PROJECT MANUAL

Tri-Cities Airport

Common Use Implementation Project

Mead & Hunt Project #: 3177700-250176.02

Blountville, TN

Prepared for:
Tri-Cities Airport Authority
Tri-Cities Airport

Mead&Hunt

2440 Deming Way
Middleton, WI 53562

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Issued for Bid Documentation
June 30, 2025

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BIDDING REQUIREMENTS

ADVERTISEMENT FOR BID

Sealed bids, subject to the conditions herein, will be received until 2:00 PM, Local Eastern Time on July 18, 2025, by the Tri-Cities Airport Authority (Owner) at the Tri-Cities Airport, mezzanine level, Commission Room 302, and at that hour opened and publicaly read, for furnishing all labor, materials, equipment, and performing all work connected with Terminal/Concourse Sound System Improvement Project.

Copies of the Specifications and Proposals, etc., will be available via electronic download by contacting Mead & Hunt via email at Tim.Schneiter@meadhunt.com. There is no charge for the project .pdf documents, but bidders are responsible for the printing of project documents.

A non-mandatory, Pre-Bid Conference will be held at (time), Local Eastern Time on July 8, 2025, at the Tri-Cities Airport mezzanine level, Commission Room 302. Prospective bidders are strongly encouraged to attend.

Each proposal must be accompanied by a bid bond from a Surety Company acceptable to the Owner or a cashier's check or certified check made payable to the Tri-Cities Airport Authority for not less than 5 percent of the total amount of the bid. A 100% contract bond will be required upon successful bid as part of the execution of the project contracts.

Proposals/bids are required to remain open for acceptance or rejection for 90 days, but the Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

The Owner reserves the right to reject any and/or all bids, to waive any informalities and technicalities in the bids received, to the extent permitted by applicable law, and to accept any bid which, in its sole discretion, is in the best interest of the Owner.

All bidders are responsible for compliance with Federal and State requirements for preparation and submission of the proposal. The successful bidder shall be responsible for compliance with Federal and State Requirements in the Contract Agreement.

Envelopes containing proposals must be sealed, addressed to the Tri-Cities Airport Authority, 2525 Highway 75, Suite 305, Blountville, TN 37617 and marked with the Contractor’s name, Classification, Expiration date and the following project title: Terminal/Concourse Sound System Improvement Project.

END OF ADVERTISEMENT FOR BID

BID PROPOSAL

TO: Tri-Cities Airport Authority

The undersigned BIDDER, in compliance with the request for bids for construction of the following Project:

Terminal/Concourse Sound System Improvement Project

BIDDER hereby proposes to furnish all labor, permits, material, machinery, tools, supplies and equipment to faithfully perform all work required for construction of the Project in accordance with the Bidding Documents and issued Addenda within the specified time limitations for the prices in this proposal.

ACKNOWLEDGEMENTS BY BIDDER

a. The undersigned BIDDER acknowledges it has carefully examined the site of the work described herein; has become familiar with local conditions and the character and extent of the work; has carefully examined the Technical Specifications, the form of contract, and the form of contract bonds, and thoroughly understands their stipulations, requirements and provisions.
b. The undersigned Bidder has determined the quality and quantity of materials required; has investigated the locations and determined the sources of supply of the materials required; investigated labor conditions; and has arranged for the continuous advancement of the work herein described.
c. By submittal of a proposal, the BIDDER acknowledges and accepts that the quantities established by the OWNER are an approximate estimate of the quantities required to fully complete the Project and that the estimated quantities are principally intended to serve as a basis for evaluation of bids. The BIDDER further acknowledges and accepts that payment under this contract will be made only for actual quantities.
d. As evidence of good faith in submitting this proposal, the undersigned encloses a bid guaranty in the form of a certified check or bid bond in the amount of 5% of the bid price. The BIDDER acknowledges and accepts that refusal or failure to accept award and execute a contract within the terms and conditions established herein will result in forfeiture of the bid guaranty to the OWNER as a liquidated damage.
e. The BIDDER acknowledges and accepts the OWNER'S right to reject any and/or all bids, to waive any informalities and technicalities in the bids received, to the extent permitted by applicable law, and to accept any bid which, in its sole discretion, is in the best interest of the Owner.
f. The BIDDER acknowledges and accepts the OWNER'S right to hold all Proposals for purposes of review and evaluation and not issue a notice-of-award for a period of time of 90 days.

g. The undersigned agrees that upon written notice of award of contract, he or she will execute the contract and provide executed payment and performance bonds within 15 calendar days from the date mailed or otherwise delivered to the successful bidder. The undersigned accepts that failure to execute the contract and provide the required bonds within the stated timeframe shall result in forfeiture of the bid guaranty to the owner as a liquidated damage.
h. Time of Performance: By submittal of this proposal, the undersigned agrees to complete the Project no later than October 1, 2025.
i. The undersigned acknowledges and accepts that liquidated damages will be paid to the Owner for failure to comply with the time limitations and time of completion outlined in the Contract for Purchase of Equipment, Article III – General Contract Provisions.
j. The BIDDER, by submission of a proposal, acknowledges that award of this contract is subject to the provisions of the Davis-Bacon Act. The BIDDER accepts the requirement to pay prevailing wages for each classification and type of worker as established in the attached wage rate determination as issued by the United States Department of Labor. The BIDDER further acknowledges and accepts their requirement to incorporate the provision to pay the established prevailing wages in every subcontract agreement entered into by the Bidder under this project.

The undersigned acknowledges receipt of the following addenda:

Addendum Number ____ dated __/__/__ Received_____

Addendum Number ____ dated __/__/__ Received_____

Addendum Number ____ dated __/__/__ Received_____

CERTIFICATION BY BIDDER

The undersigned hereby declares and certifies that the only parties interested in this bid are named herein and that this bid is made without collusion with any other person, firm or corporation. The undersigned further certifies that no member, officer or agent of the OWNER has direct or indirect financial interest in this bid.

SIGNATURE OF BIDDER

Name: _____

By: _____

(Signature of Individual)

Doing Business as: _____

Business Address: _____

_____

_____

Telephone Number: _____

PROPOSAL FORM

MOBILE CUPPS WORKSTATION

ITEM	DESCRIPTION	QUANTITIY	UNIT COST	TOTAL
1	Dell Optiplex 7020 MFF 7000 Micro Form Factor Mini PC Business Desktop, 14th Gen Intel 14-Core i5-14500T, 16 GB DDR5 RAM, 512 GB Pcle SSD	2	$	$
2	Dell S2725DS 27" Monitor	2	$	$
3	Dell Multimedia Wired Keyboard - KB216 Black with Optical Mouse	2	$	$
4	CUSTOM TK180 Bag Tag Printer	2	$	$
5	EPSON TM-T20iii Boarding Pass Printer	2	$	$
6	DESKO Identity Chrom ID Reader	2	$	$
7	Honeywell Voyager XP 1772g Cordless Bluetooth Handheld Barcode Scanner	2	$	$
8	HP Laserjet Pro 4001dn B/W Document Printer	2	$	$
9	Newcastle Mobile Workstation (Not Battery Powered)	2	$	$

DOUBLE GATE COUNTER WITH TWO CUPPS WORKSTATIONS

ITEM	DESCRIPTION	QUANTITIY	UNIT COST	TOTAL
10	Dell Optiplex 7020 MFF 7000 Micro Form Factor Mini PC Business Desktop, 14th Gen Intel 14-Core i5-14500T, 16 GB DDR5 RAM, 512 GB Pcle SSD	2	$	$
11	Dell S2725DS 27" Monitor	2	$	$
12	Dell Multimedia Wired Keyboard - KB216 Black with Optical Mouse	2	$	$
13	CUSTOM TK180 Bag Tag Printer	2	$	$
14	EPSON TM-T20iii Boarding Pass Printer	2	$	$
15	DESKO Identity Chrom ID Reader	2	$	$
16	Honeywell Voyager XP 1772g Cordless Bluetooth Handheld Barcode Scanner	2	$	$
17	HP Laserjet Pro 4001dn B/W Document Printer	1	$	$
18	HDMI Video Switcher	1	$	$

DOUBLE CHECK-IN COUNTER WITH TWO CUPPS WORKSTATIONS

ITEM	DESCRIPTION	QUANTITIY	UNIT COST	TOTAL
19	Dell Optiplex 7020 MFF 7000 Micro Form Factor Mini PC Business Desktop, 14th Gen Intel 14-Core i5-14500T, 16 GB DDR5 RAM, 512 GB Pcle SSD	2	$	$
20	Dell S2725DS 27" Monitor	2	$	$
21	Dell Multimedia Wired Keyboard - KB216 Black with Optical Mouse	2	$	$
22	CUSTOM TK180 Bag Tag Printer	2	$	$
23	EPSON TM-T20iii Boarding Pass Printer	2	$	$
24	DESKO Identity Chrom ID Reader	2	$	$
25	Honeywell Voyager XP 1772g Cordless Bluetooth Handheld Barcode Scanner	2	$	$
26	HP Laserjet Pro 4001dn B/W Document Printer	1	$	$
27	HDMI Video Switcher	1	$	$

CUPPS LICENSING SYSTEM SUPPORT AND O&M FEES

ITEM	DESCRIPTION	QUANTITIY	UNIT COST	TOTAL
28	New Carrier Set Up Fees	1	$	$

OPEX ANNUAL RECURRING COSTS – 3 YEAR CLOUD BASED SOLUTION

ITEM	DESCRIPTION	QUANTITIY	UNIT COST	TOTAL
29	Annual License - Cloud Based CUPPS Solution - YEAR 1	1	$	$
30	Annual O&M Costs - YEAR 1	1	$	$
31	Annual License - Cloud Based CUPPS Solution - YEAR 2	1	$	$
32	Annual O&M Costs - YEAR 2	1	$	$
33	Annual License - Cloud Based CUPPS Solution - YEAR 3	1	$	$
34	Annual O&M Costs - YEAR 3	1	$	$

SPARE MAINTENANCE MATERIALS

ITEM	DESCRIPTION	QUANTITIY	UNIT COST	TOTAL
35	Dell Optiplex 7020 MFF 7000 Micro Form Factor Mini PC Business Desktop, 14th Gen Intel 14-Core i5-14500T, 16 GB DDR5 RAM, 512 GB Pcle SSD	1	$	$
36	Dell S2725DS 27" Monitor	1	$	$
37	Dell Multimedia Wired Keyboard - KB216 Black with Optical Mouse	1	$	$
38	CUSTOM TK180 Bag Tag Printer	1	$	$
39	EPSON TM-T20iii Boarding Pass Printer	1	$	$

40	DESKO Identity Chrom ID Reader	1	$	$
41	Honeywell Voyager XP 1772g Cordless Bluetooth Handheld Barcode Scanner	1	$	$
42	HP Laserjet Pro 4001dn B/W Document Printer	1	$	$

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, That

_____

(Contractor name, complete address and legal title)

As Principal, hereinafter call Contractor, and

_____

(Surety name and complete address)

a corporation organized and existing under the laws of the State of _____ with its principal office in the City of _____ , as Surety, are held and firmly bound unto the Tri-Cities Airport Authority (hereinafter called the Owner), in the penal sum of _____ ($_____) for the payment of which, well and truly to be made, we jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns.

The condition of this obligation is such as to operate as a guarantee that the Principal will fully and promptly execute a contract and cause to be executed a bond acceptable to the Owner, as set forth in the proposal or bid, should the same be accepted, and that not longer than ten (10) days after the receipt of notification of acceptance of this proposal and the receipt by the Principal of contract forms from the Owner, he will execute a contract on the basis of the terms, conditions and unit prices set forth in his proposal or bid, together with and accompanied by the surety bond, satisfactory to the Owner, for the total amount of the contract. Failure to perform or comply with any or all of the foregoing requirements, within the time set forth above, shall be just and adequate cause for the annulment of the award; and it is understood that, in the event of the annulment of the award, the amount of this guarantee shall immediately be at the disposal of the Owner, not as a penalty, but as an agreed liquidated damage. Should each and all of the foregoing conditions be fulfilled and contract and contract bond, as set forth in the proposal, be executed, and satisfactory to the Owner, this obligation shall be null and void, otherwise to remain in full for and effect.

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be affixed hereunto and these presents to be signed by their proper officers, this

_____day of _____ , 20____ .

Principal Corporate Seal _____

(Name of Principal)

By _____

_____

(Title)

Surety Corporate Seal _____

(Name of Surety)

_____

Attorney-in-Fact

NOTE: Each Agent representing such Surety Company must file with the Owner his Power of Attorney duly execute by said Surety Company.

DRUG-FREE WORKPLACE AFFIDAVIT

STATE OF_____

COUNTY OF_____

The undersigned is a principal officer of _____, an employer of five (5) or more employees contracting with the Tri-Cities Airport Authority to provide construction services, hereby states under oath as follows

1. The undersigned is a principal officer of _____ (hereinafter referred to as the "Bidder", and is duly authorized to execute this Affidavit on behalf of the Bidder.)
2. The Bidder submits this Affidavit pursuant to T.C.A. § 50-9-113, which requires each employer with no less than five (5) employees receiving pay who contracts with the state or any local government to provide construction services to submit an affidavit stating that such employer has a drug-free workplace program that complies with Title 50, Chapter 9, of the *Tennessee Code Annotated.*
3. The Bidder is in compliance with T.C.A. § 50-9-113.

Further affiant saith not.

_____

Principal Officer

STATE OF_____

COUNTY OF_____

Before me personally appeared _____, with whom I am personally acquainted (or proved to me on a basis of satisfactory evidence), and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.

Witness my hand and seal at office this _____ day of _____, 20___.

_____

Notary Public

My Commission Expires: _____

BIDDER'S PLAN AND EXPERIENCE QUESTIONNAIRE

1. Bidder's person to contact for additional information on this Proposal:

Name: _____

Telephone: _____

2. The project awarded, or to be awarded, will have the personal supervision of whom?

_____

3. List clients for whom work has been completed during the past three years and the nature of the work.

_____

_____

_____

_____

4. State below the status of all uncompleted projects which you now have under contract, including all sub-contracts.

Project No.	Date of Location	Amount of Contract	Contract Duration	Contract % Complete	Percent of Work Completed	Percent of Time	Description

<u>Project 1</u>

_____

_____

<u>Project 2</u>

_____

_____

<u>Project 3</u>

_____

_____

Project 4

_____

_____

Project 5

_____

_____

Project 6

_____

_____

Project 7

_____

_____

Project 8

_____

_____

5. The Owner will not recognize any subcontractors on the work. The Contractor shall at all times, when work is in operation, be represented either in person, by a qualified superintendent, or other designated representative approved by the owner, or ODR. Should the Contractor elect to assign a portion of his/her contract, the said agreement shall be agreed upon by the surety and approved in written form by the Owner. State below all subcontractors proposed to undertake any work for this project:

Subcontractor Firm Name	Percent of Total Contract	Description of Work to be Sublet or Assigned

CONTRACT DOCUMENTS

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification

CONTRACT FOR CONSTRUCTION PROJECT

AT

TRI-CITIES AIRPORT

BLOUNTVILLE, TENNESSEE

(NON-AIP FUNDING)

CONTRACT FOR CONSTRUCTION PROJECT
AT TRI-CITIES AIRPORT
BLOUNTVILLE, TENNESSEE
(STATE FUNDING; NON-AIP FUNDING)

THIS CONTRACT, made and entered into effective the ____ day of _____ _____, 20___, by and between **TRI-CITIES AIRPORT AUTHORITY**, and_____ _____, whose address is _____ _____, its successors, affiliates, and related entities (herein referred to as "Contractor").

RECITALS

WHEREAS, the Tri-Cities Airport Authority (herein, "Owner") is the owner and operator of Tri-Cities Airport (herein, "Airport") and is empowered pursuant to the law of the State of Tennessee and its Charter, to enter into contracts which impact the Airport; and

WHEREAS, Contractor has been chosen to perform certain work on said Project as outlined herein.

NOW, THEREFORE, in consideration of the mutual covenants contained herein or incorporated herein by reference, and for other good and valuable consideration, same being deemed wholly adequate by the parties hereto, Owner and Contractor agree and have agreed as follows:

ARTICLE 1 - THE PROJECT

1.01 The Project for which the Work under this Contract may be the whole or only a part is generally described as follows: The proposed project involves the installation of a Common Use Passenger Processing System (CUPPS) to assist and promote a common use gate environment for the airlines.

ARTICLE 2 – ENGINEER/OWNER'S DESIGNATED REPRESENTATIVE

2.01 The Project has been designed in whole or in part by Mead & Hunt, whose address is 240 Deming Way, Middleton, WI 53562. It is the intent of Owner and Engineer that Engineer act and be designated for purposes of this Contract as Owner's Designated Representative (hereafter, "ODR"); and, said ODR has assumed all duties and responsibilities as ODR as set forth hereinafter in connection with the completion of the work in accordance with the Contract.

ARTICLE 3 - CONTRACT TIMES

3.01 Time is of the Essence

A. All time limits for Milestones, if any, and completion and readiness for final payment as stated in this Contract are of the essence of the Contract.

3.02 Dates for Completion and Final Payment

A. The Work will be substantially completed on or before 60 calendar days from the Notice to Proceed, and ready for final payment in accordance with Section 90 of the General Conditions on or before_____, 20_____.

3.03 Liquidated Damages

A. Contractor and Owner recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 3.02 above, plus any extensions thereof allowed in accordance with Section 80 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner $100 for each day that expires after the time specified in Paragraph 3.02 for Completion until the Work is complete. After Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner $100 for each day that expires after the time specified in Paragraph 3.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 4 - CONTRACT PRICE

4.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 4.01.A, 4.01.B, and 4.01.C below:

A. For all Work (other than Unit Price Work, if applicable), a Lump Sum of:_____

_____ ($_____).

All specific cash allowances are included in the above price.

B. For all Unit Price Work (if applicable), an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in this paragraph 4.01.B:

As provided in Section 90 of the General Conditions, determinations of actual quantities and classifications are to be made by the ODR. Unit prices have been computed as provided in Section 90 of the General Conditions.

Item No.	Description	Units	Estimated Quantity	Unit Price	Total
TOTAL OF ALL ESTIMATED PRICES					$_____
		(words)			(numerals)

C. If applicable, for all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit and made a part of the Contract:_____

_____($____).

ARTICLE 5 - PAYMENT PROCEDURES

5.01 Submittal and Processing of Payments

A. Contractor shall submit Applications for Payment in accordance with Section 90 of the General Conditions. Applications for Payment will be processed by ODR as provided in the General Conditions.

5.02 Progress Payments

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 3rd day of each month during performance of the Work as provided in Section 90 of the General Conditions, subject to any retainage.

5.03 Final Payment

A. Upon final completion and acceptance of the Work and in accordance with Section 90 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by ODR.

ARTICLE 6 - CONTRACTOR'S REPRESENTATIONS

6.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the Work, and payment.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 3.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which have been identified and communicated to Contractor by ODR and/or Owner.

E. Contractor has obtained and carefully studied (or assumes responsibility for doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto.

F. Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has correlated the information known to Contractor, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

I. Contractor has given ODR written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by ODR is acceptable to Contractor.

J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

K. Contractor acknowledges and agrees that this Contract represents the terms and conditions of this project by TCAA and no document, terms or conditions of Contractor are appliable to this Contract, except discussed herein.

ARTICLE 7 – NOTICE TO PROCEED; TIME LIMITS

Contractor shall be prepared to begin work to be performed under this Contract, and will proceed to commence work upon receipt from Owner of the Notice To Proceed, as specified in Section 80 of the General Conditions. The project described herein shall be completed by Contractor on or before subject to Article 3, Section 3.02 herein. The calendar days to be tabulated against Contractor's time limit will begin from the date stated in said Notice To Proceed.

ARTICLE 8. PERFORMANCE AND PAYMENT BONDS.

8.01 Contractor, using the bond forms required by and acceptable to Owner, shall provide a Construction Performance Bond and a Construction Payment Bond, dated _

_____, 20__, in the amount of _____ _____ ($_____), said bonds having been issued by _____ _____, an entity which must be acceptable to Owner. Said bonds shall stand as security for Owner for the full and faithful performance of this Contract and all incidents thereto by Contractor. Contractor will allow no liens of laborers, mechanics, materialmen, or any other type of lien to be lodged against the Project. If any liens are lodged notwithstanding, Contractor shall, at its sole cost, see that said liens are released immediately. The failure of Contractor to immediately obtain the release of said liens shall constitute a breach of this Contract; and no delay in said release permitted or agreed to by Owner shall, in any manner, serve to cure said breach.

ARTICLE 9. PLACE OF WORK.

9.01 The place where the work is to be commenced either will be stated in the Notice To Proceed or will be designated by Owner or ODR at the project pre-construction meeting.

ARTICLE 10. PROSECUTION OF WORK.

10.01 Subject to Section 80 of the General Conditions, the work shall be prosecuted from as many different points, in such parts, and at such times as may be directed, and shall be conducted in such a manner and with sufficient materials, equipment, and labor as is required by the documents incorporated herein and as is necessary to ensure its completion within the time set forth in this Contract and related documents. Should the prosecution of the work for any reason be discontinued by the Contractor with the consent of the Owner or the Owner's Designated Representative, Contractor shall notify the Owner at least seventy-two (72) hours before resuming operations. Any such work discontinuance and requirement of notice shall in no manner modify

any requirement concerning same which may be contained in the documents incorporated herein nor shall it relieve Contractor of any contractual obligations it has under this Contract. Any permission received from Owner or Owner's Designated Representative shall not constitute a waiver of any breach by Contractor or any right which Owner may enjoy hereunder.

ARTICLE 11. DOCUMENTS, ITEMS, THINGS INCORPORATED INTO THE CONTRACT

11.01 The following documents, items and things are incorporated into this Contract by reference and made a part hereof as if they were reproduced verbatim:

A. Bid Documents, including, but not limited to, Advertisement (Legal Notice to Bidders); Bidding Documents, including Contractor's Bid/Proposal, Bid/Proposal Guarantee, Bid/Proposal Guarantee Bond, Bidder's Plan and Experience Questionnaire, DBE Program Requirements (pages _____ to _____);

B. Addenda to the Contract, including, but not limited to:

(i) Addendum No. 1, dated _____, 20___;

(ii) Addendum No. 2, dated _____, 20___.

(iii) Addendum No. 3, dated _____, 20___;

(iv) Addendum No. 4, dated _____, 20___;

(v) Additional Addenda: _____

_____

_____

(pages _____ to_____).

C. The Contractor's Performance Bond as approved by Owner (pages___ to ____);

D. The Contractor's Payment Bond as approved by Owner (pages____ to _____);

E. General Conditions (pages_____ to _____);

F. Supplementary Conditions (pages_____ to _____);

G. Executed, in-force Certificates of Insurance provided by the Contractor, upon formal approval in advance by Owner (pages_____ to _____);

H. All drawings, plans, specifications, forms, and other documents issued or to be issued hereafter to effectuate this Contract, including, but not limited to, Change Orders;

I. All provisions, assurances, contract clauses, and obligations as required by Federal, State, or Local law, including, but not limited to, all provisions, assurances, and obligations which are mandated by any grants, loans, and/or sources of funds which may be utilized by Owner to cover the costs of the Project, whether or not same are specifically incorporated herein, and any and all Equal Opportunity Employment and Affirmative Action requirements, wage and hour mandates, DBE requirements, and the like, including, but not limited to State and/or AIP provisions for construction contracts,

J. Any Supplemental Agreements entered into between Owner and Contract.

ARTICLE 12 – ADDITIONAL CONTRACT PROVISIONS

12.01. PRICING: If there is any error between unit price and total price, unit price shall prevail. Awarded prices: Prices listed for each item are firm and cannot be changed. Any revision in price may be rejected at the discretion of TCAA, and may result in the cancellation of the Contract without recourse on the part of Contractor.

12.02. INSURANCE: If this Contract provides for work to be performed by the Contractor on property owned or controlled by TCAA, or on property of others named herein, the Contractor shall be responsible for providing all necessary unemployment, professional liability and workers' compensation insurance for the Contractor's employees and liability and property/casualty insurance. Upon request, Contractor shall furnish a written Certificate of Insurance specifying the name of the Insurer, the policy, the expiration date and coverage acceptable to TCAA.

12.03. F.O.B. Destination: TCAA solicitations are considered to be submitted on a delivered basis; therefore all solicitations will be considered to be made on the basis of all shipping charges prepaid and allowed. If transportation charges are NOT allowed, the Contractor must so state and show such charges in the solicitation response. The shipment must be prepaid and transportation charges added to the invoice. TCAA will pay for such transportation charges only on the basis of the lower price, whether it is the price shown in the solicitation response or the charges shown on the prepaid freight bill. TCAA DOES NOT HAVE FACILITIES FOR COLLECT SHIPMENTS; THEREFORE, COLLECT SHIPMENTS WILL NOT BE ACCEPTED.

12.04. QUANTITY: Equipment shipped in excess of quantity designated in this Contract may be returned at the Contractor's expense.

12.05. INTELLECTUAL PROPERTY DEFENSE: The Contractor shall, at its own expense, defend, indemnify, and hold harmless TCAA with respect to any claims that the Equipment and/or services furnished under this Agreement violate any third party intellectual property rights, including, but not limited to, patents, copyrights, trademarks and trade secrets.

12.06. COMPLIANCE WITH LAWS: The Contractor agrees to comply with all applicable federal, state, and local laws, rules, regulations, or ordinances, and all provisions required thereby to be included herein are hereby incorporated by reference. The enactment of any state or federal statute or the promulgation of regulations thereunder after execution of this Agreement shall be reviewed by TCAA and the Contractor to determine whether the provisions of this Agreement require formal modification.

12.07. TAXES: Prices listed on an invoice submitted by the Contractor for payment is not to include any tax for which TCAA is exempt. TCAA will furnish a tax exempt certificate, if requested by the Contractor. TCAA will not be responsible for any taxes levied on the Contractor as a result of this Agreement.

12.08. ACCESS TO RECORDS AND REPORTS: The Contractor must maintain an acceptable cost accounting system. The Contractor agrees to provide the sponsor, 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.

ARTICLE 13 AIRPORT IMPROVEMENT PROGRAM CONTRACT PROVISIONS (NO AIP FUNDING)

Table 1 – Applicability of Provisions

Provisions/Clauses	Dollar Threshold	Solicitation	Professional Services	Construction	Equipment	Property (Land)	Non-AIP Contracts
Access to Records and Reports	$ 0	NIS	**REQD**	**REQD**	**REQD**	**REQD**	n/a
Affirmative Action Requirement	$10,000	**REQD**	Limited	**REQD**	Limited	Limited	n/a
Breach of Contract	$250,000	NIS	**REQD**	**REQD**	**REQD**	**REQD**	n/a
Buy American Preferences	$ 0	**REF**	Limited	**REQD**	**REQD**	Limited	n/a
(1) Buy American Statement	$ 0	NIS	Limited	**REQD**	**REQD**	Limited	n/a
(2) Construction	$ 0	NIS	Limited	**REQD**	**REQD**	Limited	n/a
(3) Equipment/Building Projects	$ 0	NIS	Limited	**REQD**	**REQD**	Limited	n/a
Civil Rights – General	$ 0	NIS	**REQD**	**REQD**	**REQD**	**REQD**	**REQD**
Civil Rights - Title VI Assurances	$ 0	**REF**	**REQD**	**REQD**	**REQD**	**REQD**	**REQD**
(1) Notice - Solicitation	$ 0	**REQD**	**REQD**	**REQD**	**REQD**	**REQD**	**REQD**
(2) Clause - Contracts	$ 0	NIS	**REQD**	**REQD**	**REQD**	**REQD**	**REQD**
(3) Clause – Transfer of U.S. Property	$ 0	NIS	n/a	n/a	n/a	Limited	**REQD**
(4) Clause – Transfer of Real Property	$ 0	NIS	n/a	n/a	n/a	**REQD**	**REQD**
(5) Clause - Construct/Use/Access to Real Property	$ 0	NIS	n/a	n/a	n/a	**REQD**	**REQD**
(6) List – Pertinent Authorities	$0	NIS	**REQD**	**REQD**	**REQD**	**REQD**	**REQD**
Clean Air/Water Pollution Control	$150,000	NIS	**REQD**	**REQD**	**REQD**	**REQD**	n/a
Contract Work Hours and Safety Standards	$100,000	NIS	Limited	**REQD**	Limited	Limited	n/a
Copeland Anti-Kickback	$ 2,000	NIS	Limited	**REQD**	Limited	Limited	n/a
Davis Bacon Requirements	$ 2,000	**REF**	Limited	**REQD**	Limited	Limited	n/a
Debarment and Suspension	$25,000	**REF**	**REQD**	**REQD**	**REQD**	Limited	n/a
Disadvantaged Business Enterprise	$ 250,000	**REQD**	**REQD**	**REQD**	**REQD**	**REQD**	n/a
Distracted Driving	$10,000	NIS	**REQD**	**REQD**	**REQD**	**REQD**	n/a
Domestic Preferences for Procurements	$0	**NIS**	**REQD**	**REQD**	**REQD**	**REQD**	Info
Equal Employment Opportunity	$10,000	NIS	Limited	**REQD**	Limited	Limited	n/a
(1) EEO Contract Clause	$10,000	NIS	Limited	**REQD**	Limited	Limited	n/a
(2) EEO Specification	$10,000	NIS	Limited	**REQD**	Limited	Limited	n/a
Federal Fair Labor Standards Act	$ 0	**REQD**	**REQD**	**REQD**	**REQD**	**REQD**	Info
Foreign Trade Restriction	$ 0	**REQD**	**REQD**	**REQD**	**REQD**	**REQD**	n/a
Lobbying Federal Employees	$ 100,000	**REF**	**REQD**	**REQD**	**REQD**	**REQD**	n/a
Occupational Safety and Health Act	$ 0	NIS	**REQD**	**REQD**	**REQD**	**REQD**	Info
Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment	$0	**NIS**	**REQD**	**REQD**	**REQD**	**REQD**	Info
Prohibition of Segregated Facilities	$0	NIS	Limited	**REQD**	Limited	Limited	n/a
Recovered Materials	$10,000	**REF**	Limited	**REQD**	**REQD**	Limited	n/a
Right to Inventions	$ 0	NIS	Limited	Limited	Limited	n/a	n/a
Seismic Safety	$ 0	NIS	Limited	Limited	Limited	n/a	n/a
Tax Delinquency and Felony Conviction	$ 0	NIS	**REQD**	**REQD**	**REQD**	**REQD**	n/a
Termination of Contract	$10,000	NIS	**REQD**	**REQD**	**REQD**	**REQD**	n/a
Veteran's Preference	$ 0	NIS	**REQD**	**REQD**	**REQD**	**REQD**	n/a

Airport Concessions Disadvantage Business Enterprise (ACDBE) Notes:

1. Language relative to solicitation for ACDBEs does not need to be included in AIP funded solicitations, since in no case are concessions activities funded with federal funds.

2. Airport Sponsors must include the appropriate Civil Rights – Title VI language in their solicitation notices when they seek proposals for concessions.

3. For ACDBE agreements, use the column for *Non-AIP Contracts*.

7.1 CIVIL RIGHTS - GENERAL

7.1.1 SOURCE

49 USC § 47123

7.1.2 APPLICABILITY

There are two separate civil rights provisions that apply to projects:

1. FAA General Civil Rights Provision and,
2. Title VI provisions, which are addressed in Appendix A6.

Contract Types – The General Civil Rights Provisions found in 49 USC § 47123, derived from the Airport and Airway Improvement Act of 1982, Section 520, apply to all Sponsor contracts *regardless* of funding source.

Use of Provision – **MANDATORY TEXT**. Each contract must include two civil rights provisions. The first general clause must be included in all contracts, lease agreements, or transfer agreements. An additional specific provision must be included; the applicable text is based on whether the contract is a general contract or whether the contract is a lease or transfer agreement. The Sponsor must incorporate the text of the appropriate general clause and specific clause without modification into the contract, lease, or transfer agreement.

The required clauses for each type of contact are summarized in the table below:

Contract Clause	**The Sponsor must include the contract clause in:**	**Clause Text is Included in Paragraph**
Clause that is used for all contracts, lease agreements and transfer agreements	Every contract or agreement **regardless of funding source**.	0
Clause that is used for general contract agreements	This applies to all contracts that do not involve property agreements. It applies to all contracts not covered by A5.3.3 **regardless of funding source**.	0
Clause that is used for lease agreements and transfer agreements	This applies to all property agreements such leases of concession space in a terminal and leases where a physical portion of the airport is transferred for use. It applies to all contracts not covered by A5.3.2 **regardless of funding source**.	0

7.1.3 MANDATORY CONTRACT CLAUSES

7.1.3.1 General Clause that is used for Contracts, Lease Agreements, and Transfer Agreements

GENERAL CIVIL RIGHTS PROVISIONS

In all its activities within the scope of its airport program, the Contractor agrees to comply with pertinent statutes, Executive Orders, and such rules as identified in Title VI List of Pertinent Nondiscrimination Acts and Authorities to ensure that no person shall, on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

7.1.3.2 Specific Clause that is used for General Contract Agreements

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

7.1.3.3 Specific Clause that is used for Lease Agreements or Transfer Agreements

If the Contractor transfers its obligation to another, the transferee is obligated in the same manner as the Contractor.

The above provision obligates the Contractor for the period during which the property is owned, used or possessed by the Contractor and the airport remains obligated to the Federal Aviation Administration.

7.2 CIVIL RIGHTS – TITLE VI ASSURANCE

7.2.1 SOURCE

49 USC § 47123

FAA Order 1400.11

7.2.2 APPLICABILITY

Title VI of the Civil Rights Act of 1964, as amended, (Title VI) prohibits discrimination on the grounds of race, color, or national origin under any program or activity receiving Federal financial assistance. Sponsors must include appropriate clauses from the Standard DOT Title VI Assurances in all contracts and solicitations.

The text of each individual clause comes from the U.S. Department of Transportation Order DOT 1050.2, Standard Title VI Assurances and Nondiscrimination Provisions, effective April 24, 2013. These assurances require that the Recipient (the Sponsor) insert the appropriate clauses in the form provided by the DOT. Where the clause refers to the applicable activity, project, or program, it means the AIP project.

The clauses are as follows:

7.2.2.1 Applicability of Title VI Solicitation Notice

Contract Clause	**The Sponsor must include the contract clause in:**	**Clause Text is Included in Paragraph**
Title VI Solicitation Notice – • Assurance 2 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses • Assurance 30(d) of the Airport Sponsors Assurances	1) All AIP funded solicitations for bids, requests for proposals, or any work subject to Title VI regulations; and 2) All Sponsor proposals for negotiated agreements **regardless of funding source.**	0

Contract Clause	The Sponsor must include the contract clause in:	Clause Text is Included in Paragraph
Title VI Clauses for Compliance with Nondiscrimination Requirements • Assurance 3 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses • Assurance 30(e)(1) of the Airport Sponsor Assurances	Every contract or agreement (unless the Sponsor has determined, and the FAA concurs, that the contract or agreement is not subject to the Nondiscrimination Acts and Authorities, which is a rare occurrence). It has been determined that service contracts with utility companies that are not already subject to substantively identical nondiscrimination requirements must include this clause.	0
Title VI Required Clause for Property Interests Transferred from the United States • Assurance 4 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses • Assurance 30e.3 of the Airport Sponsor Assurances	As a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Sponsor. This is a rare occurrence, and it will be the responsibility of the United States government to include the clause in the contract.	0
Title VI Required Clause for Transfer of Real Property Acquired or Improved Under the Activity, Facility or Program – • Assurance 5 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses • Assurance 30(e)(4)(a) of the Airport Sponsor Assurances	As a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the Sponsor with other parties for all transfers of real property acquired or improved under Airport Improvement Program This applies to agreements such as leases where a physical portion of the airport is transferred for use, for example a fuel farm, apron space, or a parking facility. It applies to agreements not covered by A6.4.4.	0

Contract Clause	The Sponsor must include the contract clause in:	Clause Text is Included in Paragraph
Clause for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program • Assurance 6 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses • Assurance 30(e)(4)(b) of the Airport Sponsor Assurances	In any future (deeds, leases, licenses, permits, or similar instruments) entered into by the Sponsor with other parties for the construction or use of, or access to, space on, over, or under real property acquired or improved under Airport Improvement Program This applies to agreements such as leases of concession space in a terminal not covered by A6.4.3.	0
Title VI List of Pertinent Nondiscrimination Acts and Authorities • Assurance 3 of the DOT Standard Title VI Assurances and Nondiscrimination Clauses • Assurance 30(e)(2) of the Airport Sponsor Assurances	Insert this list in every contract or agreement, unless the Sponsor has determined, and the FAA concurs, that the contract or agreement is not subject to the Nondiscrimination Acts and Authorities, which is a rare occurrence. **This list can only be omitted if the FAA has determined that the contractor or company is already subject to substantively identical nondiscrimination requirements.**	0 **List must be included in all applicable contracts.**

7.2.3 MANDATORY SOLICITATION CLAUSE

The Sponsor must include this clause in:

1) All AIP funded solicitations for bids, requests for proposals, or any work subject to Title VI regulations; and
2) All Sponsor proposals for negotiated agreements **regardless of funding source.**

7.2.3.1 Title VI Solicitation Notice

Title VI Solicitation Notice:

The **(Name of Sponsor)**, 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 for any contract entered into pursuant to this advertisement, [select businesses, or disadvantaged business enterprises or airport concession disadvantaged business enterprises] will be afforded full and fair opportunity to submit bids in response to this invitation and no businesses will be discriminated against on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in consideration for an award.

7.2.4 MANDATORY CONTRACT CLAUSES

7.2.4.2 Nondiscrimination Requirements/Title VI Clauses for Compliance

The Sponsor must include this contract clause in:

1) Every contract or agreement (unless the Sponsor has determined, and the FAA concurs, that the contract or agreement is not subject to the Nondiscrimination Acts and Authorities); and

2) Service contracts with utility companies that are not already subject to substantively identical nondiscrimination requirements.

3) Other types of contracts with utility companies involving property covered by A6.4.2, A6.4.3, or A6.4.4.

Compliance with Nondiscrimination Requirements:

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

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, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

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.

7.2.4.3 Title VI Clauses for Deeds Transferring United States Property

This is a rare occurrence, and it will be the responsibility of the United States government to include the clause in the contract. It will be included as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Sponsor.

CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of the Airport Improvement Program grant assurances:

NOW, THEREFORE, the Federal Aviation Administration as authorized by law and upon the condition that the (***Title of Sponsor***) will accept title to the lands and maintain the project constructed thereon in accordance with (***Name of Appropriate Legislative Authority***), for the **(Airport Improvement Program or other program for which land is transferred),** and the policies and procedures prescribed by the Federal Aviation Administration of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 USC §§ 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the (***Title of Sponsor***) all the right, title and interest of the U.S. Department of Transportation/Federal Aviation Administration in and to said lands described in (***Exhibit A attached hereto or other exhibit describing the transferred property)*** and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto (***Title of Sponsor***) and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the (***Title of Sponsor***), its successors and assigns.

The (***Title of Sponsor***), in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the (***Title of Sponsor***) will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended[, and (3) that in the event of breach of any of the above-mentioned nondiscrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the Federal Aviation Administration and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

7.2.4.4 Title VI Clauses for Transfer of Real Property Acquired or Improved Under the Activity, Facility, or Program

This applies to agreements such as leases where a physical portion of the airport is transferred for use—for example a fuel farm, apron space, or a parking facility—and will be included as a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the Sponsor with other parties for all transfers of real property acquired or improved under the Airport Improvement Program.

CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE AIRPORT IMPROVEMENT PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the Sponsor pursuant to the provisions of the Airport Improvement Program grant assurances:

A. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:
    1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a Federal Aviation Administration activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee,

licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Nondiscrimination Acts and Regulations listed in the Title VI List of Pertinent Nondiscrimination Acts and Authorities (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.

B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Nondiscrimination covenants, (***Title of Sponsor***) will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.*

C. With respect to a deed, in the event of breach of any of the above Nondiscrimination covenants, the (***Title of Sponsor***) will have the right to enter or re-enter the lands and facilities thereon, and the above-described lands and facilities will there upon revert to and vest in and become the absolute property of the (***Title of Sponsor***) and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

7.2.4.5 Title VI Clauses for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program

This applies to agreements such as leases of concession space in a terminal and any future deeds, leases, licenses, permits, or similar instruments entered into by the Sponsor with other parties for the construction or use of, or access to, space on, over, or under real property acquired or improved under the Airport Improvement Program.

CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by (***Title of Sponsor***) pursuant to the provisions of the Airport Improvement Program grant assurances.

A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Title VI List of Pertinent Nondiscrimination Acts and Authorities.

B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non-discrimination covenants, (***Title of Sponsor***) will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*

C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, (***Title of Sponsor***) will there upon revert to and vest in and become the absolute property of (***Title of Sponsor***) and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

7.2.4.6 Title VI List of Pertinent Nondiscrimination Acts and Authorities

Insert this list in every contract or agreement, unless the Sponsor has determined and the FAA concurs, that the contract or agreement is not subject to the Nondiscrimination Acts and Authorities. This list can be omitted if the FAA has determined that the contractor or company is already subject to nondiscrimination requirements, which is a rare occurrence.

Title VI List of Pertinent Nondiscrimination Acts and Authorities

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

Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq*., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);

49 CFR part 21 (Non-discrimination in Federally-Assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);

Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq*.), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27 (Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance);

The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq*.) (prohibits discrimination on the basis of age);

Airport and Airway Improvement Act of 1982 (49 USC § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);

The Civil Rights Restoration Act of 1987 (PL 100-259) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

Titles II and III of the Americans with Disabilities Act of 1990 (42 USC § 12101, et seq) (prohibit discrimination on the basis of disability in the operation of public entities, public and private

transportation systems, places of public accommodation, and certain testing entities) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;

The Federal Aviation Administration's Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations);

Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs [70 Fed. Reg. 74087 (2005)];

Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC § 1681, et seq).

ARTICLE 14 -ASSIGNMENT OF CONTRACT PROHIBITED.

14.01 Neither this Contract as a whole nor any obligations of Contractor as defined herein may be assigned by Contractor without the prior written approval of Owner.

ARTICLE 15- AMENDMENT OF CONTRACT.

15.01 Should it become necessary to amend this Contract, same can only be accomplished by a writing executed by the duly authorized representatives of Owner and Contractor and any such amendment must be approved by Owner in the manner it deems appropriate before becoming effective. This paragraph does not alter or amend any General or Special Conditions relative to Change Orders.

ARTICLE 16 - CHOICE OF LAW; VENUE.

16.01 This Contract shall be construed and controlled by the law of the State of Tennessee except for those parts governed exclusively by Federal law. Any dispute which may arise shall be resolved only in the Chancery or Law Courts of the State of Tennessee at Blountville, in Sullivan County, Tennessee, unless Owner and Contractor agree in a writing executed by their duly authorized representatives to an alternative form of dispute resolution. No presumption of authorship of this Contract will attach to Owner or Contractor.

IN WITNESS WHEREOF, the _____ of the Tri-Cities Airport Authority, by authority vested in him/her, as hereunto subscribed his/her name on behalf of Owner, the Tri-Cities Airport Authority, and said Contractor, _____ _____, has caused this Contract to be executed by a duly authorized representative, effective the date first above written.

TRI-CITIES AIRPORT AUTHORITY/OWNER

By: _____

Title: _____

CONTRACTOR:

By: _____

Title: _____

APPROVED AS TO FORM: _____
Attorney for Tri-Cities Airport Authority

STATE OF TENNESSEE
COUNTY OF SULLIVAN

Personally appeared before me, a Notary Public in and for the State and County aforesaid, _____, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who, upon oath, acknowledged himself/herself to be the _____ of Tri-Cities Airport Authority, the within named bargainor, and that he/she, as such _____, executed the foregoing instrument for the purposes therein contained by signing the name of Tri-Cities Airport Authority by himself/herself as _____.

WITNESS my hand and official seal this the _____ day of _____, 20__.

_____
Notary Public

My commission expires:

_____

STATE OF _____
COUNTY OF _____

Personally appeared before me, a Notary Public in and for the State and County aforesaid, _____, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who, upon oath, acknowledged himself/herself to be _____ of _____, the within named bargainor, a corporation, and that he/she, as such_____, executed the foregoing instrument for the purposes therein contained by signing the name of said corporation by himself/herself as_____.

WITNESS my hand and official seal this the _____ day of _____, 20__.

_____
Notary Public

My commission expires:

_____

GENERAL CONTRACT PROVISIONS

GENERAL CONTRACT PROVISIONS

Section 10 Definitions of Terms

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

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

10-08	**ASTM International (ASTM)**	Formerly known as the American Society for Testing and Materials (ASTM).
10-09	**Award**	The Owner's notice to the successful.
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.
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.
10-26	**Equipment**	All machinery, together with the necessary supplies for upkeep and maintenance; and all tools and apparatus necessary for the proper construction and acceptable completion of the work.
10-27	**Extra Work**	An item of work not provided for in the awarded contract as previously modified by change order or supplemental agreement, but which is found by the Owner's Engineer or Resident Project Representative (RPR) to be necessary to complete the work within the intended scope of the contract as previously modified.
10-28	**FAA**	The Federal Aviation Administration. When used to designate a person, FAA shall mean the Administrator or their duly authorized representative.
10-29	**Federal Specifications**	The federal specifications and standards, commercial item descriptions, and supplements, amendments, and indices prepared and issued by the General Services Administration.
10-30	**Force Account**	Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. Owner Force Account - Work performed for the project by the Owner's employees.
10-31	**Intention of Terms**	Whenever, in these specifications or on the plans, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer and/or Resident Project Representative (RPR) is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or

		acceptable to, or satisfactory to the Engineer and/or RPR, subject in each case to the final determination of the Owner. 1. 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 20% of the total amount of the award contract. All other items shall be considered minor contract items.
10-34	**Materials**	Any substance specified for use in the construction of the contract work.
10-35	**Modification of Standards (MOS)**	Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
10-36	**Notice to Proceed (NTP)**	A written notice to the Contractor to begin the actual contract work on a previously agreed to date. If applicable, the Notice to Proceed shall state the date on which the contract time begins.
10-37	**Owner**	The term “Owner” shall mean the party of the first part or the contracting agency signatory to the contract. Where the term “Owner” is capitalized in this

		document, it shall mean airport Sponsor only. The Owner for this project is **Tri- Cities Airport Authority**.
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.
10-48	**Quality Assurance (QA) Inspector**	An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.
10-49	**Quality Assurance (QA) Laboratory**	The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
10-50	**Resident Project Representative (RPR)**	The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
10-51	**Runway**	The area on the airport prepared for the landing and takeoff of aircraft.
10-52	**Runway Safety Area (RSA)**	A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.

10-53	**Safety Plan Compliance Document (SPCD)**	Details how the Contractor will comply with the CSPP.
10-54	**Specifications**	A part of the contract containing the written directions and requirements for completing the contract work. Standards for specifying materials or testing which are cited in the contract specifications by reference shall have the same force and effect as if included in the contract physically.
10-55	**Sponsor**	A Sponsor is defined in 49 USC § 47102(24) as a public agency that submits to the FAA for an AIP grant; or a private Owner of a public-use airport that submits to the FAA an application for an AIP grant for the airport.
10-56	**Structures**	Airport facilities such as bridges; culverts; catch basins, inlets, retaining walls, cribbing; storm and sanitary sewer lines; water lines; underdrains; electrical ducts, manholes, handholes, lighting fixtures and bases; transformers; navigational aids; buildings; vaults; and, other manmade features of the airport that may be encountered in the work and not otherwise classified herein.
10-57	**Subgrade**	The soil that forms the pavement foundation.
10-58	**Superintendent**	The Contractor's executive representative who is present on the work during progress, authorized to receive and fulfill instructions from the RPR, and who shall supervise and direct the construction.
10-59	**Supplemental Agreement**	A written agreement between the Contractor and the Owner that establishes the basis of payment and contract time adjustment, if any, for the work affected by the supplemental agreement. A supplemental agreement is required if: (1) in scope work would increase or decrease the total amount of the awarded contract by more than 25%: (2) in scope work would increase or decrease the total of any major contract

		item by more than 25%; (3) work that is not within the scope of the originally awarded contract; or (4) adding or deleting of a major contract item.
10-60	**Surety**	The corporation, partnership, or individual, other than the Contractor, executing payment or performance bonds that are furnished to the Owner by the Contractor.
10-61	**Taxilane**	A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
10-62	**Taxiway**	The portion of the air operations area of an airport that has been designated by competent airport authority for movement of aircraft to and from the airport's runways, aircraft parking areas, and terminal areas.
10-63	**Taxiway/Taxilane Safety Area (TSA)**	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
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 SECTION 10

Section 20 Proposal Requirements and Conditions

20-01 Advertisement (Notice to Bidders). The Advertisement is located in the Bidding Requirements section of the Project Manual.

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's Project Manual 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.

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

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

c. Documented record of Contractor default under previous contracts with the Owner.
d. Documented record of unsatisfactory work on previous contracts with the Owner.

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

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

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

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

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

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

20-09 Irregular proposals. Proposals shall be considered irregular for the following reasons:

a. If the proposal is on a form other than that furnished by the Owner, or if the Owner's form is altered, or if any part of the proposal form is detached.
b. If there are unauthorized additions, conditional or alternate pay items, or irregularities of any kind that make the proposal incomplete, indefinite, or otherwise ambiguous.
c. If the proposal does not contain a unit price for each pay item listed in the proposal, except in the case of authorized alternate pay items, for which the bidder is not required to furnish a unit price.
d. If the proposal contains unit prices that are obviously unbalanced.
e. If the proposal is not accompanied by the proposal guaranty specified by the Owner.
f. If the applicable Disadvantaged Business Enterprise information is incomplete.

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

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

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

Proposals received after the bid opening time shall be returned to the bidder unopened.

20-12 Withdrawal or revision of proposals. A bidder may withdraw or revise (by withdrawal of one proposal and submission of another) a proposal provided that the bidder's request for withdrawal is received by the Owner in writing before the time specified for opening bids. Revised proposals must be received at the place specified in the advertisement before the time specified for opening all bids.

20-13 Public opening of proposals. Proposals shall be opened, and read, publicly at the time and place specified in the advertisement. Bidders, their authorized agents, and other interested persons are invited to attend. Proposals that have been withdrawn (by written or telegraphic

request) or received after the time specified for opening bids shall be returned to the bidder unopened.

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

a. Submitting more than one proposal from the same partnership, firm, or corporation under the same or different name.
b. Evidence of collusion among bidders. Bidders participating in such collusion shall be disqualified as bidders for any future work of the Owner until any such participating bidder has been reinstated by the Owner as a qualified bidder.
c. If the bidder is considered to be in "default" for any reason specified in paragraph 20-04, Issuance of Proposal Forms, of this section.

20-15 Discrepancies and Omissions. A Bidder who discovers discrepancies or omissions with the project bid documents shall immediately notify the Owner's Engineer of the matter. A bidder that has doubt as to the true meaning of a project requirement may submit to the Owner's Engineer a written request for interpretation no later than 5 days prior to bid opening.

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

END OF SECTION 20

Section 30 Award and Execution of Contract

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

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

a. If the proposal is irregular as specified in Section 20, paragraph 20-09, Irregular Proposals.
b. If the bidder is disqualified for any of the reasons specified Section 20, paragraph 20-14,

Disqualification of Bidders.

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

30-02 Award of contract. The award of a contract, if it is to be awarded, shall be made within 90 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.

END OF SECTION 30

Section 40 Scope of Work

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

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

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

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

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

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

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

40-04 Extra work. Should acceptable completion of the contract require the Contractor to perform an item of work not provided for in the awarded contract as previously modified by

change order or supplemental agreement, Owner may issue a Change Order to cover the necessary extra work. Change orders for extra work shall contain agreed unit prices for performing the change order work in accordance with the requirements specified in the order, and shall contain any adjustment to the contract time that, in the RPR's opinion, is necessary for completion of the extra work.

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

If extra work is essential to maintaining the project critical path, RPR may order the Contractor to commence the extra work under a Time and Material contract method. Once sufficient detail is available to establish the level of effort necessary for the extra work, the Owner shall initiate a change order or supplemental agreement to cover the extra work.

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

40-05 Maintenance of traffic. It is the explicit intention of the contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration.

a. It is understood and agreed that the Contractor shall provide for the free and unobstructed movement of aircraft in the air operations areas (AOAs) of the airport with respect to their own operations and the operations of all subcontractors as specified in Section 80, paragraph 80-04, Limitation of Operations. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport as specified in Section 70, paragraph 70-15, Contractor's Responsibility for Utility Service and Facilities of Others.
b. With respect to their own operations and the operations of all subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work area or condition that may be hazardous to the operation of aircraft, fire- rescue equipment, or maintenance vehicles.
c. When the contract requires the maintenance of an existing road, street, or highway during the Contractor's performance of work that is otherwise provided for in the contract, plans, and specifications, the Contractor shall keep the road, street, or highway open to all traffic and shall provide maintenance as may be required to accommodate traffic. The Contractor, at their expense, shall be responsible for the

repair to equal or better than preconstruction conditions of any damage caused by the Contractor's equipment and personnel. The Contractor shall furnish, erect, and maintain barricades, warning signs, flag person, and other traffic control devices in reasonable conformity with the Manual on Uniform Traffic Control Devices (MUTCD) (http://mutcd.fhwa.dot.gov/), unless otherwise specified. The Contractor shall also construct and maintain in a safe condition any temporary connections necessary for ingress to and egress from abutting property or intersecting roads, streets or highways.

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

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

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

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

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

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

Should the RPR approve the Contractor's request to exercise option a., b., or c., the Contractor shall be paid for the excavation or removal of such material at the applicable contract price. The

Contractor shall replace, at their expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the contract work. The Contractor shall not be charged for use of such material used in the work or removed from the site.

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

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

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

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

END OF SECTION 40

Section 50 Control of Work

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

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

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

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

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

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

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

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

From time to time, discrepancies within cited testing standards occur due to the timing of the change, edits, and/or replacement of the standards. If the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately ask the RPR for an interpretation and decision, and such decision shall be final.

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

50-04 List of Special Provisions. N/A

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

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

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

When separate contracts are let within the limits of any one project, each Contractor shall conduct the work not to interfere with or hinder the progress of completion of the work being

performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

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

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

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

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

Copies of survey notes will be provided to the RPR for each area of construction and for each placement of material as specified to allow the RPR to make periodic checks for conformance with plan grades, alignments and grade tolerances required by the applicable material specifications. Surveys will be provided to the RPR prior to commencing work items that cover or disturb the survey staking. Survey(s) and notes shall be provided in the following format(s): AutoCAD 2024.

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

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

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

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

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

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

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

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

50-10 Removal of unacceptable and unauthorized work. All work that does not conform to the requirements of the contract, plans, and specifications will be considered unacceptable, unless

otherwise determined acceptable by the RPR as provided in paragraph 50-02, Conformity with Plans and Specifications.

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

No removal work made under provision of this paragraph shall be done without lines and grades having been established by the RPR. Work done contrary to the instructions of the RPR, work done beyond the lines shown on the plans or as established by the RPR, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the contract. Work so done may be ordered removed or replaced at the Contractor's expense.

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

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

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

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

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

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

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

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

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

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

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

50-16 Claims for adjustment and disputes. If for any reason the Contractor deems that additional compensation is due for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, the Contractor shall notify the RPR in writing of their intention to claim such additional compensation before the Contractor begins the work on which the Contractor bases the claim. If such notification is not given or the RPR is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional

compensation. Such notice by the Contractor and the fact that the RPR has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit a written claim to the RPR who will present it to the Owner for consideration in accordance with local laws or ordinances.

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

END OF SECTION 50

Section 60 Control of Materials

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

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

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

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

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

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

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

A copy of all Contractor QC test data shall be provided to the RPR daily, along with printed reports, in an approved format, on a weekly basis. After completion of the project, and prior to final payment, the Contractor shall submit a final report to the RPR showing all test data

reports, plus an analysis of all results showing ranges, averages, and corrective action taken on all failing tests.

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

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

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

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

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

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

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

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

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

a. The RPR shall have the cooperation and assistance of the Contractor and the producer with whom the Contractor has contracted for materials.
b. The RPR shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of the materials being furnished.

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

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

60-05 Engineer/ Resident Project Representative (RPR) field office. An Engineer/RPR field office is not required.

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

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

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

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

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

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

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

END OF SECTION 60

Section 70 Legal Regulations and Responsibility to Public

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

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

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

70-04 Restoration of surfaces disturbed by others. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the work. To the extent that such construction, reconstruction, or maintenance has been coordinated with the Owner, such authorized work (by others) must be shown on the plans and is indicated as follows: (N/A)

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

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

contract, plans, or specifications. It is understood and agreed that the Contractor shall not be entitled to make any claim for damages due to such authorized work by others or for any delay to the work resulting from such authorized work.

70-05 Federal Participation. (N/A)

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

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

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

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

70-08 Construction Safety and Phasing Plan (CSPP). (N/A)

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

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

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

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, the Contractor shall restore, at their expense, such property to a condition similar or equal to that existing before such damage

or injury was done, by repairing, or otherwise restoring as may be directed, or the Contractor shall make good such damage or injury in an acceptable manner.

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

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

70-13 Opening sections of the work to traffic. If it is necessary for the Contractor to complete portions of the contract work for the beneficial occupancy of the Owner prior to completion of the entire contract, the Contractor shall complete such portions of the work on or before the date specified or as otherwise specified.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Contractor shall bear all costs of damage and restoration of service to any utility service or facility due to their operations whether due to negligence or accident. The Owner reserves the

right to deduct such costs from any monies due or which may become due the Contractor, or their own surety.

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

70-17 Personal liability of public officials. In carrying out any of the contract provisions or in exercising any power or authority granted by this contract, there shall be no liability upon the Engineer, RPR, their authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner.

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

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

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

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

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

Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such shall be

covered by an appropriate contract change order or supplemental agreement as provided in Section 40, paragraph 40-04, Extra Work, and Section 90, paragraph 90-05, Payment for Extra Work. If appropriate, the contract change order or supplemental agreement shall include an extension of contract time in accordance with Section 80, paragraph 80-07, Determination and Extension of Contract Time.

70-21 Insurance Requirements.

Worker's Compensation:

a. State: Statutory
b. Applicable Federal: Statutory
c. Employer's Liability: $1,000,000

Commercial General Liability

Contractor will provide and maintain in full force and effect, insurance coverage in the following types and minimum amounts. Insurance will be provided by an underwriter with an A+ rating, as recognized by BEST rating guide.

a. Bodily Injury and Property Damage: $10,000,000 Combined Single Limit (Per Occurrence)
b. The Contractor's General Liability Insurance Coverage shall cover the following: (1) Premises – Operations; (2) Independent Contractors; (3) Products/Completed Operations Hazard; (4) Underground Hazard; (5) Broad Form Property Damage; (6) where applicable, Explosion and Collapse Hazard; and (7) Personal/Bodily Injury.

Comprehensive Automobile Liability:

a. Bodily Injury and Property Damage: $1,000,000 Combined Single Limit (Per Occurrence)
b. The Contractor's Comprehensive Automobile Liability Insurance shall provide coverage for Bodily Injury and Property Damage per occurrence for owned, hired and non-owned vehicles.
c. If privately-owned vehicles (POV) are used in the Air Operations Area (AOA), the Contractor's Certificate of Insurance shall state that employee's POV are covered under the policy.

The Contractor shall furnish one copy of the Certificate of Insurance for each copy of the Agreement. The certificates shall specifically set forth evidence of all coverages required by the above. The Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits.

Tri Cities Airport Authority, it's owners, officers and employees will be named as an additional insured on all coverages. (A 30 day written notice of modification or cancellation of coverages is required)

END OF SECTION 70

Section 80 Execution and Progress

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

The Contractor shall perform, with his organization, an amount of work equal to at least 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 RPR 14 days prior to being utilized on the project. As a minimum, the information shall include the following:

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

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

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

If the Contractor falls significantly behind the submitted schedule, the Contractor shall, upon the RPR's request, submit a revised schedule for completion of the work within the contract

time and modify their operations to provide such additional materials, equipment, and labor necessary to meet the revised schedule. Should the execution of the work be discontinued for any reason, the Contractor shall notify the RPR at least 24 hours in advance of resuming operations.

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

The project schedule shall be prepared as a network diagram in Critical Path Method (CPM), Program Evaluation and Review Technique (PERT), or other format, or as otherwise specified. It shall include information on the sequence of work activities, milestone dates, and activity duration. The schedule shall show all work items identified in the project proposal for each work area and shall include the project start date and end date.

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

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

When the work requires the Contractor to conduct their operations within an AOA of the airport, the work shall be coordinated with airport operations (through the RPR) at least 72 hours prior to commencement of such work. The Contractor shall not close an AOA until so authorized by the RPR and until the necessary temporary marking, signage and associated lighting is in place.

When the contract work requires the Contractor to work within an AOA of the airport on an intermittent basis (intermittent opening and closing of the AOA), the Contractor shall maintain constant communications as specified; immediately obey all instructions to vacate the AOA; and immediately obey all instructions to resume work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the AOA until satisfactory conditions are provided. The areas of the AOA cannot be closed to operating aircraft to permit the Contractor's operations on a continuous basis and will therefore be closed to aircraft operations intermittently as indicated on the plans.

80-04.1 Operational safety on airport during construction. All Contractors' operations shall be conducted in accordance with the approved project plans and specifications.

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

The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the project.

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

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

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

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

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

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

When the contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the RPR. If the Contractor desires to use a method or type of equipment other than specified in the contract, the Contractor may request authority from the RPR to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with contract requirements. If, after trial use of the substituted methods or equipment, the RPR determines that the work produced does not

meet contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality, or take such other corrective action as the RPR may direct. No change will be made in basis of payment for the contract items involved nor in contract time as a result of authorizing a change in methods or equipment under this paragraph.

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

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

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

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

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

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

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

80-08 Failure to complete on time. For each calendar day or working day, as specified in the contract, that any work remains uncompleted after the contract time (including all extensions and adjustments as provided in paragraph 80-07, Determination and Extension of Contract Time) the sum specified in the contract and proposal as liquidated damages (LD) will be deducted from any money due or to become due the Contractor or their own surety. Such deducted sums shall not be deducted as a penalty but shall be considered as liquidation of a reasonable portion of damages including but not limited to additional engineering services that will be incurred by the Owner should the Contractor fail to complete the work in the time provided in their contract.

- Liquidated Damages are specified in the Contract, Paragraph 4.03.

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

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

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

If the Contractor or surety, within a period of 10 days after such notice, does not proceed in accordance therewith, then the Owner will, upon written notification from the RPR of the facts of such delay, neglect, or default and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the execution of the work out of the hands of the Contractor. The Owner may appropriate or use any or all materials and equipment that have been mobilized for use in the work and are acceptable and may enter into an agreement for the completion of said contract according to the terms and provisions thereof, or use such other methods as in the opinion of the RPR will be required for the completion of said contract in an acceptable manner.

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

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

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

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

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

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

80-11 Work area, storage area and sequence of operations. The Contractor shall obtain approval from the RPR prior to beginning any work in all areas of the airport. No operating

runway, taxiway, or air operations area (AOA) shall be crossed, entered, or obstructed while it is operational.

END OF SECTION 80

Section 90 Measurement and Payment

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

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

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

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

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

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

Measurement and Payment Terms

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

	car weight may be accepted provided that only the actual weight of material is paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty daily at such times as the RPR directs, and each truck shall bear a plainly legible identification mark.
Measurement by Volume	Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable for the materials hauled, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.
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 RPR before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed 0.1% of the nominal rated capacity of the scale, but not less than one pound (454 grams). The use of spring balances will not be permitted. In the event inspection reveals the scales have been "overweighing" (indicating more than correct weight) they will be immediately adjusted. All materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of 0.5%. In the event inspection reveals the scales have been under-weighing (indicating less than correct weight), they shall be immediately adjusted. No additional payment to the Contractor will be allowed for materials previously weighed and recorded. Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the RPR can safely and conveniently view them. Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment. All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.
Rental Equipment	Rental of equipment will be measured by time in hours of actual working time and necessary traveling time of the equipment within the limits of the work. Special equipment ordered in connection with extra work will be

	measured as agreed in the change order or supplemental agreement authorizing such work as provided in paragraph 90-05 Payment for Extra Work.
Pay Quantities	When the estimated quantities for a specific portion of the work are designated as the pay quantities in the contract, they shall be the final quantities for which payment for such specific portion of the work will be made, unless the dimensions of said portions of the work shown on the plans are revised by the RPR. If revised dimensions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

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

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

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

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

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

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

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

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

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

a. Retainage will not be withheld on this project. No retainage will be withheld by the Owner from progress payments due the prime Contractor. Retainage by the prime or subcontractors is prohibited, and no retainage will be held by the prime from progress due subcontractors.
b. The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 30 days after the Contractor has received a partial payment. 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 project work has been completed to the satisfaction of the RPR, the RPR shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the contract value and the cost of the remaining work to be done.

It is understood and agreed that the Contractor shall not be entitled to demand or receive partial payment based on quantities of work in excess of those provided in the proposal or covered by approved change orders or supplemental agreements, except when such excess

quantities have been determined by the RPR to be a part of the final quantity for the item of work in question.

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

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

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

a. The material has been stored or stockpiled in a manner acceptable to the RPR at or on an approved site.
b. The Contractor has furnished the RPR with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
c. The Contractor has furnished the RPR with satisfactory evidence that the material and transportation costs have been paid.
d. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to the material stored or stockpiled.
e. The Contractor has furnished the Owner evidence that the material stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work.

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

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

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

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

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

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

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

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

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

90-10 Construction warranty.

a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, workmanship, or design furnished, or performed by the Contractor or any subcontractor or supplier at any tier.
b. This warranty shall continue for a period of one year from the date of final acceptance of the work, except as noted. If the Owner takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Owner takes possession. However, this will not relieve the Contractor from corrective items required by the final acceptance of the project work. Light Emitting Diode emitting diode (LED) light fixtures with the exception of obstruction lighting, must be warranted by the manufacturer for a minimum of four (4) years after date of installation inclusive of all electronics.
c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Owner real or personal property, when that damage is the result of the Contractor's failure to conform to contract requirements; or any defect of equipment, material, workmanship, or design furnished by the Contractor.
d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.
e. The Owner will notify the Contractor, in writing, within seven (7) days after the discovery of any failure, defect, or damage.
f. If the Contractor fails to remedy any failure, defect, or damage within 14 days after receipt of notice, the Owner shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.
g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall: (1) Obtain all warranties that would be given in normal commercial practice; (2) Require all warranties to be executed, in writing, for the benefit of the Owner, as directed by the Owner, and (3) Enforce all warranties for the benefit of the Owner.
h. This warranty shall not limit the Owner's rights with respect to latent defects, gross mistakes, or fraud.

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

a. Provide two (2) copies of all manufacturers warranties specified for materials, equipment, and installations.
b. Provide weekly payroll records (not previously received) from the general Contractor and all subcontractors.
c. Complete final cleanup in accordance with Section 40, paragraph 40-08, Final Cleanup.
d. Complete all punch list items identified during the Final Inspection.
e. Provide complete release of all claims for labor and material arising out of the Contract.
f. Provide a certified statement signed by the subcontractors, indicating actual amounts paid to the Disadvantaged Business Enterprise (DBE) subcontractors and/or suppliers associated with the project.
g. When applicable per state requirements, return copies of sales tax completion forms.
h. Manufacturer's certifications for all items incorporated in the work.
i. All required record drawings, as-built drawings or as-constructed drawings.
j. Project Operation and Maintenance (O&M) Manual(s).
k. Security for Construction Warranty.
l. Equipment commissioning documentation submitted, if required.

END OF SECTION 90

General Requirements

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.01 **CONTRACT DOCUMENTS:** The Contract Documents are described in Article 1 through 15 of the Contract Form.

1.02 **PROJECT IDENTIFICATION:** Project name is as shown on the Contract Documents prepared by Atkins.

1.02.1 **PROJECT DESCRIPTION:**

Reference Scope of Work in Article 1 and 2 of the Contract Form Document for the Project description. It is possible that other construction will be in progress during part or all of the construction period for this project.

The Contractor shall cooperate fully on all matters relating to the progress of any construction and airport operations as directed by the ODR or the Owner.

1.03 **CONTRACT DOCUMENTS:** These documents indicate the Work of the Contract and related requirements and conditions that have an impact on the Project. Related requirements and conditions that are indicated on the Contract Documents include, but are not necessarily limited to the following:

A. Existing site conditions and restrictions on use of the site.
B. Mandatory staging/sequencing.
C. Requirements for partial utilization of various elements prior to substantial
completion of the Work.

1.04.1 **SUMMARY BY REFERENCES:** Work of the Contract can be summarized by references to the Bidding Requirements, Bid Forms, Contract Forms, General Provisions (if applicable), Specification Sections, Drawings, and Addenda and modifications to the Contract Documents issued subsequent to the initial printing of this Project Manual, including but not necessarily limited to printed material referenced by any of these. It is recognized that the Work of the Contract is also unavoidably affected or influenced by government regulations, natural phenomena including weather conditions and other forces outside the Contract Documents.

1.05 CONTRACT TIME, LIQUIDATED DAMAGES:

1.05.1 GENERAL: The Contractor shall be responsible for planning and coordinating all necessary phasing of all facets of the Work. All phasing shall be within the limits of the constraints identified on the plans for ramp and taxiway closures, and the Contract Time established for the construction of the Project.

1.05.2 WORK SCHEDULE: It is the intent of the Owner that construction for this Project will begin on the date of the Notice to Proceed. Specific calendar days for the Contract Time are listed in Article 4. The Contractor shall schedule daily work as appropriate for the tasks being performed. In the event the Contractor desires to perform part of the Work at night, written notification must be given to the ODR, and approved by the Owner, prior to the start of night work. Any costs associated with night work shall be incidental to the Project, and no additional costs will be incurred by the Owner.

1.05.3 At least 10 days prior to the preconstruction meeting, the Contractor shall submit a schedule for completing the Work. The schedule shall identify any phasing requirements necessary to perform the construction activities. The schedule shall also show the time relationship of work items for completing each sequence of the Project.

1.05.4 CONTRACT TIME AND LIQUIDATED DAMAGES:

Reference Article 4, Sections 4.02 and 4.03 of the Contract Form Document.

1.06 CONTRACTOR USE OF PREMISES:

A. Use of the Site: The Contractor shall confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the Work while engaged in project construction.

B. Open Passage: Keep existing drives, entrances, and Air Operations Areas (AOA) designated to remain open, clear and available to the Owner, his employees and the public at all times. Do not use these areas for parking or storage of materials.

C. Storage: There shall be no stockpiling of materials within the limits of any work area.

D. Vehicle/Equipment Security: Lock automotive type vehicles, such as passenger cars and trucks, and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.

E. Work Limits: The Contractor shall limit work forces to the limits of specific work areas except in transportation materials and workers to and from the site.

1.07 WORK RESTRICTION:

A. NAVAID Areas: During the time of construction, the Contractor may be restricted from working in or around certain essential electronic navigational aids necessary to the safe operation of the Airport. The Contractor is hereby notified that the ODR and Owner may restrict construction operations in those areas closest to the active runway and taxiways.

B. Radio and Telephone Communication: Contractor shall maintain two-way radio communication with the FAA Air Traffic Control Tower, on the FAA frequency, at all times during the performance of construction activities within and adjacent to aircraft movement areas of the AOA. Contractor will have a working radio on site at all times during construction and shall assign responsible personnel to continuously monitor the radio. The Contractor shall also maintain constant telephone communication capabilities at the construction site during all periods of active construction.

C. Notice to Airmen (NOTAMS): Contractor will provide the necessary information on construction conditions to the ODR so that the Owner can advise the Flight Service Station to issue a NOTAM in accordance with established criteria.

D. Turf Restoration: All non-paved areas that are disturbed by the Contractor's work, staging area, haul roads, etc. shall be reseeded and restored to original condition by the Contractor. There will be no separate pay item for this work; it shall be considered incidental to the project.

E. Security: Contractor will provide security within his construction area and will keep all unauthorized personnel out.

F. Haul Route on Runway, Taxiway, Apron: Contractor will not be allowed to use any part of an active runway, taxiway, and aircraft

parking apron as part of the haul route, except as indicated in the Plans and as approved by the ODR and Owner.

G. Access Points: All construction traffic shall enter and exit the Project area only through the Project access point(s) shown on the Plans or approved by the ODR. During periods of use, the Contractor shall be responsible for the security for any existing gate that that is used for access to the site. The Contractor shall be responsible for the security of any temporary gate approved for installation for purposes of providing access to the Project site.

H. Construction Stake-Out: The Contractor shall perform construction stakeout in accordance with the General Provisions, Plans and Specifications.

I. Haul Route: Any existing roads or other areas that are used, as part of the haul route will be restored to their original condition after completion of the Project. The Contractor will be responsible for all clean up operations of debris that may be on the haul route and for watering and/or other dust preventive measures to preclude fugitive dust from affecting buildings, occupants, or airfield operations. No direct or additional payment will be made for seeding or mulching, or pavement restoration; such costs shall be incidental to the project.

J. Airfield Safety Devices: Contractor shall maintain all airfield safety devices such as staked limit lines for the duration of the Project as required. Damaged stakes or flagging shall be replaced immediately.

K. Vehicular Markings: All vehicles and equipment used on the airfield shall meet Airport requirements for marking and lighting.

1.08 COORDINATION: The Work of this Contract includes coordination by the Contractor of the entire Work of the Project, including preparation of general coordination drawings, diagrams and schedules, and control of site utilization, from beginning of construction activity through project close-out and any warranty repairs.

1.09 PARTIAL OWNER OCCUPANCY OR USE: The Owner reserves the right to use partial completed or total completed and accepted work provided such use does not interfere with completion of other work. Such use will not affect warranty stipulations addressed elsewhere in the Contract documents.

END OF SECTION 01010

SECTION 01030

AIRPORT PROJECT PROCEDURES
(Construction Safety Plan)

PART 1 GENERAL

1.01 INTRODUCTION:

A. This section is intended to supplement both the safety plan and textual safety notes included in the Contract Documents; however, the drawings, as part of the Plans, will control in case of discrepancy.

B. This Project may include Contractor operations within active Air Operations Areas (AOA). The Airport will conduct normal aircraft operations during the course of this Project, however as may be affected by other construction projects. Therefore, to provide for the security and safety of Airport users and the Contractor's forces, as well as to minimize interruptions to aircraft operations, the Contractor shall limit his work within the areas designated and conduct his operations as specified.

C. Any fines or assessments levied against the Owner as a result of unauthorized intrusions in the AOA or other violations by the Contractor's personnel or those of his subcontractors will be passed on to the Contractor. In addition, the Contractor will be subject to a fine of $1,000.00 per incident, assessed by the Owner.

D. AC 150/5370-2G The FAA advisory circular Construction Safety on Airports is included as an attachment to this specification, and is included as a part of this Project Manual.

1.02 AIR OPERATION AREA (AOA) SAFETY REQUIREMENTS:

A. Barricades: Existing runways, taxiways and aprons outside the limits of construction shall be separated from construction areas with barricades as shown on the Plans and described in Section 01530.

B. Radio Communication: The Contractor shall maintain radio communication with Air Traffic Control (ATC) at all times during construction within the AOA, and shall immediately obey all instructions to vacate areas when directed. Contractor shall have a

working radio as specified in contract documents on site at all times during construction and shall assign responsible personnel to continuously monitor the radio.

C. Runway, Taxiway, and Apron Closures: Runway, taxiway and apron closures will not be required except as shown on the Plans. Coordination with the Owner and Airport will be required.

D. Navigational Aid Equipment: No work will be permitted within the vicinity of any FAA navigational aid (NAVAID) equipment except as shown on the plans. If a determination is made during construction that the Work does impact NAVAID equipment, phasing of the Project will be incorporated to permit work outside of and around equipment such as approach light systems, localizer antenna, glide slope antenna, RVR projectors, middle and inner markers, etc. The Contractor shall notify the ODR at least 10 days prior to disassembling or working around any NAVAID equipment so that a NOTAM can be issued indicating that the affected NAVAID will be impacted.

1.03 CONSTRUCTION SAFETY REQUIREMENTS:

A. General:

1. Safety Officer: The Contractor is required to have a Safety Officer who will be the liaison between the Contractor, the ODR and the Owner in all safety related matters for the duration of the Project. The Safety Officer shall be on call 24 hours per day for emergency maintenance of Airport hazard lighting, barricades, and other safety features.

2. Protection of Utilities: The Contractor shall be responsible for field marking and protecting all utilities within the construction limits.

3. Storage of Equipment, Vehicles, and Materials: All equipment, vehicles, and materials must be stored in the designated storage or staging area or in areas acceptable to the ODR.

4. Vehicular Markings: Contractor vehicles and equipment shall be marked with checkered flags and lighted with flashing beacons to comply with requirements of FAA AC 150/5210-5D. All vehicles and equipment shall display 3' x 3' flags, orange and white "checkerboard" pattern, with the squares

being 1' x 1' each. All vehicles and construction equipment working during the night shall be equipped with an amber colored rotating beacon light.

5. Construction Methods Limitation:

   a. No open flames or burning will be allowed on Airport property except as specifically authorized by the ODR in writing and the necessary burning permits are obtained.

   b. Stockpiled material shall be constrained in a manner to prevent displacement by jet blast, prop blast, or wind, and shall be kept to a height that will not penetrate FAR Part 77 imaginary air space.

6. Safety and Accident Protection:

   a. The Contractor shall comply with all applicable federal, state, and local laws, ordinances, and regulations governing safety, health, and sanitation; shall provide barricades; and shall take any other needed actions, on his own responsibility, that are reasonably necessary to protect the life and health of employees on the job, the safety of airport users, the safety of moving and parked aircraft, and other property during the performance of the work.

   b. The Safety Officer's duties shall include accident prevention.

7. Navigational Aids: Airport navigational aid critical areas are shown on the drawings or will be indicated by the ODR. The Contractor shall not enter these areas without the ODR's approval.

8. FAA Advisory Circular: Except as otherwise specified, FAA AC 150/5370-2G and all its references shall be used in maintaining airport operational safety during construction. A copy of this Advisory Circular is included in the Project Manual.

B. Runway and Taxiway Safety Areas:

1. Limitations: When necessary to accomplish construction in areas adjacent to runways and taxiways, the construction equipment, vehicles, and men are authorized to operate without interruption within the Project limits, except within the following areas and as specified otherwise (See plans for clarity):

Distance from normal runway centerline:
- within 250 feet.

Distance from partially closed runway centerline (when temporary threshold is at least 800 feet from the work area):
- within 200 feet

Distance from active taxiway centerline:
- within 85.5 feet.

Distance from normal runway end:
- within 1,000 feet

Runway approach areas:
- within 50:1 approach surface slopes as shown on drawings.

2. Request for Facility Closures: Construction activities on runways or taxiways or within the above-restricted areas shall only be performed at times when the runway or taxiways are closed to aircraft. Closure of a runway or taxiway or any portion thereof must be requested by the Contractor through the ODR. This request must indicate the areas needed and a schedule of operations and time(s) required for operations within the area. The Owner reserves the right, however, to shift any approved closure periods to alleviate aircraft congestion or when inclement weather conditions dictate.

3. Equipment Operation Restrictions: Contractor may be permitted to operate trenching machines and other equipment in the Runway and Taxiway Safety Zones provided all of the following conditions are satisfied:

   a. The equipment operator and/or crew foreman monitors the ATC ground frequency continuously, using a two-way radio transceiver.

   b. All equipment shall be cleared from the Runway or Taxiway Safety Zones during aircraft operations (landings, take-offs, and taxiing).

c. All equipment within the Runway and Taxiway Safety Zones is manned and being used. No unnecessary or parked equipment will be allowed within the Runway and Taxiway Safety Zones.

d. All excavated trenches and holes shall be backfilled, tamped and leveled to match existing grades before workmen leave the site at the end of each workday.

4. Stockpiles: Stockpiled materials shall not be permitted within the active runway or active taxiway safety zones.

5. Grading Requirements: During periods when a portion of a runway is not closed, all construction within a restricted area shall be performed in such a manner that at the end of the closure period, it will leave the safety area with no abrupt grade changes or grades in excess of 5 percent and with no trenches with depth or width greater than 3 inches.

C. Obstructions to Navigation:

1. Violation of Safety Zone Surfaces: Penetration of equipment, vehicles, materials, or men into the safety zones and approach surfaces requires the preparation and distribution of Notices to Airmen (NOTAM) by the Owner in advance to the actual penetration.

2. Scheduling: When part of the Work in this Project is in violation of FAR Part 77, the clearance distance requirements from runway and taxiway edges shall be incorporated into the construction sequence schedule. At no time shall the construction limits of the area under construction violate the safety zones without prior notification to and approval by the ODR and Owner.

3. Coordination and Communication: Work within and adjacent to active AOAs shall be coordinated with the ODR and Owner prior to commencement of the activity. Work crews in these areas shall be accompanied by the construction superintendent and the ODR, both of which shall be in constant radio contact with ATC.

1.04 **SAFETY PLANNING**: The Contractor shall integrate and maintain requirements of Airport operational safety into each planning and work schedule. The Contractor's Safety Officer shall continuously monitor all planning schedules and work underway for compliance to AC 150/5370-2G; and shall maintain vigilance to detect areas needing attention due to oversight or altered construction activities. Airport operational safety during construction will be on the agenda at the pre-construction conference and each coordination and progress meeting.

1.05 **SECURITY REQUIREMENTS**: During the completion of work that may need to occur within the AOA, requirements for working inside the AOA will apply.

- All construction personnel shall be in possession of an Airport security badge issued specifically for each respective employee. See this Project Manual for specific security badge requirements.

- The Contractor has the responsibility for maintaining control of the access gates or any other entrance to the AOA. The Contractor may utilize a gate guard or maintain the gate in a closed and locked position. The Contractor may still be required to erect temporary fencing to protect the AOA during construction as noted on the plans. The Contractor's method of maintaining security shall be set forth in a Security Plan and shall comply with the airport's rules and regulations concerning work in the airport restricted areas.

- When a gate guard is used, he/she will be provided with written post instructions approved by the Airport's Chief of Safety Department and with a means to immediately communicate with the Airport's Communication Center. There will be a separate lump sum payment for gate guards to maintain the integrity of the AOA.

1.06 **TEMPORARY RELOCATED AND DISPLACED THRESHOLDS:** Refer to the Plans and Section 01530.

1.07 **BARRICADES:** Contractor shall provide barricades along active taxiway pavement area, and elsewhere as shown on the plans or directed by the ODR while work is proceeding in the taxiway areas. Barricades shall be sited and relocated, if necessary, during the course of the work to clearly identify areas closed to aircraft operations. Refer to Section 01530.

1.08 RUNWAY AND TAXIWAY CLOSURES:

A. If required, the Contractor shall coordinate and schedule runway and taxiway closures and temporary relocation of any runway threshold with Owner through the ODR before closure is required so that Owner can issue appropriate NOTAMs.

B. If required, runway and taxiway closures shall be scheduled 10 days in advance. Contractor shall identify taxiway and partial runway closures with barricades and by covering or disconnecting taxiway and runway lights within the closure limits. Remove barricades and covers when no longer needed or as directed by the ODR.

PART 2 PRODUCTS

2.01 BARRICADES AND CLOSED RUNWAY AND TAXIWAY MARKERS: Barricades and Closed Runway and Taxiway Markers, when required, shall be constructed as specified in the plans and in Section 01530.

2.02 TEMPORARY RELOCATED (OR DISPLACED) THRESHOLD:

A. Paint materials and application rate, when required, for temporary marking shall conform to the requirements of Item P-620.

B. Cable and L-823 connectors, when required, shall conform to applicable FAA Advisory Circulars. It will be the Contractor's responsibility to verify the electrical characteristics of the existing airport lighting system.

C. Lighted Threshold- When required, the following applies:

1. Install the threshold light fixtures, base plates, and L-830 transformers as indicated.

2. Connect the lights to the existing runway circuit at the existing lights as shown on the plans, and cover or disconnect power to runway lights no longer needed.

3. The temporary runway threshold light fixtures, base plates, and L-830 transformers shall be installed as shown on the plans. Anchor the temporary threshold light

fixture frames and temporary lighting cables above ground with sandbags.

4. Upon completion of work in the phase, remove temporary relocated runway threshold lights, base plates, transformers, and restore runway lighting circuit to operational condition.

2.03 **RUNWAY NUMBER COVERS:** When required, runway number covers shall be constructed as specified in Section 01530. In addition, the Owner can loan to the Contractor, lighted X equipment that may be used for nighttime designation of the runway closure.

PART 3 EXECUTION

3.01 **LIMITATION OF CLOSURES:** Airfield pavement closures will be made only by the Owner. The Contractor shall request the closure through the ODR to the Owner.

3.02 **BARRICADE AND CLOSED RUNWAY MARKERS INSTALLATION:** When required, install barricades and closed runway markers at locations shown on the drawings or where directed by ODR. Anchor barricades and closed runway markers as specified in Section 01530. Maintain barricades and closed runway markers until removal is directed by ODR. Barricade batteries shall be checked daily to insure adequate operation of the flashers during the night. Replace batteries as required. Upon removal of barricades and closed runway markers, repair any damage to pavement or surrounding area caused by barricades and closed runway markers.

3.03 **TEMPORARY RELOCATED OR DISPLACED THRESHOLD:**
When required for the specific project the following will apply:

A. Temporary markings shall be placed after the runway/taxiway/apron has been closed to aircraft operations. Concurrent with the placement of temporary markings will be the placement of the barricades as shown on the plans. Edge lighting shall be adjusted as required shown on the plans.

B. The Contractor shall coordinate the temporary relocation of the thresholds with the Owner and ODR and shall not perform this work until authorized by the ODR.

3.04 (Not Used)

END OF SECTION 01030

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SECTION 01035

WEATHER DELAYS

PART 1 GENERAL

1.01 EXTENSIONS OF CONTRACT TIME:

A. An extension of time on the basis of weather may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard Baseline for the entire duration of the project as a whole.

1.02 STANDARD BASELINE FOR AVERAGE CLIMATIC RANGE

A. The Owner has reviewed weather data available from the National Oceanic
and Atmospheric Administration (NOAA) and determined a Standard Baseline of average climatic range for Tri Cities Regional Airport in Blountville, Tennessee.

B. Standard Baseline shall be regarded as the normal and anticipatable number of calendar days for each month during which construction activity shall be
expected to be prevented and suspended by cause of adverse weather. Suspension of construction activity for the number of days each month as
listed in the Standard Baseline is included in the Work and is not eligible for extension of Contract Time.

C. Standard Baseline established for this contract is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	7	8	7	7	7	7	6	5	5	7	8

1.03 ADVERSE WEATHER AND WEATHER DELAY DAYS

A. Adverse Weather is defined as the occurrence of one or more of the following conditions which prevents exterior construction activity or access to the site within twenty-four (24) hours:

1. Precipitation (rain, snow, or ice) in excess of one tenth inch (0.10") liquid measure

2. Temperatures which do not rise above 32 degrees F by 10:00 AM

3. Temperatures which do not rise above that specified for the day's construction activity by 10:00 AM, if any is specified

4. Sustained wind in excess of twenty-five (25) mph

5. Standing snow in excess of one inch (1.00")

6. Any day that the Owner has requested no work to be performed

B. Adverse Weather may include "dry-out" or "mud" days, as determined by the ODR such as:

1. For rain days above the Standard Baseline;

2. Only if there is a hindrance to site access or site work, such as excavation, backfill, and footings; and,

3. At a rate no greater than 1 make-up day for each day or consecutive days of rain beyond the Standard Baseline that total 1.0 inch or more, liquid measure, unless specifically recommended otherwise by the ODR.

C. A Weather Delay Day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the Contractor's scheduled work day, including a weekend day or holiday if Contractor has scheduled construction activity that day.

D. The ODR will compile monthly weather data from the National Weather Service.

The determination of Contractor's entitlement for any Weather Delay Days, as defined herein above, will be based on the entire duration of the project in lieu of a month-by-month consideration. The entitlements will consider those months that conditions are better or worse than the Standard Baseline for this contract.

END OF SECTION 01035

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SECTION 01040

PROJECT COORDINATION

PART 1 GENERAL

1.01 **RELATED DOCUMENTS:** All contract documents and drawings apply to work of this section.

1.02 **DESCRIPTION OF WORK:** Minimum administrative and supervisory requirements necessary for coordination of work on the project include but are not necessarily limited to the following:

1. On site supervision.
2. Coordination and meetings.
3. Surveys and records or reports.
4. Limitations on use of site.
5. Special reports.
6. General installation provisions.
7. Cleaning and protection.
8. Conservation and salvage.

PART 2 PRODUCTS (Not applicable.)

PART 3 EXECUTION

3.01 ON SITE SUPERVISION:

The Contractor shall provide a minimum of one superintendent for the project. The superintendent shall be on site for all construction activity, to coordinate the activities of their work force and the work force of any subcontractors, and to coordinate daily activities with the ODR, Owner, and other Contractors.

COORDINATION AND MEETINGS:

A. General: The Contractor shall prepare a written memorandum on required coordination activities and include such items as required notices, reports, and attendance at meetings. Distribute this memorandum to each entity performing work at the Project site. Prepare similar memorandum for separate Contractors where interfacing of their work is required.

B. Preconstruction Conference: A Preconstruction Conference will be scheduled after an Award of Contract and prior to issuance of a Notice to Proceed. Key Project personnel representing the General Contractor and all major Subcontractors will be required to attend this Conference. All other parties involved with this Project, such as the Owner, FBO, ODR, FAA and Airline Managers will also be

represented. The entire Construction Schedule will be reviewed carefully by all affected parties at the Preconstruction Conference. The Contractor shall prepare a detailed Construction Schedule for review 10 days prior to and at the Preconstruction Conference.

C. Coordination Meetings: The Contractor shall hold General Project Coordination Meetings at regularly scheduled times convenient for all parties involved. These meetings may be as often as weekly if required. These meetings are in addition to specified meetings held for other purposes, such as regular Project meetings and special Pre-installation Meetings. Request representation at each meeting by every party currently involved in coordination or planning for the work of the entire Project. Conduct meetings in a manner, which will resolve coordination problems. Record results of the meeting and distribute copies to everyone in attendance and to others affected by decision or actions resulting from each meeting.

1. The Contractor shall conduct daily coordination meetings as necessary with the ODR's Representative, FAA and Owner's Representative to coordinate construction and airport operations.

D. Progress Meetings: Conduct progress meetings by teleconference weekly and at the project site monthly. Notify the Owner and ODR of scheduled meeting dates. Coordinate dates of meetings with the preparation of payment requests.

E. Attendees: In addition to representatives of the Owner and ODR, each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at these meetings by persons familiar with the project and authorized to conclude matters relating to progress.

F. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the project, and to airport operational safety during construction.

1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that

current and subsequent activities will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

2. Other: Review the present and future needs of each entity present, including such items as:

Interface requirements.
Time.
Sequences.
Deliveries.
Off-site fabrication problems.
Access.
Site utilization.
Temporary facilities and services.
Hours of work.
Hazards and risks.
Housekeeping.
Quality and work standards.
Change orders.
Documentation of information for payment requests.

G. Reporting: No later than 3 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

H. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting minutes.

3.02 SURVEYS AND RECORDS/REPORTS:

A. Construction Staking: The Contractor will be responsible for staking required for construction and shall establish and maintain base lines and other dependable markers required for construction. Establish markers to set lines for work at each stage of construction and elsewhere as needed to properly locate each element of the project. Calculate and measure required dimensions as shown within recognized tolerances. Drawings shall not be scaled to determine dimensions. Advise entities performing work of marked lines provided for their use.

B. Survey Procedures: Before proceeding with the layout of actual work,

verify the layout information shown on the drawings. As work proceeds, check every major element for line, level and plumb. Record deviations from required lines and levels, and advise the ODR promptly upon detection of deviations that exceed indicated or recognized tolerances. Record deviations, which are accepted, and not corrected, on record drawings. A lump sum price for this item will be included with the project.

3.03 LIMITATIONS ON USE OF THE SITE:

A. General: Limitations on site usage as well as specific requirements that impact site utilization are indicated on the drawings and by other contract documents. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.

B. Waste Disposal: Waste materials shall be properly disposed of as specified elsewhere in Contract Documents.

3.04 MEASUREMENT AND PAYMENT:

A. No measurement or payment will be made for work in this item, it will be considered as incidental cost to Mobilization and other items of work. (Except for the survey construction staking)

END OF SECTION 01040

SECTION 01070

ABBREVIATIONS AND SYMBOLS

PART I GENERAL

1.01 DESCRIPTION:

A. Abbreviations that may be used in the Contract Documents including the drawings are listed in this section and have the identifications and meanings shown herein except where otherwise indicated.

B. Symbols are identified on the drawings.

C. Related requirements in other parts of the Contract Documents.

1. Drawing symbols: Contract drawings

2. Drawing abbreviations: Contract drawings.

1.02 ABBREVIATIONS:

A. Agencies, Codes, Standards, etc.:

AASTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AF	Air Force
AGC	Associated General Contractors of America
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANG	Air National Guard
ANSI	American National Standard Institute
API	American Petroleum Institute
AREA	American Railway Engineering Association
ASTM	American Society for Testing and Materials
ATCT	Air Traffic Control Tower
AWPA	American Wood Preservers Association
AWG	American Wire Gage
AWS	American Welding Society
AWWA	American Water Works Association
COE	Corps of Engineers
CRSI	Concrete Reinforcing Steel Institute
FAA	Federal Aviation Administration

FBO	Fixed Base Operator
FHWA	Federal Highway Administration
FS	Federal Specifications
MUTCD	Manual on Uniform Traffic Control Devices for Streets and Highways
NEMA	National Electrical Manufacturers Association
NEC	National Electrical Code
NOAA	National Oceanic Atmospheric Association
NWS	National Weather Service
ODR	Owner's Designated Representative
OSHA	Occupational Safety and Health Act
PCA	Portland Cement Association
UL	Underwriter's Laboratories, Inc.
TDOT	Tennessee Department of Transportation
TRI	Tri-Cities Regional Airport

END OF SECTION 01070

SECTION 01090

REGULATIONS AND DEFINITIONS

PART 1 GENERAL

1.01 RELATED DOCUMENTS: Drawings, General Provisions (if applicable), Specifications, and other Contract Documents apply to work of this section.

1.02 DESCRIPTION OF REQUIREMENTS:

A. General: This section specifies procedural and administrative requirements for compliance with governing regulations, codes, and standards imposed upon the work. These requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with regulations, codes, and standards. The term "Regulations" is defined to include laws, statutes, ordinances and lawful orders issued by governing authorities, as well as those rules, conventions and agreements within the construction industry which effectively control the performance of the work regardless of whether they are lawfully imposed by governing authority or not.

B. Governing Regulations: Refer to General Provisions (if applicable), Contract Documents and General Requirements for requirements related to compliance with governing regulations.

1.03 DEFINITIONS:

A. General Explanation: Certain terms used in contract documents are defined in this article. Definitions and explanations contained in this section are not necessarily complete, but are general for the work to the extent that they are not stated more explicitly in another element of the contract documents.

B. General Requirements: Provisions and requirements of Division 1 sections apply to the entire work of the contract and, where so indicated, to other elements which are included in the project.

C. Indicated: The term "indicated" is cross-reference to graphic representations, notes or schedules on the drawings, to other paragraphs or schedules in the specifications, and to similar means of recording requirements in contract documents. Where terms such as "shown", "noted", "scheduled", and "specified" are in lieu of

"indicated", it is for the purpose of helping the reader locate the cross-reference, and no limitation of locations is intended except as specifically noted.

D. Directed, Requested, etc.: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", "accepted", and "permitted" mean "directed by the ODR", "requested by the ODR", and similar phrases. However, no such implied meaning will be interpreted to extend the ODR's responsibility into the Contractor's area of construction supervision.

E. Approved: Where used in conjunction with the ODR's response to submittals, requests, applications, inquiries, reports and claims by the Contractor, the term "approved" will be held to limitations of the ODR's responsibilities and duties as specified in the Contract Documents. In no case will the ODR's approval be interpreted as a release of the Contractor from responsibilities to fulfill requirements of contract documents or acceptance of the work, unless otherwise provided by requirements of the contract documents.

F. Project Site: The term "project site" means the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project. The extent of the project site is shown on the drawings.

G. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations".

H. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."

I. Provide: The term "provides" means "to furnish and install, complete and ready for the intended use."

J. Installer: The "installer" is the "the entity" (person or firm) engaged by the Contractor, its subcontractor or sub-subcontractor for performance of a particular element of construction at the project site, including installation, erection, application and similar required operations. It is a requirement that installers are experienced in the operations they are engaged to perform.

1.04 SUBMITTALS:

Permits. Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

END OF SECTION 01090

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SECTION 01150

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION:

A. Method of Measurement and Payment: This section establishes the method of measurement and payment for work performed under this contract.

B. Unit Price: Except where lump sum is indicated, payment for work performed shall be made on a unit price basis in accordance with the accepted bid.

C. Related Requirements in Other Parts of the Specifications:

1. Bid (Proposal).
2. Agreement.
3. Conditions of the Contract.

D. Related Requirements Specified in Other Sections:

1. Summary of Work - Section 01010.
2. Submittals-Section 01300.
3. Contract Closeout - Section 01700.

E. Work With No Identified Payment Items: No additional payment will be made for items of work for which a separate payment item is not specified or contained in the Bid Schedule; such work shall be deemed incidental to the project and payment for said work shall be considered as included in the various unit bid prices.

1.02 APPLICATIONS FOR PAYMENT:

A. Submittal Schedule: Submit Applications for Payment to the ODR in accordance with the schedule established by Conditions of the Contract and Agreement between Owner and Contractor.

B. Format and Data Required:

1. Submit Applications for Partial Payment on the form approved by the ODR and Owner with itemized data typed on 8 1/2 x 11 inch white paper continuation sheets.

2. Provide itemized data on continuation sheet: Format, schedules, line items and values: Those of the Schedule of Values accepted by the ODR.

C. Preparation of Application for Each Progress Payment:

1. Application Form:

a. Fill in required information, including that for Change Orders executed prior to the date of submittal of application.

b. Fill in summary of dollar values to agree with the respective totals indicated on the continuation sheets.

c. Execute certification with the signature of a responsible officer of the contract firm.

2. Continuation Sheets:

a. Fill in total list of all scheduled component items of work, with item number and the scheduled dollar value for each item.

b. Fill in the dollar value in each column for each scheduled line item when work has been performed or products stored. Round off values to the nearest dollar, or as provided in the bid.

3. List each Change Order executed prior to the date of submission, at the end of the continuation sheets.

a. List by Change Order and description, as for an original component item of work.

4. Submit Applications for Payment to ODR for review and recommendation for payment to Owner at the times stipulated in the Agreement.

a. Number: Five copies of each Application.

D. Substantiating Data:

1. When the Owner or ODR require substantiating data, Contractor shall submit suitable information with cover letter identifying:

a. Project.
b. Application number and date.
c. Detailed list of enclosures.
d. For stored products: Item number and identification as shown on application.
e. Description of specific material.

2. Submit one copy of data and cover letter for each copy of application.

E. Preparation of Application for Final Payment:

1. Fill in application form as specified for progress payments.

2. Use continuation sheet for presenting the final statement of accounting as specified in Section 01700 - Contract Closeout.

1.03 CHANGE ORDER PROCEDURES:

A. In determining the cost to the Owner resulting from either an increase or a decrease in the Work by a Change Order, the allowances for overhead and profit combined to be included in the total cost to the Owner shall not exceed the following:

1. For the Contractor, for Work performed by its own forces, 15% of the cost;

2. For the Contractor, for Work performed by its Subcontractors, 7% of the amount due each Subcontractor;

3. For each Subcontractor involved, for Work performed by its own forces, 15% of the cost; and

4. For the Subcontractor, for Work performed by lower tier subcontractors, 7% of the amount due the Sub-contractor.

B. Format and Data Required:

1. Change Orders shall be prepared and submitted and will be processed in accordance with requirements of the General Provisions and Funding Agency Requirements.

2. ODR will transmit Certificate for Change to Owner and Funding Agency for approval.

3. When Owner and Agency approval is received, Change Order will be included under next partial Application for Payment.

PART 2 **PRODUCTS** (Not Applicable)

PART 3 **EXECUTION** (Not Applicable)

END OF SECTION 01150

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.01 SUBMITTALS BY CONTRACTOR:

A. Construction Progress Schedule.

B. Certifications as specified in the various sections.

C. Shop Drawings and Project Data as specified in the various sections.

D. Miscellaneous:

1. Weekly Payroll.

2. EEO Reports.

3. DBE Expenditure Report (if applicable).

4. Safety/Security Plan.

5. Warranties and Bonds.

6. Other(s) as required.

1.02 PROGRESS SCHEDULE:

A. Bar-Chart Schedule: Submit a CPM or linear type bar-chart schedule prior to the Preconstruction Conference date established for the work. On the schedule, indicate a time bar for each major category or unit of work to be performed at the site, properly sequenced and coordinated with other elements of work. Show completion of the work sufficiently in advance of the date established for substantial completion of work.

B. Phasing: Arrange schedule with notations to show how sequence of work is affected by requirements for phased completion, limitations of continued utilization, non-interruptable services, use prior to substantial completion, site restrictions, runway, taxiway and apron closures, provisions for future work, seasonal variations, environmental control, and similar provisions of total project. Refer

to other sections and other contract documents for requirements.

C. Distribution: Following the initial submittal to and response by the ODR, print and distribute progress schedules to the ODR (3 copies), Owner, separate contractors, principal subcontractors and suppliers or fabricators, and others with a need-to-know schedule-compliance requirement. Post copies as necessary in the temporary field office. When revisions are made, distribute updated issues to the same entities and post updated issues in the same locations. Delete entities from distribution when they have completed their assigned work and are no longer involved in the performance of scheduled work.

D. Update: Contractor shall update the schedule monthly and submit with each pay application for the duration of construction.

1.03 SHOP DRAWINGS AND PRODUCT DATA:

A. Scope: Submit shop drawings, certifications, and product data for all products to be incorporated in the work. Product submittals shall include products listed on the Bid Form "Products" unless prior approval to submit an alternative product has been given by the ODR.

B. Shop Drawings Will:

1. Be original drawings, prepared by the Contractor, subcontractor, supplier, or distributor, which illustrate some portion of the work; showing fabrication, layout, setting, or erection details.

2. Be prepared by a qualified detailer.

3. Identify details by reference to sheet and detail numbers shown on Contract Drawings.

4. Be reproduced for submittals on opaque bond prints or blueprints.

C. Product Data Will:

1. Include manufacturer's standard schematic drawings. Originals or legible copies required. The Contractor will:

a. Modify drawings to delete information, which is not applicable to the project.

b. Supplement standard information to provide additional information applicable to project.

2. Include manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data. The Contractor will:

a. Clearly mark each copy to identify pertinent materials or products.

b. Show dimensions and clearances required.

c. Show performance characteristics and capacities.

D. The Contractor Will:

1. Be responsible for all submittals.

2. Review shop drawings and product data prior to submission.

3. Verify:

a. Field measurements.

b. Field construction criteria.

c. Catalog numbers and similar data.

4. Coordinate each submittal with the requirements of the work and of the Contract Documents.

5. Notify the ODR, in writing at time of submission, of deviations in submittals from requirements of the Contract Documents.

6. Begin no work, which requires submittals until the return of submittals with the ODR's stamp and initials or signature indicating review.

7. After the ODR's review, distribute copies.

E. Contractor's Responsibilities:

1. Contractor's responsibility for errors and omissions in submittals is not relieved by the ODR's review of submittals.

2. Contractor's responsibility for deviations in submittals from requirements of the Contract Documents is not relieved by the ODR's review of submittal, unless the ODR gives written acceptance of specific deviations.

F. Submission Requirements Include:

1. The shop drawings shall be submitted in sufficient time to allow discussion and correction prior to beginning the work. Work shall not be performed nor materials ordered prior to the review of the drawings except at the Contractor's risk.

2. Submit five (5) copies of all shop drawings after which two (2) copies will be returned for correction or marked reviewed as noted. Any drawings returned for correction must be resubmitted with same number of copies as required above.

3. All submittals must be accompanied by a transmittal letter, in duplicate, containing:

a. Date.

b. Project title and number.

c. Contractor's name and address.

d. The number of each shop drawing and product data submitted.

e. Notification of deviations from Contract Documents.

f. Other pertinent data.

4. Submittals shall include the following, as applicable:

a. Date and revision dates.

b. Project title and number.

c. The names of:

(1) Engineer (ODR).

(2) Contractor.

(3) Subcontractor.

(4) Supplier.

(5) Manufacturer.

(6) Separate detailer when pertinent.

d. Identification of product or material.

e. Relation to adjacent structure or materials.

f. Field dimensions, clearly identified as such.

g. Specification item or section number.

h. Applicable standards, such as ASTM number or Federal Specification.

i. A blank space, 5 in. x 5 in., for the ODR's stamp.

j. Identification of deviations from the Contract Documents.

k. Contractor's stamp, initialed or signed, certifying Contractor's review of submittal, verification of field measurements, and compliance with Contract Documents.

G. Resubmission Requirements Include:

1. Revision of initial drawings as required and resubmittal as specified for initial submittal.

2. An indication on the drawings of any changes which have been made, other than those requested by the ODR.

3. On product data resubmittals, include new data as required for initial submittal.

H. Distribution to Others: After review and approval, the Contractor will distribute copies of shop drawings and product data which carry the ODR's stamp to others as may be required.

I. Alternative Submittals:

No alternative submittal for previously reviewed and

approved products and materials for this project will be considered.

1.04 MISCELLANEOUS:

A. Weekly Payrolls:

1. In accordance with the Contract, submit certified weekly payrolls for prime contractor and all subcontractors working at project site.

2. Submit payrolls no later than 7 calendar days after pay period. Payrolls will be considered current if received within 10 calendar days after last work day of payroll work week. A work week is the seven day period between midnight Sunday and midnight the following Sunday.

3. The Contractor is responsible for submission of payrolls by his subcontractors.

4. Submit a typed summary sheet with each payroll submission listing by week when contractor and each subcontractor worked at site.

5. A payroll submission is only required for weeks when Contractor or subcontractor is actually working at the site.

B. EEO Reports:

1. Contractor shall submit Monthly Employment Utilization Report and Annual EEO-1 Report, as required, to the appropriate Federal Labor Area Office in accordance with the Contract Documents. Submit copy of submittal to Owner for his records.

2. General Contractor shall insure that all his first tier subcontractors submit these reports and shall submit a sworn statement to Owner monthly certifying that all subcontractor reports have been submitted as required.

C. DBE Expenditure Reports (if applicable): With each application for payment, the Contractor shall submit his DBE expenditure report indicating the name, date and amount disbursed to his DBE subcontractors for the period as well as for the project to date expenditure.

D. Warranties and Bonds: Submit as specified in Section 01740.

PART 2 **PRODUCTS** (Not Applicable)

PART 3 **EXECUTION** (Not Applicable)

END OF SECTION 01300

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SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.01 GENERAL:

A. Material and Equipment (Products) Incorporated Into the Work:

1. Shall conform to applicable specifications and standards.

2. Shall comply with size, make, type and quality specified, or as specifically approved in writing by the ODR.

3. Shall not be used for any purpose other than that for which it is designed or is specified.

B. Manufactured and Fabricated Products:

1. Design, fabricate, and assemble in accordance with the best engineering and shop practices.

2. Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.

3. Products shall be suitable for service conditions.

4. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved by ODR in writing.

C. Related Requirements in Other Parts of the Project Manual:

1. Conditions of the Contract.

D. Standardization:

1. Unless otherwise approved by the ODR, items and equipment of a similar type and function shall be furnished by one manufacturer to standardize on replacement parts, service calls, operation and maintenance matters, and to avoid a division of responsibility among several manufacturers.

2. A single supplier shall be used on principal items of equipment and systems where one or more components are not manufactured by the principal supplier: this is required to place performance and service responsibilities for the entire unit or system with only one supplier or manufacturer.

1.02 PRODUCTS SUBSTITUTIONS AND OPTIONS:

A. Products List:

1. Contractor shall submit a complete list of products to be incorporated into the work (with the name of the installing contractor) at the Preconstruction Conference required by these specifications.

B. Contractor's Options:

1. For products specified only by reference standard, select any product meeting that standard.

2. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named, which complies with the specifications.

C. Product Substitutions:

1. Contractor shall submit, at the Preconstruction Conference, all requests for product substitutions. No requests for substitutions will be accepted from manufacturers or suppliers.

2. Submit a separate written request for each product, supported with complete data, with drawings and samples as appropriate, including:

a. Comparison of the qualities of the proposed substitution with that specified.
b. Changes required in other elements of the work because of the substitution.
c. Effect on the construction schedule.
d. Cost data comparing the proposed substitution with the product specified.
e. Any required license fees or royalties.
f. Availability of maintenance service, and source of replacement materials.

3. ODR and Owner shall be the judge of the equality and acceptability of the proposed substitution.

4. If ODR determines the proposed substitute product is not "equal" to the specified product, the Contractor must provide the specified product, subject to ODR's shop drawing review and approval.

5. No further requests for substitutions will be considered after Notice to Proceed.

D Contractor's Representation: A request for a substitution constitutes a representation that Contractor:

1. Has investigated the proposed product and determined that it is equal to or superior in all respects to that specified.

2. Will provide the same warranties or bonds for the substitution as for the product specified.

3. Will coordinate the installation of an accepted substitution into the work, and make such other changes as may be required to make the work complete in all respects.

4. Waives all claims for additional costs, under his responsibility, which may subsequently become apparent.

E. ODR's Review: ODR will review requests for substitutions with reasonable promptness and notify Contractor, in writing, of the decision to accept or reject the requested substitution.

1.03 MANUFACTURER'S INSTRUCTIONS:

A. Printed Instructions: When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, Contractor shall obtain and distribute copies of such instructions to parties involved in the installation, including copies to ODR.

1. Maintain one set of complete instructions at the job site during installation and until completion.

B. Strict Compliance: Handle, install, connect, clean, condition, and adjust products in strict accord with such instructions and in conformity with specified requirements.

1. Should job conditions or specified requirements conflict with manufacturer's instruction, consult with ODR for further instructions.

2. Do not proceed with work without clear instructions.

C. Complete Compliance: Perform work in accordance with manufacturer's instructions. Do no omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.04 TRANSPORTATION AND HANDLING:

A. Deliveries: Contractor shall arrange deliveries of products in accordance with construction schedules; coordinate to avoid conflict with work and conditions at the site.

1. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.

2. Immediately on delivery, inspect shipments to assure compliance with requirements of contract documents and approved submittals, and that products are properly protected and undamaged.

B. Handling: Provide equipment and personnel to handle products by methods to prevent soiling or damage of products or packaging.

1.05 STORAGE AND PROTECTION:

A. Storage: Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.

1. Store products subject to damage by the elements in weather tight enclosures.

2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.

B. Exterior Storage:

1. Store fabricated products above the ground, on blocking or skids; prevent soiling or staining. Cover products, which are subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.

2. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.

C. Storage Inspection: Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.

D. Protection After Installations: Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove when no longer needed.

PART 2 **PRODUCTS** (Not Applicable)

PART 3 **EXECUTION** (Not Applicable)

END OF SECTION 01600

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SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 GENERAL

A. Comply with requirements stated in Conditions of the Contracts and Specifications for administrative procedures in closing out the work.

B. Related requirements in other parts of the Project Manual:

1. Fiscal provisions, legal submittals and additional administrative requirements: Conditions of the Contract.

C. Related requirements specified in other sections:

1. Closeout submittals required of trades: The respective sections of the specifications.

2. Project Record Documents: Section 01720.

3. Warranties and Bonds: Section 01740.

1.02 SUBSTANTIAL COMPLETION: The conditions and procedures for inspection; and Contractor's, ODR's and Owner's responsibilities pertaining to substantial completion are as specified in the Contract Documents.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 FINAL INSPECTION:

A. Shall be in accordance with conditions and procedures outlined in the Contract Documents.

B. When ODR finds that the work is acceptable under the Contract Documents, he will request the required Contractor's Closeout Submittals.

3.02 REINSPECTION FEES:

A. Should ODR perform re-inspections due to failure of the work to comply with the claims of status of completion made by the Contractor:

1. Owner will compensate Engineer for such additional services.

2. Owner will deduct the amount of such compensation from the final payment due the Contractor.

3.03 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER:

A. Evidence of compliance with requirements of governing authorities:

1. Certificates of Inspection.

B. Project Record Documents: Conform to requirements of Section 01720. To be submitted as a condition for release of final payment (including retainage).

C. Warranties and Bonds: Conform to requirements of Section 01740.

D. Evidence of payment and release of liens: To requirements of General Provisions and Contract Documents.

E. Certificates of Insurance for products and completed operations.

F. Once the ODR has determined the work is acceptable under the Contract Documents, the Contractor will furnish three copies of the following items; forms to be provided by the ODR, copies of which are attached:

1. Contractor Warranty Form
2. Affidavit of Payment
3. Affidavit of Release of Liens
4. Final Waiver of Lien
5. Consent of Surety for Final Payment
6. Final DBE Participation Report (if applicable)

3.04 PAYMENT: No separate payment will be made under this section for work described or specified herein.

END OF SECTION 01700

SECTION 01710

CLEANING AND DISPOSAL

PART I GENERAL

1.01 DESCRIPTION: Contractor shall execute cleaning at all times during progress of the work and at completion of the work.

1.02 DISPOSAL REQUIREMENTS:

A. Conduct cleaning and disposal operations to comply with all local, state and federal codes, ordinances, regulations, and anti-pollution laws; and with airport and construction safety requirements.

B. All disposal of waste materials shall be off airport property at locations approved in writing by the ODR.

C. Contractor shall be responsible for arranging and obtaining off-site disposal areas, including payment for all costs associated with such disposal.

1.03 SUBMITTALS:

A. Prior to beginning work, submit a Disposal Plan for the satisfactory disposal of all waste materials and debris.

B. Submit two (2) copies of the disposal site owner's written permission for such disposal with Disposal Plan.

PART 2 PRODUCTS

2.01 MATERIALS:

A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.

C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 EXECUTION

3.01 CLEANING:

A. All taxiways/aprons/haul routes, closed and used for construction activity, shall be thoroughly swept and cleaned daily prior to reopening to aircraft operations.

B. Execute periodic cleaning to keep the work, site and adjacent properties free from accumulations of waste materials, rubbish, windblown debris, and dust resulting from construction operations.

C. Provide on-site containers for the collection of waste materials, debris and rubbish.

D. Remove waste materials, debris, and rubbish from the site periodically and dispose of waste at approved locations.

3.02 BARRIERS AND PROTECTION: Protect existing structures and vegetation from cleaning and disposal operations as required by ODR.

3.03 DUST CONTROL: Schedule cleaning and other operations so that dust and other contaminants resulting there from will not fall on wet or newly coated surfaces, will not damage or contaminate aircraft, and will not unduly affect the work of other airport tenants.

3.04 PAYMENT: No separate payment will be made under this section for work described or specified herein.

END OF SECTION 01710

SECTION 01720

PROJECT RECORD DOCUMENTS

PART I GENERAL

1.01 GENERAL REQUIREMENTS:

A. Contractor shall maintain at the site as specified herein for the ODR and Owner one record copy of:

1. Drawings.
2. Specifications.
3. Addenda.
4. Change orders and other modifications.
5. ODR field orders or written instructions.
6. Approved shop drawings, product data, and samples.
7. Field test records.
8. Laboratory test records.

B. Related requirements in other parts of the Project Manual:

1. Conditions of the Contract.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 MAINTENANCE OF DOCUMENTS AND SAMPLES:

A. Store record documents and samples in Contractor's field office apart from documents used for construction.

B. File documents and samples in accordance with data filing format of the Construction Specifications Institute - MASTERFORMAT.

C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

D. Make documents and samples available at all times for inspection by the ODR.

3.02 RECORDING:

A. A. Stamp or label each document "PROJECT RECORDS" in 3/4-inch letters.

B. During daily progress of the work, the job superintendent for the

Contractor shall record information concurrently with construction progress.

1. Do not conceal any work until required information is recorded.

C. Drawings: Legibly mark to record actual construction in color codes designated by the ODR.

D. Record Information includes but is not limited to the following:

1. Locations of pavements, repairs, patches, and appurtenances referenced to permanent surface improvements.
2. Field changes of dimension and detail.
3. Changes made by field order or by change order.
4. Details not on original contract drawings.
5. Extent and dimensions of pavement removal.
6. All underground, and or, concealed utilities, installed, or discovered during the project construction must be verified to horizontal location, vertical depth, size and purpose on the as-built plans.
7. Any other changes in the plans.

E. Specifications and addenda: Legibly mark each section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
2. Changes made by field order or by change order.

F. All horizontal control dimensions shall be to the nearest tenth of a foot.

3.03 SUBMITTAL:

A. At the close of the job and prior to receipt of final payment, the Contractor shall deliver to the ODR for preparation to the Owner one complete set of Record Documents. The drawing markups submitted as a part of this package will be used by the ODR in preparing final As-Built drawings to the Owner.

B. Accompany submittal with transmittal letter containing:

1. Date.
2. Project title and number.
3. Contractor's name and address.
4. Title and number of each record document.
5. Signature of Contractor or his authorized representative.

3.04 AS-BUILT SURVEY:

A. All disturbed areas under this project, including any onsite borrow or

disposal areas, shall be surveyed upon completion of the project. The field survey shall be incorporated into an AutoCAD 2024 file format of the all surveyed features including intelligent contours. Specific items shall include the following, as applicable:

1. Survey shall reference the existing Airport control network to establish vertical and horizontal control. Additional control points may need to be established is none are available within the vicinity of the project site. Control point information shall be included in the base map.

2. Ground shots shall be taken as necessary to accurately model the final topography in order to establish a 1 ft. contour map of the limits of survey. Existing ground shots shall be accurate to 0.10 ft.

3. All pavements shots shall be taken as necessary to accurately model the final topography in order to establish a 1 ft. contour map of the limits of survey. Maximum spacing of shots shall be fifty feet and shall include pavement edges, centerlines, and intermediate shots as necessary. These elevations shall be accurate to 0.01 ft.

4. Locate all aboveground features including buildings, drainage structures, edge lights, fences, signs, pavement edges, tree lines, utilities and other miscellaneous features.

5. Identify the top of casting, invert elevations and pipe sizes of all storm drainage structures.

6. Identify the top of casting, invert elevations and pipe sizes of all sanitary sewer manholes.

7. Identify the actual location and sizes of all sub-surface utility lines. Underground utilities shall be located prior to backfilling trenches so that accurate depth below the surface can be obtained.

8. Locate any pavement markings within the survey limits.

3.05 PAYMENT:

A. All work necessary by the requirements of this specification shall be incidental to the project.

END OF SECTION 01720

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SECTION 01740

WARRANTIES AND BONDS

PART I GENERAL

1.01 GENERAL REQUIREMENTS:

A. Contractor shall:

1. Compile specified warranties and bonds.
2. Compile specified service and maintenance contracts.
3. Co-execute submittals to verify compliance with Contract Documents
4. Review submittals to verify compliance with Contract Documents.
5. Submit to ODR for review and transmittal to Owner.

B. Related requirements in other parts of the Contract Documents:

1. Bid Bonds: Instructions to bidders.
2. Performance Bond and Payment Bond.
3. General warranty of construction.

C. Related requirements specified in other sections:

1. Contract closeout: Section 01700.
2. Warranties and Bonds required for specific products: Each respective section of specifications.
3. Provisions of Warranties and Bonds, duration: The respective section of specifications which specifies the product.

PART 2 PRODUCTS (Not Used.)

PART 3 EXECUTION

3.01 SUBMITTAL REQUIREMENTS:

A. Assemble warranties, bonds, and service and maintenance contracts, executed by each of the respective manufacturers, suppliers, and subcontractors.

B. Number of original signed copies required: Three (3) each.

C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.

1. Product or work item.
2. Firm, with name of principal, address, and telephone number.
3. Scope.
4. Date of beginning of warranty, bond or service and maintenance contract.
5. Duration of warranty, bond or service and maintenance contract.
6. Provide information for Owner's personnel:
   a. Proper procedure in case of failure.
   b. Instances, which might affect the validity of warranty or bond.
7. Contractor, name of responsible principal, address, and telephone number.

3.02 FORM OF SUBMITTALS:

A. Prepare in duplicate packets.

B. Format:

1. Size 8-1/2 inches x 11 inches, punch sheets for 3-ring binder.
   a. Fold any larger sheets to fit into binder sleeves.
2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS". List:
   a. Project title and number
   b. Owner's name.
   c. Contractor's name and address.

C. Binders: Commercial quality, 3-ring, with durable, and cleanable plastic covers.

3.03 TIME OF SUBMITTALS:

A. Submit within ten (10) days after date of substantial completion, and prior to final request for payment.

B. For items of work where acceptance is delayed materially beyond the date of substantial completion, provide updated submittal within ten (10) days after acceptance, listing the date of acceptance as the start of the warranty period.

3.04 **SUBMITTALS REQUIRED:** Submit warranties, bonds, service and maintenance contracts as specified in the respective sections of specifications.

3.05 **PAYMENT:** No separate payment will be made under this section for work described or specified herein.

END OF SECTION 01740

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PROJECT MANUAL

Tri-Cities Airport

Common Use Implementation Project

Mead & Hunt Project #: 3177700-250176.02

Blountville, TN

Prepared for:
Tri-Cities Airport Authority
Tri-Cities Airport

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Issued for Bid Documentation
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SECTION 000110

TABLE OF CONTENTS

END OF SECTION 000110

SECTION 270500 - COMMON WORK RESULTS FOR COMMUNICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Supplemental requirements generally applicable to the Work specified in Division 27.

B. General Requirements

1. Work to be performed under the Division 27 sections includes all labor, materials, and equipment required to install complete technology and technology infrastructure systems as described in these specifications and as shown on the drawings. This section includes information common to two or more technical specification sections or items that are of a general nature, not conveniently fitting into other technical sections.
2. Before submitting a bid, Contractor shall examine drawings and specifications, visit the work site, and be informed of local conditions, all federal, state and local ordinances, regulations and all other pertinent items which may affect cost, schedule, and completion of this project.
3. Drawings accompanying these specifications are a part of these specifications. Drawings are intended to show general arrangement, design, and extent of work and are diagrammatic. Drawings are not intended to show exact locations except where dimensions are shown. Any substantial differences existing between drawings and conditions in the field shall be submitted to the Architect and Construction Manager for consideration before proceeding with work. Technology work is shown on plans using standard industry symbols.
4. Before ordering materials or doing work, the Contractor shall verify all measurements pertaining to work scope and assume installation responsibility for complete and fully functional technology and technology infrastructure systems.
5. The technology/technology infrastructure work included in all other Divisions of this specification and related documents is the responsibility of the contractor performing the Division 27 work unless specifically noted otherwise.

1.2 STANDARDS, CODES AND REFERENCES

A. The following standards and code documents will be recognized as references for acceptable installation of communications cabling infrastructure. Active knowledge of these documents is strongly recommended for the installation contractor. If any of these documents are in conflict either with each other or this document, the most stringent will apply and be the responsibility of the installation contractor to follow.

ANSI/TIA-526-7-A	Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant
ANSI/TIA 568.0-E	Generic Telecommunications Cabling for Customer Premises

ANSI/TIA 568.1-E	Commercial Building Telecommunications Infrastructure Standard
ANSI/TIA 568.2-D	Balanced Twisted-Pair Telecommunications Cabling and Components Standard
ANSI/TIA 568.3-E	Optical Fiber Cabling and Components Standard
ANSI/TIA-569-E	Telecommunications Pathways and Spaces
ANSI/TIA 606-D	Administration Standard for Telecommunications Infrastructure
ANSI/TIA-607-E	Telecommunications Bonding and Grounding (Earthing) for Customer Premises
ANSI/ICEA S-83-596-2021	Standard for Indoor Optical Fiber Cable
IEEE C2-2023	National Electrical Safety Code (NESC)
NFPA 70	National Electrical Code
NFPA 72	National Fire Alarm and Signaling Code
NFPA 75	Standard for the Protection of Information Technology Equipment
NFPA 101	Life Safety Code
BICSI TDMM	Telecommunications Distribution Methods Manual (15th Edition)
BICSI ITSIMM	Information Technology Systems Installation Methods Manual (8th Edition)
Telcordia GR-63	NEBS™ Requirements: Physical Protection
Telcordia GR-1089	Electromagnetic Compatibility and Electrical Safety - Generic Criteria for Network Telecommunications Equipment

B. Commonly Used Abbreviations and Acronyms for Communications:

AFF	Above Finished Floor
AFG	Above Finished Grade
AWG	American Wire Gauge
ANSI	American National Standards Institute
BAS	Building Automation System
BEP	Building Entrance Protection
BICSI	Building Industry Consulting Service International
BICSI ITS	BICSI Information transport System
BMS	Building Management System
BTU	British Thermal Unit, unit of heat
CAD	Computer Aided Design
CBB	Common Bonding Backbone
DAS	Distributed Antenna System
DEMARC	Demarcation point, service-provider handoff to customer premises
DWG	Drawing, file format for CAD files
EC	Electrical Contractor
EF	Entrance Facility
EIA	Electronic Industries Alliance
ETL	Electrical Testing Laboratories
FCC	Federal Communications Commission
FTP	Foil Twisted Pair

GC	General Contractor
HTAP	Half Tap, compression style connector used to bond two or more conductors
IDC	Insulation Displacement Conductor
IP	Internet Protocol
LAN	Local Area Network
LC	Latching Connector, small form factor fiber optic connector
MTR	Main Technology Room, replaced MDF (Main Distribution Frame)
N	Need or requirement
N+1	Need plus one additional element for redundancy
NEBS	Network Equipment Building System
NEC	National Electric Code
NECA	National Electrical Contractors Association
NEIS	National Electrical Installation Standards
NEMA	National Electrical manufacturers Association
NFPA	National Fire Protection Association
OS2	Optical Single mode type 2, zero water peak to allow for additional wavelengths
OTDR	Optical Time-Domain Reflectometer
PBB	Primary Bonding Busbar (See TMGB)
PDF	Portable Document Format, file format for Adobe Acrobat
PDU	Power Distribution Unit
PoE	Power over Ethernet
POTS	Plain Old Telephone Service, analog phone line
RCDD	Registered Communications Distribution Designer
RJ-45	USOC registered Jack document 45, generic reference for 8P8C (8-Position 8-Contact) modular jacks and plugs
SBB	Secondary Bonding Busbar (See TGB)
SCS	Structured Cabling System
SIP	Session Initiation Protocol
SMB	Surface Mount Box, houses technology jacks
TBB	Telecommunications Bonding Backbone
TC	Telecommunications Contractor
TCP	Transmission Control Protocol
TGB	Telecommunications Grounding Busbar
TIA	Telecommunications Industry Association
TMGB	Telecommunications Main Grounding Busbar
TO	Technology Outlet, one cable terminated with one jack
TR	Technology Room, replaced IDF (Intermediate Distribution Frame)
UL	Underwriters Laboratories
UTP	Unshielded Twisted Pair
UPS	Uninterruptible Power Supply
VA	Volt-Amps, measurement of electrical power
VoIP	Voice over IP
WAN	Wide Area Network
WAO	Work Area Outlet, designated TOs in the same faceplate or surface mount box

1.3 COORDINATION

A. Interruption of Existing Services: Do not interrupt technology services to facilities occupied by Owner or others unless permitted under the following conditions:

1. Notify Owner no fewer than seven days in advance of proposed interruption of the technology service. Provide expected down time of service outage within the notification.
2. If continuity of the service is required for business operations provide the plan and method to mitigate the outage by providing temporary service.
3. Do not proceed with the interruption of service without Owner's written permission.

B. Technology services include but are not limited to the following:

1. Telephone service.
2. Internet service.
3. Network service (including disconnection via backbone cabling).
4. Wi-Fi service.
5. Public Address (PA) service.
6. Physical Security Systems.

1.4 SUBMITTALS

A. Refer to Division 01 for Submittal requirements.

B. Submit for all equipment and systems as indicated in the respective specification sections, marking each submittal with that specification section number. Mark general catalog sheets and drawings to indicate specific items being submitted and proper identification of equipment by name or number, as indicated in the contract documents. Failure to do this may result in the submittal(s) being returned to the Contractor for correction and resubmission. Failing to follow these instructions does not relieve the Contractor from the requirement of meeting the project schedule.

C. On request, the Contractor shall furnish additional drawings, illustrations, catalog data, performance characteristics, etc. to clarify intent of construction or operations.

D. Submittals shall be grouped to include complete submittals of related systems, products, and accessories in a single submittal. Mark dimensions and values in units to match those specified. Include shop drawings, wiring diagrams, and rack layouts as requested for technology systems and infrastructure.

E. The submittals must be approved before fabrication.

F. Individual sections may contain additional details and requirements for submittals.

1.5 PROJECT/SITE CONDITIONS

A. Install Work in locations shown on Drawings, unless prevented by Project conditions.

B. Prepare drawings showing proposed rearrangement of work to meet Project conditions, including changes to work specified in other Sections. Obtain written permission of Architect and Construction Manager before proceeding.

C. Tools, materials, and equipment shall be confined to areas designated by the Construction Manager.

1.6 WORK SEQUENCE AND SCHEDULING

A. See the General Conditions of the Contract, Scheduling and Coordination of Work, and Time for Completion of the Project, and General Requirements, Mutual Responsibility for additional requirements.

1.7 WORK BY OTHER TRADES

A. Every attempt has been made to indicate in this trade's specifications and drawings all work required of this Contractor. However, there may be additional specific paragraphs in other trade specifications and addenda, and additional notes on drawings for other trades which pertain to this Trade's work, and thus those additional requirements are hereby made a part of these specifications and drawings.

B. Technology and connectivity details on drawings for equipment to be provided by others is based on preliminary design data only. This Contractor shall lay out the technology work and shall be responsible for its correctness to match the actual equipment provided by others.

1.8 OPERATING AND MAINTENANCE INSTRUCTIONS

A. Refer to Division 01, General Requirements, Operating and Maintenance Instructions for additional requirements.

1.9 TRAINING

A. Instruct Owner’s personnel in the proper operation and maintenance of systems and equipment provided as part of this project; video record all training sessions. Use the Operating and Maintenance manuals during this instruction. Demonstrate operational requirements, use, and maintenance procedures for all equipment. All training to be during normal working hours.

B. Refer to other sections in Division 27 for specific section and equipment training requirements.

1.10 RECORD DRAWINGS

A. Contractor shall provide drawings to document as-built conditions per Division 01.

B. A set of prints shall be kept at the job site upon which all changes and deviations from the original design are to be recorded daily. All changes shall be clearly marked. These drawings shall indicate

as a minimum, all changes made to the drawings, changes in equipment locations, accurate locations of pathways not exposed, and all other significant changes and deviations from the original design.

C. The daily record of changes shall be the responsibility of the Contractor's field representative. No arbitrary mark-ups will be permitted.

D. The record drawing set shall be made available and may be audited periodically by the Owners' construction representative to assure the changes are being recorded.

E. At the completion of the project, the Contractor shall submit the marked-up record drawings to the Owners' construction representative prior to request for final payment.

1.11 QUALIFICATIONS

A. General

1. All personnel performing any installation, configuration, or oversight of the communications infrastructure systems' implementation shall hold the appropriate certifications, training, and experience requirements as specified in this section. In no instance shall any contractor's staff perform any work on the communications infrastructure without the appropriate training and certifications.
2. The Owner reserves the right to reject any installation staff member which meets the stated minimum requirements but in the opinion of the Owner does not meet the Owner's and industry standards of satisfactory workmanship.
3. Installation Contractors shall have been in business a minimum of five (5) years performing similar work as described within these specifications.

B. Cabling Installer Minimum Qualifications:

1. The Contractor shall be certified by the manufacturer of the products, adhere to the engineering installation, testing procedures, and utilize the authorized manufacturer components to be installed.
2. All members of the installation team shall be certified by the manufacturer as having completed the necessary training to complete their part of the installation. Resumes of the entire team shall be provided along with documentation of completed training courses. Submit resume and copy of technician's license.
3. Equipment and materials shall be standard products of a manufacturer regularly engaged in the manufacture of telecommunications cabling products and shall be the manufacturer's latest standard design in satisfactory use for at least one (1) year prior to bid opening.
4. Items of the same classification shall be identical. This requirement includes cable, equipment, modules, assemblies, parts, and components.
5. All equipment shall be installed in a neat and workmanlike manner. All methods of construction that are not specifically described or indicated in the Specification shall be subject to the control and approval of the Owner's Representative. Equipment and materials shall be of the quality and manufacturer indicated. The equipment specified is based on the acceptable manufacturers listed. Where "or equal" is stated, equipment shall be equivalent in every way to that of the equipment specified, and subject to approval.

C. Active Networking Equipment Installer Minimum Qualifications:

1. Contractor Qualifications: The Contractor shall be fully capable of installing and configuring the local area network infrastructure. The Contractor shall at a minimum possess the following qualifications:
   a. Installing contractor shall be certified by the manufacturer of the active networking equipment to be installed, and adhere to the engineering, installation/testing procedures, and utilize the authorized manufacturer components in provisioning for the project.
   b. Installing contractor shall possess the appropriate certifications and/or training from the proposed manufacturer(s) for service the equipment and software, and supporting evidence of those qualifications.

PART 2 - PRODUCTS

2.1 PRODUCTS

A. Refer to individual Division 27 sections for specific product requirements.

2.2 SUBSTITUTION LIMITATIONS FOR COMMUNICATIONS EQUIPMENT

A. Substitution requests for communications equipment will be entertained under the following conditions:

1. Substitution requests may be submitted for consideration prior to the Communications Preconstruction Conference if accompanied by value analysis data indicating that substitution will comply with Project performance requirements while significantly increasing value for Owner throughout life of facility.
2. Contractor is responsible for sequencing and scheduling equipment procurement. After the Communications Preconstruction Conference, insufficient lead time for equipment delivery will not be considered a valid reason for substitution.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions:

1. It is the responsibility of the contractor to verify all existing conditions and work to be completed to ensure these are no conflicts or obstacles preventing completion of the work. Any obstacles or conflicts shall be brought to the attention of the Construction manager and Architect for resolution prior to work commencement.

B. Preinstallation Testing:

1. Refer to individual sections for requirements on pre-installation testing.

3.2 PREPARATION

A. Protection of In-Place Conditions:

1. All Airport technology systems shall remain operational at all times. Existing systems to remain shall be protected in place from damage and contamination (dust, fluids, debris, etc.).

3.3 DEMOLITION

A. The drawings are intended to indicate the scope of work required and do not indicate every box, conduit, or wire that must be removed.

B. The Contractor shall visit the site prior to submitting a bid and verify existing conditions.

C. Prior to demolition or alteration of structures, the following shall be accomplished:

1. Survey and record condition of existing facilities to remain in place that may be affected by demolition operations. After demolition operations are completed, survey conditions again and restores existing facilities to their pre-demolition condition.
2. Existing Communications Systems:
   a. Maintain existing system(s) in service until new system(s) is complete and ready for service.
   b. Disable system(s) only to make switchovers and connections.
   c. Obtain permission no fewer than seven working days in advance of proposed interruption of system(s) before partially or completely disabling system(s).
   d. Minimize outage duration.
   e. If required, make temporary connections to maintain service in areas adjacent to work area.
   f. Do not proceed with interruption without owner's written permission.

D. Materials and Equipment

1. Materials and equipment for terminating, patching and cross connecting of existing technology systems and infrastructure shall be as specified in individual Sections.
2. Materials and equipment for patching and extending work as specified in the individual Sections.

E. Examination

1. Prior to commencing with demolition, a proposed implementation narrative with schedule shall be submitted to the engineer for approval.
2. Provide proof that only qualified personnel with extensive technology infrastructure experience will perform the demolition.
3. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on active equipment, use technicians

experienced in such operations. Assume all equipment and systems must remain operational unless specifically noted otherwise on drawings.

4. Whenever possible, the Contractor shall coil existing to be reused cable above ceiling for re-termination if cable length will allow. Re-terminated cables shall be tested as specified in the applicable specification section.
5. Where walls, ceilings, structures, etc., are indicated as being renovated on general drawings, the contractor shall be responsible for the removal of all technology equipment including but not limited to copper, fiber and coaxial cable, faceplates and jacks, raceways, racks/cabinets and equipment mounted to the racks/cabinets, etc., from the renovated area.
6. Where ceilings, walls, structures, etc., are temporarily removed and replaced by others, the contractor shall be responsible for the removal, storage, and replacement of equipment, devices, fixtures, raceways, wiring, systems, etc.

F. Demolition and Extension of Existing Work

1. Demolish and extend existing technology work under provisions of Division 01 specifications and this Section.
2. Some cabling within the ceiling space may serve other building tenants; care shall be exercised to prevent service interrupts.
3. Remove, relocate, and extend existing installations to accommodate new construction.
4. Remove abandoned low voltage cabling and raceway to source of cabling. Refer to the National Electrical Code for definition of Abandoned Communications Cabling.
5. Remove exposed abandoned raceway, including abandoned raceway above accessible ceiling finishes. Cut raceway flush with walls and floors, and patch surfaces. Remove all associated clamps, hangers, supports, etc. associated with raceway removal.
6. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is removed. Patch openings created from removal of devices to match surrounding finishes.
7. Disconnect and remove abandoned patch panels, blocks, panels, power supplies, and other associated equipment.
8. Repair adjacent construction and finishes damaged during demolition and extension work. Patch openings to match existing surrounding finishes.
9. Maintain access to existing technology spaces and equipment that remain active. Modify installation or provide access panels as appropriate.
10. Extend existing installations using materials and methods compatible with existing technology installations, or as specified.
11. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
12. Floor slabs may contain conduit systems. The contractor is responsible for taking any measures required to ensure no conduits or other services are damaged. This includes x-ray or similar non-destructive means.
13. The contractor is responsible for all costs incurred in repair, relocations, or replacement of any cables, conduits, or other services if damaged without proper investigation.

3.4 INSTALLATION OF COMMUNICATIONS WORK

A. Unless more stringent requirements are specified in the Contract Documents or manufacturers' instructions, comply with NFPA 70, NECA NEIS 1, and ANSI/BICSI N1 for installation of Work specified in Division 27. Consult Architect for resolution of conflicting requirements.

3.5 FIELD QUALITY CONTROL

A. Administrant for Communications Tests and Inspections:

1. Administer and perform tests and inspections.

3.6 CLEANING

A. Clean all Technology Rooms and fittings to include, but not limited to, the following:

1. Floor, walls, racks, cabinets, cable runways, raceways.
2. Cabinet, racks, and mounted infrastructure components shall be free of dust and debris prior to electronics being installed.

B. Remove all waste and debris on a daily basis.

3.7 CLOSEOUT ACTIVITIES

A. Demonstration:

1. Refer to individual Division 27 sections regarding demonstrations to Owner's maintenance personnel and building occupants how to operate specific systems and equipment.
2. Allow Owner to record demonstrations.

B. Training:

1. Refer to individual Division 27 sections regarding training Owner's maintenance personnel.
2. Allow Owner to record training sessions.

END OF SECTION 270500

SECTION 272233 - AIRPORT COMMON USE SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Common Use Passenger Processing System.
2. Server Infrastructure.
3. Network Infrastructure.
4. Information Display Systems.
5. Resource Management System (RMS).
6. Airport Operational Database (AODB).
7. Gate Counter (aka, Gate Podium) Hardware.
8. Check-In Counter (aka, Ticket Counter) Hardware.
9. Portable Hardware.
10. Common Use Self Bag Drop.

1.2 REFERENCES

A. The publications listed below form part of this Specification to the extent referenced. The publications are referred to in the text by designation only.

B. Specific reference in specifications to codes, rules, regulations, standards manufacturer's instructions, or requirements of regulatory agencies shall mean the latest edition of each in effect at the date of contract unless the document shown is dated.

C. If conflicts exist between referenced requirements and contract documents, comply with the one establishing the more stringent requirements.

D. General Standards

1. National Electrical Manufacturers Association (NEMA)
2. NFPA 70 National Electrical Code (NEC)
3. Americans with Disabilities Act (ADA)

E. Common Use Standards

1. IATA RP 1797 – Common Use Passenger Processing Systems (CUPPS) and associated CUPPS Technical Requirements and Specifications.
2. IATA RP 1741 – Common Use Web Services (CUWS) for Baggage and Passenger Conformance Services.
3. IATA RP 1706c – Common Use Self Service (CUSS).

1.3 ACRONYMS

A. ADA: American with Disabilities Act

B. AODB: Airport Operational Database

C. BIDS: Baggage Information Display System

D. COTS: Commercial Off-The-Shelf

E. CUPPS: Common Use Passenger Processing System

F. CUSS: Common Use Self Service

G. CUTE: Common Use Terminal Equipment

H. CUWS: Common Use Web Services

I. DCS: Departure Control System

J. EMV: Europay, Mastercard, and Visa

K. FIDS: Flight Information Display System

L. GIDS: Gate Information Display System

M. IATA: International Air Transport Association

N. ICD: Interface Control Document

O. LDCS: Local Departure Control System

P. MUFIDS: Multi-Use Flight Information Display System

Q. NEC: National Electrical Code

R. NEMA: National Electrical Manufacturers Association

S. NFC: Near-Field Communication

T. PCI DSS: Payment Card Industry Data Security Standard

U. RMS: Resource Management System

V. RP: Recommended Practice

W. VP: Visual Paging

1.4 COMMON USE SYSTEM DESCRIPTION

A. The Contractor shall provide a fully integrated Common Use System that includes the ability to integrate with the following systems:

1. Airport Operational Database (AODB) – The future AODB shall serve as the central database and repository for real-time and historical airport operational data. The common use system that is implemented shall be able to integrate with common AODB applications.
2. Resource Management System (RMS) – The future RMS shall be able to be integrated as part of the common use system that is implemented and shall serve as the decision-making tool for airport resources including the following:
    a. Check-In Counters
    b. Gate Counters
    c. Baggage Belts
    d. Aircraft Gates
3. Common Use Passenger Processing System (CUPPS) – CUPPS shall be a cloud-based solution and serve as the platform enabling multiple airlines and other users to utilize shared airport resources supporting airline and airport operations.
4. Common Use Self-Service (CUSS) – The common use solution shall be able to be expanded to support CUSS and shall serve as the system supporting shared kiosks providing airport check-in services for passengers.
5. Audio Paging System (APS) / Sound System Project - The common use solution shall be able to be integrated with the Airport's APS that will be implemented as part of the proposed Sound System Project and used to provide public announcements to the travelling public.
6. Multi-User Flight Information Display System (MUFIDS) – MUFIDS shall serve as the system providing flight information (Departures / Arrivals) gate information, and baggage information (baggage make-up / claim) and shall include the following:
    a. Flight Information Display System (FIDS)
    b. Gate Information Display System (GIDS)
    c. Baggage Information Display System (BIDS)
    d. Audio Paging System (APS)
    e. Visual Paging – Include the ability for future integration with existing Airport audio paging system.
    f. Integrate with the existing FIDS solution provided by Terminal Systems International (TSI).
7. Biometric enrollment and reading capabilities.

B. Local Departure Control System (LDCS) – LDCS is not a requirement, but the system shall have ability to add this capability in the future should the need be required.

C. Mobile Common Use Workstation – The proposed Common Use System shall include the ability to utilize battery operated wireless mobile workstations to conduct all common use procedures identical to that which are foreseen at the physical check-in and gate counters.

1.5 ACTION SUBMITTALS

A. Product Data: For the overall platform and each type of product.

B. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Include details of equipment assemblies. Indicate dimensions, weights, required clearances, method of field assembly, components, and location and size of each field connection.
3. Gate Counter and Check-In Counter layouts.
4. Mobile workstation layouts.
5. Rack arrangements if needed.
6. Wiring Diagrams:
   a. Single-line diagram showing interconnection of components.
7. Logical network diagram.

C. Integrated Systems Drawings:

1. Provide a complete systems design document for the Common Use Systems a minimum of ninety (30) days prior to functionality testing. The documents shall include the following:
   a. Design details of each individual system.
   b. Design details of core infrastructure including network, servers, services, and applications
   c. Logical diagrams for each individual system.
   d. Interface Control Document (ICD) defining each system interface.

D. Software:

1. Provide description of software features, functionality, and version.

E. Hardware:

1. Provide description of hardware features and functionality.

F. System Test Plans:

1. The Contractor shall provide system test plans including factory acceptance, site acceptance, and endurance testing as well as all related test results and reports. Each test shall include purpose and goal, detailed procedure with test steps, and pass / fail criteria. Each specification requirement shall be tested and referenced. A summary cross-reference between each test and the specification shall be provided and sorted in the order of the specification requirements.

G. Training Plan:

1. The Contractor shall provide training plan for each system and include course material.

H. Parts List:

1. Provide recommended spare parts list.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Developer.

B. CUPPS, CUTE, CUSS, and CUWS certification documents.

1.7 CLOSEOUT SUBMITTALS

A. As-Built Documentation

1. The Contractor shall provide as-built documentation for each of the systems including configurations, interfaces, and other related information.

B. Operation and Maintenance Data: For common use systems to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Division 01 specifications for closeout procedures and operation and maintenance data, include the following:
   a. List of replacement items recommended to be stored at Project for ready access. Include part and drawing numbers, current unit prices, and source of supply.
   b. Operating instructions laminated and mounted adjacent to operating positions.
   c. Training plan.

1.8 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Workstation (PC, Display, Intelligent Keyboard, Mouse): One.
2. Barcode Scanner: One.
3. Boarding Pass Printer: One.
4. Baggage Tag Printer: One
5. Boarding Pass/Barcode Scanner (2D, 3D, RFID): One.
6. Document Printer: One.

1.9 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

1.10 WARRANTY

A. General

1. The Contractor shall provide a joint written warranty of the manufacturer(s) and the installers. The warranty shall warrant complete installation of the system, software,

equipment to be free from defects in workmanship and materials for a period of no less than twelve (12) months.
2. The warranty shall begin from the final system acceptance of the systems head-end.

B. Hardware Warranty

1. All hardware supplied as part of this specification shall have a minimum of a one (1) year warranty.

C. Software Warranty

1. All software supplied as part of this specification shall have a minimum of a one (1) year warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Amadeus
2. AeroCloud
3. Collins
4. Embross
5. SITA

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 FUNCTIONAL DESCRIPTION OF SYSTEM

A. System Functions:

1. Provides a single platform allowing multiple airlines the ability to use the same fixed equipment to support their passenger processes. The platform resides on shared airport infrastructure and provides a means for each airline to operate from their base systems at shared locations.
2. Provides a single platform and hardware to support passenger self-service options (i.e., check in, bag drop, etc.).

2.3 PERFORMANCE REQUIREMENTS

A. The platforms and solutions identified in the specification shall be compliant with all relative IATA recommended practices and specifications.

B. Payment transactions shall be PCI DSS compliant from end-to-end transactions.

1. Self-service card payment processing devices (Point of Sale (PoS)) shall contain card readers, pin pads, and support NFC.

2.4 COMMON USE PASSENGER PROCESSING SYSTEM

A. The Common Use Passenger Processing System (CUPPS) platform shall be compliant with the current version of the IATA Recommended Practice 1797 technical specifications.

B. The CUPPS platform shall have current functional integrations with the major airlines in operation at this terminal, to include:

1. Allegiant
2. American Airlines
3. Delta
4. Sun Country
5. New carrier Intending to Begin Operations in the Fall 2025.

C. The primary platform solution shall be a cloud-based architecture design with common aspects of Software-as-a-Service (SaaS).

2.5 SERVER INFRASTRUCTURE

A. The CUPPS solution shall require minimal on-premises server infrastructure. Secure cabinet space will be provided for all required servers as-needed.

2.6 NETWORK INFRASTRUCTURE

A. The Common Use System shall reside on a dedicated network infrastructure to support all systems, features, and functions. The Common Use network infrastructure shall meet the following requirements:

1. Provide and maintain a dedicated internet circuit.
2. Contain all necessary firewalls and switches to accommodate all required services and connections.
3. UPS(s) to mitigate generator switch-over time.
4. Wireless access points to support the mobile solutions.
5. The new network infrastructure shall be located in Airport Technology Rooms unless otherwise approved.

B. Secure cabinet space will be provided for all network components.

2.7 COMMON USE SELF SERVICE

A. The Common Use Self Service (CUSS) platform shall be compliant with the current version of the IATA Recommended Practice 1706c technical specifications.

B. Must include the future capability to add biometric and credential registration and validation without upgrading the kiosks.

2.8 INFORMATION DISPLAY SYSTEMS

A. Flight Information Display System (FIDS)

1. FIDS shall be a native integration with the CUPPS platform.
2. FIDS shall be integrated with the future DCS and Resource Management System platforms to provide automation of content at the displays.
3. At ticket and gate counters, a secondary display shall be controlled to provide individual airline branding.
4. Branding displays shall show airport content while ticket counters are idle.
5. The FIDS platform shall have the capability to send a schedule to ancillary building management systems for use in lighting, power, and HVAC controls.

B. Gate Information Display System (GIDS)

1. GIDS shall be integrated with the CUPPS, DCS, and Resource Management System platforms to provide automation of content at the displays.
2. A secondary display shall be controlled at each gate location to provide individual airline branding with selection of templates to provide auxiliary flight information (boarding queue information, waitlists, upgrades, etc.).
3. When a gate is idle displays shall show airport content.

C. Baggage Information Display System (BIDS)

1. The future BIDS shall have the capability to be integrated with the CUPPS, DCS, and Resource Management System platforms to provide automation of content at the displays.
2. When bag belts are idle displays shall show airport content.

2.9 RESOURCE MANAGEMENT SYSTEM

A. A Resource Management System (RMS) may be implemented at a later date. The proposed common use system shall have the ability to integrate with common RMS providers. The future RMS shall be considered a part of the Common Use environment and used to manage and allocate airport controlled fixed and mobile resources including gate counters, check-in counters, and baggage resources through the airport / airline / passenger processes.

B. The future RMS will have the ability to integrate with AODB, CUPPS, and MUFIDS solutions to manage check-in counters, gates/gate counters, and operational controls of related areas.

2.10 AIRPORT OPERATIONAL DATABASE

A. An Airport Operational Database (AODB) may be implemented at a later date. The proposed common use systems shall have the ability to integrated with common AODB providers. The future AODB shall be considered a part of the common use infrastructure to track flight movement in real time and provide that information for use in other systems including the RMS and FIDS.

B. The future AODB shall provide a centralized data repository and information hub for all Common Use Systems and shall serve as the information data exchange mechanism.

C. The future AODB shall be capable of integrating new systems / components and provide the ability for future expansion.

D. The future AODB shall perform real-time data warehousing functions for current and historical operational data with planning and reporting tools to manage and monitor the following:

1. Flight schedule management system including importing season schedules and making manual updates to any flight including week and day of operation.
2. Must be capable of report creation and generation by the Airport.
3. Shall allow Airport access for manual schedule changes.

2.11 GATE COUNTER HARDWARE

A. Gate Counters shall be equipped with all hardware necessary to support airline operations for each airline. These devices include, but are not limited to the following components:

1. Workstation: includes PC (or thin client), display (17” minimum) with ergonomic mount, keyboard, mouse, and operating system/software/licenses.
2. Card Payment Processing Device.
3. Boarding Pass/Barcode Scanner (2D, 3D, RFID).
4. Boarding Pass / Receipt Printer using common stock.
5. RFID Baggage Tag Printer (IATA Resolution 740 Compliant) using common stock.
6. Dot Matrix Document Printer.
7. Paging Station – provided by others. Coordinate with APS contractor via the ongoing Sound System Implementation Project.
8. Phone – provided by others. Coordinate with Owner.

B. Gate counter displays shall be integrated with the local gate counter hardware to populate the screens with airline branding on the first display and flight information on the second display.

C. Provide complete fully functional setups for two (2) fixed dual-position gate counters at Gates 1 and 2 resulting in four (4) total workstations.

2.12 CHECK-IN COUNTER HARDWARE

A. Check-In Counters shall be equipped with all hardware necessary to support airline operations for each airline. These devices include, but are not limited to the following components:

1. Workstation: includes PC (or thin client), display (17" minimum) with ergonomic mount, keyboard, mouse, and operating system/software/licenses.
2. Card Payment Processing Device.
3. Boarding Pass/Barcode Scanner (2D, 3D, RFID), handheld with fixed cradle.
4. Boarding Pass / Receipt Printer using common stock.
5. RFID Baggage Tag Printer (IATA Resolution 740 Compliant) using common stock.
6. Paging Station – provided by others. Coordinate with APS contractor via the ongoing Sound System Implementation Project.
7. Phone – provided by others. Coordinate with Owner.

B. Check-in counter displays shall be integrated with the local check-in counter hardware to populate the screens with airline branding on the first display and flight information on the second display.

C. Provide complete fully functional setups for two (2) fixed dual-position check-in counter resulting in four (4) total workstations.

2.13 PORTABLE HARDWARE

A. Provide a mobile cart solution capable of being stood up as an ad-hoc check-in counter or gate counter using the dedicated Common Use wireless access points. These solutions include, but are not limited to the following components:

1. Modular Mobile Workstation Cart.
2. Workstation: includes WiFi capable / enabled PC (or thin client), display (17" minimum) with ergonomic mount, keyboard, mouse, and operating system/software/licenses.
3. Card Payment Processing Device.
4. Boarding Pass/Barcode Scanner (2D, 3D, RFID), handheld, with fixed cradle.
5. Boarding Pass / Receipt Printer using common stock.
6. RFID Baggage Tag Printer (IATA Resolution 740 Compliant) using common stock.

B. Provide two (2) mobile setups.

PART 3 - EXECUTION

3.1 COORDINATION

A. Coordinate platform and system development with the Airport to ensure workflow processes and system setup align with the requirements of the Airport.

3.2 INSTALLATION

A. Coordinate layout and installation of system components with the Airport, Airlines, and other trades.

B. Engage a Project Manager to manage planning and installation meeting and tasks.

C. Equipment Cabinets and Racks:

1. Group items of same function together.

3.3 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

B. Perform tests and inspections.

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.

C. Tests and Inspections:

1. Schedule operational tests with at least seven days' advance notice of test performance.

D. Inspection: Verify that units and controls are properly labeled and interconnecting wires and terminals are identified.

E. System will be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

3.4 STARTUP SERVICE

A. Perform startup service.

1. Verify that electrical wiring installation complies with manufacturer's submittal and installation requirements.
2. Complete installation and startup checks according to manufacturer's written instructions.

3.5 TESTING

A. Phases of Testing

1. Factory Acceptance Testing
2. Site Acceptance Testing
3. Endurance Testing

B. Factory Acceptance Test

1. Test: The purpose is to test the complete system software package and equipment of the system and to demonstrate that all specified features and performance criteria are met. All requirements of the Specification shall be tested including:

a. Functionality and response of the systems.
b. Data interaction.
c. System capacity.
d. Hardware interaction.
e. Hardware and software interaction.
f. Integration Interfaces.
g. Demonstrate report generation.

2. Acceptance: Acceptance of the system to perform sufficiently and provide specified functions shall be determined by Project Representative. Testing may be witnessed by additional Airport personnel.
   a. Acceptance Criteria: Performance of system shall equal or exceed criteria stated in individual Specification sections.
   b. If system does not perform satisfactorily, the Contractor shall make corrections and modifications and schedule new test with Project Representative.
3. Completion:
   a. At successful completion of test, dismantle equipment so as to prevent damage. Replace all defective or worn items.
   b. Re-pack in original containers all equipment to be delivered to site for installation.
4. Reporting:
   a. Record all test procedures and results.
   b. Submit report in accordance with reporting requirements.

C. Site Acceptance Test

1. Procedures:
   a. Complete operational testing of all components and systems shall be witnessed by the Project Representative.
   b. As part of the Site Acceptance Testing, a Failure Recovery test procedure shall be conducted. The Failure Recovery will include a full system failure and recovery procedures for each airline.
   c. Schedule test with Project Representative. Do not begin testing until:
      1) All required systems have been installed and individually and jointly tested to ensure they are operating properly.
      2) Written permission from Project Representative has been received.
2. Testing: As part of Site Acceptance Test, test all components of the AODB. The tests shall demonstrate all system features.
3. Verification: Verify correct operation of system under all conditions.
4. Adjustment, Correction, And Completion:
   a. Correct deficiencies and retest affected components.
   b. Make necessary adjustments and modification to system after obtaining approval of Project Representative.
   c. Completion: Site Acceptance Test shall be complete when testing or retesting of each component has produced a positive result and has been approved in writing by Project Representative.
5. Recording:
   a. Describe actual operational tests performed and equipment used and list personnel performing tests.
   b. Record in tabular form all test results, deficiencies, and corrective measures.
6. Termination

a. Performance Verification Test shall be terminated by the Project Representative when:
   1) Individual components, subsystems, or the common use systems fail to perform as specified.
   2) It is determined that the system is missing components or installation is not complete.
b. Upon termination, corrective work shall be performed, and the Site Acceptance Test rescheduled with Project Representative.
c. Re-testing shall be performed by Contractor at no additional expense.
d. Contractor shall continue to perform corrective actions and re-test until system passes all tests to satisfaction of Project Representative.

D. Endurance Test

1. General:
   a. Provide personnel to operate system 24 hours per day, including weekends and holidays during Endurance Testing.
   b. Start test after: Successful completion of Site Acceptance Testing.
   c. Training as specified has been completed.
   d. Correction of deficiencies has been completed.
   e. Receipt of written start notification from Project Representative.
   f. Monitor all systems during Endurance Testing. Coordinate monitoring with Project Representative.
   g. Recording: Record data on approved forms so as to provide a continuous log of systems performance. Include:
      1) Date and time for all entries.
      2) Name of individual making entry.
      3) Environmental conditions.
      4) Airport activities in process.
      5) Description of all alarm annunciations, responses, corrective actions, and causes of alarms. Classify as to type of alarm.
      6) Description of all equipment failures, including software errors.
      7) Description of all maintenance and adjustment operations performed on system.
   h. Daily and weekly tabulations.
   i. Daily entries of performance data shall be reviewed by Project Representative.
   j. Airport may terminate testing at any time when the system fails to perform as specified.

E. Final Inspection and Acceptance

1. After Endurance Testing is complete, review tabulated records with Project Representative.
2. Contractor will not be responsible for failures caused by:
   a. Outage of main power in excess of backup power capability provided that automatic initiation of all backup sources was accomplished, and automatic shutdowns and restarts of systems performed as specified.
   b. Failure of any Airport furnished power, communications, and control circuits provided failure not due to Contractor furnished equipment, installation, or software.
   c. Failure of existing Airport equipment provided failure not due to Contractor furnished equipment, installation, or software.

3. When performance of system does not fall within the above parameter, determine cause of deficiencies, correct, and retest.
    a. When requested by Project Representative, extend monitoring period for a time as designated by Project Representative.
4. Submit final report of Endurance Testing containing all recorded data.

3.6 DEMONSTRATION

A. Train Owner's maintenance personnel to operate and maintain the system and equipment.

B. General

1. The Contractor shall prepare training materials and conduct all training for airline users and administrators. Airport will provide a training classroom to conduct project training.
2. The Contractor shall supply the appropriate training for designated Airport and airline personnel. The training shall provide personnel with a working knowledge of the network design and layout and shall provide troubleshooting methods and techniques. In addition, the training shall cover testing, maintenance, and repair procedures for all software and equipment, which is provided under this Specification.
3. The Contractor shall supply a detailed plan of user training and system administrator training. The Contractor shall provide a course outline, course materials and syllabus to the Airport for approval 30-days prior to the scheduled training date. Each course shall require Authority’s approval prior to presentation.
4. Course materials shall be delivered to the Airport for future presentation. Final delivery of the course materials shall include a master hard copy of all materials and an electronic copy in a format approved by the Airport. The Contractor shall supply video of each training course.
5. The following general training guidelines shall be followed:
    a. By means of training classes augmented by individual instruction as necessary, the Contractor shall fully instruct the Airport’s designated staff and Airline personnel in the operation, adjustment and maintenance of all products, equipment, and systems. The Contractor shall be required to provide all training aids (e.g., notebooks, manuals).
    b. All training shall be completed a minimum of two weeks prior to the system becoming operational and utilized by tenants. Training schedule subject to Project Representative approval.
    c. Training shall be conducted by experienced personnel and supported by training aids. An adequate amount of training material shall be provided by the Contractor. The following is considered a minimum.
        1) Functional flow charts, overall block diagrams, and descriptive material for all software.
        2) Schematic drawings for each of the hardware components.
        3) All procedure manuals, specification manuals, and operating manuals.
        4) As-built drawings.
    d. Participants shall receive individual copies of technical manuals and pertinent documentation 7-days in advance of the training course.
    e. A final course schedule and syllabus shall be prepared by the Contractor for each course to be conducted for Airport personnel and submitted for review at least four (4) weeks prior to the scheduled date of the course commencement.

f. Each course outline shall include, in addition to the subject matter, a short review of the prerequisite subjects (where appropriate); how this course fits into the overall training program; the objective; the standards of evaluation; and any other topics that will enhance the training environment.
g. All training requirements identified are minimum requirements.

END OF SECTION 272233

EXHIBIT A

Operational Safety on Airport During Construction

U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Operational Safety on Airports During Construction	**Date:** 12/13/2017 **Initiated By:** AAS-100	**AC No:** 150/5370-2G **Change:**

1 **Purpose.**

This AC sets forth guidelines for operational safety on airports during construction.

2 **Cancellation.**

This AC cancels AC 150/5370-2F, *Operational Safety on Airports during Construction*, dated September 29, 2011.

3 **Application.**

This AC assists airport operators in complying with Title 14 Code of Federal Regulations (CFR) Part 139, *Certification of Airports*. For those certificated airports, this AC provides one way, but not the only way, of meeting those requirements. The use of this AC is mandatory for those airport construction projects receiving funds under the Airport Improvement Program (AIP). See Grant Assurance No. 34, *Policies, Standards, and Specifications*. While we do not require non-certificated airports without grant agreements or airports using Passenger Facility Charge (PFC) Program funds for construction projects to adhere to these guidelines, we recommend that they do so to help these airports maintain operational safety during construction.

4 **Related Documents.**

ACs and Orders referenced in the text of this AC do not include a revision letter, as they refer to the latest version. Appendix A contains a list of reading material on airport construction, design, and potential safety hazards during construction, as well as instructions for obtaining these documents.

5 **Principal Changes.**

The AC incorporates the following principal changes:

1. Notification about impacts to both airport owned and FAA-owned NAVAIDs was added. See paragraph 2.13.5.3, NAVAIDs.

2. Guidance for the use of orange construction signs was added. See paragraph 2.18.4.2, Temporary Signs.
3. Open trenches or excavations may be permitted in the taxiway safety area while the taxiway is open to aircraft operations, subject to restrictions. See paragraph 2.22.3.4, Excavations.
4. Guidance for temporary shortened runways and displaced thresholds has been enhanced. See Figure 2-1 and Figure 2-2.
5. Figures have been improved and a new Appendix F on the placement of orange construction signs has been added.

Hyperlinks (allowing the reader to access documents located on the internet and to maneuver within this document) are provided throughout this document and are identified with underlined text. When navigating within this document, return to the previously viewed page by pressing the "ALT" and " ←" keys simultaneously.

Figures in this document are schematic representations and are not to scale.

6 **Use of Metrics.**

Throughout this AC, U.S. customary units are used followed with "soft" (rounded) conversion to metric units. The U.S. customary units govern.

7 **Where to Find this AC.**

You can view a list of all ACs at http://www.faa.gov/regulations_policies/advisory_circulars/. You can view the Federal Aviation Regulations at http://www.faa.gov/regulations_policies/faa_regulations/.

8 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.

John R. Dermody
Director of Airport Safety and Standards

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CHAPTER 1. PLANNING AN AIRFIELD CONSTRUCTION PROJECT

1.1 Overview.

Airports are complex environments, and procedures and conditions associated with construction activities often affect aircraft operations and can jeopardize operational safety. Safety considerations are paramount and may make operational impacts unavoidable. However, careful planning, scheduling, and coordination of construction activities can minimize disruption of normal aircraft operations and avoid situations that compromise the airport's operational safety. The airport operator must understand how construction activities and aircraft operations affect one another to be able to develop an effective plan to complete the project. While the guidance in this AC is primarily used for construction operations, the concepts, methods and procedures described may also enhance the day-to-day airport maintenance operations, such as lighting maintenance and snow removal operations.

1.2 Plan for Safety.

Safety, maintaining aircraft operations, and construction costs are all interrelated. Since safety must not be compromised, the airport operator must strike a balance between maintaining aircraft operations and construction costs. This balance will vary widely depending on the operational needs and resources of the airport and will require early coordination with airport users and the FAA. As the project design progresses, the necessary construction locations, activities, and associated costs will be identified and their impact to airport operations must be assessed. Adjustments are made to the proposed construction activities, often by phasing the project, and/or to airport operations to maintain operational safety. This planning effort will ultimately result in a project Construction Safety and Phasing Plan (CSPP). The development of the CSPP takes place through the following five steps:

1.2.1 Identify Affected Areas.

The airport operator must determine the geographic areas on the airport affected by the construction project. Some, such as a runway extension, will be defined by the project. Others may be variable, such as the location of haul routes and material stockpiles.

1.2.2 Describe Current Operations.

Identify the normal airport operations in each affected area for each phase of the project. This becomes the baseline from which the impact on operations by construction activities can be measured. This should include a narrative of the typical users and aircraft operating within the affected areas. It should also include information related to airport operations: the Aircraft Approach Category (AAC) and Airplane Design Group (ADG) of the airplanes that operate on each runway; the ADG and Taxiway Design Group (TDG)[1] for each affected taxiway; designated approach visibility minimums;

[1] Find Taxiway Design Group information in AC 150/5300-13, *Airport Design.*

available approach and departure procedures; most demanding aircraft; declared distances; available air traffic control services; airport Surface Movement Guidance and Control System (SMGCS) plan; and others. The applicable seasons, days and times for certain operations should also be identified as applicable.

1.2.3 Allow for Temporary Changes to Operations.

To the extent practical, current airport operations should be maintained during the construction. In consultation with airport users, Aircraft Rescue and Fire Fighting (ARFF) personnel, and FAA Air Traffic Organization (ATO) personnel, the airport operator should identify and prioritize the airport's most important operations. The construction activities should be planned, through project phasing if necessary, to safely accommodate these operations. When the construction activities cannot be adjusted to safely maintain current operations, regardless of their importance, then the operations must be revised accordingly. Allowable changes include temporary revisions to approach procedures, restricting certain aircraft to specific runways and taxiways, suspension of certain operations, decreased weights for some aircraft due to shortened runways, and other changes. An example of a table showing temporary operations versus current operations is shown in Appendix E.

1.2.4 Take Required Measures to Revise Operations.

Once the level and type of aircraft operations to be maintained are identified, the airport operator must determine the measures required to safely conduct the planned operations during the construction. These measures will result in associated costs, which can be broadly interpreted to include not only direct construction costs, but also loss of revenue from impacted operations. Analysis of costs may indicate a need to reevaluate allowable changes to operations. As aircraft operations and allowable changes will vary widely among airports, this AC presents general guidance on those subjects.

1.2.5 Manage Safety Risk.

The FAA is committed to incorporating proactive safety risk management (SRM) tools into its decision-making processes. FAA Order 5200.11, *FAA Airports (ARP) Safety Management System (SMS)*, requires the FAA to conduct a Safety Assessment for certain triggering actions. Certain airport projects may require the airport operator to provide a Project Proposal Summary to help the FAA determine whether a Safety Assessment is required prior to FAA approval of the CSPP. The airport operator must coordinate with the appropriate FAA Airports Regional or District Office early in the development of the CSPP to determine the need for a Safety Risk Assessment. If the FAA requires an assessment, the airport operator must at a minimum:

1. Notify the appropriate FAA Airports Regional or District Office during the project "scope development" phase of any project requiring a CSPP.
2. Provide documents identified by the FAA as necessary to conduct SRM.
3. Participate in the SRM process for airport projects.
4. Provide a representative to participate on the SRM panel.

5. Ensure that all applicable SRM identified risks elements are recorded and mitigated within the CSPP.

1.3 **Develop a Construction Safety and Phasing Plan (CSPP).**

Development of an effective CSPP will require familiarity with many other documents referenced throughout this AC. See Appendix A for a list of related reading material.

1.3.1 List Requirements.

A CSPP must be developed for each on-airfield construction project funded by the Airport Improvement Program (AIP) or located on an airport certificated under Part 139. For on-airfield construction projects at Part 139 airports funded without AIP funds, the preparation of a CSPP represents an acceptable method the certificate holder may use to meet Part 139 requirements during airfield construction activity. As per FAA Order 5200.11, projects that require Safety Assessments do not include construction, rehabilitation, or change of any facility that is entirely outside the air operations area, does not involve any expansion of the facility envelope and does not involve construction equipment, haul routes or placement of material in locations that require access to the air operations area, increase the facility envelope, or impact line-of-sight. Such facilities may include passenger terminals and parking or other structures. However, extraordinary circumstances may trigger the need for a Safety Assessment and a CSPP. The CSPP is subject to subsequent review and approval under the FAA's Safety Risk Management procedures (see paragraph 1.2.5).

1.3.2 Prepare a Safety Plan Compliance Document (SPCD).

The Safety Plan Compliance Document (SPCD) details how the contractor will comply with the CSPP. Also, it will not be possible to determine all safety plan details (for example specific hazard equipment and lighting, contractor's points of contact, construction equipment heights) during the development of the CSPP. The successful contractor must define such details by preparing an SPCD that the airport operator reviews for approval prior to issuance of a notice-to-proceed. The SPCD is a subset of the CSPP, similar to how a shop drawing review is a subset to the technical specifications.

1.3.3 Assume Responsibility for the CSPP.

The airport operator is responsible for establishing and enforcing the CSPP. The airport operator may use the services of an engineering consultant to help develop the CSPP. However, writing the CSPP cannot be delegated to the construction contractor. Only those details the airport operator determines cannot be addressed before contract award are developed by the contractor and submitted for approval as the SPCD. The SPCD does not restate nor propose differences to provisions already addressed in the CSPP.

1.4 Who Is Responsible for Safety During Construction?

1.4.1 Establish a Safety Culture.

Everyone has a role in operational safety on airports during construction: the airport operator, the airport's consultants, the construction contractor and subcontractors, airport users, airport tenants, ARFF personnel, Air Traffic personnel, including Technical Operations personnel, FAA Airports Division personnel, and others, such as military personnel at any airport supporting military operations (e.g. national guard or a joint use facility). Close communication and coordination between all affected parties is the key to maintaining safe operations. Such communication and coordination should start at the project scoping meeting and continue through the completion of the project. The airport operator and contractor should conduct onsite safety inspections throughout the project and immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

1.4.2 Assess Airport Operator's Responsibilities.

An airport operator has overall responsibility for all activities on an airport, including construction. This includes the predesign, design, preconstruction, construction, and inspection phases. Additional information on the responsibilities listed below can be found throughout this AC. The airport operator must:

1.4.2.1 Develop a CSPP that complies with the safety guidelines of Chapter 2, Construction Safety and Phasing Plans, and Chapter 3, Guidelines for Writing a CSPP. The airport operator may develop the CSPP internally or have a consultant develop the CSPP for approval by the airport operator. For tenant sponsored projects, approve a CSPP developed by the tenant or its consultant.

1.4.2.2 Require, review and approve the SPCD by the contractor that indicates how it will comply with the CSPP and provides details that cannot be determined before contract award.

1.4.2.3 Convene a preconstruction meeting with the construction contractor, consultant, airport employees and, if appropriate, tenant sponsor and other tenants to review and discuss project safety before beginning construction activity. The appropriate FAA representatives should be invited to attend the meeting. See AC 150/5370-12, *Quality Management for Federally Funded Airport Construction Projects.* (Note "FAA" refers to the Airports Regional or District Office, the Air Traffic Organization, Flight Standards Service, and other offices that support airport operations, flight regulations, and construction/environmental policies.)

1.4.2.4 Ensure contact information is accurate for each representative/point of contact identified in the CSPP and SPCD.

1.4.2.5 Hold weekly or, if necessary, daily safety meetings with all affected parties to coordinate activities.

1.4.2.6 Notify users, ARFF personnel, and FAA ATO personnel of construction and conditions that may adversely affect the operational safety of the airport via Notices to Airmen (NOTAM) and other methods, as appropriate. Convene a meeting for review and discussion if necessary.

1.4.2.7 Ensure construction personnel know applicable airport procedures and changes to those procedures that may affect their work.

1.4.2.8 Ensure that all temporary construction signs are located per the scheduled list for each phase of the project.

1.4.2.9 Ensure construction contractors and subcontractors undergo training required by the CSPP and SPCD.

1.4.2.10 Ensure vehicle and pedestrian operations addressed in the CSPP and SPCD are coordinated with airport tenants, the airport traffic control tower (ATCT), and construction contractors.

1.4.2.11 At certificated airports, ensure each CSPP and SPCD is consistent with Part 139.

1.4.2.12 Conduct inspections sufficiently frequently to ensure construction contractors and tenants comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.

1.4.2.13 Take immediate action to resolve safety deficiencies.

1.4.2.14 At airports subject to 49 CFR Part 1542, *Airport Security*, ensure construction access complies with the security requirements of that regulation.

1.4.2.15 Notify appropriate parties when conditions exist that invoke provisions of the CSPP and SPCD (for example, implementation of low-visibility operations).

1.4.2.16 Ensure prompt submittal of a Notice of Proposed Construction or Alteration (Form 7460-1) for conducting an aeronautical study of potential obstructions such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. A separate form may be filed for each potential obstruction, or one form may be filed describing the entire construction area and maximum equipment height. In the latter case, a separate form must be filed for any object beyond or higher than the originally evaluated area/height. The FAA encourages online submittal of forms for expediency at https://oeaaa.faa.gov/oeaaa/external/portal.jsp. The appropriate FAA Airports Regional or District Office can provide assistance in determining which objects require an aeronautical study.

1.4.2.17 Ensure prompt transmission of the Airport Sponsor Strategic Event Submission, FAA Form 6000-26, located at https://oeaaa.faa.gov/oeaaa/external/content/AIRPORT_SPONSOR_STRATEGIC_EVENT_SUBMISSION_FORM.pdf, to assure proper coordination for NAS Strategic Interruption per Service Level Agreement with ATO.

1.4.2.18 Promptly notify the FAA Airports Regional or District Office of any proposed changes to the CSPP prior to implementation of the change. Changes to the CSPP require review and approval by the airport operator and the FAA. The FAA Airports Regional or District office will determine if further coordination within the FAA is needed. Coordinate with appropriate local and other federal government agencies, such as Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Transportation Security Administration (TSA), and the state environmental agency.

1.4.3 Define Construction Contractor's Responsibilities.

The contractor is responsible for complying with the CSPP and SPCD. The contractor must:

1.4.3.1 Submit a Safety Plan Compliance Document (SPCD) to the airport operator describing how it will comply with the requirements of the CSPP and supply any details that could not be determined before contract award. The SPCD must include a certification statement by the contractor, indicating an understanding of the operational safety requirements of the CSPP and the assertion of compliance with the approved CSPP and SPCD unless written approval is granted by the airport operator. Any construction practice proposed by the contractor that does not conform to the CSPP and SPCD may impact the airport's operational safety and will require a revision to the CSPP and SPCD and re-coordination with the airport operator and the FAA in advance.

1.4.3.2 Have available at all times copies of the CSPP and SPCD for reference by the airport operator and its representatives, and by subcontractors and contractor employees.

1.4.3.3 Ensure that construction personnel are familiar with safety procedures and regulations on the airport. Provide a point of contact who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport. Many projects will require 24-hour coverage.

1.4.3.4 Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site when active construction is taking place.

1.4.3.5 Conduct sufficient inspections to ensure construction personnel comply with the CSPP and SPCD and that there are no altered construction activities that could create potential safety hazards.

1.4.3.6 Restrict movement of construction vehicles and personnel to permitted construction areas by flagging, barricading, erecting temporary fencing, or providing escorts, as appropriate, and as specified in the CSPP and SPCD.

1.4.3.7 Ensure that no contractor employees, employees of subcontractors or suppliers, or other persons enter any part of the air operations area (AOA) from the construction site unless authorized.

1.4.3.8 Ensure prompt submittal through the airport operator of Form 7460-1 for the purpose of conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, and other equipment), stock piles, and haul routes when different from cases previously filed by the airport operator. The FAA encourages online submittal of forms for expediency at https://oeaaa.faa.gov/oeaaa/external/portal.jsp.

1.4.3.9 Ensure that all necessary safety mitigations are understood by all parties involved, and any special requirements of each construction phase will be fulfilled per the approved timeframe.

1.4.3.10 Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

1.4.4 Define Tenant's Responsibilities.

If planning construction activities on leased property, Airport tenants, such as airline operators, fixed base operators, and FAA ATO/Technical Operations sponsoring construction are strongly encouraged to:

1. Develop, or have a consultant develop, a project specific CSPP and submit it to the airport operator. The airport operator may forgo a complete CSPP submittal and instead incorporate appropriate operational safety principles and measures addressed in the advisory circular within their tenant lease agreements.
2. In coordination with its contractor, develop an SPCD and submit it to the airport operator for approval issued prior to issuance of a Notice to Proceed.
3. Ensure that construction personnel are familiar with safety procedures and regulations on the airport during all phases of the construction.
4. Provide a point of contact of who will coordinate an immediate response to correct any construction-related activity that may adversely affect the operational safety of the airport.
5. Identify in the SPCD the contractor's on-site employees responsible for monitoring compliance with the CSPP and SPCD during construction. At least one of these employees must be on-site when active construction is taking place.
6. Ensure that no tenant or contractor employees, employees of subcontractors or suppliers, or any other persons enter any part of the AOA from the construction site unless authorized.
7. Restrict movement of construction vehicles to construction areas by flagging and barricading, erecting temporary fencing, or providing escorts, as appropriate, as specified in the CSPP and SPCD.
8. Ensure prompt submittal through the airport operator of Form 7460-1 for conducting an aeronautical study of contractor equipment such as tall equipment (cranes, concrete pumps, other), stock piles, and haul routes. The FAA encourages online submittal of forms for expediency at https://oeaaa.faa.gov/oeaaa/external/portal.jsp.
9. Participate in pre-construction meetings to review construction limits, safety mitigations, NOTAMs, and understand all special airport operational needs during each phase of the project.

CHAPTER 2. CONSTRUCTION SAFETY AND PHASING PLANS

2.1 Overview.

Aviation safety is the primary consideration at airports, especially during construction. The airport operator's CSPP and the contractor's Safety Plan Compliance Document (SPCD) are the primary tools to ensure safety compliance when coordinating construction activities with airport operations. These documents identify all aspects of the construction project that pose a potential safety hazard to airport operations and outline respective mitigation procedures for each hazard. They must provide information necessary for the Airport Operations department to conduct airfield inspections and expeditiously identify and correct unsafe conditions during construction. All aviation safety provisions included within the project drawings, contract specifications, and other related documents must also be reflected in the CSPP and SPCD.

2.2 Assume Responsibility.

Operational safety on the airport remains the airport operator's responsibility at all times. The airport operator must develop, certify, and submit for FAA approval each CSPP. It is the airport operator's responsibility to apply the requirements of the FAA approved CSPP. The airport operator must revise the CSPP when conditions warrant changes and must submit the revised CSPP to the FAA for approval. The airport operator must also require and approve a SPCD from the project contractor.

2.3 Submit the CSPP.

Construction Safety and Phasing Plans should be developed concurrently with the project design. Milestone versions of the CSPP should be submitted for review and approval as follows. While these milestones are not mandatory, early submission will help to avoid delays. Submittals are preferred in 8.5 × 11 inch or 11 × 17 inch format for compatibility with the FAA's Obstruction Evaluation / Airport Airspace Analysis (OE / AAA) process.

2.3.1 Submit an Outline/Draft.

By the time approximately 25% to 30% of the project design is completed, the principal elements of the CSPP should be established. Airport operators are encouraged to submit an outline or draft, detailing all CSPP provisions developed to date, to the FAA for review at this stage of the project design.

2.3.2 Submit a CSPP.

The CSPP should be formally submitted for FAA approval when the project design is 80 percent to 90 percent complete. Since provisions in the CSPP will influence contract costs, it is important to obtain FAA approval in time to include all such provisions in the procurement contract.

2.3.3 Submit an SPCD.

The contractor should submit the SPCD to the airport operator for approval to be issued prior to the Notice to Proceed.

2.3.4 Submit CSPP Revisions.

All revisions to a previously approved CSPP must be re-submitted to the FAA for review and approval/disapproval action.

2.4 Meet CSPP Requirements.

2.4.1 To the extent possible, the CSPP should address the following as outlined in Chapter 3, Guidelines for Writing a CSPP. Details that cannot be determined at this stage are to be included in the SPCD.

1. Coordination.
    a. Contractor progress meetings.
    b. Scope or schedule changes.
    c. FAA ATO coordination.
2. Phasing.
    a. Phase elements.
    b. Construction safety drawings.
3. Areas and operations affected by the construction activity.
    a. Identification of affected areas.
    b. Mitigation of effects.
4. Protection of navigation aids (NAVAIDs).
5. Contractor access.
    a. Location of stockpiled construction materials.
    b. Vehicle and pedestrian operations.
6. Wildlife management.
    a. Trash.
    b. Standing water.
    c. Tall grass and seeds.
    d. Poorly maintained fencing and gates.
    e. Disruption of existing wildlife habitat.
7. Foreign Object Debris (FOD) management.
8. Hazardous materials (HAZMAT) management.
9. Notification of construction activities.

a. Maintenance of a list of responsible representatives/ points of contact.

b. NOTAM.

c. Emergency notification procedures.

d. Coordination with ARFF Personnel.

e. Notification to the FAA.

10. Inspection requirements.

a. Daily (or more frequent) inspections.

b. Final inspections.

11. Underground utilities.

12. Penalties.

13. Special conditions.

14. Runway and taxiway visual aids. Marking, lighting, signs, and visual NAVAIDs.

a. General.

b. Markings.

c. Lighting and visual NAVAIDs.

d. Signs, temporary, including orange construction signs, and permanent signs.

15. Marking and signs for access routes.

16. Hazard marking and lighting.

a. Purpose.

b. Equipment.

17. Work zone lighting for nighttime construction (if applicable).

18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces.

a. Runway Safety Area (RSA).

b. Runway Object Free Area (ROFA).

c. Taxiway Safety Area (TSA). Provide details for any adjustments to Taxiway Safety Area width to allow continued operation of smaller aircraft. See paragraph 2.22.3.

d. Taxiway Object Free Area (TOFA). Provide details for any continued aircraft operations while construction occurs within the TOFA. See paragraph 2.22.4.

e. Obstacle Free Zone (OFZ).

f. Runway approach/departure surfaces.

19. Other limitations on construction.

a. Prohibitions.

b. Restrictions.

2.4.2 The Safety Plan Compliance Document (SPCD) should include a general statement by the construction contractor that he/she has read and will abide by the CSPP. In addition, the SPCD must include all supplemental information that could not be included in the CSPP prior to the contract award. The contractor statement should include the name of the contractor, the title of the project CSPP, the approval date of the CSPP, and a reference to any supplemental information (that is, "I, (Name of Contractor), have read the (Title of Project) CSPP, approved on (Date), and will abide by it as written and with the following additions as noted:"). The supplemental information in the SPCD should be written to match the format of the CSPP indicating each subject by corresponding CSPP subject number and title. If no supplemental information is necessary for any specific subject, the statement, "No supplemental information," should be written after the corresponding subject title. The SPCD should not duplicate information in the CSPP:

1. Coordination. Discuss details of proposed safety meetings with the airport operator and with contractor employees and subcontractors.
2. Phasing. Discuss proposed construction schedule elements, including:
   a. Duration of each phase.
   b. Daily start and finish of construction, including "night only" construction.
   c. Duration of construction activities during:
      i. Normal runway operations.
      ii. Closed runway operations.
      iii. Modified runway "Aircraft Reference Code" usage.
3. Areas and operations affected by the construction activity. These areas and operations should be identified in the CSPP and should not require an entry in the SPCD.
4. Protection of NAVAIDs. Discuss specific methods proposed to protect operating NAVAIDs.
5. Contractor access. Provide the following:
   a. Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other).
   b. Listing of individuals requiring driver training (for certificated airports and as requested).
   c. Radio communications.
      i. Types of radios and backup capabilities.
      ii. Who will be monitoring radios.
      iii. Who to contact if the ATCT cannot reach the contractor's designated person by radio.

d. Details on how the contractor will escort material delivery vehicles.

6. Wildlife management. Discuss the following:
   a. Methods and procedures to prevent wildlife attraction.
   b. Wildlife reporting procedures.
7. Foreign Object Debris (FOD) management. Discuss equipment and methods for control of FOD, including construction debris and dust.
8. Hazardous Materials (HAZMAT) management. Discuss equipment and methods for responding to hazardous spills.
9. Notification of construction activities. Provide the following:
   a. Contractor points of contact.
   b. Contractor emergency contact.
   c. Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator.
   d. Batch plant details, including 7460-1 submittal.
10. Inspection requirements. Discuss daily (or more frequent) inspections and special inspection procedures.
11. Underground utilities. Discuss proposed methods of identifying and protecting underground utilities.
12. Penalties. Penalties should be identified in the CSPP and should not require an entry in the SPCD.
13. Special conditions. Discuss proposed actions for each special condition identified in the CSPP.
14. Runway and taxiway visual aids. Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:
   a. Equipment and methods for covering signage and airfield lights.
   b. Equipment and methods for temporary closure markings (paint, fabric, other).
   c. Temporary orange construction signs.
   d. Types of temporary Visual Guidance Slope Indicators (VGSI).
15. Marking and signs for access routes. Discuss proposed methods of demarcating access routes for vehicle drivers.
16. Hazard marking and lighting. Discuss proposed equipment and methods for identifying excavation areas.
17. Work zone lighting for nighttime construction (if applicable). Discuss proposed equipment, locations, aiming, and shielding to prevent interference with air traffic control and aircraft operations.

18. Protection of runway and taxiway safety areas, object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:
    a. Equipment and methods for maintaining Taxiway Safety Area standards.
    b. Equipment and methods to ensure the safe passage of aircraft where Taxiway Safety Area or Taxiway Object Free Area standards cannot be maintained.
    c. Equipment and methods for separation of construction operations from aircraft operations, including details of barricades.
19. Other limitations on construction should be identified in the CSPP and should not require an entry in the SPCD.

2.5 **Coordination.**

Airport operators, or tenants responsible for design, bidding and conducting construction on their leased properties, should ensure at all project developmental stages, such as predesign, prebid, and preconstruction conferences, they capture the subject of airport operational safety during construction (see AC 150/5370-12, *Quality Management for Federally Funded Airport Construction Projects*). In addition, the following should be coordinated as required:

2.5.1 Progress Meetings.

Operational safety should be a standing agenda item for discussion during progress meetings throughout the project developmental stages.

2.5.2 Scope or Schedule Changes.

Changes in the scope or duration at any of the project stages may require revisions to the CSPP and review and approval by the airport operator and the FAA (see paragraph 1.4.2.17).

2.5.3 FAA ATO Coordination.

Early coordination with FAA ATO is highly recommended during the design phase and is required for scheduling Technical Operations shutdowns prior to construction. Coordination is critical to restarts of NAVAID services and to the establishment of any special procedures for the movement of aircraft. Formal agreements between the airport operator and appropriate FAA offices are recommended. All relocation or adjustments to NAVAIDs, or changes to final grades in critical areas, should be coordinated with FAA ATO and may require an FAA flight inspection prior to restarting the facility. Flight inspections must be coordinated and scheduled well in advance of the intended facility restart. Flight inspections may require a reimbursable agreement between the airport operator and FAA ATO. Reimbursable agreements should be coordinated a minimum of 12 months prior to the start of construction. (See paragraph 2.13.5.3.2 for required FAA notification regarding FAA-owned NAVAIDs.)

2.6 **Phasing.**

Once it has been determined what types and levels of airport operations will be maintained, the most efficient sequence of construction may not be feasible. In this case, the sequence of construction may be phased to gain maximum efficiency while allowing for the required operations. The development of the resulting construction phases should be coordinated with local Air Traffic personnel and airport users. The sequenced construction phases established in the CSPP must be incorporated into the project design and must be reflected in the contract drawings and specifications.

2.6.1 Phase Elements.

For each phase the CSPP should detail:

- Areas closed to aircraft operations.
- Duration of closures.
- Taxi routes and/or areas of reduced TSA and TOFA to reflect reduced ADG use.
- ARFF access routes.
- Construction staging, disposal, and cleanout areas.
- Construction access and haul routes.
- Impacts to NAVAIDs.
- Lighting, marking, and signing changes.
- Available runway length and/or reduced RSA and ROFA to reflect reduced ADG use.
- Declared distances (if applicable).
- Required hazard marking, lighting, and signing.
- Work zone lighting for nighttime construction (if applicable).
- Lead times for required notifications.

2.6.2 Construction Safety Drawings.

Drawings specifically indicating operational safety procedures and methods in affected areas (i.e., construction safety drawings) should be developed for each construction phase. Such drawings should be included in the CSPP as referenced attachments and should also be included in the contract drawing package.

2.7 **Areas and Operations Affected by Construction Activity.**

Runways and taxiways should remain in use by aircraft to the maximum extent possible without compromising safety. Pre-meetings with the FAA ATO will support operational simulations. See Appendix E for an example of a table showing temporary operations versus current operations. The tables in Appendix E can be useful for coordination among all interested parties, including FAA Lines of Business.

2.7.1 Identification of Affected Areas.

Identifying areas and operations affected by the construction helps to determine possible safety problems. The affected areas should be identified in the construction safety drawings for each construction phase. (See paragraph 2.6.2.) Of particular concern are:

2.7.1.1 **Closing, or Partial Closing, of Runways, Taxiways and Aprons, and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing, landing, or takeoff in either direction on that pavement is prohibited. A displaced threshold, by contrast, is established to ensure obstacle clearance and adequate safety area for landing aircraft. The pavement prior to the displaced threshold is normally available for take-off in the direction of the displacement and for landing and takeoff in the opposite direction. Misunderstanding this difference, may result in issuance of an inaccurate NOTAM, and can lead to a hazardous condition.

2.7.1.1.1 Partially Closed Runways.

The temporarily closed portion of a partially closed runway will generally extend from the threshold to a taxiway that may be used for entering and exiting the runway. If the closed portion extends to a point between taxiways, pilots will have to back-taxi on the runway, which is an undesirable operation. See Figure 2-1 for a desirable configuration.

2.7.1.1.2 Displaced Thresholds.

Since the portion of the runway pavement between the permanent threshold and a standard displaced threshold is available for takeoff and for landing in the opposite direction, the temporary displaced threshold need not be located at an entrance/exit taxiway. See Figure 2-2.

2.7.1.2 Closing of aircraft rescue and fire fighting access routes.

2.7.1.3 Closing of access routes used by airport and airline support vehicles.

2.7.1.4 Interruption of utilities, including water supplies for fire fighting.

2.7.1.5 Approach/departure surfaces affected by heights of objects.

2.7.1.6 Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads.

Figure 2-1. Temporary Partially Closed Runway

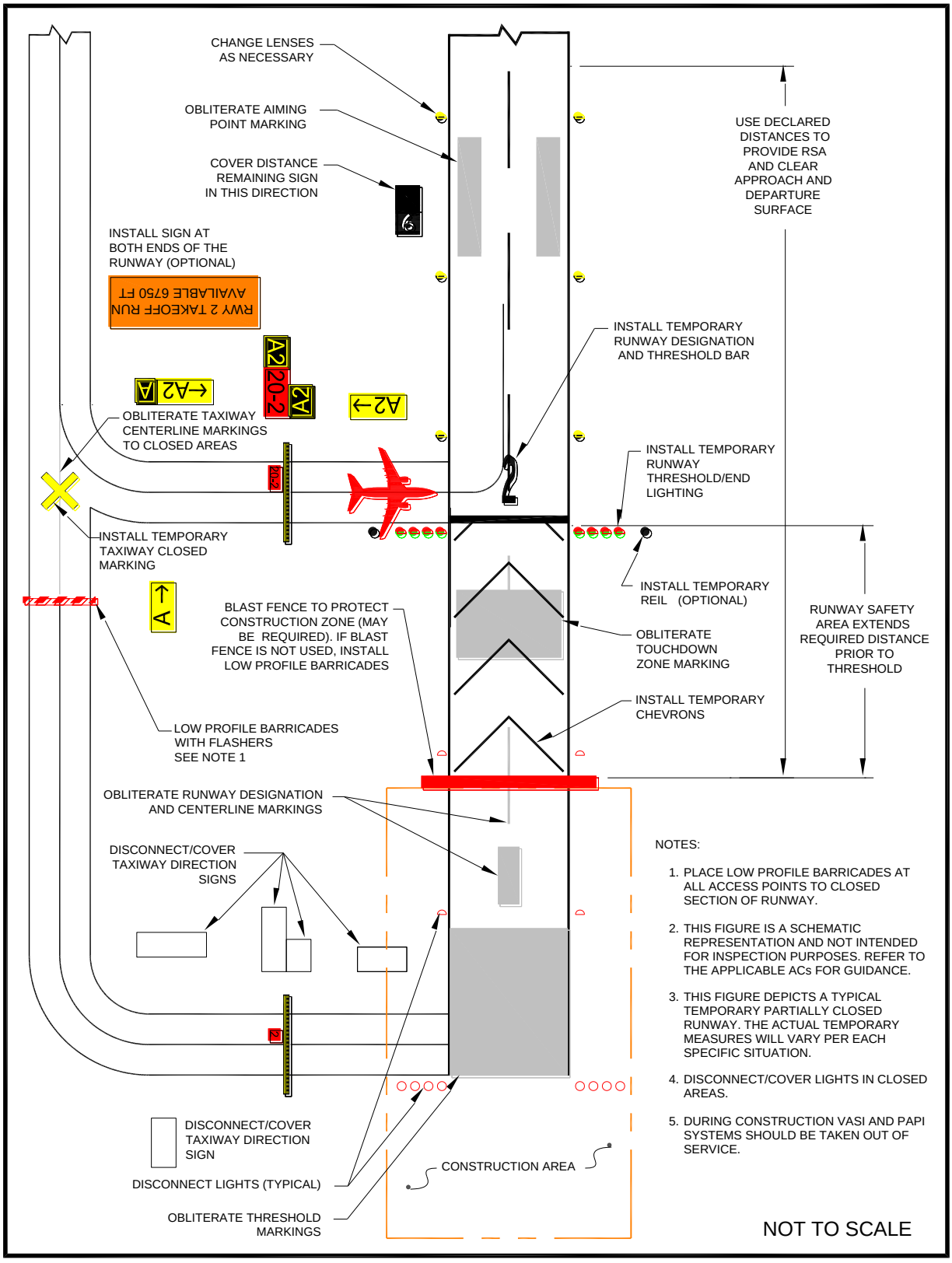
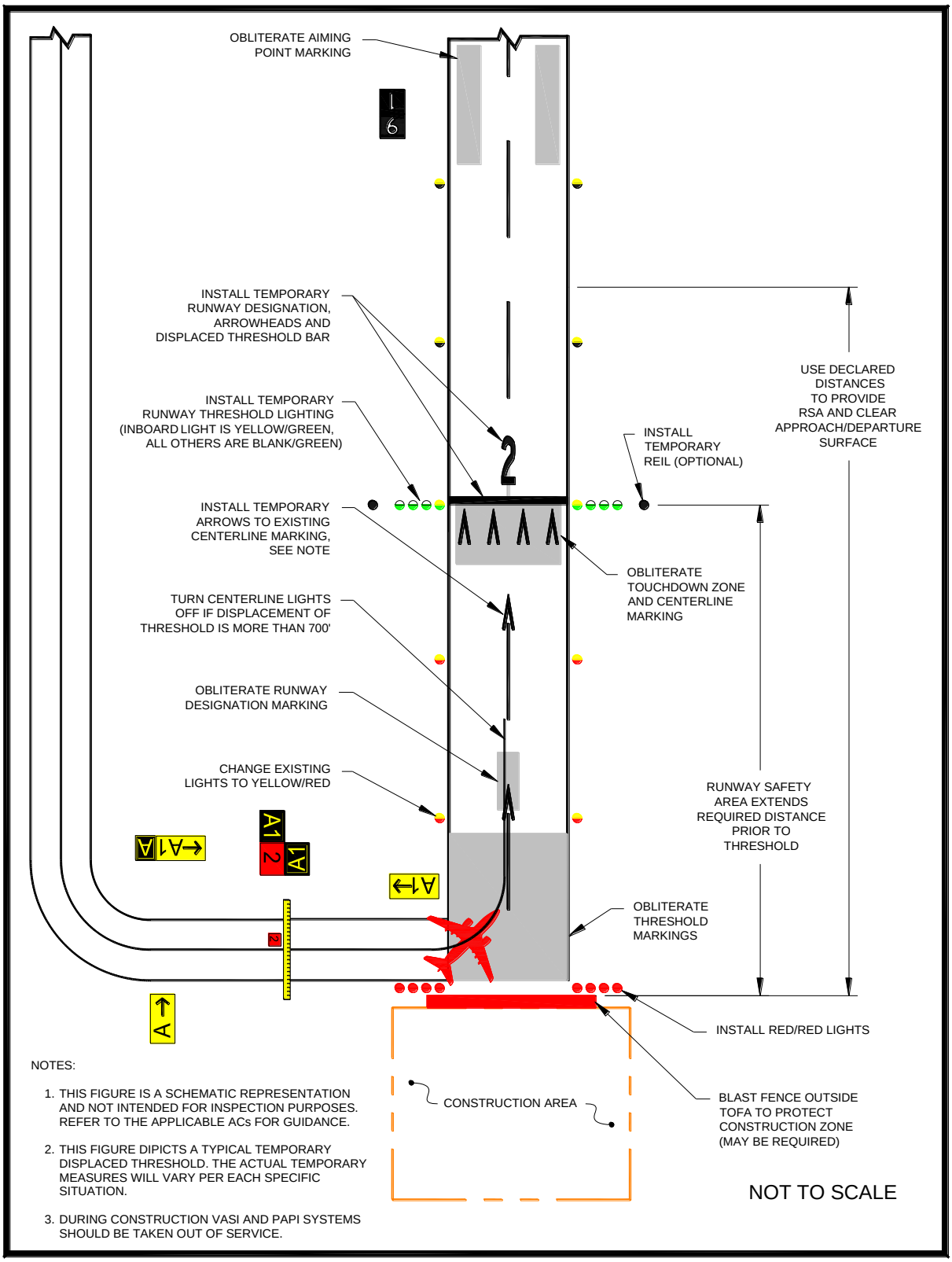


Figure 2-2. Temporary Displaced Threshold



Note: See paragraph 2.18.2.5.

2.7.2 Mitigation of Effects.

Establishment of specific procedures is necessary to maintain the safety and efficiency of airport operations. The CSPP must address:

2.7.2.1 Temporary changes to runway and/or taxi operations.

2.7.2.2 Detours for ARFF and other airport vehicles.

2.7.2.3 Maintenance of essential utilities.

2.7.2.4 Temporary changes to air traffic control procedures. Such changes must be coordinated with the ATO.

2.8 Navigation Aid (NAVAID) Protection.

Before commencing construction activity, parking vehicles, or storing construction equipment and materials near a NAVAID, coordinate with the appropriate FAA ATO/Technical Operations office to evaluate the effect of construction activity and the required distance and direction from the NAVAID. (See paragraph 2.13.5.3.) Construction activities, materials/equipment storage, and vehicle parking near electronic NAVAIDs require special consideration since they may interfere with signals essential to air navigation. If any NAVAID may be affected, the CSPP and SPCD must show an understanding of the "critical area" associated with each NAVAID and describe how it will be protected. Where applicable, the operational critical areas of NAVAIDs should be graphically delineated on the project drawings. Pay particular attention to stockpiling material, as well as to movement and parking of equipment that may interfere with line of sight from the ATCT or with electronic emissions. Interference from construction equipment and activities may require NAVAID shutdown or adjustment of instrument approach minimums for low visibility operations. This condition requires that a NOTAM be filed (see paragraph 2.13.2). Construction activities and materials/equipment storage near a NAVAID must not obstruct access to the equipment and instruments for maintenance. Submittal of a 7460-1 form is required for construction vehicles operating near FAA NAVAIDs. (See paragraph 2.13.5.3.)

2.9 Contractor Access.

The CSPP must detail the areas to which the contractor must have access, and explain how contractor personnel will access those areas. Specifically address:

2.9.1 Location of Stockpiled Construction Materials.

Stockpiled materials and equipment storage are not permitted within the RSA and OFZ, and if possible should not be permitted within the Object Free Area (OFA) of an operational runway. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval. The airport operator must ensure that stockpiled materials and equipment adjacent to these areas are prominently marked and lighted during hours of restricted visibility or darkness. (See paragraph 2.18.2.) This includes determining and

verifying that materials are stabilized and stored at an approved location so as not to be a hazard to aircraft operations and to prevent attraction of wildlife and foreign object damage from blowing or tracked material. See paragraphs 2.10 and 2.11.

2.9.2 Vehicle and Pedestrian Operations.

The CSPP should include specific vehicle and pedestrian requirements. Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the AOA. The airport operator should coordinate requirements for vehicle operations with airport tenants, contractors, and the FAA air traffic manager. In regard to vehicle and pedestrian operations, the CSPP should include the following, with associated training requirements:

2.9.2.1 **Construction Site Parking.**

Designate in advance vehicle parking areas for contractor employees to prevent any unauthorized entry of persons or vehicles onto the AOA. These areas should provide reasonable contractor employee access to the job site.

2.9.2.2 **Construction Equipment Parking.**

Contractor employees must park and service all construction vehicles in an area designated by the airport operator outside the OFZ and never in the safety area of an active runway or taxiway. Unless a complex setup procedure makes movement of specialized equipment infeasible, inactive equipment must not be parked on a closed taxiway or runway. If it is necessary to leave specialized equipment on a closed taxiway or runway at night, the equipment must be well lighted. Employees should also park construction vehicles outside the OFA when not in use by construction personnel (for example, overnight, on weekends, or during other periods when construction is not active). Parking areas must not obstruct the clear line of sight by the ATCT to any taxiways or runways under air traffic control nor obstruct any runway visual aids, signs, or navigation aids. The FAA must also study those areas to determine effects on airport design criteria, surfaces established by 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (Part 77), and on NAVAIDs and Instrument Approach Procedures (IAP). See paragraph 2.13.1 for further information.

2.9.2.3 **Access and Haul Roads.**

Determine the construction contractor’s access to the construction sites and haul roads. Do not permit the construction contractor to use any access or haul roads other than those approved. Access routes used by contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Pay special attention to ensure that if construction traffic is to share or cross any ARFF routes that ARFF right of way is not impeded at any time, and that construction traffic on haul

roads does not interfere with NAVAIDs or approach surfaces of operational runways. Address whether access gates will be blocked or inoperative or if a rally point will be blocked or inaccessible.

2.9.2.4 Marking and lighting of vehicles in accordance with AC 150/5210-5, *Painting, Marking, and Lighting of Vehicles Used on an Airport.*

2.9.2.5 Description of proper vehicle operations on various areas under normal, lost communications, and emergency conditions.

2.9.2.6 Required escorts.

2.9.2.7 **Training Requirements for Vehicle Drivers to Ensure Compliance with the Airport Operator's Vehicle Rules and Regulations.**

Specific training should be provided to vehicle operators, including those providing escorts. See AC 150/5210-20, *Ground Vehicle Operations on Airports*, for information on training and records maintenance requirements.

2.9.2.8 **Situational Awareness.**

Vehicle drivers must confirm by personal observation that no aircraft is approaching their position (either in the air or on the ground) when given clearance to cross a runway, taxiway, or any other area open to airport operations. In addition, it is the responsibility of the escort vehicle driver to verify the movement/position of all escorted vehicles at any given time. At non-towered airports, all aircraft movements and flight operations rely on aircraft operators to self-report their positions and intentions. However, there is no requirement for an aircraft to have radio communications. Because aircraft do not always broadcast their positions or intentions, visual checking, radio monitoring, and situational awareness of the surroundings is critical to safety.

2.9.2.9 **Two-Way Radio Communication Procedures.**

2.9.2.9.1 General.

The airport operator must ensure that tenant and construction contractor personnel engaged in activities involving unescorted operation on aircraft movement areas observe the proper procedures for communications, including using appropriate radio frequencies at airports with and without ATCT. When operating vehicles on or near open runways or taxiways, construction personnel must understand the critical importance of maintaining radio contact, as directed by the airport operator, with:

1. Airport operations
2. ATCT

3. Common Traffic Advisory Frequency (CTAF), which may include UNICOM, MULTICOM.
4. Automatic Terminal Information Service (ATIS). This frequency is useful for monitoring conditions on the airport. Local air traffic will broadcast information regarding construction related runway closures and "shortened" runways on the ATIS frequency.

2.9.2.9.2 Areas Requiring Two-Way Radio Communication with the ATCT.

Vehicular traffic crossing active movement areas must be controlled either by two-way radio with the ATCT, escort, flagman, signal light, or other means appropriate for the particular airport.

2.9.2.9.3 Frequencies to be Used.

The airport operator will specify the frequencies to be used by the contractor, which may include the CTAF for monitoring of aircraft operations. Frequencies may also be assigned by the airport operator for other communications, including any radio frequency in compliance with Federal Communications Commission requirements. At airports with an ATCT, the airport operator will specify the frequency assigned by the ATCT to be used between contractor vehicles and the ATCT.

2.9.2.9.4 Proper radio usage, including read back requirements.

2.9.2.9.5 Proper phraseology, including the International Phonetic Alphabet.

2.9.2.9.6 Light Gun Signals.

Even though radio communication is maintained, escort vehicle drivers must also familiarize themselves with ATCT light gun signals in the event of radio failure. See the FAA safety placard "Ground Vehicle Guide to Airport Signs and Markings." This safety placard may be downloaded through the Runway Safety Program Web site at http://www.faa.gov/airports/runway_safety/publications/ (see "Signs & Markings Vehicle Dashboard Sticker") or obtained from the FAA Airports Regional Office.

2.9.2.10 **Maintenance of the secured area of the airport, including:**

2.9.2.10.1 Fencing and Gates.

Airport operators and contractors must take care to maintain security during construction when access points are created in the security fencing to permit the passage of construction vehicles or personnel. Temporary gates should be equipped so they can be securely closed and locked to prevent access by animals and unauthorized people. Procedures should be in place to ensure that only authorized persons and vehicles have access to the AOA and to prohibit "piggybacking" behind another person or vehicle. The Department of Transportation (DOT) document DOT/FAA/AR-

00/52, *Recommended Security Guidelines for Airport Planning and Construction*, provides more specific information on fencing. A copy of this document can be obtained from the Airport Consultants Council, Airports Council International, or American Association of Airport Executives.

2.9.2.10.2 Badging Requirements.

Airports subject to 49 CFR Part 1542, *Airport Security*, must meet standards for access control, movement of ground vehicles, and identification of construction contractor and tenant personnel.

2.10 Wildlife Management.

The CSPP and SPCD must be in accordance with the airport operator's wildlife hazard management plan, if applicable. See AC 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports,* and CertAlert 98-05, *Grasses Attractive to Hazardous Wildlife.* Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports, such as:

2.10.1 Trash.

Food scraps must be collected from construction personnel activity.

2.10.2 Standing Water.

2.10.3 Tall Grass and Seeds.

Requirements for turf establishment can be at odds with requirements for wildlife control. Grass seed is attractive to birds. Lower quality seed mixtures can contain seeds of plants (such as clover) that attract larger wildlife. Seeding should comply with the guidance in AC 150/5370-10, *Standards for Specifying Construction of Airports,* Item T-901, Seeding. Contact the local office of the United Sates Department of Agriculture Soil Conservation Service or the State University Agricultural Extension Service (County Agent or equivalent) for assistance and recommendations. These agencies can also provide liming and fertilizer recommendations.

2.10.4 Poorly Maintained Fencing and Gates.

See paragraph 2.9.2.10.1.

2.10.5 Disruption of Existing Wildlife Habitat.

While this will frequently be unavoidable due to the nature of the project, the CSPP should specify under what circumstances (location, wildlife type) contractor personnel should immediately notify the airport operator of wildlife sightings.

2.11 Foreign Object Debris (FOD) Management.

Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. Construction contractors must not leave or place FOD on or near active aircraft movement areas. Materials capable of creating FOD must be continuously removed during the construction project. Fencing (other than security fencing) or covers may be necessary to contain material that can be carried by wind into areas where aircraft operate. See AC 150/5210-24, *Foreign Object Debris (FOD) Management.*

2.12 Hazardous Materials (HAZMAT) Management.

Contractors operating construction vehicles and equipment on the airport must be prepared to expeditiously contain and clean-up spills resulting from fuel or hydraulic fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. See AC 150/5320-15, *Management of Airport Industrial Waste.*

2.13 Notification of Construction Activities.

The CSPP and SPCD must detail procedures for the immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport. It must address the notification actions described below, as applicable.

2.13.1 List of Responsible Representatives/points of contact for all involved parties, and procedures for contacting each of them, including after hours.

2.13.2 NOTAMs.

Only the airport operator may initiate or cancel NOTAMs on airport conditions, and is the only entity that can close or open a runway. The airport operator must coordinate the issuance, maintenance, and cancellation of NOTAMs about airport conditions resulting from construction activities with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must either enter the NOTAM into NOTAM Manager, or provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The airport operator must file and maintain a list of authorized representatives with the FSS. Refer to AC 150/5200-28, *Notices to Airmen (NOTAMs) for Airport Operators,* for a sample NOTAM form. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the airport operator. See paragraph 2.7.1.1 about issuing NOTAMs for partially closed runways versus runways with displaced thresholds.

2.13.3 Emergency notification procedures for medical, fire fighting, and police response.

2.13.4 Coordination with ARFF.

The CSPP must detail procedures for coordinating through the airport sponsor with ARFF personnel, mutual aid providers, and other emergency services if construction requires:

1. The deactivation and subsequent reactivation of water lines or fire hydrants, or
2. The rerouting, blocking and restoration of emergency access routes, or
3. The use of hazardous materials on the airfield.

2.13.5 Notification to the FAA.

2.13.5.1 **Part 77.**

Any person proposing construction or alteration of objects that affect navigable airspace, as defined in Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e., cranes, graders, other equipment) on airports. FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, can be used for this purpose and submitted to the appropriate FAA Airports Regional or District Office. See Appendix A to download the form. Further guidance is available on the FAA web site at oeaaa.faa.gov.

2.13.5.2 **Part 157.**

With some exceptions, Title 14 CFR Part 157, *Notice of Construction, Alteration, Activation, and Deactivation of Airports*, requires that the airport operator notify the FAA in writing whenever a non-Federally funded project involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. Notification involves submitting FAA Form 7480-1, *Notice of Landing Area Proposal*, to the nearest FAA Airports Regional or District Office. See Appendix A to download the form.

2.13.5.3 **NAVAIDs.**

For emergency (short-notice) notification about impacts to both airport owned and FAA owned NAVAIDs, contact: 866-432-2622.

2.13.5.3.1 Airport Owned/FAA Maintained.

If construction operations require a shutdown of 24 hours or greater in duration, or more than 4 hours daily on consecutive days, of a NAVAID owned by the airport but maintained by the FAA, provide a 45-day minimum notice to FAA ATO/Technical Operations prior to facility shutdown, using Strategic Event Coordination (SEC) Form 6000.26 contained within FAA Order 6000.15, *General Maintenance Handbook for National Airspace System (NAS) Facilities*.

2.13.5.3.2 FAA Owned.

1. The airport operator must notify the appropriate FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45 days prior to implementing an event that causes impacts to NAVAIDs, using SEC Form 6000.26.
2. Coordinate work for an FAA owned NAVAID shutdown with the local FAA ATO/Technical Operations office, including any necessary reimbursable agreements and flight checks. Detail procedures that address unanticipated utility outages and cable cuts that could impact FAA NAVAIDs. Refer to active Service Level Agreement with ATO for specifics.

2.14 **Inspection Requirements.**

2.14.1 Daily Inspections.

Inspections should be conducted at least daily, but more frequently if necessary to ensure conformance with the CSPP. A sample checklist is provided in Appendix D, Construction Project Daily Safety Inspection Checklist. See also AC 150/5200-18, *Airport Safety Self-Inspection.* Airport operators holding a Part 139 certificate are required to conduct self-inspections during unusual conditions, such as construction activities, that may affect safe air carrier operations.

2.14.2 Interim Inspections.

Inspections should be conducted of all areas to be (re)opened to aircraft traffic to ensure the proper operation of lights and signs, for correct markings, and absence of FOD. The contractor should conduct an inspection of the work area with airport operations personnel. The contractor should ensure that all construction materials have been secured, all pavement surfaces have been swept clean, all transition ramps have been properly constructed, and that surfaces have been appropriately marked for aircraft to operate safely. Only if all items on the list meet with the airport operator's approval should the air traffic control tower be notified to open the area to aircraft operations. The contractor should be required to retain a suitable workforce and the necessary equipment at the work area for any last minute cleanup that may be requested by the airport operator prior to opening the area.

2.14.3 Final Inspections.

New runways and extended runway closures may require safety inspections at certificated airports prior to allowing air carrier service. Coordinate with the FAA Airport Certification Safety Inspector (ACSI) to determine if a final inspection will be necessary.

2.15 **Underground Utilities.**

The CSPP and/or SPCD must include procedures for locating and protecting existing underground utilities, cables, wires, pipelines, and other underground facilities in excavation areas. This may involve coordinating with public utilities and FAA ATO/Technical Operations. Note that "One Call" or "Miss Utility" services do not include FAA ATO/Technical Operations.

2.16 **Penalties.**

The CSPP should detail penalty provisions for noncompliance with airport rules and regulations and the safety plans (for example, if a vehicle is involved in a runway incursion). Such penalties typically include rescission of driving privileges or access to the AOA.

2.17 **Special Conditions.**

The CSPP must detail any special conditions that affect the operation of the airport and will require the activation of any special procedures (for example, low-visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, Vehicle / Pedestrian Deviation (VPD) and other activities requiring construction suspension/resumption).

2.18 **Runway and Taxiway Visual Aids.**

This includes marking, lighting, signs, and visual NAVAIDs. The CSPP must ensure that areas where aircraft will be operating are clearly and visibly separated from construction areas, including closed runways. Throughout the duration of the construction project, verify that these areas remain clearly marked and visible at all times and that marking, lighting, signs, and visual NAVAIDs that are to continue to perform their functions during construction remain in place and operational. Visual NAVAIDs that are not serving their intended function during construction must be temporarily disabled, covered, or modified as necessary. The CSPP must address the following, as appropriate:

2.18.1 General.

Airport markings, lighting, signs, and visual NAVAIDs must be clearly visible to pilots, not misleading, confusing, or deceptive. All must be secured in place to prevent movement by prop wash, jet blast, wing vortices, and other wind currents and constructed of materials that will minimize damage to an aircraft in the event of inadvertent contact. Items used to secure such markings must be of a color similar to the marking.

2.18.2 Markings.

During the course of construction projects, temporary pavement markings are often required to allow for aircraft operations during or between work periods. During the design phase of the project, the designer should coordinate with the project manager,

airport operations, airport users, the FAA Airports project manager, and Airport Certification Safety Inspector for Part 139 airports to determine minimum temporary markings. The FAA Airports project manager will, wherever a runway is closed, coordinate with the appropriate FAA Flight Standards Office and disseminate findings to all parties. Where possible, the temporary markings on finish grade pavements should be placed to mirror the dimensions of the final markings. Markings must be in compliance with the standards of AC 150/5340-1, *Standards for Airport Markings*, except as noted herein. Runways and runway exit taxiways closed to aircraft operations are marked with a yellow X. The preferred visual aid to depict temporary runway closure is the lighted X signal placed on or near the runway designation numbers. (See paragraph 2.18.2.1.2.)

2.18.2.1 **Closed Runways and Taxiways.**

2.18.2.1.1 Permanently Closed Runways.

For runways, obliterate the threshold marking, runway designation marking, and touchdown zone markings, and place an X at each end and at 1,000-foot (300 m) intervals. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X.

2.18.2.1.2 Temporarily Closed Runways.

For runways that have been temporarily closed, place an X at each end of the runway directly on or as near as practicable to the runway designation numbers. For a multiple runway environment, if the lighted X on a designated number will be located in the RSA of an adjacent active runway, locate the lighted X farther down the closed runway to clear the RSA of the active runway. In addition, the closed runway numbers located in the RSA of an active runway must be marked with a flat yellow X. See Figure 2-3. See also paragraph 2.18.3.3.

2.18.2.1.3 Partially Closed Runways and Displaced Thresholds.

When threshold markings are needed to identify the temporary beginning of the runway that is available for landing, the markings must comply with AC 150/5340-1. An X is not used on a partially closed runway or a runway with a displaced threshold. See paragraph 2.7.1.1 for the difference between partially closed runways and runways with displaced thresholds. Because of the temporary nature of threshold displacement due to construction, it is not necessary to re-adjust the existing runway centerline markings to meet standard spacing for a runway with a visual approach. Some of the requirements below may be waived in the cases of low-activity airports and/or short duration changes that are measured in days rather than weeks. Consider whether the presence of an airport traffic

control tower allows for the development of special procedures. Contact the appropriate FAA Airports Regional or District Office for assistance.

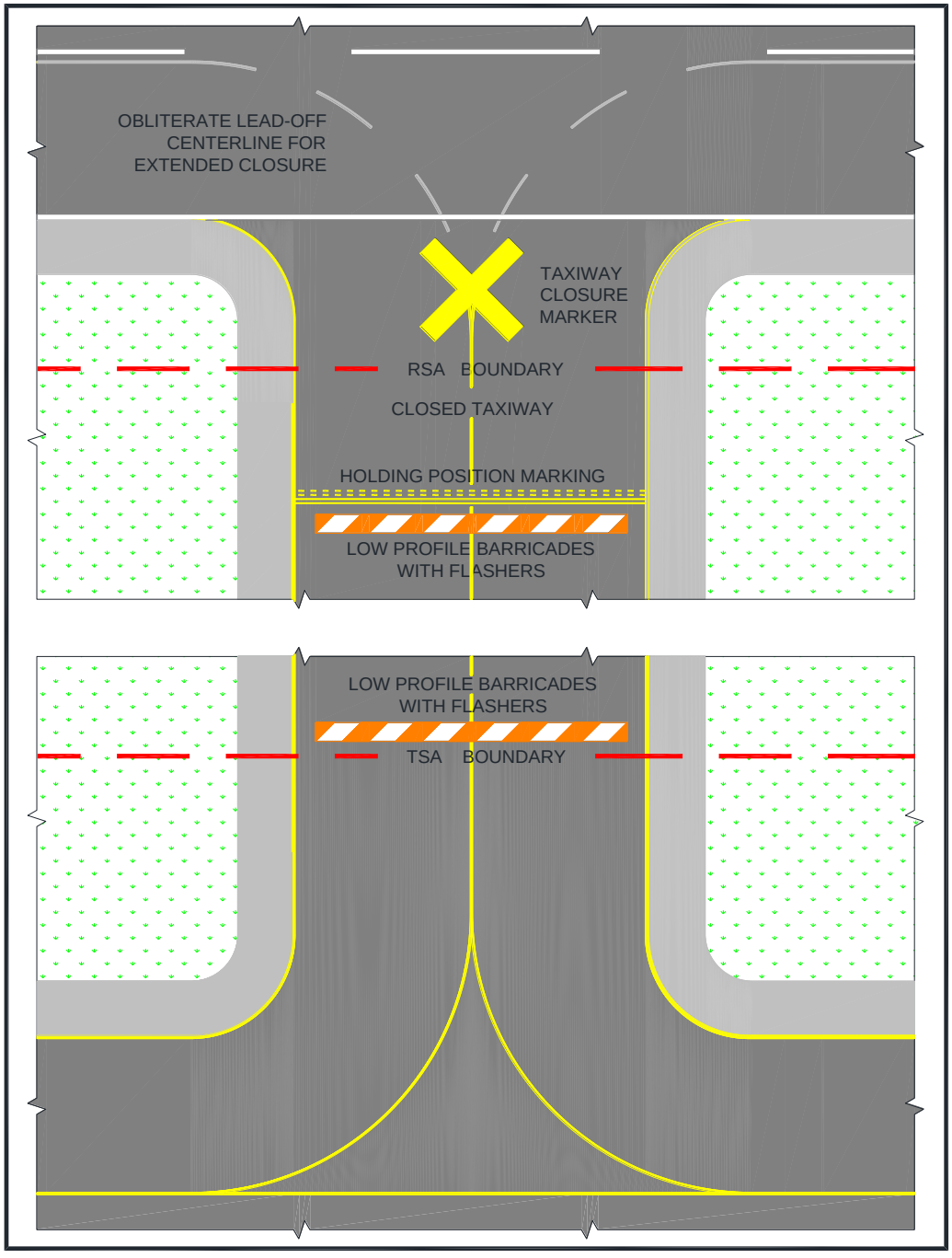
Figure 2-3. Markings for a Temporarily Closed Runway

1. **Partially Closed Runways.** Pavement markings for temporary closed portions of the runway consist of a runway threshold bar, runway designation, and yellow chevrons to identify pavement areas that are unsuitable for takeoff or landing (see AC 150/5340-1). Obliterate or cover markings prior to the moved threshold. Existing touchdown zone markings beyond the moved threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See Figure 2-4.
2. **Displaced Thresholds.** Pavement markings for a displaced threshold consist of a runway threshold bar, runway designation, and white arrowheads with and without arrow shafts. These markings are required to identify the portion of the runway before the displaced threshold to provide centerline guidance for pilots during approaches, takeoffs, and landing rollouts from the opposite direction. See AC 150/5340-1. Obliterate markings prior to the displaced threshold. Existing touchdown zone markings beyond the displaced threshold may remain in place. Obliterate aiming point markings. Issue appropriate NOTAMs regarding any nonstandard markings. See Figure 2-2.

2.18.2.1.4 Taxiways.

1. **Permanently Closed Taxiways.** AC 150/5300-13 *Airport Design*, notes that it is preferable to remove the pavement, but for pavement that is to remain, place an X at the entrance to both ends of the closed section. Obliterate taxiway centerline markings, including runway leadoff lines, leading to the closed taxiway. See Figure 2-4.

Figure 2-4. Temporary Taxiway Closure



2. **Temporarily Closed Taxiways.** Place barricades outside the safety area of intersecting taxiways. For runway/taxiway intersections, place an X at the entrance to the closed taxiway from the runway. If the taxiway will be closed for an extended period, obliterate taxiway centerline markings, including runway leadoff lines and taxiway to taxiway turns, leading to the closed section. Always obliterate runway lead-off lines for high speed exits, regardless of the duration of the closure. If the centerline markings will be reused upon reopening the taxiway, it is preferable to paint over the marking. This will result in less damage to the pavement when the upper layer of paint is ultimately removed. See Figure 2-4.

2.18.2.1.5 Temporarily Closed Airport.

When the airport is closed temporarily, mark all the runways as closed.

2.18.2.2 If unable to paint temporary markings on the pavement, construct them from any of the following materials: fabric, colored plastic, painted sheets of plywood, or similar materials. They must be properly configured and appropriately secured to prevent movement by prop wash, jet blast, or other wind currents. Items used to secure such markings must be of a color similar to the marking.

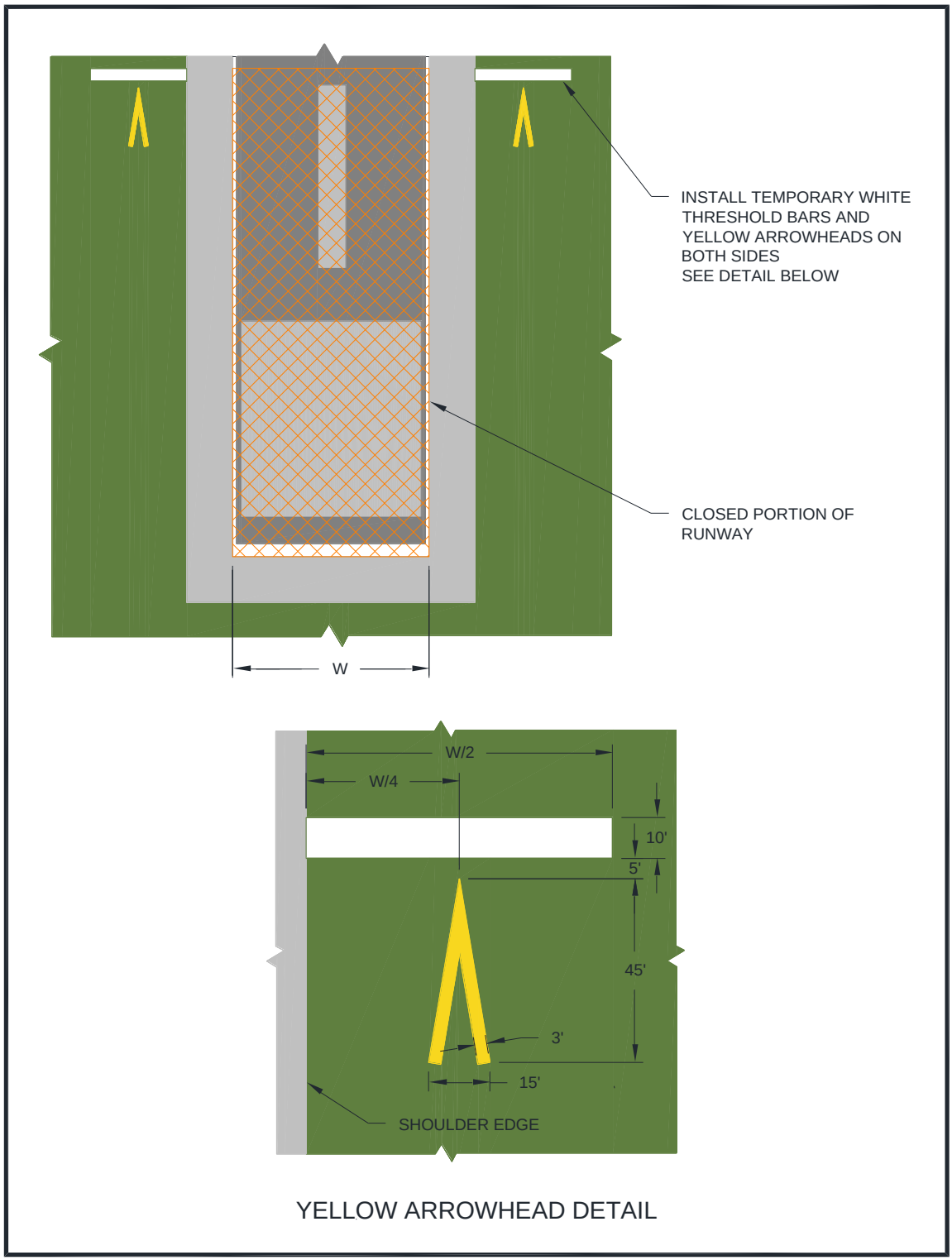
2.18.2.3 It may be necessary to remove or cover runway markings, including but not limited to, runway designation markings, threshold markings, centerline markings, edge stripes, touchdown zone markings and aiming point markings, depending on the length of construction and type of activity at the airport. When removing runway markings, apply the same treatment to areas between stripes or numbers, as the cleaned area will appear to pilots as a marking in the shape of the treated area.

2.18.2.4 If it is not possible to install threshold bars, chevrons, and arrows on the pavement, "temporary outboard white threshold bars and yellow arrowheads", see Figure 2-5, may be used. Locate them outside of the runway pavement surface on both sides of the runway. The dimensions must be as shown in Figure 2-5. If the markings are not discernible on grass or snow, apply a black background with appropriate material over the ground to ensure they are clearly visible.

2.18.2.5 The application rate of paint to mark a short-term temporary runway and taxiway markings may deviate from the standard (see Item P-620, "Runway and Taxiway Painting," in AC 150/5370-10), but the dimensions must meet the existing standards. When applying temporary markings at night, it is recommended that the fast curing, Type II paint be used to help offset the higher humidity and cooler temperatures often experienced at night. Diluting the paint will substantially increase cure time and is not recommended. Glass beads are not recommended for temporary markings. Striated markings may also be used for certain temporary markings. AC

150/5340-1, *Standards for Airport Markings*, has additional guidance on temporary markings.

Figure 2-5. Temporary Outboard White Threshold Bars and Yellow Arrowheads



2.18.3 Lighting and Visual NAVAIDs.

This paragraph refers to standard runway and taxiway lighting systems. See below for hazard lighting. Lighting installation must be in conformance with AC 150/5340-30, *Design and Installation Details for Airport Visual Aids,* and fixture design in conformance with AC 150/5345-50, *Specification for Portable Runway and Taxiway Lights.* When disconnecting runway and taxiway lighting fixtures, disconnect the associated isolation transformers. See AC 150/5340-26, *Maintenance of Airport Visual Aid Facilities*, for disconnect procedures and safety precautions. Alternately, cover the light fixture in such a way as to prevent light leakage. Avoid removing the lamp from energized fixtures because an excessive number of isolation transformers with open secondaries may damage the regulators and/or increase the current above its normal value. Secure, identify, and place any above ground temporary wiring in conduit to prevent electrocution and fire ignition sources. Maintain mandatory hold signs to operate normally in any situation where pilots or vehicle drivers could mistakenly be in that location. At towered airports certificated under Part 139, holding position signs are required to be illuminated on open taxiways crossing to closed or inactive runways. If the holding position sign is installed on the runway circuit for the closed runway, install a jumper to the taxiway circuit to provide power to the holding position sign for nighttime operations. Where it is not possible to maintain power to signs that would normally be operational, install barricades to exclude aircraft. Figure 2-1, Figure 2-2, Figure 2-3, and Figure 2-4 illustrate temporary changes to lighting and visual NAVAIDs.

2.18.3.1 **Permanently Closed Runways and Taxiways.**

For runways and taxiways that have been permanently closed, disconnect the lighting circuits.

2.18.3.2 **Temporarily Closed Runways and New Runways Not Yet Open to Air Traffic.**

If available, use a lighted X, both at night and during the day, placed at each end of the runway on or near the runway designation numbers facing the approach. (Note that the lighted X must be illuminated at all times that it is on a runway.) The use of a lighted X is required if night work requires runway lighting to be on. See AC 150/5345-55, *Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure.* For runways that have been temporarily closed, but for an extended period, and for those with pilot controlled lighting, disconnect the lighting circuits or secure switches to prevent inadvertent activation. For runways that will be opened periodically, coordinate procedures with the FAA air traffic manager or, at airports without an ATCT, the airport operator. Activate stop bars if available. Figure 2-6 shows a lighted X by day. Figure 2-7 shows a lighted X at night.

Figure 2-6. Lighted X in Daytime

Figure 2-7. Lighted X at Night

2.18.3.3 **Partially Closed Runways and Displaced Thresholds.**

When a runway is partially closed, a portion of the pavement is unavailable for any aircraft operation, meaning taxiing and landing or taking off in either direction. A displaced threshold, by contrast, is put in place to ensure obstacle clearance by landing aircraft. The pavement prior to the displaced threshold is available for takeoff in the direction of the displacement, and for landing and takeoff in the opposite direction. Misunderstanding this difference and issuance of a subsequently inaccurate NOTAM can result in a hazardous situation. For both partially

closed runways and displaced thresholds, approach lighting systems at the affected end must be placed out of service.

2.18.3.3.1 Partially Closed Runways.

Disconnect edge and threshold lights on that part of the runway at and behind the threshold (that is, the portion of the runway that is closed). Alternately, cover the light fixtures in such a way as to prevent light leakage. See Figure 2-1.

2.18.3.3.2 Temporary Displaced Thresholds.

Edge lighting in the area of the displacement emits red light in the direction of approach and yellow light (white for visual runways) in the opposite direction. If the displacement is 700 feet or less, blank out centerline lights in the direction of approach or place the centerline lights out of service. If the displacement is over 700 feet, place the centerline lights out of service. See AC 150/5340-30 for details on lighting displaced thresholds. See Figure 2-2.

2.18.3.3.3 Temporary runway thresholds and runway ends must be lighted if the runway is lighted and it is the intended threshold for night landings or instrument meteorological conditions.

2.18.3.3.4 A temporary threshold on an unlighted runway may be marked by retroreflective, elevated markers in addition to markings noted in paragraph 2.18.2.1.3. Markers seen by aircraft on approach are green. Markers at the rollout end of the runway are red. At certificated airports, temporary elevated threshold markers must be mounted with a frangible fitting (see 14 CFR Part 139.309). At non-certificated airports, the temporary elevated threshold markings may either be mounted with a frangible fitting or be flexible. See AC 150/5345-39, *Specification for L-853, Runway and Taxiway Retroreflective Markers.*

2.18.3.3.5 Temporary threshold lights and runway end lights and related visual NAVAIDs are installed outboard of the edges of the full-strength pavement only when they cannot be installed on the pavement. They are installed with bases at grade level or as low as possible, but not more than 3 inch (7.6 cm) above ground. (The standard above ground height for airport lighting fixtures is 14 inches (35 cm)). When any portion of a base is above grade, place properly compacted fill around the base to minimize the rate of gradient change so aircraft can, in an emergency, cross at normal landing or takeoff speeds without incurring significant damage. See AC 150/5370-10.

2.18.3.3.6 Maintain threshold and edge lighting color and spacing standards as described in AC 150/5340-30. Battery powered, solar, or portable lights that meet the criteria in AC 150/5345-50 may be used. These systems are intended primarily for visual flight rules (VFR) aircraft operations but may

be used for instrument flight rules (IFR) aircraft operations, upon individual approval from the Flight Standards Division of the applicable FAA Regional Office.

2.18.3.3.7 When runway thresholds are temporarily displaced, reconfigure yellow lenses (caution zone), as necessary, and place the centerline lights out of service.

2.18.3.3.8 Relocate the Visual Glide Slope Indicator (VGSI), such as Visual Approach Slope Indicator (VASI) and Precision Approach Path Indicator (PAPI); other airport lights, such as Runway End Identifier Lights (REIL); and approach lights to identify the temporary threshold. Another option is to disable the VGSI or any equipment that would give misleading indications to pilots as to the new threshold location. Installation of temporary visual aids may be necessary to provide adequate guidance to pilots on approach to the affected runway. If the FAA owns and operates the VGSI, coordinate its installation or disabling with the local ATO/Technical Operations Office. Relocation of such visual aids will depend on the duration of the project and the benefits gained from the relocation, as this can result in great expense. See FAA JO 6850.2, *Visual Guidance Lighting Systems,* for installation criteria for FAA owned and operated NAVAIDs.

2.18.3.3.9 Issue a NOTAM to inform pilots of temporary lighting conditions.

2.18.3.4 **Temporarily Closed Taxiways.**

If possible, deactivate the taxiway lighting circuits. When deactivation is not possible (for example other taxiways on the same circuit are to remain open), cover the light fixture in a way as to prevent light leakage.

2.18.4 Signs.

To the extent possible, signs must be in conformance with AC 150/5345-44, *Specification for Runway and Taxiway Signs*, and AC 150/5340-18, *Standard for Airport Sign Systems.*

2.18.4.1 **Existing Signs.**

Runway exit signs are to be covered for closed runway exits. Outbound destination signs are to be covered for closed runways. Any time a sign does not serve its normal function or would provide conflicting information, it must be covered or removed to prevent misdirecting pilots. Note that information signs identifying a crossing taxiway continue to perform their normal function even if the crossing taxiway is closed. For long term construction projects, consider relocating signs, especially runway distance remaining signs.

2.18.4.2 **Temporary Signs.**

Orange construction signs comprise a message in black on an orange background. Orange construction signs may help pilots be aware of changed conditions. The airport operator may choose to introduce these signs as part of a movement area construction project to increase situational awareness when needed. Locate signs outside the taxiway safety limits and ahead of construction areas so pilots can take timely action. Use temporary signs judiciously, striking a balance between the need for information and the increase in pilot workload. When there is a concern of pilot "information overload," the applicability of mandatory hold signs must take precedence over orange construction signs recommended during construction. Temporary signs must meet the standards for such signs in Engineering Brief 93, *Guidance for the Assembly and Installation of Temporary Orange Construction Signs.* Many criteria in AC 150/5345-44, *Specification for Runway and Taxiway Signs,* are referenced in the Engineering Brief. Permissible sign legends are:

1. CONSTRUCTION AHEAD,
2. CONSTRUCTION ON RAMP, and
3. RWY XX TAKEOFF RUN AVAILABLE XXX FT.

Phasing, supported by drawings and sign schedule, for the installation of orange construction signs must be included in the CSPP or SPCD.

2.18.4.2.1 Takeoff Run Available (TORA) signs.

Recommended: Where a runway has been shortened for takeoff, install orange TORA signs well before the hold lines, such as on a parallel taxiway prior to a turn to a runway hold position. See EB 93 for sign size and location.

2.18.4.2.2 Sign legends are shown in Figure F-1.

Note: See Figure E-1, Figure E-2, Figure E-3, Figure F-2, and Figure F-3 for examples of orange construction sign locations.

2.19 **Marking and Signs for Access Routes.**

The CSPP should indicate that pavement markings and signs for construction personnel will conform to AC 150/5340-18 and, to the extent practicable, with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD) and/or State highway specifications. Signs adjacent to areas used by aircraft must comply with the frangibility requirements of AC 150/5220-23, *Frangible Connections,* which may require modification to size and height guidance in the MUTCD.

2.20 **Hazard Marking, Lighting and Signing.**

2.20.1 Hazard marking, lighting, and signing prevent pilots from entering areas closed to aircraft, and prevent construction personnel from entering areas open to aircraft. The CSPP must specify prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles. Hazard marking and lighting must also be specified to identify open manholes, small areas under repair, stockpiled material, waste areas, and areas subject to jet blast. Also consider less obvious construction-related hazards and include markings to identify FAA, airport, and National Weather Service facilities cables and power lines; instrument landing system (ILS) critical areas; airport surfaces, such as RSA, OFA, and OFZ; and other sensitive areas to make it easier for contractor personnel to avoid these areas.

2.20.2 Equipment.

2.20.2.1 **Barricades.**

Low profile barricades, including traffic cones, (weighted or sturdily attached to the surface) are acceptable methods used to identify and define the limits of construction and hazardous areas on airports. Careful consideration must be given to selecting equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast. The spacing of barricades must be such that a breach is physically prevented barring a deliberate act. For example, if barricades are intended to exclude aircraft, gaps between barricades must be smaller than the wingspan of the smallest aircraft to be excluded; if barricades are intended to exclude vehicles, gaps between barricades must be smaller than the width of the excluded vehicles, generally 4 feet (1.2 meters). Provision must be made for ARFF access if necessary. If barricades are intended to exclude pedestrians, they must be continuously linked. Continuous linking may be accomplished through the use of ropes, securely attached to prevent FOD.

2.20.2.2 **Lights.**

Lights must be red, either steady burning or flashing, and must meet the luminance requirements of the State Highway Department. Batteries powering lights will last longer if lights flash. Lights must be mounted on barricades and spaced at no more than 10 feet (3 meters). Lights must be operated between sunset and sunrise and during periods of low visibility whenever the airport is open for operations. They may be operated by photocell, but this may require that the contractor turn them on manually during periods of low visibility during daytime hours.

2.20.2.3 **Supplement Barricades with Signs (for example) As Necessary.**

Examples are “No Entry” and “No Vehicles.” Be aware of the increased effects of wind and jet blast on barricades with attached signs.

2.20.2.4 **Air Operations Area – General.**

Barricades are not permitted in any active safety area or on the runway side of a runway hold line. Within a runway or taxiway object free area, and on aprons, use orange traffic cones, flashing or steady burning red lights as noted above, highly reflective collapsible barricades marked with diagonal, alternating orange and white stripes; and/or signs to separate all construction/maintenance areas from the movement area. Barricades may be supplemented with alternating orange and white flags at least 20 by 20 inch (50 by 50 cm) square and securely fastened to eliminate FOD. All barricades adjacent to any open runway or taxiway / taxilane safety area, or apron must be as low as possible to the ground, and no more than 18 inches high, exclusive of supplementary lights and flags. Barricades must be of low mass; easily collapsible upon contact with an aircraft or any of its components; and weighted or sturdily attached to the surface to prevent displacement from prop wash, jet blast, wing vortex, and other surface wind currents. If affixed to the surface, they must be frangible at grade level or as low as possible, but not to exceed 3 inch (7.6 cm) above the ground. Figure 2-8 and Figure 2-9 show sample barricades with proper coloring and flags.

Figure 2-8. Interlocking Barricades

Figure 2-9. Low Profile Barricades

2.20.2.5 **Air Operations Area – Runway/Taxiway Intersections.**

Use highly reflective barricades with lights to close taxiways leading to closed runways. Evaluate all operating factors when determining how to mark temporary closures that can last from 10 to 15 minutes to a much longer period of time. However, even for closures of relatively short duration, close all taxiway/runway intersections with barricades. The use of traffic cones is appropriate for short duration closures.

2.20.2.6 **Air Operations Area – Other.**

Beyond runway and taxiway object free areas and aprons, barricades intended for construction vehicles and personnel may be many different shapes and made from various materials, including railroad ties, sawhorses, jersey barriers, or barrels.

2.20.2.7 **Maintenance.**

The construction specifications must include a provision requiring the contractor to have a person on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades. The contractor must file the contact person's information with the airport operator. Lighting should be checked for proper operation at least once per day, preferably at dusk.

2.21 Work Zone Lighting for Nighttime Construction.

Lighting equipment must adequately illuminate the work area if the construction is to be performed during nighttime hours. Refer to AC 150/5370-10 for minimum illumination levels for nighttime paving projects. Additionally, it is recommended that all support equipment, except haul trucks, be equipped with artificial illumination to safely

illuminate the area immediately surrounding their work areas. The lights should be positioned to provide the most natural color illumination and contrast with a minimum of shadows. The spacing must be determined by trial. Light towers should be positioned and adjusted to aim away from ATCT cabs and active runways to prevent blinding effects. Shielding may be necessary. Light towers should be removed from the construction site when the area is reopened to aircraft operations. Construction lighting units should be identified and generally located on the construction phasing plans in relationship to the ATCT and active runways and taxiways.

2.22 **Protection of Runway and Taxiway Safety Areas.**

Runway and taxiway safety areas, OFZs, OFAs, and approach surfaces are described in AC 150/5300-13. Protection of these areas includes limitations on the location and height of equipment and stockpiled material. An FAA airspace study may be required. Coordinate with the appropriate FAA Airports Regional or District Office if there is any doubt as to requirements or dimensions (see paragraph 2.13.5) as soon as the location and height of materials or equipment are known. The CSPP should include drawings showing all safety areas, object free areas, obstacle free zones and approach departure surfaces affected by construction.

2.22.1 Runway Safety Area (RSA).

A runway safety area is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway (see AC 150/5300-13). Construction activities within the existing RSA are subject to the following conditions:

2.22.1.1 No construction may occur within the existing RSA while the runway is open for aircraft operations. The RSA dimensions may be temporarily adjusted if the runway is restricted to aircraft operations requiring an RSA that is equal to the RSA width and length beyond the runway ends available during construction. (See AC 150/5300-13). The temporary use of declared distances and/or partial runway closures may provide the necessary RSA under certain circumstances. Coordinate with the appropriate FAA Airports Regional or District Office to have declared distances information published, and appropriate NOTAMs issued. See AC 150/5300-13 for guidance on the use of declared distances.

2.22.1.2 The airport operator must coordinate the adjustment of RSA dimensions as permitted above with the appropriate FAA Airports Regional or District Office and the local FAA air traffic manager and issue a NOTAM.

2.22.1.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations.

2.22.1.4 **Excavations.**

2.22.1.4.1 Open trenches or excavations are not permitted within the RSA while the runway is open. Backfill trenches before the runway is opened. If backfilling excavations before the runway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the runway across the trench without damage to the aircraft.

2.22.1.4.2 Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.1.5 **Erosion Control.**

Soil erosion must be controlled to maintain RSA standards, that is, the RSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and fire fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.2 Runway Object Free Area (ROFA).

Construction, including excavations, may be permitted in the ROFA. However, equipment must be removed from the ROFA when not in use, and material should not be stockpiled in the ROFA if not necessary. Stockpiling material in the OFA requires submittal of a 7460-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

2.22.3 Taxiway Safety Area (TSA).

2.22.3.1 A taxiway safety area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. (See AC 150/5300-13.) Since the width of the TSA is equal to the wingspan of the design aircraft, no construction may occur within the TSA while the taxiway is open for aircraft operations. The TSA dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a TSA that is equal to the TSA width available during construction. Give special consideration to TSA dimensions at taxiway turns and intersections. (see AC 150/5300-13).

2.22.3.2 The airport operator must coordinate the adjustment of the TSA width as permitted above with the appropriate FAA Airports Regional or District Office and the FAA air traffic manager and issue a NOTAM.

2.22.3.3 The CSPP and SPCD must provide procedures for ensuring adequate distance for protection from blasting operations.

2.22.3.4 **Excavations.**

1. Curves. Open trenches or excavations are not permitted within the TSA while the taxiway is open. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations appropriately. Covering for open trenches must be designed to allow the safe operation of the heaviest aircraft operating on the taxiway across the trench without damage to the aircraft.
2. Straight Sections. Open trenches or excavations are not permitted within the TSA while the taxiway is open for unrestricted aircraft operations. Trenches should be backfilled before the taxiway is opened. If backfilling excavations before the taxiway must be opened is impracticable, cover the excavations to allow the safe passage of ARFF equipment and of the heaviest aircraft operating on the taxiway across the trench without causing damage to the equipment or aircraft. In rare circumstances where the section of taxiway is indispensable for aircraft movement, open trenches or excavations may be permitted in the TSA while the taxiway is open to aircraft operations, subject to the following restrictions:
    a. Taxiing speed is limited to 10 mph.
    b. Appropriate NOTAMs are issued.
    c. Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.
    d. Low mass, low-profile lighted barricades are installed.
    e. Appropriate temporary orange construction signs are installed.
3. Construction contractors must prominently mark open trenches and excavations at the construction site with red or orange flags, as approved by the airport operator, and light them with red lights during hours of restricted visibility or darkness.

2.22.3.5 **Erosion control.**

Soil erosion must be controlled to maintain TSA standards, that is, the TSA must be cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations, and capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

2.22.4 Taxiway Object Free Area (TOFA).

Unlike the Runway Object Free Area, aircraft wings regularly penetrate the taxiway object free area during normal operations. Thus, the restrictions are more stringent. Except as provided below, no construction may occur within the taxiway object free area while the taxiway is open for aircraft operations.

2.22.4.1 The taxiway object free area dimensions may be temporarily adjusted if the taxiway is restricted to aircraft operations requiring a taxiway object free area that is equal to the taxiway object free area width available. Give special consideration to TOFA dimensions at taxiway turns and intersections.

2.22.4.2 Offset taxiway centerline and edge pavement markings (do not use glass beads) may be used as a temporary measure to provide the required taxiway object free area. Where offset taxiway pavement markings are provided, centerline lighting, centerline reflectors, or taxiway edge reflectors are required. Existing lighting that does not coincide with the temporary markings must be taken out of service.

2.22.4.3 Construction activity, including open excavations, may be accomplished without adjusting the width of the taxiway object free area, subject to the following restrictions:

2.22.4.3.1 Taxiing speed is limited to 10 mph.

2.22.4.3.2 NOTAMs issued advising taxiing pilots of hazard and recommending reduced taxiing speeds on the taxiway.

2.22.4.3.3 Marking and lighting meeting the provisions of paragraphs 2.18 and 2.20 are implemented.

2.22.4.3.4 If desired, appropriate orange construction signs are installed. See paragraph 2.18.4.2 and Appendix F.

2.22.4.3.5 Five-foot clearance is maintained between equipment and materials and any part of an aircraft (includes wingtip overhang). If such clearance can only be maintained if an aircraft does not have full use of the entire taxiway width (with its main landing gear at the edge of the usable pavement), then it will be necessary to move personnel and equipment for the passage of that aircraft.

2.22.4.3.6 Flaggers furnished by the contractor must be used to direct and control construction equipment and personnel to a pre-established setback distance for safe passage of aircraft, and airline and/or airport personnel. Flaggers must also be used to direct taxiing aircraft. Due to liability issues, the airport operator should require airlines to provide flaggers for directing taxiing aircraft.

2.22.5 Obstacle Free Zone (OFZ).

In general, personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. If a penetration to the OFZ is necessary, it may be possible to continue aircraft operations through operational restrictions. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6 Runway Approach/Departure Areas and Clearways.

All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces, as defined in AC 150/5300-13. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Coordinate with the FAA through the appropriate FAA Airports Regional or District Office.

2.22.6.1 Construction activity in a runway approach/departure area may result in the need to partially close a runway or displace the existing runway threshold. Partial runway closure, displacement of the runway threshold, as well as closure of the complete runway and other portions of the movement area also require coordination through the airport operator with the appropriate FAA air traffic manager (FSS if non-towered) and ATO/Technical Operations (for affected NAVAIDS) and airport users.

2.22.6.2 **Caution About Partial Runway Closures.**

When filing a NOTAM for a partial runway closure, clearly state that the portion of pavement located prior to the threshold is not available for landing and departing traffic. In this case, the threshold has been moved for both landing and takeoff purposes (this is different than a displaced threshold). There may be situations where the portion of closed runway is available for taxiing only. If so, the NOTAM must reflect this condition).

2.22.6.3 **Caution About Displaced Thresholds.**

Implementation of a displaced threshold affects runway length available for aircraft landing over the displacement. Depending on the reason for the displacement (to provide obstruction clearance or RSA), such a displacement may also require an adjustment in the landing distance available and accelerate-stop distance available in the opposite direction. If project scope includes personnel, equipment, excavation, or other work within the existing RSA of any usable runway end, do not implement a displaced threshold unless arrivals and departures toward the construction activity are prohibited. Instead, implement a partial closure.

2.23 **Other Limitations on Construction.**

The CSPP must specify any other limitations on construction, including but not limited to:

2.23.1 Prohibitions.

2.23.1.1 No use of tall equipment (cranes, concrete pumps, and so on) unless a 7460-1 determination letter is issued for such equipment.

2.23.1.2 No use of open flame welding or torches unless fire safety precautions are provided and the airport operator has approved their use.

2.23.1.3 No use of electrical blasting caps on or within 1,000 feet (300 meters) of the airport property. See AC 150/5370-10.

2.23.2 Restrictions.

2.23.2.1 Construction suspension required during specific airport operations.

2.23.2.2 Areas that cannot be worked on simultaneously.

2.23.2.3 Day or night construction restrictions.

2.23.2.4 Seasonal construction restrictions.

2.23.2.5 Temporary signs not approved by the airport operator.

2.23.2.6 Grades changes that could result in unplanned effects on NAVAIDs.

CHAPTER 3. GUIDELINES FOR WRITING A CSPP

3.1 General Requirements.

The CSPP is a standalone document written to correspond with the subjects outlined in paragraph 2.4. The CSPP is organized by numbered sections corresponding to each subject listed in paragraph 2.4, and described in detail in paragraphs 2.5 - 2.23. Each section number and title in the CSPP matches the corresponding subject outlined in paragraph 2.4 (for example, 1. Coordination, 2. Phasing, 3. Areas and Operations Affected by the Construction Activity, and so on). With the exception of the project scope of work outlined in Section 2. Phasing, only subjects specific to operational safety during construction should be addressed.

3.2 Applicability of Subjects.

Each section should, to the extent practical, focus on the specific subject. Where an overlapping requirement spans several sections, the requirement should be explained in detail in the most applicable section. A reference to that section should be included in all other sections where the requirement may apply. For example, the requirement to protect existing underground FAA ILS cables during trenching operations could be considered FAA ATO coordination (Coordination, paragraph 2.5.3), an area and operation affected by the construction activity (Areas and Operations Affected by the Construction Activity, paragraph 2.7.1.4), a protection of a NAVAID (Protection of Navigational Aids (NAVAIDs), paragraph 2.8), or a notification to the FAA of construction activities (Notification of Construction Activities, paragraph 2.13.5.3.2). However, it is more specifically an underground utility requirement (Underground Utilities, paragraph 2.15). The procedure for protecting underground ILS cables during trenching operations should therefore be described in 2.4.2.11: "The contractor must coordinate with the local FAA System Support Center (SSC) to mark existing ILS cable routes along Runway 17-35. The ILS cables will be located by hand digging whenever the trenching operation moves within 10 feet of the cable markings." All other applicable sections should include a reference to 2.4.2.11: "ILS cables shall be identified and protected as described in 2.4.2.11" or "See 2.4.2.11 for ILS cable identification and protection requirements." Thus, the CSPP should be considered as a whole, with no need to duplicate responses to related issues.

3.3 Graphical Representations.

Construction safety drawings should be included in the CSPP as attachments. When other graphical representations will aid in supporting written statements, the drawings, diagrams, and/or photographs should also be attached to the CSPP. References should be made in the CSPP to each graphical attachment and may be made in multiple sections.

3.4 **Reference Documents.**

The CSPP must not incorporate a document by reference unless reproduction of the material in that document is prohibited. In that case, either copies of or a source for the referenced document must be provided to the contractor. Where this AC recommends references (e.g. as in paragraph 3.9) the intent is to include a reference to the corresponding section in the CSPP, not to this Advisory Circular.

3.5 **Restrictions.**

The CSPP should not be considered as a project design review document. The CSPP should also avoid mention of permanent ("as-built") features such as pavements, markings, signs, and lighting, except when such features are intended to aid in maintaining operational safety during the construction.

3.6 **Coordination.**

Include in this section a detailed description of conferences and meetings to be held both before and during the project. Include appropriate information from AC 150/5370-12. Discuss coordination procedures and schedules for each required FAA ATO Technical Operations shutdown and restart and all required flight inspections.

3.7 **Phasing.**

Include in this section a detailed scope of work description for the project as a whole and each phase of work covered by the CSPP. This includes all locations and durations of the work proposed. Attach drawings to graphically support the written scope of work. Detail in this section the sequenced phases of the proposed construction. Include a reference to paragraph 3.8, as appropriate.

3.8 **Areas and Operations Affected by Construction.**

Focus in this section on identifying the areas and operations affected by the construction. Describe corresponding mitigation that is not covered in detail elsewhere in the CSPP. Include references to paragraphs below as appropriate. Attach drawings as necessary to graphically describe affected areas and mechanisms proposed. See Appendix F for sample operational effects tables and figures.

3.9 **NAVAID Protection.**

List in this section all NAVAID facilities that will be affected by the construction. Identify NAVAID facilities that will be placed out of service at any time prior to or during construction activities. Identify individuals responsible for coordinating each shutdown and when each facility will be out of service. Include a reference to paragraph 3.6 for FAA ATO NAVAID shutdown, restart, and flight inspection coordination. Outline in detail procedures to protect each NAVAID facility remaining in service from interference by construction activities. Include a reference to paragraph 3.14 for the

issuance of NOTAMs as required. Include a reference to paragraph 3.16 for the protection of underground cables and piping serving NAVAIDs. If temporary visual aids are proposed to replace or supplement existing facilities, include a reference to paragraph 3.19. Attach drawings to graphically indicate the affected NAVAIDS and the corresponding critical areas.

3.10 **Contractor Access.**

This will necessarily be the most extensive section of the CSPP. Provide sufficient detail so that a contractor not experienced in working on airports will understand the unique restrictions such work will require. Due to this extent, it should be broken down into subsections as described below:

3.10.1 Location of Stockpiled Construction Materials.

Describe in this section specific locations for stockpiling material. Note any height restrictions on stockpiles. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify stockpiles. Include a reference to paragraph 3.11 for provisions to prevent stockpile material from becoming wildlife attractants. Include a reference to paragraph 3.12 for provisions to prevent stockpile material from becoming FOD. Attach drawings to graphically indicate the stockpile locations.

3.10.2 Vehicle and Pedestrian Operations.

While there are many items to be addressed in this major subsection of the CSPP, all are concerned with one main issue: keeping people and vehicles from areas of the airport where they don't belong. This includes preventing unauthorized entry to the AOA and preventing the improper movement of pedestrians or vehicles on the airport. In this section, focus on mechanisms to prevent construction vehicles and workers traveling to and from the worksite from unauthorized entry into movement areas. Specify locations of parking for both employee vehicles and construction equipment, and routes for access and haul roads. In most cases, this will best be accomplished by attaching a drawing. Quote from AC 150/5210-5 specific requirements for contractor vehicles rather than referring to the AC as a whole, and include special requirements for identifying HAZMAT vehicles. Quote from, rather than incorporate by reference, AC 150/5210-20 as appropriate to address the airport's rules for ground vehicle operations, including its training program. Discuss the airport's recordkeeping system listing authorized vehicle operators.

3.10.3 Two-Way Radio Communications.

Include a special section to identify all individuals who are required to maintain communications with Air Traffic (AT) at airports with active towers, or monitor CTAF at airports without or with closed ATCT. Include training requirements for all individuals required to communicate with AT. Individuals required to monitor AT frequencies should also be identified. If construction employees are also required to communicate by radio with Airport Operations, this procedure should be described in detail. Usage of vehicle mounted radios and/or portable radios should be addressed. Communication procedures for the event of disabled radio communication (that is, light

signals, telephone numbers, others) must be included. All radio frequencies should by identified (Tower, Ground Control, CTAF, UNICOM, ATIS, and so on).

3.10.4 Airport Security.

Address security as it applies to vehicle and pedestrian operations. Discuss TSA requirements, security badging requirements, perimeter fence integrity, gate security, and other needs. Attach drawings to graphically indicate secured and/or Security Identification Display Areas (SIDA), perimeter fencing, and available access points.

3.11 Wildlife Management.

Discuss in this section wildlife management procedures. Describe the maintenance of existing wildlife mitigation devices, such as perimeter fences, and procedures to limit wildlife attractants. Include procedures to notify Airport Operations of wildlife encounters. Include a reference to paragraph 3.10 for security (wildlife) fence integrity maintenance as required.

3.12 FOD Management.

In this section, discuss methods to control and monitor FOD: worksite housekeeping, ground vehicle tire inspections, runway sweeps, and so on. Include a reference to paragraph 3.15 for inspection requirements as required.

3.13 HAZMAT Management.

Describe in this section HAZMAT management procedures: fuel deliveries, spill recovery procedures, Safety Data Sheet (SDS), Material Safety Data Sheet (MSDS) or Product Safety Data Sheet (PSDS) availability, and other considerations. Any specific airport HAZMAT restrictions should also be identified. Include a reference to paragraph 3.10 for HAZMAT vehicle identification requirements. Quote from, rather than incorporate by reference, AC 150/5320-15.

3.14 Notification of Construction Activities.

List in this section the names and telephone numbers of points of contact for all parties affected by the construction project. We recommend a single list that includes all telephone numbers required under this section. Include emergency notification procedures for all representatives of all parties potentially impacted by the construction. Identify individual representatives – and at least one alternate – for each party. List both on-duty and off-duty contact information for each individual, including individuals responsible for emergency maintenance of airport construction hazard lighting and barricades. Describe procedures to coordinate immediate response to events that might adversely affect the operational safety of the airport (such as interrupted NAVAID service). Explain requirements for and the procedures for the issuance of Notices to Airmen (NOTAMs), notification to FAA required by 14 CFR Part 77 and Part 157 and in the event of affected NAVAIDs. For NOTAMs, identify an individual, and at least one alternate, responsible for issuing and cancelling each specific type of Notice to

Airmen (NOTAM) required. Detail notification methods for police, fire fighting, and medical emergencies. This may include 911, but should also include direct phone numbers of local police departments and nearby hospitals. Identify the E911 address of the airport and the emergency access route via haul roads to the construction site. Require the contractor to have this information available to all workers. The local Poison Control number should be listed. Procedures regarding notification of Airport Operations and/or the ARFF Department of such emergencies should be identified, as applicable. If airport radio communications are identified as a means of emergency notification, include a reference to paragraph 3.10. Differentiate between emergency and nonemergency notification of ARFF personnel, the latter including activities that affect ARFF water supplies and access roads. Identify the primary ARFF contact person and at least one alternate. If notification is to be made through Airport Operations, then detail this procedure. Include a method of confirmation from the ARFF department.

3.15 **Inspection Requirements.**

Describe in this section inspection requirements to ensure airfield safety compliance. Include a requirement for routine inspections by the resident engineer (RE) or other airport operator's representative and the construction contractors. If the engineering consultants and/or contractors have a Safety Officer who will conduct such inspections, identify this individual. Describe procedures for special inspections, such as those required to reopen areas for aircraft operations. Part 139 requires daily airfield inspections at certificated airports, but these may need to be more frequent when construction is in progress. Discuss the role of such inspections on areas under construction. Include a requirement to immediately remedy any deficiencies, whether caused by negligence, oversight, or project scope change.

3.16 **Underground Utilities.**

Explain how existing underground utilities will be located and protected. Identify each utility owner and include contact information for each company/agency in the master list. Address emergency response procedures for damaged or disrupted utilities. Include a reference to paragraph 3.14 for notification of utility owners of accidental utility disruption as required.

3.17 **Penalties.**

Describe in this section specific penalties imposed for noncompliance with airport rules and regulations, including the CSPP: SIDA violations, VPD, and others.

3.18 **Special Conditions.**

Identify any special conditions that may trigger specific safety mitigation actions outlined in this CSPP: low visibility operations, snow removal, aircraft in distress, aircraft accident, security breach, VPD, and other activities requiring construction suspension/resumption. Include a reference to paragraph 3.10 for compliance with airport safety and security measures and for radio communications as required. Include

a reference to paragraph 3.14 for emergency notification of all involved parties, including police/security, ARFF, and medical services.

3.19 **Runway and Taxiway Visual Aids.**

Include marking, lighting, signs, and visual NAVAIDS. Detail temporary runway and taxiway marking, lighting, signs, and visual NAVAIDs required for the construction. Discuss existing marking, lighting, signs, and visual NAVAIDs that are temporarily, altered, obliterated, or shut down. Consider non-federal facilities and address requirements for reimbursable agreements necessary for alteration of FAA facilities and for necessary flight checks. Identify temporary TORA signs or runway distance remaining signs if appropriate. Identify required temporary visual NAVAIDs such as REIL or PAPI. Quote from, rather than incorporate by reference, AC 150/5340-1, *Standards for Airport Markings;* AC 150/5340-18, *Standards for Airport Sign Systems;* and AC 150/5340-30, as required. Attach drawings to graphically indicate proposed marking, lighting, signs, and visual NAVAIDs.

3.20 **Marking and Signs for Access Routes.**

Detail plans for marking and signs for vehicle access routes. To the extent possible, signs should be in conformance with the Federal Highway Administration MUTCD and/or State highway specifications, not hand lettered. Detail any modifications to the guidance in the MUTCD necessary to meet frangibility/height requirements.

3.21 **Hazard Marking and Lighting.**

Specify all marking and lighting equipment, including when and where each type of device is to be used. Specify maximum gaps between barricades and the maximum spacing of hazard lighting. Identify one individual and at least one alternate responsible for maintenance of hazard marking and lighting equipment in the master telephone list. Include a reference to paragraph 3.14. Attach drawings to graphically indicate the placement of hazard marking and lighting equipment.

3.22 **Work Zone Lighting for Nighttime Construction.**

If work is to be conducted at night, specify all lighting equipment, including when and where each type of device is to be used. Indicate the direction lights are to be aimed and any directions that aiming of lights is prohibited. Specify any shielding necessary in instances where aiming is not sufficient to prevent interference with air traffic control and aircraft operations. Attach drawings to graphically indicate the placement and aiming of lighting equipment. Where the plan only indicates directions that aiming of lights is prohibited, the placement and positioning of portable lights must be proposed by the Contractor and approved by the airport operator’s representative each time lights are relocated or repositioned.

3.23 **Protection of Runway and Taxiway Safety Areas.**

This section should focus exclusively on procedures for protecting all safety areas, including those altered by the construction: methods of demarcation, limit of access, movement within safety areas, stockpiling and trenching restrictions, and so on. Reference AC 150/5300-13, as required. Include a reference to paragraph 3.10 for procedures regarding vehicle and personnel movement within safety areas. Include a reference to paragraph 3.10 for material stockpile restrictions as required. Detail requirements for trenching, excavations, and backfill. Include a reference to paragraph 3.21 for hazard marking and lighting devices used to identify open excavations as required. If runway and taxiway closures are proposed to protect safety areas, or if temporary displaced thresholds and/or revised declared distances are used to provide the required Runway Safety Area, include a reference to paragraphs 3.14 and 3.19. Detail procedures for protecting the runway OFZ, runway OFA, taxiway OFA and runway approach surfaces including those altered by the construction: methods of demarcation, limit of cranes, storage of equipment, and so on. Quote from, rather than incorporate by reference, AC 150/5300-13, as required. Include a reference to paragraph 3.24 for height (i.e., crane) restrictions as required. One way to address the height of equipment that will move during the project is to establish a three-dimensional "box" within which equipment will be confined that can be studied as a single object. Attach drawings to graphically indicate the safety area, OFZ, and OFA boundaries.

3.24 **Other Limitations on Construction.**

This section should describe what limitations must be applied to each area of work and when each limitation will be applied: limitations due to airport operations, height (i.e., crane) restrictions, areas which cannot be worked at simultaneously, day/night work restrictions, winter construction, and other limitations. Include a reference to paragraph 3.7 for project phasing requirements based on construction limitations as required.

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APPENDIX A. RELATED READING MATERIAL

Obtain the latest version of the following free publications from the FAA on its Web site at http://www.faa.gov/airports/.

Table A-1. FAA Publications

Number	Title and Description
AC 150/5200-28	*Notices to Airmen (NOTAMs) for Airport Operators* Guidance for using the NOTAM System in airport reporting.
AC 150/5200-30	*Airport Field Condition Assessments and Winter Operations Safety* Guidance for airport owners/operators on the development of an acceptable airport snow and ice control program and on appropriate field condition reporting procedures.
AC 150/5200-33	*Hazardous Wildlife Attractants On or Near Airports* Guidance on locating certain land uses that might attract hazardous wildlife to public-use airports.
AC 150/5210-5	*Painting, Marking, and Lighting of Vehicles Used on an Airport* Guidance, specifications, and standards for painting, marking, and lighting vehicles operating in the airport air operations areas.
AC 150/5210-20	*Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports* Guidance to airport operators on developing ground vehicle operation training programs.
AC 150/5300-13	*Airport Design* FAA standards and recommendations for airport design. Establishes approach visibility minimums as an airport design parameter, and contains the Object Free area and the obstacle free-zone criteria.
AC 150/5210-24	*Airport Foreign Object Debris (FOD) Management* Guidance for developing and managing an airport foreign object debris (FOD) program

Number	Title and Description
AC 150/5320-15	*Management of Airport Industrial Waste* Basic information on the characteristics, management, and regulations of industrial wastes generated at airports. Guidance for developing a Storm Water Pollution Prevention Plan (SWPPP) that applies best management practices to eliminate, prevent, or reduce pollutants in storm water runoff with particular airport industrial activities.
AC 150/5340-1	*Standards for Airport Markings* FAA standards for the siting and installation of signs on airport runways and taxiways.
AC 150/5340-18	*Standards for Airport Sign Systems* FAA standards for the siting and installation of signs on airport runways and taxiways.
AC 150/5345-28	*Precision Approach Path Indicator (PAPI) Systems* FAA standards for PAPI systems, which provide pilots with visual glide slope guidance during approach for landing.
AC 150/5340-30	*Design and Installation Details for Airport Visual Aids* Guidance and recommendations on the installation of airport visual aids.
AC 150/5345-39	*Specification for L-853, Runway and Taxiway Retroreflective Markers*
AC 150/5345-44	*Specification for Runway and Taxiway Signs* FAA specifications for unlighted and lighted signs for taxiways and runways.
AC 150/5345-53	*Airport Lighting Equipment Certification Program* Details on the Airport Lighting Equipment Certification Program (ALECP).
AC 150/5345-50	*Specification for Portable Runway and Taxiway Lights* FAA standards for portable runway and taxiway lights and runway end identifier lights for temporary use to permit continued aircraft operations while all or part of a runway lighting system is inoperative.
AC 150/5345-55	*Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure*

Number	Title and Description
AC 150/5370-10	*Standards for Specifying Construction of Airports* Standards for construction of airports, including earthwork, drainage, paving, turfing, lighting, and incidental construction.
AC 150/5370-12	*Quality Management for Federally Funded Airport Construction Projects*
EB 93	*Guidance for the Assembly and Installation of Temporary Orange Construction Signs*
FAA Order 5200.11	FAA Airports (ARP) Safety Management System (SMS) Basics for implementing SMS within ARP. Includes roles and responsibilities of ARP management and staff as well as other FAA lines of business that contribute to the ARP SMS.
FAA Certalert 98-05	*Grasses Attractive to Hazardous Wildlife* Guidance on grass management and seed selection.
FAA Form 7460-1	Notice of Proposed Construction or Alteration
FAA Form 7480-1	Notice of Landing Area Proposal
FAA Form 6000.26	National NAS Strategic Interruption Service Level Agreement, Strategic Events Coordination, Airport Sponsor Form

Obtain the latest version of the following free publications from the Electronic Code of Federal Regulations at http://www.ecfr.gov/.

Table A-2. Code of Federal Regulation

Number	Title
Title 14 CFR Part 77	Safe, Efficient Use and Preservation of the Navigable Airspace
Title 14 CFR Part 139	Certification of Airports
Title 49 CFR Part 1542	Airport Security

Obtain the latest version of the Manual on Uniform Traffic Control Devices from the Federal Highway Administration at http://mutcd.fhwa.dot.gov/.

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APPENDIX B. TERMS AND ACRONYMS

Table B-1. Terms and Acronyms

Term	Definition
Form 7460-1	Notice of Proposed Construction or Alteration. For on-airport projects, the form submitted to the FAA regional or airports division office as formal written notification of any kind of construction or alteration of objects that affect navigable airspace, as defined in 14 CFR Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. (See guidance available on the FAA web site at https://oeaaa.faa.gov.) The form may be downloaded at http://www.faa.gov/airports/resources/forms/, or filed electronically at: https://oeaaa.faa.gov.
Form 7480-1	Notice of Landing Area Proposal. Form submitted to the FAA Airports Regional Division Office or Airports District Office as formal written notification whenever a project without an airport layout plan on file with the FAA involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport The form may be downloaded at http://www.faa.gov/airports/resources/forms/.
Form 6000-26	Airport Sponsor Strategic Event Submission Form
AC	Advisory Circular
ACSI	Airport Certification Safety Inspector
ADG	Airplane Design Group
AIP	Airport Improvement Program
ALECP	Airport Lighting Equipment Certification Program
ANG	Air National Guard
AOA	Air Operations Area, as defined in 14 CFR Part 107. Means a portion of an airport, specified in the airport security program, in which security measures are carried out. This area includes aircraft movement areas, aircraft parking areas, loading ramps, and safety areas, and any adjacent areas (such as general aviation areas) that are not separated by adequate security systems, measures, or procedures. This area does not include the secured area of the airport terminal building.
ARFF	Aircraft Rescue and Fire Fighting
ARP	FAA Office of Airports
ASDA	Accelerate-Stop Distance Available
AT	Air Traffic
ATCT	Airport Traffic Control Tower
ATIS	Automatic Terminal Information Service
ATO	Air Traffic Organization
Certificated Airport	An airport that has been issued an Airport Operating Certificate by the FAA under

Term	Definition
	the authority of 14 CFR Part 139, *Certification of Airports*.
CFR	Code of Federal Regulations
Construction	The presence of construction-related personnel, equipment, and materials in any location that could infringe upon the movement of aircraft.
CSPP	Construction Safety and Phasing Plan. 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.
CTAF	Common Traffic Advisory Frequency
Displaced Threshold	A threshold that is located at a point on the runway other than the designated beginning of the runway. The portion of pavement behind a displaced threshold is available for takeoffs in either direction or landing from the opposite direction.
DOT	Department of Transportation
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FOD	Foreign Object Debris/Damage
FSS	Flight Service Station
GA	General Aviation
HAZMAT	Hazardous Materials
HMA	Hot Mix Asphalt
IAP	Instrument Approach Procedures
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LDA	Landing Distance Available
LOC	Localizer antenna array
Movement Area	The runways, taxiways, and other areas of an airport that are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft, exclusive of loading aprons and aircraft parking areas (reference 14 CFR Part 139).
MSDS	Material Safety Data Sheet
MUTCD	Manual on Uniform Traffic Control Devices
NAVAID	Navigation Aid
NAVAID Critical Area	An area of defined shape and size associated with a NAVAID that must remain clear and graded to avoid interference with the electronic signal.
Non-Movement Area	The area inside the airport security fence exclusive of the Movement Area. It is important to note that the non-movement area includes pavement traversed by aircraft.

Term	Definition
NOTAM	Notices to Airmen
Obstruction	Any object/obstacle exceeding the obstruction standards specified by 14 CFR Part 77, subpart C.
OCC	Operations Control Center
OE / AAA	Obstruction Evaluation / Airport Airspace Analysis
OFA	Object Free Area. An area on the ground centered on the runway, taxiway, or taxi lane centerline provided to enhance safety of aircraft operations by having the area free of objects except for those objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. (See AC 150/5300-13 for additional guidance on OFA standards and wingtip clearance criteria.)
OFZ	Obstacle Free Zone. The airspace below 150 ft (45 m) above the established airport elevation and along the runway and extended runway centerline that is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway and for missed approaches. The OFZ is subdivided as follows: Runway OFZ, Inner Approach OFZ, Inner Transitional OFZ, and Precision OFZ. Refer to AC 150/5300-13 for guidance on OFZ.
OSHA	Occupational Safety and Health Administration
OTS	Out of Service
P&R	Planning and Requirements Group
NPI	NAS Planning & Integration
PAPI	Precision Approach Path Indicator
PFC	Passenger Facility Charge
PLASI	Pulse Light Approach Slope Indicator
Project Proposal Summary	A clear and concise description of the proposed project or change that is the object of Safety Risk Management.
RA	Reimbursable Agreement
RE	Resident Engineer
REIL	Runway End Identifier Lights
RNAV	Area Navigation
ROFA	Runway Object Free Area
RSA	Runway Safety Area. A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway, in accordance with AC 150/5300-13.
SDS	Safety Data Sheet
SIDA	Security Identification Display Area
SMS	Safety Management System

Term	Definition
SPCD	Safety Plan Compliance Document. Details developed and submitted by a contractor to the airport operator for approval providing details on how the performance of a construction project will comply with the CSPP.
SRM	Safety Risk Management
SSC	System Support Center
Taxiway Safety Area	A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway, in accordance with AC 150/5300-13.
TDG	Taxiway Design Group
Temporary	Any condition that is not intended to be permanent.
Temporary Runway End	The beginning of that portion of the runway available for landing and taking off in one direction, and for landing in the other direction. Note the difference from a displaced threshold.
Threshold	The beginning of that portion of the runway available for landing. In some instances, the landing threshold may be displaced.
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available. The length of the runway less any length of runway unavailable and/or unsuitable for takeoff run computations. See AC 150/5300-13 for guidance on declared distances.
TSA	Taxiway Safety Area, or Transportation Security Administration
UNICOM	A radio communications system of a type used at small airports.
VASI	Visual Approach Slope Indicator
VGSI	Visual Glide Slope Indicator. A device that provides a visual glide slope indicator to landing pilots. These systems include precision approach path indicator (PAPI), visual approach slope indicator (VASI), and pulse light approach slope indicator (PLASI).
VFR	Visual Flight Rules
VOR	Very High Frequency Omnidirectional Radio Range
VPD	Vehicle / Pedestrian Deviation

APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

Table C-1. CSPP Checklist

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
General Considerations					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	2.5				
Operational safety is a standing agenda item for construction progress meetings.	2.5				
Scheduling of the construction phases is properly addressed.	2.6				
Any formal agreements are established.	2.5.3				
Areas and Operations Affected by Construction Activity					
Drawings showing affected areas are included.	2.7.1				
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	2.7.1.1				
Access routes used by ARFF vehicles affected by the project are addressed.	2.7.1.2				
Access routes used by airport and airline support vehicles affected by the project are addressed.	2.7.1.3				
Underground utilities, including water supplies for firefighting and drainage.	2.7.1.4				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	2.7.1.5				
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	2.7.1				
Temporary changes to taxi operations are addressed.	2.7.2.1				
Detours for ARFF and other airport vehicles are identified.	2.7.2.2				
Maintenance of essential utilities and underground infrastructure is addressed.	2.7.2.3				
Temporary changes to air traffic control procedures are addressed.	2.7.2.4				
NAVAIDs					
Critical areas for NAVAIDs are depicted on drawings.	2.8				
Effects of construction activity on the performance of NAVAIDS, including unanticipated power outages, are addressed.	2.8				
Protection of NAVAID facilities is addressed.	2.8				
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	2.8				
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	2.8, 2.13.1, 2.13.5.3.1, 2.18.1				
Contractor Access					
The CSPP addresses areas to which contractor will have access and how	2.9				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	2.9				
The location of stockpiled construction materials is depicted on drawings.	2.9.1				
The requirement for stockpiles in the ROFA to be approved by FAA is included.	2.9.1				
Requirements for proper stockpiling of materials are included.	2.9.1				
Construction site parking is addressed.	2.9.2.1				
Construction equipment parking is addressed.	2.9.2.2				
Access and haul roads are addressed.	2.9.2.3				
A requirement for marking and lighting of vehicles to comply with AC 150/5210-5, *Painting, Marking and Lighting of Vehicles Used on an Airport,* is included.	2.9.2.4				
Proper vehicle operations, including requirements for escorts, are described.	2.9.2.5, 2.9.2.6				
Training requirements for vehicle drivers are addressed.	2.9.2.7				
Two-way radio communications procedures are described.	2.9.2.9				
Maintenance of the secured area of the airport is addressed.	2.9.2.10				
Wildlife Management					
The airport operator’s wildlife management procedures are addressed.	2.10				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Foreign Object Debris Management					
The airport operator's FOD management procedures are addressed.	2.11				
Hazardous Materials Management					
The airport operator's hazardous materials management procedures are addressed.	2.12				
Notification of Construction Activities					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	2.13				
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	2.13.1				
A list of local ATO/Technical Operations personnel is included.	2.13.1				
A list of ATCT managers on duty is included.	2.13.1				
A list of authorized representatives to the OCC is included.	2.13.2				
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	2.8, 2.13.2, 2.18.3.3.9				
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	2.13.2				
Emergency notification procedures for medical, fire fighting, and police	2.13.3				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	2.13.4				
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	2.13.5				
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	2.13.5.3.2				
Inspection Requirements					
Daily and interim inspections by both the airport operator and contractor are specified.	2.14.1, 2.14.2				
Final inspections at certificated airports are specified when required.	2.14.3				
Underground Utilities					
Procedures for protecting existing underground facilities in excavation areas are described.	2.15				
Penalties					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	2.16				
Special Conditions					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	2.17				
Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	2.18.1				
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with AC 150/5340-1, *Standards for Airport Markings*, is specified.	2.18.2				
Detailed specifications for materials and methods for temporary markings are provided.	2.18.2				
The requirement for lighting to conform to AC 150/5340-30, *Design and Installation Details for Airport Visual Aids;* AC 150/5345-50, *Specification for Portable Runway and Taxiway Lights;* and AC 150/5345-53, *Airport Lighting Certification Program*, is specified.	2.18.3				
The use of a lighted X is specified where appropriate.	2.18.2.1.2, 2.18.3.2				
The requirement for signs to conform to AC 150/5345-44, *Specification for Runway and Taxiway Signs;* AC 50/5340-18, *Standards for Airport Sign Systems;* and AC 150/5345-53, *Airport Lighting Certification Program*, is specified.	2.18.4				
Marking and Signs For Access Routes					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to AC 150/5340-18 and, to the extent practicable, with the MUTCD and/or State highway specifications.	2.18.4.2				
Hazard Marking and Lighting					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	2.20.1				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	2.20.1				
The CSPP considers less obvious construction-related hazards.	2.20.1				
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	2.20.2.1				
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	2.20.2.1				
Red lights meeting the luminance requirements of the State Highway Department are specified.	2.20.2.2				
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	2.20.2.3				
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	2.20.2.3				
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	2.20.2.5				
Markings for temporary closures are specified.	2.20.2.5				
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	2.20.2.7				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Work Zone Lighting for Nighttime Construction					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	2.21				
Protection of Runway and Taxiway Safety Areas					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	2.22.1.1, 2.22.3.1				
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	2.22.1.2, 2.22.3.2				
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	2.22.3.3				
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	2.22.1.4				
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	2.22.1.4				
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	2.22.1.4				
Grading and soil erosion control to maintain RSA/TSA standards are	2.22.3.5				

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	2.22.2				
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	2.22.3				
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	2.22.4				
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	2.22.4.3.6				
Provisions for protection of runway approach/departure areas and clearways are included.	2.22.6				
Other Limitations on Construction					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	2.23.1.2				
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	2.23.1.3				

APPENDIX D. CONSTRUCTION PROJECT DAILY SAFETY INSPECTION CHECKLIST

The situations identified below are potentially hazardous conditions that may occur during airport construction projects. Safety area encroachments, unauthorized and improper ground vehicle operations, and unmarked or uncovered holes and trenches near aircraft operating surfaces pose the most prevalent threats to airport operational safety during airport construction projects. The list below is one tool that the airport operator or contractor may use to aid in identifying and correcting potentially hazardous conditions. It should be customized as appropriate for each project including information such as the date, time and name of the person conducting the inspection.

Table D-1. Potentially Hazardous Conditions

Item	Action Required (Describe)	No Action Required (Check)
Excavation adjacent to runways, taxiways, and aprons improperly backfilled.		
Mounds of earth, construction materials, temporary structures, and other obstacles near any open runway, taxiway, or taxi lane; in the related Object Free area and aircraft approach or departure areas/zones; or obstructing any sign or marking.		
Runway resurfacing projects resulting in lips exceeding 3 inch (7.6 cm) from pavement edges and ends.		
Heavy equipment (stationary or mobile) operating or idle near AOA, in runway approaches and departures areas, or in OFZ.		
Equipment or material near NAVAIDs that may degrade or impair radiated signals and/or the monitoring of navigation and visual aids. Unauthorized or improper vehicle operations in localizer or glide slope critical areas, resulting in electronic interference and/or facility shutdown.		
Tall and especially relatively low visibility units (that is, equipment with slim profiles) — cranes, drills, and similar objects — located in critical areas, such as OFZ and		

Item	Action Required (Describe)	No Action Required (Check)
approach zones.		
Improperly positioned or malfunctioning lights or unlighted airport hazards, such as holes or excavations, on any apron, open taxiway, or open taxi lane or in a related safety, approach, or departure area.		
Obstacles, loose pavement, trash, and other debris on or near AOA. Construction debris (gravel, sand, mud, paving materials) on airport pavements may result in aircraft propeller, turbine engine, or tire damage. Also, loose materials may blow about, potentially causing personal injury or equipment damage.		
Inappropriate or poorly maintained fencing during construction intended to deter human and animal intrusions into the AOA. Fencing and other markings that are inadequate to separate construction areas from open AOA create aviation hazards.		
Improper or inadequate marking or lighting of runways (especially thresholds that have been displaced or runways that have been closed) and taxiways that could cause pilot confusion and provide a potential for a runway incursion. Inadequate or improper methods of marking, barricading, and lighting of temporarily closed portions of AOA create aviation hazards.		
Wildlife attractants — such as trash (food scraps not collected from construction personnel activity), grass seeds, tall grass, or standing water — on or near airports.		
Obliterated or faded temporary markings on active operational areas.		
Misleading or malfunctioning obstruction lights. Unlighted or unmarked obstructions in the approach to any open runway pose aviation hazards.		

Item	Action Required (Describe)	No Action Required (Check)
Failure to issue, update, or cancel NOTAMs about airport or runway closures or other construction related airport conditions.		
Failure to mark and identify utilities or power cables. Damage to utilities and power cables during construction activity can result in the loss of runway / taxiway lighting; loss of navigation, visual, or approach aids; disruption of weather reporting services; and/or loss of communications.		
Restrictions on ARFF access from fire stations to the runway / taxiway system or airport buildings.		
Lack of radio communications with construction vehicles in airport movement areas.		
Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.		
Water, snow, dirt, debris, or other contaminants that temporarily obscure or derogate the visibility of runway/taxiway marking, lighting, and pavement edges. Any condition or factor that obscures or diminishes the visibility of areas under construction.		
Spillage from vehicles (gasoline, diesel fuel, oil) on active pavement areas, such as runways, taxiways, aprons, and airport roadways.		
Failure to maintain drainage system integrity during construction (for example, no temporary drainage provided when working on a drainage system).		

Item	Action Required (Describe)	No Action Required (Check)
Failure to provide for proper electrical lockout and tagging procedures. At larger airports with multiple maintenance shifts/workers, construction contractors should make provisions for coordinating work on circuits.		
Failure to control dust. Consider limiting the amount of area from which the contractor is allowed to strip turf.		
Exposed wiring that creates an electrocution or fire ignition hazard. Identify and secure wiring, and place it in conduit or bury it.		
Site burning, which can cause possible obscuration.		
Construction work taking place outside of designated work areas and out of phase.		

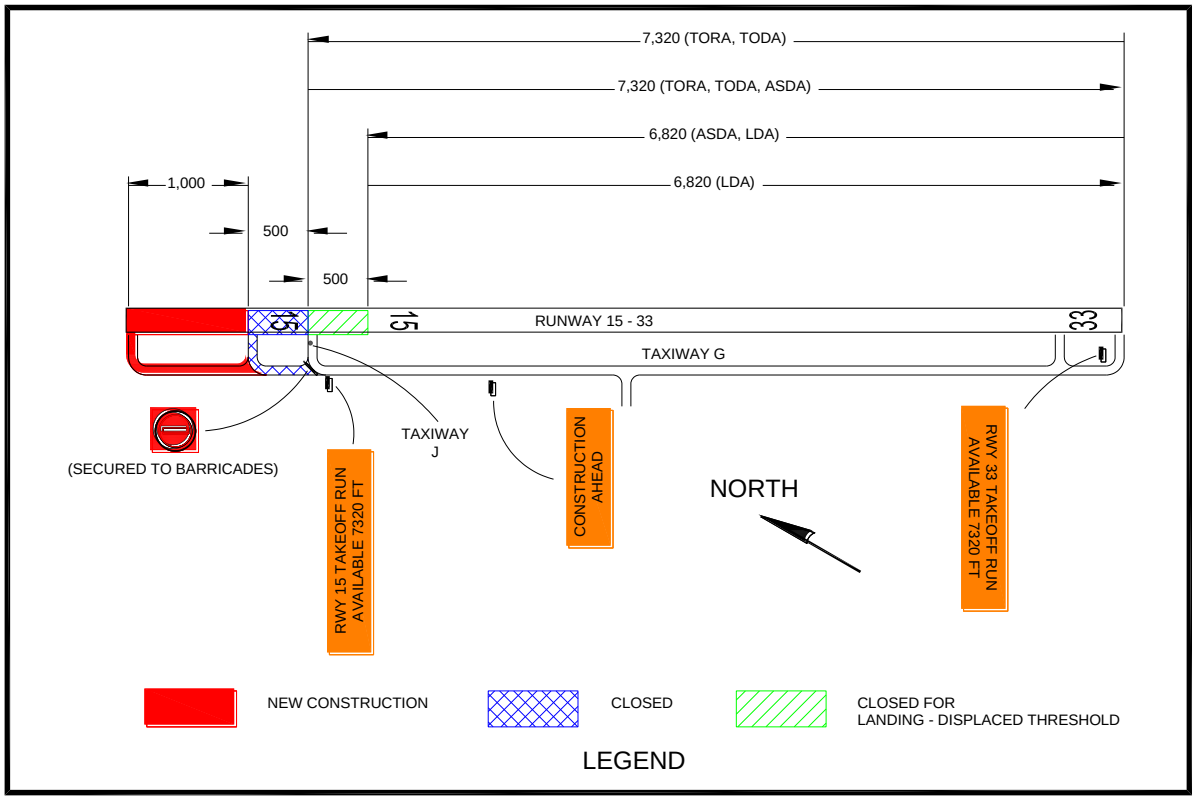
APPENDIX E. SAMPLE OPERATIONAL EFFECTS TABLE

E.1 **Project Description.**

Runway 15-33 is currently 7820 feet long, with a 500 foot stopway on the north end. This project will remove the stopway and extend the runway 1000 feet to the north and 500 feet to the south. Finally, the existing portion of the runway will be repaved. The runway 33 glide slope will be relocated. The new runway 33 localizer has already been installed by FAA Technical Operations and only needs to be switched on. Runway 15 is currently served only by a localizer, which will remain in operation as it will be beyond the future RSA. Appropriate NOTAMS will be issued throughout the project.

E.1.1 During Phase I, the runway 15 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 15 takeoff and the departure end of runway 33 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 33 will be adjusted to provide the required RSA and applicable departure surface. Excavation near Taxiway G will require its ADG to be reduced from IV to III. See Figure E-1.

Figure E-1. Phase I Example

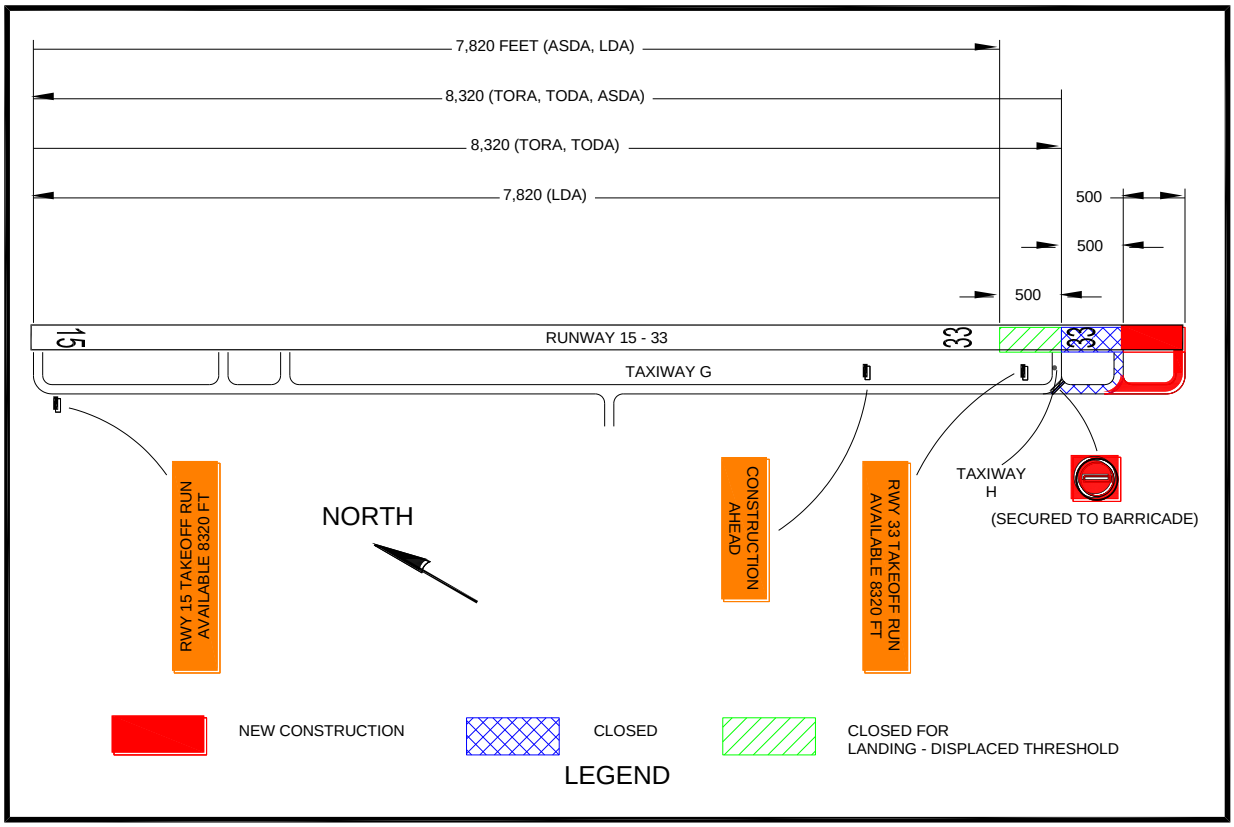


Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 33 departures, the maximum equipment height in the construction area is 12.5 feet (500/40 = 12.5).

E.2 During Phase II, the runway 33 threshold will be displaced 1000 feet to keep construction equipment below the approach surface. The start of runway 33 takeoff and the departure end of runway 15 will also be moved 500 feet to protect workers from jet blast. Declared distances for runway 15 will be adjusted to provide the required RSA and applicable departure surface. See Figure E-2.

Figure E-2. Phase II Example



Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

Note 2: Based on the declared distances for Runway 15 departures, the maximum equipment height in the construction area is 12.5 feet (500/40 = 12.5).

E.3 During Phase III, the existing portion of the runway will be repaved with Hot Mix Asphalt (HMA) and the runway 33 glide slope will be relocated. Construction will be accomplished between the hours of 8:00 pm and 5:00 am, during which the runway will be closed to operations.

Figure E-3. Phase III Example

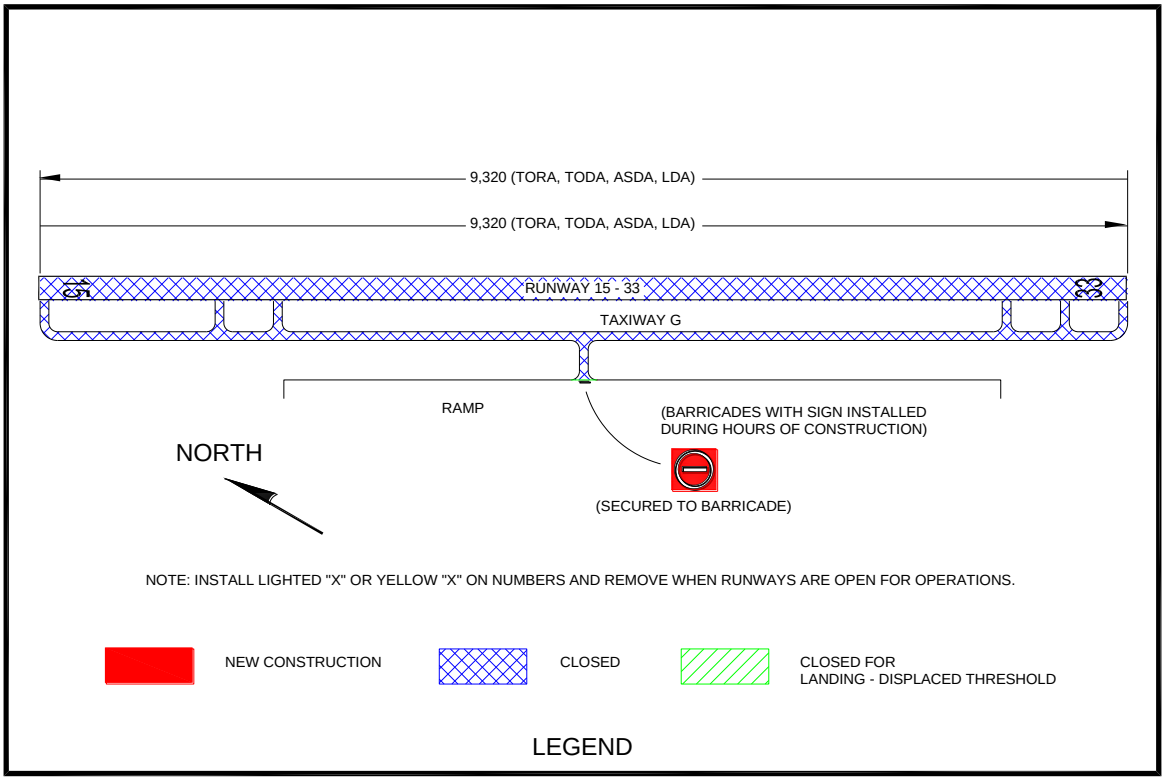


Table E-1. Operational Effects Table

Project	**Runway 15-33 Extension and Repaving**			
Phase	**Normal (Existing)**	**Phase I: Extend Runway 15 End**	**Phase II: Extend Runway 33 End**	**Phase III: Repave Runway**
Scope of Work	N/A	Extend Runway 15-33 1,000 ft on north end with Hot Mix Asphaltic Concrete (HMA).	Extend Runway 15-33 500 ft on south end with Hot Mix Asphaltic Concrete (HMA).	Repave existing runway with HMA Relocate Runway 33 Glide Slope
Effects of Construction Operations	N/A	Existing North 500 ft closed	Existing South 500 ft closed	Runway closed between 8:00 pm and 5:00 am Edge lighting out of service
Construction Phase	N/A	Phase I (Anticipated)	Phase II (Anticipated)	Phase III (Anticipated)
Runway 15 Average Aircraft Operations	Carrier: 52 /day GA: 26 /day Military: 11 /day	Carrier: 40 /day GA: 26 /day Military: 0 /day	Carrier: 45 /day GA: 26 /day Military: 5 /day	Carrier: 45 / day GA: 20 / day Military: 0 /day
Runway 33 Average Aircraft Operations	Carrier: 40 /day GA: 18 /day Military: 10 /day	Carrier: 30 /day GA: 18 /day Military: 0 /day	Carrier: 25 /day GA: 18 /day Military: 5 /day	Carrier: 20 /day GA: 5 /day Military: 0 /day
Runway 15-33 Aircraft Category	C-IV	C-IV	C-IV	C-IV
Runway 15 Approach Visibility Minimums	1 mile	1 mile	1 mile	1 mile
Runway 33 Approach Visibility Minimums	¾ mile	¾ mile	¾ mile	1 mile

Note: Proper coordination with Flight Procedures group is necessary to maintain instrument approach procedures during construction.

Project		Runway 15-33 Extension and Repaving			
Phase		Normal (Existing)	Phase I: Extend Runway 15 End	Phase II: Extend Runway 33 End	Phase III: Repave Runway
Runway 15 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	7,820	7,320	7,820	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 33 Declared Distances	TORA	7,820	7,320	8,320	9,320
	TODA	7,820	7,320	8,320	9,320
	ASDA	8,320	6,820	8,320	9,320
	LDA	7,820	6,820	7,820	9,320
Runway 15 Approach Procedures		LOC only	LOC only	LOC only	LOC only
		RNAV	RNAV	RNAV	RNAV
		VOR	VOR	VOR	VOR
Runway 33 Approach Procedures		ILS	ILS	ILS	LOC only
		RNAV	RNAV	RNAV	RNAV
		VOR	VOR	VOR	VOR
Runway 15 NAVAIDs		LOC	LOC	LOC	LOC
Runway 33 NAVAIDs		ILS, MALSR	ILS, MALSR	ILS, MALSR	LOC, MALSR
Taxiway G ADG		IV	III	IV	IV
Taxiway G TDG		4	4	4	4
ATCT (hours open)		24 hours	24 hours	24 hours	0500 - 2000
ARFF Index		D	D	D	D

Project	Runway 15-33 Extension and Repaving			
Phase	**Normal (Existing)**	**Phase I: Extend Runway 15 End**	**Phase II: Extend Runway 33 End**	**Phase III: Repave Runway**
Special Conditions	Air National Guard (ANG) military operations	All military aircraft relocated to alternate ANG Base	Some large military aircraft relocated to alternate ANG Base	All military aircraft relocated to alternate ANG Base
Information for NOTAMs		Refer above for applicable declared distances. Taxiway G limited to 118 ft wingspan	Refer above for applicable declared distances.	Refer above for applicable declared distances. Airport closed 2000 – 0500. Runway 15 glide slope OTS.

Note: This table is one example. It may be advantageous to develop a separate table for each project phase and/or to address the operational status of the associated NAVAIDs per construction phase.

Complete the following chart for each phase to determine the area that must be protected along the runway and taxiway edges:

Table E-2. Runway and Taxiway Edge Protection

Runway/Taxiway	Aircraft Approach Category* A, B, C, or D	Airplane Design Group* I, II, III, or IV	Safety Area Width in Feet Divided by 2*

*See AC 150/5300-13 to complete the chart for a specific runway/taxiway.

Complete the following chart for each phase to determine the area that must be protected before the runway threshold:

Table E-3. Protection Prior to Runway Threshold

Runway End Number	Airplane Design Group* I, II, III, or IV	Aircraft Approach Category* A, B, C, or D	Minimum Safety Area Prior to the Threshold*	Minimum Distance to Threshold Based on Required Approach Slope*	
			ft	ft	: 1
			ft	ft	: 1
			ft	ft	: 1
			ft	ft	: 1

*See AC 150/5300-13 to complete the chart for a specific runway.

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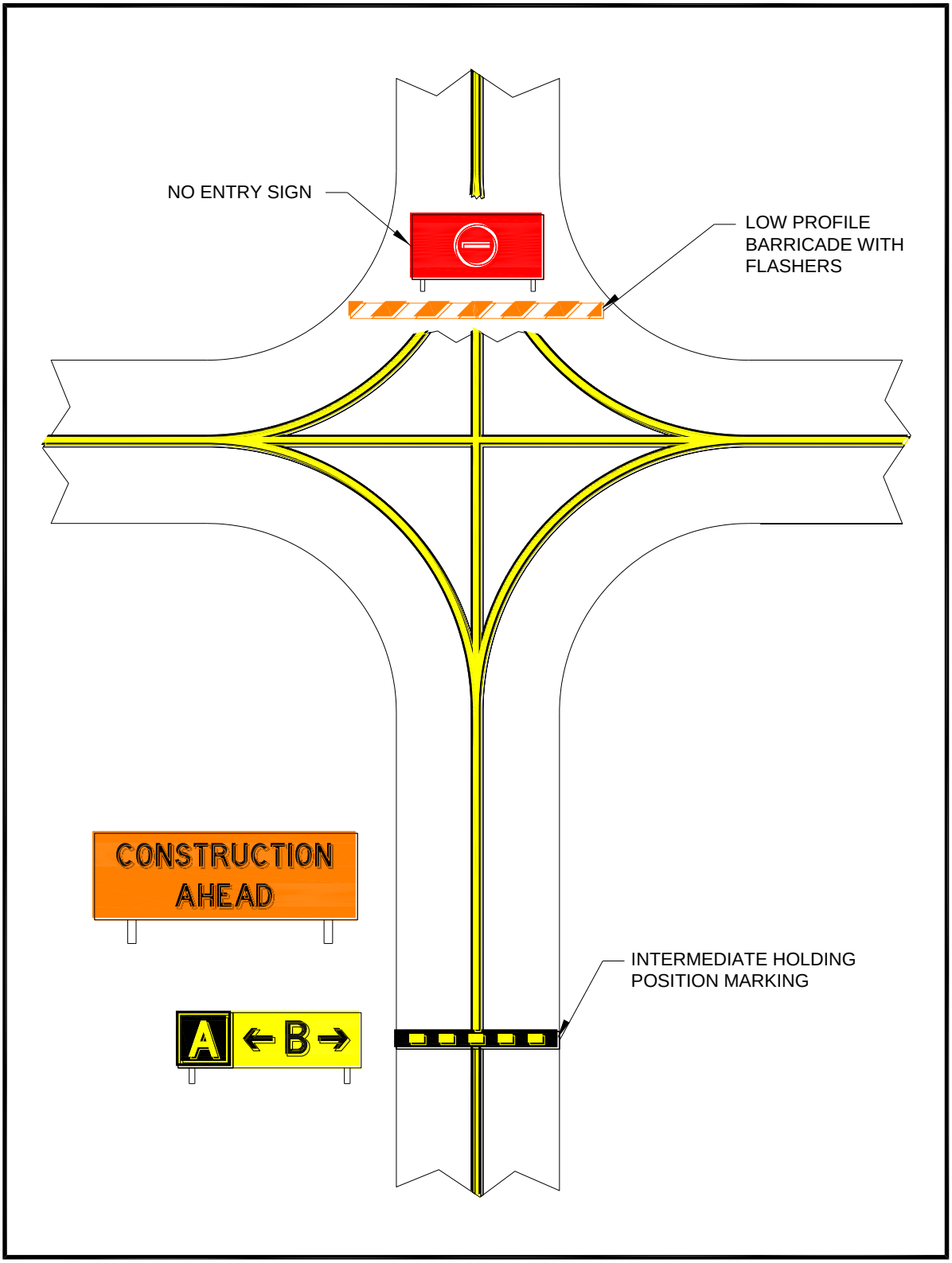
APPENDIX F. ORANGE CONSTRUCTION SIGNS

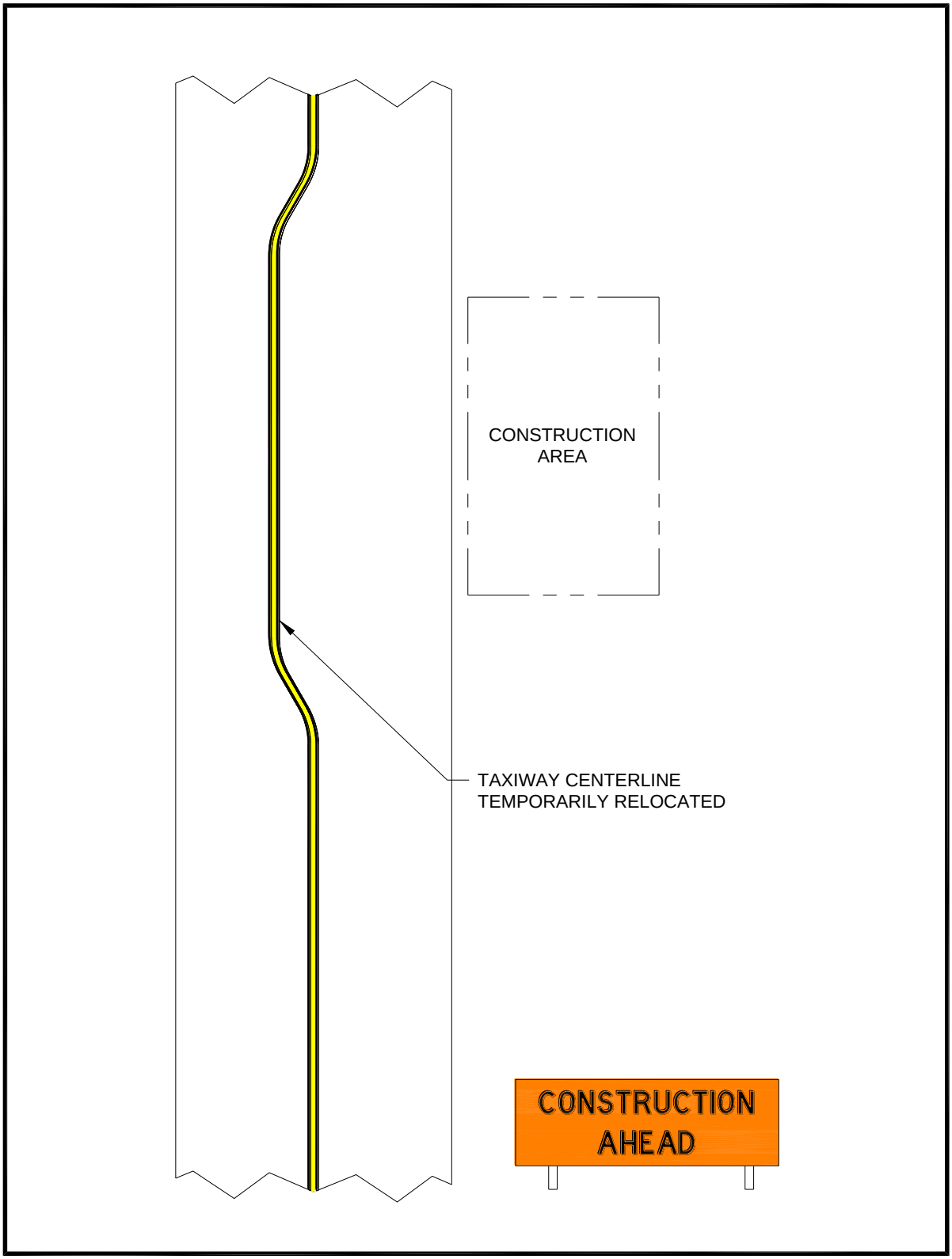
Figure F-1. Approved Sign Legends

Figure F-2. Orange Construction Sign Example 1



Note: For proper placement of signs, refer to EB 93.

Figure F-3. Orange Construction Sign Example 2



Note: For proper placement of signs, refer to EB 93.

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Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Engineering Division, Federal Aviation Administration ATTN: AAS-100, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5383.

Subject: AC 150/5370-2G Date: _____

Please check all appropriate line items:

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

_____
_____
_____

☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

_____
_____
_____

☐ Other comments:

_____
_____
_____

☐ I would like to discuss the above. Please contact me at (phone number, email address).

_____

Submitted by: _____ Date: _____

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EXHIBIT B

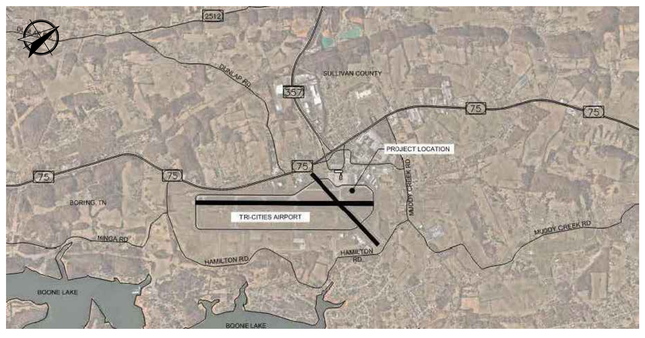
Project Drawings

TRI-CITIES AIRPORT
COMMON USE PASSENGER PROCESSING SYSTEM

2525 HWY 75, BLOUNTVILLE, TN 37617

TCAA PROJECT No.: 19014-000

STATE MAP



VICINITY MAP

INDEX

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EJOVentures

TRI-CITIES AIRPORT
COMMON USE IMPLEMENTATION PROJCET
2525 HWY 75 BLOUNTVILLE, TN 37617

ISSUED
ISSUED FOR BID

M&H NO.: 3177700-250176.02
DATE: JUNE 30, 2025
DESIGNED BY: TJS
DRAWN BY: MST
CHECKED BY: TJS
DO NOT SCALE DRAWINGS

SHEET CONTENTS
COVER SHEET, INDEX, AND MAPS

SHEET NO.:
G-001

ABBREVIATIONS

BCR = BAR CODE READER
BPP = BOARDING PASS PRINTER
BTP = BAG TAG PRINTER
DDC = DIGITAL DISPLAY CONTROLLER
FIDS = FLIGHT INFORMATION DISPLAY
PC = PERSONAL COMPUTER

GRAPHICS SYMBOLS LEGEND

DEMOLITION NOTES:

1. THE INFORMATION SHOWN IS BASED ON EXISTING DRAWINGS AND SITE OBSERVATIONS TO ASSIST THE CONTRACTOR IN BIDDING. THE DRAWINGS ARE INTENDED TO INDICATE THE SCOPE OF WORK REQUIRED AND DO NOT INDICATE EVERY DEVICE, BOX, CONDUIT OR WIRE THAT MUST BE REMOVED. THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS.
2. PRIOR TO DEMOLITION, ALL WORK MUST BE COORDINATED WITH AIRPORT OPERATIONS TO MINIMIZE DISRUPTIONS. A PRE-DEMOLITION SITE SURVEY IS REQUIRED TO IDENTIFY AND LABEL COMPONENTS SLATED FOR REMOVAL, INCLUDING TRACING ALL CONDUIT RUNS AND WIRING BACK TO THEIR SOURCE POINTS.
3. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL VERIFY THROUGH COORDINATION WITH AIRPORT OPERATIONS THAT NO ACTIVE OR ESSENTIAL SYSTEMS WILL BE AFFECTED BY THIS REMOVAL.
6. THIS CONTRACTOR SHALL REMOVE ALL SYSTEM COMPONENTS COMPLETELY, LEAVING NO ABANDONED MATERIALS IN PLACE. ANY PENETRATIONS CREATED BY REMOVED CONDUITS OR SUPPORTS SHALL BE PROPERLY PATCHED AND FIRESTOPPED TO MATCH EXISTING CONDITIONS.
7. DURING DEMOLITION, TAKE CARE TO AVOID DAMAGING ADJACENT STRUCTURAL, ELECTRICAL, OR COMMUNICATION SYSTEMS, AND PROTECT SURROUNDING FINISHES FROM UNNECESSARY HARM.
8. ALL DEMOLITION DEBRIS AND CONSTRUCTION TRASH SHALL BE REMOVED FROM THE SITE DAILY, WITH NO MATERIALS LEFT OVERNIGHT IN WORK AREAS. THE CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION ZONES WITHIN CLEARLY MARKED BOUNDARIES USING APPROVED AIRPORT BARRICADES AND SIGNAGE.
9. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO AIRPORT FACILITIES OR INFRASTRUCTURE CAUSED BY DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, WITH ALL REPAIRS COMPLETED AT THE CONTRACTOR'S EXPENSE USING MATERIALS AND METHODS MATCHING EXISTING CONDITIONS
10. THIS CONTRACTOR SHALL STRICTLY ADHERE TO ALL AIRPORT SECURITY PROTOCOLS INCLUDING BADGING AND ESCORT REQUIREMENTS.

GENERAL NOTES:

1. THIS CONTRACTOR SHALL PERFORM ALL WORK, COORDINATION, SYSTEMS INTEGRATION, AND TESTING, AND SHALL PROVIDE ALL PRODUCTS REQUIRED IN ORDER TO ENSURE A FULLY OPERATIONAL SYSTEM AND PROPER INSTALLATION OF EQUIPMENT. PROPER INSTALLATION SHALL BE VERIFIED UPON COMPLETION.
2. THIS CONTRACTOR SHALL PERFORM PRE-DELIVERY TESTING, SITE TESTING, AND ADJUSTMENT OF THE COMPLETED SYSTEM INSTALLATION. THE CONTRACTOR SHALL PROVIDE ALL PERSONNEL, EQUIPMENT, INSTRUMENTATION, AND SUPPLIES NECESSARY TO PERFORM ALL TESTING.
3. THIS CONTRACTOR SHALL COMPLY WITH ALL CODES, ORDINANCES, REGULATIONS, AND OTHER LEGAL REQUIREMENTS OF PUBLIC AUTHORITIES THAT BEAR ON WORK PERFORMANCE.
4. ALL PENETRATIONS THROUGH CONCRETE OR MASONRY WALLS AND FLOOR SLABS SHALL BE CORE DRILLED. AFTER CONDUITS HAVE BEEN INSTALLED, SEAL WALL AROUND CONDUIT TO MAINTAIN FIRE RATING OF FLOOR OR WALL USING UL LISTED METHODS AND MATERIALS. EXTERIOR WALLS SHALL BE SEALED WATERTIGHT. CONTRACTOR SHALL X-RAY ALL FLOOR SLAB, CONCRETE BEAM AND JOIST PENETRATION LOCATIONS PRIOR TO CORE DRILLING TO AVOID DAMAGE TO EMBEDDED CONDUIT, REBAR, ETC.
5. ALL EQUIPMENT TO BE PROVIDED, INSTALLED, AND CONFIGURED BY CONTRACTOR UNLESS NOTED OTHERWISE.
6. AIRPORT TO PROVIDE NON-PUBLIC/SECURED WIRED AND WIRELESS NETWORK CONNECTIVITY AT ALL COMMON USE COUNTER LOCATIONS.
7. AIRPORT TO PROVIDE FIT-OUT FOR EXISTING CHECK-IN AND GATE COUNTERS TO ACCOMMODATE COMMON USE EQUIPMENT. FIT-OUT INCLUDES, BUT IS NOT LIMITED TO, SHELVING, CABINETS, AND ACCESS TO POWER.

KEY NOTES:

JOB SITE SAFETY:

1. CONTRACTORS ARE SOLELY AND COMPLETELY RESPONSIBLE FOR ENSURING SAFETY CONDITIONS AT THE JOB SITE. THIS INCLUDES THE SAFETY OF BOTH PEOPLE AND PROPERTY DURING THE PERFORMANCE OF WORK COMMON SAFETY CONSIDERATIONS ARE (BUT NOT LIMITED TO):
   A. GROUNDING AND BONDING: PROPERLY GROUND AND BOND COMMUNICATION SYSTEMS TO PREVENT ELECTRICAL HAZARDS AND ENSURE RELIABLE OPERATION.
   B. HANGERS AND SUPPORTS: INSTALL HANGERS AND SUPPORTS SECURELY TO PREVENT CABLE SAGGING OR DAMAGE.
   C. FIRE-STOPPING SYSTEMS: IMPLEMENT FIRE-STOPPING SYSTEMS TO PREVENT THE SPREAD OF FIRE THROUGH CABLE PENETRATIONS.
   D. IDENTIFICATION AND LABELING: CLEARLY LABEL CABLES AND COMPONENTS FOR EASY IDENTIFICATION AND MAINTENANCE.
2. SAFETY AND COMPLIANCE WITH FAA, OSHA, NFPA, AND LOCAL BUILDING CODES ARE MANDATORY. ALL PERSONNEL MUST WEAR APPROPRIATE PPE, INCLUDING HARD HATS, GLOVES, GOGGLES, HEARING PROTECTION, AND HIGH-VISIBILITY VESTS.

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DATE: JUNE 30, 2025
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DRAWN BY: MST
CHECKED BY: TJS
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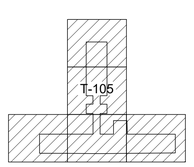
SHEET CONTENTS
FIRST FLOOR
OVERALL PLAN

SHEET NO.:
T-001

TRUE NORTH
PLAN NORTH
1 FIRST LEVEL OVERVIEW PLAN
1/32" = 1'-0"



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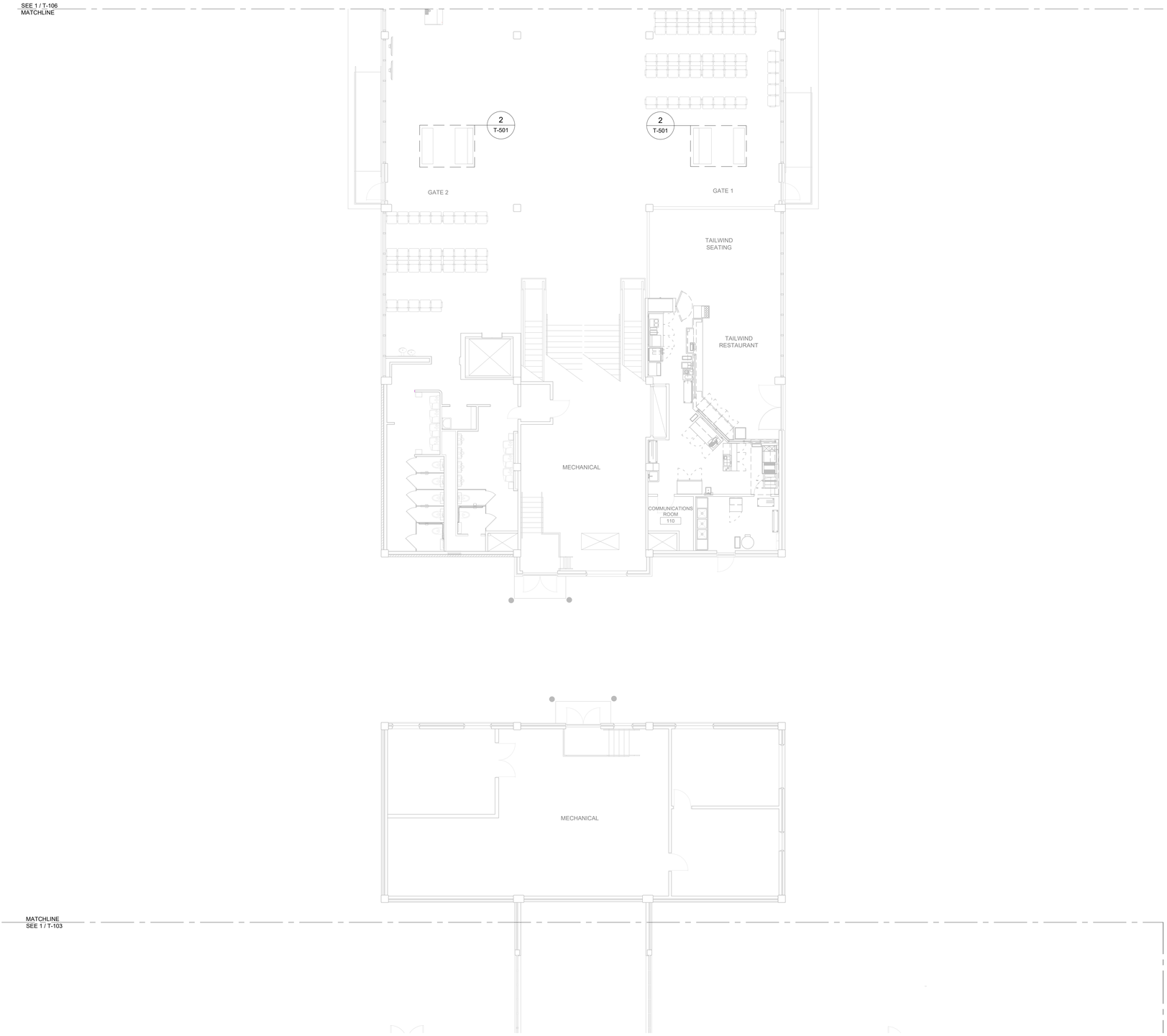
SHEET CONTENTS
FIRST FLOOR
OVERALL PLAN

SHEET NO.:
T-100

GENERAL NOTES:

KEY NOTES:

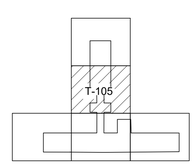


TRUE NORTH

PLAN NORTH

1 FIRST FLOOR COMMUNICATION PLAN

1/8" = 1'-0"



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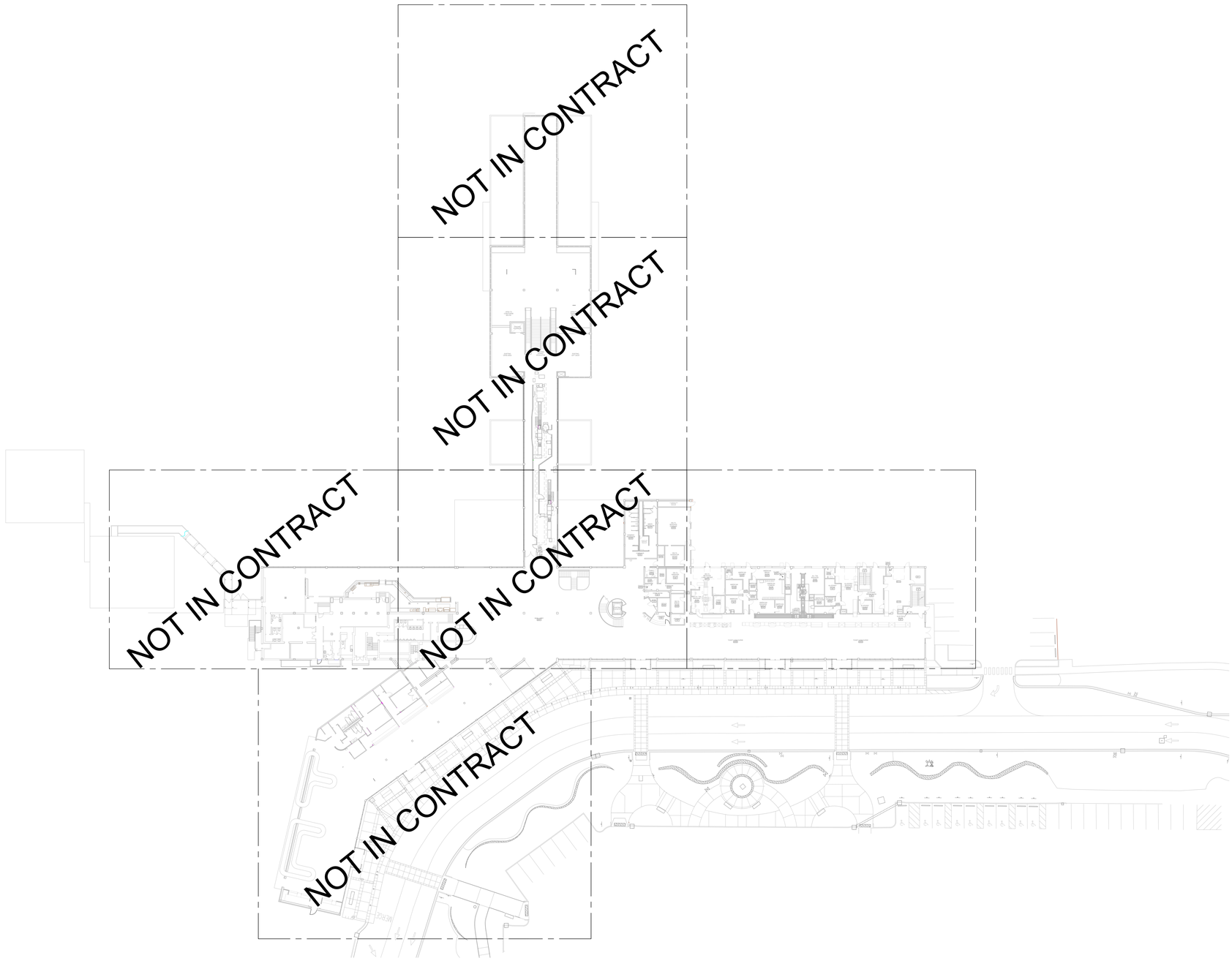
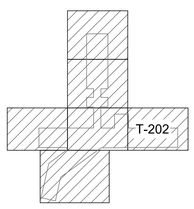
SHEET CONTENTS
FIRST FLOOR COMMUNICATION PLAN

SHEET NO.:
T-105



TRUE NORTH
PLAN NORTH

1 SECOND LEVEL OVERVIEW PLAN
1/32" = 1'-0"



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SHEET CONTENTS
SECOND LEVEL OVERALL PLAN

SHEET NO.:
T-200

GENERAL NOTES:

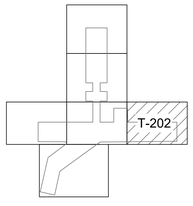
KEY NOTES:

TRUE NORTH

PLAN NORTH

1 SECOND FLOOR COMMUNICATION PLAN

1/8" = 1'-0"



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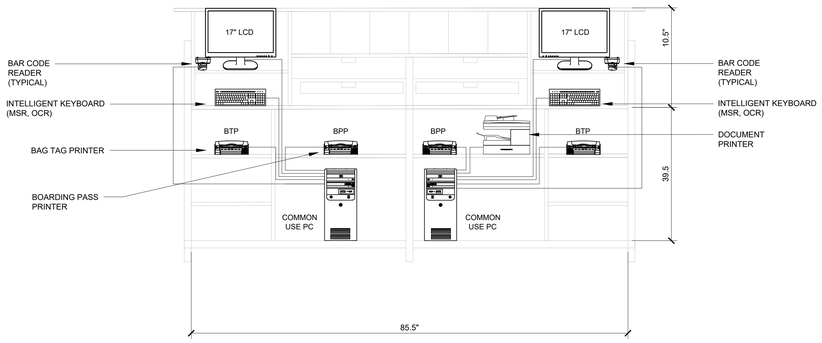
SHEET CONTENTS
SECOND FLOOR COMMUNICATION PLAN

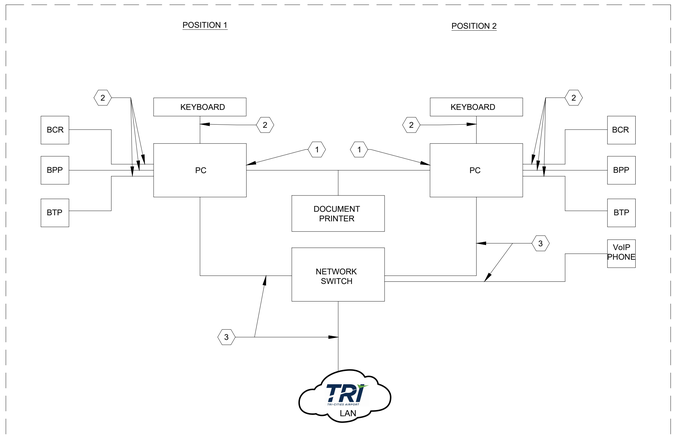
SHEET NO.:

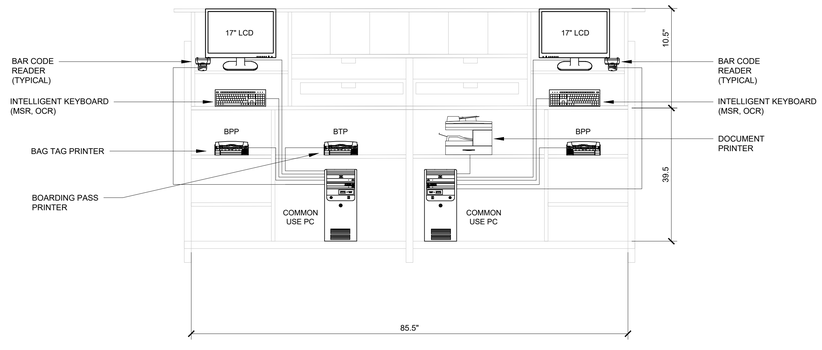
T-202



1 TYPICAL 2-POSITION COMMON USE CHECK-IN COUNTER PERIPHERAL LOCATION DETAIL
1" = 1' - 0"

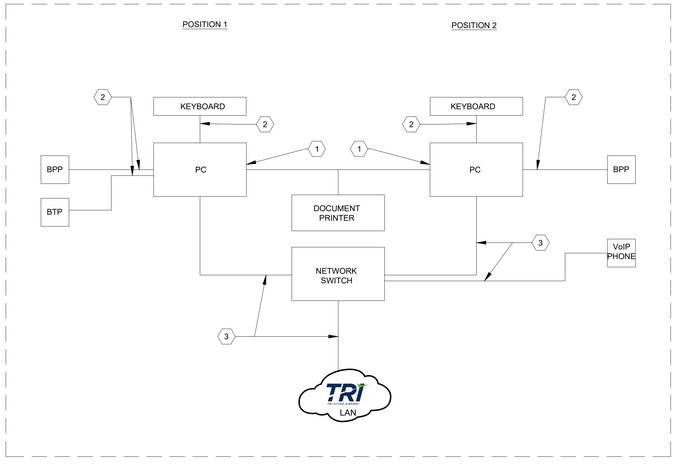
TYPICAL 2-POSITION COMMON USE TICKET COUNTER





2 TYPICAL 2-POSITION COMMON USE GATE COUNTER PERIPHERAL LOCATION DETAIL
1" = 1' - 0"

TYPICAL 2-POSITION COMMON USE GATE COUNTER



LEGEND:

BCR = BAR CODE READER
BPP = BOARDING PASS PRINTER
BTP = BAG TAG PRINTER
DDC = DIGITAL DISPLAY CONTROLLER
FIDS = FLIGHT INFORMATION DISPLAY
PC = PERSONAL COMPUTER

GENERAL NOTES:

5. ALL EQUIPMENT TO BE PROVIDED, INSTALLED, AND CONFIGURED BY CONTRACTOR UNLESS NOTED OTHERWISE.

6. AIRPORT TO PROVIDE NON-PUBLIC/SECURED WIRED AND WIRELESS NETWORK CONNECTIVITY AT ALL COMMON USE COUNTER LOCATIONS.

7. AIRPORT TO PROVIDE FIT-OUT FOR EXISTING CHECK-IN AND GATE COUNTERS TO ACCOMMODATE COMMON USE EQUIPMENT. FIT-OUT INCLUDES, BUT IS NOT LIMITED TO, SHELVING, CABINETS, AND ACCESS TO POWER.

SHEET NOTES:

1. ADJACENT WORKSTATIONS SHALL BE CONNECTED TO ALTERNATE UPPS ACCESS LAYER SWITCHES
2. USB CONNECTION
3. ETHERNET CONNECTION

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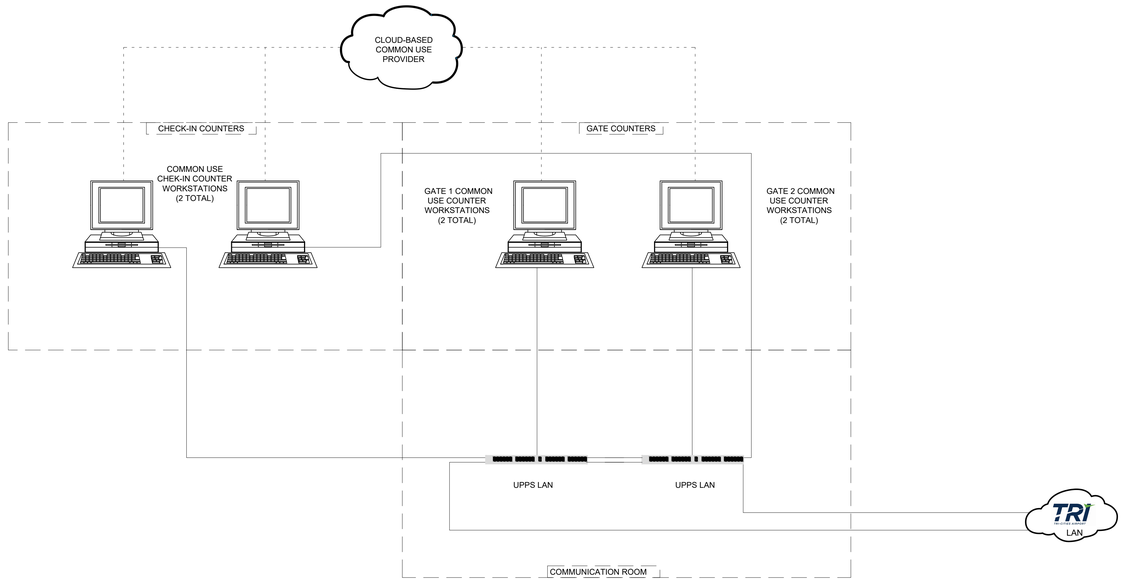
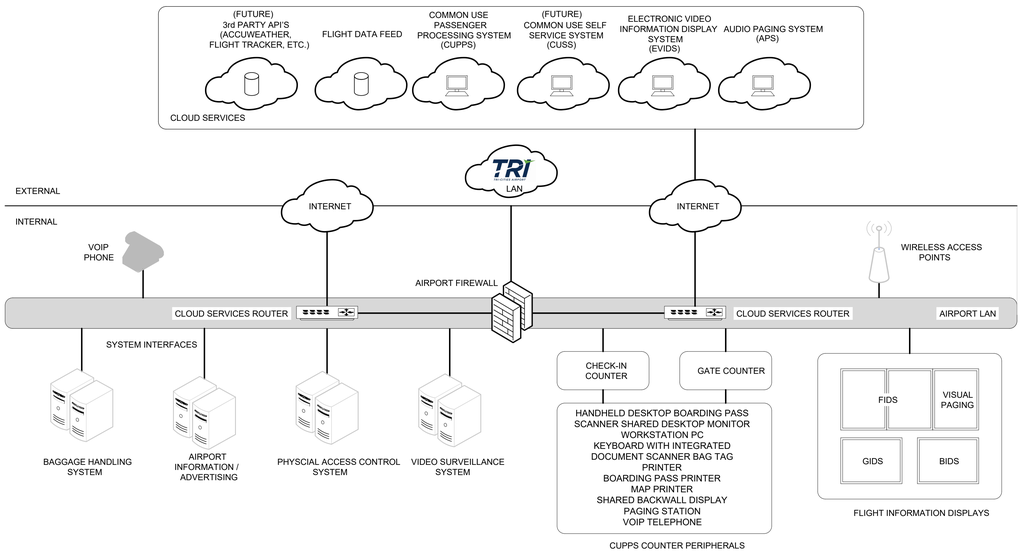
DETAILS

SHEET NO.:
T-501



1 TECHNOLOGY BACKBONE DIAGRAM



2 COMMON USE PASSENGER PROCESSING SYSTEM - SYSTEM INTEGRATION LOGIC DIAGRAM

GENERAL NOTES:

5. ALL EQUIPMENT TO BE PROVIDED, INSTALLED, AND CONFIGURED BY CONTRACTOR UNLESS NOTED OTHERWISE.
6. AIRPORT TO PROVIDE NON-PUBLIC/SECURED WIRED AND WIRELESS NETWORK CONNECTIVITY AT ALL COMMON USE COUNTER LOCATIONS.
7. AIRPORT TO PROVIDE FIT-OUT FOR EXISTING CHECK-IN AND GATE COUNTERS TO ACCOMMODATE COMMON USE EQUIPMENT. FIT-OUT INCLUDES, BUT IS NOT LIMITED TO, SHELVING, CABINETS, AND ACCESS TO POWER.

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EJOVentures

TRI-CITIES AIRPORT
COMMON USE IMPLEMENTATION PROJCET
2525 HWY 75 BLOUNTVILLE, TN 37617

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M&H NO.: 3177700-250176.02
DATE: JUNE 30, 2025
DESIGNED BY: TJS
DRAWN BY: MST
CHECKED BY: TJS
DO NOT SCALE DRAWINGS

SHEET CONTENTS
COMMON USE LOGIC DIAGRAM

SHEET NO.:
T-701