



TAKE OFF WITH US

**Memphis**

INTERNATIONAL AIRPORT

## **Pre-Bid Conference**

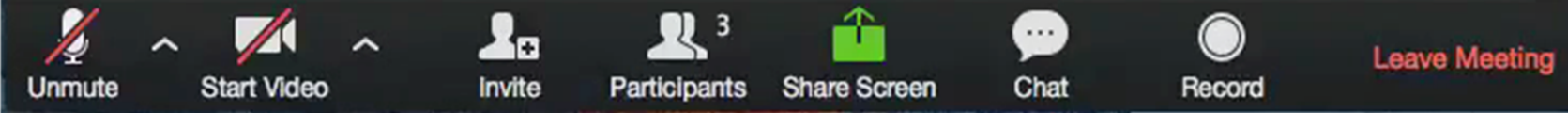
**Airfield Signage Replacement - Construction  
MSCAA Project No. 18-1415-01**

**Wednesday, May 19, 2021**



# MEETING AGENDA


- Welcome
- Introductions
- Bid Package Submittal
- Sign-In Sheet
- Q&A Process
- Anticipated Date Sequence
- Procedures, Protocol, and General Contract Requirements
- Project Scope, Phasing, and Technical Review
- Q&A Session


# USING ZOOM



The image shows a Zoom meeting toolbar with several icons and their corresponding functions. Red arrows point from the text below to the icons above. The toolbar includes: Unmute (with a red slash over the microphone icon), Start Video (with a red slash over the video camera icon), Invite (with a plus sign), Participants (with a '3' indicating three people), Share Screen (with a green screen icon), Chat (with a speech bubble icon), Record (with a circular icon), and Leave Meeting (in red text).

**Unmute**  
unmute mic only when it's your turn to speak  
 

**Start Video**  
turn webcam on/off  


**Invite**  
raise your hand  
  
or view who else is in the meeting

**Participants**  
share your screen when it's your turn to present

**Share Screen**  
join the chat discussion or share links

**Chat**

**Record**

**Leave Meeting**  
leave the meeting at the end of class

# INTRODUCTIONS

## Project Team

### Owner:

Memphis-Shelby County Airport Authority (MSCAA)

### Designer:

Arora Engineers, Inc.  
Kimley Horn

### Program Manager:

Parsons Transportation Group



# BID PACKAGE SUBMITTAL

Bid documents are available online at [www.flymemphis.com/rfps-rfas](http://www.flymemphis.com/rfps-rfas).

Please monitor [www.flymemphis.com](http://www.flymemphis.com) for updates, addendums, etc.

Bid / RFP / RFQ Name	Date Issued	Sealed bids will be received by:
<b>Airfield Signage Replacement - Construction</b> Bid No.: 18-1415-01	May 5, 2021	June 10, 2021 at 2pm Central Time
<b>PRE-BID MEETING</b> A virtual Pre-Bid Meeting will be held <b>Wednesday, May 19, 2021, at 11:00 AM</b> central time via phone/video conferencing.  Meeting Link: <a href="https://zoom.us/j/93601632926?pwd=VWhlNXNhWUV5dXlnUjFURzAwVTZmUT09">https://zoom.us/j/93601632926?pwd=VWhlNXNhWUV5dXlnUjFURzAwVTZmUT09</a> Phone: 1 (312) 626-6799 / Passcode: 925010 Meeting ID: 936 0163 2926  Attendance at the Pre-Bid Meeting is strongly recommended.		
<b>BID DOCUMENTS</b> · <a href="#">Specifications</a> · <a href="#">Drawings</a> · <a href="#">Proposal Package</a>		
<b>LEGAL NOTICE</b> Please <a href="#">click here</a> to download the Legal Notice.		
<a href="#">Return to main Bids/RFPs/RFQs page</a>		

# BID PACKAGE SUBMITTAL

Bid Package **Required** Contents:

- Bid Envelope
- Proposal (Specification 00405)
- Proposal Guarantee (Specification 00410)
- DBE Assurance Statements – one each per DBE partner (Specification 00445)
- DBE Goals Accomplishment Statement (Specification 00445)
- Information on All Firms that Provide Bids or Quotes (Specification 00445)
- Written quote or proposal or other communication from each DBE upon which the scope of work and dollar value contained in your Assurance Statements is based with items included in the Proposal either circled and/or highlighted.
- Signed Addenda (if applicable)

**Refer to Specification 00200 – Instructions to Bidders for full instructions**



# BID PACKAGE SUBMITTAL

## **Submit proposals to:**

MSCAA-Procurement Department  
4150 Louis Carruthers Drive  
Memphis, TN 38118

## **Bids due:**

June 10, 2021  
2:00 PM local time

Approx. 30 minutes after, bids will be opened and publicly read via phone/video conference (Link: <https://zoom.us/j/92182186486?pwd=Tk03WUlrSXFqWXRTdGllWFZaUk5aZz09;> Phone: 1 (646)-876-9923 / Passcode: 265733; Meeting ID: 921 8218 6486).

Bids are valid for seventy-five (75) days after the day of Bid Opening.



# BID PACKAGE SUBMITTAL



Procurement Warehouse

Louis Carruthers Drive

Shelby Drive



4150 Louis Carruthers Drive



# SIGN IN SHEET

- This is NOT a mandatory pre-bid meeting but all Prime Contractors who intend to submit a bid are encouraged to register their attendance:
- Before leaving the call, **please send an email to [airfieldsignage@flymemphis.com](mailto:airfieldsignage@flymemphis.com) stating your name, company name, email address and office and cell phone numbers**; a listing of meeting attendees will be available upon request.

# Q&A PROCESS

- All questions **must** be submitted to:  
[airfieldsignage@flymemphis.com](mailto:airfieldsignage@flymemphis.com)
- Question Deadline: **Tuesday, May 25, 2021** by 5:00 p.m. local time.
- **Questions not submitted in this manner will not be provided with a formal answer.**

# ANTICIPATED DATE SEQUENCE

- Questions due by 5:00 p.m. local time, **Tuesday, May 25, 2021** .
- Final Q&A w/ Addendum will be posted to the website no later than **Tuesday, June 1, 2021\***.
- Bid Opening: **Thursday, June 10, 2021 at 2:00 p.m. local time**
- Award/Contract – Precise timing to be determined; the General sequence is as follows:
  - Identification of lowest responsive bidder – **June 2021**
  - Notice of Intent to Award – **June 2021**
  - Board Approval – **July 2021**
  - Contract Review/Execution – **July 2021**
  - NTP – immediately following Board approval/contract execution
  - Completion – **April 2022**

**\*Continue to monitor [www.flymemphis.com](http://www.flymemphis.com) website for addendums after June 1, 2021; no addenda will be issued within two days prior to bid opening**



# GENERAL PROJECT SCOPE

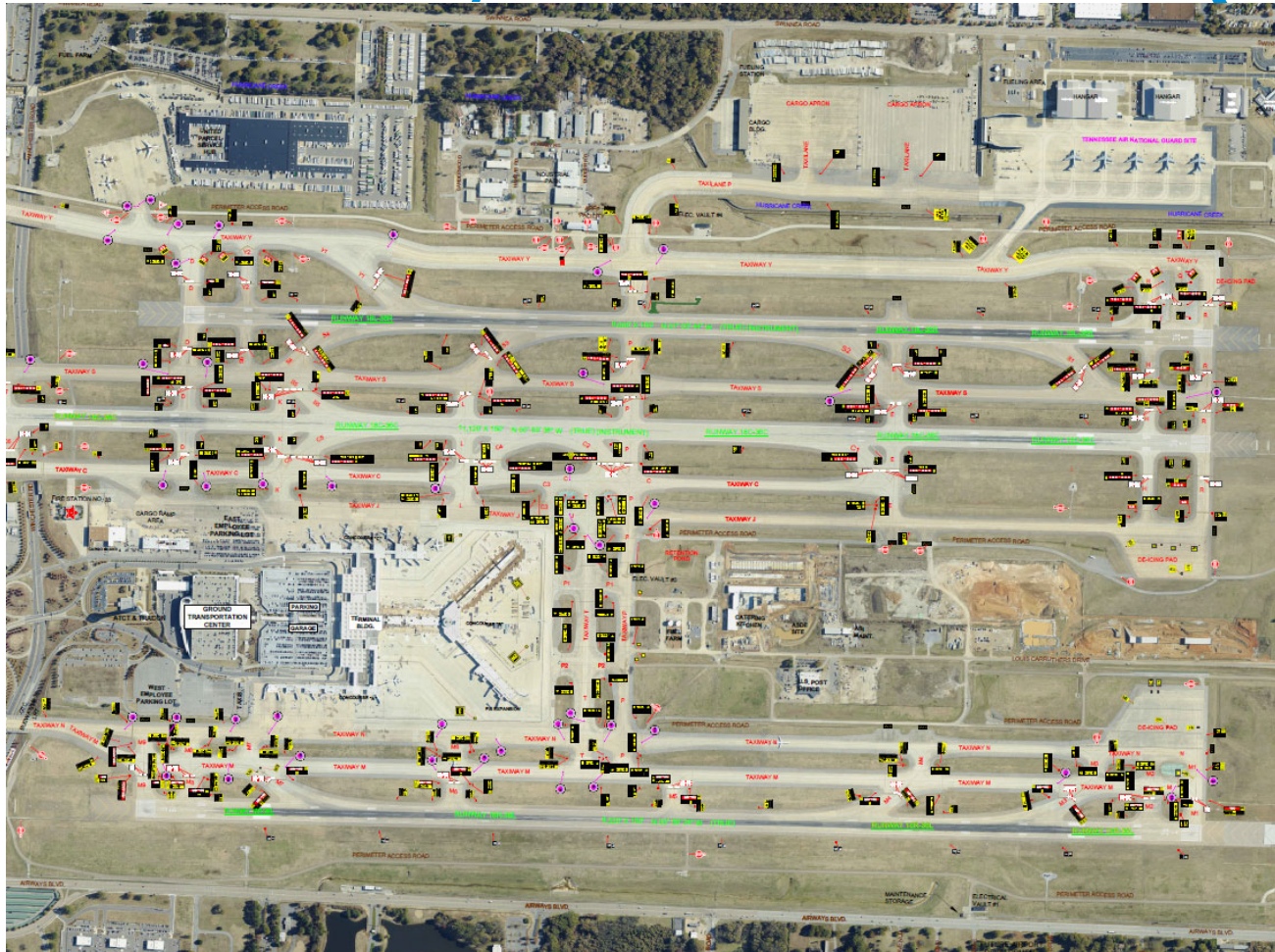
- The scope of work generally consists of replacement of existing airfield guidance signs with new L-858(L) LED type signs. The improvements include, but are not necessarily limited to, removal of existing signage, new sign installation, electrical power feed and/or concrete foundation base reconfigurations, light base installations with isolation transformers, reworking of conduit and circuitry, airfield surface markings, and other efforts as required to meet the current Advisory Circular installation guidelines.

# GENERAL AREA/ SCOPE OF WORK (NORTH)





# GENERAL AREA/ SCOPE OF WORK (SOUTH)



# Procedures, Protocol, and General Contract Requirements

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# GENERAL CONTRACT REQUIREMENTS

05/6/2021

DIVISION 0 – SECTION 00445

MSCAA 18-1415-01

## DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS

MSCAA operates a federal Disadvantaged Business Enterprise (DBE) Program and a non-federal Business Diversity Development Program (BDDP) to ensure full and fair opportunities in MSCAA contracting for businesses owned by socially and economically disadvantaged individuals. Memphis-Shelby County Airport Authority (MSCAA) administers both programs according to the regulations that apply to the federal program, primarily 49 CFR Part 26. Because the BDDP program applies to contracts involving non-federal funds, not every aspect of 49 CFR Part 26 is relevant to the BDDP program. In most areas, 49 CFR Part 26 will guide our operation of the BDDP including, but not necessarily limited to, rules dealing with certification and counting participation. Only firms that are certified consistent with 49 CFR Part 26 and by the MSCAA or Tennessee Department of Transportation Unified Certification Program (TN UCP), as identified below, will be considered to be certified as a Disadvantaged Business Enterprise.

This section, entitled "Disadvantaged Business Enterprise Requirements" is provided in an effort to assist Respondents. The information contained in this section is not intended to, nor does it, supplement or amend any federal regulation. All Respondents are responsible for compliance with all applicable federal and MSCAA rules and requirements.

It is a requirement that all Respondents providing services for the MSCAA take all reasonable steps to ensure that DBE have a full and fair opportunity to compete for and perform contract work without discrimination on the basis of age, race, sex, color, national origin, creed, religion, sexual orientation or disability. In order to satisfy this requirement, Respondents will be expected to timely submit documentation as identified below and throughout the contract period if selected, and cooperate with MSCAA. Failure to timely submit requested documentation, cooperate with MSCAA or answer inquiries truthfully will be considered a material contract breach and may result in termination.

The following documents must be submitted with your response to this solicitation:

**DBE Assurance Statement/Letter of Intent. The Respondent must submit an Assurance Statement for each DBE whose participation the Respondent is counting toward the goal. This may include first, second, third and so on tier subcontractors and the Respondent and all subcontractors between the Respondent and the DBE should sign the Assurance Statement. The Respondent must submit this Assurance Statement on Company Letterhead.**

**For each Assurance Statement, the Respondent must also provide the written quote or proposal from the DBE or other communication from the DBE upon which the scope of work and dollar value contained in your Assurance Statement is based ("quote/proposal").**

**For all RFOs using federal monies, the Assurance Statement(s) must still be submitted and list the DBE's to be used and their scope of work, but no dollar amount(s) is entered. Dollar amount(s) will be submitted by the prevailing Respondent upon completion of the selection process.**

**All portions of the Assurance Statement must be completed (including the description of work, the estimated contract amount, and the estimated dollar value of DBE participation for counting and goal purposes) before the Assurance Statement is signed by either the DBE or the Respondent. If the DBE's, and if applicable the 2nd/3rd Tier Subcontractor's, signature(s) can be obtained on the completed Assurance Statement before the bid**

## DBE Requirements – Section 00445

Joe Claiborne – Business Diversity Development

DBE Goal:

24%

ISSUED FOR BID

00445  
Page 1





# GENERAL CONTRACT REQUIREMENTS

## DBE Requirements

05/6/2021

MSCAA 18-1415-01

Project No. \_\_\_\_\_

### DBE ASSURANCE STATEMENT/LETTER OF INTENT

#### RESPONDENT:

Name of Firm: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Telephone: \_\_\_\_\_

#### DBE:

Name of Firm: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Telephone: \_\_\_\_\_

#### Description of work to be performed by DBE:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

The Respondent is committed to utilizing the above-named DBE for the work described above. The estimated dollar value of this work is \$ \_\_\_\_\_, which is \_\_\_\_\_% the total base bid proposal.

#### AFFIRMATION

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

By: \_\_\_\_\_  
 Signature of DBE and Title Date Name

By: \_\_\_\_\_  
 Signature of 2<sup>nd</sup>/3<sup>rd</sup> Tier Subcontractor and Title Date Name

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

By: \_\_\_\_\_  
 Signature of Respondent and Title Date Name

(SUBMIT ON RESPONDENT'S LETTERHEAD FOR EACH DBE SUBCONTRACTOR.)

00445  
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ISSUED FOR BID

05/6/2021

MSCAA 18-1415-01

Project No. \_\_\_\_\_

### RESPONDENT DBE GOALS ACCOMPLISHMENT STATEMENT

The undersigned Respondent has satisfied the requirements of the bid/proposal specification in the following manner (please complete the appropriate spaces):

\_\_\_\_\_The Respondent is committed to a minimum of \_\_\_\_\_% DBE utilization on this contract.

\_\_\_\_\_The Respondent is unable to meet the DBE goal of \_\_\_\_\_% but is committed to a minimum of \_\_\_\_\_% DBE utilization on this contract and submits the attached narrative and documentation demonstrating good faith efforts consistent with Appendix A of 49 CFR 26. **The Respondent should attach as many pages as necessary to provide a full and complete narrative and supporting documentation of good faith efforts made. This narrative must be written on company letterhead and signed.**

#### Please provide an explanation for the percentage quoted above:

Provide an explanation of the dollar value of DBE's participation and compensation and how this has been determined to meet the specific goal requirements of this solicitation in whole or part.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

If DBE and company will enter into a Joint Venture, please describe the terms of the relationship and attach a copy of the contract between the parties.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

It is the present intent of the Respondent to utilize the specific DBE firms identified in this proposal in the execution of this contract. If for any reason, one or more of the DBE identified here are unable or unwilling to participate, the Respondent will make good faith efforts to replace the DBE with a similar DBE. The Authority DBE Good Faith Procedures are provided in this package and apply to this proposal.

Respondent's Name: \_\_\_\_\_

State Registration No.: \_\_\_\_\_

Federal Tax ID No.: \_\_\_\_\_

By: \_\_\_\_\_  
 Signature and Title Date

(SUBMIT THIS PAGE ON RESPONDENT'S LETTERHEAD)

ISSUED FOR BID

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# GENERAL CONTRACT REQUIREMENTS

## DBE Requirements

05/6/2021

MSCAA 18-1415-01

Project No. \_\_\_\_\_

**VOLUNTARY DISCLOSURE OF RESPONDENT DATA**

For Title VI Compliance, we ask for voluntary disclosure of the following information:

Gender:    Male  
              Female

Race:       Caucasian  
              Black American  
              Hispanic American  
              Native American  
              Subcont. Asian American  
              Asian-Pacific American  
              Other (please specify) \_\_\_\_\_

(DO NOT SUBMIT THIS PAGE ON LETTERHEAD)

# GENERAL CONTRACT REQUIREMENTS

## DBE Requirements

05/6/2021

**Information on All Firms that Provided Bids or Quotes to:**

MSCAA 18-1415-01

This requirement applies to all firms, regardless of whether they are subs or primes, regardless of the gender or race of their owners, and regardless of whether they are ultimately chosen to participate in the contract. Please list below the name, address, phone number and contact person for every firm that provided you a bid or a quote on this project – even if you ultimately decided not to use the firm in preparing your final bid. The first line should be used for the **prime contractor** on this project. All sections must be completed to the best of your ability.

MSCAA Proj./Bid No.: \_\_\_\_\_

Name of Firm	Selected? Y/N	Full Address of Firm	Point of Contact	Phone No.	DBE? Y/N	Firm Age	AGRR *
						yrs	
						yrs	
						yrs	
						yrs	
						yrs	
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						yrs	

\*Footnote: Please enter the letter for the category that best identifies your annual gross revenue.  
 AGRR = Annual Gross Revenue Ranges:  
**A** = Less than \$500,000    **B** = \$500,000 - \$1 Million    **C** = \$1 - \$2 Million    **D** = \$2 - \$5 Million    **E** = Over \$5 Million



# FEDERAL CONTRACT COMPLIANCE & WAGE RATE REQUIREMENTS

05/6/2021

MSCAA 18-1415-01

DIVISION 0 – SECTION 00661

DAVIS-BACON WAGE DETERMINATION

GENERAL DECISION NUMBER: TN20210147 01/01/2021

Superseded General Decision Number: TN20200147

State: Tennessee  
 Construction Type: Highway  
 Counties: Tennessee Statewide.  
 HIGHWAY CONSTRUCTION PROJECTS  
 Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).  
 Modification Number Publication Date  
 0 01/01/2021  
 SUTN2016-001 07/13/2016

	Rates	Fringes
BRICKLAYER.....	\$ 14.26	
CARPENTER.....	\$ 17.52	
CEMENT MASON/CONCRETE FINISHER...\$	15.55	
ELECTRICIAN.....	\$ 24.08	
IRONWORKER		
Reinforcing.....	\$ 16.29	
Structural.....	\$ 16.89	
LABORER		
Common/Unskilled.....	\$ 13.11	
Skilled		
Air Tool Operator,		
Asphalt Raker, Chain Saw		

ISSUED FOR BID

00661  
Page 1

- FAA Required Contract Provisions – Section 00500, Exhibit E
- Davis-Bacon Wage Determination – Section 00661

EXHIBIT E  
 TO  
 LUMP SUM CONSTRUCTION CONTRACT  
 FOR  
 AIRFIELD SIGNAGE REPLACEMENT - CONSTRUCTION  
 BY AND BETWEEN  
 THE MEMPHIS-SHELBY COUNTY AIRPORT AUTHORITY  
 AND  
 (CONTRACTOR NAME)

**FAA REQUIRED CONTRACT PROVISIONS**

Federal laws and regulations require that recipients of federal assistance (Sponsors) include contract provisions in certain contracts, requests for proposals, or invitations to bid. The provisions are as follows:

1. **Title VI Clauses for Compliance with Nondiscrimination Requirements (FAA Provision A6.4.1).** (Reference: 49 USC § 47123)

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.

**Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.

**Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.

**Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts And Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

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

- Withholding payments to the contractor under the contract until the contractor complies; and/or
- Canceling, 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



# GENERAL CONTRACT REQUIREMENTS

EXHIBIT C  
TO  
LUMP SUM CONSTRUCTION CONTRACT  
FOR  
AIRFIELD SIGNAGE REPLACEMENT - CONSTRUCTION  
  
BY AND BETWEEN  
THE MEMPHIS-SHELBY COUNTY AIRPORT AUTHORITY  
AND  
(CONTRACTOR NAME)

## OWNER CONTROLLED INSURANCE PROGRAM

### Owner-Controlled Insurance Program (OCIP) – Section 00500 Exhibit C

John Shorten/ Sky Hamilton  
Willis Towers Watson

In specifying minimum Contractor insurance requirements, Owner does not represent that such insurance is adequate to protect Contractor for loss, damage or liability arising from its work. Contractor is solely responsible to inform itself of the types or amounts of insurance it may need beyond these requirements to protect itself. The insurance requirements set forth in minimum amounts shall not be construed to relieve Contractor for liability in excess of such coverage, nor shall it preclude Owner from taking such other actions as is available to it under any other provision of the contract.

#### C.1. Owner Controlled Insurance Program

The Owner has elected to implement an Owner Controlled Insurance Program (OCIP) that will provide **Workers' Compensation, Employer's Liability, Commercial General Liability, Excess Liability and Builders' Risk insurance** for Contractors and Subcontractors of every tier who have been properly enrolled and are providing direct labor to the Project. A general summary of coverage provided by the OCIP is included in the MSCAA OCIP Manual, (hereinafter called the Manual), a copy of which is attached hereto and made a part of this Agreement and should be attached to and incorporated in every subcontract. All terms and conditions of Exhibit C will apply during the term of the contract. The Owner agrees to pay all premiums associated with the OCIP.

While the OCIP provides uniform coverages and reasonable limits, the OCIP is not intended to meet all the insurance needs of the Contractor and eligible Subcontractors who have been properly enrolled. In addition to any insurance provided by Owner, the Contractor and all Subcontractors working on the Project will be responsible for providing certain insurance as specified in paragraph C.2. Contractors and eligible Subcontractors should discuss the OCIP with their insurance agent or consultant to assure that other proper coverages are maintained. Contractor and eligible Subcontractors enrolled in the OCIP agree that the insurance company policy limits of liability, coverage terms and conditions shall determine the scope of coverage provided by the OCIP.

#### C.1.1. Applicability of the OCIP

Participation in the OCIP by the Contractor and all eligible Subcontractors is mandatory but not automatic. The Contractor and each eligible Subcontractor (as defined below) must follow the enrollment procedures shown in the Manual. The Contractor shall comply with all requirements of the OCIP as outlined in the OCIP Manual and shall require all eligible Subcontractors to comply with requirements of the OCIP manual. The Manual may be updated and revised during the course of construction to reflect any changes in State Law, Rules and/or Regulations or Procedures that may be necessary or appropriate, and said revisions will replace all previous versions. Copies of any revised Manual will be distributed by the OCIP Administrator.

- If the Contractor or any eligible Subcontractor fails to enroll any of its eligible Subcontractors of any tier, it will be subject to a penalty charge of the full and complete deduct as shown in C.1.2.c or 3% of the subcontract cost, whichever is greater. Note: Collection of the penalty charge of any non-enrolled contractor(s) of any tier does not provide automatic coverage in the program.
- If any Contractor or any eligible Subcontractor enrolls in the OCIP more than 30 days after its start date, it will have to provide a No Known Loss Letter to the Carrier along with the enrollment documentation.

Eligible Subcontractor includes all Subcontractors providing or subcontracting for direct labor on any Designated Project (see definition of ineligible Subcontractors below).

Ineligible Subcontractor includes (but is not limited to) subcontractors performing any type of environmental remediation work (example: asbestos or underground tank removal), consultants, suppliers (that do not perform or subcontract installation), vendors, materials dealers, guard services, janitorial services, truckers (including trucking to any Designated Project where delivery is the only scope of work performed), employee leasing companies, temporary labor services and other temporary project services. However, such Employee leasing and temporary labor service companies can be insured

# GENERAL CONTRACT REQUIREMENTS

Owner-Controlled Insurance Program (OCIP)

## Insurance Provided by MSCAA for On-Site Risks until commencement of Warranty Period

- Owner will provide
  - Workers' Compensation
  - Commercial General Liability
  - Umbrella and Excess Liability
  - Builder's Risk
  
- Applicable only to enrolled Contractors and Subcontractors of every tier
- Certain contractors may not be eligible for enrollment – see manual for additional details
  
- **Contractor Insurance Cost Identification**
  - Contractor and eligible Subcontractors will exclude their cost for all insurance coverages to be provided by the Owner
  - Contractor will warrant that is true

### **Note:**

- Prime may not place any larger deductible on sub-contractor than those specified in the contract



# GENERAL CONTRACT REQUIREMENTS

Owner-Controlled Insurance Program (OCIP)

## Insurance Provided by MSCAA for On-Site Risks until commencement of Warranty Period

### Workers' Compensation

- Insurer: Zurich American Insurance Company
- Limits
  - Part 1: Workers' Compensation: TN State Limits
  - Part 2: Employer's Liability
    - Bodily Injury by Accident – Each Accident \$1,000,000
    - Bodily Injury by Disease – Policy Limit \$1,000,000
    - Bodily Injury by Disease – Each Employee \$1,000,000
  - Deductible n/a

### Commercial General Liability

- Insurer: Zurich American Insurance Company
- Limits
  - General Aggregate Limit (Other than Products – Completed Operations) \$4,000,000
  - Product-completed Operations Aggregate Limit \$4,000,000
  - Personal and Advertising Injury Limit (Any One Person or Organization) \$2,000,000
  - Each Occurrence Limit \$2,000,000
  - Fire Legal Liability (Any One Fire) \$250,000
  - Medical Expense Limit (Any One Person) \$10,000



# GENERAL CONTRACT REQUIREMENTS

Owner-Controlled Insurance Program (OCIP)

**Insurance Provided by MSCAA for On-Site Risks until commencement of Warranty Period**

## Umbrella and Excess Liability

- Insurers: Various
- Limits: \$100,000,000 and in the aggregate

## Builder's Risk

- Insurer: Various
- Limits: Various
- Contractor Deductible: \$25,000

## **NOTE:**

**Prime may not place any larger deductible on sub-contractor than those specified in the contract**



# GENERAL CONTRACT REQUIREMENTS

**Insurance Provided by contractor of every tier for off-site and from commencement of warranty period while on-site (check with your agent!)**

- Insurers must be licensed to do business in TN
- Must meet minimum security requirements

## Commercial Automobile Liability

- Limit: \$1,000,000 combined single limit
- Required Coverages
  - Additional Insured for Owner
  - Hired, owned and non-owned
  - Waiver of subrogation for Owner, Design Professionals, Program Manager
  - Hazardous materials transport requires MCS-90 endorsement

## Workers' Compensation and Employers Liability

- Limit:
  - Workers' Compensation: TN state of hire
  - Employer's Liability: \$1,000,000 employee/ \$1,000,000 disease/ \$1,000,000 aggregate
- Required Coverages
  - Waiver of subrogation for Owner, Design Professionals, Program Manager
  - Away from Designated Project Site or after OCIP termination



# GENERAL CONTRACT REQUIREMENTS

**Insurance Provided by contractor of every tier for off-site and from commencement of warranty period while on-site (check with your agent!)**

- Insurers must be licensed to do business in TN
- Must meet minimum security requirements

## Commercial General Liability

- Limits required
  - \$1,000,000 Bodily Injury and Property Damage Limit for each occurrence
  - \$1,000,000 Personal & Advertising Injury
  - \$2,000,000 General Aggregate (Annual)
  - \$2,000,000 Products/Completed Operations Aggregate (annual)
  - The general aggregate limit shall apply separately to each project.
- Required Coverages
  - CG 2010 (1001) and CG2037 (1001) basis of coverage
  - Primary and non-contributory to any coverages provided by owner
  - Completed ops coverage for 6 years or applicable statute of limitations
  - Additional Insured for Owner, Design Professionals, Program Manager

# GENERAL CONTRACT REQUIREMENTS

Insurance Provided by contractor of every tier for off-site and from commencement of warranty period while on-site (check with your agent!)

- Insurers must be licensed to do business in TN
- Must meet minimum security requirements

## Excess or Umbrella Liability

- Minimum limit required of prime
  - \$25,000,000 each occurrence and annual aggregate
- Minimum limit required of subcontractors
  - \$1,000,000 each occurrence and annual aggregate
- Coverages
  - Excess of Commercial Automobile, Employer's and Commercial General Liability policies
  - Follow form
  - Drop down

## Professional Liability

- \$1,000,000

All general contractors/ professional services firms must provide professional liability insurance appropriate for their profession; the policies shall provide a three (3) year extended reporting period.



# GENERAL CONTRACT REQUIREMENTS

Insurance Provided by contractor of every tier for off-site and from commencement of warranty period while on-site (check with your agent!)

- Insurers must be licensed to do business in TN
- Must meet minimum security requirements

## Contractor's Pollution Liability

### **Minimum limit required of prime**

- \$1,000,000 each occurrence and annual aggregate
- Coverages
  - Include on-site and off-site transportation
  - Waiver of subrogation or Owner, Design Professional, Program Manager
  - Additional Insured for Owner

## Contractor's Equipment Insurance

- Evidence of coverage required
- Coverages
  - Waiver of subrogation or Owner, Design Professional, Program Manager
  - If uninsured, hold harmless Owner, Design Professional, Program Manager



# GENERAL CONTRACT REQUIREMENTS

## Airport Construction Safety Requirements - Section 00801 and 00500-Exhibit D

Wes Shelby  
Willis Towers Watson

Aaron Hascher, CM & ACE  
MSCAA - Safety Program Manager

05/6/2021

MSCAA 18-1415-01

### DIVISION 0 - SECTION 00801

#### AIRPORT CONSTRUCTION SAFETY REQUIREMENTS

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. This section contains the minimum level of safety requirements for construction projects at Memphis International Airport, General DeWitt Spain Airport, and/or Charles W. Baker Airport.
- B. Related work:
  - 1. Other contract documents affecting construction safety include, but are not limited to, the DIVISION 0 AND DIVISION 1 specifications.

#### PART 2 PRODUCTS

Not used.

#### PART 3 EXECUTION

##### 3.01 CONTRACTOR PERSONNEL SAFETY ORIENTATION

- A. The Contractor shall be responsible for briefing all construction personnel on the requirements contained in this section prior to their working in the construction area and at periodic intervals throughout the course of the contract. These briefings will be documented in writing.

##### 3.02 SCHEDULING WORK

- A. See Specification section 01100, SEQUENCE OF CONSTRUCTION & LIQUIDATED DAMAGES.
- B. See General Provision Section 80, Paragraph 80-04, Limitation of Operations.

##### 3.03 CONSTRUCTION SECURITY

- A. See Specification section 00802, AIRPORT SECURITY REQUIREMENTS.

##### 3.04 LIMITATION ON CONSTRUCTION

- A. The limits of construction, material storage areas, equipment parking and other areas defined as available for the contractor's exclusive use during construction shall be identified and defined by the contractor prior to starting work on the project. Temporary barricades, flagging and flashing caution lights may be required at access points, taxiway crossings and pavement tie-ins. The type markings, barricades and flashing caution lights are designated on the construction plans and must be inspected and approved by the Airport Authority.
- B. The Contractor shall store all materials and park construction equipment, when not in use only in the areas designated on the plans or during the pre-construction conference.
- C. Stockpiling of dirt and construction materials shall be constrained in a manner preventing movement resulting from jet blast or wind in excess of 10 knots.
- D. Construction debris, waste, wrappings or loose material capable of causing damage to aircraft engines, propellers, or landing gear shall not be allowed on active aircraft movement areas. Material meeting this criteria shall be contained and removed immediately from the AOA.

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00801  
Page 1

EXHIBIT D  
TO  
LUMP SUM CONSTRUCTION CONTRACT  
FOR  
AIRFIELD SIGNAGE REPLACEMENT - CONSTRUCTION

BY AND BETWEEN  
THE MEMPHIS-SHELBY COUNTY AIRPORT AUTHORITY  
AND  
(CONTRACTOR NAME)

OCIP CONSTRUCTION SAFETY AND HEALTH GUIDELINES

## Memphis-Shelby County Airport Authority

### Construction Safety and Health Guidelines



Revision	Date
1	11/30/2012
2	05/02/2016
3	02/06/2017

Page 85

Contract: Contractor Name  
Airfield Signage Replacement - Construction  
MSCAA Project No. 18-1415-01



# GENERAL CONTRACT REQUIREMENTS

## Safety

- Responsibility of Contractor to maintain total control of safety on site
  - Full compliance by all contractors of every tier
  
- Must create own site-specific safety and health plans
  - Comply with all requirements of 29CFR1926; and
  - Those established by Owner
  
- Submit plan to Owner within 15 days of NTP

# GENERAL CONTRACT REQUIREMENTS

05/6/2021

MSCAA 18-1415-01

## DIVISION 0 – SECTION 00802

### AIRPORT SECURITY REQUIREMENTS

#### PART 1 GENERAL

##### L01 CONTRACTORS SECURITY AND VEHICLE PROCEDURES OVERVIEW

- A. This overview outlines procedures concerning Airport security requirements, vehicle operation, and maintenance requirements for contractors at Memphis International Airport or any airport owned and operated by the Memphis-Shelby County Airport Authority. The sponsor Memphis-Shelby County Airport Authority (Airport Authority), airline, tenant, or concessionaire at the Airport who has hired the contractor is responsible for ensuring the contractor understands and complies with all the rules and regulations. This is a consolidated synopsis of the contractor requirements from the Airport Security Program and the Airport Rules and Regulations.

##### L02 DEFINITIONS

- A. **Aircraft** - shall mean any contrivance known or hereinafter invented, used or designed for navigation of or flight in the air.
- B. **Air Operations Area (AOA)** - that part of the Airport used or intended to be used for landing, taking off, surface maneuvering, loading, unloading, or servicing the aircraft.
- C. **Airport** - shall mean the Memphis International Airport and/or the General DeWitt Spain Airport and/or the Charles W. Baker Airport – where applicable.
- D. **Airport Restricted Area** - area of Memphis International Airport that is not intended for public uses or access. These are areas designated by the Airport Authority as restricted areas and clearly identified with signs designating those areas as "RESTRICTED AREA." The restricted area also includes the AOA.
- E. **AOA Driver's Permit** - permit issued by the Airport Authority for operating unescorted motor vehicles on the AOA.
- F. **Construction Restricted Area** - any area, inside or outside of the Airport Restricted Area, which is fenced, or in some like manner defined by the Contractor. The Contractor is responsible for the security of the Construction Restricted Area.
- G. **Director** - shall mean the Director of Operations and Public Safety or his duly authorized representatives.
- H. **Job Site** - a predetermined geographic area with specific boundaries established by the Airport Authority.
- I. **Movement Area** - runways, taxiways, and other areas of the Airport used for taxiing, takeoff, and landing of aircraft, except loading ramps and parking areas.
- J. **Personal Escort** - remaining within sight of the individual under escort at all times while in the Airport restricted areas at a distance not to exceed 20 feet.
- K. **Public Area** - any area within Airport facilities open to the general public.
- L. **SIDA** - Security Identification Display Area.

## Airport Security Requirements – Section 00802

- Construction will be within the Air Operations Area (AOA)
- Airport SIDA Badging Required for all construction personnel (prime and subs)
- Class 3 driver's permit must be obtained to access AOA.

ISSUED FOR BID

00802  
Page 1



# GENERAL CONTRACT REQUIREMENTS

05/6/2021

MSCAA 18-1415-01

## DIVISION 1- SECTION 01320

### SCHEDULES AND REPORTS

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. The work under this Contract shall be planned, scheduled and reported using computerized precedence diagram format of the Critical Path Method in calendar days, unless otherwise specifically provided in the Contract Documents. The Detailed Construction Schedule shall be developed by using the latest revision of Microsoft Project, or approved equal computer software.
- B. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, other Sections of these Specifications.
  - 2. Other provisions concerning Schedules and Reports are stated to Specification Sections:
    - 01100 – Summary of Work, Sequence of Construction & Liquidated Damages
    - General Provision Section 60 - Control of Materials
    - General Provision Section 90 - Measurement and Payment

#### PART 2 PRODUCTS

Not Used.

#### PART 3 EXECUTION

##### 3.01 GENERAL REQUIREMENTS

- A. The Detailed Construction Schedule shall be developed by using the latest revision of Microsoft Project, or approved equal computer software that is compatible with Owner's scheduling software.
- B. The primary objectives of the requirements of this section are:
  - 1. to insure adequate planning and execution of the Work by Contractor;
  - 2. to assist Owner and Engineer in evaluating the progress of the Work;
  - 3. to provide a mechanism or tool for use by the Owner, Engineer and Contractor in determining and monitoring any actions of the Contractor which may be required in order to comply with the requirements of the Contract relating to the timely completion of the various portions of the Work
- C. The Detailed Construction Schedule, defined in Paragraph 3.04, shall represent the Contractor's commitment and intended plan for completion of the Work in compliance with the Contract. The Contractor will not:
  - 1. Misrepresent to the Owner its planning, scheduling, and coordination of the work;
  - 2. Utilize schedules different from those provided to the Owner and Engineer for the direction, execution and coordination of the work;
  - 3. Utilize schedules which are not feasible or realistic; or

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01320  
Page 1

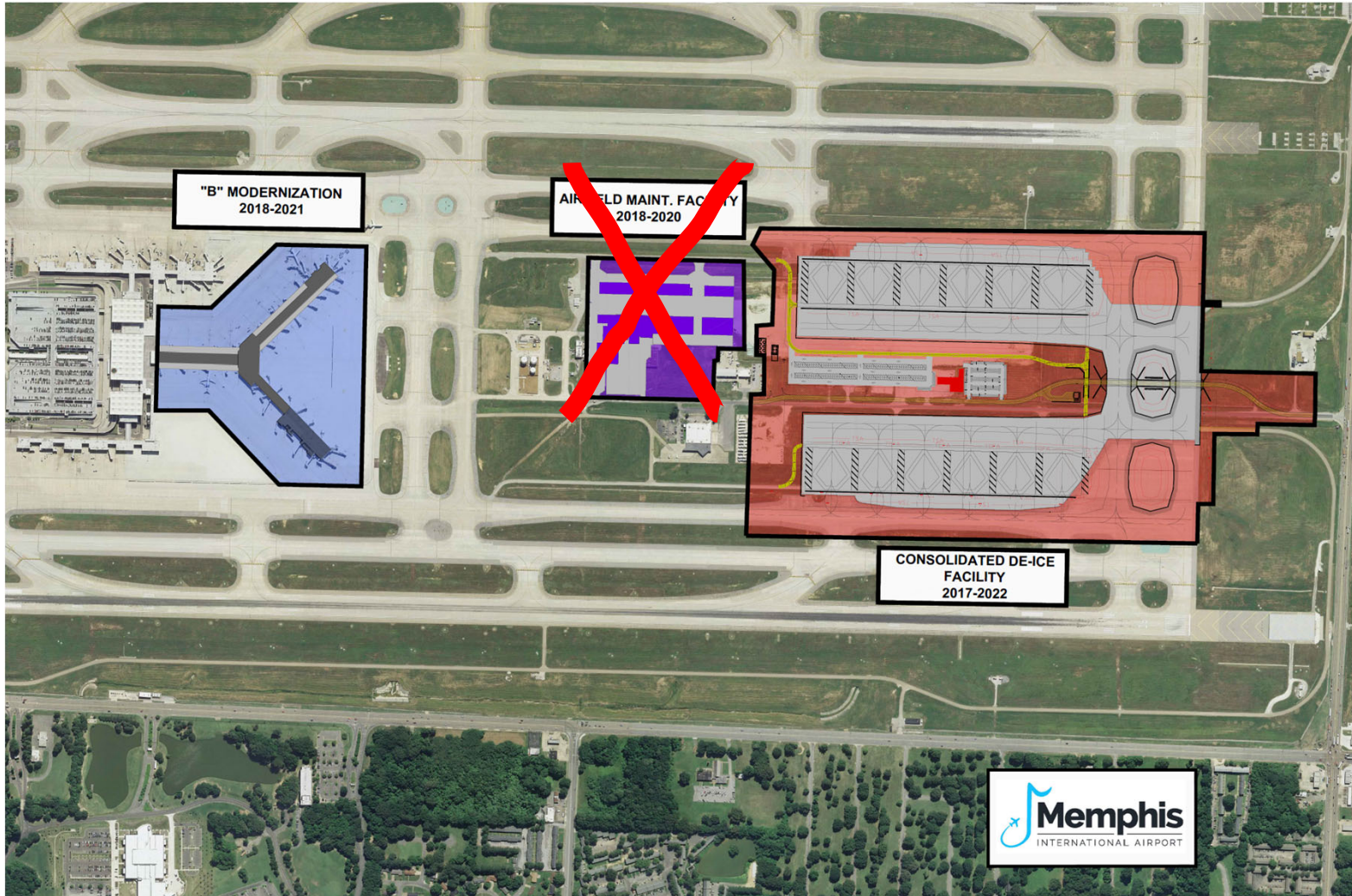
## Contractor's Project Schedule – Section 01320

- At pre-construction meeting, contractor shall provide a copy of project schedule and this schedule will be updated weekly as the job progresses





# OTHER PROJECTS/CONTRACTS



# GENERAL CONTRACT REQUIREMENTS

## Environmental Considerations

Lori Morris, MSCAA – Manager of Environmental Services

- Cleaning (Section 01741)
- Dust
- Debris
- Hazardous Materials Storage/Disposal
- Universal Waste – mercury from fluorescent bulbs
- highly encouraged to recycle all materials such as scrap metal and electronic waste

05/6/2021

MSCAA 18-1415-01

### DIVISION 1 – SECTION 01741

#### CLEANING

##### PART 1 GENERAL

###### 1.01 SUMMARY

- A. Throughout the construction period, maintain the site in a standard of cleanliness including mowing of grass as described in this Section. All demolition or construction debris (FOD) shall be confined within the work site at all times.
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, Division 0, Division 1 and other Sections of these Specifications.
  - 2. In addition to the standards described in this Section, comply with requirements for cleaning as described in pertinent other Sections of these Specifications.
  - 3. In addition to the standards described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

###### 1.02 QUALITY ASSURANCE

- A. Conduct a daily inspection, and more often if necessary, to verify that cleanliness requirements are being met.
- B. In addition to the standards described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

##### PART 2 PRODUCTS

###### 2.01 CLEANING MATERIALS AND EQUIPMENT

- A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.
- B. In addition to the standards described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

###### 2.02 COMPATIBILITY

- A. Use only cleaning materials and equipment compatible with the surface being cleaned and as recommended by the manufacturer of the material.

##### PART 3 EXECUTION

###### 3.01 PROGRESS CLEANING

- A. General:
  - 1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.

ISSUED FOR BID

01741  
Page 1



# Project Scope, Phasing, and Technical Review

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# PROJECT SCOPE OF WORK

05/6/2021

MSCAA 18-1415-01

## Summary of the Work, Sequence of Construction & Liquidated Damages – Section 01100

### Schedule:

Two hundred seventy (270) calendar days  
(for substantial completion) + forty-five (45) days  
(closeout/final completion)

Weather is included in spec 01320

### Liquidated Damages:

\$1,000 per day (substantial completion)  
\$500 per day (closeout)

#### DIVISION 1 – SECTION 01100

#### SUMMARY OF THE WORK, SEQUENCE OF CONSTRUCTION & LIQUIDATED DAMAGES

#### PART 1 GENERAL

##### Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to Division 0 and Division 1 and other Sections of these Specifications.

#### 1.01 SUMMARY

##### SUMMARY OF WORK

- A. The "Project," of which the "Work" of this Contract is a part, is titled Airfield Signage Replacement - Construction, MSCAA Project 18-1415-01.
- B. The "Work" of this Contract is defined in the Contract Documents to include, but not be limited to, replacement of existing airfield guidance signs with new L-858(L) LED type signs. The improvements include, but are not necessarily limited to, removal of existing signage, new sign installation, electrical power feed and/or concrete foundation base reconfigurations, light base installations with isolation transformers, reworking of conduit and circuitry, airfield surface markings, and other efforts as required to meet the current Advisory Circular installation guidelines.
- C. Airport Improvement Program Project: The work in this contract is included in an Airport Improvement Program Project (which project is subject to receipt of confirmation of federal funds) which is being undertaken and accomplished by the Owner in accordance with the terms and conditions of an agreement between the Memphis-Shelby County Airport Authority and the United States, under the provision of Title 49, United States Code, herein called Title 49, USC, pursuant to which the United States Government has agreed to pay a certain percentage of the costs of the project that are determined to be allowable project costs under that Act. The United States Government is not a party to this contract and no reference in this contract to the FAA or any representative thereof, or to any rights granted to the FAA or any representative thereof, or the United States Government, by the contract, makes the United States Government a party to this contract.
- D. FAA Inspection and Review: The Contractor shall allow any authorized representative of the FAA to inspect and review any work or materials used in the performance of this contract.
- E. Subcontracts: The Contractor shall insert in each of his subcontracts the provisions contained in paragraphs C and D, of this section and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

#### PART 2 PRODUCTS

Not used.

#### PART 3 EXECUTION

#### 3.01 PROJECT PHASING AND COMPLETION

- A. This is a fixed-duration Contract required to be substantially completed within two hundred seventy (270) calendar days from the Notice to Proceed ("NTP") date. The project scope of work is as stated

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01100  
Page 1



# PROJECT SCOPE OF WORK

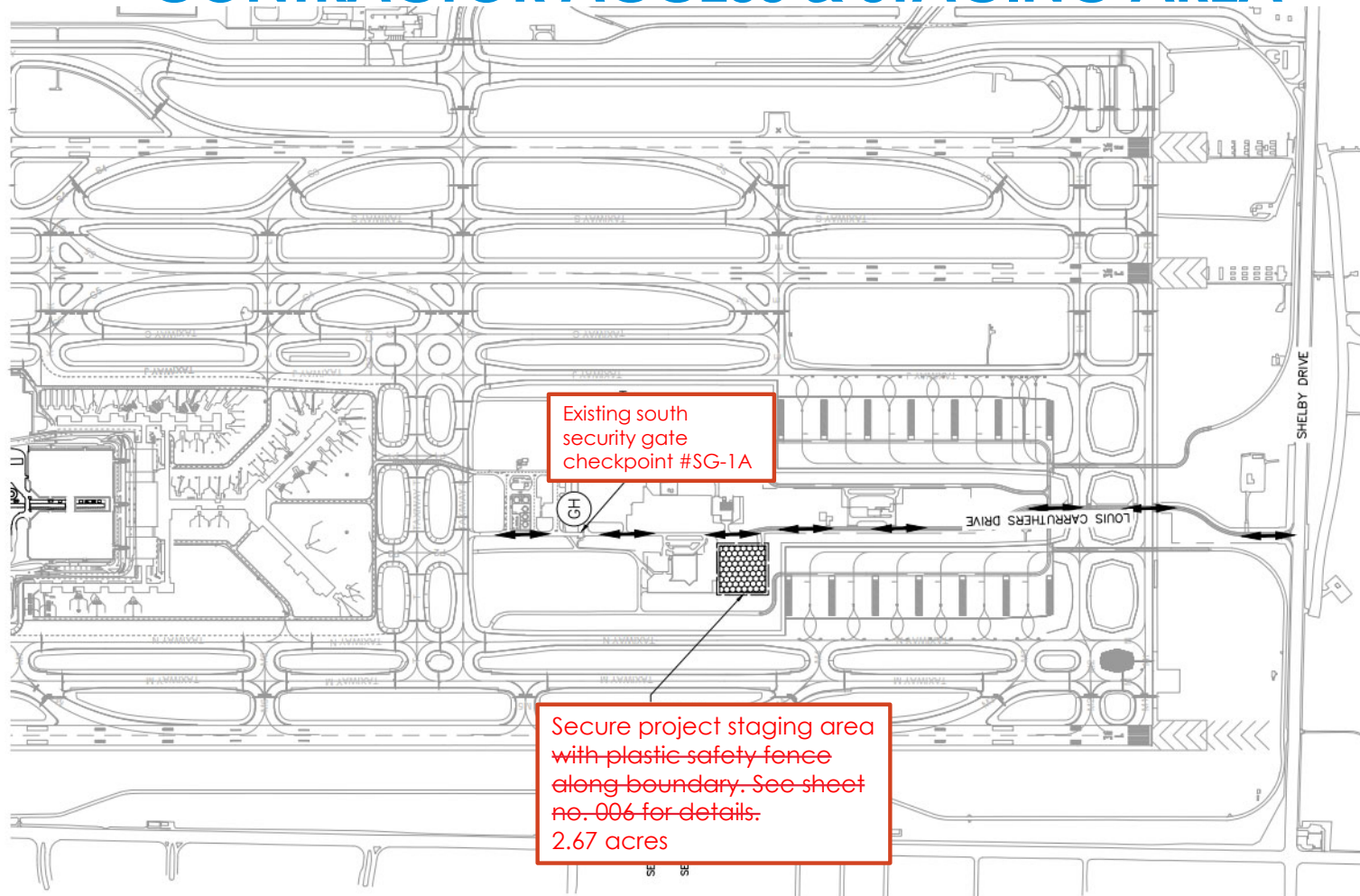
Addendum Item to Date:

None currently posted.

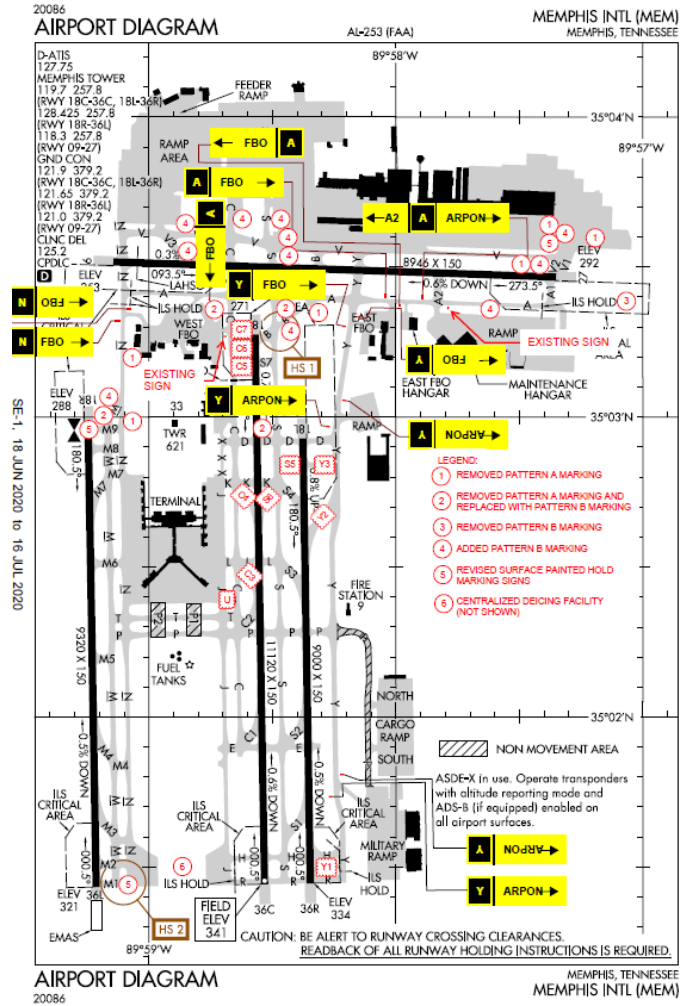
Addendum likely forthcoming with additional scope.



# CONTRACTOR ACCESS & STAGING AREA



# ADDITIONAL TECHNICAL DISCUSSION

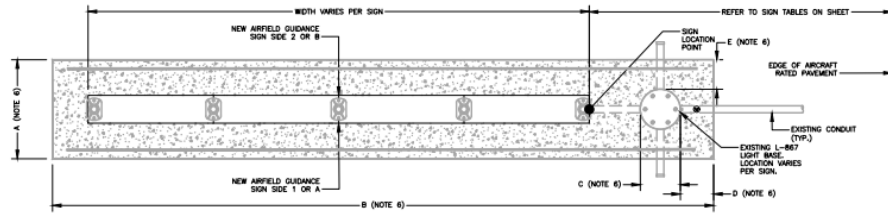


# ADDITIONAL TECHNICAL DISCUSSION

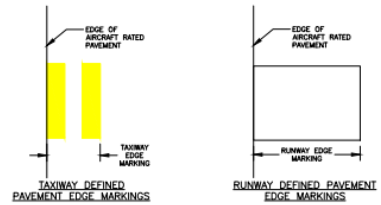
AIRFIELD SIGN REPLACEMENT INTERSECTION SCHEDULE				
AIRFIELD LOCATION	THREE-WAY RUNWAY/TAXIWAY	FOUR-WAY RUNWAY/TAXIWAY	THREE-WAY TAXIWAY/TAXIWAY	FOUR-WAY TAXIWAY/TAXIWAY
18R-36L RUNWAY COMPLEX	18R-36L / M1		M/M1	M/M2
	18R-36L / M2		M/M5	M/M3
	18R-36L / M3		M/T	M/M4
	18R-36L / M4		M/P	M/M6
	18R-36L / M5		N/M9	M/M7
	18R-36L / M6		N/M8	M/M8
	18R-36L / M7		N/M7	M/M9
	18R-36L / M8		N/M6	N/T
	18R-36L / M9		N/M1	N/P
			N/M	N/M4
			N/M3	
			N/M2	
MIDFIELD (SOUTH OF TERMINAL)			P/P2	T/P2
			P/P1	T/P1
				T/J
			P/J	
18C-36C,18L-36R RUNWAY COMPLEX	18C-36C/R	18C-36C/H	J/R	S/E/S2
	18L-36R/R	18L-36R/H	J/H	C/E/C1
	18L-36R/Q	18C-36C/E	J/E	C/P/C2
	18L-36R/S2	18L-36R/P	J/C3	S/P
	18L-36R/E	18C-36C/P	J/K	Y/P
	18L-36R/S4	18C-36C/C5/S5	J/L	C/L/C4
	18L-36R/Y1	18C-36C/C6/S7	S/R	S/S3/L
	18L-36R/Y2/S6	18C-36C/C8/B	Y/R	C/K/C5
	18L-36R/D	18C-36C/K	Y/Q	S/K/S4/S5
	18C-36C/D		Y/H	S/D
	18C-36C/C6		S/S1	C/D
	18C-36C/C7		Y/ANG	B/S
			C/T	
			C/C3	
			Y/Y1	
			Y/Y2	
			Y/D	
			Y/EAST FBO	
			S/S8	
			C/C6	
		C/C7		
		C/C8		
		C/FBO		
9-27 RUNWAY COMPLEX	9-27/N	9-27/Y	N/A	V/V3
	9-27/A1/V2V1	9-27/B	N/WEST FBO	C/V
	9-27/A2	9-27/S	N/V	V/S
	9-27/V3	9-27/C	A/WEST FBO	A/C
			V/B	A/S
			V/Y	A/B
			V/V2V1	A/Y
			A/EAST FBO	A/A2
		A/EAST FBO HANGAR		
		A/A1		



# ADDITIONAL TECHNICAL DISCUSSION

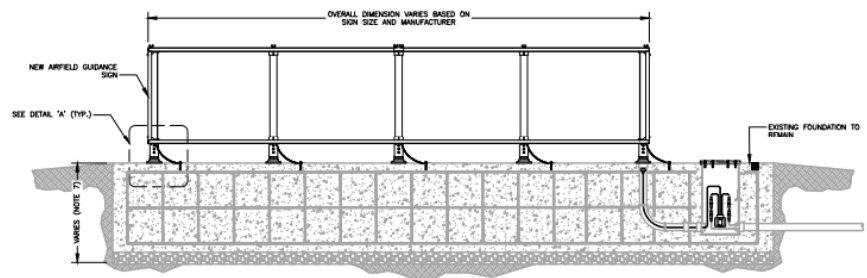


PLAN VIEW

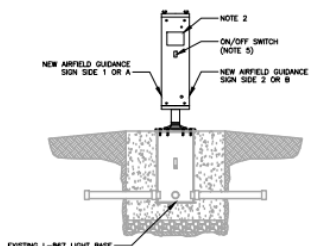


TAXIWAY GUIDANCE SIGN	
SIGN SIZE	PERPENDICULAR DISTANCE FROM DEFINED PAVEMENT EDGE TO NEAR SIDE OF SIGN
3	30' - 60'
PER FAA AC 150/5340-18 (TABLE 1)	

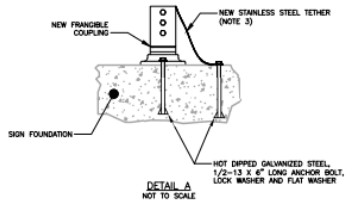
RUNWAY DISTANCE REMAINING SIGN	
SIGN SIZE	PERPENDICULAR DISTANCE FROM DEFINED RUNWAY PAVEMENT EDGE TO THE NEAR SIDE OF SIGN
4	90' - 75'
PER FAA AC 150/5340-18 (TABLE 2)	



FRONT ELEVATION (SIDE 1 OR A)



RIGHT SIDE ELEVATION



DETAIL A NOT TO SCALE

- GENERAL NOTES:**
- REFER TO DRAWING NUMBERS 012, 013, AND 014 FOR LEGEND, ABBREVIATIONS, AND GENERAL ELECTRICAL NOTES THAT ARE APPLICABLE TO ALL ELECTRICAL DRAWINGS.
  - AIRFIELD GUIDANCE SIGNS, MATERIALS AND PANELS SHALL CONFORM TO FAA AC 150/5340-44.
- DETAIL NOTES:**
- GRADE AROUND SIGNS AS NECESSARY TO PREVENT SILT/DIRT INFILTRATION ONTO SIGN FOUNDATION. COORDINATE SIGN FOUNDATION WITH SIGN ACCESS SERVICE ROAD AND GRADING. RUNWAY/TAXIWAY SAFETY AREA GRADING CRITERIA SHALL BE OBSERVED.
  - INTEGRAL MANUFACTURER INSTALLED REPOSITIONABLE FIGURE NUMBER LABEL HOLDER FOR UP TO EIGHT (7) CHARACTERS. PROVIDE NUMBER INSERTS AS INDICATED IN THE SIGN SCHEDULE. AIRFIELD SIGN LABELS SHALL BE PLACED ON SIGN END TO BE VIEWED FROM PAVEMENT AND ADJACENT FULLCAN SIGN.
  - ALL SIGNS SHALL BE FURNISHED WITH ONE TETHER PER MODULE. TETHERS SHALL BE 3/16" STAINLESS STEEL AIRCRAFT CABLE WITH A FORGED EYE ON BOTH ENDS. THE TETHER EYE SHALL BE ATTACHED TO THE SIGN IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND TO THE CONCRETE BASE BETWEEN TWO STAINLESS STEEL WASHERS, WITH A 1/2 - 13 x 6" MINIMUM ANCHOR BOLT. THE TETHER SHALL BE OF SUFFICIENT LENGTH TO HAVE A MINIMUM OF 6" OF SLACK WHEN ATTACHED BETWEEN THE SIGN AND THE SIGN FOUNDATION. THE TETHERS AND BONDING CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE

- COUPLINGS TO OPERATE WITHOUT RESTRICTIONS AND TO ALLOW THE POWER CABLE TO DISCONNECT IF THE SIGN FALLS OVER, THE SIGN ANCHOR BOLTS SHALL NOT BE USED FOR THE TETHER ANCHOR. IN ADDITION TO INSTALLING ONE TETHER PER MODULE A SIGN ARRAY SHALL BE EQUIPPED WITH A TETHER ON EACH END. ONE MODULE SIGNS SHALL BE EQUIPPED WITH TWO TETHERS.**
- EXTENDER CABLE SHALL BE LONG ENOUGH TO EXTEND 3' OUT OF THE L-867 CAN.
  - PROVIDE SIGN WITH EXTERNAL POWER DISCONNECT (ON/OFF SWITCH) TO ISOLATE THE SIGN FROM THE CIRCUIT FOR MAINTENANCE.
  - REFER TO SIGN SCHEDULES FOR EXISTING SIGN FOUNDATION DIMENSIONS.
  - EXISTING FOUNDATION DEPTH VARIES. VERIFY DEPTH OF FOUNDATION PRIOR TO REMOVAL AND CONSTRUCTION OF FOUNDATION EXTENSION. NOTIFY ENGINEER IF EXISTING FOUNDATION DEPTH IS LESS THAN 12 INCHES.

CONSTRUCTION DOCUMENTS

THE OFFICIAL  
**Memphis**  
INTERNATIONAL AIRPORT

DESIGNED BY  
ARORA

ENGINEER  
STATE OF TENNESSEE  
No. 29751

REVISIONS

NO.	DATE	DESCRIPTION

MEMPHIS PROJ. NO.  
18-1415-00

PROJECT:  
MEM  
AIRFIELD SIGNAGE  
REPLACEMENT

SHEET TITLE:  
(ACTION CODE NE) NEW  
SIGN ON EXISTING  
FOUNDATION DETAIL.

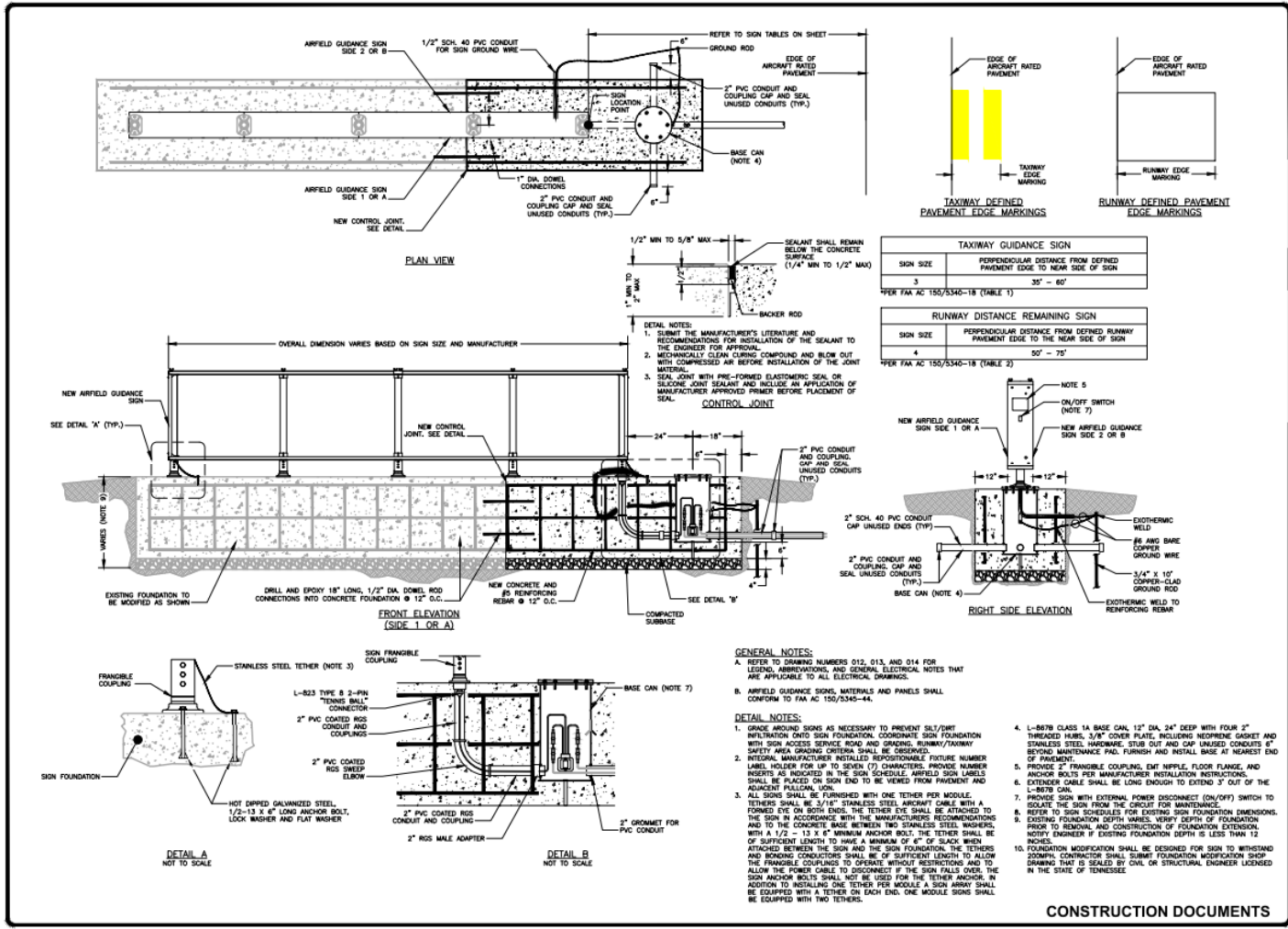
DATE PREPARED  
18-1415-00-1810117.DWG

DATE  
03/28/2021

SCALE  
NOT TO SCALE

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# ADDITIONAL TECHNICAL DISCUSSION



**Memphis INTERNATIONAL AIRPORT**

**CONSTRUCTION DOCUMENTS**

18-1415-00

**MEM AIRFIELD SIGNAGE REPLACEMENT**

SHEET TITLE:

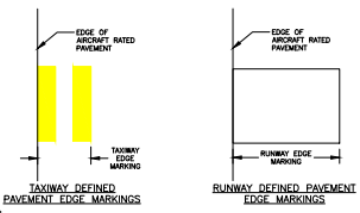
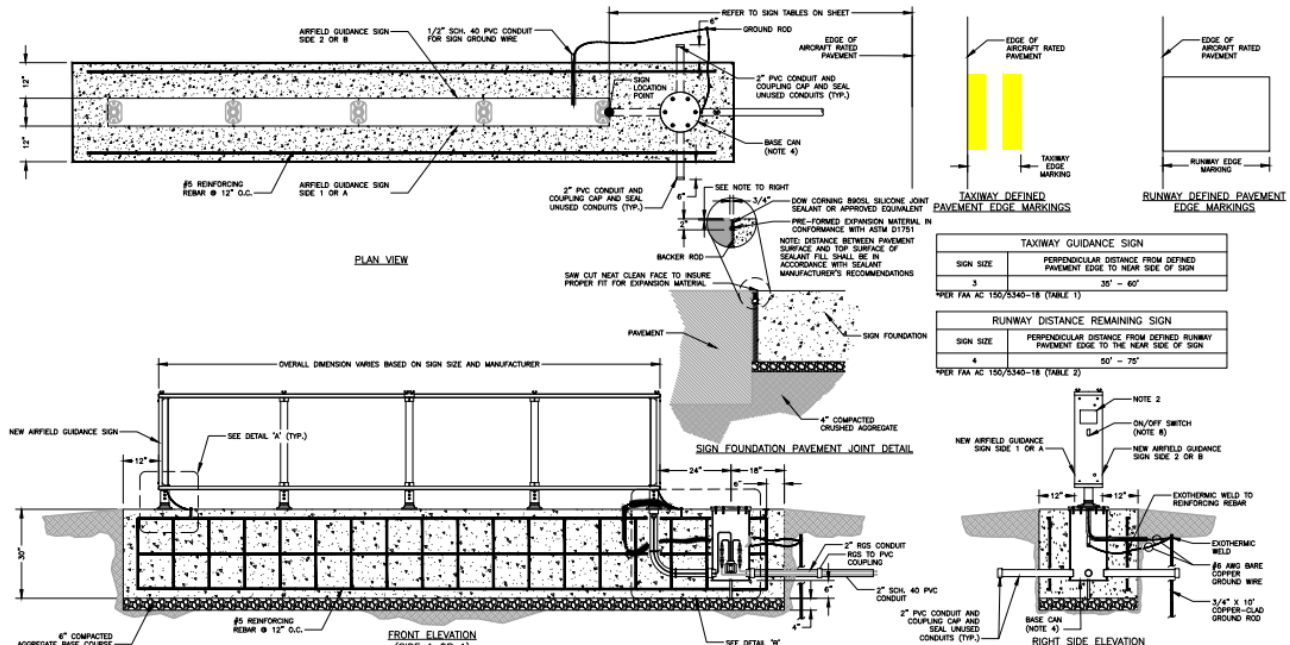
(ACTION CODE NA) NEW SIGN ON MODIFIED FOUNDATION DETAILS

DATE: 18-1415-00-180107.DWG

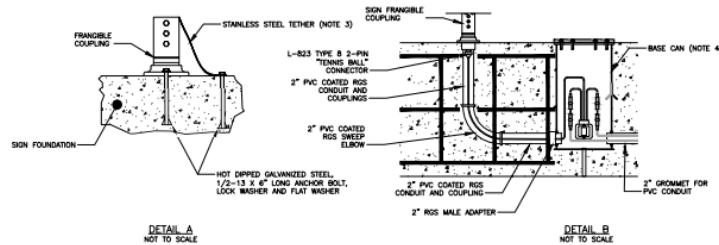
SCALE: NOT TO SCALE

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# ADDITIONAL TECHNICAL DISCUSSION



TAXIWAY GUIDANCE SIGN	
SIGN SIZE	PERPENDICULAR DISTANCE FROM DEFINED PAVEMENT EDGE TO NEAR SIDE OF SIGN
3	30' - 60'
PER FAA AC 150/5340-18 (TABLE 1)	
RUNWAY DISTANCE REMAINING SIGN	
SIGN SIZE	PERPENDICULAR DISTANCE FROM DEFINED RUNWAY PAVEMENT EDGE TO THE NEAR SIDE OF SIGN
4	50' - 75'
PER FAA AC 150/5340-18 (TABLE 2)	



**GENERAL NOTES:**

- A. REFER TO DRAWING NUMBERS 012, 013, AND 014 FOR LEGEND, ABBREVIATIONS, AND GENERAL ELECTRICAL NOTES THAT ARE APPLICABLE TO ALL ELECTRICAL DRAWINGS.
- B. AIRFIELD GUIDANCE SIGNS, MATERIALS AND PANELS SHALL CONFORM TO FAA AC 150/5345-44.
- C. FOR SIGNS LONGER THAN 4 MODULES, TWO SIGN ARRAYS SHALL BE INSTALLED AND CONNECTED TOGETHER, COORDINATE WITH MANUFACTURER FOR CONNECTION REQUIREMENTS AND WIRING.

**DETAIL NOTES:**

- 1. GRADE AROUND SIGNS AS NECESSARY TO PREVENT SILT/DIRT INFILTRATION ONTO SIGN FOUNDATION. COORDINATE SIGN FOUNDATION WITH SIGN ACCESS SERVICE ROAD AND GRADING, RUNWAY/TAXIWAY SAFETY AREA GRADING CRITERIA SHALL BE OBSERVED.
- 2. INTERNAL MANUFACTURER INSTALLED REPOSITIONABLE FUTURE NUMBER LABEL HOLDER FOR UP TO SIX (7) CHARACTERS. PROVIDE NUMBER INSERTS AS INDICATED IN THE SIGN SCHEDULE. AIRFIELD SIGN LABELS SHALL BE PLACED ON SIGN END TO BE VIEWED FROM PAVEMENT AND ADJACENT PULCARAN LON.
- 3. ALL SIGNS SHALL BE FORMED WITH ONE TETHER PER MODULE. TETHERS SHALL BE 3/16" STAINLESS STEEL AIRCRAFT CABLE WITH A FORMED EYE ON BOTH ENDS. THE TETHER EYE SHALL BE ATTACHED TO THE SIGN IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND TO THE COUPLER BASE BETWEEN TWO STAINLESS STEEL INCHINGS, WITH A 1/2" - 1 1/2" X 6" MINIMUM ANCHOR BOLT. THE TETHER SHALL BE OF SUFFICIENT LENGTH TO HAVE A MINIMUM OF 6" OF SLACK WHEN ATTACHED BETWEEN THE SIGN AND THE SIGN FOUNDATION. THE TETHERS AND BONDING CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE COUPLERS TO OPERATE WITHOUT RESTRICTIONS AND TO ALLOW THE POWER CABLE TO DISCONNECT IF THE SIGN FALLS OVER. THE SIGN ANCHOR BOLTS SHALL NOT BE USED FOR THE TETHER ANCHOR. IN ADDITION TO INSTALLING ONE TETHER PER MODULE, A SIGN ARRAY SHALL BE EQUIPPED WITH A TETHER ON EACH END. ONE MODULE SIGN SHALL BE EQUIPPED WITH TWO TETHERS.
- 4. L-8678 CLASS 1A BASE CAN, 12" DIA., 24" DEEP WITH FOUR 2" THREADED HUBS, 3/8" COVER PLATE, INCLUDING NEOPRENE GASKET AND STAINLESS STEEL HARDWARE. STUB OUT AND CAP UNUSED CONDUITS 6" BEYOND MAINTENANCE PAD. FURNISH AND INSTALL BASE AT NEAREST END OF PAVEMENT.
- 5. PROVIDE 2" FRANGIBLE COUPLING, EXP. NIPPLE, FLOOR FLANGE, AND ANCHOR BOLTS PER MANUFACTURER INSTALLATION INSTRUCTIONS.
- 6. INSTALL TWO GROUND RODS AT EACH SIGN ARRAY, ONE 3/4" X 10" FOR COUNTERPOISE AND ONE 3/4" X 10" FOR GROUNDING.
- 7. EXTENDER CABLE SHALL BE LONG ENOUGH TO EXTEND 3' OUT OF THE L-8678 CAN.
- 8. PROVIDE SIGN WITH EXTERNAL POWER DISCONNECT (ON/OFF) SWITCH TO ISOLATE THE SIGN FROM THE CIRCUIT FOR MAINTENANCE.
- 9. FOUNDATION MODIFICATION SHALL BE DESIGNED FOR SIGN TO WITHSTAND ZONING. CONTRACTOR SHALL SUBMIT FOUNDATION MODIFICATION SHOP DRAWINGS THAT IS SEALED BY CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE OF TENNESSEE.

CONSTRUCTION DOCUMENTS

**MEMPHIS INTERNATIONAL AIRPORT**

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MEM  
**AIRFIELD SIGNAGE REPLACEMENT**

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SHEET TITLE:

(ACTION CODE NN) NEW SIGN ON NEW FOUNDATION DETAIL.

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REV. NO. DATE DESCRIPTION

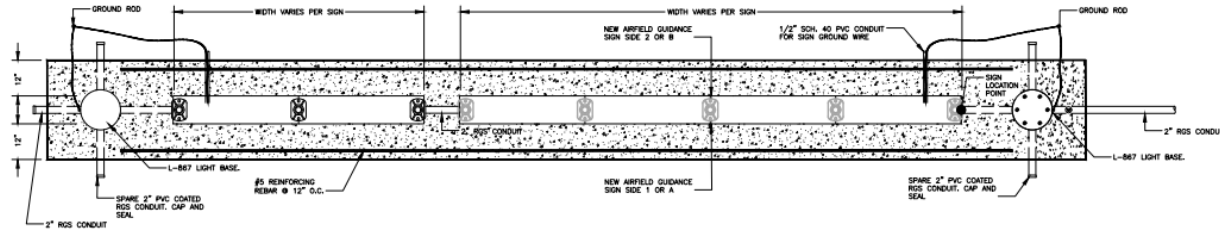
REV. NO.	DATE	DESCRIPTION

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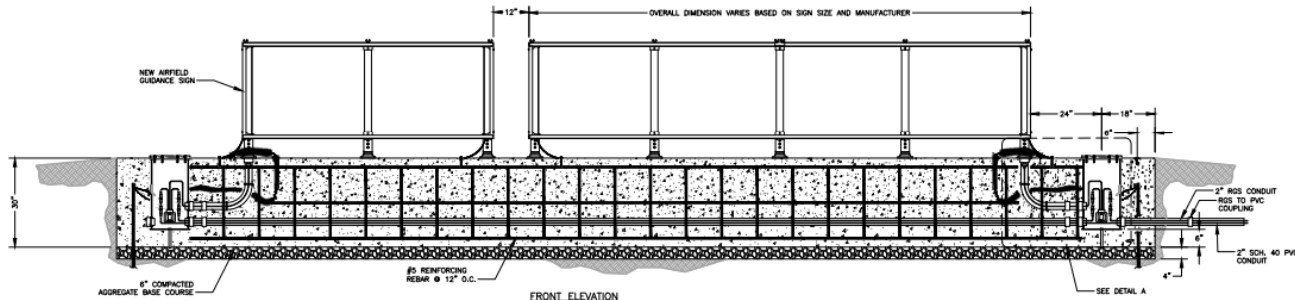
18-1415-00

MEMPHIS INTERNATIONAL AIRPORT

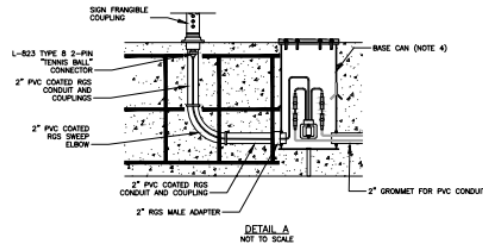
# ADDITIONAL TECHNICAL DISCUSSION



PLAN VIEW



FRONT ELEVATION (SIDE 1 OR A)



DETAIL A NOT TO SCALE

#### GENERAL NOTES:

- REFER TO DRAWING NUMBERS 012, 013, AND 014 FOR LEGEND, ABBREVIATIONS, AND GENERAL ELECTRICAL NOTES THAT ARE APPLICABLE TO ALL ELECTRICAL DRAWINGS.
- AIRFIELD GUIDANCE SIGNS, MATERIALS AND PANELS SHALL CONFORM TO FAA AC 150/5345-44.
- FOR SIGNS LONGER THAN 4 MODULES, TWO SIGN ARRAYS SHALL BE INSTALLED AND CONNECTED TOGETHER, COORDINATE WITH MANUFACTURER FOR CONNECTION REQUIREMENTS AND WIRING.

#### DETAIL NOTES:

- GRADE AROUND SIGNS AS NECESSARY TO PREVENT SILT/DIRT INFILTRATION ONTO SIGN FOUNDATION. COORDINATE SIGN FOUNDATION WITH SIGN ACCESS SERVICE ROAD AND GRADING, RUNWAY/TAXIWAY SAFETY AREA GRADING CRITERIA SHALL BE OBSERVED.
- INTEGRAL MANUFACTURER INSTALLED REPOSITIONABLE FUTURE NUMBER LABELS HOLDER FOR UP TO SIX (7) CHARACTERS. PROVIDE NUMBER INSERTS AS INDICATED IN THE SIGN SCHEDULE. AIRFIELD SIGN LABELS SHALL BE FIXED ON SIGN END TO BE VIEWED FROM FREQUENT AND ADJACENT FULL-CAN VIEW.
- ALL SIGNS SHALL BE FURNISHED WITH ONE TETHER PER MODULE. TETHERS SHALL BE 3/16" STAINLESS STEEL AIRCRAFT CABLE WITH A FORGED EYE ON BOTH ENDS. THE TETHER EYE SHALL BE ATTACHED TO THE SIGN IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND TO THE CONCRETE BASE BETWEEN TWO STAINLESS STEEL WASHERS, WITH A 1/2" - 13 X 6" MINIMUM ANCHOR BOLT. THE TETHER SHALL BE OF SUFFICIENT LENGTH TO HAVE A MINIMUM OF 6" OF SLACK WHEN ATTACHED BETWEEN THE SIGN AND THE SIGN FOUNDATION. THE TETHERS AND BONDING CONDUCTORS SHALL BE SUFFICIENT LENGTH TO ALLOW THE FRANGIBLE COUPLINGS TO OPERATE WITHOUT RESTRICTIONS AND TO ALLOW THE POWER CABLE TO DISCONNECT IF THE SIGN FALLS OVER. THE SIGN ANCHOR BOLTS SHALL NOT BE USED FOR THE TETHER ANCHOR. IN ADDITION TO INSTALLING ONE TETHER PER MODULE A SIGN ARRAY SHALL BE EQUIPPED WITH A TETHER ON EACH END. ONE MODULE SIGNS SHALL BE EQUIPPED WITH TWO TETHERS.
- L-867B CLASS 1A BASE CAN: 12" DIA, 24" DEEP WITH FOUR 2" THREADED HUBS, 3/4" COVER PLATE, INCLUDING NYLON WIRE GASKET AND STAINLESS STEEL HARDWARE, STUB OUT AND CAP UNUSED CONDUITS 6" BEYOND MAINTENANCE PAC. FURNISH AND INSTALL BASE AT NEAREST END OF PAVEMENT.
- PROVIDE 2" FRANGIBLE COUPLING, ENT NIPPLE, FLOOR FLANGE, AND ANCHOR BOLTS PER MANUFACTURER INSTALLATION INSTRUCTIONS.
- INSTALL TWO GROUND RODS AT EACH SIGN ARRAY, ONE 3/4" X 10' FOR COUNTERPOISE AND ONE 3/4" X 10' FOR GROUNDING.
- EXTENDER CABLE SHALL BE LONG ENOUGH TO EXTEND 3' OUT OF THE L-867B CAN.
- PROVIDE SIGN WITH EXTERNAL POWER DISCONNECT (ON/OFF) SWITCH TO ISOLATE THE SIGN FROM THE CIRCUIT FOR MAINTENANCE.
- FOUNDATION MODIFICATION SHALL BE DESIGNED FOR SIGN TO WITHSTAND 30MPH. CONTRACTOR SHALL SUBMIT FOUNDATION MODIFICATION SHOP DRAWING THAT IS SEALED BY CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE OF TENNESSEE.

CONSTRUCTION DOCUMENTS



PROJECT: MEM AIRFIELD SIGNAGE REPLACEMENT

CLIENT: MEMPHIS INTERNATIONAL AIRPORT

DESIGNER: ARORA

DATE: 08/20/2021

SCALE: NOT TO SCALE

REV. NO.	DATE	DESCRIPTION

MEMO PROJ. NO. 18-1415-00

PROJECT: MEM AIRFIELD SIGNAGE REPLACEMENT

SHEET TITLE: SIGN ARRAY DETAIL

DATE: 08/20/21

SCALE: NOT TO SCALE

SHEET NO. 172





# ADDITIONAL TECHNICAL DISCUSSION

**1 TAXIWAY CENTERLINE MARKING**  
N.T.S.

**2 TAXIWAY EDGE MARKING**  
N.T.S.

**3 ILS CRITICAL AREA / RUNWAY APPROACH / DEPARTURE AREA HOLDING POSITION MARKING**  
N.T.S.

**4 LOCATION OF SURFACE PAINTED HOLDING POSITION SIGNS RELATIVE TO MARKING**  
N.T.S.

**5 SURFACE PAINTED HOLDING POSITION SIGN**  
N.T.S.

- NOTES:**
- PAVEMENT MARKING DETAILS SHALL CONFORM TO THE LATEST EDITION OF THE FEDERAL AVIATION ADMINISTRATION'S ADVISORY CIRCULAR AC-150/5340-1. IF A CONFLICT OCCURS BETWEEN THESE PLANS AND THE ADVISORY CIRCULAR, THE ADVISORY CIRCULAR SHALL TAKE PRECEDENCE.
  - PAINT SHALL CONFORM TO ITEM P-620.
  - GLASS BEADS ARE REQUIRED ON ALL YELLOW AND WHITE PAVEMENT MARKINGS. REFER TO DETAILS FOR GLASS BEAD TYPE.
  - ALL MARKING ON CONCRETE PAVEMENT SHALL BE OUTLINED WITH A 6" BLACK BORDER. THE BORDER IS NOT SHOWN ON SOME DETAILS FOR CLARIFICATION PURPOSES. GLASS BEADS SHALL NOT BE USED IN BLACK PAINT.

THE CITY OF MEMPHIS  
**Memphis**  
INTERNATIONAL AIRPORT

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**DESIGNED BY**  
AIRORA

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**CLIENT**  
Kinley + Horn  
6750 POPPAN AVENUE, SUITE 400  
MEMPHIS, TN 38118  
PHONE: 901-374-8900  
WWW.KINLEY-HORN.COM

**DWG NO.** 11632000

**DATE** 03/06/2021

**BY** JAG  
**CHKD BY** JAG  
**APP'D BY** DLS

**SCALE** NOT TO SCALE

**PROJECT** MEM AIRFIELD SIGNAGE REPLACEMENT

**SHEET TITLE** PAVEMENT MARKING DETAILS

**ISSUE FILE NAME** 18-1415-00-190.dwg

**DATE** 03/06/2021 **SHEET NO.** 190

**SCALE** NOT TO SCALE

# Q&A Session

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## Q & A SESSION

Remember to submit questions via e-mail to [airfieldsignage@flymemphis.com](mailto:airfieldsignage@flymemphis.com) to receive a formal answer. MSCAA will not warranty any other kind of answer.

Question deadline: 5:00 p.m. local time, **Tuesday, May 25, 2021.**





**TAKE OFF WITH US**



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