [Reflectance shall be measured with a portable retro-reflectometer meeting ASTM E1710 (or equivalent). A total of 6 reading shall be taken over a 6 square foot area with 3 readings taken from each direction. The average shall be equal to or above the minimum levels of all readings which are within 30% of each other.

Material	Retro-reflectance mcd/m ² /lux		
	White	Yellow	Red
Initial Type I	300	175	35
Initial Type III	600	300	35
Initial Thermoplastic	225	100	35
All materials, remark when less than ¹	100	75	10

Minimum Retro-Reflectance Values

¹ 'Prior to remarking determine if removal of contaminants on markings will restore retro-reflectance

620-3.9 Protection and cleanup. After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

METHOD OF MEASUREMENT

620-4.1a The quantity of surface preparation shall be measured by the number of square feet (square meters) for each type of surface preparation specified in paragraph 620-3.3.

620-4.1b The quantity of markings shall be paid for shall be measured by the number of square feet (square meters) of painting.

620-4.1c The quantity of reflective media shall be paid for by the number of pounds (km) of reflective media.

620-4.1d The quantity of temporary markings to be paid for shall be the number of square feet (square meters) of painting performed in accordance with the specifications and accepted by the RPR. Temporary marking includes surface preparation, application and complete removal of the temporary marking.

BASIS OF PAYMENT

620-5.1 This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

620-5.1a Payment for surface preparation shall be made at the contract price for the number of square feet (square meters) for each type of surface preparation specified in paragraph 620-3.3.

620-5.2b Payment for markings shall be made at the contract price for the number of square feet (square meters) of painting.

620-5.3c Payment for reflective media shall be made at the contract unit price for the number of pounds (km) of reflective media.

620-5.4d Payment for temporary markings shall be made at the contract price for the number of square feet (square meters) of painting. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

- Item P-620-5.1a Surface Preparation per square foot (square meter)
- Item P-620-5.2b Marking per square foot (square meter)

Item P-620-5.3cReflective Media per pound (km)

Item P-620-5.4d Temporary runway and taxiway marking per square 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.

ASTM International (ASTM)

ASTM D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling
	Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of
	Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable
	Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British
	Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking
	Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer
ASTM E2302	Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse
	Illumination of Pavement Marking Materials Using a Portable Reflectometer
ASTM G154	Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for
	Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24

Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings

29 CFR Part 1910.1200 Hazard Communication

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D	Beads (Glass Spheres) Retro-Reflective
FED SPEC TT-P-1952F	Paint, Traffic and Airfield Marking, Waterborne
FED STD 595	Colors used in Government Procurement

Commercial Item Description

A-A-2886B Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1 Standards for Airport Markings

AC 150/5320-12 Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

END OF ITEM P-620TW

ITEM D-701 PIPE FOR STORM DRAINS AND CULVERTS

DESCRIPTION

701-1.1 This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

MATERIALS

701-2.1 Materials shall meet the requirements shown on the plans and specified below. Underground piping and components used in drainage systems for terminal and aircraft fueling ramp drainage shall be noncombustible and inert to fuel in accordance with National Fire Protection Association (NFPA) 415.

701-2.2 Pipe. The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

American Association of State Highway and Transportation Officials (AASHTO)

- 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 R73 Standard Practice for Evaluation of Precast Concrete Drainage Productions

ASTM International (ASTM)

ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
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 C1479	Standard Practice for Installation of Precast Concrete Sewer, Storm Drain, and Culvert Pipe Using Standard Installations
ASTM C1840	Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe
ASTM F667	Standard Specification for 3 through 24 in Corrugated Polyethylene Pipe and Fittings
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain 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. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precoated galvanized pipe shall conform to the requirements of ASTM D1056, for the "RE" closed cell grades. Rubber gaskets for steel reinforced

thermoplastic ribbed pipe shall conform to the requirements of ASTM F477.

701-2.5 Joint mortar. Pipe joint mortar shall consist of one part Portland cement and two parts sand. The Portland cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

701-2.6 Joint fillers. 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 (300 mm) 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 (200 mm) or 1/2 inch (12 mm) for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The excavation below grade should be filled with granular material to form a uniform foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

The excavation for pipes placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

701-3.2 Bedding. The bedding surface for the pipe shall provide a foundation of uniform density to support the pipe throughout its entire length.

a. Rigid pipe. The pipe bedding shall be constructed uniformly for the full length of the pipe barrel, as required on the plans. The maximum aggregate size shall be 1 in when the bedding thickness is less than 6 inches, and 1-1/2 in when the bedding thickness is greater than 6 inches. Bedding shall be loosely placed uncompacted material under the middle third of the pipe prior to placement of the pipe.

b. Flexible pipe. For flexible pipe, the bed shall be roughly shaped to fit the pipe, and a bedding blanket of sand or fine granular material shall be provided as follows:

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

Flexible Pipe Bedding

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 (19 mm). 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 (150 mm) below the bottom of the pipe and extend up around the pipe for a depth of not less than 50% of the pipe's vertical outside diameter.

701-3.3 Laying pipe. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

701-3.4 Joining pipe. Joints shall be made with (1) cement mortar, (2) cement grout, (3) rubber gaskets, (4) plastic gaskets, (5) coupling bands as recommended by the pipe manufacturer or as noted herein.

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 (150 mm) on each side of the pipe and shall be brought up one foot (30 cm) 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 (150 mm) and shall be brought up evenly on each side of the pipe to one foot (30 cm) 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 place and compacted in layers as required to achieve compaction to at least 95 percent standard proctor per ASTM D1557. The soil shall contain no debris, organic matter, frozen material, or stones with a diameter greater than one half the thickness of the compacted layers being placed.

701-3.7 Inspection Requirements

An initial post installation inspection shall be performed by the RPR no sooner than 30 days after completion of installation and final backfill. Clean or flush all lines prior to inspection.

Incorporate specific inspection requirements for the various types of pipes beneath the general inspection requirements.

Reinforced concrete pipe shall be inspected, evaluated, and reported on in accordance with ASTM C1840, "Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe." Any issues reported shall include still photo and video documentation. The zoom ratio shall be provided for all still or video images that document any issues of concern by the inspection firm.

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet (m) of pipe in place, completed, and accepted. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. The measurement shall identify each class, types and size of pipe which shall be measured separately. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

701-4.2. Precast box culverts. Not used.

701-4.3 Pipe cradles. Not used.

701-4.4 Rock excavation. Not used.

BASIS OF PAYMENT

701-5.0 These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

701-5.1 Payment will be made at the contract unit price per linear foot (meter) for each class and size of Reinforced Concrete Pipe.

701-5.2 Not used.

701-5.3 Not used.

701-5.4 Not used.

Payment will be made under:

Item 701-5.1	12-inch Class V Reinforced Concrete Pipe per linear foot (meter)
Item 701-5.2	Not used.
Item 701-5.3	Not used.
Item 701-5.4	Not used.

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 Internationa	<u>1 (ASTM)</u>
ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches

- ASTM A762 Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
- ASTM A849 Standard Specification for Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe
- ASTM B745 Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
- ASTM C14 Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
- ASTM C76 Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
- ASTM C94 Standard Specification for Ready Mixed Concrete
- ASTM C144 Standard Specification for Aggregate for Masonry Mortar
- ASTM C150 Standard Specification for Portland Cement

ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non- Pressure Drainage and Sewerage
ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe

- ASTM F2764 Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
- ASTM F2881 Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

National Fire Protection Association (NFPA)

NFPA 415 Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways

END ITEM D-701

ITEM D-751 MANHOLES, CATCH BASINS, INLETS AND INSPECTION HOLES

DESCRIPTION

751-1.1 This item shall consist of construction of manholes, catch basins, inlets, and inspection holes, in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

MATERIALS

751-2.1 Brick. The brick shall conform to the requirements of ASTM C32, Grade MS.

751-2.2 Mortar. Mortar shall consist of one part Portland cement and two parts sand. The cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

751-2.3 Concrete. Plain and reinforced concrete used in structures, connections of pipes with structures, and the support of structures or frames shall conform to the requirements of Item P-610.

751-2.4 Precast concrete pipe manhole rings. Precast concrete pipe manhole rings shall conform to the requirements of ASTM C478. Unless otherwise specified, the risers and offset cone sections shall have an inside diameter of not less than 36 inches (90 cm) nor more than 48 inches (120 cm). There shall be a gasket between individual sections and sections cemented together with mortar on the inside of the manhole. Gaskets shall conform to the requirements of ASTM C443.

751-2.5 Corrugated metal. Corrugated metal shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M36.

751-2.6 Frames, covers, and grates. The castings shall conform to one of the following requirements:

- **a.** ASTM A48, Class 35B: Gray iron castings
- **b.** ASTM A47: Malleable iron castings
- c. ASTM A27: Steel castings
- d. ASTM A283, Grade D: Structural steel for grates and frames
- e. ASTM A536, Grade 65-45-12: Ductile iron castings
- **f.** ASTM A897: Austempered ductile iron castings

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings, aircraft gear configuration and/or direct loading, specified.

Each frame and cover or grate unit shall be provided with fastening members to prevent it from being dislodged by traffic but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

751-2.7 Steps. The steps or ladder bars shall be gray or malleable cast iron or galvanized steel. The steps shall be the size, length, and shape shown on the plans and those steps that are not galvanized shall be given a coat of asphalt paint, when directed.

751-2.8 Precast inlet structures. Manufactured in accordance with and conforming to ASTM C913.

CONSTRUCTION METHODS

751-3.1 Unclassified excavation.

a. The Contractor shall excavate for structures and footings to the lines and grades or elevations, shown on the plans, or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximately only; and the RPR may direct, in writing, changes in dimensions or elevations of footings necessary for a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. Where concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for the structure.

d. All bracing, sheathing, or shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage finished masonry. The cost of removal shall be included in the unit price bid for the structure.

e. After excavation is completed for each structure, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

751-3.2 Brick structures.

a. Foundations. A prepared foundation shall be placed for all brick structures after the foundation excavation is completed and accepted. Unless otherwise specified, the base shall consist of reinforced concrete mixed, prepared, and placed in accordance with the requirements of Item P-610.

b. Laying brick. All brick shall be clean and thoroughly wet before laying so that they will not absorb any appreciable amount of additional water at the time they are laid. All brick shall be laid in freshly made mortar. Mortar not used within 45 minutes after water has been added shall be discarded. Retempering of mortar shall not be permitted. An ample layer of mortar shall be spread on the beds and a shallow furrow shall be made in it that can be readily closed by the laying of the brick. All bed and head joints shall be filled solid with mortar. End joints of stretchers and side or cross joints of headers shall be fully buttered with mortar and a shoved joint made to squeeze out mortar at the top of the joint. Any bricks that may be loosened after the mortar has taken its set, shall be removed, cleaned, and re-laid with fresh mortar. No broken or chipped brick shall be used in the face, and no spalls or bats shall be used except where necessary to shape around irregular openings or edges; in which case, full bricks shall be placed at ends or corners where possible, and the bats shall be used in the interior of the course. In making closures, no piece of brick shorter than the width of a whole brick shall be used; and wherever practicable, whole brick shall be used and laid as headers.

c. Joints. All joints shall be filled with mortar at every course Exterior faces shall be laid up in advance of backing. Exterior faces shall be plastered or parged with a coat of mortar not less than 3/8 inch (9 mm) thick before the backing is laid up. Prior to parging, all joints on the back of face courses shall be cut flush. Unless otherwise noted, joints shall be not less than 1/4 inch (6 mm) nor more than 1/2 inch (12 mm) wide and the selected joint width shall be maintained uniform throughout the work.

d. Pointing. Face joints shall be neatly struck, using the weather-struck joint. All joints shall be finished

properly as the laying of the brick progresses. When nails or line pins are used, the holes shall be immediately plugged with mortar and pointed when the nail or pin is removed.

e. Cleaning. Upon completion of the work all exterior surfaces shall be thoroughly cleaned by scrubbing and washing with water. If necessary to produce satisfactory results, cleaning shall be done with a 5% solution of muriatic acid which shall then be rinsed off with liberal quantities of water.

f. Curing and cold weather protection. The brick masonry shall be protected and kept moist for at least 48 hours after laying the brick. Brick masonry work or pointing shall not be done when there is frost on the brick or when the air temperature is below 50° F (10° C) unless the Contractor has, on the project ready to use, suitable covering and artificial heating devices necessary to keep the atmosphere surrounding the masonry at a temperature of not less than 60° F (16° C) for the duration of the curing period.

751-3.3 Concrete structures. Concrete structures which are to be cast-in-place within the project boundaries shall be built on prepared foundations, conforming to the dimensions and shape indicated on the plans. The construction shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

All invert channels shall be constructed and shaped accurately to be smooth, uniform, and cause minimum resistance to flowing water. The interior bottom shall be sloped to the outlet.

751-3.4 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program.

Precast concrete structures shall conform to ASTM C478. Precast concrete structures shall be constructed on prepared or previously placed slab foundations conforming to the dimensions and locations shown on the plans. All precast concrete sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily. Joints between precast concrete risers and tops shall be full-bedded in cement mortar and shall: (1) be smoothed to a uniform surface on both interior and exterior of the structure or (2) utilize a rubber gasket per ASTM C443. The top of the upper precast concrete section shall be made for any connections for lateral pipe, including drops and leads that may be installed in the structure. The flow lines shall be smooth, uniform, and cause minimum resistance to flow. The metal or metal encapsulated steps that are embedded or built into the side walls shall be aligned and placed in accordance to ASTM C478. When a metal ladder replaces the steps, it shall be securely fastened into position.

751-3.5 Corrugated metal structures. Corrugated metal structures shall be prefabricated. All standard or special fittings shall be furnished to provide pipe connections or branches with the correct dimensions and of sufficient length to accommodate connecting bands. The fittings shall be welded in place to the metal structures. The top of the metal structure shall be designed so that either a concrete slab or metal collar may be attached to allow the fastening of a standard metal frame and grate or cover. Steps or ladders shall be furnished as shown on the plans. Corrugated metal structures shall be constructed on prepared foundations, conforming to the dimensions and locations as shown on the plans. When indicated, the structures shall be placed on a reinforced concrete base.

751-3.6 Inlet and outlet pipes. Inlet and outlet pipes shall extend through the walls of the structures a sufficient distance beyond the outside surface to allow for connections. They shall be cut off flush with the wall on the inside surface of the structure, unless otherwise directed. For concrete or brick structures, mortar shall be placed around these pipes to form a tight, neat connection.

751-3.7 Placement and treatment of castings, frames, and fittings. All castings, frames, and fittings shall be placed in the positions indicated on the plans or as directed by the RPR, and shall be set true to line and

elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

When frames or fittings are placed on previously constructed masonry, the bearing surface of the masonry shall be brought true to line and grade and shall present an even bearing surface so the entire face or back of the unit will come in contact with the masonry. The unit shall be set in mortar beds and anchored to the masonry as indicated on the plans or as directed by the RPR. All units shall set firm and secure.

After the frames or fittings have been set in final position, the concrete or mortar shall be allowed to harden for seven (7) days before the grates or covers are placed and fastened down.

751-3.8 Installation of steps. The steps shall be installed as indicated on the plans or as directed by the RPR. When the steps are to be set in concrete, they shall be placed and secured in position before the concrete is placed. When the steps are installed in brick masonry, they shall be placed as the masonry is being built. The steps shall not be disturbed or used until the concrete or mortar has hardened for at least seven (7) days. After seven (7) days, the steps shall be cleaned and painted, unless they have been galvanized.

When steps are required with precast concrete structures they shall meet the requirements of ASTM C478. The steps shall be cast into the side of the sections at the time the sections are manufactured or set in place after the structure is erected by drilling holes in the concrete and cementing the steps in place.

When steps are required with corrugated metal structures, they shall be welded into aligned position at a vertical spacing of 12 inches (300 mm).

Instead of steps, prefabricated ladders may be installed. For brick or concrete structures, the ladder shall be held in place by grouting the supports in drilled holes. For metal structures, the ladder shall be secured by welding the top support to the structure and grouting the bottom support into drilled holes in the foundation or as directed by the RPR.

751-3.9 Backfilling.

a. After a structure has been completed, the area around it shall be backfilled with approved material, in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited evenly around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

b. Backfill shall not be placed against any structure until approved by the RPR. For concrete structures, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill and placing methods.

c. Backfill shall not be measured for direct payment. Performance of this work shall be considered an obligation of the Contractor covered under the contract unit price for the structure involved.

751-3.10 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

751-4.1 Manholes, catch basins, inlets, and inspection holes shall be measured by the unit.

BASIS OF PAYMENT

751-5.1 The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item D-751-5.1	Manholes - per each – NOT USED
Item D-751-5.2	Catch Basins - per each
Item D-751-5.3	Adjust Structure Rim/Grate Elevation - per each

REFERENCES

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

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123 Products	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C32	Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale)
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443 Gaskets.	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber
ASTM C478	Standard Specification for Precast Reinforced Concrete Manhole Sections
ASTM C913	Standard Specification for Precast Concrete Water and Wastewater Structures.
American Asso	ociation of State Highway and Transportation Officials (AASHTO)

AASHTO M36 Standard Specification for Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains

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ITEM T-901 SEEDING

DESCRIPTION

901-1.1 This item shall consist of soil preparation, seeding, fertilizing and liming the areas shown on the plans or as directed by the RPR in accordance with these specifications.

MATERIALS

901-2.1 Seed. The species and application rates of grass, legume, and cover-crop seed furnished shall be those stipulated herein. Seed shall conform to the requirements of Federal Specification JJJ-S-181, Federal Specification, Seeds, Agricultural.

Seed shall be furnished separately or in mixtures in standard containers labeled in conformance with the Agricultural Marketing Service (AMS) Seed Act and applicable state seed laws with the seed name, lot number, net weight, percentages of purity and of germination and hard seed, and percentage of maximum weed seed content clearly marked for each kind of seed. The Contractor shall furnish the RPR duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within six (6) months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed. Wet, moldy, or otherwise damaged seed will be rejected.

Seeds shall be applied as follows:

Seed	Minimum Seed Purity (Percent)	Minimum Germination (Percent)	Rate of Application lb./acre	Rate of Application lb./1000 SF
Creeping Red Fescue	96	85	35 (44%)	0.80 (44%)
Perennial Ryegrass	98	90	30 (38%)	0.69 (38%)
Redtop	95	80	5 (6%)	0.11 (6%)
Alsike Clover	97	90	5 (6%)	0.11 (6%)
Birdsfoot Trefoil	98	80	5 (6%)	0.11 (6%)
TOTAL			80 lbs/acre	1.84 lbs/1000 SF

Seeding shall be performed during the period between Spring and late Summer (prior to September 15th), unless otherwise approved by the RPR.

901-2.2 Lime. Lime shall be ground limestone containing not less than 85% of total carbonates, and shall be ground to such fineness that 90% will pass through a No. 20 (850 μ m) mesh sieve and 50% will pass through a No. 100 (150 μ m) mesh sieve. Coarser material will be acceptable, providing the rates of application are increased to provide not less than the minimum quantities and depth specified in the special provisions on the basis of the two sieve requirements above. Dolomitic lime or a high magnesium lime shall contain at least 10% of magnesium oxide. Lime shall be applied at the rate of as shown in Table 1. All liming materials shall conform to the requirements of ASTM C602.

Existing Soil pH	Limestone to be Added		
	Tons/Acre	Pounds/1000 SF	
4.0 - 4.4	3	138	
4.5 - 4.9	2	92	
5.0 - 5.4	1	46	

Table 1 – Supplemental Lime

901-2.3 Fertilizer. Fertilizer shall be standard commercial fertilizers supplied separately or in mixtures containing the percentages of total nitrogen, available phosphoric acid, and water-soluble potash. They shall be applied at the rate and to the depth specified, and shall meet the requirements of applicable state laws. They shall be furnished in standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. No cyanamide compounds or hydrated lime shall be permitted in mixed fertilizers.

The fertilizers may be supplied in one of the following forms:

- a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader;
- b. A finely-ground fertilizer soluble in water, suitable for application by power sprayers; or
- c. A granular or pellet form suitable for application by blower equipment.

Fertilizers shall be commercial fertilizer and shall be spread at the rate as shown in Table 2 as specific site conditions require.

Percent of Nutrients		Minimum Application Rate	Measurement
Initial	Refertilization	(Lbs per 1000 Sq. Ft.)	Factor
10-10-10		20.0	1.0
15-15-15		13.4	1.5
19-19-19		10.5	1.9
	10-3-6	20.0	1.0
	12-2-8	16.7	1.2
	12-4-8	16.7	1.2

 Table 2 – Fertilizer Application Information

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 (50 mm) 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 (125 mm) as a result of grading operations and, if immediately prior to seeding, the top 3 inches (75 mm) 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 (125 mm). Clods shall be broken and the top 3 inches (75 mm) of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

901-3.2 Dry application method.

a. Liming. Lime shall be applied separately and prior to the application of any fertilizer or seed and only on seedbeds that have previously been prepared as described above. The lime shall then be worked into the top 3 inches (75 mm) of soil after which the seedbed shall again be properly graded and dressed to a smooth finish.

b. Fertilizing. Following advance preparations and cleanup fertilizer shall be uniformly spread at the rate that will provide not less than the minimum quantity stated in paragraph 901-2.3.

c. Seeding. Grass seed shall be sown at the rate specified in paragraph 901-2.1 immediately after fertilizing. The fertilizer and seed shall be raked within the depth range stated in the special provisions. Seeds of legumes, either alone or in mixtures, shall be inoculated before mixing or sowing, in accordance with the instructions of the manufacturer of the inoculant. When seeding is required at other than the seasons shown on the plans or in the special provisions, a cover crop shall be sown by the same methods required for grass and legume seeding.

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately compacted by means of an approved lawn roller, weighing 40 to 65 pounds per foot (60 to 97 kg per meter) of width for clay soil (or any soil having a tendency to pack), and weighing 150 to 200 pounds per foot (223 to 298 kg per meter) 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 (190 liters) 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 (380 liters) per minute at a pressure of 100 lb / sq inches (690 kPa). 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 (16 mm) 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 (6 to 30 m). 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 (15 m) 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 (100 kg) of lime shall be added to and mixed with each 100 gallons (380 liters) of water. Seed and fertilizer shall be mixed together in the relative proportions specified, but not more than a total of 220 pounds (100 kg) of these combined solids shall be added to and mixed with each 100 gallons (380 liters) 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 (75 mm), 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 (0.01 sq m) or less, randomly dispersed, and do not exceed 3% of the area seeded.

METHOD OF MEASUREMENT

901-4.1 The quantity of seeding to be paid for shall be the number of units 1,000 square feet (sq m) measured on the ground surface, completed and accepted.

BASIS OF PAYMENT

901-5.1 Payment shall be made at the contract unit price per 1,000 square feet (sq m) or fraction thereof, which price and payment shall be full compensation for furnishing and placing all material and for all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this item.

Payment will be made under:

Item 901-5.1 Seeding - per 1,000 square feet (sq m)

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

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ITEM T-905 TOPSOIL

DESCRIPTION

905-1.1 This item shall consist of preparing the ground surface for topsoil application, removing topsoil from designated stockpiles or areas to be stripped on the site or from approved sources off the site, and placing and spreading the topsoil on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the RPR.

MATERIALS

905-2.1 Topsoil. Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth, and it shall be reasonably free from subsoil and stumps, roots, brush, stones (2 inches (50 mm) 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.

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 (50 mm) 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 (50 mm) 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 (50 mm) after compaction, unless otherwise shown on the plans or stated in the special provisions. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the work. Spreading shall be carried on so that turfing operations can proceed with a minimum of soil preparation or tilling.

After spreading, any large, stiff clods and hard lumps shall be broken with a pulverizer or by other effective means, and all stones or rocks (2 inches (50 mm) or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. after spreading is completed, the topsoil shall be satisfactorily compacted by rolling with a cultipacker or by other means approved by the RPR. The compacted topsoil surface shall conform to the required lines, grades, and cross-sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

METHOD OF MEASUREMENT

905-4.1 Topsoil obtained on the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil stockpiled by others and removed for topsoil by the Contractor shall be measured by the number of cubic yards (cubic meters) of topsoil measured in the stockpile. Topsoil shall be measured by volume in cubic yards (cubic meters) computed by the method of end areas.

905-4.2 Topsoil obtained off the site shall be measured by the number of cubic yards (cubic meters) of topsoil measured in its original position and stripped or excavated. Topsoil shall be measured by volume in cubic yards (meters) computed by the method of end areas.

BASIS OF PAYMENT

905-5.1 Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoil (obtained on the site). This price shall be full compensation for furnishing all materials and for all preparation, placing,

and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

905-5.2 Payment will be made at the contract unit price per cubic yard (cubic meter) for topsoil (obtained off the site). This price shall be full compensation for furnishing all materials and for all preparation, placing, and spreading of the materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item T-905-5.1 Topsoil (Obtained on Site or Removed from Stockpile - per cubic yard - NOT USED

Item T-905-5.2 Topsoil (Furnished from Off the Site) - per cubic yard (cubic meter)

REFERENCES

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

ASTM International (ASTM)

ASTM C117 Materials Finer than 75 µm (No. 200) Sieve in Mineral Aggregates by Washing

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-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. Hay shall be native hay in an air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Hay shall be sterile, containing no fertile seed.

b. Straw. Straw shall be the stalks from threshed plant residue of oats, wheat, barley, rye, or rice from which grain has been removed. Furnish in air-dry condition and of proper consistency for placing with commercial mulch blowing equipment. Straw shall contain no fertile seed.

c. Hay mulch containing seed. Hay mulch shall be mature hay containing viable seed of native grasses or other desirable species stated in the special provisions or as approved by the RPR. The hay shall be cut and handled so as to preserve the maximum quantity of viable seed. Hay mulch that cannot be hauled and spread immediately after cutting shall be placed in weather-resistant stacks or baled and stored in a dry location until used.

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 (1800 - 2700 kg per acre) to provide a loose depth of not less than 1-1/2 inches (38 cm) nor more than 3 inches (75 mm). Other organic material shall be spread at the rate directed by the RPR. Mulch may be blown on the slopes and the use of cutters in the equipment for this purpose will be permitted to the

extent that at least 95% of the mulch in place on the slope shall be 6 inches (150 mm) or more in length. When mulches applied by the blowing method are cut, the loose depth in place shall be not less than one inch (25 mm) nor more than 2 inches (50 mm).

908-3.2 Securing mulch. The mulch shall be held in place by light discing, a very thin covering of topsoil, pins, stakes, wire mesh, asphalt binder, or other adhesive material approved by the RPR. Where mulches have been secured by either of the asphalt binder methods, it will not be permissible to walk on the slopes after the binder has been applied. When an application of asphalt binder material is used to secure the mulch, the Contractor must take every precaution to guard against damaging or disfiguring structures or property on or adjacent to the areas worked and will be held responsible for any such damage resulting from the operation.

If the "peg and string" method is used, the mulch shall be secured by the use of stakes or wire pins driven into the ground on 5-foot (1.5-m) centers or less. Binder twine shall be strung between adjacent stakes in straight lines and crisscrossed diagonally over the mulch, after which the stakes shall be firmly driven nearly flush to the ground to draw the twine down tight onto the mulch.

908-3.3 Care and repair.

a. The Contractor shall care for the mulched areas until final acceptance of the project. Care shall consist of providing protection against traffic or other use by placing warning signs, as approved by the RPR, and erecting any barricades that may be shown on the plans before or immediately after mulching has been completed on the designated areas.

b. The Contractor shall be required to repair or replace any mulch that is defective or becomes damaged until the project is finally accepted. When, in the judgment of the RPR, such defects or damages are the result of poor workmanship or failure to meet the requirements of the specifications, the cost of the necessary repairs or replacement shall be borne by the Contractor.

c. If the "asphalt spray" method is used, all mulched surfaces shall be sprayed with asphalt binder material so that the surface has a uniform appearance. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons (32 liters) per 1,000 square feet (100 sq m), or as directed by the RPR, with a minimum of 6 gallons (24 liters) and a maximum of 10 gallons (40 liters) per 1,000 square feet (100 sq m) depending on the type of mulch and the effectiveness of the binder securing it. Asphalt binder material may be sprayed on the mulched slope areas from either the top or the bottom of the slope. An approved spray nozzle shall be used. The nozzle shall be operated at a distance of not less than 4 feet (1.2 m) from the surface of the mulch and uniform distribution of the asphalt material shall be required. A pump or an air compressor of adequate capacity shall be used to ensure uniform distribution of the asphalt material.

d. If the "asphalt mix" method is used, the mulch shall be applied by blowing, and the asphalt binder material shall be sprayed into the mulch as it leaves the blower. The binder shall be uniformly applied to the mulch at the rate of approximately 8 gallons (32 liters) per 1,000 square feet (100 sq m) or as directed by the RPR, with a minimum of 6 gallons (24 liters) and a maximum of 10 gallons (40 liters) per 1,000 square feet (100 sq m) depending on the type of mulch and the effectiveness of the binder securing it.

METHOD OF MEASUREMENT

908-4.1 Mulching shall be measured in square yards (square meters) on the basis of the actual surface area acceptably mulched.

BASIS OF PAYMENT

908-5.1 Payment will be made at the contract unit price per square yard (square meter) for mulching. The price shall be full compensation for furnishing all materials and for placing and anchoring the materials,

and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item T-908-5.1 Mulching - per square yard (square meter)

REFERENCES

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

ASTM International (ASTM)

ASTM D977 Standard Specification for Emulsified Asphalt

Advisory Circulars (AC)

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

FAA/United States Department of Agriculture

Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM T-908

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ITEM L-108 UNDERGROUND POWER CABLE FOR AIRPORTS

DESCRIPTION

108-1.1 This item shall consist of furnishing and installing power cables that are direct buried and furnishing and/or installing power cables within conduit or duct banks per these specifications at the locations shown on the plans. It includes excavation and backfill of trench for direct-buried cables only. Also included are the installation of counterpoise wires, ground wires, ground rods and connections, cable splicing, cable marking, cable testing, and all incidentals necessary to place the cable in operating condition as a completed unit to the satisfaction of the RPR. This item shall not include the installation of duct banks or conduit, trenching and backfilling for duct banks or conduit, or furnishing or installation of cable for FAA owned/operated facilities.

EQUIPMENT AND MATERIALS

108-2.1 General.

a. Airport lighting equipment and materials covered by advisory circulars (AC) shall be approved under the Airport Lighting Equipment Certification Program per AC 150/5345-53, current version.

b. All other equipment and materials covered by other referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification, when requested by the RPR.

c. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

d. All materials and equipment used to construct this item shall be submitted to the RPR 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 products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

e. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format. The RPR reserves the right to reject any and all equipment, materials, or procedures that do not meet the system design and the standards and codes, specified in this document.

f. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for at least **twelve (12) months** from the date of 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. The Contractor shall maintain a minimum insulation resistance in accordance with paragraph 108-3.10e with isolation transformers connected in new circuits and new segments of existing circuits through the end of the contract warranty period when tested in accordance with AC 150/5340-26, *Maintenance Airport Visual Aid Facilities*, paragraph 5.1.3.1, Insulation Resistance Test.

108-2.2 Cable. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits latest edition. Conductors for use on 6.6 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #8 American wire gauge (AWG), L-824 Type C, 5,000 volts, non-shielded, with cross-linked polyethylene insulation. Conductors for use on 20 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #6 AWG, L-824 Type C, 5,000 volts, non-shielded, with cross-linked polyethylene insulation. L-824 conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer's recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Commercial Item Description A-A-59544A and shall be type THWN-2, 75°C for installation in conduit and RHW-2, 75°C for direct burial installations. Conductors for parallel (voltage) circuits shall be type and size and installed in accordance with NFPA-70, National Electrical Code.

Unless noted otherwise, all 600-volt and less non-airfield lighting conductor sizes are based on a 75°C, THWN-2, 600-volt insulation, copper conductors, not more than three single insulated conductors, in raceway, in free air. The conduit/duct sizes are based on the use of THWN-2, 600-volt insulated conductors. The Contractor shall make the necessary increase in conduit/duct sizes for other types of wire insulation. In no case shall the conduit/duct size be reduced. The minimum power circuit wire size shall be #12 AWG.

Conductor sizes may have been adjusted due to voltage drop or other engineering considerations. Equipment provided by the Contractor shall be capable of accepting the quantity and sizes of conductors shown in the Contract Documents. All conductors, pigtails, cable step-down adapters, cable step-up adapters, terminal blocks and splicing materials necessary to complete the cable termination/splice shall be considered incidental to the respective pay items provided.

Cable type, size, number of conductors, strand and service voltage shall be as specified in the Contract Document.

108-2.3 Bare copper wire (counterpoise, bare copper wire ground and ground rods). Wire for counterpoise or ground installations for airfield lighting systems shall be No. 6 AWG bare solid copper wire for counterpoise and/or No. 6 AWG insulated stranded for grounding bond wire per ASTM B3 and ASTM B8, and shall be bare copper wire. For voltage powered circuits, the equipment grounding conductor shall comply with NEC Article 250.

Ground rods shall be copper-clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case be less than 10 feet (2.54 m) long and 3/4 inch (19 mm) in diameter.

108-2.4 Cable connections. In-line connections or splices of underground primary cables shall be of the type called for on the plans, and shall be one of the types listed below. No separate payment will be made for cable connections.

a. The cast splice. A cast splice, employing a plastic mold and using epoxy resin equivalent to that manufactured by 3MTM Company, "Scotchcast" Kit No. 82-B, or an approved equivalent, used for potting the splice is acceptable.

b. The field-attached plug-in splice. Field attached plug-in splices shall be installed as shown on the plans. The Contractor shall determine the outside diameter of the cable to be spliced and furnish appropriately sized connector kits and/or adapters. Tape or heat shrink tubing with integral sealant shall be in accordance with the manufacturer's requirements. Primary Connector Kits manufactured by Amerace, "Super Kit", Integro "Complete Kit", or approved equal is acceptable.

c. The factory-molded plug-in splice. Specification for L-823 Connectors, Factory-Molded to Individual

Conductors, is acceptable.

d. The taped or heat-shrink splice. Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D4388 and the plastic tape should comply with Military Specification MIL-I-24391 or Commercial Item Description A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and armored cables shall be factory kits that are designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made per the manufacturer's recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except that a light base ground clamp connector shall be used for attachment to the light base. All exothermic connections shall be made per the manufacturer's recommendations and listings.

108-2.5 Splicer qualifications. Every airfield lighting cable splicer shall be qualified in making airport cable splices and terminations on cables rated at or above 5,000 volts AC. The Contractor shall submit to the RPR proof of the qualifications of each proposed cable splicer for the airport cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

108-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

108-2.7 Flowable backfill. Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

108-2.8 Cable identification tags. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 Tape. Electrical tapes shall be ScotchTM Electrical Tapes –ScotchTM 88 (1-1/2 inch (38 mm) wide) and ScotchTM 130C[®] linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3MTM), or an approved equivalent.

108-2.10 Electrical coating. Electrical coating shall be ScotchkoteTM as manufactured by $3M^{TM}$, or an approved equivalent.

108-2.11 Existing circuits. Whenever the scope of work requires connection to an existing circuit, the existing circuit's insulation resistance shall be tested, in the presence of the RPR. The test shall be performed per this item and prior to any activity that will affect the respective circuit. The Contractor shall record the results on forms acceptable to the RPR. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the RPR. The Contractor shall record the results on forms acceptable to the RPR. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the existing circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

108-2.12 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) Red

(electrical power lines, cables, conduit and lighting cable) with continuous legend tape shall be polyethylene film with a metalized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item. Detectable warning tape for communication cables shall be orange. Detectable warning tape color code shall comply with the APWA Uniform Color Code.

CONSTRUCTION METHODS

108-3.1 General. The Contractor shall install the specified cable at the approximate locations indicated on the plans. Unless otherwise shown on the plans, all cable required to cross under pavements expected to carry aircraft loads shall be installed in concrete encased duct banks. Cable shall be run without splices, from fixture to fixture.

Cable connections between lights will be permitted only at the light locations for connecting the underground cable to the primary leads of the individual isolation transformers. The Contractor shall be responsible for providing cable in continuous lengths for home runs or other long cable runs without connections unless otherwise authorized in writing by the RPR or shown on the plans.

In addition to connectors being installed at individual isolation transformers, L-823 cable connectors for maintenance and test points shall be installed at locations shown on the plans. Cable circuit identification markers shall be installed on both sides of the L-823 connectors installed and on both sides of slack loops where a future connector would be installed.

Provide not less than 3 feet (1 m) of cable slack on each side of all connections, isolation transformers, light units, and at points where cable is connected to field equipment. Where provisions must be made for testing or for future above grade connections, provide enough slack to allow the cable to be extended at least one foot (30 cm) vertically above the top of the access structure. This requirement also applies where primary cable passes through empty light bases, junction boxes, and access structures to allow for future connections, or as designated by the RPR.

Primary airfield lighting cables installed shall have cable circuit identification markers attached on both sides of each L-823 connector and on each airport lighting cable entering or leaving cable access points, such as manholes, hand holes, pull boxes, junction boxes, etc. Markers shall be of sufficient length for imprinting the cable circuit identification legend on one line, using letters not less than 1/4 inch (6 mm) in size. The cable circuit identification shall match the circuits noted on the construction plans.

108-3.2 Installation in duct banks or conduits. This item includes the installation of the cable in duct banks or conduit per the following paragraphs. The maximum number and voltage ratings of cables installed in each single duct or conduit, and the current-carrying capacity of each cable shall be per the latest version of the National Electric Code, or the code of the local agency or authority having jurisdiction.

The Contractor shall make no connections or splices of any kind in cables installed in conduits or duct banks.

Unless otherwise designated in the plans, where ducts are in tiers, use the lowest ducts to receive the cable first, with spare ducts left in the upper levels. Check duct routes prior to construction to obtain assurance that the shortest routes are selected and that any potential interference is avoided.

Duct banks or conduits shall be installed as a separate item per Item L-110, Airport Underground Electrical Duct Banks and Conduit. The Contractor shall run a mandrel through duct banks or conduit prior to installation of cable to ensure that the duct bank or conduit is open, continuous and clear of debris. The mandrel size shall be compatible with the conduit size. The Contractor shall swab out all conduits/ducts and clean light bases, manholes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed, the light bases and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, light bases, manholes, etc., is incidental to the pay item

of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

The cable shall be installed in a manner that prevents harmful stretching of the conductor, damage to the insulation, or damage to the outer protective covering. The ends of all cables shall be sealed with moistureseal tape providing moisture-tight mechanical protection with minimum bulk, or alternately, heat shrinkable tubing before pulling into the conduit and it shall be left sealed until connections are made. Where more than one cable is to be installed in a conduit, all cable shall be pulled in the conduit at the same time. The pulling of a cable through duct banks or conduits may be accomplished by hand winch or power winch with the use of cable grips or pulling eyes. Maximum pulling tensions shall not exceed the cable manufacturer's recommendations. A non-hardening cable-pulling lubricant recommended for the type of cable being installed shall be used where required.

The Contractor shall submit the recommended pulling tension values to the RPR prior to any cable installation. If required by the RPR, pulling tension values for cable pulls shall be monitored by a dynamometer in the presence of the RPR. Cable pull tensions shall be recorded by the Contractor and reviewed by the RPR. Cables exceeding the maximum allowable pulling tension values shall be removed and replaced by the Contractor at the Contractor's expense.

The manufacturer's minimum bend radius or NEC requirements (whichever is more restrictive) shall apply. Cable installation, handling and storage shall be per manufacturer's recommendations. During cold weather, particular attention shall be paid to the manufacturer's minimum installation temperature. Cable shall not be installed when the temperature is at or below the manufacturer's minimum installation temperature. At the Contractor's option, the Contractor may submit a plan, for review by the RPR, for heated storage of the cable and maintenance of an acceptable cable temperature during installation when temperatures are below the manufacturer's minimum cable installation temperature.

Cable shall not be dragged across base can or manhole edges, pavement or earth. When cable must be coiled, lay cable out on a canvas tarp or use other appropriate means to prevent abrasion to the cable jacket.

108-3.3 Installation of direct-buried cable in trenches. Unless otherwise specified, the Contractor shall not use a cable plow for installing the cable. Cable shall be unreeled uniformly in place alongside or in the trench and shall be carefully placed along the bottom of the trench. The cable shall not be unreeled and pulled into the trench from one end. Slack cable sufficient to provide strain relief shall be placed in the trench in a series of S curves. Sharp bends or kinks in the cable shall not be permitted.

Where cables must cross over each other, a minimum of 3 inches (75 mm) vertical displacement shall be provided with the topmost cable depth at or below the minimum required depth below finished grade.

a. Trenching. Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored. Trenches for cables may be excavated manually or with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of surface is disturbed. Graders shall not be used to excavate the trench with their blades. The bottom surface of trenches shall be essentially smooth and free from coarse aggregate. Unless otherwise specified, cable trenches shall be excavated to a minimum depth of 18 inches (0.5 m) below finished grade per NEC Table 300.5, except as follows:

- When off the airport or crossing under a roadway or driveway, the minimum depth shall be 36 inches (91 cm) unless otherwise specified.
- Minimum cable depth when crossing under a railroad track, shall be 42 inches (1 m) unless otherwise specified.

The Contractor shall excavate all cable trenches to a width not less than 6 inches (150 mm). Unless otherwise specified on the plans, all cables in the same location and running in the same general direction shall be installed in the same trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required cable depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill material may alternatively be used.

Duct bank or conduit markers temporarily removed for trench excavations shall be replaced as required.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

(1) Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

(2) Trenching, etc., in cable areas shall then proceed, with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair or replacement.

b. Backfilling. After the cable has been installed, the trench shall be backfilled. The first layer of backfill in the trench shall encompass all cables ; be 3 inches (75 mm) deep, loose measurement; and shall be either earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. This layer shall not be compacted. The second layer shall be 5 inches (125 mm) deep, loose measurement, and shall contain no particles that would be retained on a one inch (25.0 mm) sieve. The remaining third and subsequent layers of backfill shall not exceed 8 inches (20 cm) of loose measurement and be excavated or imported material and shall not contain stone or aggregate larger than 4 inches (100 mm) maximum diameter.

The second and subsequent layers shall be thoroughly tamped and compacted to at least the density of the adjacent material. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be to a minimum of 100 percent of ASTM D1557, except under pavement which shall be backfill with controlled low strength material (CLSM) in accordance with P-153.

Trenches shall not contain pools of water during backfilling operations. The trench shall be completely backfilled and tamped level with the adjacent surface, except that when turf is to be established over the trench, the backfilling shall be stopped at an appropriate depth consistent with the type of turfing operation to be accommodated. A proper allowance for settlement shall also be provided. Any excess excavated material shall be removed and disposed of per the plans and specifications.

Underground electrical warning (caution) tape shall be installed in the trench above all direct-buried cable. Contractor shall submit a sample of the proposed warning tape for acceptance by the RPR. If not shown on the plans, the warning tape shall be located 6 inches (150 mm) above the direct-buried cable or the counterpoise wire if present. A 3-6 inch (75 - 150 mm) wide polyethylene film detectable tape, with a metalized foil core, shall be installed above all direct buried cable or counterpoise. The tape shall be of the color and have a continuous legend as indicated on the plans. The tape shall be installed 8 inches (200 mm) minimum below finished grade.

c. Restoration. Following restoration of all trenching near airport movement surfaces, the Contractor shall visually inspect the area for foreign object debris (FOD) and remove any that is found. Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original condition. The restoration shall include the topsoiling, fertilizing, liming, seeding and mulching as shown on the plans. The Contractor shall be held responsible

for maintaining all disturbed surfaces and replacements until final acceptance. When trenching is through paved areas, restoration shall be equal to existing conditions. If the cable is to be installed in locations or areas where other compaction requirements are specified (under pavements, embankments, etc.) the backfill compaction shall be to a minimum of 100 percent of ASTM D1557, except under pavement shall be backfill with controlled low strength material (CLSM) in accordance with P-153. Restoration shall be considered incidental to the pay item of which it is a component part.

Under certain conditions, it may be beneficial to install direct bury cables by cable plowing. This type of installation method should only be used where sandy soils are prevalent and with no rocks or other debris that would nick or cut the cable insulation. The equipment to be used shall have the cables placed at a minimum depth of 18 inches (0.5 m) below finished grade. The cable should be manually unreeled off the spool as the machine travels, such that the earth is not unreeling the spool.

108-3.4 Cable markers for direct-buried cable. The location of direct buried circuits shall be marked by a concrete slab marker, 2 feet (60 cm) square and 4-6 inch (10 - 15 cm) thick, extending approximately one inch (25 mm) above the surface. Each cable run from a line of lights and signs to the equipment vault shall be marked at approximately every 200 feet (61 m) along the cable run, with an additional marker at each change of direction of cable run. All other direct-buried cable shall be marked in the same manner. Cable markers shall be installed directly above the cable. The Contractor shall impress the word "CABLE" and directional arrows on each cable marking slab. The letters shall be approximately 4 inches (100 mm) high and 3 inches (75 mm) wide, with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep. Stencils shall be used for cable marker lettering; no hand lettering shall be permitted.

At the location of each underground cable connection/splice, except at lighting units, or isolation transformers, a concrete marker slab shall be installed to mark the location of the connection/splice. The Contractor shall impress the word "SPLICE" on each slab. The Contractor also shall impress additional circuit identification symbols on each slab as directed by the RPR. All cable markers and splice markers shall be painted international orange. Paint shall be specifically manufactured for uncured exterior concrete. After placement, all cable or splice markers shall be given one coat of high-visibility aviation orange paint as approved by the RPR. Furnishing and installation of cable markers is incidental to the respective cable pay item.

108-3.5 Splicing. Connections of the type shown on the plans shall be made by experienced personnel regularly engaged in this type of work and shall be made as follows:

a. Cast splices. These shall be made by using crimp connectors for jointing conductors. Molds shall be assembled, and the compound shall be mixed and poured per the manufacturer's instructions and to the satisfaction of the RPR.

b. Field-attached plug-in splices. These shall be assembled per the manufacturer's instructions. These splices shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint or (3) On connector kits equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

c. Factory-molded plug-in splices. These shall be made by plugging directly into mating connectors. The joint where the connectors come together shall be finished by one of the following methods: (1) Wrapped with at least one layer of rubber or synthetic rubber tape and one layer of plastic tape, one-half lapped, extending at least 1-1/2 inches (38 mm) on each side of the joint. (2) Covered with heat shrinkable tubing with integral sealant extending at least 1-1/2 inches (38 mm) on each side of the joint. or (3) On connector kits so equipped with water seal flap; roll-over water seal flap to sealing position on mating connector.

d. Taped or heat-shrink splices. A taped splice shall be made in the following manner:

Bring the cables to their final position and cut so that the conductors will butt. Remove insulation and jacket allowing for bare conductor of proper length to fit compression sleeve connector with 1/4 inch (6 mm) of bare conductor on each side of the connector. Prior to splicing, the two ends of the cable insulation shall be penciled using a tool designed specifically for this purpose and for cable size and type. Do not use emery paper on splicing operation since it contains metallic particles. The copper conductors shall be thoroughly cleaned. Join the conductors by inserting them equidistant into the compression connection sleeve. Crimp conductors firmly in place with crimping tool that requires a complete crimp before tool can be removed. Test the crimped connection by pulling on the cable. Scrape the insulation to assure that the entire surface over which the tape will be applied (plus 3 inches (75 mm) on each end) is clean. After scraping, wipe the entire area with a clean lint-free cloth. Do not use solvents.

Apply high-voltage rubber tape one-half lapped over bare conductor. This tape should be tensioned as recommended by the manufacturer. Voids in the connector area may be eliminated by highly elongating the tape, stretching it just short of its breaking point. The manufacturer's recommendation for stretching tape during splicing shall be followed. Always attempt to exactly half-lap to produce a uniform buildup. Continue buildup to 1-1/2 times cable diameter over the body of the splice with ends tapered a distance of approximately one inch (25 mm) over the original jacket. Cover rubber tape with two layers of vinyl pressure-sensitive tape one-half lapped. Do not use glyptol or lacquer over vinyl tape as they react as solvents to the tape. No further cable covering or splice boxes are required.

Heat shrinkable tubing shall be installed following manufacturer's instructions. Direct flame heating shall not be permitted unless recommended by the manufacturer. Cable surfaces within the limits of the heat-shrink application shall be clean and free of contaminates prior to application.

e. Assembly. Surfaces of equipment or conductors being terminated or connected shall be prepared in accordance with industry standard practice and manufacturer's recommendations. All surfaces to be connected shall be thoroughly cleaned to remove all dirt, grease, oxides, nonconductive films, or other foreign material. Paints and other nonconductive coatings shall be removed to expose base metal. Clean all surfaces at least 1/4 inch (6.4 mm) beyond all sides of the larger bonded area on all mating surfaces. Use a joint compound suitable for the materials used in the connection. Repair painted/coated surface to original condition after completing the connection.

108-3.6 Bare counterpoise wire installation for lightning protection and grounding. If shown on the plans or included in the job specifications, bare solid #6 AWG copper counterpoise wire shall be installed for lightning protection of the underground cables. The RPR shall select one of two methods of lightning protection for the airfield lighting circuit based upon sound engineering practice and lightning strike density.

a. Equipotential. The counterpoise size is as shown on the plans. The equipotential method is applicable to all airfield lighting systems; i.e. runway, taxiway, apron – touchdown zone, centerline, edge, threshold and approach lighting systems. The equipotential method is also successfully applied to provide lightning protection for power, signal and communication systems. The light bases, counterpoise, etc – all components - are bonded together and bonded to the vault power system ground loop/electrode.

Counterpoise wire shall be installed in the same trench for the entire length of buried cable, conduits and duct banks that are installed to contain airfield cables. The counterpoise is centered over the cable/conduit/duct to be protected.

The counterpoise conductor shall be installed no less than 8 inches (200 mm) minimum or 12 inches (300 mm) maximum above the raceway or cable to be protected, except as permitted below:

(1) The minimum counterpoise conductor height above the raceway or cable to be protected shall be permitted to be adjusted subject to coordination with the airfield lighting and pavement designs.

(2) The counterpoise conductor height above the protected raceway(s) or cable(s) shall be calculated to

ensure that the raceway or cable is within a 45-degree area of protection, (45 degrees on each side of vertical creating a 90 degree angle).

The counterpoise conductor shall be bonded to each metallic light base, mounting stake, and metallic airfield lighting component.

All metallic airfield lighting components in the field circuit on the output side of the constant current regulator (CCR) or other power source shall be bonded to the airfield lighting counterpoise system.

All components rise and fall at the same potential; with no potential difference, no damaging arcing and no damaging current flow.

See AC 150/5340-30, Design and Installation Details for Airport Visual Aids and NFPA 780, Standard for the Installation of Lightning Protection Systems, Chapter 11, for a detailed description of the Equipotential Method of lightning protection.

Reference FAA STD-019E, Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment, Part 4.1.1.7.

b. Isolation. Not used.

c. Common Installation requirements. When a metallic light base is used, the grounding electrode shall be bonded to the metallic light base or mounting stake with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

When a nonmetallic light base is used, the grounding electrode shall be bonded to the metallic light fixture or metallic base plate with a No. 6 AWG bare, annealed or soft drawn, solid copper conductor.

Grounding electrodes may be rods, ground dissipation plates, radials, or other electrodes listed in the NFPA 70 (NEC) or NFPA 780.

Where raceway is installed by the directional bore, jack and bore, or other drilling method, the counterpoise conductor shall be permitted to be installed concurrently with the directional bore, jack and bore, or other drilling method raceway, external to the raceway or sleeve.

The counterpoise wire shall also be exothermically welded to ground rods installed as shown on the plans but not more than 500 feet (150 m) apart around the entire circuit. The counterpoise system shall be continuous and terminate at the transformer vault or at the power source. It shall be securely attached to the vault or equipment external ground ring or other made electrode-grounding system. The connections shall be made as shown on the plans and in the specifications.

Where an existing airfield lighting system is being extended or modified, the new counterpoise conductors shall be interconnected to existing counterpoise conductors at each intersection of the new and existing airfield lighting counterpoise systems.

d. Parallel Voltage Systems. Provide grounding and bonding in accordance with NFPA 70, National Electrical Code.

108-3.7 Counterpoise installation above multiple conduits and duct banks. Counterpoise wires shall be installed above multiple conduits/duct banks for airfield lighting cables, with the intent being to provide a complete area of protection over the airfield lighting cables. When multiple conduits and/or duct banks for airfield cable are installed in the same trench, the number and location of counterpoise wires above the conduits shall be adequate to provide a complete area of protection measured 45 degrees each side of vertical.

Where duct banks pass under pavement to be constructed in the project, the counterpoise shall be placed above the duct bank. Reference details on the construction plans.

108-3.8 Counterpoise installation at existing duct banks. When airfield lighting cables are indicated on

the plans to be routed through existing duct banks, the new counterpoise wiring shall be terminated at ground rods at each end of the existing duct bank where the cables being protected enter and exit the duct bank. The new counterpoise conductor shall be bonded to the existing counterpoise system.

108-3.9 Exothermic bonding. Bonding of counterpoise wire shall be by the exothermic welding process or equivalent method accepted by the RPR. Only personnel experienced in and regularly engaged in this type of work shall make these connections.

Contractor shall demonstrate to the satisfaction of the RPR, the welding kits, materials and procedures to be used for welded connections prior to any installations in the field. The installations shall comply with the manufacturer's recommendations and the following:

a. All slag shall be removed from welds.

b. Using an exothermic weld to bond the counterpoise to a lug on a galvanized light base is not recommended unless the base has been specially modified. Consult the manufacturer's installation directions for proper methods of bonding copper wire to the light base. See AC 150/5340-30 for galvanized light base exception.

c. If called for in the plans, all buried copper and weld material at weld connections shall be thoroughly coated with 6 mm of $3M^{TM}$ ScotchkoteTM, or approved equivalent, or coated with coal tar Bitumastic® material to prevent surface exposure to corrosive soil or moisture.

108-3.10 Testing. The Contractor shall furnish all necessary equipment and appliances for testing the airport electrical systems and underground cable circuits before and after installation. The Contractor shall perform all tests in the presence of the RPR. The Contractor shall demonstrate the electrical characteristics to the satisfaction of the RPR. All costs for testing are incidental to the respective item being tested. For phased projects, the tests must be completed by phase. The Contractor must maintain the test results throughout the entire project as well as during the warranty period that meet the following:

a. Earth resistance testing methods shall be submitted to the RPR for approval. Earth resistance testing results shall be recorded on an approved form and testing shall be performed in the presence of the RPR. All such testing shall be at the sole expense of the Contractor.

b. Should the counterpoise or ground grid conductors be damaged or suspected of being damaged by construction activities the Contractor shall test the conductors for continuity with a low resistance ohmmeter. The conductors shall be isolated such that no parallel path exists and tested for continuity. The RPR shall approve of the test method selected. All such testing shall be at the sole expense of the Contractor.

After installation, the Contractor shall test and demonstrate to the satisfaction of the RPR the following:

c. That all affected lighting power and control circuits (existing and new) are continuous and free from short circuits.

d. That all affected circuits (existing and new) are free from unspecified grounds.

e. That the insulation resistance to ground of all new non-grounded high voltage series circuits or cable segments is not less than 50 megohms. Verify continuity of all series airfield lighting circuits prior to energization.

f. That the insulation resistance to ground of all new non-grounded conductors of new multiple circuits or circuit segments is not less than 100 megohms.

g. That all affected circuits (existing and new) are properly connected per applicable wiring diagrams.

h. That all affected circuits (existing and new) are operable. Tests shall be conducted that include operating each control not less than 10 times and the continuous operation of each lighting and power circuit for not less than 1/2 hour.

i. That the impedance to ground of each ground rod does not exceed **25** ohms prior to establishing connections to other ground electrodes. The fall-of-potential ground impedance test shall be used, as described by American National Standards Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81, to verify this requirement. As an alternate, clamp-on style ground impedance test meters may be used to satisfy the impedance testing requirement. Test equipment and its calibration sheets shall be submitted for review and approval by the RPR prior to performing the testing.

Two copies of tabulated results of all cable tests performed shall be supplied by the Contractor to the RPR. Where connecting new cable to existing cable, insulation resistance tests shall be performed on the new cable prior to connection to the existing circuit.

There are no approved "repair" procedures for items that have failed testing other than complete replacement.

METHOD OF MEASUREMENT

108-4.1 The cost of all excavation, backfill, dewatering and restoration regardless of the type of material encountered shall be included in the unit price bid for the work.

108-4.2 Cable or counterpoise wire installed in trench, duct bank or conduit shall be measured by the number of linear feet (meters) installed and grounding connectors, and trench marking tape ready for operation, and accepted as satisfactory. Separate measurement shall be made for each cable or counterpoise wire installed in trench, duct bank or conduit. The measurement for this item shall not include additional quantities required for slack. Cable and counterpoise slack is considered incidental to this item and is included in the Contractor's unit price. No separate measurement or payment will be made for cable or counterpoise slack.

108-4.3 No separate payment will be made for ground rods.

BASIS OF PAYMENT

108-5.1 Payment will be made at the contract unit price for trenching, cable and bare counterpoise wire installed in trench (direct-buried), or cable and equipment ground installed in duct bank or conduit, in place by the Contractor and accepted by the RPR. This price shall be full compensation for furnishing all materials and for all preparation and installation of these materials, and for all labor, equipment, tools, and incidentals, including ground rods and ground connectors and trench marking tape, necessary to complete this item.

Payment will be made under:

Item L-108-5.1	No. 8 AWG, 5 kV, L-824, Type C Cable, Installed in Trench, Duct Bank or Conduit
	- per liner foot (meter)

Item L-108-5.2 No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed Above the Duct Bank or Conduit, Including Connections/Terminations - per linear foot (meter)

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 150/5340-26Maintenance of Airport Visual Aid FacilitiesAC 150/5340-30Design and Installation Details for Airport Visual Aids

AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits				
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors				
AC 150/5345-53	Airport Lighting Equipment Certification Program				
Commercial Item I	Description				
A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)				
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic				
ASTM Internationa	l (ASTM)				
ASTM B3	Standard Specification for Soft or Annealed Copper Wire				
ASTM B8	Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft				
ASTM B33	Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes				
ASTM D4388	Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes				
Mil Spec					
MIL-PRF-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical				
MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive				
National Fire Prote	ction Association (NFPA)				
NFPA-70	National Electrical Code (NEC)				
NFPA-780	Standard for the Installation of Lightning Protection Systems				
American National	Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE)				
ANSI/IEEE STD 8	1 IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System				
Federal Aviation A	dministration Standard				
FAA STD-019E	Lightning and Surge Protection, Grounding Bonding and Shielding Requirements for Facilities and Electronic Equipment				

END OF ITEM L-108

ITEM L-110 AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS

DESCRIPTION

110-1.1 This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits. It shall also include all turfing trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

EQUIPMENT AND MATERIALS

110-2.1 General.

a. 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 RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, that comply with these specifications, at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR 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 products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in project that accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes specified in this document.

e. 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.

110-2.2 Steel conduit. Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mils of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory

PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth."

110-2.3 Plastic conduit. Plastic conduit and fittings-shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

a. Type I–Schedule 40 and Schedule 80 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 concrete.

d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

110-2.4 Split conduit. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

110-2.5 Conduit spacers. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads. They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

110-2.8 Flowable backfill. Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item.

CONSTRUCTION METHODS

110-3.1 General. The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The RPR shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated

on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches (50 mm) inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches (75 mm) per 100 feet (30 m). On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. Under pavement, the top of the duct bank shall not be less than 18 inches (0.5 m) below the subgrade; in other locations, the top of the duct bank or underground conduit shall be be not less than 18 inches (0.5 m) below finished grade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4 inch (6 mm) smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200-pound (90 kg) test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet (1.5 m).

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill may alternatively be used

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct

banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the RPR. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet (60 cm).

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Additional duct bank supports shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the RPR and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables) cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

a. Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred

b. Trenching, etc., in cable areas shall then proceed with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

110-3.2 Duct banks. Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches (0.5 m) below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches (0.5 m) below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet (1 m) beyond the edges of the pavement or 3 feet (1 m) beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches (75 mm) thick prior to its initial set. The Contractor shall space the conduits not less than 3 inches (75 mm) apart (measured from outside wall to outside wall). All such multiple conduits shall be placed around and on top of the conduits not less than 3 inches (75 mm) thick unless otherwise shown on the plans. All conduits shall terminate with

female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot (1.5-m) intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches (75 to 150 mm) wide tape, 8 inches (200 mm) minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch (75-mm) wide tape only for single conduit runs. Utilize the 6-inch (150-mm) wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches (600 mm) in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the RPR shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the RPR.

110-3.3 Conduits without concrete encasement. Trenches for single-conduit lines shall be not less than 6 inches (150 mm) nor more than 12 inches (300 mm) wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches (100 mm) thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch (6.3 mm) sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches (0.5 m) below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches (60 cm) below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 outside wall) in a horizontal direction and lot less than 6 inches (150 mm) apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed

so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

110-3.4 Markers. The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet (60 cm) square and 4 - 6 inches (100 - 150 mm) thick extending approximately one inch (25 mm) above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from a line of lights and signs to the equipment vault must be marked at approximately every 200 feet (61 m) along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word "DUCT" or "CONDUIT" on each marker slab. Impression of letters shall be done in a manner, approved by the RPR, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the RPR. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the RPR. The letters shall be 4 inches (100 mm) high and 3 inches (75 mm) wide with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep or as large as the available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

110-3.5 Backfilling for conduits. For conduits, 8 inches (200 mm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted per Item P-152 except that material used for back fill shall be select material not larger than 4 inches (100 mm) in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.6 Backfilling for duct banks. After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 "Excavation and Embankment" except that the material used for backfill shall be select material not larger than 4 inches (100 mm) in diameter. In addition to the requirements of Item P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet (76 m) of duct bank or one work period's construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

110-3.7 Restoration. Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The

restoration shall include topsoiling, fertilizing, liming, seeding and mulching shown on the plans. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. 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.

110-3.8 Ownership of removed cable. The Contractor shall obtain ownership of removed cable and shall properly disposed of the cable materials off the Airport site.

METHOD OF MEASUREMENT

110-4.1 Underground conduits and duct banks shall be measured by the linear feet (meter) of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated material, and restoration, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

BASIS OF PAYMENT

110-5.1 Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for removal and disposal of existing duct banks and conduits as shown on the plans, furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

Payment will be made under:

Item L-110-5.1 Concrete Encased Electrical Conduit, 1-Way 2-inch - per linear foot (meter)

Item L-110-5.2 Non-Encased Electrical Conduit, 1-Way 2-inch - per linear foot (meter) - Not Used

Item L-110-5.3 Removal of Concrete Encased or Non-Encased Electrical Conduit/Duct and Cable

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 Circular (AC)

- AC 150/5340-30 Design and Installation Details for Airport Visual Aids
- AC 150/5345-53 Airport Lighting Equipment Certification Program

ASTM International (ASTM)

ASTM A615 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

National Fire Protection Association (NFPA)

NFPA-70 National Electrical Code (NEC)

Underwriters Laboratories (UL)

- UL Standard 6 Electrical Rigid Metal Conduit Steel
- UL Standard 514B Conduit, Tubing, and Cable Fittings
- UL Standard 514C Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers
- UL Standard 1242 Electrical Intermediate Metal Conduit Steel
- UL Standard 651 Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings
- UL Standard 651A Type EB and A Rigid PVC Conduit and HDPE Conduit

END OF ITEM L-110

ITEM L-125 INSTALLATION OF AIRPORT LIGHTING SYSTEMS

DESCRIPTION

125-1.1 This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

EQUIPMENT AND MATERIALS

125-2.1 General.

a. Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not performs as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

b. Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

c. All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly 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 of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted in electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein. 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. All LED light fixtures, with the exception of obstruction lighting must be warranted by the manufacturer for a minimum of 4 years after date of installation inclusive of all electronics. Obstruction lighting warranty is set by the individual manufacturer.

EQUIPMENT AND MATERIALS

125-2.2 Conduit/Duct. Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.

125-2.3 Cable and Counterpoise. Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.

125-2.4 Tape. Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

125-2.5 Cable Connections. Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.

125-2.6 Retroreflective Markers. Not required.

125-2.7 Runway and Taxiway Lights. Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. Lamps shall be of size and type indicated, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

Lights

Туре	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861T	2	1	N/A		L-867	Blue	L-830	20" Ht. See note 1 below
L-852C(L)	2	1	3	5-Bidirectional	L-868	Green/Green	L-830	See note 1, 2, 3 below
L-852K(L)	2	1	3	5-Bidirectional	L-868	Green/Green	L-830	See note 1, 2, 3 below

Note 1: Provide fixture with arctic kit

Note 2: Provide fixture with one (1) L-823 cord set

Note 3: Provide snow plow ring compatible with fixture

125-2.8 Runway and Taxiway Signs. Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44.

Signs

Туре	Size	Style	Class	Mode	Notes
L-858Y(L)	3	2	2	2	TW Direction Type – Refer to Sign Schedule for Modules
L-858L(L)	3	2	2	2	TW Location Type – Refer to Sign Schedule for Modules

125-2.9 Runway End Identifier Light (REIL). Not required.

125-2.10 Precision Approach Path Indicator (PAPI). Not required.

125-2.11 Circuit Selector Cabinet. Not Required.

125-2.12 Light Base and Transformer Housings. Light Base and Transformer Housings should conform to the requirements of AC 150/5345-42.

Light Duty Light bases shall be Type L-867, Class 1A, Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

Aircraft and Heavy Vehicle Light bases shall be Type L-868, Class 1A, Size B shall be provided as indicated or as required to accommodate the fixture or device installed thereon. Base plates, cover plates, and adapter plates shall be provided to accommodate various sizes of fixtures.

125-2.13 Isolation Transformers. Isolation Transformers shall be Type L-830, size as required for each installation. Transformer shall conform to AC 150/5345-47.

INSTALLATION

125-3.1 Installation. The Contractor shall furnish, install, connect and test all equipment, accessories, conduit, cables, wires, buses, grounds and support items necessary to ensure a complete and operable airport lighting system as specified here and shown in the plans.

The equipment installation and mounting shall comply with the requirements of the National Electrical Code and state and local code agencies having jurisdiction.

The Contractor shall install the specified equipment in accordance with the applicable advisory circulars and the details shown on the plans.

The Contractor shall salvage all specified removed equipment, not being relocated, to the Owner as noted on the plans.

125-3.2 Testing. All lights shall be fully tested by continuous operation for not less than 24 hours as a completed system prior to acceptance. The test shall include operating the constant current regulator in each step not less than 10 times at the beginning and end of the 24-hour test. The fixtures shall illuminate properly during each portion of the test.

125-3.3 Shipping and Storage. Equipment shall be shipped in suitable packing material to prevent damage during shipping. Store and maintain equipment and materials in areas protected from weather and physical damage. Any equipment and materials, in the opinion of the RPR, damaged during construction or storage shall be replaced by the Contractor at no additional cost to the owner. Painted or galvanized surfaces that are damaged shall be repaired in accordance with the manufacturer's recommendations.

125-3.4 Elevated and In-pavement Lights. Water, debris, and other foreign substances shall be removed prior to installing fixture base and light.

A jig or holding device shall be used when installing each light fixture to ensure positioning to the proper elevation, alignment, level control, and azimuth control. Light fixtures shall be oriented with the light beams parallel to the runway or taxiway centerline and facing in the required direction. The outermost edge of fixture shall be level with the surrounding pavement. Surplus sealant or flexible embedding material shall be removed. The holding device shall remain in place until sealant has reached its initial set.

METHOD OF MEASUREMENT

125-4.1 Runway and taxiway lights will be measured by the number of each type installed as completed units in place, ready for operation, and accepted by the RPR.

125-4.2 Guidance signs will be measured by the number of each type and size installed as completed units, in place, ready for operation, and accepted by the RPR.

125-4.3 Runway and taxiway light or guidance sign removals will be measured by the number of each type and size removed as completed units and accepted by the RPR.

BASIS OF PAYMENT

125-5.1 Payment will be made at the Contract unit price for each complete runway or taxiway light installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.2 Payment will be made at the Contract unit price for each complete guidance sign installed by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

125-5.3 Payment will be made at the Contract unit price for each complete runway or taxiway light or guidance sign and foundation removal by the Contractor and accepted by the RPR. This payment will be full compensation for furnishing all materials required for removal and for all preparation, removals, and salvage/disposal of the materials, and for all labor, equipment, tools and incidentals necessary to complete this item.

Payment will be made under:

Item L-125-5.1A	New L-861T Elevated Taxiway Edge Light on New Base Can – per each
Item L-125-5.1B	New L-861T Elevated Taxiway Edge Light on Existing Base Can – per each
Item L-125-5.1C	Reinstall Existing L-861T Elevated Taxiway Edge Light on Existing Base Can – per each
Item L-125-5.1D	Reinstall Existing L-852C(L) In-Pavement Taxiway Centerline Light on Existing Base Can – per each
Item L-125-5.2A	New L-852C(L) In-Pavement Taxiway Centerline Light - per each
Item L-125-5.2B	New L-852K(L) In-Pavement Taxiway Centerline Light - per each
Item L-125-5.3A	New L-858(L) Airfield Guidance Sign – 1 Module – per each
Item L-125-5.3B	New L-858(L) Airfield Guidance Sign – 2 Module – per each
Item L-125-5.3C	New L-858(L) Airfield Guidance Sign – 3 Module – per each
Item L-125-5.4	Remove Existing Light and Provide Plate on Existing Base Can – per each
Item L-125-5.5	Remove and Store Existing Light and Provide Plate on Existing Base Can – per each
Item L-125-5.6	Remove Existing Elevated Taxiway Edge Light and Base Can – per each
Item L-125-5.7	Remove Existing In-Pavement Taxiway Centerline Light and Base Can – per each
Item L-125-5.8	Remove Existing Concrete Encased In-Pavement Taxiway Centerline Light and Base Can – per each
Item L-125-5.9	Remove Existing Airfield Guidance Sign and Foundation – per each

REFERENCES

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

Advisory Circulars	(AC)
AC 150/5340-18	Standards for Airport Sign Systems
AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-5	Circuit Selector Switch
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-28	Precision Approach Path Indicator (PAPI) Systems
AC 150/5345-39	Specification for L-853, Runway and Taxiway Retroreflective Markers
AC 150/5345-42	Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories
AC 150/5345-44	Specification for Runway and Taxiway Signs
AC 150/5345-46	Specification for Runway and Taxiway Light Fixtures
AC 150/5345-47	Specification for Series to Series Isolation Transformers for Airport Lighting Systems
AC 150/5345-51	Specification for Discharge-Type Flashing Light Equipment
AC 150/5345-53	Airport Lighting Equipment Certification Program

Engineering Brief (EB)

EB No. 67 Light Sources Other than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures

END OF ITEM L-125