THRASHER

ENGINEERING
ARCHITECTURE
FIELD SERVICES

CONTRACT DOCUMENTS

AND

DETAILED SPECIFICATIONS

FOR THE

CENTRAL WEST VIRGINIA REGIONAL AIRPORT AUTHORITY
KANAWHA COUNTY, WEST VIRGINIA

FOR

ACQUISITION OF SNOW BROOM WITH AIR BLAST

SEPTEMBER 2022

JEFFREY L. GOLA
REGISTERED
15621
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
8/4/22

THRASHER PROJECT #060-10003.04

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INFORMATION FOR BIDDERS

OWNER:	Central West Virginia Regional Airport Authority (CWVRAA) 100 Airport Rd, Suite 175 Charleston, WV 25311
ENGINEER:	The Thrasher Group, Inc.
PROJECT:	Snow Broom with Air Blast - Yeager
BIDS ACCEPTED UNTIL:	10:00 a.m.
BIDS OPENED:	October 18, 2022
PLACE OF BID ACCEPTANCE:	West Virginia International Yeager Airport, 100 Airport Rd., Suite 175, Charleston, WV 25311
PLACE OF BID OPENING:	West Virginia International Yeager Airport and Microsoft Teams (link will be sent to all bidders)
PLAN DEPOSIT:	$15.00 nonrefundable
BID SECURITY:	5%
LIQUIDATED DAMAGES:	Not Applicable.
TIME OF COMPLETION:	330 Calendar Days
BIDS MAY BE HELD:	90 Days
PREBID MEETING:	No Pre-Bid

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SCOPE OF WORK

The proposed civil work will include Acquisition of Snow Broom with Air Blast. All work shall be completed in accordance with the Contract Plans and Specifications and any subsequent revisions required by the Authority or the FAA. The work is being bid as a base bid.

1. Acquisition of Snow Broom with Air Blast

Award:
Award of contract will be based the lowest responsive and responsible bid that is in the best interest of the airport based on available funding.

Contract Duration:
Base Bid: 330 days
Damages:
Not Applicable.

This summation is for informational purposes only and is not part of the Contract Documents. It is the responsibility of the Contractor to verify and supplement the information contained herein by a thorough examination of the Contract Documents.

INVITATION TO BID

CWVRAA West Virginia International Yeager Airport

NOTICE IS HEREBY GIVEN, that the Central West Virginia Regional Airport Authority (CWVRAA) will receive proposals for Acquisition of Snow Broom with Air Blast until 10:00 a.m., Tuesday, October 18, 2022. The proposals will be opened and read aloud at that time virtually on Microsoft Teams. A meeting link will be provided to all bidders.

Proposal shall be presented in a sealed envelope. All required information per the contract documents must be included in the envelope.

Acquisition of Snow Broom with Air Blast includes: 16' front snow plow with spreader. Contract award will be based on available funding.

Meeting invitations, electronic contract documents, proposal forms and drawings shall be obtained from The Thrasher Group at www.thethrashergroup.com or https://tinyurl.com/zu5z8553

Bids shall be prepared and submitted on the prescribed forms in accordance with instructions contained in the Instructions to Bidders and General Provisions (Section 20) Divisions of the Project Manual. The CWVRAA expressly reserves the right to accept or reject any or all bids or to waive any informalities in the same. Each bidder must deposit with his/her proposal a bid security in an amount equal to at least 5% (percent) of his/her Bid. Said security shall be in the form and subject to the conditions given in Section 20 of the General Provisions. No bidder may withdraw his/her bid within 90 days after the actual date of the opening thereof. Successful bidders must enter into the Agreement and furnish a Contract Bond and evidence of required insurance after notification acceptance of such proposals, all as more specifically required in the Contract Documents.

Wages as predetermined by the US Secretary of Labor and included in the specifications and contract documents and/or addenda thereto shall be used by the CONTRACTOR in paying labor in connection with the work under this contract. All work under this contract shall be subject to the regulations contained in Division 8 of the Project Manual.

The CWVRAA, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 USC 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 26, Nondiscrimination in Federally-assisted programs of the Department of Transportation, issued pursuant to such Act, hereby notifies all bidders that it will 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 an award.

The CWVRAA is committed to assuring that small business concerns owned and controlled by socially and Economically Disadvantaged Individuals (DBE) are included in projects it sponsors. Overall goals have been established as 5.59% for Disadvantaged Business Enterprises for the fiscal year 2022. The CWVRAA is committed to meeting this goal on all services provided, and the CONTRACTOR is expected to put every effort forward to meet the above DBE goal. Proposals must include the percentage involvement of Disadvantaged Business Enterprises along with the names of the firms involved, and the completed certification.

_____

Chairman or Authorized Representative

DIVISION 1 – WAGE RATES

~~Wages as predetermined by the US Secretary of Labor and Industry and in effect at the time of the Bid Opening shall be used by the CONTRACTOR in paying labor in connection with this Contract.~~

~~The CONTRACTOR is also advised to review the requirements contained in Section 8, Regulations of the Project Manual.~~

NOT APPLICABLE

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DIVISION 2 – INSTRUCTIONS TO BIDDERS

The instructions to bidders are set forth in the Invitation to Bid and in Section 20 "Proposal Requirements and Conditions" of the General Provisions. All proposals shall be prepared in accordance with these instructions.

Bound herewith is a complete set of bidding and contract forms. These are not to be detached or executed but are for reference only. One (1) separate copy of the Form of Proposal will be furnished loose with final addendum for the use of the Bidder. One (1) original and one (1) copy shall be submitted with the bid. The original proposal submitted must be properly signed. No proposal will be considered which is submitted otherwise than upon the Form of Proposal or an exact copy thereof. One (1) separate copy of the Bid Bond is furnished loose herewith for the use of the Bidder. One (1) duly executed copy shall be submitted with the bid unless a proper guaranteed check is submitted. One electronic copy (pdf) of the bid proposal shall also be submitted.

All papers bound with or attached to the proposal forms are necessary parts and must not be detached.

The plans, specifications and other documents designated in the proposal form shall be considered a part of the proposal whether attached or not.

Bid proposals shall be labeled as follows and hand carried, during normal business hours, or sent by mail to:

West Virginia International Yeager Airport
100 Airport Rd., Suite 175
Charleston, WV 25311

Snow Broom with Air Blast

ACCEPTANCE OF BID (AWARD)

It is the intent of the OWNER to award a Contract to the lowest responsible Bidder providing the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available and provides the best value for the OWNER. The OWNER shall have the right to waive informalities or irregularities in a Bid received and to accept the Bid which, in the OWNER's judgment, is in the OWNER's best value.

Each Bidder shall carefully examine the plans and the Contract Documents and all Addenda or other revisions and thoroughly familiarize himself with the detailed requirements prior to submitting a Proposal. Should a Bidder find discrepancies or ambiguities in, or omission from, the Contract Documents, or should he be in doubt as to their meaning, he shall at once, and in any event, not later than <Insert Date and Time> notify the ENGINEER in writing who will send written Addenda to all Bidders where necessary. Bidders shall not be entitled to rely upon any oral instructions or interpretations by the ENGINEER. All Addenda sent to Bidders will become a part of the Contract Documents. All inquiries shall be submitted on the Bid Question Form provided and directed to the office of the ENGINEER, The Thrasher Group

Addenda will be emailed to all who are registered plan holders.

BID QUESTION FORM

TO: The Thrasher Group Email: Fax:	DATE:
AIRPORT: West Virginia International Yeager Airport	CONTRACTOR:
AIP NO.:	SUBMITTED BY:
PROJECT TITLE:	SIGNATURE:
PROJECT NO.:	TITLE:

SENT BY:		MAIL	EMAIL	FAX	OTHER	
ATTACHMENTS:		SKETCH	PLAN	PHOTO	SPEC	OTHER (List)

REFERENCED SPEC(S):	REFERENCED PLAN(S):
BID QUESTION SUBJECT:	
BID QUESTION NO. ____:	

REFERENCED SPEC(S):	REFERENCED PLAN(S):
BID QUESTION SUBJECT:	

(Reproduce as needed)

DIVISION 3 – PROPOSAL

PROPOSAL OF: _____

(CONTRACTOR)

FOR **Snow Broom with Air Blast- Yeager**

TO CWVRAA

This proposal is submitted in accordance with your advertisement inviting Bids to be received for **Snow Broom with Air Blast- Yeager** by the CWVRAA until **10:00 am on Tuesday, October 18, 2022** at West Virginia International Yeager Airport, 100 Airport Rd., Suite 175, Charleston, WV 25311. Proposals will be opened at **10:00 am on Tuesday, October 18, 2022** at West Virginia International Yeager Airport and virtually on Microsoft Teams. A meeting link will be provided to all bidders.

Having carefully examined the Site, the Contract Documents, comprising the Invitation to Bid, Minimum Wage Rates, Instructions to Bidders, Proposal, Bid Bond, Agreement, Contract Bond, General Provisions, Regulations, Supplementary Conditions, Plans, Detailed Specifications and all Documents bound therewith, together with all Addendum(s) or Bulletins thereto, all as prepared by The Thrasher Group, Inc. and being familiar with the various conditions affecting the work as set forth in Section 20 of the General Provisions, the undersigned herein agrees to furnish all material, perform all labor and do all things necessary to erect and complete in a workmanlike manner the work called for in **Snow Broom with Air Blast- Yeager** in accordance with said Contract Documents to the satisfaction and acceptance of OWNER and ENGINEER at the unit prices provided on the Proposal Unit Price Form for the sum of:

TOTAL BID (Total from Proposal Tabulation Sheets)

_____

(written)

_____ ($_____)

(figures)

This Proposal is made with the definite understanding that it will not be withdrawn for a period 90 days after the date set for the opening of bids.

The undersigned hereby certifies that this Proposal is genuine and not a sham, collusive or fraudulent or made in the interest of or in behalf of any person, firm or corporation not herein named; and that the undersigned has not, directly or indirectly, solicited any bidder to submit a sham bid, or any prospective bidder not to bid and that the undersigned has not, in any manner, sought by collusion to secure for himself any advantage over any other bidder.

This Proposal is submitted with the understanding that the contract shall be completed within 330 calendar days after the date which **CONTRACTOR** is to start to work as provided in the Contract Documents and that the time of completion of the work shall be considered as of the essence of this contract.

It is understood that **OWNER** reserves the right to reject any or all Proposals, or any part thereof or items therein, and to waive any defects or irregularities in Proposals. It is further understood that competency and responsibility of bidders and their workplan will receive consideration before the award of the contract.

TO BE FILLED IN IF BULLETINS OR ADDENDUM (S) ARE ISSUED

Bidder acknowledges receipt of the Bulletins or Addendum(s) hereinafter enumerated which have been issued during the period of bidding and agrees that said bulletins shall become part of the construction contract. Bidder shall list below the number and issuing dates of the Bulletins or Addendum(s) received:

Bulletins or Addendum(s)	**Issuing Date**
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Accompanying this Proposal is a _____
in the amount of _____
($_____) made payable to **OWNER** which it is agreed will be forfeited as liquidated damages if the undersigned fails to execute the Agreement and furnish a Contract bond and evidence of insurance, as specified, after notification of the Award of the Contract is delivered via email or post to him/her at the official address of the undersigned given below. Said bid security shall be equal to at least 5% (percent) of the total Base Bid.

The undersigned Bidder also acknowledges that the quantities of work shown herein are approximate only and are given as a basis for comparison of bids and the award of the Contract. **OWNER** reserves and shall have the right to make such changes from time to time in the plans and the work as may be considered necessary to complete the proposed construction. It is further understood that the quantities of items may be increased or decreased to any amount without re-negotiation of unit prices.

The undersigned also agrees to do any extra work, not covered by the above schedule of prices, which may be ordered by OWNER, and to accept as full compensation therefore such prices as may be agreed upon in writing by OWNER and CONTRACTOR. It is further understood that Bidder shall comply with the applicable requirements of Part 152 of the Federal Aviation Regulations as set forth in the Regulations Division of the Project Manual.

The undersigned further agrees that he/she possesses the necessary skill required to determine the adequacy of OWNER'S drawings and specifications for the purpose of arriving at the contract price, that he/she has exercised this skill, and that he/she finds them fit and sufficient for the purpose intended and free from ambiguities.

By submitting a bid/proposal under this solicitation, the offeror certifies that he/she has reviewed the Regulations included in Division 8 of this Project Manual and that he/she and all proposed subcontractors meet the requirements of those Provisions.

---------- (If an Individual) ----------

WITNESS **BY**

_____ _____

Individual

(SEAL)

Trading and doing business as

_____

Address _____

Email: _____

(If an Individual)

*_____is an (individual, partnership) trading under a fictitious name and (has, has not) registered under the Fictitious Name laws of the state in which the project is located.

---------- (If a Partnership) ----------

_____ is a co-partnership trading and doing business under this firm name

with _____ as partners.

WITNESS	**PARTNER**
_____	_____(SEAL)
_____	_____(SEAL)
_____	_____(SEAL)
_____	_____(SEAL)

Business Address _____

(If a partnership)

---------- (If a Corporation) ----------

By _____

Name of Corporation

ATTEST

_____

Secretary

CORPORATE SEAL)

_____

President

_____

Signature

Business Address _____

(If a Corporation)

Incorporated under the laws of the State / Commonwealth of _____ and (has, has not) been granted certificate of Authority to do business in the jurisdiction in which the project is located as required by law.

Snow Broom with Air Blast- Yeager

PROPOSAL LUMP SUM PRICE FORM

GRAND TOTAL OF BID ITEMS
FOR
Snow Broom with Air Blast– Yeager

(Written in Numerals)

(Written in Words)

CONTRACTOR:

_____**By:**_____

Signature of Authorized Representative

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CONTRACTOR'S CERTIFICATION OF ELIGIBILITY

The bidder 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 bid Proposal that it will include this clause without modification in all lower tier transactions, solicitations, bids, proposals, contracts, and subcontracts. Where the bidder/ offer/ 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.

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NON-COLLUSIVE BIDDING CERTIFICATION

(a) By submission of this bid Proposal, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid Proposal each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

(1). The prices in this bid Proposal have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2). Unless otherwise required by law, the prices which have been quoted in this bid Proposal have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and

(3). No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid Proposal for the purpose of restricting competition.

(b) A bid Proposal shall not be considered for award nor shall any award be made where (a) (1), (2) and (3) have not been complied with; provided however, that if in any case the bidder cannot make the foregoing certification, the bidder shall also state and shall furnish with the bid Proposal a signed statement which sets forth in detail the reasons therefore. Where (a) (1), (2) and (3) have not been complied with, the bid Proposal shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the bid Proposal is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

The fact that a bidder (a) has published price list, rates, or tariffs covering items being procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same time prices being bid, does not constitute, without more, a disclosure within the meaning of subparagraph one (a).

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

_____

Name and Title of Signer (Please Type)

_____ _____

Signature Date

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

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CERTIFICATION OF BIDDER REGARDING EQUAL EMPLOYMENT

OPPORTUNITY (FOR CONSTRUCTION CONTRACTS EXCEEDING $10,000)

Bidder's Name: _____

Address: _____

Internal Revenue Service Employer Identification Number: _____.

NONSEGREGATED FACILITIES

NOTICE TO PROSPECTIVE FEDERALLY-ASSISTED CONSTRUCTION CONTRACTORS

A. A Certification of Non-segregated Facilities must be submitted prior to the award of a federally assisted construction contract exceeding $10,000 which is not exempt from the provisions of the equal opportunity clause.

B. Contractors receiving Federally assisted construction 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 USC 1001.

CERTIFICATION OF NONSEGREGATED FACILITIES

The Federally assisted construction contractor certifies that he/she does not maintain or provide for his/her employees any segregated facilities at any of his/her establishments, and that he/she does not permit his/her employees to perform their services at any location, under his/her control, where segregated facilities are maintained. The Federally assisted construction contractor certifies further that he/she will not maintain or provide for his/her employees any segregated facilities at any of his/her establishments, and that he/she will not permit his/her employees to perform their services at any location, under his/her control, where segregated facilities are maintained. The Federally assisted construction contractor agrees that a breach of this certification is a violation of the equal opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, 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 which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex or national origin, because of habit, local custom or any other reason. The Federally assisted construction contractor agrees that (except where he/she has obtained identical certifications from proposed subcontractors for specific time periods) he/she will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the equal opportunity clause, and that he/she will retain such certifications in his/her files.

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 USC 1001

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EQUAL EMPLOYMENT OPPORTUNITY

COMPLIANCE STATEMENT

To meet the requirements of Department of Transportation Regulation, Part 26, as stated in Division 8 of this specification, all bidders will provide evidence of the methods they have used to meet the Disadvantaged Business Enterprises/Joint Venture goals as published in the Sponsor's Minority/Women Business Enterprises Plan and approved by the Department of Transportation. The DBE (MBE & WBE combined) participation goal for this project is <0%>.

All bidders must submit an assurance stating the percentage of Disadvantaged Businesses they intend to employ on this project.

Within a reasonable time after the opening of bids and before the award of a contract, all bidders or proposers wishing to remain in competition for the contract shall submit:

1. Name(s) of Disadvantaged Business Enterprise Joint Venture Subcontractor(s).
2. The WVDOH Certification Number
3. Description of work each is to perform.
4. Dollar value of each proposed Disadvantaged Business/Joint Venture Subcontract.

The Contractor shall use the DBE CONTRACTOR/SOLICITATION AND COMMITMENT STATEMENT form contained on page __ to submit this information.

REQUIRED ASSURANCE TO BE INCLUDED IN ALL BID PROPOSALS

This firm assures that it will utilize not less than _____ percent (____ %) of Disadvantaged Business Enterprise participation.

CERTIFICATION OF BIDDER for the above:

Bidder's Name _____

Address _____

_____

Internal Revenue Service Employer Identification Number _____

NOTE: The penalty for making false statements in offers is prescribed in 18 USC 1001.

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DBE CONTACT/SOLICITATION AND COMMITMENT STATEMENT

(1)	(2)
BIDDER'S FIRM NAME	PROJECT NAME
ADDRESS	BID DUE/OPENING DATE
TELEPHONE NUMBER	CONTACT PERSON

(8) NOTE: List those certified minority and/or women owned businesses from which you solicited quotes, or which contacted you and gave you quotes in regard to this Invitation for bid. Bidder's contact with subcontractors and suppliers should be prior to the bid opening date.

(3) COMPANY NAME, PERSON CONTACTED & TELEPHONE NUMBER	(4) MBE (✓)	(4) WBE (✓)	(4A) CERTIFIED DBE NUMBER	(5) TYPE OF WORK TO BE PERFORMED AND/OR MATERIAL TO BE SUPPLIED	(6) TOTAL DOLLAR AMOUNT OF QUOTE RECEIVED	(7) TOTAL COMMITMENT DOLLAR AMOUNT

(9) NOTE: **Minimum Participation Levels; 0% DBE**
A presumption of responsibility may be made if the dollar commitment to MBE/WBE's reflects these minimum participation levels.

PREPARED BY:	TITLE/PHONE NUMBER

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SUBCONTRACTORS AND SUPPLIERS

Low bidder shall provide the Subcontractor and supplier list to the Owner within 48 hours of the bid opening. If a subcontractor or supplier is a Disadvantaged Business Enterprise (DBE), please indicate it on this list.

No.	Name of the Subcontractor / Supplier	Contact Name / Telephone No.	Approximate Value

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BUY AMERICAN CERTIFICATE

By submitting a bid under this solicitation, except for those items listed by the offeror below or on a separate and clearly identified attachment to this bid the offeror certifies that steel and each manufactured product, are produced in the United States, as defined in the clause Buy American - Steel and Manufactured Products for Construction Contracts) and that components of unknown origin are considered to have been produced or manufactured outside the United States.

Offerors may obtain from the owner a listing of articles, materials and supplies excepted from this provision.

Product	Country of Origin

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DIVISION 4 – BID BOND

GENERAL INSTRUCTIONS FOR BID BONDS

1. The "BID BOND" form shall be used for the protection of the OWNER in receiving bids. There shall be no deviation from this form.

2. The surety on the bond may be any corporation authorized by the OWNER to act as surety or two responsible individual sureties. Individual sureties shall justify in sums aggregating not less than double the penalty of the bond.

3. A firm, as such, will not be accepted as a surety, nor a partner for copartners or for a firm of which he/she is a member. Stockholders of a corporate principal may be accepted as sureties provided their qualifications as such are independent of their stock holdings therein. Sureties, if individuals, shall be citizens of the United States.

4. The name, including first and last name, and residence of each individual party to the bond shall be inserted in the body thereof, and each party shall sign the bond with his usual signature on the line opposite the scroll seal, and if signed in Maine, Massachusetts or New Hampshire, an adhesive seal shall be affixed opposite the signature.

5. If the principals are partners, their individual names will appear in the body of the bond, with the recital that they are partners composing a firm, naming it and all members of the firm shall execute the bond as individuals.

6. The signature of a witness shall appear in the appropriate place, attesting the signature of each individual party to the bond.

7. If the principal or surety is a corporation, the name of the state in which incorporated shall be inserted in the appropriate place in the body of the bond and said instrument shall be executed and attested under the corporate seal as indicated in the form. If the corporation has no corporate seal, that fact shall be stated, in which case a scroll or adhesive seal shall appear following the corporate name.

8. The official character and authority of the person or persons executing the bond for the principal, if a corporation, shall be certified by the secretary or assistant secretary. In lieu of such certificate, there may be attached to the bond copies of so much of the records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.

9. Each individual surety shall justify under oath, according to a form approved by the OWNER, before a United States Commissioner, a clerk of a United States court, a notary public or some other officer having authority to administer oaths generally. If the officer has an official seal, it shall be affixed; otherwise, the proper certificate as to his/her official character shall be furnished.

10. Each certificate of sufficiency shall be signed by an officer of a bank or trust company, a judge or clerk of a court, a United States district attorney or commissioner, a postmaster, a collector of internal revenue or any other officer of the United States acceptable to the department or establishment concerned.

    Further certificates as to the financial qualifications of the sureties may be required from time to time, which certificates must be based on the personal investigation of the certifying officers at the time of the making thereof and not upon prior certificates.

11. The date of this bond must not be prior to the date of the proposal in connection with which it is given.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____ as Principal, and _____ a corporation organized and existing under the laws of the State / Commonwealth of _____, as Surety, are held and firmly bound unto the CWVRAA , OWNER (hereinafter called the "Obligee"), as hereinafter set forth, in the full and just sum of _____ Dollars ($_____) lawful money of the United States of America, for the payment of which we do bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal, herewith, has submitted a Proposal to the Obligee for Contract **Snow Broom with Air Blast- Yeager_**pursuant to plans and specifications and other documents incorporated into said Proposal by reference (the "Contract Documents") as prepared by

The Thrasher Group, Inc.

600 White Oaks Blvd.

Bridgeport, WV 26330

and WHEREAS, it is a condition of the Obligee's receipt and consideration of said Proposal that it be accompanied by security to be held by the Obligee of the Terms hereinafter set forth.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal, upon due acceptance of his/her proposal and award of a Contract to him/her by the Obligee, shall enter into a contract and shall furnish a proper Contract Bond and proper evidence of insurance coverage, at the time, in the forms and in the amounts required by the Contract Documents, then this obligation shall be void; otherwise, this obligation shall remain in full force and effect.

The Principal and the Surety hereby agree to pay the Obligee the difference between the amount of the Proposal of the Principal, as accepted by the Obligee, and any higher amount for which the Obligee may contract for the required work, plus any advertising costs, Engineer's fees, legal fees and any and all other fees and expenses incurred by the Obligee, by reason of the failure of the Principal to enter into such contract with the Obligee or to furnish such Contract Bond or evidence of insurance coverage, provided, however, that the obligation of the Surety hereunder shall not exceed the face amount of this Bond.

PROVIDED, HOWEVER, that if the Obligee should not procure an executed contract with any other party for the performance of the same work contemplated in the Proposal of the Principal and upon the same terms, other than price, as provided in the Contract Documents within forty-five (45) days after the acceptance of the Proposal of the Principal, whether because of lack of other proposals, or the inability or refusal of any other bidder to contract, or because the cost under any higher proposal would be greater than the Obligee could afford (as determined in the sole discretion of the Obligee). Then and in the event, the Principal and the Surety hereby agree to pay to the Obligee the full amount of this Bond as liquidated damages.

SIGNED, SEALED AND DELIVERED this _____ day of_____, 2022

---------- (Individual Principal Sign Here) ----------

_____

WITNESS Trade Name, if any

_____ **By:** _____

Individual

---------- (Partnership Principal Sign Here) ----------

_____

WITNESS Firm Name

_____ _____

Partner

_____ _____(SEAL)

Partner

_____ _____(SEAL)

Partner

_____ _____(SEAL)

Partner

---------- (Corporate Principal Sign Here) ----------

_____

ATTEST Corporate Name

_____ **By:** _____

Secretary President

(CORPORATE SEAL) _____

Signature

---------- (Surety Sign Here) ----------

WITNESS

_____ **By:** _____

Attorney-in-Fact

(SEAL of Surety)

DIVISION 5 – AGREEMENT

THIS AGREEMENT, executed this _____ day of _____ , 2022 by and between the CWVRAA (the **OWNER**) and _____ of _____ a corporation incorporated under the laws of the State of _____**(The CONTRACTOR).**

WHEREAS, OWNER has advertised for Bids as required by law for the Project stated in paragraph "Second" hereinafter, and has awarded the contract to CONTRACTOR who was the lowest responsible bidder; and

WHEREAS, OWNER has designated its choice of alternates listed in CONTRACTOR'S Proposal, if any; and

WHEREAS, the Project has been designed by

The Thrasher Group, Inc.

who will act as the ENGINEER in connection with completion of the Project in accordance with the Contract Documents.

WHEREAS, CONTRACTOR has given his/her Contract Bond to OWNER with sufficient surety conditioned respectively for faithful performance of this contract, payment of claims for labor and materials and remedying of defective or inferior materials or workmanship.

NOW, THEREFORE, THIS AGREEMENT WITNESSETH

That OWNER and CONTRACTOR in consideration of the mutual covenants hereinafter set forth agree as follows:

FIRST: The Invitation to Bid, Minimum Wage Rates, Instructions to Bidders, Contract Bond, General Provisions, Regulations, Supplementary Conditions, Special Provisions, Detailed Specifications and all documents bound herewith, together with all Addendum(a) or Bulletins thereto and the Plans described in said Specifications and identified in the list of drawings, all as prepared by ENGINEER, and the Detailed Cost Breakdown, constitute the "Contract Documents" and hereby are incorporated into and made part hereof to the same extent as if they were herein fully set forth.

SECOND: This contract shall be known as **Snow Broom with Air Blast- Yeager**

THIRD: CONTRACTOR agrees to furnish all materials, perform all labor and superintendence, and do all things necessary to execute, construct and complete in an expeditious and workman-like manner all the above contract work in accordance with said Plans, Specifications and other Contract Documents to the satisfaction and acceptance of OWNER.

FOURTH: CONTRACTOR further agrees that all said materials and labor shall be in strict and entire conformity, in every respect with said Plans, Specifications and other Contract Documents and shall be subject to the inspection and approval of OWNER or his/her duly authorized representatives, and in case any of said materials and labor shall be rejected by OWNER or his/her duly authorized representatives as defective or unsuitable, then said materials shall be removed and replaced with other approved materials and said labor shall be done anew to the satisfaction and approval of OWNER, at the cost and expense of CONTRACTOR.

FIFTH: OWNER will issue a written notice to proceed upon receipt of authorization from the Federal Aviation Administration, Department of Transportation. CONTRACTOR agrees to begin the work contemplated by this contract within 14 days of Notice to proceed (NTP) and to fully and finally complete the same within 330 calendar days of NTP. CONTRACTOR further agrees that time is of the essence of this Contract, and that if he/she shall fail to complete the work within the time above specified or such extension thereof as shall be granted in accordance with the Contract Documents, CONTRACTOR shall pay OWNER, as fixed, agreed and liquidated damages and not as a penalty, for such failure, the amount set forth in the schedule of liquidated damages in Section 80 of the General

Provisions for each and every calendar day thereafter until such work shall be completed and accepted, all as further set forth in the General Provisions.

SIXTH: CONTRACTOR covenants and agrees to remedy, without cost to OWNER, any defects which may develop within two (2) years from the date of receipt of final payment for the work performed **or equipment supplied** under this contract, provided said defects, in the sole judgment of OWNER, are caused by defective or inferior **equipment,** materials or workmanship; and the Contract Bond made a part hereof shall provide a guarantee in the sum of ten (10) percent of the total contract price of the work done for the correction and remedy of such defects.

SEVENTH: OWNER shall pay CONTRACTOR a lump sum price for furnishing the Goods and Special Services in accordance with the Contract documents once equipment is received by OWNER up to ninety-five (95) percent. Upon final completion of the Work and settlement of all claims and submission of all required tax payment reporting, the remainder of the contract price shall be paid after local state tax release has been granted.

EIGHTH: CONTRACTOR represents and warrants:

A. That he/she is financially solvent and is experienced in and competent to perform the work and furnish the materials to be performed or furnished hereunder; and

B. That he/she is familiar with all federal, state, municipal and departmental laws, ordinances and regulations, which may in any way affect the work hereunder; and

C. That he/she has carefully examined the Plans, Specifications and other Contract Documents and the site of the work and from his/her own investigations, has satisfied himself/herself as to the nature and location of the work, the character, quality and quantity of surface and subsurface materials likely to be encountered, the character or equipment and other facilities needed for the performance of the work, the general and local conditions, and all other matters which may in any way affect the work or its performance and that he/she has complied with every requirement of Section 20 of the General Provisions.

NINTH: OWNER and CONTRACTOR further agree as follows:

A. Terms used in this Agreement which are defined in Section 10 of the General Provisions shall have the meanings indicated.

B. CONTRACTOR shall not, without the prior written consent of the OWNER, assign or sublet in whole or in part his/her interest under any of the Contract Documents and, specifically, CONTRACTOR shall not assign any moneys due or to become due without the prior written consent of OWNER.

C. OWNER and CONTRACTOR each binds himself/herself, his/her partners, successors, assigns and legal representatives to the other party hereto in respect to all covenants, agreements and obligations contained in the Contract Documents.

D. The Contract Documents constitute the entire agreement between OWNER and CONTRACTOR and may only be altered, amended or repealed by a duly executed written instrument.

TENTH: Contractor agrees that only domestic steel and manufactured products will be used by the Contractor, subcontractors, material men and suppliers in the performance of this contract, as defined in (a) below.

A. The following terms apply to this clause:

1. Steel and manufactured products. As used in this clause, steel and manufactured products include (1) those produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States.

2. Components. As used in this clause, components means those articles, materials and supplies incorporated directly into steel and manufactured products.

3. Cost of Components. This means the costs for production of the components, exclusive of final assembly labor costs.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

Project: _____
Contract No.: _____
Contract Amount: $_____

CWVRAA

ATTEST

_____ _____

Secretary Chairman or Authorized Representative

(SEAL)

_____

Date

---------- (CONTRACTOR) ----------

_____	_____(SEAL)
Secretary	Contractor
(CORPORATE SEAL)	
	_____(SEAL)
	Contractor
	_____(SEAL)
	Contractor
	_____(SEAL)
	Contractor
	_____
	Date

SUBCONTRACT

AGREEMENT made this _____ day of _____, 202_, by and between

_____ a (partnership, individual, corporation), (hereinafter called the "CONTRACTOR") and _____ of _____ _____ (hereinafter called the "Subcontractor").

WHEREAS, CONTRACTOR has entered into a Construction Contract or Equipment Contract (hereinafter called the "Contract") dated _____, 2022 with _____(hereinafter called the "OWNER") providing for a project designated **Snow Broom with Air Blast- Yeager** and

WHEREAS, CONTRACTOR and Subcontractor desire that all of CONTRACTOR'S obligations with regard to certain work under the Contract be performed by Subcontractor;

NOW, THEREFORE, in consideration of the mutual undertakings herein contained, the parties hereto agree as follows:

SECTION 1. Subcontractor agrees to perform CONTRACTOR'S obligations under the Contract which, by this reference, is made a part hereof as though set out in its entirety with respect to:_____

_____

_____

_____

SECTION 2. Subcontractor agrees that all of the work to be done hereunder shall be carried out as directed by ENGINEER or OWNER in full accordance with the terms and provisions of the Contract.

SECTION 3. Subcontractor shall maintain all insurance required under the Contract and shall defend, indemnify, reimburse, and hold harmless the CONTRACTOR, OWNER, and their respective successors, assigns, officers, directors, employees, representatives, agents, engineers, architects, and Airport Design Consultants, Inc. (together, the "Indemnitees") from and against any and all claims, demands, damages, suits, violations, controversies, actions or causes of action for any and all damages, bodily injury, personal injury, personal property damage, real property damage, death, wrongful death, judgments, awards, penalties, violations, fines, interest, expenses, costs and fees of any kind, including, but not limited to, reasonable attorneys' fees, professional fees, and the cost, and any and all other liability of whatsoever kind or nature, in connection with, arising out of, or otherwise related to, directly or indirectly the work encompassed by this Subcontract, which obligation includes the breadth and scope of the CONTRACTOR's obligations under the Contract Documents, which are expressly incorporated into this Agreement.

SECTION 4. CONTRACTOR agrees to pay Subcontractor for the performance of the work hereunder the sum of

_____ ($_____) payable as follows:

SECTION 5. The work to be performed hereunder shall be completed to the satisfaction of CONTRACTOR and OWNER within the time specified in the Contract. In the event additions to or alterations in the work to be performed hereunder are made necessary by changes in the Contract, Subcontractor agrees to perform such additional or alternative work in the same manner and under the same terms and conditions as CONTRACTOR would be required so to perform.

SECTION 6. Subcontractor agrees that he/she possesses the necessary skill required to determine the adequacy of OWNER'S drawings and specifications for the purpose of arriving at the contract price, that he/she has exercised this skill and that he/she finds them fit and sufficient for the purpose intended and free from ambiguities.

SECTION 7. Upon approval of this Agreement by OWNER, the surety company, if any (hereinafter called the "Surety") furnishing the Performance Bond required by the Contract, Subcontractor shall, if required by CONTRACTOR, furnish to CONTRACTOR a Performance Bond in form and substance satisfactory to CONTRACTOR.

SECTION 8. This Agreement shall not become effective until consented to and approved in writing by OWNER, the Surety, if any, and the Administrator; provided, however, that consent to and approval hereof by OWNER and the Administrator shall in no way operate to release CONTRACTOR from CONTRACTOR'S duties and obligations to OWNER under the Contract or operate to release the Surety, if any, from its obligations under the Performance Bond required by and relating to the Contract.

SECTION 9. The OWNER is an intended third-party beneficiary of this Agreement. The OWNER shall have the right to assert claims directly against the SUBCONTRACTOR including for breach of contract, breach of express warranties, breach of implied warranties including warranties of merchantability and of fitness for a particular purpose, negligence and other claims arising out of or related to the SUBCONTRACTOR's work. Nothing in this Agreement or in the Contract shall be interpreted, however, to mean that a SUBCONTRACTOR has any right to bring any claim against OWNER under this Agreement or the Contract or in any way related to the SUBCONTRACTOR's work.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

_____	_____.
Contractor	Subcontractor
By _____	By _____.
Title	Title
CONSENTED TO AND APPROVED	
(SEAL)	_____.
	Owner
_____	_____.
Date	President
CONSENTED TO AND APPROVED	
(SEAL)	_____.
	Surety Company

_____ By _____.

Date President

DIVISION 6 – CONTRACT BOND

GENERAL INSTRUCTIONS FOR CONTRACT BONDS

1. The "Contract Bond" form shall be used for all contracts. There shall be no deviation from this form. The Contract bond shall consist of two (2) parts. PART "A" SHALL BE IN SUM EQUAL TO ONE HUNDRED (100) PERCENT OF THE AMOUNT OF THE CONTRACT AWARDED FOR FAITHFUL PERFORMANCE. PART "B" SHALL BE IN SUM EQUAL TO ONE HUNDRED (100) PERCENT OF THE AMOUNT OF THE CONTRACT AWARDED FOR PAYMENT OF LABOR AND MATERIAL. The bond shall be executed by a company licensed to do business in the State in which the project is located.

2. The surety on the bond may be any corporation authorized by OWNER to act as surety or two responsible individual sureties. Individual sureties shall justify in sums aggregating not less than double the penalty of the bond. The Power-of-Attorney of person signing for Surety Company must be attached to the bond.

3. A firm, as such, will not be accepted as a surety, nor a partner for copartners or for a firm of which he/she is a member. Stockholders of a corporate principal may be accepted as sureties provided their qualifications as such are independent of their stock holdings therein. Sureties, if individuals, shall be citizens of the United States.

4. The name, including first and last name, and residence of each individual party to the bond shall be inserted in the body thereof, and each party shall sign the bond with his/her usual signature on the line opposite the scroll seal, and if signed in Maine, Massachusetts or New Hampshire, an adhesive seal shall be affixed opposite the signature.

5. If the principals are partners, their individual names will appear in the body of the bond, with recital that they are partners composing a firm, naming it, and all the members of the firm shall execute the bond as individuals.

6. The signature of a witness shall appear in the appropriate place, attesting the signature of each individual party to the bond.

7. If the principal or surety is a corporation, the name of the State in which incorporated shall be inserted in the appropriate place in the body of the bond and said instrument shall be executed and attested under the corporate seal as indicated on the form. If the corporation has no corporate seal, the fact shall be stated, in which case a scroll or adhesive seal shall appear following the corporate name.

8. The official character and authority of the person or persons executing the bond for the principal, if a corporation, shall be certified by the secretary. In lieu of such certificate there may be attached to the bond, copies of so much of the records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.

9. Each individual surety shall justify under oath, according to a form approved by OWNER before a United States Commissioner, a Clerk of a United States Court, a Notary Public or some other officer having authority to administer oaths generally. If the officer has an official seal it shall be affixed, otherwise the proper certificate as to his/her official character shall be furnished.

10. Each certificate of sufficiency for individual sureties shall be signed by an officer of a bank or trust company, a judge or clerk of a court of record, a United States District Attorney or commissioner, a postmaster, a collector of internal revenue or any officer of the United States acceptable to the department or establishment concerned.

Further certificates as to the financial qualifications of the sureties may be required from time to time, which certificates must be based on the personal investigation of the certifying officers at the time of the making thereof, and not prior certificates.

11. The date of this bond must not be prior to the date of the contract in connection with which it is given.

12. If CONTRACTOR is a foreign corporation, the Contract Bond shall obtain, in addition to the other conditions and provisions required by law, a further condition that the contracting corporation or its sureties shall not be discharged from liability on the bond, nor the bond surrendered until such corporation files with OWNER a Certificate from the State in which the project is located evidencing the payment in full of all bonus tax, penalties and interest, and a Certificate evidencing the payment of all unemployment compensation, contributions, penalties and interest due the State from the said Contracting Corporation, or any foreign corporation, subcontractor thereunder, or for which liability has accrued but the time for payment has not arrived.

CONTRACT BOND

KNOW ALL MEN BY THESE PRESENTS, THAT we, the undersigned, _____ as Principal, and _____ a corporation organized and existing under the laws of the State / Commonwealth of _____ As Surety, are held and firmly bound unto the _____, OWNER (hereinafter called the "Obligee") as hereinafter set forth, in the full and just several sums of:

(a) _____ Dollars ($ _____)

for faithful performance as designated in Paragraph "A"; and

(b) _____ Dollars ($ _____)

for payment of labor and material as designated in Paragraph B";

Sealed with our respective seals and dated this _____day of _____ , 2022

WHEREAS, the above bounded Principal has entered into a Contract with the Obligee dated the _____ _____ day of _____, 2022 (Hereinafter called the "Contract") for **Snow Broom with Air Blast- Yeager** upon certain terms and conditions in said Contract more particularly mentioned; and

WHEREAS, it is one of the conditions of the award by the Obligee pursuant to which said Contract is entered into that these presents be executed.

NOW, THEREFORE, the joint and several conditions of this obligation are such:

A. That if the Principal shall faithfully perform the Contract on his/her part at the time and in the manner therein provided, and shall satisfy all claims and demands incurred in or for the same or growing out of the same, of for injury or damage to persons or property in the performance thereof, and shall fully indemnify and save harmless said Obligee from any and all cost and damage which said Obligee may suffer by reason of failure so to do, and shall fully reimburse and repay said Obligee any and all outlay and expense which it may incur by reason of any such default, obligation shall be null and void one year after the date of final payment to the Principal; otherwise, it shall remain in full force and effect.

B. That if the Principal and all of his Subcontractors to whom any portion of the work provided for in said Contract is sublet and all assignees or the principal and of such subcontractors, shall promptly make payment for all labor performed, services rendered, equipment rented and materials furnished in the prosecution of the work provided for in said Contract, whether or not the said material, services and labor enter into and become component parts of the work or improvement contemplated by said Contract, or in any amendment, extension or addition to said Contract, then this Part B of this obligation shall be null and void one (1) year after the date of final payment to the Principal; otherwise it shall remain in full force and effect.

   Any person (which term shall include an individual, association, partnership and/or corporation) who has performed labor, rendered services, furnished material or rented equipment, as aforesaid, whether as a subcontractor or otherwise and regardless of any contractual relationship with the Principal, his/her

Subcontractor or assignees, shall have a direct right of action against the Principal and Surety on this Bond, as though such person were named herein, provided the action is brought within one year after the time the cause of action occurred and provided that the Obligee shall not be liable for the payment of any costs or expense of any suit.

Provided, however, that this Bond is subject to the following conditions and limitations:

The Surety shall not be liable hereunder for any damage or compensation recoverable under any Workmen's Compensation or Employers Liability Statute.

It is further agreed that any alterations which may be made in the terms of the Contract or in the work to be done or materials to be furnished or labor to be supplied or performed under it, or the giving by the Obligee of any extension of time for the performance of the contract or the reduction of the retained percentage as permitted by the Contract, or any other forbearance on the part of either the Obligee or the Principal to the other, shall not in any way release the Principal and the Surety or either of them from their liability hereunder; and the Surety hereby waives notice of any such alterations, extension, reduction or forbearance.

It is further agreed that in case of default in and/or action arising out of rights and liabilities secured by this obligation, any part hereto or any person entitled to bring an action may use for the purpose of establishing his/her, its/their claim a copy of this Bond certified by the Obligee to be true and correct and any action brought on this Bond shall not be a bar to any subsequent action herein.

IN WITNESS WHEREOF, the said Principal and Surety have duly executed this bond under seal the day and year above mentioned.

---------- (Individual Principal Sign Here) ----------

_____

WITNESS Trade Name, if any

_____ **By:** _____

Individual

---------- (Partnership Principal Sign Here) ----------

	_____
WITNESS	Firm Name
_____	_____
	Partner
_____	_____(SEAL)
	Partner
_____	_____(SEAL)
	Partner
_____	_____(SEAL)
	Partner

---------- (Corporate Principal Sign Here) ----------

	_____
ATTEST	Corporate Name
_____	**By:** _____
Secretary	President
(CORPORATE SEAL)	_____
	Signature

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CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____ certify that I am the _____ SECRETARY 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 for and in behalf of said corporation by authority of its governing body.

_____

Corporate Name

(CORPORATE SEAL)

_____

Signature

SURETY

The rate of premium on this bond is $_____ per thousand.

The total amount of premium charges is $_____.

---------- (Surety Sign Here) ----------

WITNESS

_____

By: _____

Attorney-in-Fact

(SEAL of Surety)

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Section 10 Definition of Terms

Whenever 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 interpreted 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.
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.

Paragraph Number	Term	Definition
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.
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.

Paragraph Number	Term	Definition
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 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 (ENGINEER) 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 ENGINEER, subject in each case to the final determination of the Owner. Any reference to a specific requirement of a numbered paragraph of the contract specifications or a cited standard shall be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
10-32	**Lighting**	A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
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 $50,000. 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.

Paragraph Number	Term	Definition
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 Central WV Regional Airport Authority
10-37(a)	**Owner's Representative**	The Owner's Representative for the Project shall be the CEO and Airport Director or any other individual whom the Owner may designate at any time, in writing. The Owner's Representative shall have the authority to act on behalf of the Owner except to the extent of limitations contained within this agreement.
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.'
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 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.

Paragraph Number	Term	Definition
10-48	**Quality Assurance (QA) Inspector**	An authorized representative of the Engineer, Construction Manager and/or Resident Project Representative (ENGINEER) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	**Quality Assurance (QA) Laboratory**	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer, Construction Manager and/or ENGINEER. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	**Resident Project Representative (ENGINEER)**	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	**Runway**	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	**Runway Safety Area (RSA)**	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
10-53	**Safety Plan Compliance Document (SPCD)**	Details how the Contractor will comply with the CSPP.
10-54	**Specifications**	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	**Sponsor**	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	**Structures**	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	**Subgrade**	The soil that forms the pavement foundation.
10-58	**Superintendent**	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the ENGINEER, 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.

Paragraph Number	Term	Definition
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.
10-66	**Owner Defined Terms**	None.

END OF SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 ADVERTISEMENT (Notice to Bidders).

NOTICE IS HEREBY GIVEN that the Central West Virginia Regional Airport Authority will receive proposals for Snow Broom with Air Blast- Yeager until 2:00 p.m. The proposals will be reviewed for qualifications and acceptable proposals will be publicly opened and read aloud at the **Central WV Regional Airport Authority located at 100 Airport Road, Suite 175, Charleston, WV 25311** on <Insert Bid Reading Time and Date>. There will be a pre-bid meeting held on <Insert Pre-Bid Meeting Time and Date> or virtually through Microsoft Teams (as deemed necessary).

For included work:

The specifications and other contract documents are on file and open to the public for inspection during normal business hours at the office of the OWNER, Central West Virginia Regional Airport Authority, 100 Airport Road, Suite 175, Charleston, WV 25311. The prospective Bidder is encouraged to contact The Thrasher Group, Inc for information on where the documents are located within their office and any special procedures for accessing the documents. A download link for the contract documents will be provided by the Engineer. All inquiries should be directed to the Craig Baker, The Thrasher Group, cbaker@thethrashergroup.com.

Bids shall be prepared and submitted on the prescribed forms in accordance with instructions contained in the Instructions to Bidders and General Provisions (Section 20) Divisions of the Project Manual. The Central West Virginia Regional Airport Authority expressly reserves the right to accept or reject any or all bids or to waive any informalities in the same. Each bidder must deposit with his/her proposal a bid security in an amount equal to at least 5% of the Base Bid. Said security shall be in the form and subject to the conditions given in Section 20 of the General Provisions. No bidder may withdraw his/her bid within <90> days after the actual date of the opening thereof. Successful bidders must enter into the Agreement and furnish a Contract Bond and evidence of required insurance with <10> days after notification acceptance of such proposals, all as more specifically required in the Contract Documents. If an OCIP program is instituted under this contract, the contractor will be provided a reasonable time period to provide the documentation.

Wages as predetermined by the US Secretary of Labor and included in the specifications and contract documents and/or addenda thereto shall be used by the CONTRACTOR in paying labor in connection with the work under this contract. All work under this contract shall be subject to the regulations contained in Division 8 of the Project Manual.
The Central West Virginia Regional Airport Authority, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 USC 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 26, Nondiscrimination in Federally-assisted programs of the Department of Transportation, issued pursuant to such Act, hereby notifies all bidders that it will 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 an award.

The Central West Virginia Regional Airport Authority is committed to assuring that small business concerns owned and controlled by socially and Economically Disadvantaged Individuals (DBE) are included in projects it sponsors. Overall goals have been established as 0% for Disadvantaged Business Enterprises for the fiscal year 2022 The Central West Virginia Regional Airport Authority is committed to meeting this goal on all services provided, and the CONTRACTOR is expected to put every effort forward to meet the above DBE goal. Proposals must include the percentage involvement of Disadvantaged Business Enterprises along with the names of the firms involved, and the completed certification.

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.

20-03 CONTENTS OF PROPOSAL FORMS. The Owner shall furnish bidders with proposal forms. All papers bound with or attached to the proposal forms are necessary parts and must not be detached. 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*.

The plans, specifications, and other documents designated in the proposal form shall be considered a part of the proposal.

A pre-bid conference will be conducted 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. The time, date, and location of the meeting are indicated in other parts of this specification.

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 INTEENGINEERETATION 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 IRREGULAENGINEEROPOSALS. 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 certified check, or other specified acceptable collateral, in the amount specified in the proposal form. Such check, or collateral, shall be made payable to the Owner. The bid guarantee shall consist of a firm commitment such as a bid bond, certified check, or other

negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of the bid, execute such contractual documents as may be required within the time specified.

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 for envelope 2 (two). 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 for envelope 2 (two) 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 the subsection 20-04 titled ISSUANCE OF PROPOSAL FORMS of this section.
- **d.** Envelope 1 of the proposal is deemed Not Acceptable by the OWNER.

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 <Insert Date and Time for Interpretations>.

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

END OF SECTION 20

Section 30 Award and Execution of Contract

30-01 CONSIDERATION OF PROPOSALS. Envelope 1 of proposals will be reviewed and either Accepted or Not Accepted as suitable for the project needs. Acceptable proposals will then have their associated Envelope 2 opened. If a bidder's proposal contains a discrepancy between unit bid prices written in words and unit bid prices written in numbers, the unit 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 the subsection 20-09 titled IRREGULAENGINEEROPOSALS of Section 20.
- **b.** If the bidder is disqualified for any of the reasons specified in the subsection 20-14 titled DISQUALIFICATION OF BIDDERS of Section 20.

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 120 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 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.

30-09 REQUIREMENTS OF INSURANCE. The successful bidder shall maintain and provide proof of insurance coverage for the duration of the contract that protects the Owner from any and all liabilities. The successful bidder shall provide evidence of insurance for Workers' Compensation & Employer's Liability, West Virginia Deliberate Intent Coverage (West Virginia Code Section 23-4-2, *et. seq.*), General Liability, automobile liability, and Umbrella / Excess coverage.

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.

The Contract Documents comprise the entire Agreement between Owner and Contractor. They may be altered only by a Modification. The Contract Documents are complimentary; what is called for by one is as binding as if called for by all.

Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected. In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order: Modifications, Agreement, Addenda, Technical Specifications, Supplementary Conditions, Instructions to Bidders, General Provisions, Drawings and Cited Standards. To the extent there is a conflict between the FAA Conditions and any other Contract Document, the FAA Conditions shall control. Figure dimension on Drawings shall govern over scale dimensions and detailed Drawings shall govern over general drawings. Any Work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Section 50-01.

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.

Work alterations and quantity variances 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 reviewed and approved or rejected by the Board of the Owner as well as the Federal Aviation Administration (the "FAA"), provided, however, that FAA approval shall only be required if the FAA is providing funding (in whole or in part) for the Project, in which case FAA approval shall only be required to the extent that the Board of the Owner intends to pay for the altered work or quantity variance with funds from the FAA. . If the Owner and the Contractor are unable to agree on a unit adjustment for any contract item that requires a supplemental agreement or change order, or if the Owner is unable to secure funding from the FAA for any contract item that requires a supplemental agreement or change order, the Owner reserves the right to terminate the contract with respect to the item and make other arrangements for its completion.

40-03 OMITTED ITEMS. The Owner or the Owner's Representative, or the Owner's Engineer with prior written approval from the Owner or the ENGINEER with written permission from the Owner, 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. 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 Owner or ENGINEER's (with prior written approval from the Owner) opinion, is necessary for completion of the extra work.

When determined by the Owner or the ENGINEER with prior written approval from the Owner to be in the Owner's best interest, and to the extent funded by the FAA, with after FAA approval has been received, the Owner or the ENGINEER with prior written approval from the Owner 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 change order.

If extra work is essential to maintaining the project critical path and when the anticipated extra work is anticipated to be less than $50,000, after receiving written approval from the FAA to the extent the Owner will look to the FAA to fund payment for some or all of the extra work, Owner's Representative's or the Engineer/ENGINEER with prior written approval from the Owner 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. Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs and damages associated with such change and any and all adjustments to the Contract Sum and the construction schedule.

40-05 MAINTENANCE OF TRAFFIC. Not applicable.

40-06 REMOVAL OF EXISTING STRUCTURES. Not applicable.

40-07 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK. Not applicable.

40-08 FINAL CLEANUP. Not Applicable.

END OF SECTION 40

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Section 50 Control of Work

50-01 AUTHORITY OF THE RESIDENT PROJECT REPRESENTATIVE (ENGINEER). Not Applicable.

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 ENGINEER 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 ENGINEER will advise the Owner of their determination that the affected work be accepted and remain in place. The ENGINEER 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 ENGINEER or Owner 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 ENGINEER'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 ENGINEER'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 ENGINEER or Owner'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 ENGINEER 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 with prior written approval from the Owner, but will provide a finished product equal to or better than that required by the requirements of the contract, plans and specifications.

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

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

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 notify the Owner in writing requesting their written interpretation and decision, and such decision shall be final.

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

50-04 LIST OF SPECIAL PROVISIONS. See Section 7S for Special Provisions

50-05 COOPERATION OF CONTRACTOR. The Contractor shall be supplied 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.

The Contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the ENGINEER, Owner 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 ENGINEER, Owner or their authorized representative.

50-06 COOPERATION BETWEEN CONTRACTORS. Not Applicable.

50-07 AUTOMATICALLY CONTROLLED EQUIPMENT. Not Applicable.

50-08 AUTHORITY AND DUTIES OF QUALITY ASSURANCE (QA) INSPECTORS. Not Applicable.

50-09 INSPECTION OF THE WORK. All materials and each part or detail of the work shall be subject to inspection. The ENGINEER, Owner, and any of their representatives 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 ENGINEER or Owner requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the Contractor's sole expense.

Provide advance written notice to the ENGINEER 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 ENGINEER and/or Owner 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 Owner 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 ENGINEER. Work done contrary to the instructions of the ENGINEER, work done beyond the

lines shown on the plans or as established by the ENGINEER, 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 sole expense.

Upon failure on the part of the Contractor to comply with any order of the ENGINEER or Owner made under the provisions of this subsection, the ENGINEER and Owner 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. Not Applicable.

50-13 FAILURE TO MAINTAIN THE WORK. Not Applicable.

50-14 PARTIAL ACCEPTANCE. Not Applicable.

50-15 FINAL ACCEPTANCE. Upon due notice from the Contractor of presumptive completion of the entire project, the ENGINEER 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 ENGINEER 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 ENGINEER 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 ENGINEER will recommend the Owner make the final acceptance and, if so accepted by the Owner, the ENGINEER shall 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 previously authorized as extra work, the Contractor shall notify the ENGINEER and Owner in writing of Contractor's 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 ENGINEER and Owner are not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, or if the Contractor does not receive prior written authorization to perform the work on which the Contractor bases the claim, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor and the fact that the ENGINEER and/or Owner have kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. Prior to beginning the work on which the claim for additional compensation is based, the Contractor shall submit a written claim to the ENGINEER 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.

50-17 Cost reduction incentive. The provisions of this subsection will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.

On projects with original contract amounts in excess of $100,000, the Contractor may submit to the Engineer, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction.

The cost reduction proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.

Not eligible for cost reduction proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.

As a minimum, the following information shall be submitted by the Contractor with each proposal:

a. A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each.

b. An itemization of the contract requirements that must be changed if the proposal is adopted.

c. A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes.

d. A statement of the time by which a change order adopting the proposal must be issued.

e. A statement of the effect adoption of the proposal will have on the time for completion of the contract.

f. The contract items of work affected by the proposed changes, including any quantity variation attributable to them.

The Contractor may withdraw, in whole or in part, any cost reduction proposal not accepted by the Engineer, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the Engineer to consider any cost reduction proposal that may be submitted.

The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the cost reduction proposal has been issued. If a change order has not been issued by the date upon which the Contractor's cost reduction proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such cost reduction proposal shall be deemed rejected.

The Engineer shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the Engineer may disregard the contract bid prices if, in the Engineer's judgment such prices do not represent a fair measure of the value of the work to be performed or deleted.

The Owner may require the Contractor to share in the Owner's costs of investigating a cost reduction proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a cost reduction proposal from amounts payable to the Contractor under the contract.

If the Contractor's cost reduction proposal is accepted in whole or in part, such acceptance will be by a contract change order that shall specifically state that it is executed pursuant to this subsection. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted and shall include any conditions upon which the Engineer's approval is based. The change order shall also set forth the estimated net savings attributable to the cost reduction proposal. The net

savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner.

The Contractor's 50% share of the net savings shall constitute full compensation to the Contractor for the cost reduction proposal and the performance of the work.

Acceptance of the cost-reduction proposal and performance of the cost- reduction work shall not extend the time of completion of the contract unless specifically provided for in the contract change order.

END OF SECTION 50

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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 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 ENGINEER 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.

Contractor shall supply steel and manufactured products that conform to the Buy American provisions established under 49 USC Section 50101 as follows: "Steel products must be 100% U.S. domestic product Manufactured Products. Preference shall be given to products that are 100% manufactured and assembled in the U.S. Manufactured products not meeting the 100% U.S. domestic preference may only be used on the project if the FAA has officially granted a permissible waiver to Buy American Preferences. Submittals for all manufactured products must include certification of compliance with Buy American requirements as established under 49 USC Section 50101. Submittal must include sufficient information to confirm compliance or submittal will be returned with no action."

At the Owner's option, materials may be approved at the source of supply before delivery. If it is found after trial that sources of supply 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. Not Applicable.

60-03 CERTIFICATION OF COMPLIANCE/ANALYSIS (COC/COA). The ENGINEER 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 ENGINEER.

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

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

60-04 PLANT INSPECTION. Not Applicable.

60-05 ENGINEER/RESIDENT PROJECT REPRESENTATIVE (ENGINEER) FIELD OFFICE. An Engineer's field office is not required.

60-06 STORAGE OF MATERIALS. Contractor shall be responsible for the storage of materials 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 the prompt inspection. The Contractor shall coordinate the storage of all materials with the ENGINEER. 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 ENGINEER and/or Owner. 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 ENGINEER 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.

Only materials and equipment that are to be used directly in the Work shall be brought to and stored on the Project site by the Contractor. After equipment is no longer required for the Work, it shall be promptly removed from the Project site. Protection of construction materials and equipment stored at the Project site from weather, theft, damage, and all other adversity is solely the responsibility of the Contractor. The Contractor shall ensure that the Work, at all times, is performed in a manner that affords reasonable access, both vehicular and pedestrian, to the site of the Work and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that areas adjacent to the site of the Work shall be free from all debris, building materials, and equipment likely to cause hazardous conditions.

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 ENGINEER or Owner.

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 ENGINEER and/or Owner has approved its use in the work.

60-08 OWNER FURNISHED MATERIALS. Not applicable.

END OF SECTION 60

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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, 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, defend, 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 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. Not Applicable.

70-05 FEDERAL PARTICIPATION. The United States Government has agreed to reimburse the Owner for some portion of the contract costs. The contract work, and any change orders or supplemental agreements, are 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 ENGINEER. If the ENGINEER or Owner 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 Owner 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.

Contractor hereby acknowledges that the nature of Owner's operations requires strict security measures. Contractor, Subcontractors, and all Sub-subcontractors, and anyone and any party for whom any of them may be liable shall cooperate with Owner's management personnel and shall comply with all security requirements of Owner's management personnel. The foregoing, however, shall not relieve Contractor of any obligation to provide a safe and secure workplace for all parties entering the Project site. Owner reserves the right, at the Owner' to bar access to any individual for reasonable security reasons in the Owner's sole opinion.

70-08 CONSTRUCTION SAFETY AND PHASING PLAN (CSPP). Not Applicable.

70-09 USE OF EXPLOSIVES. Use of explosives is not permitted.

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

70-11 RESPONSIBILITY FOR DAMAGE CLAIMS. To the fullest extent permitted by law, the Contractor shall indemnify, defend (with counsel approved by the Owner), reimburse and hold harmless the Engineer/ENGINEER 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, 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 property damage pursuant to the terms provisions of the contract.

70-13 OPENING SECTIONS OF THE WORK TO TRAFFIC. Not Applicable.

70-14 CONTRACTOR'S RESPONSIBILITY FOR WORK. Until 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 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 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 from any cause. 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. The Contractor shall make their own estimate of the inherent difficulties involved in protecting the work under the conditions herein described and shall not claim any added compensation by reason of delay or increased cost due to protecting the work during any suspension.

70-15 CONTRACTOR'S RESPONSIBILITY FOR UTILITY SERVICE AND FACILITIES OF OTHERS. Not Applicable.

70-15.1 FAA FACILITIES AND CABLE RUNS. Not Applicable.

70-16 FURNISHING RIGHTS-OF-WAY. Not Applicable.

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, ENGINEER, their authorized representatives, the Owner's Representative 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 gross negligence, 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 ENGINEER. The ENGINEER will investigate the Contractor's finding and the Owner will direct the Contractor to either resume operations or to suspend operations as directed with consideration of the recommendation of the ENGINEER.

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 may 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 may include an extension of contract time in accordance with Section 80, paragraph 80-07, *Determination and Extension of Contract Time*.

70-21 INSURANCE REQUIREMENTS. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance and furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed or furnished by CONTRACTOR, and Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

a. Claims under workers' compensation, disability benefits and other similar employee benefit acts;

b. Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

c. Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees, including claims brought forth pursuant to *West Virginia Code* §23-4-2;

d. Claims for damages insured by customary personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

e. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

f. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

g. With respect to insurance required by subparagraphs “i” through “v” of this section, Contractor shall ensure that the Owner, the Engineer, the ENGINEER, and their respective executives, managers, directors, officers, attorneys, designees, agents, representatives, and employees are included as an additional insured under such insurance coverages. In addition, Contractor shall ensure that the insurance required by this section:

    i. Include the specific coverage and be written for not less than the limits of liability provided in herein or required by applicable laws or regulations, whichever is greater;

    ii. Include the completed operations insurance;

    iii. Include contractual liability insurance covering CONTRACTOR's indemnity obligations.

    iv. Contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR will so provide);

    v. Remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective Work. With respect to completed operations insurance, and any insurance coverage written on a claims-made basis, such insurance shall remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter.

PROOF OF INSURANCE: The Contractor shall furnish to the OWNER a satisfactory Certificate of Insurance or a certified and complete copy of policy or policies of insurance covering the Work as required in the attached

specifications for himself, herself and all subcontractors. This shall be furnished at the same time as Performance and Payment Bonds. Neither approval by the OWNER, nor a failure to disapprove insurance furnished by the CONTRACTOR, shall release the CONTRACTOR from full responsibility for liability, damages, and accidents, as set forth in the Agreement and Contract Documents.

SP30-14 OWNER'S LIABILITY INSURANCE. In addition to the insurance required to be provided by CONTRACTOR, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

SP30-17 RECEIPT AND APPLICATION OF INSURANCE PROCEEDS. Any insured loss under the policies of insurance will be adjusted with OWNER and made payable to OWNER as fiduciary for the insured(s), as their interests may appear, subject to the requirements of any applicable mortgage clause. OWNER shall deposit, in a separate account. any money so received, and it shall distribute such money in accordance with such agreement as the parties in interest may reach. If no such special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received shall be applied on account thereof, and the Work and the cost thereof shall be covered by an appropriate Change Order or Written Amendment.

OWNER, as fiduciary, shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER, as fiduciary, shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers, and if required in writing by any party in interest, OWNER, as fiduciary, shall give bond for the proper performance of such duties.

SP30-18 ADDITIONAL BONDS AND INSURANCE. Prior to delivery of the executed Agreement by OWNER to CONTRACTOR, OWNER may require additional bonds or insurance, in such form and with such sureties or insurers as OWNER may require. If such other bonds or insurance are specified by written instructions given prior to opening of bids, the premiums shall be paid by CONTRACTOR; if subsequent thereto, they shall be paid by OWNER.

SP30-19 ACCEPTANCE OF BONDS AND INSURANCE; OPTION TO REPLACE. If either party (OWNER or CONTRACTOR) has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within ten days after receipt of the certificates (or other evidence requested), OWNER and CONTRACTOR shall each provide to the other such additional information with respect to Bonds or insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds or insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

SP30-20 PARTIAL UTILIZATION-PROPERTY INSURANCE. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with Special Provisions SP90-16; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged, in writing, notice of such occupancy or use and any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

SP30-21 CONTRACTOR'S INDEMNITY. To the fullest extent permitted by law, Contractor, for itself, its successors and assigns, agrees to indemnify, defend and hold harmless Owner, its successors, assigns, officers, directors,

employees, representatives, agents, engineers, architects, and Airport Design Consultants, Inc. (together, the "Indemnitees"), from and against any and all claims, demands, damages, suits, violations, controversies, actions or causes of action, together with any and all losses, costs or expenses in connection therewith or related thereto, asserted by any person or persons, including employees and/or agents of Contractor or subcontractors, for any and all damages, bodily injury, personal injury, personal property damage, real property damage, death, wrongful death, judgments, awards, penalties, violations, fines, interest, expenses, costs and fees of any kind, including, but not limited to, reasonable attorneys' fees, professional fees, and the cost, and any and all other liability of whatsoever kind or nature, in connection with, arising out of, or otherwise related to, directly or indirectly: (a) the acts or omissions of Contractor, its affiliates, its Subcontractors, and each of their respective officers, directors, employees, representatives, agents, successors, and/or assigns; (b) any willful conduct, misconduct, or negligence of Contractor, its affiliates, its Subcontractors and each of their respective officers, directors, employees, representatives, agents, successors, and/or assigns; (c) any breach of the Contract by Contractor, its affiliates, and each of their respective officers, directors, employees, representatives, agents, successors, and/or assigns; (d) the work performed or to be performed under the Contract, whether or not caused by the fault or negligence of any of the Indemnitees, Contractor, or the Contractor's affiliates, Subcontractors and each of their respective officers, directors, employees, representatives, agents, successors, and/or assigns; (e) on account of or in consequence of any neglect in safeguarding the work; (f) through the use of unacceptable materials in constructing the work; (g) from any infringements of patent, trademark, or copyright; (h) from any claims or amounts arising or recovered under the "Workmen's Compensation Act," or any other law, ordinance, order, or decree; (i) the sole acts or omissions of one or more of the Indemnitees; and (f) any willful conduct, misconduct, or negligence including, but not limited to, any sole willful conduct, misconduct, or negligence of any of the Indemnitees.

The Contractor shall also indemnify and hold harmless each of the Indemnitees from and against any costs and expenses (including reasonable attorneys' fees) incurred by any of the Indemnitees in enforcing any of the Contractor's obligations to defend, indemnity, and hold harmless any of the Indemnities under the Agreement and Contract Documents. Further, Contractor shall require each Subcontractor, by subcontract or other agreement, to indemnify, hold harmless, reimburse and defend the Indemnitees to the same extent as required of the Contractor in this section. The Contractor's obligation to indemnify, defend, reimburse, and hold harmless under this section shall not be limited in any way by any limitation on the amount or type of damages, compensation, benefits, or insurance proceeds payable by, for, or to Contractor or anyone directly or indirectly employed by Contractor. The Contractor's obligations under this section shall survive any termination of the Agreement.

The Contractor's indemnity obligations shall also specifically include, without limitation, all fines, penalties, damages, liability, costs, expenses (including, without limitation, reasonable attorneys' fees), and punitive damages (if any) arising out of, or in connection with, any (i) violation of or failure to comply with any law, statute, ordinance, rule, regulation, code, or requirement of a public authority that bears upon the performance of the Work by the Contractor, a Subcontractor, or any person or entity for whom either is responsible, (ii) means, methods, procedures, techniques, or sequences of execution or performance of the Work, and (iii) failure to secure and pay for permits, fees, approvals, licenses, and inspections as required under the Contract Documents, or any violation of any permit or other approval of a public authority applicable to the Work, by the Contractor, a Subcontractor, or any person or entity for whom either is responsible.

END OF SECTION 70

Section 80 Prosecution 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 ENGINEER.

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

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

The Contractor shall provide copies of all subcontracts to the ENGINEER 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. If required by the contract documents, the Owners notice to proceed (NTP) will state the date on which contract time commences. The Contractor is expected to commence project operations within 10 calendar days of the NTP date. The Contractor shall notify the ENGINEER at least 24 hours in advance of the time contract operations begins. The Contractor shall not commence any actual operations prior to the date on which the notice to proceed is issued by the Owner. Any work performed by the Contractor prior to the receipt of the NTP shall be at the Contractor's own risk.

80-03 EXECUTION AND PROGRESS. Unless otherwise specified, the Contractor shall submit their coordinated construction schedule showing all work activities for the ENGINEER and Owner's review and acceptance at least 10 days prior to the start of work. The Contractor's progress schedule, once accepted by the Owner, will represent the Contractor's baseline plan to accomplish the project in accordance with the terms and conditions of the Contract. The ENGINEER 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 behind the submitted schedule, the Contractor shall, upon the ENGINEER or Owner'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 at the Contractor's sole expense. Should the execution of the work be discontinued for any reason, the Contractor shall notify the ENGINEER at least 24 hours in advance of resuming operations.

The project schedule 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.

80-03.1 PRECONSTRUCTION CONFERENCE. The preconstruction conference will be called by the Owner, who will arrange for all interested parties to be present. At this time, all parties will discuss the Project, safety and operational procedures, DBE compliance, schedule, security measures, and requirements of the Plans and Specifications. The Superintendent will supply the ENGINEER with an Emergency Contact List and a list of all subcontractors to be used and their phone numbers. The Superintendent will henceforth make every effort to expeditiously coordinate all phases of the Work, including the required reporting procedures to obtain the end result within the full purpose and intent of the Plans and Specifications.

80-03.2 COORDINATION AND PROGRESS MEETINGS. The ENGINEER will hold weekly or bi-weekly general project coordination and progress meetings at regularly scheduled times convenient for all parties involved. These meetings are in addition to specific meetings held for other purposes, such as special project meetings and special pre-installation meetings. The Owner and/or ENGINEER will require representation at each meeting by every party currently involved in coordination or planning for the Work of the entire project. Meetings will be conducted in a manner which will resolve coordination problems. The ENGINEER will record results of the meeting and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting. These meetings may be tape-recorded.

80-04 LIMITATION OF OPERATIONS. Not Applicable.

80-04.1 OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION. Not Applicable.

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 Engineer, ENGINEER and/or Owner, does not perform his work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the Engineer, ENGINEER and/or Owner, be removed forthwith by the Contractor or subcontractor employing such person, and shall not be employed again in any portion of the work without approval of the Engineer, ENGINEER and/or Owner.

Should the Contractor fail to remove such persons or person, or fail to furnish suitable and sufficient personnel for the proper execution of the work, the Engineer, ENGINEER and/or Owner 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 be such that no injury to previously completed work, adjacent property, or existing airport facilities will result from 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 others are authorized by the Engineer. 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 Engineer 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 Engineer 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 Engineer 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 subsection.

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, at the Owner's option, be reimbursed for actual money expended on the work during the period of shutdown. No allowance will be made for anticipated profits or indirect costs, including extended overhead. 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 ENGINEER within the time period stated in the ENGINEER's order to resume work. The Contractor shall submit with their own claim information substantiating the amount shown on the claim. The ENGINEER 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 or for any delays related to the COVID pandemic.

If it becomes necessary to suspend work, 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 or working days allowed for completion of the work 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 in any way the fault of the Contractor, shall be excluded.

The Contract Time can only be increased or decreased by change order, supplemental agreement or other written agreement between the parties.

If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or ENGINEER, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unavoidable shutdowns in supply chains, unavoidable delay in deliveries, unavoidable casualties, government ordered shutdowns due to epidemic or pandemic conditions, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and/or litigation; or (5) by other causes that the Contractor asserts, and the Owner determines, justify delay, then the Contract Time shall be extended to the extent such delay will prevent the Contractor from achieving Substantial Completion within the Contract Time and if the performance of the Work is not, was not, or would not have been delayed by any other cause for which the Contractor is not entitled to an extension in the Contract Time under the Contract Documents. The Contractor further

acknowledges and agrees that adjustments in the Contract Time will be permitted for a delay only to the extent such delay (i) is not caused, or could not have been anticipated, by the Contractor, (ii) could not be limited or avoided by the Contractor's timely notice to the Owner of the delay or reasonable likelihood that a delay will occur, and (iii) is of a duration not less than one (1) day. No delay caused by or attributable to the COVID-19 pandemic shall be considered an unavoidable delay, an unanticipated delay, or a cause beyond the Contractor's control.

Notwithstanding anything to the contrary in the Contract Documents, an extension in the Contract Time, to the extent permitted shall be the sole remedy of the Contractor for any (i) delay in the commencement, prosecution, or completion of the Work, (ii) hindrance, interference, suspension or obstruction in the performance of the Work, (iii) loss of productivity, or (iv) other similar claims (items i through iv herein collectively referred to in this Section as "Delays") whether or not such Delays are foreseeable, unless a Delay is caused by acts of the Owner constituting intentional interference with the Contractor's performance of the Work, and only to the extent such acts continue after the Contractor furnishes the Owner with notice of such interference. In no event shall the Contractor be entitled to any compensation or recovery of any damages, in connection with any Delay, including, without limitation, consequential damages, lost opportunity costs, impact damages, or other similar remuneration. The Owner's exercise of any of its rights or remedies under the Contract Documents (including, without limitation, ordering changes in the Work, or directing suspension, rescheduling, or correction of the Work), regardless of the extent or frequency of the Owner's exercise of such rights or remedies, shall not be construed as intentional interference with the Contractor's performance of the Work.

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.

Liquidated Damages Cost	Allowed Construction Time
Not Applicable.	**330 days**

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a wavier on the part of the Owner of any of its rights under the contract.

80-09 DEFAULT AND TERMINATION OF CONTRACT. The Contractor shall be considered in default of their contract and such default will be considered as cause for the Owner to terminate the contract for reasons including, but not limited to, if the Contractor:

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

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

c. Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d. Discontinues the execution of the work, or

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

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

g. Allows any final judgment to stand against the Contractor unsatisfied for a period of 10 days, or

h. Makes an assignment for the benefit of creditors,

i. For any other cause whatsoever, fails to carry on the work in an acceptable manner, or

j. Fails to satisfy or meet any terms and/or condition of the contract in the opinion of the Owner.

Should the Owner consider the Contractor in default of the contract for any reason above, the Owner shall 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 7 days after such notice, does not proceed in accordance therewith, then the Owner may, without prejudice to any other rights or remedies of the Owner, terminate employment of the Contractor and may, 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 ENGINEER or Owner 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. This obligation for payment shall survive termination of the Contract.

80-10 TERMINATION FOR NATIONAL EMERGENCIES. The Owner may 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 and accepted 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 may 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 Owner, 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 Owner and/or ENGINEER.

Termination of the contract or a portion thereof shall neither relieve the Contractor of his or her responsibilities for the completed work nor shall it relieve his or her 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. Not Applicable.

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 ENGINEER, or his or her authorized representatives, using United States Customary Units of Measurement or the International System of Units.

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 ENGINEER or Owner.

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 ENGINEER in writing with Owner's permission, 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 ENGINEER and shall be agreed to by the Contractor before such method of measurement of pay quantities is used.

Measurement and Payment Terms

Term	Description
Excavation and Embankment Volume	In computing volumes of excavation, the average end area method will be used unless otherwise specified.
Measurement and Proportion by Weight	The term "ton" will mean the short ton consisting of 2,000 pounds (907 km) avoirdupois. All materials that are measured or portioned by weights shall be weighed on accurate, independently certified scales by competent, qualified personnel at locations designated by the ENGINEER. 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 ENGINEER 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

Term	Description
	arrive at the point of delivery.
Asphalt Material	Asphalt materials will be measured by the gallon (liter) or ton (kg). When measured by volume, such volumes will be measured at 60°F (16°C) or will be corrected to the volume at 60°F (16°C) using ASTM D1250 for asphalts. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when asphalt material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt materials are shipped by truck or transport, net certified weights by volume, subject to correction for loss or foaming, will be used for computing quantities.
Cement	Cement will be measured by the ton (kg) or hundredweight (km).
Structure	Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.
Timber	Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.
Plates and Sheets	The thickness of plates and galvanized sheet used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inch.
Miscellaneous Items	When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gauge, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.
Scales	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 ENGINEER 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 ENGINEER can safely and conveniently view them. Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing

Term	Description
	the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for portioning 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. 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 Owner's Representative has 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 Owner's Representative 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 Owner's Representative'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 Owner's Representative'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 Owner's Representative'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 and is conditioned upon receipt of FAA funding, when applicable.

90-06 PARTIAL PAYMENTS. If the Contract is based on a stipulated sum, the Contractor shall submit a schedule of values to the PRP and Owner before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Owner. This schedule, unless objected to by the Owner or Engineer, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Owner and PRP and supported by such data to substantiate its accuracy as the Owner or Engineer may require, and unless objected to by the Owner or Engineer, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

Partial payments will be made to the Contractor at least once each month as the work progresses. Said payments will be based upon Applications for Payment, prepared by the Contractor and reviewed by the ENGINEER, and prepared in accordance with the Contractor's schedule of values (if applicable) for 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.

Each Application for Payment shall be accompanied by the following, all in form and substance satisfactory to the Owner: (i) a current Contractor's lien waiver and duly executed and acknowledged sworn statement showing all Subcontractors and material suppliers with whom the Contractor has entered into subcontracts, the amount of each such subcontract, the amount requested for any Subcontractor and material supplier in the requested progress payment, and the amount to be paid to the Contractor from such progress payment, together with similar sworn statements from all such Subcontractors and material suppliers; (ii) duly executed waivers of mechanics' and material suppliers' liens from all Subcontractors and, when appropriate, from material suppliers and lower tier Subcontractors establishing payment or satisfaction of payment of all amounts requested by the Contractor on behalf of such entities or persons in any previous Application for Payment; and (iii) all information and materials required to comply with the requirements of the Contract Documents or reasonably requested by the Owner or the Architect. If required by the Owner's title insurer, if any, the Contractor shall execute a personal gap undertaking in form and substance satisfactory to such title insurer.

The Owner shall 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 10 days after the Owner's payment to the prime Contractor. The percent withheld shall be 5%.

a. From the total of the amount determined to be payable on a partial payment, 5 percent of such total amount will be deducted and retained by the Owner for protection of the Owner's interests. Unless otherwise instructed by the Owner, the amount retained by the Owner will be in effect until the final payment is made except as follows:

(1) Contractor may request release of retainage on work that has been partially accepted by the Owner in accordance with Section 50-03. Contractor must provide a certified invoice to the ENGINEER that supports the value of retainage held by the Owner for partially accepted work.

b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 10 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 10 days after the subcontractor's work is satisfactorily completed. A subcontractor's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished and documented as required by the Owner.

When the Owner has made an incremental acceptance of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed.

c. When at least 95% of the work has been completed to the satisfaction of the ENGINEER, the ENGINEER 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 ENGINEER and accepted by the Owner 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. At the Owner's option, 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. For costs of stored or stockpiled materials to be considered in the next partial payment, the following conditions must be met:

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

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

c. The Contractor has furnished the ENGINEER 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, and

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 protecting the materials and 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. Omitted.

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 ENGINEER will prepare the final estimate of the items of work actually performed. The Contractor shall approve the ENGINEER's final estimate or advise the ENGINEER 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 ENGINEER shall resolve all disputes (if any) in the measurement and computation of final quantities to be paid within 30 calendar days of the Contractor's receipt of the ENGINEER's final estimate. If, after such 30-day period, a dispute still exists, the Contractor may approve the ENGINEER'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 ENGINEER's final estimate, and after the ENGINEER's receipt of the project closeout documentation required in paragraph 90-11, *Contractor Final Project Documentation*, and after the Owner approves the ENGINEER's final estimate, 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 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 two years 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, for that part of work this warranty shall continue for a period of two years 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.

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 two years from the date of repair or replacement.

e. The Owner will notify the Contractor, in writing, within thirty (30) 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) calendar 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 at least until the ENGINEER approves the Contractor's final submittal. The Contractor shall:

a. Provide two (2) copies of all manufacturer's 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.

m. A certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect.

n. A written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents.

o. If required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner.

END OF SECTION 90

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DIVISION 7S - SPECIAL PROVISIONS

Section 20 Special Provisions

In addition to Section 20, add the following:

SP20-16 ADDENDUM. All names must be typed or printed below the signature. Erasures, alterations or other changes in the Proposal must be explained or noted over the signature of the bidder. The Bid shall contain an acknowledgment of receipt of all Addendum(a) (the numbers of which shall be filled in on the Bid Form).

SP20-17 SUBSTITUTE MATERIALS. Bidders' proposal must be based on materials as specified. If a bidder wishes to substitute materials bidder feels are equal to those specified, bidder shall make a request in writing to the ENGINEER for such substitution not less than seven (7) days prior to the date set for receipt of bids. If the ENGINEER and OWNER approve such substitute material ENGINEER will notify all bidders in writing of said approval. After the contract is awarded, if the CONTRACTOR desires to substitute materials for those specified, CONTRACTOR must make a written request therefore to OWNER and ENGINEER as set forth in the Contract Documents showing the amount to be added to or deducted from the base bid for such substitutions.

END OF SECTION 20 SPECIAL PROVISIONS

Section 30 Special Provisions

In addition to Section 30, add the following:

SP30-10 CONTRACTOR'S PRESTART REPRESENTATIONS. CONTRACTOR represents that CONTRACTOR is familiar with, and assumes full responsibility for being familiar with, the nature and extent of the Contract Documents, Work, locality and with all local conditions and Federal, State and Local laws, ordinances, rules and regulations that may in any manner affect performance of the Work, and represents that CONTRACTOR has correlated CONTRACTOR's study and observations with the requirements of the Contract Documents.

CONTRACTOR also represents that CONTRACTOR has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the General Provisions of the Specifications and made such additional surveys and investigations as CONTRACTOR deems necessary for the performance of the Work at the Contract Price in accordance with the requirements of the Contract Documents and that CONTRACTOR has correlated the results of all such data with the requirements of the Contract Documents.

Prior to the execution of the Agreement, the CONTRACTOR has evaluated and satisfied itself as to the conditions and limitations under which the Work is to be performed, including, without limitation, (i) the location, condition, layout, and nature of the Project site and surrounding areas, including subsurface conditions (ii) generally prevailing climatic conditions, (iii) anticipated labor supply and costs, (iv) availability and cost of materials, tools and equipment, (v) any applicable government rules, regulations, and requirements related to or impacting the Work with respect to any ongoing pandemic or epidemic; and (vi) other similar issues. The OWNER assumes no responsibility or liability for the physical condition or safety of the project site or any improvements located on the Project site. The OWNER shall not be required to make any adjustment in either the Contract Sum or the Contract Time in connection with any failure by the CONTRACTOR to have complied with the requirements of this Section.

SP30-11 BEFORE STARTING CONSTRUCTION. Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall at once report in writing any conflict, error or discrepancy which CONTRACTOR may discover.

Before starting the Work at the site, CONTRACTOR shall furnish OWNER and ENGINEER certificates of insurance as required by the contract documents. After delivery of the executed Agreement by OWNER to CONTRACTOR, but before starting the Work at the site, a preconstruction conference will be held to review the above schedules, to establish procedures for handling material and other submissions and for processing Applications for Payment, and to establish a working understanding between the parties as to the Project. Present at the conference will be OWNER or OWNER's representative, ENGINEER and/or ENGINEER, CONTRACTOR and CONTRACTOR's Superintendent. Such conference shall also review all Federal, State and Local requirements for the Project, and the considerations set forth under Article 2 of the Supplementary Conditions.

SP30-12 ADDITIONAL BONDS AND INSURANCE. Prior to delivery of the executed Agreement by OWNER to CONTRACTOR, OWNER may require insurance, in such form and with such sureties or insurers as OWNER may require. If such other bonds or such other insurance are specified by written instructions given prior to opening of bids, the premiums shall be paid by CONTRACTOR; if subsequent thereto, they shall be paid by OWNER.

SP30-13 ACCEPTANCE OF BONDS AND INSURANCE; OPTION TO REPLACE. If either party (OWNER or CONTRACTOR) has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within ten days after receipt of the certificates (or other evidence requested), OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of

such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

END OF SECTION 30 SPECIAL PROVISIONS

Section 40 Special Provisions

In addition to Section 40, add the following:

SP40-09 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES

Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

No provision of any such standard, specification, manual code or instruction shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to OWNER, ENGINEER or any of ENGINEER's Consultants, agents or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

SP40-11 AMEND AND SUPPLEMENTING CONTRACT DOCUMENTS

A. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

    1. A Supplemental Agreement
    2. A Change Order

SP40-12 REUSE OF DOCUMENTS. CONTRACTOR, and any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, and (ii) shall not reuse any of such Drawings, Specifications, other documents or copies on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

END OF SECTION 40 SPECIAL PROVISIONS

Section 50 Special Provisions

In addition to Section 50, add the following:

SP50-18 TERMINOLOGY. The following words or terms are not defined by, when used in the Bidding Requirements or Contract Documents, have the following meaning:

Intent of Certain Terms or Adjectives:
The Contract Documents include the terms “as allowed”, “as approved”, “as ordered”, “as directed” or terms of like effect or import to authorize an exercise of professional judgment by ENGINEER. In addition, the adjectives “reasonable”, “suitable”, “acceptable”, “proper”, “satisfactory”, or adjectives of like effect or import are used to describe an action or determination of ENGINEER and Owner as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to ENGINEER or Owner any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of any other provision of the Contract Documents.

Furnish, Install, Perform, Provide
The word “furnish” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable conditions.

The word “Install” used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

The word “perform” or “provide” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

SP50-19 VISITS TO SITE. Not Applicable.

SP50-20 CLARIFICATIONS AND INTERPRERTATIONS. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. Such written clarifications and interpretations will be binding on CONTRACTOR. If CONTRACTOR believes that a written clarification or interpretations justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree to the amount of extent thereof, if any, OWNER or CONTRACTOR may make a written claim therefore.

SP50-21 REJECTING DEFECTIVE WORK. OWNER and ENGINEER have authority to disapprove or reject Work which OWNER and/or ENGINEER believes to be "defective," or that OWNER and/or ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. OWNER will also have authority to require special inspection or testing of the Work whether or not the Work is fabricated, installed or completed.

SP50-22 DECISIONS ON DISPUTES. ENGINEER will be the initial interpreter of the CONTRACTOR’s questions regarding the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. CONTRACTOR’s claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and Claims in respect of changes in the Contract Price or Contract Times will be referred initially to ENGINEER and OWNER in writing with a request for a formal decision in accordance with this paragraph. Written notice of each such claim, dispute or other matter will be delivered by the CONTRACTOR to

ENGINEER and the OWNER promptly as outlined in the Contract Documents (but in no event later than thirty days) after the start of the occurrence or event giving rise thereto, and written supporting data will be submitted to the ENGINEER and OWNER within sixty days after the start of such occurrence or event unless ENGINEER and OWNER allow an additional period of time for the submission of additional or more accurate data in support of such claim, dispute or other matter. OWNER shall submit any response to ENGINEER and the claimant within thirty days after receipt of the claimant's last submittal (unless ENGINEER allows additional time). ENGINEER will render a formal decision in writing within thirty days after receipt of the CONTRACTOR's submittal and OWNER's response, if any, in accordance with this paragraph.

When functioning as interpreter, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment) will be a condition precedent to any exercise by CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such claim, dispute or other matter.

CONTRACTOR will carry on the work and maintain the progress schedule during any disputes, unless otherwise agreed by CONTRACTOR and OWNER in writing.

SP50-23 LIMITATIONS ON ENGINEER'S AUTHORITY AND RESPONSIBILITIES. Neither ENGINEER's authority under this Section or elsewhere in the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise or performance of any authority or responsibility by ENGINEER shall create, impose or give rise to any duty owed by ENGINEER to CONTRACTOR, and Subcontractor, any Supplier, or to any surety for or employee or agent of any of them.

OWNER and ENGINEER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences of procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work.

SP50-24 RECORD DOCUMENTS. CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders and written interpretations and clarifications in good order and annotated to show all changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available for reference. Upon completion of the Work, these record documents, Samples and Shop Drawings will be delivered to OWNER.

SP50-25 SUPERVISION AND SUPERINTENDENCE. CONTRACTOR shall supervise, inspect and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or specification of a specific means, method, technique, sequence or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications to the superintendent shall be as binding as if given to CONTRACTOR. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from ENGINEER or OWNER's representatives.

SP50-26 CONCERNING SUBCONTRACTORS, SUPPLIERS AND OTHERS. CONTRACTOR shall be fully responsible for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier or other

person or organization any contractual relationship between OWNER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR. CONTRACTOR shall require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with the ENGINEER through CONTRACTOR.

The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER, ENGINEER's Consultants and all other additional insured's for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

SP50-27 ACCESS TO WORK. OWNER, ENGINEER, ENGINEER, ENGINEER's Consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

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

SP50-28 OWNER MAY STOP THE WORK. If the work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents. OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until, in the OWNER's opinion the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any surety or other party.

SP50-29 OWNER MAY CORRECT DEFECTIVE WORK. If CONTRACTOR fails within a reasonable time after written notice to correct defective Work or to remove and replace rejected Work as required by ENGINEER or OWNER or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors and OWNER's Consultants, including ENGINEER and ENGINEER access to the site to enable OWNER to exercise the rights and remedies under this paragraph. All claims, costs, losses and damages incurred or sustained by OWNER in exercising such rights and remedies will be charged against CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may

make a claim therefor as provided in this agreement. Such claims, costs, losses and damages will include but not be limited to all costs of repair or replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's defective Work. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies hereunder.

SP50-30 ACCEPTANCE OF DEFECTIVE WORK. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and prior to ENGINEER's recommendation of final payment, also ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all claims, costs, losses and damages attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be reviewed by ENGINEER as to reasonableness). If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in this agreement. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

SP50-31 UNFORESEEN PHYSICAL CONDITIONS. CONTRACTOR shall promptly notify OWNER and ENGINEER in writing of any subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents before CONTRACTOR disturbs the condition. Failure of the CONTRACTOR to provide this notice shall constitute a waiver of any claims for extension in Contract Time or additional compensation related to such conditions. ENGINEER will investigate those conditions and advise OWNER in writing if ENGINEER believes further surveys or subsurface tests are necessary. Thereafter, OWNER may obtain the necessary additional surveys and tests and furnish copies to ENGINEER and CONTRACTOR. If ENGINEER finds that the results of such surveys or tests indicate there are subsurface or latent physical conditions which differ materially from those intended in the Contract Documents, and which could not reasonably have been anticipated by CONTRACTOR or discovered via a reasonable inspection, a Change Order may be issued incorporating the necessary revisions.

SP50-32 SUBSTANTIAL COMPLETION. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and ENGINEER shall make a joint inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion along with a punch list of items to be completed or corrected before final payment. OWNER shall have thirty days after receipt of the that certificate to make written objection to ENGINEER as to any provisions of the certificate or attached punch list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within fourteen days after receipt of OWNER's written objections notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, ENGINEER still considers the Work substantially complete, or if OWNER makes no objection will within said fourteen days, ENGINEER will execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion which shall fix the date of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objection from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities insurance and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on CONTRACTOR until final payment. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the punch list.

END OF SECTION 50 SPECIAL PROVISIONS

Section 60 Special Provisions

In addition to Section 60, add the following:

SP60-09 CONTRACTOR-FURNISHED MATERIALS. CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by RPR or OWNER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

SP60-10 MATERIAL SUBMISSION REQUIREMENTS. CONTRACTOR shall submit to OWNER and ENGINEER the name of the manufacturer for all applicable items specified in the Detailed Specifications. These requirements are applicable only to the items specified in the Detailed Specifications and serve only as a guideline in submitting letters of compliance, catalog sheets, design or test results and/or sample for material or equipment approval. OWNER may request additional information, certifications or tests as desired.

The Contract Price shall include the cost of furnishing all material submissions, shop drawings and working drawings; and, the CONTRACTOR will not be allowed any extra compensation for furnishing such information.

SP60-11 SHOP DRAWINGS AND SAMPLES. After checking and verifying all field measurements CONTRACTOR shall submit to ENGINEER for approval, in accordance with an accepted schedule of Shop Drawings submissions five (5) copies (or at ENGINEER option, one electronic reproducible copy through the use of electronic software designated by the ENGINEER) of all Shop Drawings, which shall have been checked by and stamped with the approval of CONTRACTOR and identified as ENGINEER may require. The data shown on the Shop Drawings will be complete with respect to quantities dimensions, specified performance and design criteria, materials of construction and the like to enable ENGINEER to review the information as required.

CONTRACTOR shall submit to ENGINEER for approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of CONTRACTOR, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

SP60-12 SUBMITTAL PROCEDURES. Before submitting each shop drawing or Sample, CONTRACTOR shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto,

b. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work, and

c. all information relative to CONTRACTOR's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

Each submittal will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

The CONTRACTOR shall review and approve all shop drawings and submittals for conformance to the contract documents before submittal to the ENGINEER. After reviewing the plans and specifications and/or verifying all field measurements, the CONTRACTOR shall submit to the ENGINEER for review and approval copies of all shop drawings, certificates, and samples. These drawings shall bear a stamp or specific written indication that the CONTRACTOR has satisfied the CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission. The CONTRACTOR shall certify the following by placing a stamp or specific written indication on the shop drawings:

> "This shop drawing has been reviewed by [Name of CONTRACTOR] and approved with respect to the means, methods, techniques, sequences, procedures of construction, safety precautions and programs incidental thereto. [Name of CONTRACTOR] also warrants that this shop drawing complies with the contract documents and comprises no variations thereto, unless noted below."
>
> "[Name of CONTRACTOR] certifies that this shop drawing complies with the buy America steel and manufactured products provisions of the Aviation Safety and Capacity Expansion Act of 1991. In accordance with this Act, steel and manufactured products include (1) steel produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States.
>
> Components mean those articles, materials, and supplies incorporated directly into steel and manufactured products.
>
> The cost of components means the cost for production of the components, exclusive of final assembly. The approximate percent of produce or manufacture in the United States is: _____ %."

All submissions shall be identified as the ENGINEER may require. The data shown on the shop drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable the ENGINEER to review the information.

The CONTRACTOR shall also submit to the ENGINEER for review and approval with such promptness as to cause no delay in work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that the CONTRACTOR has satisfied the CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission and shall be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

Before submission of each shop drawing or sample, the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each shop drawing or sample with other shop drawings and samples and with the requirements of the work and the Contract Documents.

At the time of each submission, the CONTRACTOR shall give the ENGINEER specific written notice of each variation that the shop drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each shop drawing submitted to the ENGINEER for review and approval of each such variation.

SP60-13 REVIEW AND APPROVAL. ENGINEER will review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals accepted by ENGINEER. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated

by the Contract Documents. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the SUBMITTAL PROCEDURES requirements.

Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submissions accepted by ENGINEER, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

SP60-16 ENGINEER'S EVALUATION. ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to items 60-12 and 60-12.1. OWNER will be the final judge of acceptability after consideration of recommendation by ENGINEER. No "or equal" or substitute will be ordered, installed or utilized without OWNER's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any "or equal" or substitute. ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitutes proposed or submitted by CONTRACTOR and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not OWNER accepts a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute item.

END OF SECTION 60 SPECIAL PROVISIONS

Section 70 Special Provisions

In addition to Section 70, add the following:

SP70-22 It is understood and agreed that CONTRACTOR has, by careful examination of the Regulations Section of this Project Manual, become familiar with the requirements of these regulations and agrees to all of their requirements. Any regulation included by reference shall be as binding as if quoted verbatim.

If CONTRACTOR observes that the Specifications or Drawings are at variance with any laws, ordinances or regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof; and, any necessary changes shall be adjusted by an appropriate modification. If CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

SP70-23 SAFETY AND PROTECTION. CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

A. all persons on the Work site or who may be affected by the Work;

B. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

C. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to above caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR at CONTRACTOR's expense. CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

SP70-24 SAFETY REPRESENTATIVE. CONTRACTOR shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and maintaining all supervising of safety precautions and programs. This person shall be CONTRACTOR's superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

SP70-25 EMERGENCIES. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER or ENGINEER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any changes in the Work or variations from the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, ENGINEER will recommend to OWNER that a Work Change Directive or Change Order be issued to document the consequences of such action.

SP70-26 ACCIDENTS. CONTRACTOR shall provide, at the site, such equipment and medical facilities as are necessary to supply first-aid service to anyone who may be injured in connection with the work.

CONTRACTOR must promptly report in writing to OWNER all accidents whatsoever arising out of, or in connection with, the performance of the work, whether in or adjacent to the site which caused death, personal injury or property damages, giving full details and statements of witnesses. In addition, if death, serious injuries or serious damage are caused, the accident shall be reported immediately by telephone or messenger to both ENGINEER and OWNER.

If any claim is made by anyone against CONTRACTOR or any subcontractor on account of any accident, CONTRACTOR shall promptly report the facts in writing to OWNER, giving full details of the claim.

SP70-34 DISPUTE RESOLUTION. All claims, disputes and other matters in question arising out of or relating to this Agreement or the breach thereof except for claims which have been waived by the acceptance of final payment, shall be decided by litigation in the Circuit Court of Kanawha County, West Virginia. CONTRACTOR will carry on the Work and maintain the progress schedule during any dispute resolution proceedings, unless otherwise agreed by CONTRACTOR and OWNER in writing.

SP70-35 GENERAL. The duties and obligations imposed by these General and Special Provisions and the rights and remedies available hereunder; and, in particular but without limitation, the warranties, guarantees and obligations imposed under CONTRACTOR and the rights and remedies available to OWNER thereunder, shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available to them which are otherwise imposed or available by law, by special guarantee or by other provisions of the Contract Documents.

This Agreement shall be governed by and interpreted in accordance with the laws of the State of West Virginia, excluding West Virginia's conflict of laws statutes, laws and/or rules.

OWNER and CONTRACTOR agree that they consent to the exclusive jurisdiction and venue of the Circuit Court of Kanawha County, West Virginia and to the fullest extent permitted by applicable law, CONTRACTOR waives any objections which it may now or hereafter have based on venue, jurisdiction and/or forum non-conveniens of any such suit, action or proceeding.

Wherever possible, each provision of this Agreement shall be interpreted in a manner as to be effective and valid under applicable law. If, however, any provision of this Agreement, or portion thereof, is prohibited by law or found invalid under any law, only such provision or portion thereof shall be ineffective, without in any manner invalidating or affecting the remaining provisions of this Agreement or valid portions of such provision, which are hereby deemed severable.

The provisions of the Contract Documents shall not be changed, amended, waived, or otherwise modified in any respect except by a writing signed by OWNER. No person is authorized on behalf of OWNER to orally change, amend, waive, or otherwise modify the terms of the Contract Documents or any of the CONTRACTOR'S duties or obligations under or arising out of the Contract Documents. Any change, waiver, approval, or consent granted to the CONTRACTOR shall be limited to the specific matters stated in the writing signed by OWNER, and shall not relieve CONTRACTOR of any other of the duties and obligations under the Contract Documents. No "constructive" changes shall be allowed.

END OF SECTION 70 SPECIAL PROVISIONS

Section 80 Special Provisions

In addition to Section 80, add the following:

SP80-12 SCHEDULE CHANGES. Proposed adjustments in the progress schedule that will change the Contract Times must be requested in writing. Such adjustments may only be made by a change order or written agreement.

SP80-13 PROGRESS REPORTS. If required by OWNER or ENGINEER, CONTRACTOR shall submit to ENGINEER, with a copy to OWNER, weekly progress reports of the various parts of the work under the Contract. These reports shall be on forms provided by OWNER and shall include but not be limited to the following:

a. A rough estimate of the percent completion to date of each construction phase.

b. A brief outline of work completed or in progress during the week.

c. A brief weather summary including approximate rainfall, temperatures and soil conditions.

d. Materials delivered during the week.

e. A brief summary of laboratory and field tests performed during the week.

f. Reasons for any delays.

g. Work items anticipated for the next week.

h. Problem areas or other comments.

Any time during construction OWNER may request CONTRACTOR to furnish and CONTRACTOR shall furnish a special progress report not hereinabove provided for.

SP80-14 NEGLECTED WORK BY CONTRACTOR. If at any time before the commencement or during the progress of the work, tools, plant or equipment appear to OWNER to be insufficient or inappropriate to secure the quality of the work required or the proper rate of progress, OWNER may order CONTRACTOR to stop work until, at no additional cost to the OWNER, CONTRACTOR has increased their efficiency, improved their character, augmented their number or substituted new tools, plant or equipment as the case may be; and CONTRACTOR must conform to such order; but the failure of OWNER to demand such increase of efficiency, number of improvement shall not relieve CONTRACTOR of CONTRACTOR's obligation to secure the quality of work and the rate of progress necessary to complete the work within the time required by this Contract to the satisfaction of OWNER.

SP80-15 TIMELY COMPLETION OF WORK. Upon completion of the work, should CONTRACTOR fail to take prompt action to remove all plant, tools, equipment and rubbish, OWNER (at OWNER's option and without waiver of such other rights as it may have) may on fifteen (15) days-notice treat them as abandoned property and proceed to clean up or dispose of such material as OWNER deems necessary. The cost of such clean up shall be deducted from CONTRACTOR's final payment.

In the case of termination of this Contract before completion from any cause whatever, CONTRACTOR, if notified to do so by OWNER, shall promptly remove any part or all of CONTRACTOR's equipment and supplies from the property of OWNER, failing which OWNER shall have the right to remove such equipment and supplies at the expense of CONTRACTOR.

Provided, however, that allowance may be made by OWNER, at OWNER's discretion, over the period hereinbefore specified for the completion of said work for causes for which said CONTRACTOR is not responsible and which have delayed the completion of the said work, and in such case CONTRACTOR shall then become liable for said liquidated damages for delays commencing from the date on which said extended period shall expire.

a. In the event CONTRACTOR is declared in default, liquidated damages shall be charged as provided in this section and such amounts, if any, shall be deducted on the final certificate payable to CONTRACTOR or CONTRACTOR's

surety. If the total amount chargeable as liquidated damages exceeds the amount payable to CONTRACTOR or CONTRACTOR's surety, then such excess shall be paid to OWNER by CONTRACTOR or CONTRACTOR's surety.

b. Should any prime contractor be responsible for the delay in completion by other prime contractor as determined by OWNER then said contractor shall be responsible for any liquidated damaged incurred thereby.

SP80-16 OWNER MAY SUSPEND WORK. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date of which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an extension of the Contract Times directly attributable to any such suspension if CONTRACTOR makes an approved claim therefore.

SP80-17 OWNER MAY TERMINATE CONTRACT. Upon seven days' written notice to CONTRACTOR, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Agreement. In such case, CONTRACTOR shall be paid (without duplication of any items):

a. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit of such Work; and

b. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses.

   CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

   Any payment to contractor pursuant to this Section constitutes the exclusive remedy CONTRACTOR may have against OWNER for its work on the Project once OWNER has terminated CONTRACTOR for convenience, and is in place of any other claim or recovery Contractor may have against OWNER arising out of or in any way connected with the Project, including but not limited to any claim for breach of the Agreement.

SP80-18 CONTRACTOR MAY STOP WORK OR TERMINATE. If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety consecutive days by OWNER or under an order of court or other public authority, then CONTRACTOR may, upon ten days' written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Agreement and recover from OWNER payment on the same terms as provided in Section 80-17.

SP80-19 REQUIREMENT TO PROCEED. None of the provisions in these Contract Documents for changes in the work price or contract time shall excuse CONTRACTOR from diligently proceeding with the prosecution of the work so changed; not shall claims by CONTRACTOR be sufficient cause for delaying the work.

SP80-20 CONTRACTOR'S GENERAL WARRANTY AND GUARANTEE. CONTRACTOR warrants and guarantees to OWNER, ENGINEER and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

a. abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, Sub-contractors or Suppliers; or

b. normal wear and tear under normal usage.

CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

a. observations by ENGINEER.

b. recommendation of any progress or final payment by .

c. the issuance of a certificate of Substantial Completion or any payment by OWNER to CONTRACTOR under the Contract Documents.

d. use or occupancy of the Work or any part thereof by OWNER.

e. any acceptance by OWNER or any failure to do so;

f. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by.,

g. any inspection, test or approval by others; or

h. any correction or defective work by OWNER.

END OF SECTION 80 SPECIAL PROVISIONS

Section 90 Special Provisions

In addition to Section 90, add the following:

SP90-16 REFUSAL TO RECOMMEND PAYMENT. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in Section 90. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER opinion to protect OWNER from loss because:

a. the Work is defective, or completed Work has been damaged requiring correction or replacement,

b. the Contract Price has been reduced by Written Amendment or Change Order.

c. OWNER has been required to correct defective Work or complete Work in accordance with these General Provisions.

d. OWNER may refuse to make payment of the full amount recommended by ENGINEER,

e. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens,

f. there are other items entitling OWNER to set-off against the amount recommended, but OWNER shall give CONTRACTOR written notice (with a copy to ENGINEER) stating the reasons for such action and pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

SP90-17 WAIVER OF CLAIMS. The making and acceptance of final payment will constitute a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

END OF SECTION 90 SPECIAL PROVISIONS

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DIVISION 8 – REGULATIONS

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DIVISION 8F – Federal Contract Provisions

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A1 GENERAL

The contractor (including all subcontractors) agrees to insert the following Federal contract provisions in each lower tier contract(s) (e.g. subcontract or sub-agreement) and to incorporate the applicable requirements of these contract provisions by reference for work done under any purchase orders, rental agreements and other agreements for supplies or services. The contractor also agrees to be responsible for compliance with these contract provisions by any subcontractor, lower-tier subcontractor or service provider.

For the Equal Employment Opportunity (EEO) clause, the term **applicant** means an applicant for employment (whether or not the phrase, *for employment*, follows the word applicant or applicants).

For all other clauses, the term **applicant** means a bidder, offeror, or proposer for a contract.

A2 ACCESS TO RECORDS AND REPORTS

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

A3 AFFIRMATIVE ACTION REQUIREMENT (All Contracts Exceeding $10,000)

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: 4.90%

   Goals for female participation in each trade: 6.9%

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

   The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action

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

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

4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is West Virginia, Kanawha County, Charleston.

A4 BREACH OF CONTRACT TERMS (All Contracts Exceeding $150,000)

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

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

A5 BUY AMERICAN PREFERENCE

The Contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP funded projects are produced in the United States, unless the 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.

A bidder or offeror must complete and submit the Buy American certification (s) included herein with their bid or offer. The Owner will reject as nonresponsive any bid or offer that does not include the completed Certificate of Buy American Compliance.

A5.1 CERTIFICATE OF BUY AMERICAN COMPLIANCE – MANUFACTURED PRODUCT

Certificate of Buy American Compliance for Manufactured Products

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 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 (✓) or the letter "X".

☐ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101 by:

a) Only installing steel and manufactured products produced in the United States;
b) 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
c) 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:

1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
2. To faithfully comply with providing U.S. domestic product.
3. To furnish U.S. domestic product for any waiver request that the FAA rejects
4. 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 either 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:

1. To the submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that supports the type of waiver being requested.
2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination may result in rejection of the proposal.
3. To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

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) 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).
b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
c) 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 – Total cost of project using U.S. domestic source product exceeds the total project cost using non-domestic product by 25 percent. The required documentation for a Type 4 of waiver is:

a) Detailed cost information for total project using U.S. domestic product
b) Detailed cost information for total project using non-domestic product

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

A6 CIVIL RIGHTS – GENERAL

The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

A7 CIVIL RIGHTS – TITLE VI ASSURANCE

A7.1 TITLE VI SOLICITATION NOTICE

Central WV Regional Airport Authority (OWNER), in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 USC §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that any contract entered into pursuant to

this advertisement, disadvantaged business enter prises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

A7.2 COMPLIANCE WITH NONDISCRIMINTATION 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:

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.

Nondiscrimination: The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin 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.

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.

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.

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

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

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.

A7.3 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;
- 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 § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which 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 (42 USC §§ 12131 – 12189) 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, which 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. at 74087 to 74100);
- 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).

A8 CLEAN AIR AND WATER POLLUTION CONTROL (All Contracts Exceeding $150,000)

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.

A9 CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS (All Contracts Exceeding $100,000)

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 $10 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.

A10 COPELAND "ANTI-KICKBACK" ACT (All Contracts Exceeding $2,000)

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.

A11 DAVIS-BACON REQUIREMENTS (All Contracts Exceeding $2,000)

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 Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided* that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can easily be seen by the workers.

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

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

(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 asset 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 *www.dol.gov/whd/forms/wh347instr.htm* 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 that 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 Part 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 Part 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.

A12 DEBARMENT AND SUSPENSION (All Contracts Exceeding $25,000)

A12.1 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.

A12.2 CERTIFICATION OF LOWER TIER CONTRACTORS REGARDING DEBARMENT

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

1. Checking the System for Award Management at website: http://www.sam.gov.
2. Collecting a certification statement similar to the Certification of Offeror/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.

A13 DISADVANTAGED BUSINESS ENTERPRISE

A13.1 INFORMATION SUBMITTED AS A MATTER OF BIDDER RESPONSIVENESS

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 must submit the following information 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; 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.

A13.2 INFORMATION SUBMITTED AS A MATTER OF BIDDER RESPONSIBILITY

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

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 days after bid opening.

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.

A13.3 RACE/GENDER NEUTRAL MEANS

The requirements of 49 CFR part 26 apply to this contract. It is the policy of OWNER 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.

A13.4 PROJECTS COVERED BY A DBE PROGRAM

DISADVANTAGED BUSINESS ENTEENGINEERISES

Contract Assurance (§ 26.13) –

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 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 10 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 10 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 OWNER. This clause applies to both DBE and non-DBE subcontractors.

A14 DISTRACTED DRIVING (All CONTRACTS EXCEEDING $3,500)

A14.1 TEXTING WHEN DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving", (10/1/2009) and DOT Order 3902.10, "Text Messaging While Driving", (12/30/2009), the

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.

A15 ENERGY CONSERVATION REQUIREMENTS

Contractor and Subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 USC 6201*et seq*).

A16 EQUAL EMPLOYEMENT OPPORTUNITY (E.E.O.) (ALL CONTRACTS EXCEEDING $10,000)

A16.1 EQUAL OPPORTUNITY 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, 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 considerations for employment without regard to race, color, religion, sex, or national origin.

(3) 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 advising the said labor union or workers' representatives of the Contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) 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.

(5) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto,

and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance*: Provided, however*, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

A16.2 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 shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the Contractor during the training period and the Contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware

of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or female sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions, including specific review of these items, with onsite supervisory personnel such 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 workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations, which assist in fulfilling one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor association, joint contractor union, contractor community, or other similar groups of which the Contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7a through 7p of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally), the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, 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 number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

A17 FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

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

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

A18 LOBBYING AND INFLUENCING FEDERAL EMPLOYEES (All CONTRACTS EXCEEDING $100,000)

A18.1 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, subgrants, 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.

A19 PROHIBITION OF SEGREGATED FACILITIES

(a) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal 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.

A20 OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. 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.

A21 PROCUREMENT OF RECOVERED MATERIALS (ALL CONTRACTS EXCEEDING $10,000)

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:

a) The contract requires procurement of $10,000 or more of a designated item during the fiscal year; or

The contractor has procured $10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/smm/comprehensive-procurement-guidelines-construction-products.

Section 6002(c) 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.

A22 TAX DELINQUENCY AND FELONY CONVICTIONS

A22.1 Certification of Offeror/Bidder Regarding Tax Delinquency and Felony Convictions

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 (✓) 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

b) 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.

c) 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.

A23 SEISMIC SAFETY

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.

A24 TERMINATION OF CONTRACT (ALL CONTRACTS EXCEEDING $10,000)

A24.1 TERMINATION FOR CONVENIENCE

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

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

d) 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;

reasonable and substantiated claims, costs, and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and

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.

A24.2 TERMINAL FOR DEFAULT (CONSTRUCTION)

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.

A24.3 TERMINATION FOR DEFAULT (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 [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.

A25 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 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.

A26 VETERAN'S PREFERENCE

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

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DIVISION 9 – SUPPLEMENTARY CONDITIONS INDEX

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ARTICLE 1 - SPECIAL CONSIDERATIONS

1.1 Reference to Other Specifications.

A. Where reference is made to specifications such as the FAA Advisory Circulars, ASTM, AASHTO, National Electrical Code, or the WVDOH, the latest edition shall be used.

1.2 Not Used.

1.3 Not Used.

1.4 Referenced in General Provisions.

A. Restoration of surfaces disturbed by others as noted in Section 70-04 of the General Provisions. Such authorized work (by others) is indicated as follows:

Owner (Utility or Other Facility)	Location (See Plan Sheet)	Person to Contact (Name, Title and Phone)
SEE PLAN SHEET		

B. Contractor's responsibility for utility service and facilities of others as noted in Section 70-15 of the General Provisions. The owners are indicated as follows:

Utility Service or Facility	Person to Contact (Name, Title, Address & Phone)	Owner's Emergency Contact (Phone)
SEE PLAN SHEET		

C. Opening sections of the work to traffic as noted in Section 70-13 of the General Provision shall be as follows:

Phase or Description	**Required Date or Sequence of Owner's Beneficial Occupancy**	**Work Shown On Plan Sheet**
NONE		

1.5 Not Used.

ARTICLE 2 - PRECONSTRUCTION CONFERENCE

2.1 Scope and Timing

A. The preconstruction conference shall be scheduled after the Federal Aviation Administration has given written notification (to OWNER) of agency concurrence in the OWNER'S recommendations to award the contract and prior to commencing actual construction.

B. The preconstruction conference shall be convened and conducted by the OWNER or an authorized agent, and shall be used to inform all persons affected by the proposed construction of:

1. The intent and scope of the awarded construction contract;

2. The proposed construction schedule; and

3. Possible conflicts and/or problem areas during construction.

C. The participants in a preconstruction conference will vary according to the effect that the proposed construction will have on the operation of existing facilities at the particular airport.

2.2 Project Construction Considerations

A. The following is a partial list of project construction considerations which experience indicates will need attention during airport construction.

1. Minimum disruption of standard operating procedures for aeronautical activity.
2. Clear routes from firefighting and rescue stations to active airport operations areas and safety areas.
3. Chain of notification and authority to change safety-oriented aspects of the construction plan.
4. Initiation, currency, and cancellation of Notice to Airmen (NOTAM's).
5. Suspension or restrictions of aircraft activity on airport operations areas.
6. Installation and maintenance of temporary lighting and marking for closed or diverted aircraft routes on airport operations areas.
7. Revised vehicular control procedures or additional equipment and manpower.
8. Marking/lighting of construction equipment.
9. Storage of construction equipment and materials when not in use.
10. Designation of responsible representatives of all involved parties and their availability.
11. Location of construction personnel parking and transportation to and from the work site.
12. Marking/lighting of construction areas.
13. Location of construction offices.
14. Location of contractor's plants.
15. Stability of work areas recognizing this is an unstable reinforced soil slope area.
16. Designation of waste areas and disposal.
17. Debris cleanup responsibilities and schedule.
18. Identification of construction personnel and equipment.
19. Location of haul roads.
20. Noise pollution.
21. Dust control.
22. Location of utilities.
23. Provision for temporary utilities and/or immediate repairs in the event of disruption.
24. Location of power and control lines for electronic/visual navigational aids.
25. Additional security measures required if FAR Part 107, Airport Security, is involved.
26. Marking and lighting of closed airfield pavement areas.
27. Coordination of construction activities during the winter with airport snow removal plan.
28. Phasing of work.
29. Shutdown and/or protection of airport electronic/visual navigational aids.
30. Smoke, steam, and vapor controls.
31. Notify crash/fire/rescue personnel when working on water lines.

32. Provide traffic directors/wing walkers, etc., as needed to assure clearance in construction areas.

ARTICLE 3 - ENVIRONMENTAL CONSIDERATIONS

3.1 AIP Program

A. All construction accomplished under the Airport Improvement Program (AIP) shall be done in a manner which will protect, enhance and retrieve a favorable environment. The following considerations of design and construction are aimed at developing a realistic meaningful means to achieve that concern for the environment.

3.2 Not used.

3.3 Not used.

3.4 Not used.

3.5 Not used.

3.6 Not used.

3.7 Not used.

3.8 Not used.

ARTICLE 4 - AVIATION SAFETY REQUIREMENTS DURING CONSTRUCTION

4.1 Not used.

4.2 Not used.

4.3 Not used.

DIVISION 10 – TECHNICAL SPECIFICATIONS

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DETAILED SPECIFICATIONS INDEX

Item No.	Item
	CIVIL (AIRFIELD)
1	Technical Specifications Airport Runway Snow Broom with Air Blast 1

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1. DEFINITIONS

Airport runway Broom: A device designed to clean snow, slush and ice; and when specified, other materials such as sand, snow and ice control chemicals, debris, rubber residue, and other materials from airport runway, taxiway, and ramp areas by using a brush with bristles to clean the surfaces.

Air Blast: A device for developing and directing a continuous stream of forced air ahead or behind the brush for moving snow and debris.

Auxiliary Equipment: Any equipment, in addition to the basic chassis that is required for a piece of equipment/vehicle to perform its functions. For example, a winch would be auxiliary equipment for a tow truck.

Axle Capacity: The allowable weight load on an axle based on supportive engineering data and the best judgment of the manufacturer of the axle.

Axle Ratio: The numerical ratio of the drive shaft speed to the speed of the axle. The numerical ratio equals the torque multiplication factor of the axle.

Axle, Dead: A means of support for the wheels at each

end that is non-driven. Axle, Live: A means of support

for the wheels at each end that is driven.

Broom: A complete operating unit. A broom contains a brush with bristles that sweep.

Broom Capacity Rating: The amount of snow moved per unit of time, normally in tons per hour, resulting in an acceptable surface condition.

Brush Core: The center rotating structure which supports the bristles

Brush Head: The portion of the runway broom which supports and carries

the bristle and its core Brush Hood Cover: A cover for the top half of the

brush.

Brush: The rotating cylinder of many bristles

Brush Angling System: The capability of angling or rotating the brush head to allow the discharge of snow to the left or right of the carrier vehicle when moving in a forward direction. The angle is changed from the operator's position in the cab by use of a system such as hydraulic rams, hydraulic or electric motors, or other devices or mechanisms.

Brush Elevation Mechanism: A device for raising and lowering the brush. The height is changed from the operator's position in the cab by use of a system such as hydraulic rams, hydraulic or electric motors, or other devices or mechanisms.

Brush Pattern: The width, perpendicular to the brush core, of the area the rotating brush contacts with the surface in the down position.

Brush Pattern Adjusting System: A system for adjusting the pattern of the brush

Cab: An enclosed area on a vehicle designed and intended to hold

and carry an operator. Cab Conventional: A cab mounted just

behind the drive engine for the chassis.

Cab Forward:A cab mounted to the most forward

position on the chassis Cab-Over Attachment: A

cab mounted over the front attachment.

Cab-Over Engine: A cab mounted over the front mounted engine.

Carrier Vehicle: The prime mover for a runway broom of any configuration

Casting Distance: The distance the snow moves left or right measured perpendicular to the vehicle travel from the broom end, to the center of the area of most concentrated snow cast observed during casting.

Center Drive Brooms: Brush driven from the center

position of the brush head. Certification:

Application Approval: Confirmation by a manufacturer or qualified expert that the unit or component fulfills the requirement of the application.

Performance; Written confirmation of the ability of a unit or component to performance as specified based on calculations or testing.

Curbside: The right side of the vehicle when viewed from the rear. Opposite side from roadside.

Curb Weight: The weight of the carrier vehicle with all factory installed and auxiliary equipment, in the travel position, full fuel tank(s) and a nominal 180 pound operator.

Deflector (Brush): A device mounted on the front of the brush hood to allow the operator to direct the snow casting. The deflector position is changed from the operator's position in the cab by use of a system such as hydraulic rams, hydraulic or electric motors, or other devices or mechanisms.

Deluge System: A means of providing large amounts of fluid to windshield(s), side and rear window(s), mirror(s), and other surfaces to improve operational visibility from the cab.

Differential: The gear assembly in the drive axle that permits one wheel to turn slower or faster than the other when negotiating a turn. The gear assembly in the transfer case that allows the front drive-shaft to turn slower or faster than the other when negotiating a turn.

Differential, Automatic Locking: The gear assembly in the transfer case that allows the front drive-shaft to turn slower or faster than the rear prop-shaft when negotiating a turn while providing maximum driving torque to both the front and rear axles. The gear assembly on the drive axle that permits one wheel to turn slower or faster than the other when negotiating a turn while providing maximum driving torque to both wheels. Automatic locking differentials provide positive drive to both driven members while not requiring operator input or control.

Differential, Manual Locking (bevel gear): The gear assembly on the drive axle that permits one wheel to turn slower or faster than the other when negotiating a turn but with provisions for the operator to fully lock and unlock the differential action from the cab. Bevel gears provide positive drive to both driven members.

Dimensions: AE Centerline of rear axle/tandem to the end of frame.

BA Bumper to

centerline of Front axle

BBC Bumper to

back of Cab

CA Back of Cab to centerline of rear axle

CE Back of cab to end of the

frame (AE + CA = CE) FH

Frame height from the

ground to the top of frame OAL

Overall Length

WB Wheelbase

OAH Ground to top of highest point on the unit

End Drive Brooms: Brush driven from one or both ends

FMVSS: An abbreviation for the Federal Motor

Vehicle Safety Standards.

Front/Rear Axle Disconnect: A mechanism designed to engage and

disengage power to the axle. Fuel Capacity: The actual volume of fuel

able to be stored in on-board tanks.

GAWR: Abbreviation for Gross Axle Weight Rating. The rating of the lowest rated member of an axle as defined by the component manufacturer(s) from the following components: Tires, suspension, hubs/wheels, rims, bearings, beam and brakes.

Gear Ratio: The ratio of the speed of the input to a gear to the speed of the output from the gear. For a pair of gears, the ratio is found by dividing the number of teeth on the driven gear by the number of teeth on the driving gear.

Geared Speed: The theoretical vehicle speed based on maximum governed engine RPM, transmission gear ratio(s), driving axle ratio, and tire size.

Gears, Single & Multiple Reduction: Single reduction gearing refers to one speed reduction through the gearing component. Multiple reduction refers to more than one step of speed reduction through the gearing component.

Grade-ability: The percent grade that a vehicle will negotiate

GVWR: Abbreviation for Gross Vehicle Weight Rating. The sum of the Gross Axle

Weight Ratings (GAWR). HID Light: Acronym for High Intensity Discharge light.

Light created by electric arc, not a filament in a light bulb.

High Speed Broom: A runway broom designed to perform at its maximum Capacity Rating while operating at a forward speed of at least 25 MPH.

Hitch. A device to couple/uncouple a working head or appliance to its carrier vehicle.

Horsepower, Gross brake (or actual delivered horsepower): A measure of the rate at which work is produced. The time rate of doing work, as measured by a Prony brake or dynamometer. Brake horsepower is expressed as the torque in foot – pounds times the number of revolutions per minute divided by the constant 5252.

$$HP = \frac{\text{torque x rpm}}{5252}$$

Horsepower, Gross: The brake HP determined under conditions defined by dynamometer test of the stripped engine, that is, the brake horsepower of the engine with only those accessories and attachments necessary to the functioning of the engine during test.

Horsepower, Net: The brake horsepower delivered to the clutch, or its equivalent, with all accessories and attachments functioning (including exhaust pipe, muffler and tail pipe) which are standard or regular equipment on the engine as installed in the particular chassis. Gross horsepower less the parasitic loads.

Impeller (Air blast): The internal rotating portion of the air blast which produces

the air movement. Maximum Tire Load Rating: The load rating at the

maximum permissible inflation pressure for that tire

Maximum Permissible Inflation Pressure: The maximum cold inflation pressure to

which a tire may be inflated. Maximum Speed: The speed attainable by accelerating

at maximum rate from a standing start for one mile.

NHTSA: An abbreviation for the National Highway Traffic Safety Administration

New and Current Production Components: new, unused and free of all defects and imperfections that could affect the serviceability of the finished product. Component with a manufacture date no older than one (1) year prior to bid proposal.

New and of Current Production Unit (as in total unit Chassis and attachments): Unit whose manufacture (assembly of) started no earlier than the award date of the contract.

Performance Rating: Capacity Rating.

Ply Rating: A unit of measurement used in tire construction to denote strength of tires.

Power Divider: Usually a small auxiliary gear box or chain driven device to allow distribution of drive shaft power to several different mechanical devices mounted on the same truck.

Power Take-off (PTO): A mechanical device used to transmit engine power to auxiliary equipment. Power take-offs can be mounted on either a main or auxiliary transmission. Front-mounted and flywheel-mounted power take-offs are also used in various applications.

Power Train: All the components from a power source such as an engine to the powered device such as driving wheels of a chassis or the brush shaft of the broom. This includes Engines, transmissions, gearboxes, drive shafts, differentials, driving axles, hydraulic pumps, motors and hoses.

Reflectors: Glass or plastic prism lenses which reflect light.

Resisting Bending Moment (RBM): A calculation used to compare frames of different section modulus and of different material. It is the product of the section modulus times the yield strength of the frame material. The formula expression is:

RBM = Section Modulus x Yield Strength

Road Rolling Resistance: Sum of the forces at the area of contact between a vehicle's tires and road surface acting against the direction of movement.

Roadside: The left side of the vehicle when viewed from the rear.

Opposite side from curbside. Rolling Radius: Height measured from the

center of the axle to the ground

Serial Number: A unique number issued to a vehicle or to a component of a vehicle for identification purposes. Also see VIN number.

Single Engine Runway Broom: Runway broom with a single engine that provides power to both the chassis motive power and the brush head.

Snow Shield: A cover positioned over the brush hood, designed and intended to minimize cumulative weight caused by the accumulation of snow on the brush assembly, which can have a negative effect on the brush pattern.

Spring Capacity: The allowable load that can be supported by the spring(s).

Steering, All Wheel: Any system that augments the steering action of a chassis, providing for power or power assisted steering controlled by the operator in the cab, on all wheels of the vehicle.

Steering, Power: Also commonly referred to as "hydraulic steering". A Steering system that uses hydraulic pressure to control a steering axle without a direct mechanical (controlling)

link between the operator's controls and the steering axle. A backup system must be provided to maintain steering at all times.

Steering, Power Assisted: Steering gear or mechanism with a direct mechanical (controlling) connection to a steering axle that has provisions for part of the force required for operation to be provided by air, hydraulic, or other means, not including mechanical leverage (longer handles)

Stopping Distance: The distance traveled by a vehicle from the point of application of force to the brake control to the
point at which the vehicle reaches a full stop.

Structural Member: A part of a vehicle designed primarily to support the

load of a vehicle in operation Suction Line: A tubular connection between

a reservoir or tank and the inlet of a pump.

Swept Surface Condition: A measurement of coefficient of friction (braking action) from a friction measuring device after being swept. Also a visual inspection of whether the surface is clean and bare with no remaining debris or chunks of snow and ice.

Third Party: A disinterested party professionally qualified to observe, understand, and/or record test data other than the manufacturer that is acceptable to the purchaser.

Tilt Cab: A cab that pivots forward to gain access to the engine or

other major component. Tire Clearance: Space between tires and

the nearest part of the body or under-structure. Tons per hour: A

function of snow density x depth of snow x swept path x vehicle

speed.

Tractive Effort: The maximum force developed by a vehicle power train at contact between the driven wheels and road surface with 100% available traction.

Transfer Case: Split power gear box transmitting drive to the front

and rear axles. Transmission: Selective gearbox providing various

combinations of gear ratios.

Transmission, Automatic: A type of transmission designed to self select and change gear ratios based on vehicle and engine speed.

Transmission, Hydrostatic: A type of transmission that provides gear reduction between the engine and drive wheels that uses fluid under pressure to transmit power and torque rather than mechanical components.

Transmission, Manual: A type of transmission that can function only with periodic mechanical input from an operator to select the gear reduction or drive ratio used in the transmission, and a mechanism (clutch) to disengage the power from the engine to the transmission during the mechanical shift input from the operator.

Transmission, Powershift: A type of transmission that can function only with periodic input from an operator to select the gear reduction or drive ratio in use in the transmission. Powershift transmissions include a device that allows the change of drive ratios or gears by means of an internal device that does not require operator action to interrupt power from the engine while changing the gear or drive ratio.

Tread; Wheel Track: a) The distance between the centers of tires on the same axle at the points where they contact the road surface. Duals are measured from the center of dual wheels. (b) That portion of a tire that comes into contact with the road. c) The pattern of the surface of the tire that comes in contact with the road.

Trunnion: (a) The axis, pivot point, or center point between axles. (b) The axis or pivot point of power transmission in a steerable drive axle where the turning member joins the non turning member of the axle.

Turning Circle, wall to wall: The diameter of a semi-circle described by the outmost edge of the vehicle and / or attachment while the vehicle maneuvers through an 180° turn and the attachment is at its worst case position.

Two-Speed Axle: A driving axle arrangement whereby the driver can select one of two ratios.

Vehicle Identification Number (VIN): A unique number issued to a vehicle for identification purposes. Format and code of a VIN is prescribed by law to identify manufacturer, configuration, and date of production.

1A. REQUIRED SUBMITTALS

- DETAILED LIST OF PRODUCT OFFERINGS IN NEW EQUIPMENT
- WARRANTY
- TEST RESULTS THAT ARE INDICATED BELOW.

2. RUNWAY BROOM CONFIGURATIONS

2.1 Front Mount Dedicated

This type is a pushed broom and air blast only and configured with the broom preceding the carrier vehicle allowing the operator to observe the area being swept. Two power plant configurations possible are: a single engine that provides the power to the broom, high velocity air blast and the motive power. Or a dual engine; one engine provides power to the broom, air blast and the other engine provides motive power.

Visibility of the sweeping operation allows the operator to see the area being swept. The compact design enables maximum maneuverability in confined areas. The unit can only be used for brooming. It is not capable of sharing attachments with other similar equipment.

3. TECHNICAL REQUIREMENTS / GENERAL SPECIFICATIONS

The specific components and systems that make up a complete airport runway broom differ for various classifications and configurations, but in general they are similar. Because of the many different classifications and configurations, all specific components and systems cannot be specified in detail here. The intent here is to provide a basis from which the user can develop detailed specifications for procuring a runway broom. Other considerations such as local conditions, maintenance, commonality of fleet, product support, and advances in technology should also be used when developing their detailed specification.

3.1 General Description

This airport runway broom will be primarily used in the sweeping and cleaning of snow slush and ice from airport runway, taxiway, and ramp areas. The broom must be manufactured expressly for airport pavement sweeping. All items of design and equipment not listed in these specifications, but involved in carrying out their intent, are required to be furnished the same as if these items were specifically mentioned and described in these specifications.

Components shall be new, unused, of current production to the satisfaction of the purchaser. They shall be free of all defects and imperfections that could affect the serviceability of the finished product. Components should be readily accessible for repair and replacement, with minimal removal or disturbance to adjacent parts or components. Designs must use components within their rated values. Parts which are exposed to wear shall be capable of being replaced. Regular maintenance and servicing should be readily accomplished under normal working conditions.

All broom components shall be designed to provide continuous service under difficult working conditions in -20 degrees F to +100 degrees F weather conditions or as specified without degradation of performance. The broom shall be designed to allow bristles to be easily replaced once worn or damaged. When mounted on a carrier vehicle, no components of the broom shall interfere with the servicing and maintenance of the carrier vehicle.

The broom shall have the ability to remove snow, ice, slush, sand and other debris at the rated speed, capacity, and conditions per the following:

a) The broom must be able to move 3 inches of snow at 15 pounds per cubic foot at the rated vehicle speed and full swept path.

And,

b) The broom must be able to move 1 inch of snow at 40 pounds per cubic foot at the rated vehicle speed and full swept path.

At a minimum:

- Broom configuration: front mount dedicated
- Required speed of operation (MPH): 30
- Brush swept path (feet): 18 feet
- Snow moving capacity (tons per hour): 4752
- Surface area swept rate (square feet per hour): 2,027,520
- Broom power supply horsepower (horsepower): 475
- Brush diameter (inches): 46
- Brush rotation speed (0-RPM): 0-525
- Brush available torque (foot-pounds): 3100
- Air blast capacities (CFM @ MPH): 22000 at 400 mph

- Bristle type and configuration: 50/50 combination of polypropylene and wire

To confirm the brush rotational speed and available torque values, the manufacture must supply engineering hydraulic power calculations of the brush drive train from the engine or power supply to the brush shaft. This includes sizes and specifications of all components of the brush drive train from the engine to the brush shaft including specification sheets for the broom engine, brush and air blast hydrostatic pumps, motors, and gearbox(s) showing type, size, and manufacture. Efficiency losses must also be accounted for. The calculations must be understandable, complete, logical, and in a mathematical order per the Society of Automotive Engineers (SAE) and the Fluid Power Society standard formulas and practices. The burdened of proof is the responsibility of manufacturer. Failure to provide this information for whatever reason will result in disqualification

3.2 Broom Chassis Platform

3.2.1 Carrier vehicle: The term carrier vehicle represents the various self-propelled prime movers that provide forward motion for the broom, such as a truck chassis. The design of this unit shall ensure positive tire to ground tractive effort while sweeping and doing full wall to wall turning circle of 75 feet or less or as specified. Tests for maneuverability, meeting the wall to wall turning circle requested or proposed.

The lighting system, including reflectors, markers identification and clearance lights, shall conform to FMVSS 108 as though the vehicle were an on-highway vehicle. A ll LED wiring lighting system should be sealed for reduced maintenance costs and improved lighting system reliability. In addition, task-oriented lights, and other lighting shall be furnished to help the operator identify the overall width, and when practical to project a beam or light pattern on the ground in front of the broom to assist the operator in determining those areas to be cleared and to provide adequate illumination for the operator and service personal when the unit is on darkened aeronautical areas.

In addition at a minimum one high mounted stop light and a back-up alarm shall be provided.

3.2.2 Backup Lights: There shall be at least two backup lights installed at the rear of and at either side of the vehicle that will automatically be activated when the vehicle is shifted into reverse gear.

3.2.3 Vehicle Safety Identification Lights: The vehicle shall have a minimum one front and one rear revolving yellow beacon or flashing strobe mounted on its uppermost part (see FAA AC 150/5210-5B, Painting, Marking and Lighting of Vehicles on an Airport). The light emitted from the beacon should not reflect off rearview mirrors and

into the operator's eyes.

The wiring for broom controls, which shall be a harness with weatherproof and structurally sound connectors at both the cab and rear bumper, shall be supplied and installed by the manufacture.

6.3 Broom Engine Assembly (or Power Supply)

The broom engine manufacturer and broom manufacturer shall provide an application approval, at the time of sweeper delivery, which states the engine is suitable for use in the broom as configured and that the installation is approved by the engine manufacturer. The engine shall develop sufficient torque and horsepower to meet the operational requirements of the broom. It shall be of internal combustion type. It shall meet current (at time of build) federal emissions standards and

local requirements as defined by the user. It shall be equipped with electronic controls for fuel injection and engine management including an automatic shutdown system with manual override and an electrical connector for diagnostic system. The diesel engine shall be designed and tuned for operation using ASTM D975-93 Standard Specifications for Diesel Fuel Oils, unless otherwise specified by the user, at the performance characteristics specified herein. Engine noise and vibration shall be minimized for the operator by use of best engineering practices and machine layout. The brush and air blast must be designed to efficiently utilize the rated engine horsepower.

The engine shall be provided with a full-flow replaceable oil filter and bypass filter and an air intake with a three-stage air cleaner. A filter restrictor indicator with tattletale features shall be supplied.

- External turbine type pre-cleaner or other means to prevent snow ingestion into the air cleaner

- Internal fixed vane centrifugal pre-cleaner

- Primary dry element and safety element

The engine shall be equipped with an efficient and safe exhaust system including mufflers. Its location shall minimize noise and exhaust gases entering the vehicle cab under all operating conditions. Noise reduction by noise suppression materials, such as muffler insulation, is encouraged. Horizontal portions of exhaust systems shall be protected, whenever possible, from corrosive agents and fuel spills. Mufflers and exhaust components positioned in or near normal operator work areas shall include appropriate guards to minimize the burn risk to airport personnel. Exhaust systems shall be positioned on the vehicle in a manner to minimize contact with slush and snow. Muffler(s) are to be made of aluminum,

aluminized steel, stainless steel, or materials coated with ceramics. Devices shall be installed to prevent snow and slush from entering vertical exhaust stacks.

The engine cooling system shall be based on either a liquid or forced air design. Internal temperatures of liquid cooled engines shall be controlled by a by-pass thermostat that regulates the flow of engine coolant. Drain cocks shall be installed at the lowest point of the cooling system and at other points necessary to completely drain the system. A sight glass or other device is required in all liquid cooling systems to allow the operator to determine that there is sufficient fluid for normal and safe operation without the need to open the system. Coolant shall be per engine manufacture recommendation and approval. A tag or label shall be supplied at the fluid servicing point indication proper coolant.

The design and installation of the system shall assure that coolant temperatures shall remain within the engine manufacturer's operational specification (both high and low) when properly maintained and operated in ambient temperatures during snow removal operations. In areas which frequently experience temperatures below 0 degrees F and/or units stored outside, cooling system heaters, oil pan heaters, lubricating oil heaters, battery heaters, and cold start aides are required unless otherwise specified.

Engine speed shall be regulated by a governor set to provide the maximum operating speed recommended by the engine manufacturer.

An engine's lubricating system shall be equipped with standard production fittings and accessories. Engine oil filter(s) shall be engine manufacturers approved design and able to accept commercial replacement elements. All engine(s) shall receive lubrication prior to delivery with lubricants designated for use under rated temperature conditions. The unit(s) shall be tagged to identify the proper lubricants and their temperature ranges.

An automatic engine protection system to prevent engine damage due to low engine pressure, high coolant temperature, or low coolant level is required. A provision for the emergency movement of the unit from a runway or taxiway must be provided.

6.4 Fuel System

The fuel system shall comply with Title 49 and include all components necessary for a complete operational system.

Fuel Tank(s) and Lines: Useable fuel capacity should be no less than an 8-hour supply unless the user requires a longer period. Engine literature shall be provided in the bid package that includes certified fuel usage rates. For estimating purposes, useable fuel capacity may be calculated using the value of: (total maximum brake horsepower for all engines) x (0.055 gals/hr/bhp) x (desired operating hours) x (0.5 for a 50% load factor). If dual tanks are used, the supply system shall be designed to ensure an uninterrupted flow of fuel to the

engine(s) without input by the operator, and to allow shutoff of each tank should the crossover lines (or either tank) be damaged. Dual tanks shall also have adequately sized crossover lines to allow refilling both tanks from one location. Fuel lines shall be securely fastened in place, installed to prevent chafing or strain and protected by grommets where lines project through metal apertures. Each fuel tank is to be equipped with an accessible bronze or brass drain plug or a quick drain. A properly rated fuel water separator with integral heater shall be installed in an accessible location in the engine compartment or near the tank. If the engine requires a boost pump to assure adequate fuel flow to the engine, a pressure-operated switch with in-cab warning light shall be furnished to warn the operator of low boost pump pressure. The boost pump should be installed to shut off when the engine is turned off, or to have an emergency shutoff switch or circuit breaker located near the light to allow the operator to shut off the boost pump in the event of fuel leakage downstream of the boost pump.

Fuel Filler Pipe: The fuel filler pipe(s) shall be located outside of the vehicle cab preferably accessible from the ground. A light chain shall be attached near its opening and to the filler cap to prevent loss of the cap. The filler neck shall include a screen to prevent the entry of foreign objects into the tank. The fuel filler cap shall be painted a color appropriate for the type of fuel, and a permanent label shall be affixed as close as practical to the fill neck(s), in an area visible to the person refueling the vehicle, stating the appropriate fuel and capacity of the tank(s). If fuel fillers are not installed on both sides of the vehicle, a label shall be installed in the cab near the fuel gauge indicating which side of the vehicle must be positioned towards the fuel pumps (e.g., Fuel Fill).

6.5 Electrical System

The electrical system shall be negatively grounded and installed in accordance with current state-of-the-art practices and appropriate Federal requirements. All vehicle wiring shall be in accordance with J1292. All broom electrical equipment, components, and wiring shall meet the requirements set forth in ARP1247, latest revision. All parts of the electrical system shall be waterproof, easily accessible, securely mounted, and protected against extreme temperatures, physical damage, snow, oil, and corrosion. All electrical circuit wiring shall be made of stranded conductors with a capacity exceeding the anticipated maximum circuit loading by 10%. Insulation of electrical wiring shall be equal to the recommended standards established for insulation materials by the Society of Automotive Engineers (SAE). All wiring shall be either harness, cable, split loomed, or shrink-wrapped. All wiring shall be color-coded or wire numbered matching drawing schematics and terminal strip, and labeled every 3 inches as to what it is used for. The gauge wire and processes shall be in accordance with common wiring practices, SXL insulation type. The wiring codes shall match information to be provided in the supporting service manuals.

All vehicle components and systems shall operate without being affected by interference damage or disruption including detrimental effects or interference to on-board computer modules from either vehicle generated noise, or stray EMF or RMF fields encountered from

any airport operations. EMF and RMF noise sources that may be generated by the vehicle, especially if such noise is detrimental to aircraft, Air Traffic Control, or air navigation equipment, shall be shielded.

The broom shall be equipped with self regulating electric alternators having an output capacity that exceeds the anticipated electrical load by 20% at idle.

The batteries shall be securely mounted and adequately protected against physical injury, water, chemicals and exhaust heat. They shall be properly sized based on vehicle manufacturer recommendations and be readily accessible for change out and for other purposes. Enclosed battery compartments shall have adequate ventilation. Battery capacity (cranking amps, voltage, reserve power, continuous/deep cycle demand) shall be compatible with the size of the engine and the anticipated electrical load expected under normal operating conditions. A battery master disconnect switch shall be provided with a means to secure it in the off position for servicing.

The vehicle shall have an electrical starter that shall not introduce a voltage drop sufficient to adversely affect the ignition system. It shall be equipped with an overload protection device if such device is available from the manufacturer of the starter.

- 12 volt electrical/24 volt starting.

6.6 Sheet Metal Components and Accessibility

The engine and other components shall be positioned to allow easy access for inspection and maintenance purposes. Components that historically require frequent maintenance or those that have the potential to cause operational problems should particularly be located in unobstructed areas. Fluid capacities that must be checked during a pre-trip inspection, such as engine oil, engine coolant, hydraulic oil level(s), windshield washer fluid level, and diesel fuel level shall be visually observable or otherwise capable of being checked without the need for tools, and without requiring work stands, portable ladders, or other equipment to check the service levels. Lighting in these areas shall be adequate to perform the checks without the need for flashlights or other portable lighting. Cover plates shall be equipped with either quick- disconnect latches or hinges. Locks, controls and latches shall be designed to prevent over-torquing.

6.6.1 Engine Enclosure: The broom engine, as well as all attached hydraulic, electrical, and mechanical components, shall be protected wherever practical from snow, rain, chemicals, and other winter elements. Enclosures may be fabricated from aluminum, fiberglass, steel and/or other durable material commonly used for this application. Self tapping bolts are unacceptable in the construction of these enclosures. The enclosure shall be designed with openings which allow adequate cooling air flow to prevent overheating of the engine and other components. Adequate switched lighting shall

be included. Drain lines shall be provided for engine oil, radiator coolant and hydraulic oil.

6.6.2 Steps: Steps, stairways, ladders, walkways, handholds, and handrails used to access the cab, maintenance areas, operation areas, or other areas of the equipment shall conform to the most recent additions of J185 – Access Systems for Off-Road Machines, using the "preferred" dimensions offered in this standard. When required, four-way 'safety tread' design steps shall be supplied to ascend and descend certain high profile area. These steps, together with assist handles, shall be of ample size to ensure safe and easy access for persons wearing bulky winter clothing.

6.6.3 Walkways: A four-way safety tread design walkway shall be provided, as necessary, for access.

6.6.4 Handrails: Handrails shall be provided as required at all steps, walkways, and work stations. They shall be made of corrosion-resistant materials or otherwise treated to prevent corrosion.

6.6.5 Doors: Door openings of adequate size to facilitate equipment servicing shall be provided. Doors shall be equipped with a positive closing mechanism and, where appropriate, a locking mechanism. Top hinged compartment doors shall be held in the open position by a support arm(s).

6.6.6 Drains: Plugged or free flowing drains shall be provided at all body and compartment locations where standing water can collect. Free flowing drains shall not drain onto sensitive mechanical or electrical components or on areas anticipated to be occupied by personnel during normal operations.

6.7 Broom Hitch

The broom hitch shall be capable of sustaining all loads imposed during operation. It shall provide low friction and free flotation for the brush head for bounce and skip free operation. It shall allow the brush head to be independent so the broom chassis does not induce bounce into the brush. The broom hitch shall have the necessary degrees of freedom to follow normal contours in the pavement and to accommodate surface irregularities, while sweeping at the rated speed, bouncing skipping, binding or sustaining damage. The broom oscillation shall provide true flotation left to right for the brush head. It shall have at least 8 degrees (+4, -4) of free floating oscillation from left to right.

For some configurations, an interchangeable hitch and hydraulic connections is required allowing fast changeover. There are various types of hitch and hydraulic connections which the user must specify.

6.8 Brush Angle

The brush angling mechanism shall be power actuated and controlled by the operator. The brush shall be capable of swinging at least 30 degrees left and 30 degrees right from the straight ahead position. Angling from full right to full left shall not take more then 10 seconds and shall not change the brush pattern. In between full left and full right, the pattern shall not change more then 50%.

6.9 Brush Elevation and Brush Pattern Adjustment

The brush elevation mechanism shall be power actuated and controlled by the operator, typically a joystick, which shall raise the brush off the surface and lower it for sweeping. The elevation mechanism shall have adequate stroke to achieve 4 inches of ground clearance with a new brush. The lift cylinders shall be equipped with a counterbalance valve, which prevents the brush head from creeping down.

An easily adjustable and accessible height adjustment that sets the brush pattern shall be provided. The adjustment, when preset, shall act as a stop for the elevation mechanism allowing repeatable pattern adjustment. A toggle switch near the adjustment for remote brush elevation control and pattern confirmation shall also be provided.

6.10 Brush Head

The brush head frame must sustain the loads imposed by the snow removal capacity of the unit. The brush head and air blast shall be hydrostatic drive with infinitely variable speed hydraulic pump(s) and fixed displacement motor(s) or as specified by the user. If gearboxes are used they shall be made with precision gears, AGMA 10 rating minimum, and a method for checking oil level without the use of tools. Hydrostatic motor(s) shall be tightly coupled to the brush core shaft with no looseness in any connection. The connection must be capable of handling the loads imposed by the hydrostatics.

The brush shall be vibration analyzed at final inspection with report on vibration provided upon request.

The brush head shall allow an easy access for core and / or bristle replacement allowing repeatable location of brush centerline alignment during brush core remove and replace operations.

6.11 Brush Hood

The brush hood shall be fabricated from heavy gauge sheet steel or other durable material and securely fastened to the brush frame. It shall shield the top half of the brush completely and shall be nonclog design to prevent snow and ice buildup underneath the hood. It shall provide the necessary quick access to the brush for replacement of bristles and for inspection.

There shall be a device on the front of the hood to strip the snow from the brush, preventing snow carryover from the front of the brush to the back of the brush. It shall be the full length of the brush. The device must be easily adjustable to the brush diameter as the bristles wear.

The broom must have the capability to control the snow and ice once it is airborne. The snow must be put where and only where the operator desires and the operator must have visibility. The snow control device must be automatic or adjusted by the operator from the operator control station.

6.12 Broom Casters

The weight of the brush head shall be supported by swivel caster tire assemblies. They shall be mounted along the rear of the brush frame. The quantity of tires shall be commensurate with the loading from the brush head. The mounting position must be spaced for uniform weight distribution and shall track within the swept path of the brush. The caster tire assembly shall be capable of revolving a full 360 degrees or 270 degrees if the brush head raises automatically when reversing the vehicle. The caster assembly shall not bind or come into contact with the brush or any other surface of the broom throughout their full rotational arc. Loading and operating speed of the broom shall not overload the caster assembly manufactures rating of the entire caster assembly including the tires, wheels, hubs, bearings and shafts. To keep the caster assembly from shimming, a shimmy damper device is required for each assembly. The mounting of the tire, wheel, hub, shaft and bearings must be quick change type for easy change while on the airfield.

6.13 Brush Bristles

The bristles for the brush shall be designed for runway operation and shall withstand the normal operation of the broom. They shall be made with adequate retention to keep the bristle from falling out, fatigue strength to keep them from breaking, and wear resistance for acceptable life. The bristles shall withstand storage temperatures ranging from -60 °F to + 160 °F and operating temperatures ranging from -40 °F to +125 °F, without functional degradation due to the environment.

6.13.1 Wafers, Flat: The bristles shall be fastened in a radial wafer fashion and shall consist of a steel support ring filled with steel wire bristles or polypropylene (poly) bristles. The wafers may be separated by a steel spacer.

Typical wafer bristles dimensions are:

Outside diameter: 36 inch, Inside diameter = 10.75 +0.13 -0.00 inches

Outside diameter: 46 inch, Inside diameter = 19.50 +0.13 -0.00 inches

The support ring for the wafer shall be made of coil steel, minimum thickness 0.048 inch with edge protection to protect bristle from premature wear and breakage. All joints shall be welded to insure structural integrity. Each ring shall have steel drive pins to engage the sweeper core. These pins shall have a minimum diameter of 0.250 inch and 0.63 inches long with 0.50 inches of protrusion from the inside of support ring. One of the drive pins shall be installed at the center of overlap of support ring. The 46 inch wafer shall have not less than 4 drive pins spaced at 90 degrees around the inside circumference. The 36 inch shall have 1 or more drive pins. Each wafer shall be marked on the ring to indicate the point of maximum static unbalance. The maximum static unbalance for any wafer shall be 50 oz-in.

The wire bristles shall be crimped and made of zinc galvanized drawn steel wire. The bristles shall have a minimum diameter of 0.0165 to 0.0180 inch nominal with minimum tensile strength of 325 000 pounds per square inch (psi). The bristles crimp shall be not less than 3 crimps per inch at amplitude of 1/16 inch minimum. The total weight of the 46 inch wafer shall be 10 pounds minimum. The total weight of the 36 inch wafer shall be 5.5 pounds minimum.

The poly bristles shall be made from extruded and pulled strands. The material shall be virgin polypropylene with UV inhibitor. Typically the bristles shall have an oval cross section not less than .060 x .090 inch with minimum tensile strength of 4800 pounds per square inch (psi). The total weight of the 46 inch wafer shall be 8 pounds minimum. The total weight of the 36 inch wafer shall be 5 pounds minimum.

The spacer ring which separates the wafer shall be made of coil steel with a minimum thickness of 0.048 inch. Forming the spacer shall create a flat bottom cross section with a welded overlap end seam to create adequate stiffness and strength to withstand the load imposed.

6.14 Brush Cores

The core shall be bearing supported and may be driven from either end, center, or from both ends. Each core shall be individually dynamically balanced by the manufacture at rated RPM. The bristles on the cores shall be full width to the rated length and replaceable. All steel on steel couplings of the drive and core must be replaceable hardened steel.

6.14.1 Wafers: The cores shall be made of tubular steel construction with four hardened steel (163 Brinell hardness minimum) drive bars, equally spaced to center each wafer bristle. The diameter which the four drive bars create must be such that the wafer bristle is easily installed and removed but not to allow movement of the wafer bristle on the core. The diameter of the core must also be industry standard for compatibility of various bristle manufacturers.

6.15 Forced Air Blast

The system shall feature either a single or double inlet centrifugal blower. Unless otherwise specified, the centrifugal impeller(s) shall be hydrostatically driven including a variable displacement pump and fixed displacement motor(s). It shall be capable of varying its speed allowing blower speed from the operator station.

Air duct(s) shall be installed at the outlet of the impeller(s). Nozzles(s) shall be attached to these air duct(s). Nozzle ends shall direct the flow to one side or the other. When the brush is angled, the airblower direction shall be capable of automatically following, directing air perpendicular to the direction of travel and toward the direction of broom discharge. The nozzles direction control shall be interlocked with the brush head angle to blow in the direction of broom casting thus controlled by the operator's joystick. A separate control shall allow the nozzle direction opposite of the brush angle by choice. The controls shall permit blowing without broom operation. All controls for the air blast shall be operated from the operator station.

The air ducts shall retract within the width of the vehicle for transport and storage unless otherwise specified. There shall be 8 inches of ground clearance minimum when raised unless otherwise specified.

The impeller / shaft assembly(s) shall be dynamically balanced at the rated RPM. The velocity and CFM at each nozzle shall be certified by an independent test facility and supplied with the bid.

6.16 Hydraulic System

The hydraulic system shall consist of appropriate rams, pumps, piping, fittings, valves, controls, fluid reservoirs, filters, coolers, and other parts essential to its full operation. The system shall be capable of hydraulically positioning equipment through the entire range of its design limits. It shall be capable of operating all controls simultaneously without a detrimental reduction in power response.

All controls shall be located in the vehicle cab. All hydraulic functions of the broom shall be electric over hydraulic valving. Connectors to the solenoids shall be interlocking type to

provide a secure connection, which can withstand normal pressure washing procedures. All positioning functions (for example but not limited to: brush head lift, brush head swing, deflector, and air nozzle lift) shall be equipped with a position locking system as necessary to prevent unwanted movement. There shall be no hydraulic lines within the operator station

The system shall be ruggedly constructed and able to withstand all imposed loads. It shall maintain operating temperatures suitable to all system components throughout normal operating conditions. The hydraulic system shall meet the same low temperature requirements as the engine coolant system.

Filters within the hydraulic system shall conform to the Society of Automotive Engineers (SAE) Information Report, SAE J 931- Hydraulic Power Circuit Filtration. Proper filtering shall be done on both the high pressure and low pressure circuits. There shall be a 5-micron absolute rating on the hydrostatic pumps' filters and placed in the charge pressure lines. There shall be a clogged filter indicator light at the operator's station indicating filter replacement. Shut off valves for all filters below tank fluid level shall be installed to allow filter changes with minimal loss of oil.

All hoses for all systems shall be properly sized and strength to work with the pressure and volume of oil required and have the appropriate temperature ratings for the climate conditions in which they will be used. Only commercial quality hydraulic lines, hoses, and fittings that are capable of withstanding system working pressures under load are acceptable. Hydraulic hoses shall have a bursting pressure of three times their rated working pressure. The use of fittings, joints, and connections shall be kept to a minimum. Where required, hoses should be equipped with quick couplers as necessary to facilitate rapid removal and attachment.

The hydraulic fluid tank shall have; a filler neck with a strainer, a drain plug, a shutoff valve, an air vent and baffles. Its capacity shall exceed the volume of oil required for the operation of any combination of attachments by 50 percent. A sight glass shall be provided to allow the operator to verify that fluid level is sufficient for safe operation without the necessity of opening the system. A low oil level warning and engine shutdown device shall be provided in the cab. A high hydraulic oil temperature warning and engine shutdown devise shall be provided in the cab. A low hydraulic oil temperature or high back pressure warning shall also be provided in the cab.

6.17 Controls and Instrumentation

All controls shall be electric over hydraulic type. All instruments and controls shall be labeled in a manner to remain legible for the life of the unit and shall be illuminated. The operator station shall be conveniently mounted in-cab, user friendly and easily accessed by operators wearing heavy winter clothing. Frequently used instruments shall be located in direct line-of-sight and within forearm reach of a medium-sized person sitting in the operator's

position. The controls shall allow the operator to direct all functions required to fully operate the equipment. Gauges showing fluid pressures, temperature, and warning readings shall also be furnished. Instruments should display urgency-of-action lights, i.e., green for normal operation, amber for warning, and red for emergency. Instruments shall be illuminated by background lighting regulated by dimmer switches capable of providing infinitely variable lighting intensities. Circuit breakers shall be grouped for easy access and convenience.

The operator's control shall have diagnostic capabilities for the broom, broom engine, and air blast. It must incorporate automatic diagnostics which displays what is wrong with a particular system. All systems for the broom and broom engine must be part of the diagnostics

The operator's control in the chassis cab shall have all the necessary functions to operate the broom and air blast and shall have the following:

- System On / off (keyed)
- Joystick for lift/lower and left/ right swing. The brush swing, lift and blower nozzle shall have automatic one touch for cycle control. This allows the operator to have hands free operation during cycle movement. Moving the joystick in the opposite direction can reverse the cycle. An additional switch shall allow the operator to use the automatic control or disengage the system.
- Engine oil pressure with visual and audible warning alarms
- Engine coolant temperature with visual and audible warning alarms
- Hydraulic oil temperature with visual and audible warning alarms
- Fuel level with low fuel visual and audible warning alarm
- Low coolant level alarm
- Engine tachometer
- Voltmeter and warning indicators
- Alarms for engine diagnostics and visual warning indicators and displayed faults.

- Lights On / Off
- Deflector Up / Down
- Mode Auto / Manual
- Brush On / Off and speed adjustment
- Blower On / Off and speed adjustment
- Engine hour meter
- Brush down and operating hour meter for determining brush life
- Single circuit breaker with Master Battery disconnect

An additional "service" control station shall be supplied unless otherwise specified, at the broom engine assembly when the broom engine is not installed on the carrier vehicle such as a tow broom. This service control station shall have all of the same features as the main operator's control in the chassis cab. In additions it shall have a selector switch for main or service controls station. The service control station shall have engine speed control priority over main control station.

6.18 Finish and Paint

The broom shall be painted Chrome-Yellow in accordance with FAA AC 150/5210-5B: Painting, Marking, and Lighting of Vehicles on an Airport or as specified. The rear of the broom head on a front mounted broom shall have a non-glare finish to reduce glare for the operator or as specified. Other configuration brush heads can have a non-glare finish.

All equipment shall be cleaned first, then treated as necessary per coating manufacturer's recommendations with; corrosion inhibitor, primer, putty, sanding, and finally, the finish coating process. The coating of customer specified color shall be applied per the coating manufacturers approved process and shall consist of polyurethane enamel, acrylic enamel, acrylic urethane, or similar high durability, long life coating having a combined thickness per the manufacturer's recommendations.

The finished paint shall be free of "fisheye," "orange peel," chips, runs, or other imperfections that detract from the equipment's corrosion resistance and appearance.

6.19 Technical Publications

The manufacturer shall furnish two complete sets of manuals. One in hardcopy form and one in electronic format. The set of manuals shall consist of:

- Operation, Maintenance, and Troubleshooting manual
- Supplied equipment manual
- Parts manual identifying every part on the unit both in parts list form and exploded view or schematic form in the case of electrical and hydraulic

6.20 Delivery, Start-up and Training

The unit must be fully assembled and tested prior to delivery. The manufacturer is responsible for the safe and timely delivery of the broom and its accessories, spare parts, and tools to the place of delivery.

The manufacturer shall, at no additional cost, furnish the services of trained personnel to the purchaser at a time and place agreed to by all parties. A qualified factory representative must fully install, start-up, and test the unit prior to training. Training shall be performed by a factory trained and authorized technician. The training shall be performed at the customer's site and shall be 4 hours for operators training and an additional 4 hours for mechanics training (mechanics shall attend the operating training first). The purpose of this training is to review safe and effective procedures for use and maintenance of the machine, review and test all systems, assure the full function of the machine.

6.21 Warranty

The equipment provided shall be warranted against defective materials and workmanship for a period of 12 months after the machine is delivered. Warranty includes replacement or repair of defective parts or material and the associated labor to perform the repairs

6.22 Additional Equipment to be included in bid:

- LED marker lights located per SAE ARP 5564. The LED light on the back of the cab should be an amber beacon (ex. Supplier is nROADS) The light should be controlled in the cab by the operator.
- An automatic lubrication system for all possible grease points. The system shall automatically deposit the correct amount and type of grease to the application per

manufactures specifications.

- 20 pound fire extinguisher (ABC rated).

- LED light bar should be included on the front of the cab that covers the full width of the unit that is also operable by the worker in the cab. The light bar can be either alternating white and amber or all amber (ex. Supplier Whelen, Towman's light bar)

- VHF radio and Maintenance radio (either Kenmore or Motorola that has external speaker) should be incidental to the cost of the snow broom. The airfield radio is to be iCOMA120, the owner will program to meet their frequency requirements.

- Complete spare set of boxed refill bristle wafers with spacers.

- A complete set of replacement caster wheels, tires, bearings and axle assemblies.

- Battery heater, cold start aids and a plug in (weatherproof) engine block heater

APPENDIX A – ADDITIONAL INFORMATION CONCERNING AIRPORT RUNWAY BROOMS

A.1 CARRIER VEHICLE

A.1.1 Carrier Vehicle Description:

The term carrier vehicle represents the various self-propelled prime movers that provide the power necessary to move snow and ice control equipment during winter operations. The design of the vehicle chassis shall be based on an four-wheel drive concept for optimized performance and safety. Although these units may not be designed as over-the-road highway vehicles, the following Federal Motor Vehicle Safety Standards shall apply as though they were an on-highway vehicle:

FMVSS 101 Controls & Displays

FMVSS 102 Transmission Shift Lever Sequence, Starter Interlock &

Transmission Braking Effect FMVSS 103 Windshield Defrosting &

Defogging Systems

FMVSS 104 Windshield

Wiping & Washing Systems

FMVSS 105 Hydraulic &

Electric Brake Systems FMVSS

106 Brake Hoses

FMVSS 108 Lamps, Reflective Devices, &

Associated Equipment FMVSS 111

Rearview Mirrors

FMVSS 113 Hood

Latch Systems

FMVSS 116 Motor

Vehicle Brake Fluids

FMVSS 119 New

Pneumatic Tires

FMVSS 120 Tire Selection & Rims for Vehicles

Other Than Passenger Cars FMVSS 121 Air Brake

Systems

FMVSS 124 Accelerator Control Systems

FMVSS 201 Occupant Protection in Interior Impacts
FMVSS 205 Glazing Materials

FMVSS 206 Door Locks & Door

Retention Components FMVSS 207

Seating Systems

FMVSS 208

Occup

ant Crash Protection

FMVSS 209 Seat

Belt Assemblies

FMVSS 210 Seat Belt

Assembly Anchorages

FMVSS 302

Flammabilit

y of Interior Materials

a. Truck Type Vehicles: Truck type vehicles are standard production models designed primarily to meet an airport's snow and ice control needs but can also have the ability to perform secondary functions. They may be self-contained, designed specifically for a singular purpose, or they may be multi-tasking, or they may be multi-purpose. They should conform to the manufacturer's recommendations and be suitable for mounting all specified accessories.

A.1.1.1 Materials: Materials used on a carrier vehicle shall conform to the specifications listed in the appropriate sections of Title 49, Chapter III, Federal Motor Carrier Safety Regulations. When not specifically listed, materials shall be of the best quality available for their intended commercial use. Component parts shall be new, unused, of current production to the satisfaction of the purchaser. They shall be free of all defects and imperfections that could affect the serviceability of the finished product.

A.1.1.2 Design: Equipment shall be developed in accordance with the best engineering practices available. This includes the incorporation of ergonomic designs specifically directed at the vehicle’s cab environment. Vehicle design shall include current state-of-the-art procedures that consider improved cab visibility, communications systems, interior lighting and the mitigation of noise and vibration. Design and installation of equipment shall permit easy accessibility for maintenance and service. All vehicle stress points shall be designed to distribute and dissipate shock forces.

A.1.1.3 Construction: Vehicle construction shall provide maximum protection against structural member failures. Equipment shall withstand the cold, moisture, strains, jars, vibration, and other conditions that are likely to be encountered during operation. All components and assemblies shall be free of hazardous protrusions, sharp edges, cracks, or other elements that might cause injury to personnel or damage to equipment. Location of all oil, hydraulic, and air lines and electrical wiring shall be in protected positions properly attached to the frame or body structure. Wherever these lines pass through apertures they shall be protected with looms or grommets except where a through-frame connector is necessary.

A.1.2 Chassis:

The design of the vehicle chassis shall be based on a four-wheel drive concept for optimized performance and safety. It shall have power assisted steering and a transmission with suitable load and speed ranges to accommodate normal operating conditions. Vehicles shall have heavy duty tow hooks, tow eyes, or other suitable tow connections attached to the rear of the vehicle. The tow hooks, eyes, or other suitable tow connections shall be attached to the frame or structure of the vehicle, and provide adequate strength to allow lifting and/or pulling the vehicle for emergency recovery situations. A pintle hook, rated at not less than the GVWR shall be permanently attached to the rear frame structure capable of towing a vehicle. All installed parts and accessories necessary for the safe operation of the vehicle shall conform to applicable provisions of Title 49.

A.1.2.1 Structural Members: The frame shall be made of either pressed or structural steel shape and reinforced as required to prevent distortion under maximum load conditions. All frames and stiffeners shall be treated with a corrosion inhibitor and shall be primed and painted before assembly.

A.1.2.2 Dimensions and Clearances: Carrier vehicles with snow removal attachments shall have the following overall dimensions:

a. Minimum Ground Clearance: The minimum ground clearance of a vehicle chassis shall be 8 inches (20 cm).

b. Maximum Overall Height: The maximum overall height of a vehicle including discharge chutes, lights, and exhaust stacks (with rain cap up if so equipped) shall not exceed 13 feet (4.0 m) unless otherwise specified by the customer. A placard shall be installed in the vehicle cab stating the maximum overall height. If practical, the placard should be located at the top of the windshield as nearly over the steering wheel as possible to be immediately visible to the operator when looking upwards.

c. Maximum Overall Width: 18 feet wide.

d. Maximum Overall Length: Maximum vehicular length may be specified by the purchaser who shall take into consideration shop areas and maneuverability expected of the vehicle during operation.

A.1.2.3 Weight Distribution: The gross vehicle weight of the vehicle shall be distributed over its axles in accordance with best engineering practices. The center of gravity shall be kept as low as possible under maximum load conditions. While it is loaded the vehicle shall be capable of resting on a 20% transverse grade without danger of overturning. A copy of the calculated weight distribution shall be provided to the customer prior to construction, and the produced vehicle shall not deviate from the calculated weight distribution by more than 5% on any axle, or for the gross weight as determined by weighing the unit at a public certified scale.

A.2.3 Engine

Engine and vehicle manufacturers shall provide an application approval, at the time of vehicle delivery that states the engine is suitable for use in the vehicle as configured and that the installation is approved by the engine manufacturer. The vehicle engine shall be of internal combustion type. Unless specified, the diesel engine shall be designed and tuned for operation using ASTM D 2 diesel fuel. Anti-freeze, crankcase and gear oils, greases, automatic transmission fluid, and hydraulic oils shall be as per current SAE, API, or ASTM specifications and not proprietary products. It shall be able to meet the performance characteristics specified herein on commercial grade fuel. Dual engine vehicles shall use a common fuel. The engine shall develop sufficient torque and horsepower to meet its normal operational requirements without exceeding the no-load speed at the peak of its certified gross brake horsepower curve. Engine noise and vibration shall be reduced in the vehicle cab by use of best engineering practices and machine layout. Idle time limiters or other automatic shut down devices designed to limit emissions, conserve fuel, or enhance operating costs must be permanently disabled if such devices could leave a unit disabled on a taxiway or runway. Permanently disabled means the disabling must be done in such a manner so as not to be easily or accidentally re-activated.

A.2.3.1 Cooling System: The engine cooling system shall be based on either a liquid or forced air design. Internal temperatures of liquid cooled engines shall be controlled by a by-pass thermostat that regulates the flow of engine coolant. Drain cocks shall be installed at the lowest point of the cooling system and at other points necessary to completely drain the system. A sight glass or other device is required in all liquid cooling systems to allow the operator to determine that there is sufficient fluid for normal and safe operation without the need to open the system.

A.2.3.2 Coolant Temperatures: The design and installation of the system shall assure that coolant temperatures shall remain within the engine manufacturer's operational specification (both high and low) when properly maintained and operated in

ambient temperatures during snow removal operations. In areas which frequently experience temperatures below 20°, cooling system heaters, oil pan heaters, lubricating oil heaters, battery and block heaters, and cold start aides required unless otherwise specified.

A.2.3.3 Fuel System: The fuel system shall comply with Title 49 and include all components necessary for a complete operational system.

A.2.3.4 Fuel Tank(s) and Lines: Useable fuel capacity should be not less than a calculated value of: (total maximum brake horsepower for all engines) x (0.55 gals/hr/bhp) x (desired operating hours) x (0.5 for a 50% load factor). Normal operating hours should be eight unless a higher number is desired by the customer. If dual tanks are used, the supply system shall be designed to ensure an uninterrupted flow of fuel to the engine(s) without input by the operator, and to allow shutoff of each tank should the crossover lines of either tank be damaged. Dual tanks shall also have adequately sized crossover lines to allow refilling both tanks from one location. Fuel lines shall be securely fastened in place, installed to prevent chafing or strain and protected by grommets where lines project through metal apertures. Each fuel tank is to be equipped with an accessible bronze or brass drain plug or a quick drain. A properly rated fuel water separator with integral heater shall be installed in an accessible location near the tank. If the engine requires a boost pump to assure adequate fuel flow to the engine, a pressure operated switch with in-cab warning light shall be furnished to warn the operator of low boost pump pressure. The boost pump should be installed to shut off when the engine is turned off, or to have an emergency shutoff switch or circuit breaker located near the light to allow the operator to shut off the boost pump in the event of fuel leakage downstream of the boost pump.

A.2.3.5 Fuel Filler Pipe: The fuel filler pipe(s) shall be located outside of the vehicle cab in an area accessible for refueling from the ground where possible. A light chain shall be attached near its opening and to the filler cap to prevent loss of the cap. The filler neck shall include a screen to prevent the entry of foreign objects into the tank. The fuel filler cap shall be painted a color appropriate for the type of fuel, and a permanent label shall be affixed as close as practical to the fill neck(s), in an area visible to the person refueling the vehicle, stating the appropriate fuel and capacity of the tank(s). A label shall also be installed in the cab near the fuel gauge indicating which side of the vehicle must be positioned towards the fuel pumps (e.g., Fuel Fill →).

A.2.3.6 Air Cleaner: The air cleaner shall be of a two-stage design. The first stage incorporates a pre-cleaner while the second consists of a dry type replaceable paper filter. A restriction indicator is required in the cab for each engine air intake system. The connection between the air cleaner outlet(s) and the engine intake(s) shall be waterproof and dust tight. The air cleaner intake shall be positioned in a manner to discourage the ingestion of snow and other contaminants, e.g. within the

hood cavity.

A.2.3.7 Exhaust System and Muffler: The engine shall be equipped with an efficient and safe exhaust system including mufflers. Its location shall minimize noise and exhaust gases entering the vehicle cab under all operating conditions. Further noise reduction by noise suppression materials, such as muffler insulation, is encouraged. Horizontal portions of exhaust systems shall be protected, whenever possible, from corrosive agents and fuel spills. Mufflers and exhaust components positioned in or near normal operator work areas shall include appropriate guards to minimize the burn risk to airport personnel. Exhaust systems shall be positioned on the vehicle in a manner to minimize contact with slush and snow. Muffler(s) are to be made of aluminum, aluminized steel, stainless steel, or materials coated with ceramics. Devices shall be installed to prevent snow and slush from entering vertical exhaust stacks. Customers may specify the location and direction of exhaust system discharge when appropriate for storage building ventilation systems or other operational needs.

A.2.3.8 Governor: Engine speed shall be regulated by a governor set to provide the maximum operating speed recommended by the engine, driveline, and power train manufacturers.

A.2.3.9 Lubrication: An engine's lubricating system shall be equipped with standard production fittings and accessories. Engine oil filter(s) shall be engine manufacturers approved design and able to accept commercial replacement elements. All engine(s) shall receive lubrication prior to delivery with lubricants designated for use under ambient temperature conditions at the point of delivery. The unit(s) shall be tagged to identify the proper lubricants and their temperature ranges.

A.2.3.10 An automatic engine protection system to prevent engine damage due to low engine oil pressure, high coolant temperature, or low coolant level is required. A provision for the emergency movement of the unit from a runway or taxiway must be provided.

A.2.3.11 Accessibility:

a. Component Location: Engine and chassis components shall be positioned to allow easy access for inspection and maintenance purposes. Components that historically present maintenance problems or those that have the potential to cause operational problems should particularly be located in unobstructed areas. Locks, controls and fasteners shall be designed to prevent over-torquing. Fluid capacities that must be checked during a pre-trip inspection, such as hydraulic oil level(s), windshield washer fluid level, and diesel fuel level shall be visually observable or otherwise capable of being checked

without the need for tools, and without requiring work stands, portable ladders, or other equipment to check the service levels. To the extent practical lighting in these areas shall be adequate to perform the checks without the need for flashlights or other portable lighting.

b. Cover Plates: Cover plates shall be equipped with either quick-disconnect fastenings or hinges.

A.2.4 Drive Train

A.2.4.1 Transmission: Transmission and vehicle manufacturers shall provide an application approval, at the time of vehicle delivery that states the transmission is suitable for use in the vehicle as configured and that the installation is approved by the transmission manufacturer. The transmission shall operate smoothly and efficiently and be capable of transmitting the maximum gross torque generated by the engine to the drive wheels through all gear reductions. Safety interlocks to prevent starting the engine unless the transmission is in neutral, or, the clutch is disengaged, shall be installed. Drive trains shall be in conformance with SAE requirements and shall be designed to minimize the number of joints.

a. Automatic: Automatic or non-manual transmissions are either hydrostatic (with or without transfer case), automatic power shift, standard power shift, or fully automatic. Designs utilizing torque converters shall have a suitable torque ratio for the expected load ranges. The torque converter shall not operate at less than 70% efficiency. The gear or range selector shall have forward, neutral and reverse positions clearly identified.

A.2.4.2 Transfer Case: The vehicle and transfer case manufacturers shall provide an application approval at the time of vehicle delivery that states the transfer case is suitable for use in the vehicle, as configured. Transfer case assemblies shall provide positive drive to the front and rear axle(s) and may be of optional single or multi- speed design. Three proven alternatives are the manual front axle disconnect type, the center differential with manual or automatic lockout type, or an overriding clutch type. The transfer case may be a separate unit mounted independently or integrated with the transmission. The transfer case can be manufacturer's standard as long as the vehicle is four-wheel drive.

A.2.4.3 Axles: The axle and vehicle manufacturers shall provide an application approval at the time of vehicle delivery that states the front and rear axles are suitable for use in the vehicle, as configured. The axle manufacturer's published rating shall at the least be equal to the load imposed at ground level when the vehicle and/or each component is in its maximum load configuration (i.e., rotary brush up, down, right, left; and/or a material body, if any, loaded to its cubic rated volume). Each non-steering axle shall be equipped with a retarding type device to ensure a torque

transfer to each wheel having traction. When appropriate, manual lockout controls shall
be located in the vehicle cab. The torque capacity of each axle and differential shall be at least 10% in excess of the maximum torque that the axle may experience under any GVW operating condition. The power transmitting shaft on each steering axle shall incorporate steering joints that do not produce objectionable steering characteristics while the vehicle is operating on uneven surfaces. Two proven designs are single reduction with all gear reduction taking place in the central housing of the axle, and planetary, in which a second speed reduction takes place beyond the axle's center housing.

A.2.5 Brake System

Vehicle service and emergency braking systems shall meet Title 49 requirements for vehicles of similar design. These systems, whether air, hydraulic, or of another design, shall be complete with all necessary equipment to safely control, stop and hold a fully equipped vehicle under all normal operating conditions. Both systems shall be readily accessible for external adjustment. Anti lock brakes may be specified for improved safety on the airport operational areas.

A.2.6 Steering Mechanism

The vehicle shall have a steering mechanism that is operated from the driver's seat. During normal operations, the mechanism shall be capable of controlling the vehicle with all equipment operating. Steering equipped with power assistance shall revert to manual operation in the event of power assist system failure, or be equipped with a dual power steering system that operates in a fail-safe manner so that the failure of one system will not lead to a loss of steering. The design of the steering mechanism should, in the event of a power assist failure, be capable of safely maneuvering the vehicle off the primary operational areas of the airport and to a park position from the maximum design speed allowed on the airport. All wheel steering may substantially increase the handling ability of the vehicle and, therefore, its productivity. A ll wheel steer is required and is to be front wheel steer.

A.2.7 Suspension System

Vehicles shall be equipped with a current production model suspension system having a minimum rated capacity equal to the GVW of the carrier vehicle. When required, front and rear axles shall have auxiliary suspension springs. Manufacturer's capacity ratings may not be arbitrarily raised to conform to the requirements of this specification. The suspension system shall exhibit no permanent set after the load is removed. When writing specifications for a runway broom, it should always be a concern that the equipment does not

overload the GAWR of the axles, wheels, tires, springs or steering of the vehicle to which it is to be installed.

A.2.8 Wheels, Rims, Tires, and Tubes

a. Wheels, rim and tire ratings shall conform to The Tire and Rim Association's published recommendations.

b. Tires. Each tire shall have a rated carrying capacity at least equal to the loads imposed on them in the maximum load configuration (i.e., rotary broom up, down, right, left). Tires on each individual axle shall be of the same size. Tires between axles may vary due to loads, configurations, and engineered gearing sets. In such cases, care must be taken and all components must be viewed as a system that provides an acceptable speed match between driven axles. Tires shall have an aggressive tire tread. Tires (and tubes when applicable) shall meet the first line commercial grade requirements for the speed and type of service required. The front and rear tread widths shall not vary by more than 4%.

c. Spare Rim/Tire. One spare tire on rim shall be included.

A.2.9 Hydraulic System:

The hydraulic system shall consist of appropriate rams, pumps, piping, fittings, valves, controls, fluid reservoirs, filters, coolers, and other parts essential to its full operation. The system shall be capable of hydraulically positioning equipment through the entire range of its design limits. It shall be capable of operating all controls simultaneously without a noticeable reduction in power response. All hydraulic controls shall be located in the vehicle cab. The equipment manufacturer shall avoid high pressure hydraulic lines within the cab by means of remote cable or electric over hydraulic controls whenever possible. If a high pressure line must be located within the cab, it shall be properly shielded to protect the operator to the satisfaction of the purchaser. The system shall be ruggedly constructed and able to withstand all loads imposed on it without relying on the use of mechanical locks. Adequate cooling must be included to maintain acceptable hydraulic oil temperatures throughout expected vehicle operational ranges. Filters within the hydraulic system shall conform to J931.

A.2.9.1 Pump(s) and Power Takeoff: The pump(s) shall be ruggedly constructed and powered by the engine through a power takeoff. It shall have sufficient capacity to operate the hydraulic equipment specified herein under all operating conditions and speeds. Belt driven pumps should be avoided whenever possible.

A.2.9.2 Lines and Fittings: Only commercial quality hydraulic lines, hoses, and fittings that are capable of withstanding system working pressures under load are acceptable. Hydraulic hoses shall have a bursting pressure of three times their

rated working pressure. The use of fittings, joints, and connections shall be kept to a minimum. Where local climatic conditions require, the purchaser should consider requiring arctic type
hoses with temperature ratings appropriate for the location. Test gauge connection fittings shall be provided at all suitable points throughout system for maintenance and trouble-shooting. All hydraulic system
components are to be shielded from engine exhaust heat, and heat shields shall be installed on the engine exhaust system to divert any possible leakage from the hydraulic system. Hoses shall be installed inside steel tubing wherever necessary to deflect the flow of fluid from exhaust and electrical system components in the event of hose rupture or leakage.

A.2.9.3 Fluid Tank: The hydraulic fluid tank shall have a filler neck consisting of a strainer, drain plug, shutoff valve, air vent and baffles. Its capacity shall exceed the volume of oil required for the operation of any combination of attachments by 50%. A sight glass or other device shall be provided to allow the operator to verify that fluid level is sufficient for safe operation without the necessity of opening the system. An oil level warning device shall be provided in the cab for all hydraulic systems. A label shall be installed as close as practical to the filler neck indicating the proper fluid for servicing the hydraulic system, and the capacity of the tank.

A.2.9.4 System Winterization: Hydraulic systems shall be designed and operated in accordance with the requirements specified in ARP1247. The hydraulic system shall meet the same low temperature requirements
as the engine coolant system. Where appropriate properly sized shutoff valves shall be installed on each side of all filters to facilitate filter changing with minimal fluid loss. If filters are installed in compartments or other areas where fluid collection is possible, drain holes will be installed to allow fluid drainage during servicing.

A.2.10 Electrical System:

The electrical system shall be negatively grounded and installed in accordance with current state-of-the-art practices and appropriate Federal requirements. All vehicle wiring shall be in accordance with J1292. All vehicle body electrical equipment, components, and wiring shall meet the requirements set forth in ARP1247. All parts of the electrical system shall be waterproof, easily accessible, securely mounted, and protected against extreme temperatures, physical damage, snow, oil, and corrosion. All electrical circuit wiring shall be made of stranded conductors with a capacity exceeding the anticipated maximum circuit loading. Insulation of electrical wiring shall be equal to the recommended standards established for insulation materials by the Society of Automotive Engineers (SAE). All electrical circuit wires shall be identified by color or number along their entire length. The wiring codes shall match information to be provided in the supporting service manuals.

A.2.10.1 All vehicle components and systems shall operate without being affected by interference damage or disruption including detrimental effects or interference to on-board computer modules from either vehicle generated noise, or stray EMF or RMF fields encountered from any airport operations. EMF and RMF noise sources that may be generated by the vehicle, especially if such noise is detrimental to aircraft, Air Traffic Control, or air navigation equipment, shall be shielded.

A.2.10.2 Power Supply: The carrier vehicle shall be equipped with self regulating electric alternators having an output capacity that exceeds the anticipated electrical load. The minimum idle output of the alternator shall be 20% greater than that required by the vehicle with the engine operating at idle, heater and defroster set at low fan setting, parking and/or marker lights on, communication radio(s) on, windshield wipers operating, and either hazard flashers or Vehicle Safety Identification Lights on. The minimum output of the alternator when operating at governed engine speed shall be 20% greater than that required by the vehicle in its operating mode with the heater and defroster set to maximum settings, headlights and marker/tail lights on, communication radio(s) on, windshield wipers at maximum setting, and the Vehicle Safety Identification Lights operating. An electrical load analysis worksheet shall be provided to the customer prior to construction showing the electrical loads during the above described conditions.

A.2.10.3 Batteries shall be securely mounted and adequately protected against physical injury, water, chemicals and exhaust heat. They shall be properly sized based on vehicle manufacturer recommendations and be readily accessible for change out and for other purposes. Enclosed battery compartments shall have adequate ventilation. Battery capacity (cranking amps, voltage, reserve power, continuous/deep cycle demand) shall be compatible with the size of the engine and the anticipated electrical load expected under normal operating conditions.

A.2.10.4 Starting Device: The vehicle shall have an electrical starter that shall not introduce a voltage drop sufficient to adversely affect the ignition system. It shall be equipped with an overload protection device if such device is available from the manufacturer of the starter. The airport sponsor shall specify the type(s) of electrical systems that are acceptable.

a. 12 volt electrical/24 volt starting

A.2.10.5 Ignition System: Under extreme weather conditions a block heater or other heating device should be considered for improved ignition. A high idle control for efficient engine warm up and stand by operations shall be provided. High idle switches or throttle controls shall be designed to operate only when the transmission is in neutral.

A.2.10.6 Backup Alarm: All vehicles that have limited rear view visibility and/or have a GVWR of 26,000 pounds, shall be equipped with a backup alarm installed at the rear of the vehicle. The backup alarm shall be activated whenever the transmission is placed in reverse. The backup alarm shall be a SAE J994, Type B vehicle backup alarm

A.2.10.7 Horn: The vehicle shall be equipped with an electric or air horn to allow the operator to provide an audible warning in an emergency. Manufacturer's standard is acceptable.

A.2.11 Lighting System:

The lighting system, including reflectors, markers identification and clearance lights, shall conform to FMVSS 108 as though the vehicle were an on-highway vehicle. Customers may specify an all LED sealed wiring lighting system for reduced maintenance costs and improved lighting system reliability. In addition, task-oriented lights, and other lighting shall be furnished to help the operator identify the overall width, and when practical to project a beam or light pattern on the ground in front of the blower to assist the operator in determining those areas to be cleared and to provide adequate illumination for the operator and service personal when the unit is on darkened aeronautical areas.

a. Headlights: The carrier vehicle shall be equipped with two or more sealed-beam quartz-halogen or high energy discharge type headlights with upper and lower driving beams and a foot or hand controlled switch for beam selection. If snow removal attachments obstruct forward illumination of these lights an auxiliary set of comparable lights shall be provided to overcome the obstruction. A control to select the secondary lights shall be provided in the operator cab.

b. An LED light bar shall be attached the to the top of the cab to add additional lights.

c. Backup Lights: There shall be at least two backup lights installed at the rear of and at either side of the vehicle that

will automatically be activated when the vehicle is shifted into reverse gear.

d. Vehicle Safety Identification Lights: The vehicle shall have a minimum of one revolving yellow beacon or flashing strobe mounted on its uppermost part (see FAA AC 150/5210-5B, Painting, Marking and Lighting of Vehicles on an Airport). The light emitted from the beacon should not reflect off rearview mirrors and into the operator's eyes.

A.2.12 Operator's Cab

A.2.12.1 General: Carrier vehicle cabs shall be made of either metal or fiberglass construction and be of conventional, cab forward, or cab-over design. They shall be fully enclosed accommodating a single operator only (half cab) or single operator plus assistant/trainee (full cab). A definite separation shall exist between the engine and operator's compartment. All non-glass surfaces, such as the floor, sides, and roof of the cab, shall have insulation to reduce exterior noise. The maximum interior cab noise measured at the operator's seat shall not exceed 85 dBa under the following conditions: windows closed, heater and defrost systems at maximum operation, and carrier vehicle and equipment engines operating at maximum rated capacity. Manufacturers of the equipment are encouraged to improve upon the specified noise level. To the extent possible, the interior of the cab shall be ergonomically designed providing the operator with a pleasant working atmosphere that is devoid of the stark conditions normally associated with older equipment. All cabs shall provide at least two different routes of egress to allow the operator to exit the cab in the event of rollover or overturn.

A.2.12.2 Communications Equipment Space: Transceivers shall be installed in carrier vehicles to establish voice communication with other vehicles, the air traffic control tower, and snow control center and maintenance facilities. The vehicle cab shall be designed to provide convenient space near the operator for the installation of a pair of transceivers. An airfield radio and a vhf radio should be included as part of the purchase of the snow equipment.

A.2.12.3 Fire Extinguisher(s): The vehicle cab shall have at least one 2A-10BC interior mounted fire extinguisher that is readily accessible to the operator. Vehicles equipped with fuel tank(s), hydraulic oil tank(s), or any flammable liquid tank(s) that have a total combined volume of 200 gallons or more of flammable liquid shall be equipped with one 20 B:C: Purple K type fire extinguisher installed on the vehicle or equipment at a place readily accessible from the ground.

A.2.12.4 Operator Seat: The vehicle cab shall provide an operator seat that can easily be adjusted up and down, fore and aft, a minimum of 3 inches (7.6 cm) in each direction. The seat should also be capable of reducing the effect of vehicle vibration by featuring air-cushion shock absorbing seat systems, or systems of comparable design. All vehicle seats shall have three-point (minimum) seat belts, certified by the vehicle manufacturer to have been tested and in conformance with FMVSS requirements. Seats shall be fully upholstered with a good quality fabric or plastic material.

A.2.12.5 Windows and Windshield: Unless otherwise specified an electrically heated windshield shall be provided. The vehicle cab shall maximize the use of glass, including the placement of panels if possible in the lower sections of door panels, to increase the operator's view of operational areas and ground surfaces. All

installed glass shall be laminated, safety rated, and conform to all FMVSS requirements. Customer to specify tinted or clear glass. The location and size of the windshield shall minimize visual obstructions to the operator. The windshield shall be designed to avoid snow build up and be equipped with one or more variable speed intermittent operating wipers (standard or wet arm). The windshield wiper system shall be capable of sweeping a clear view for all occupants up and be equipped with at least one variable speed automatically operating wiper (standard or wet) that is capable of sweeping a clear view for all occupants. The windshield washer reservoir shall have a capacity of at least 1½ gallons (5.6 liters). Fluid applicators shall be located to provide at least 75% coverage of the windshield. The cab shall be equipped with sun visors. Windshields and other glass surfaces in the vehicle cab used in the operation of the vehicle and/or to view pavement surfaces, including rear windows if installed, shall be cleared by means of a defroster system that is part of the cab's heating system. The standard circulating air type defroster may be complimented by electrical type heating systems for glass areas as required by the purchaser.

A.2.12.6 Exterior Rearview Mirrors: Two electrically heated exterior rear view mirrors of the extension arm type shall be mounted one on each side of the vehicle cab. Rear view mirrors are to be powered and remotely controlled. Each mirror shall have an area of not less than 100 in^2 (650 cm^2).

A.2.12.7 Heater: The carrier vehicle cab shall have a heating system that is capable of maintaining a minimum interior temperature of 65 °F (18 °C) at an ambient outside temperature of -20 °F (-29 °C). Heat output shall be controllable from within the cab by a selector switch that is conveniently located to the operator. Under all conditions of heating and ventilation, the temperatures measured in the operator's immediate environment should be uniform within 9 °F (5 °C) (see J1503).

A.2.12.8 Ventilation: Ventilator/heater fan shall have blower capacity equal to one cab volume per minute. Cab ventilator intakes should be screened and positioned in such a manner to minimize the entry of snow.

A.2.12.9 Hour Meters: Every engine permanently attached to a carrier vehicle shall be equipped with an hour meter that registers engine operation time from 0 to 9999 hours. Hour meters shall be prominently displayed so that they can be easily read by an operator or service personnel. The hour meters shall be of direct read design and shall only register when the engine is running.

A.2.12.10 Instrumentation: The cab shall display an instrument panel equipped with rocker and/or toggle switches and controls (instruments) that are friendly to operators wearing bulky winter clothing. Toggle switches, where used, shall have a minimum

length of 1½ inches (4 cm). Frequently used instruments shall be located in direct line-of- sight and within forearm reach of a medium sized person sitting in the operator's position. All instruments shall be clearly identified with labels that indicate their function. Instruments should display urgency-of-action lights, i.e., green for normal operation, amber for warning, and red for emergency. Instruments shall be illuminated by background lighting regulated by dimmer switches capable of providing infinitely variable lighting intensities. Circuit breakers shall be grouped for easy access and convenience. Typical instruments that report and track major functions of a carrier vehicle and mounted equipment are as follows:

A. Engine:

1) Voltmeter

2) Lubricating Oil Pressure Gauge(s)

3) Coolant Temperature Gauge(s)

4) Tachometer(s) including hour meter(s)

5) Starting Controls (including auxiliary cold start controls)

6) Hydraulic Oil Pressure and Temperature Gauge if applicable

7) Transmission

B. Vehicle Chassis:

1) Brake-air Pressure Gauges if applicable

2) Low-air Pressure Warning, visual and audible type if applicable

3) Light Switches and Headlight Beam Indicator

4) Speedometer with Recording Odometer

5) Fuel Quantity Gauge(s)

6) Equipment Controls

A.2.13 Sheet Metal Components:

A.2.13.1 General: The carrier vehicle engine, as well as its mechanical components, shall be protected wherever possible from snow, rain and other winter elements. Body and engine enclosures may be fabricated from aluminum, fiberglass, and/or steel. Self tapping bolts are unacceptable in the construction of these enclosures.

a. Steps: Four-way safety tread, open design steps are required to ascend and descend high profile carrier vehicles. These steps, together with assist handles, shall provide for constant three-point contact, and shall be of ample size to ensure safe and easy access for persons wearing bulky winter clothing.

b. Walkway: A four-way safety tread, open design walkway shall be provided, as necessary, for access.

c. Handrails. Handrails shall be provided as required at all steps, walkways, and work stations. They shall be made of corrosion-resistant materials or otherwise treated to prevent corrosion.

d. Fenders: All carrier vehicles shall be equipped with fenders and when determined by the operator, non- sail mud flaps to prevent wheels from throwing snow and other debris.

e. Drains: Plugged or free flowing drains shall be provided at all body and compartment locations where standing water can collect. Free flowing drains shall not drain onto sensitive mechanical or electrical components or on areas anticipated to be occupied by personnel during normal operations.

f. Doors: Doors shall be equipped with a positive closing mechanism and, where appropriate, a locking mechanism. Top hinged compartment doors shall be held in the open position by a support arm(s).

g. Gutters: The vehicle cab shall be equipped with gutters, located above the entrance doors, of sufficient length to span the door width and provide runoff protection to occupants either entering or exiting the cab.

A.2.14 Painting, Marking, and Lighting of Vehicles

A.2.14.1 Painting and Marking: The vehicle shall be painted Chrome-Yellow in accordance

with color tolerance charts that have been made available for FAA regional airport inspectors and key potential users in the aviation safety equipment industry (see AC 150/5210-5B).

A.2.14.2 Preparation and Finish: The carrier vehicle and all mounted and towed equipment shall be cleaned first, then treated with a corrosion inhibitor, primed, puttied, sanded, and finally painted. The paint shall consist of not less than two coats of Chrome-Yellow polyurethane enamel, acrylic enamel, acrylic urethane, or similar high durability, long life paint as required by the purchaser, applied to produce full hiding.

A.2.14.3 Quality: The finished paint shall be free of "fisheye," "orange peel," chips, runs, or other imperfections that detract from the equipment's corrosion resistance and appearance.

A.2.15 Miscellaneous

A.2.15.1 Plastic Plates: Plastic plates are acceptable only in locations that are not exposed to the elements and subject to weathering or excessive heat.

A.2.15.2 Information: Plates shall identify make, model, serial number, and any other relevant data.

A.2.15.3 Technical Publications: The manufacturer shall furnish two complete sets of manuals. One set of manuals shall consist of an Operator's manual, Parts Manual, and Maintenance and Service Manual.

A.2.15.4 Operator's Manual: The operator's manual includes lubrication charts and instructions.

A.2.15.5 Parts Manual: The parts manual identifies and lists all parts, components, and sub-assemblies used in the fabrication of the carrier vehicle and mounted equipment.

A.2.15.6 Maintenance and Service Manual: A maintenance and service manual provides guidance to non-specialists performing routine services. The manual should also describe in detail with appropriate schematics the overhaul and major maintenance procedures required to maintain and repair the vehicle. The maintenance manuals shall include complete schematics of the electrical, air, and hydraulic systems as applicable. Number codes on wires and hoses as found on the vehicle shall match those provided in the maintenance manual schematics.

A.2.15.7 Accessories and Tools: The carrier vehicle shall be equipped with tire tools, a jack, shear pins, and specialized tools as specified by the purchaser. They shall be kept either in a secure and readily accessible enclosure that is permanently affixed to the vehicle or in the maintenance facilities of the airport as required by the purchaser.

A.2.15.8 Lug wrench and any other special tire tool required to change a flat tire.

A.2.15.9 Jack: A jack specifically adapted to the carrier vehicle and of adequate capacity to be capable of raising it to a position where a flat tire can be changed.

A.2.15.10 Specialized Tools: Specialized tools required for routine servicing of the carrier vehicle and its auxiliary equipment.

A.2.16 Delivery

A.2.16.1 Shipment: The vendor (seller) is responsible for the safe and timely delivery of the vehicle and its accessories, spare parts, and tools to the agreed place of delivery.

A.2.16.2 Marking: Carrier vehicles shall be marked for shipment in accordance with instructions agreed to by the purchaser.

A.2.16.3 Instruction and Training: The manufacturer shall, at no additional cost, furnish the services of trained personnel to the purchaser at a time and place agreed to by all parties. These individuals shall provide instructions to airport personnel sufficient to familiarize themselves with the operational and maintenance characteristics of the vehicle and its auxiliary equipment. The period of instruction shall be 24 hours or as required depending upon crew size.