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Passenger Loading Bridge Replacement

William P. Hobby Airport (HOU)

Construction Safety and Phasing Plan

April 04, 2022

Houston Airport System (HAS)

Project No. PN946B

Issued for Bid

Passenger Loading Bridge Replacement

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Contents

The purpose of this report is to provide design information related to the Passenger Loading Bridge (PLB) Replacement project at the William P. Hobby Airport (HOU) in Houston, Texas. Elements of the design and information contained in this report rely upon information provided by the Houston Airport System (HAS):

- AutoCAD background files provided by the HAS Airport Spatial Information System (ASIS), consisting of planimetric, subsurface utility information, airplane design group, and FAA Part 77 contours.

Any warranty/guarantee (expressed or implied) to the data, observations and findings in the report is excluded to the extent permitted by law. This report must be read in its entirety, and excerpts are not representative of the findings. The report has been prepared exclusively for the Houston Airport System and no liability is accepted for any use or reliance on the report by third parties.

Executive Summary

Project Description

Passenger Loading Bridges (PLBs) are an essential link between the terminal and the aircraft and create a safe and comfortable transition for travelling passengers. It is essential that PLBs are safe and structurally sound.

The Overall Development Objective (ODO) of this project is to replace 5 older PLBs at Gates 28, 29, 30, 31, and 32 at William P. Hobby Airport (HOU) with new modernized PLBs, Ground Power Units (GPUs), and Pre-Conditioned Air Units (PCAs).

This document addresses the ODO to be undertaken by HAS, replacing 5 PLBs, GPUs, and PCAs.

The scope of work for the PLB replacement project will include:

1. Disconnecting electrical equipment from existing PLBs and reconnecting to new Passenger Loading Bridges.
2. Demolish existing disconnect switch serving 400Hz GPU and made safe for reconnection to new disconnect switches.
3. Demolish existing disconnect switch serving PCA. Existing circuit to be demolished back to panel. Breaker to be placed in off position.
4. Demolish existing disconnect switch serving the PLB. Existing circuit to be made safe for reconnection to new disconnect switches.
5. Demolition and Removal of existing PLBs, GPUs, and PCAs at Gates 28, 29, 30, 31, and 32. Fixed walkways and existing foundations/piers to remain.
6. Install new disconnect for 400Hz.
7. Install new circuit and disconnect for PCA.
8. Install new disconnect for PLB.
9. Route Condensate from PCA unit back to existing drain. Flush and clean existing drain line prior to connection.
10. Existing potable water cabinet to remain and reused. Flush and clean existing lines.
11. Demolish network cables from PLB interface back to termination point. Demolish PLB interface box.
12. Install stainless steel NEMA 4 interface box with hinged door.
13. Rout 1" conduit to each PLB Rotunda.
14. Terminate CAT 6 cable in IT Data Cabinet.
15. Tie existing 1" conduit into stainless steel NEMA enclosure.
16. Existing 1" conduit back to IDF to remain.
17. Install 1" conduit to PLB travel cable. Coordinate exact size and route with PLB contractor.
18. Remove existing PLBs, GPUs and PCAs.
19. Install new PLBs, GPUs and PCAs and re-connect to electrical, plumbing and IT/Telecom.

Construction Safety Phasing Plan

This Construction Safety and Phasing Plan (CSPP) was developed in accordance with Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5370-2G (latest edition), *Operational Safety on Airports During Construction,* for the Passenger Loading Bridge (PLB) Replacement Project at William P. Hobby Airport (HOU). This AC also includes an outline for the Safety Plan Compliance Document (SPCD) to be completed by the contractor awarded the construction of this project and is included in Appendix C.

Aviation safety is the primary consideration at airports, especially during construction. The airport operator's CSPP and the contractor's 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. Requirements contained within this CSPP are enforceable by the contract outlined in Article 10 – Safety Precautions, Section 10.1 - Safety Programs, Section 10.2 – Pollutants and Pollutant Facilities, Section 10.3 – Safety of the Environment, Persons and Property, and Section 10.4 – Emergencies per Document 00700-General Conditions.

Safety Plan Compliance Document Requirements

The Contractor shall submit to the Owner's Representative in writing a detailed SPCD for the CSPP in accordance with AC 150/5370-2G, latest edition. The SPCD shall include, but not be limited to, installation sequence of traffic control items, barricades, fence and gate installation, haul routes within the work zone, staging, storage and stockpile areas, lockout/tagout procedures, electrical shutdowns, disconnect and re-connections, equipment height restrictions including crane operations, Foreign Object Debris (FOD) management plan, and inclement weather management plans (i.e. severe weather, tropical storms, hurricanes, etc.). The SPCD shall be submitted at least 14 calendar days prior to the start of construction. No work may commence until the SPCD is approved. The SPCD shall also contain the following:

1. A plan, by construction element and phase, for controlling construction equipment, personnel and vehicular movements in the AOA. The plan must include material haul roads. The plan shall detail the general requirements contained in the CSPP.

    a) The Contractor shall provide a responsible safety coordinator whose duty shall be to direct all construction traffic near active runways, taxiways, taxi lanes, aprons, haul roads, and highways. Paved surfaces shall always be kept clean and specifically must be kept free from all debris that have the potential to damage aircraft. The Contractor shall ensure all traffic control and warning devices are properly placed, maintained and operational daily.

2. The SPCD shall discuss in detail any minor deviations or topics that require additional detail in the CSPP. Should the SPCD include substantive changes to the CSPP requested by the Contractor, the revised CSPP must be submitted 60 days prior to the start of work for the Airport to obtain approval of such changes from the FAA.

The SPCD should be written to match the format of the CSPP without duplicating information in the CSPP and should include all the supplemental information that could not be included in the CSPP prior to award of the construction contract. Additionally, the SPCD should include a general statement from the Contractor indicating they have read and will abide by the CSPP – the Contractor's statement shall include the name of the Contractor, title of the project, CSPP approval date, and any reference to supplemental information. For example:

> **I,** *<Name of Contractor's Contract Signee/Company Name>***, have read the HOU PLB Replacement Project CSPP, approved on** *<Date>***, and will abide by it as written and with the following additions as noted:** *<Insert Supplemental Information>*.

Communications Plan

The organizational chart outlines the primary points of contacts and expected flow of communication required throughout the execution of the project, CSPP and SPCD to ensure safe and efficient operations, coordination of construction activities, and planned airfield closures.

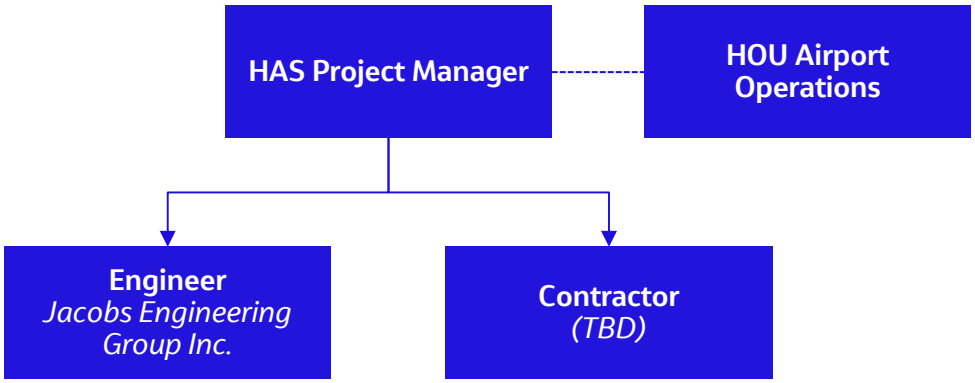


Figure 1 - Organizational Chart

1. Coordination *(Section 2.5)*

A. Meetings Before and During Project

1. **Pre-Construction Meeting.** Prior to the start of any operation on the airport, a pre-construction conference will be held. The purpose of the meeting is to review the work sequence schedule and safety, operational phasing, quality control/quality acceptance, and security procedures. Attendees will include the airport management and operations, program manager, project manager, engineer, tenant airline, and all contractor supervisory personnel. A basic outline of topics to be covered at this meeting include:

    a) Project Overview
    b) Roles and Responsibilities
    c) Communications Plan
    d) Airport Security and Badging
    e) Construction Safety Phasing Plan
    f) Safety Plan Compliance Document
    g) Construction CPM Baseline Schedule
    h) Construction Management and Quality Control Plan
    i) RFIs, Submittals / Shop Drawings, Field Orders
    j) Labor Requirements
    k) Civil Rights Requirement
    l) Submittal of Payment Requests

2. **Construction Progress Meetings.** Construction Progress Meetings will be held on a weekly basis to address the following items:

    a) Operational Safety and Security
    b) NAVAIDs / FAA Facilities
    c) NOTAMs
    d) Quality Control / Quality Assurance
    e) Construction Progress / Schedule / 3-week lookahead
    f) Construction Issues
    g) Administrative Issues

B. **Scope or Schedule Changes.** Changes in the scope or schedule of the project may necessitate revisions to the construction safety phasing plan (CSPP). Revisions to the CSPP may require review and approval by the airport, engineer, and/or FAA.

C. **Provisions for FAA Air Traffic Organization (ATO) Coordination.** Coordination with the FAA ATO will be directed through the HAS Project Manager and HOU Airside Operations. Coordination will be made when scheduling airway facility shutdowns and/or restarts. The contractor shall coordinate with HOU Airside Operations regarding specific requirements

related to shutdowns and/or restarts.

D. **Safety Coordination Briefings.** A Safety Coordination Briefing will be performed with Airside Operations before crews go onto the field and brief on activity, any special concerns (Weather/Special Actives/etc.), and general safety reminders and rules.

2. Phasing *(Section 2.6)*

A. Phase 1 – Gate 28 (Appendix D: G-4.01). Approximately 28 calendar days. Work will include:

1. Disconnect electrical equipment and utilities from existing PLB, GPU, and PCA.
2. Disconnect communication equipment and utilities from existing PLB, GPU, and PCA.
3. Demolition and removal of existing PLB, GPU, and PCA.
4. Installation of new PLB, GPU, and PCA; re-connect to electrical, plumbing and IT/Telecom utilities.

B. Phase 2 – Gate 30 (Appendix D: G-4.02). Approximately 28 calendar days. Work will include:

1. Disconnect electrical equipment and utilities from existing PLB, GPU, and PCA.
2. Disconnect communication equipment and utilities from existing PLB, GPU, and PCA.
3. Demolition and removal of existing PLB, GPU, and PCA.
4. Installation of new PLB, GPU, and PCA; re-connect to electrical, plumbing and IT/Telecom utilities.

C. Phase 3 – Gate 32 (Appendix D: G-4.03). Approximately 28 calendar days. Work will include:

1. Disconnect electrical equipment and utilities from existing PLB, GPU, and PCA.
2. Disconnect communication equipment and utilities from existing PLB, GPU, and PCA.
3. Demolition and removal of existing PLB, GPU, and PCA.
4. Installation of new PLB, GPU, and PCA; re-connect to electrical, plumbing and IT/Telecom utilities.

D. Phase 4 – Gate 31 (Appendix D: G-4.04). Approximately 28 calendar days. Work will include:

1. Disconnect electrical equipment and utilities from existing PLB, GPU, and PCA.
2. Disconnect communication equipment and utilities from existing PLB, GPU, and PCA.
3. Demolition and removal of existing PLB, GPU, and PCA.
4. Installation of new PLB, GPU, and PCA; re-connect to electrical, plumbing and IT/Telecom utilities.

E. Phase 5 – Gate 29 (Appendix D: G-4.05). Approximately 28 calendar days. Work will include:

1. Disconnect electrical equipment and utilities from existing PLB, GPU, and PCA.
2. Disconnect communication equipment and utilities from existing PLB, GPU, and PCA.
3. Demolition and Removal of existing PLB, GPU, and PCA.
4. Installation of new PLB, GPU, and PCA; re-connect to electrical, plumbing and IT/Telecom utilities.
5. Trench Drain Repairs from Project PN 460 will impact work on Gate 29.

3. Areas and Operations Affected by the Construction Activity (*section 2.7*)

Table 1 - Areas Affected by Construction Activity

Phase	Duration	Closure

1	28 Calendar Days	Work Hours:
		• 7AM to 5PM
		• Work Restrictions: 12AM to 5AM
		  ○ Crane Operations
		  ○ Electrical Shutdowns
		Gate Closures:
		• Gate 28
		Runway Closures (During Crane Operations):
		• Runway 4-22 (12AM to 5AM)
		Taxiway Closures (During Runway 4-22 Closures):
		• Taxiway Y between Taxiway Z and Runway 4-22
		NAVAIDs Impacted:
		• None

2	28 Calendar Days	Work Hours:
		• 7AM to 5PM
		• Work Restrictions: 12AM to 5AM
		  ○ Crane Operations
		  ○ Electrical Shutdowns
		Gate Closures:
		• Gate 30
		Runway Closures (During Crane Operations):
		• Runway 4-22 (12AM to 5AM)
		Taxiway Closures (During Runway 4-22 Closures):
		• Taxiway Y between Taxiway Z and Runway 4-22

Phase	Duration	Closure
		NAVAIDs Impacted: • None

3	28 Calendar Days	Work Hours:
		• 7AM to 5PM
		• Work Restrictions: 12AM to 5AM
		  ○ Crane Operations
		  ○ Electrical Shutdowns
		Gate Closures:
		• Gate 32
		Runway Closures (During Crane Operations):
		• Runway 4-22 (12AM to 5AM)
		Taxiway Closures (During Runway 4-22 Closures):
		• Taxiway Y between Taxiway Z and Runway 4-22
		NAVAIDs Impacted:
		• None

4	28 Calendar Days	Work Hours:
		• 7AM to 5PM
		• Work Restrictions: 12AM to 5AM
		  ○ Crane Operations
		  ○ Electrical Shutdowns
		Gate Closures:
		• Gate 31
		Runway Closures (During Crane Operations):
		• Runway 4-22 (12AM to 5AM)
		Taxiway Closures (During Runway 4-22 Closures):
		• Taxiway Y between Taxiway Z and Runway 4-22
		NAVAIDs Impacted:
		• None

5	28 Calendar Days	Work Hours:
		• 7AM to 5PM
		• Work Restrictions: 12AM to 5AM
		  ○ Crane Operations
		  ○ Electrical Shutdowns
		Gate Closures:
		• Gate 29
		Runway Closures (During Crane Operations):

Phase	Duration	Closure
		• Runway 4-22 (12AM to 5AM) Taxiway Closures (During Runway 4-22 Closures): • Taxiway Y between Taxiway Z and Runway 4-22 NAVAIDs Impacted: • None

A. **Work Restrictions.** The following operations shall be limited to the nighttime work hours of 12AM to 5AM: Crane operations and electrical power shutdowns. Runway 4-22 shall be closed when cranes are in operation.

B. **Mitigation of Effects**. Lighted low-profile barricades will be utilized to notify users of gate and taxiway closures, and lighted runway closure devices in place for runway closures as shown, or as required by Airport Operations. Depending on FAA approval, Part 77 penetrations by cranes may be mitigated by marking and lighting the cranes during operation. NOTAMs will be put in place for all closures and shall be coordinated 72 hours in advance with HAS Project Manager, HOU Airport Operations and ATCT. Contractor shall be required to submit a Work Area Notification (WAN) to HOU Airport Operations at least 2 weeks in advance of the planned closures. The link to submit a WAN is provided below. https://hasonbase.houstonairportsystem.net/OnBaseWeb_Prod_WF/UnityForm.aspx?key=UFKey

C. **Taxiway/Taxilane Safety Areas (TSA) and Object Free Areas (TOFA).** Contractor shall not enter the TSA or TOFA of any active taxiway/taxilane without approval from Airside Operations.

D. **Runway Safety Areas (RSA) and Runway Object Free Areas (ROFA).** Contractor shall not enter the RSA or ROFA of any active runway under any circumstances.

E. **Coordination with other Projects**. The Passenger Loading Bridge Replacement Project will overlap with other projects on the airport, including PN770 and PN460. The contractor shall coordinate with other projects. PN770 shall have priority for all scheduling conflicts. PN460 trench drain repairs will impact work on Phase 5 (Gate 29). Contractor shall coordinate between projects to ensure that two gates are not closed at the same time.

Table 2: Taxiway Safety and Object Free Areas

Taxiway	Airplane Design Group	TSA Width	TOFA Width
Y	ADG-III (ADG-IV Modified)	118 feet (124.9 feet)	186 feet (194.8 feet)
Z	ADG-III (ADG-IV Modified)	118 feet (124.9 feet)	186 feet (194.8 feet)
B	ADG-III	118 feet	186 feet
C	ADG-III	118 feet	186 feet
H	ADG-III	118 feet	186 feet
H1	ADG-III	118 feet	186 feet

4. Navigation Aid Protection *(Section 2.8)*

A. The Contractor shall protect taxiway/taxilane edge lighting and guidance signs during construction and hauling activities.

5. Contractor Access *(Section 2.9)*

A. Location of Stockpiles Construction Material.

1. The Contractor shall not utilize more than one staging area at one time unless otherwise approved by the HAS Project Manager in advance of construction.
2. Stockpiles will be allowed in the contractor's dedicated stockpile area.
3. Stockpiles must be a minimum of 500 feet from the runway centerline, 93 feet from any taxiway centerline, and 30 feet from existing security fencing, edge lights and services road edge of pavements.
4. Stockpiles must be prominently marked and lighted during hours of restricted visibility or darkness.
5. Any stockpiles more than 3 inches in heights shall require submission and approval of a 7460.
6. Stockpile materials that becomes a wildlife attractant or a FOD hazard shall be removed or relocated to a location acceptable to the HAS Project Manager and Airport Operations and in accordance with the Contractor's FOD Management Plan.

B. Vehicle and Pedestrian Operations:

1. All personnel and contractor vehicles shall remain within the construction area, along

the designated haul route, or within the limits of the staging, storage, and stockpile areas.

2. All vehicles shall be identified with a flashing/rotating amber light, 3-foot by 3-foot square flag with 1-foot square orange and white checkered board pattern, and with company logos on both sides of the vehicle. Company logos shall be visible up to a distance of 200 feet. Flashing / rotating amber lights shall be in operation during night operations, inclement weather, and low-visibility conditions.
3. All construction site personnel shall always wear high visibility warning garments when working in the project area. Safety garments / vests shall be a minimum of Class II.
4. Access to the job site shall be through the designated security gate and haul routes as shown on the plans.
5. All vehicles accessing the AOA shall be operated by badged personnel or under the escort of badged personnel.
6. No vehicle shall be within the AOA unless identified as described herein, is monitoring appropriate radio frequency, and under the escort of a designated airport operations escort in communication with ATCT when operating in the movement area.
7. All construction vehicles shall be thoroughly inspected prior to entering the AOA and movement areas including safety checks of lights, horns, beacons, flags, and logos as well as checking tires, tail gates, etc. from loose debris, dirt, etc. in accordance with the contractors FOD management plan.
8. It is the intent of the construction drawings to minimize interference to aircraft movement. In all portions of the AOA, the aircraft shall have the right-of-way.
9. During the performance of this project, the airport runways, taxiways, taxilanes, and aircraft parking aprons shall remain in use by aircraft to the maximum extent possible. Contractor's work site shall be controlled to minimize disturbance to the airport operations. Aircraft shall always have the right of way over construction traffic.
10. Construction equipment and vehicles shall not exceed 15 miles per hour within the AOA.
11. Contractor, at its own expense, shall repair any damaged pavements to equal or better condition because of the contractor's traffic and construction activities.

C. There is one (1) access gate, Gate N-80, identified on the Overall Phasing, Staging, Storage, Access and Haul Route plan sheet. The Contractor shall utilize the one (1) access gate to limit crossing active pavements and to minimize interference with aircraft operations. Gate N-80 is the only gate approved for use on this project. No other access gates shall be permitted for accessing the project site unless expressed written consent is provided by the Owner.

D. The contractor shall always keep all gates locked or guarded, except for the brief period required for passage of authorized vehicles and equipment. The contractor must implement procedures in their SPCD to ensure that only authorized personnel and vehicles have access to the AOA and to prohibit "piggybacking" behind authorized vehicles.

E. The contractor shall supply aviation band radios, set to a predetermined frequency, for all vehicles and equipment and to each flagman, and supervisory individuals so that they may monitor ATCT and Airport Operations instructions. All communications with ATCT shall be through the designated airport operations escort.

1. The contractor shall monitor the common traffic advisory frequency.
2. Portable hand-held radios shall be provided to any employees that may be operating outside of their vehicles or equipment.
3. The contractor shall be responsible for maintaining all radios in working order at all time for the duration of the project.
4. Airport Operations will not provide instructions over an aviation band radio as the project will occur outside the movement area.

F. Badging and Escort Requirements

1. All contractor employees, subcontractors, agents, vendors, invitees, etc., requiring access to the construction site shall, in accordance with the airport operations security program, be required to display airport issued identification or be under airport-approved and badged escort personnel. These badges will be identified numerically and issued to individual employees with a permanent record maintained on each individual to whom a badge is issued. In addition, a $55 non-refundable processing fee will be required for each badge. This fee must be paid before a badge is issued. No badge will be issued to any person until a review of the required paperwork by airport security and all requirements are met. Paperwork shall be submitted a minimum of 24 hours before issuance of a badge. The contractor is responsible for personnel attending training and completing security badge applications, which will include air /ground radio, taxiway, and airport familiarization. Estimated time for completion is two (2) hours. Badge applications shall be submitted immediately upon issuance of Notice-to-Proceed and obtained prior to the start of construction.
2. Flaggers must be badged and must have successfully completed the airport badge (SIDA), movement and non-movement training, prior to performing in that capacity on airport property.
3. At the completion of the contract all badges will be returned to the airport. A charge of $50 per badge will be assessed for all unreturned badges. Gate guards and escorts shall be considered under the flagger classification and shall be subject to the same requirements as flaggers.
4. All non-radio equipped contractor vehicles that are required to operate on or across active runways, taxiways, taxilanes, aprons, critical NAVAIDs areas, and runway approach and protection zones, shall do so under the direct control of an HOU airport operations escort vehicle. A maximum of 4 vehicles per escort will be permitted. 2 HOU Airport Operations escorts shall be required for convoys greater than 4 contractor vehicles. Airport Operations (Airside) will not be providing escort in the non-movement/ramp area. This shall be the contractors responsibility.

G. 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.

6. Wildlife Management *(Section 2.10)*

A. **Trash.** The construction area shall be continuously monitored for trash and any trash shall be thrown away immediately. Food scraps shall be disposed of in a closed container.

B. **Standing Water.** Standing water shall be removed from the construction site within 24 hours.

C. **Tall Grass.** The Contractor shall be responsible for maintaining the staging area and parking areas free from tall grass. The Contractor shall restore the staging area to equal or better conditions including Turf Reestablishment. The seed mixture used for turf reestablishment shall consist of 60% Bermuda, 20% Kentucky Bluegrass, and 20% Perennial Rye grasses. Millet seed shall NOT be used. Mandatory coordination shall be required with the Airport Qualified Wildlife Biologist.

D. **Fencing and Gates.** The contractor shall immediately report any damage to gates or fences to the airport. The contractor shall be responsible for repairs to any gates or fences caused by negligence by the contractor.

E. **Disruption of Wildlife Habitat.** In the event of a wildlife encounter within the AOA, the contractor shall immediately contact HOU Airport Operations.

F. **Feeding of Wildlife.** Feeding of wildlife is strictly prohibited on the airport, including placement of food or other attractants.

7. Foreign Object Debris *(Section 2.11)*

A. The contractor will continuously look for any signs of FOD and remove it immediately. See section 10 Inspection Requirements.

B. The contractor shall sweep/vacuum pavements adjacent to work areas and access/haul routes continuously to keep pavement free of loose debris at all times. All closed pavement shall be cleaned to all debris and inspected for FOD prior to opening.

C. Two fully-functioning vacuum sweepers shall be maintained on site at all times construction operations are under way.

8. Hazardous Material Management *(Section 2.12)*

A. Ground Vehicle Fueling. If ground vehicle fueling occurs within the construction area or staging area, fuel tanks shall not be topped off and absorbent material shall be readily available for small spills. Contractor shall provide spill containment resources in accordance with the SPCD and local, state and federal laws. On airport fueling should be done in accordance with HAS regulations/codes, and as approved with coordinated sign off from the local jurisdiction (Fire Marshal).

B. Fuel spills or leaks shall be cleaned up immediately. Fuel spills on airport property should follow HAS procedures, which requires immediate notification and response to HAS.

C. The encounter of hazardous material is not anticipated, but if encountered, the contractor shall notify the HAS Project Manager and HOU Airport Operations immediately of any potentially hazardous material.

D. HOU Airport Operations shall be notified immediately of any HAZMAT situation.

9. Notification of Construction Activities *(Section 2.13)*

A. **List of Responsible Representatives.** The contractor shall provide a list of all points of contact responsible for project execution. The list shall contain names, telephone numbers, and alternate contacts as required. Please see Table 3 for the list of point of contacts involved during construction. Contractor shall follow the organization flow chart provided in this CSPP, or as amended during construction. All communications shall be directed through the HAS Project Manager.

Table 3: Points of Contact

Organization	Role	Point of Contact	Contact Info.
Houston Airport System	HAS Project Manager	Roger Herbert	Roger.Hebert@houstontx.gov (832) 244-3241
William P. Hobby Airport	HOU Project Manager	Connor Humphries	Connor.Humphries@houstontx.gov (713) 641-7735
William P. Hobby Airport	Construction Airspace Coordinator (7460 Notices of Construction)	Juan Pedracova	Juan.Pedracova@houstontx.gov (281) 230-8915

Organization	Role	Point of Contact	Contact Info.
William P. Hobby Airport	Airport Operations Center	AOC	(713) 845-6555
William P. Hobby Airport	Ops 2	Ops 2	(713) 410-1978
William P. Hobby Airport	Ops 3	Ops 3	(713) 417-5710
Jacobs Engineering Group Inc.	Project Manager	Josh Wussick	josh.wussick@jacobs.com (714) 319-4602
Federal Aviation Administration	FAA HOU SSC Manager	Edward Simpson	Edward.Simpon@faa.gov (713) 847-1430
Federal Aviation Administration	FAA, ATO Lead Planner, NAS	Moni Jacob	Moni.Jacob@faa.gov

B. **Notices to Airmen (NOTAMS).** Airside Operations shall initiate NOTAMS related to construction activity as appropriate. The contractor shall coordinate closures a minimum of 72 hours in advance to provide for timely initiation of NOTAMs. Contractor shall be required to submit a Work Area Notification (WAN) to HOU Airport Operations at least 2 weeks in advance of the planned closures. The link to submit a WAN is provided below.
https://hasonbase.houstonairportsystem.net/OnBaseWeb_Prod_WF/UnityForm.aspx?key=UFKey

C. **Emergency Notification Procedures.** In a life-threatening emergency, the contractor shall call 911 immediately to initiate response. Notification to the Airport Operations Center (AOC - (713) 845-6555) shall occur immediately after calling 911 in the event of a life-threatening emergency. All non-life-threatening emergencies shall be reported to AOC to ensure immediate ARFF response. Notification to Airside Operations, Landside Operations (if impacted), and the HAS Project Manager shall occur after other parties are contacted.

D. **Coordination with Aircraft Rescue and Fire Fighting (ARFF).** Contractor shall coordinate any construction activities requiring torching, welding, burning, etc. through the HAS Project Manager for approval by the ARFF Fire Chief.

1. Any welding activities on this project shall follow local codes and require a 1-hour fire watch in accordance with Airport, FAA and ARFF safety rules, regulations, and procedures. Any deactivation of water lines or hydrants, rerouting of access routes, or use of hazardous materials on the airfield shall not occur. However, if required, the activities shall be coordinated through the HAS Project Manager and approved by the airport's ARFF personnel prior to execution of such activities.
2. Any affected ARFF emergency routes or alert locations shall be coordinated in advance with HAS Project Manager, HOU Airport Operations and ARFF. Contractor shall always provide a minimum 20-foot space between barricades along the edge of the work area closed to aircraft operations in support of maintaining ARFF access during construction.
3. All construction activities shall be coordinated a minimum of 72 hours in advance of planned work.

E. **Notification to the FAA.** The contractor shall ensure, through the HAS Project Manager that an aeronautical study (7460) is performed on all construction activities (stockpiles, equipment, temporary and permanent structures) and appropriate FAA regional or district offices prior to any construction activities.

1. No construction activities shall commence on this project without FAA approval of the CSPP, submission and approval of 7460s, and submission and approval of the Contractor's SPCD.
2. Significant changes to the CSPP during construction may require resubmission of 7460s and revisions to the Contractor's SPCD. Any significant changes to the CSPP will require resubmittal to FAA for approval.

10. Inspection Requirements *(Section 2.14)*

A. **Daily Inspections.** The contractor shall conduct daily inspections to ensure conformance with the CSPP. Contractor shall refer to and utilize Appendix D, Construction Project Daily Safety Inspection Checklist, of FAA AC 150/5370-2G included with and attached to this CSPP as Appendix C.

1. All personal shall be checked daily for proper identification and airport badges, safety vests, hard hats, foot, ear and eye protection, radio, and cellular communication devices.
2. All vehicles shall be checked daily for proper lighting, signage, markings, flagging, and ensure normal operation including working horns, lights, etc. All vehicles shall be inspected in accordance with the contractor's FOD management plan and as described in this CSPP.
3. All barricades shall be checked by the contractor for signs of wear and tear daily and shall be repainted when deemed appropriate by HOU Airport Operations. All barricades shall be water filled and checked daily. The condition of lighting units shall be checked daily. All light fixtures shall be verified in operating condition and good working order

by the contractor daily, before the contractor starts and ceases operations for the day and during construction activities.

4. All barricades shall be moved at least once each week and the contractor shall sweep accumulated debris and remove and dispose of the debris offsite at an approved disposal facility in accordance with the contractor's FOD management plan. The barricades shall then be replaced at the appropriate location.
5. All service road, apron, taxilane, and taxiway pavements used for hauling and transporting operations, active or temporarily closed, shall be cleaned continuously, and prior to re-opening closed pavements, by the contractor using approved vacuum trucks.
6. In the event of forecasted severe weather (i.e. thunderstorms, tropical storms, or hurricanes) contractor shall inspect all active work areas to ensure that all work, temporary facilities, storage areas, and stockpiles are prepared and secured for high winds and/or flooding. A post event inspection shall be made to assess damage. Contractor will mobilize immediately following a storm when safe to remove any debris and/or hazards to aircraft or vehicles.

B. **Final Inspections.** Closed areas shall be inspected by the contractor and HOU Airport Operations prior to opening to aircraft operations.

1. All dust, dirt and debris shall be removed from pavements in accordance with the contractor's FOD management plan. All service road, apron, taxilane, taxiway and runway pavements used for hauling and transporting operations, active or temporarily closed, shall be cleaned continuously, and prior to re-opening closed pavements, by the contractor using approved vacuum trucks.
2. All taxilane, taxiway and runway safety and object free areas shall be free of debris and excavations greater than of 3-inches in depth and grades in excess of 5% corrected prior to re-opening any closed pavements.

11. Underground Utilities *(Section 2.15)*

A. Underground utilities otherwise not shown on the plans are not likely to be encountered during construction, however the contractor shall verify, locate and mark all utility lines prior to the start of work.

B. Any utilities encountered not shown on the plans shall be reported by the contractor to the HAS Project Manager and HOU Airport Operations immediately such that the utility can be identified, marked, logged and filed for later as-built and updates to the airport's utility master plan.

C. Any utilities cut or damaged will be at the contractor's cost. Contractor shall immediately notify Airside Operations if this occurs.

D. The primary utility owners/operators are:

1. Houston Airport System: Storm drainage, airfield lighting, communications cables.
2. City of Houston: Water and wastewater lines.
3. FAA: NAVAIDs power, control, and communications cables.
4. Shell Pipeline: Underground petroleum pipeline.

12. Penalties *(Section 2.16)*

A. Any monetary penalties assessed due to actions by the contractor personnel will be the responsibility of the contractor. Refer to Appendix F: Tenant Violations (OI 05-03).

B. Penalties for non-compliance with airport safety procedures may include but are not limited to a warning, removal of driving privileges or loss of access to the AOA.

C. Penalties for violation of the safety plan are summarized in Appendix F – *Houston Airport System, Tenant Violations – Offenses, Charging Instrument, Due Process Provisions*.

13. Special Conditions *(Section 2.17)*

A. In the event of an emergency (aircraft accident, security breach, etc.), the contractor shall immediately suspend all construction activities and vacate the construction and staging area as required by the airport.

B. Work impacting Airlines at Gates 28, 29, 30, 31, and 32 may not proceed during the period from the Friday before the Thanksgiving Holiday through January 3, or any other travel period as notified by Airside Operations, due operational impacts during peak holiday travel period

C. In the event of severe weather (lighting or thunderstorms) or a forecasted tropical storm or hurricane, the Contractor shall implement the inclement weather and hurricane protection management plan including ceasing all construction activities and securing all materials and equipment. The Contractor's SPCD shall clearly outline and describe specific actions and measures to be implemented in the event of a forecasted weather event. Refer to Section 17. Other Limitations on Construction.

14. Runway and Taxiway Visual Aids *(Section 2.18)*

A. **General.** The closure of airfield pavements shall be clearly delineated by low profile barricades and lighted runway closure devices, as shown on the plans, to provide visual notification of closed pavements and to create a barrier between the aircraft and vehicle movement areas and construction areas.

B. **Lockout/Tagout.** Any electrical work shall be performed in accordance with the contractor's approved logout / tagout procedures provided in the SPCD and shall be coordinated 72 hours in advance with HAS Project Manager, Airport Operations, ATCT and Airport Electrical and Maintenance personnel. Electrical shutdowns shall be

limited to the restricted work hours of 12am to 5am.

C. **Markings.** Temporary markings are not anticipated to be required. Any markings removed or damaged as a result of the contractors' activities shall be restored to their original condition at the expense of the contractor.

D. **Lighting and Visual NAVAIDS.** The Contractor shall protect all runway, taxiway, taxilane, and apron edge lighting and guidance signs, and remain clear of the Glide Slope, ASOS, RTR-A, and RTR-D critical areas during construction.

E. **Signage.** Temporary airfield guidance signage, other than construction access and haul route signage, is not anticipated to be required for this project. Temporary orange construction signs with black lettering reading "CONSTRUCTION AHEAD" will be evaluated on a case-by-case basis by HAS and HOU Airport Operations. Signs will be located outside the taxiway safety limits and ahead of construction areas, so pilots can take timely action. Mandatory signs will take precedence over orange construction signs.

15. Markings and Signage for Access Routes *(Section 2.19)*

A. Access to the job site shall be through the designated gates and haul routes as shown the plans.

1. A total of one (1) access gate is identified from which the Contractor can enter the airport. Access gates to specific work areas shall be strictly adhered to minimize crossing active airfield pavements.
2. The Contractor may utilize more than one access gate at one time, with prior written authorization from the HAS Project Manager, to limit crossing active pavements, minimize interference with aircraft operations, and facilitate construction in accordance with the individual work areas, approved schedule, phasing and sequence of construction operations, and equipment maneuverability limitations.

B. Sufficient barricades shall be placed end-to-end to create a barrier between the aircraft and vehicle movement areas and construction areas. A minimum 20-foot space along the edge of pavement / shoulder shall be provided to maintain ARFF access to the airfield and closed pavement areas.

16. Hazard Marking, Lighting, and Signage *(Sections 2.20 & 2.21)*

A. Areas Impacted by Construction Operations.

1. Sufficient water-filled low-profile barricades with red flashing solar powered lighting spaced 10 feet apart shall be installed to delineate the work site. This is intended to

prevent aircraft from entering the work site and to prevent construction personnel from entering areas open to aircraft.

2. At a minimum, hazard markings and lighting shall be provided to identify open excavation and stockpiled material.

B. All vehicles and equipment shall be identified flashing/rotating amber light beacon, 3 foot by 3-foot square flag with 1-foot square orange and white checkered board pattern, and with company logos on both sides of the vehicle visible within 200 feet. Flashing / rotating amber lights shall be in operation during night operations, inclement weather and low-visibility conditions.

C. All tall equipment more than 12 feet and cranes shall be equipped with red obstruction lighting, in addition to the orange and white checked flags. All construction equipment, regardless of height, shall require submission and approval of a 7460. All cranes shall be lowered when not in operation. Crane operations shall be limited during the restricted work hours of 12:00AM to 5:00AM. Refer to Appendix H: 7460.

D. All construction site personnel shall always wear high visibility warning garments (min. Class II) when working in the project area.

E. Lighting equipment shall be provided to adequately illuminate the work area if the construction is to be performed during nighttime hours. Light towers shall be positioned and adjusted to aim away from ATCT cabs and active runways to prevent blinding effects. Nighttime hours of operation shall be defined as 1 hour before official sunset and 1 hour after official sunrise.

17. Work Zone Lighting for Nighttime Construction

A. PLB delivery/removal and crane operations will be conducted during the nighttime work hours of 12:00AM to 5:00AM. Lighting will be provided by mounted lights aimed in a downward direction. Airside Operations will approve the set up in order to ensure no impact to Air Traffic Control Tower or aircraft.

18. Protection Runway and Taxiway Areas, Zones and Surfaces *(Section 2.22)*

A. **Runway Safety Area (RSA).** Work within the RSA shall require closure of the runway. No work shall be conducted within a Runway Safety Area. Elevated Lighted Runway Closure X's shall be placed at each end of the runway, on top of the runway designations, or as shown on the plans, when the runway is closed to aircraft operations. Low-Profile Barricades and Taxiway Closure Markers shall be placed at the holding position on each taxiway connector that leads to an active runway when the taxiway is closed. No work shall be performed in the RSA when the runway is opened to aircraft operations. No equipment or stockpiles shall be permitted in the RSA when the runway is active and opened to aircraft

operations.

B. **Runway Object Free Area (ROFA).** The work site shall be delineated by barricades or other means approved by the airport. The contractor personnel shall be limited to the identified work areas. Work activities within the ROFA shall be limited and coordinated 72 hours in advance with HAS Project Manager, HOU Airport Operations and ATCT. No equipment or stockpiles shall be permitted in the ROFA when the runway is active and opened to aircraft operations.

C. **Taxiway Safety Area (TSA).** The work site adjacent to the TSA shall be delineated by barricades or other means approved by the airport. The contractor personnel shall be limited to the identified work areas. Work within the TSA shall require closure of the taxiway. No work shall be performed within the TSA when the taxiway is active and opened to aircraft operations. No equipment or stockpiles shall be permitted in the TSA when the taxiway is active and opened to aircraft operations.

D. **Taxiway Object Free Area (TOFA).** The work site adjacent to the TOFA shall be delineated by barricades or other means approved by the airport. The contractor personnel shall be limited to the identified work areas. Work activities within the TOFA shall be limited and coordinated 72 hours in advance with HAS Project Manager, HOU Airport Operations and ATCT. No work shall be performed within the TOFA when the taxiway is active and opened to aircraft operations.

E. **Obstacle Free Zone (OFZ).** The contractor staging areas, haul routes, and work sites are outside the OFZ. Haul routes shall be coordinated in advance with HAS Project Manager, HOU Airport Operations and ATCT. The contractor personnel shall be limited to the identified work areas and shall not cross through the OFZ unless under escort by HOU Airport Operations and approval of ATCT. No penetrations of the OFZ shall be permitted when the runway is active and opened to aircraft operations. In the event construction activities are required within the OFZ, contractor shall coordinate closure of the runway with HAS Project Manager, HOU Airport Operations and ATCT a minimum of 72 hours in advance of planned construction activities.

F. **Approach and Departure Surfaces.** The contractor staging area, haul route, and work site are outside the approach and departure surfaces. No work shall be permitted with the approach or departure surfaces when the runway is active and opened to aircraft operations. No penetrations of the approach and departure surfaces shall be permitted. In the event construction activities are required within the approach / departure surfaces, contractor shall coordinate closure of the runway with HAS Project Manager, HOU Airport Operations and ATCT a minimum of 72 hours in advance of planned construction activities.

19. Other Limitations on Construction *(Section 2.23)*

A. Prohibitions

1. All construction equipment requires the submission of a 7460.
2. The use of open flames, torching or welding is not allowed unless approved in advance by ARFF Fire Chief.
3. The use of explosives is not allowed.

B. Restrictions

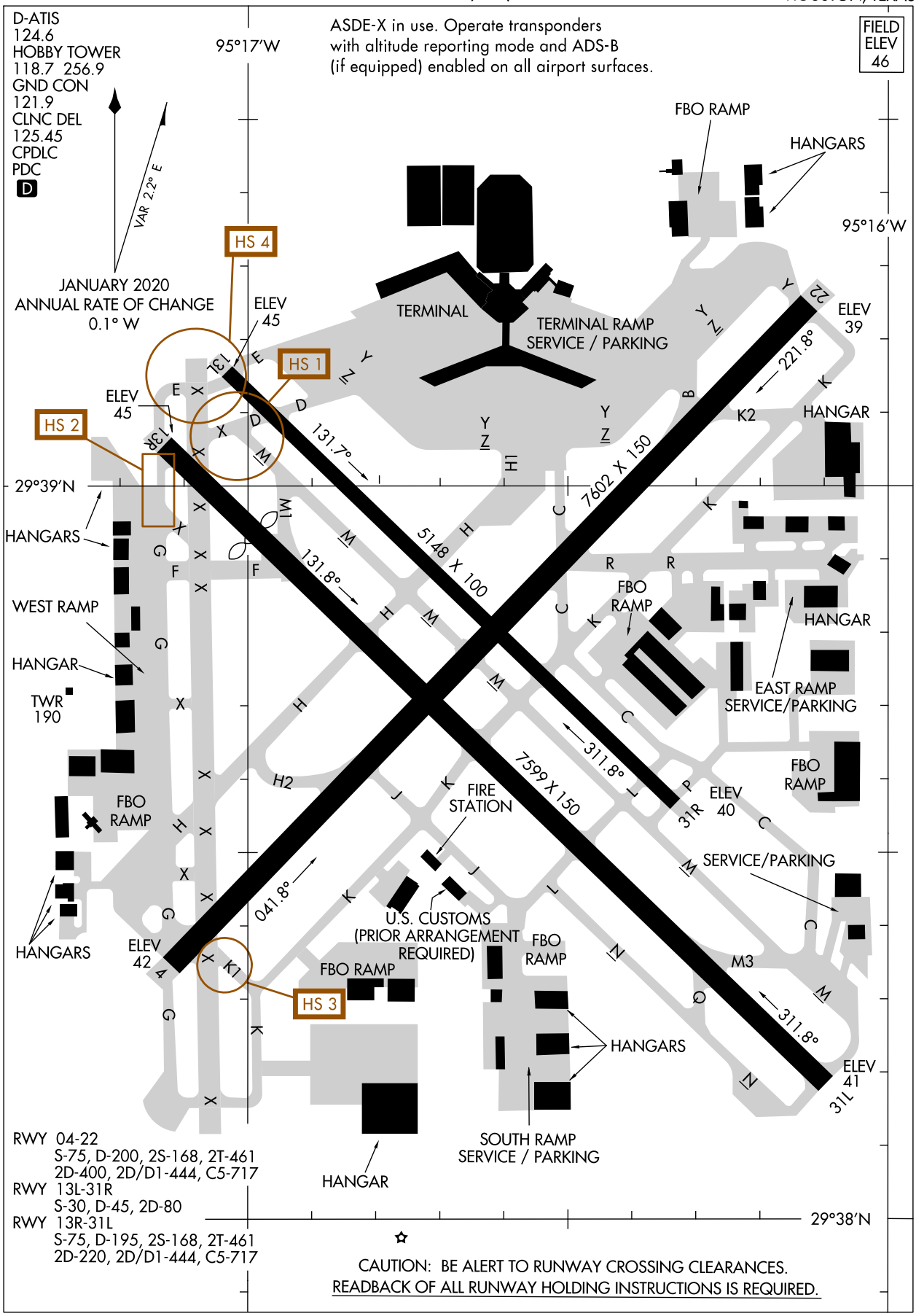
1. All construction operations, hauling, and transporting across active runways, taxiways, and taxilanes shall be under control of a designated HOU Airport Operations escort. Airport Operations will be the point of contact. Airport Operations will not be providing escorts for movement within Ramps or Non-Movement Areas.
2. All construction activities shall be halted in the event weather conditions require SMGCS operations. Construction activity will be permitted to resume at such time weather conditions are favorable for normal airport operations. No closures shall happen between the months of October and April during SMGCS operations. Refer to Section 12. Special Conditions.

Appendix A. Airport Diagram & Project Exhibit

AIRPORT DIAGRAM

AL-198 (FAA)

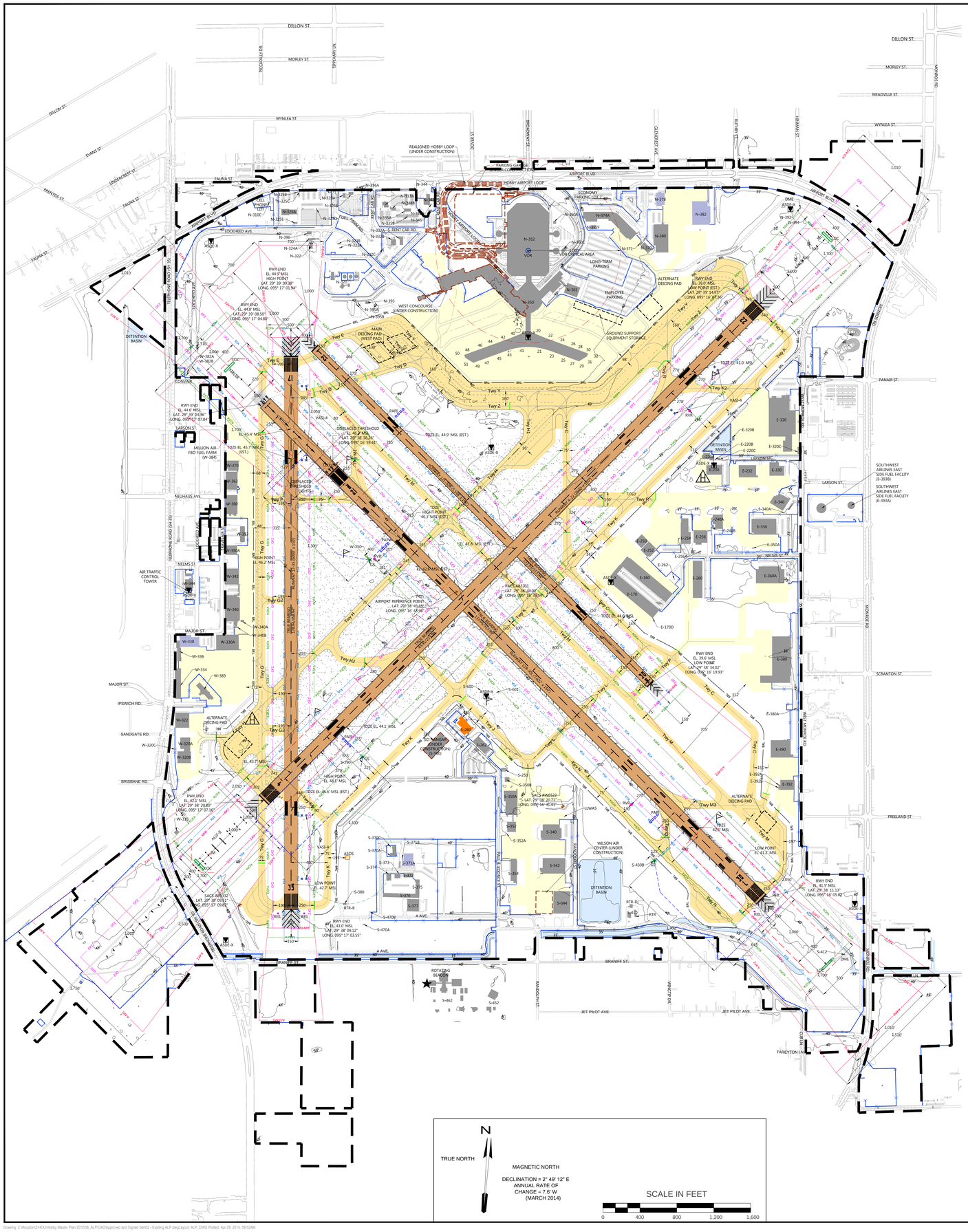
WILLIAM P HOBBY (HOU)
HOUSTON, TEXAS



SC-5, 02 DEC 2021 to 30 DEC 2021

SC-5, 02 DEC 2021 to 30 DEC 2021

Appendix B. 2015 Airport Layout Plan



AIRPORT BUILDING DATA TABLE

NEW NO.	OLD NO.	DESCRIPTION	ROOF ELEV.
E-160	ER-3	HAWKER BEECHCRAFT MAINTENANCE FACILITY	66.7'
E-170	ER-2	SIGNATURE FLIGHT SUPPORT FBO AIRCRAFT HANGAR	65.4'
E-170D	NONE	SIGNATURE FLIGHT SUPPORT FBO STORAGE	44.6'
E-220A	NONE	HOUSTON POLICE DEPARTMENT AIR SUPPORT HANGAR	60.2'
E-220B	NONE	HOUSTON POLICE DEPARTMENT AIR SUPPORT STORAGE	46.2'
E-220C	ER-14	HOUSTON POLICE DEPARTMENT AIR SUPPORT STORAGE	50.1'
E-230	ER-13	HOUSTON POLICE DEPARTMENT AIR SUPPORT HANGAR/OFFICE	63.2'
E-232	ER-12	WING AVIATION AIRCRAFT CHARTER HANGAR/OFFICE	84.3'
E-240A	ER-8	ABCO HANGAR	69.0'
E-240B	NONE	ABCO STORAGE	68.9'
E-250	ER-4	SIGNATURE FLIGHT SUPPORT FBO HANGAR	61.4'
E-252	ER-5	SIGNATURE FLIGHT SUPPORT FBO HANGAR/OFFICE	61.4'
E-254	ER-6	SIGNATURE FLIGHT SUPPORT FBO HANGAR	60.7'
E-256	ER-7	STARFLITE HANGAR/OFFICE	74.6'
E-256A	NONE	STARFLITE STORAGE	41.4
E-260	ER-1	SIGNATURE FLIGHT SUPPORT FBO HANGAR	73.2
E-262	NONE	SIGNATURE FLIGHT SUPPORT FBO FUEL FACILITY	43.8'
E-320	ER-15	SOUTHWEST AIRLINES AIRCRAFT MAINTENANCE HANGAR	93.4'
E-320B	NONE	SOUTHWEST AIRLINES AIRCRAFT MAINTENANCE STORAGE	46.4
E-320C	ER-15	SOUTHWEST AIRLINES AIRCRAFT MAINTENANCE STORAGE	45.5'
E-330	ER-11	STARFLITE HANGAR/OFFICE	76.4'
E-340	ER-10	F2000 HANGAR/OFFICE	73.7'
E-340A	NONE	F2000 STORAGE	49.2'
E-350	ER-9	SPECTRA ENERGY SERVICES HANGAR/OFFICE	79.0'
E-350A	NONE	SPECTRA ENERGY SERVICES FUEL FACILITY	40.5'
E-360A	NONE	FREEMON AVIATION HANGAR/OFFICE	80.8'
E-380	NONE	JET AVIATION FBO HANGAR/OFFICE	87.8'
E-380A	NONE	JET AVIATION FBO GUARD POST	45.0'
E-390	SER-2	JET AVIATION FBO HANGAR	80.8'
E-392	SER-1	JET AVIATION FBO HANGAR	63.3'
E-392A	SER-1	JET AVIATION FBO STORAGE	51.1'
E-392B	SER-1	JET AVIATION FBO STORAGE	49.5'
E-393A	ER-16	SOUTHWEST AIRLINES EAST SIDE FUEL FACILITY	77.7'
E-393B	ER-17	SOUTHWEST AIRLINES EAST SIDE FUEL FACILITY	75.7'
N-110C	NONE	HAS ALERT RESPONSE POINT	51.5'
N-320	NR-14	SOUTHWEST AIRLINES FUEL FARM	60.6'
N-322	NR-4	NORTH ELECTRICAL VAULT	57.7'
N-323A	NONE	HUDSON FUEL COMPANY FUEL PUMP	50.8'
N-323B	NONE	HUDSON FUEL COMPANY FUEL PUMP-ELECTRICAL VAULT	52.8'
N-324A	NR-3	TRASH COMPACTOR	61.8'
N-325A	NONE	NATIONAL RENTAL MAINTENANCE FACILITY	63.1'
N-325B	NONE	NATIONAL RENTAL BOOTH	55.0'
N-325C	NONE	NATIONAL RENTAL BOOTH	54.2'
N-325D	NONE	NATIONAL RENTAL BOOTH	53.8'
N-325E	NONE	NATIONAL RENTAL MAINTENANCE FACILITY	57.5'
N-326A	NONE	TAXI CAB BREAK ROOM	57.1'
N-326B	NONE	TAXI CAB FUELING STATION	52.8'
N-332A	NONE	BUDGET RENTAL CAR SERVICE FACILITY	61.8'
N-332B	NONE	BUDGET RENTAL CAR SERVICE FACILITY	61.6'
N-332C	NONE	BUDGET RENTAL CAR PICK UP CANOPY	54.8'
N-333A	NONE	AVIS RENTAL CAR ADMINISTRATION FACILITY	61.3'
N-333B	NONE	AVIS RENTAL CAR SERVICE FACILITY	59.4'
N-335A	NONE	AVIS RENTAL CAR SERVICE FACILITY	56.8'
N-335B	NONE	AVIS RENTAL CAR SERVICE FACILITY	53.7'
N-336A	NONE	TAXI CAB STAGING AREA OFFICE	50.5'
N-342	NONE	CITY OF HOUSTON FIRE STATION NO. 36	60.1'
N-342A	NONE	CITY OF HOUSTON FIRE STATION NO. 36	52.4'
N-344	NONE	ELECTRICAL SERVICE ENTRY BUILDING	57.0'
N-346	NONE	COMMUNICATION BUILDING FOR ADJACENT CELL TOWER	52.2'
N-350	NR-8	TERMINAL BUILDING	88.0'
N-352	NONE	PARKING GARAGE	88.8'
N-360A	NONE	PARKING TOLL BOOTH	52.9'
N-360C	NONE	COOLING TOWERS	66.1'
N-361	NONE	BAGGAGE SORTATION FACILITY	65.6'
N-370	NR-10	AIRPORT STORAGE FACILITY (TO BE DEMO)	56.0'
N-371	NONE	TRASH COMPACTOR	59.4'
N-372F	NONE	AIRLINE CARGO & SOUTHWEST AIRLINES PROVISIONING FACILITY	53.4'
N-374A	NR-9	AIRLINE CARGO & SOUTHWEST AIRLINES PROVISIONING FACILITY	56.5'
N-378	NR-12	ATLANTIC AVIATION FBO TERMINAL (TO BE DEMO)	62.3'
N-380	NR-11	ATLANTIC AVIATION FBO HANGAR/OFFICE	78.3'
N-382	NR-13	ATLANTIC AVIATION FBO HANGAR/OFFICE (TO BE DEMO)	72.7'
N-392	NONE	DISTANCE MEASURING EQUIPMENT SHELTER	43.9'
N-393	NONE	INSPECTION STATION	53.4'
N-394	NONE	RUNWAY 4 LOCALIZER SHELTER	43.4'
N-395A	NONE	AIRPORT DIESEL FUEL STORAGE TANK	51.0'
N-395B	NONE	AIRPORT GLYCOL STORAGE TANK	50.1'
N-396	NONE	AIRPORT WASHRACK	70.9'
S-250	SR-3	SOUTH ELECTRICAL VAULT	51.9'
S-260	SR-1	AIRPORT RESCUE & FIREFIGHTING STATION 81	62.0'
S-262	SR-2	FAA/PDC-CONSTRUCTION/US CUSTOMS & HAS ADMIN FACILITIES	67.5'
S-290	NONE	RUNWAY 4 GLIDE SLOPE SHELTER	50.9'
S-340	SR-10	WILSON AIR CENTER FBO HANGAR/OFFICE	85.6'
S-342	SR-9	WILSON AIR CENTER FBO HANGAR/OFFICE	85.1'
S-344	SR-8	WILSON AIR CENTER FBO HANGAR/OFFICE	83.8'
S-350A	NONE	HCC SERVICES HANGAR/OFFICE	82.6'
S-350B	NONE	HCC SERVICES STORAGE	53.3'
S-352	SR-5	CENTRAL HELICOPTER SERVICES HANGAR/OFFICE	52.5'
S-352A	NONE	CENTRAL HELICOPTER SERVICES STORAGE	51.5'
S-354	SR-6	WILSON AIR CENTER FBO HANGAR/OFFICE	78.0'
S-370A	SR-13	HOUSTON POLICE DEPARTMENT DOG KENNEL & NARCOTICS	54.4'
S-370C	NONE	HOUSTON POLICE DEPARTMENT DOG KENNEL STORAGE	56.7'
S-371A	SR-14	AIRFIELD & GROUNDS OFFICE (TO BE DEMO)	60.1'
S-371B	NONE	AIRFIELD & GROUNDS STORAGE (TO BE DEMO)	58.6'
S-372	SR-17	AIRFIELD & GROUNDS REPAIR SHOP	62.7'
S-373	SR-16	AIRFIELD & GROUNDS TOOLS	59.8'
S-374	SR-15	AIRFIELD & GROUNDS WAREHOUSE	60.1'
S-375	SR-20	AIRFIELD & GROUNDS PAINT SHOP	58.7'
S-376	SR-21	AIRFIELD & GROUNDS COVERED PARKING	59.1'
S-377	SR-22	ELECTRICAL BUILDING-AVIATION	64.5'
S-380	SR-18	FAA REMOTE TRANSMITTER/RECEIVER B SHELTER	53.0'
S-412	NONE	RUNWAY 12R LOCALIZER & DME SHELTER	48.4'
S-430	SR-19	FAA REMOTE TRANSMITTER/RECEIVER D SHELTER	61.6'
S-430B	SR-19	RUNWAY 30L GLIDE SLOPE SHELTER	49.1'
S-452	NONE	HOUSTON FIRE DEPARTMENT VAL JAHNKE TRAINING FACILITY	70.6'
S-462	NONE	HOUSTON FIRE DEPARTMENT VAL JAHNKE TRAINING FACILITY	119.8'
S-470A	SR-23	AIRPORT VEHICLE FUELING STATION	58.7'
S-470B	NONE	FIBER OPTIC BUILDING	49.0'
S-500	NONE	SCI HANGAR (UNDER CONSTRUCTION)	79.3'
S-600	NONE	FAA CENTERFIELD WIND MASS ANTENNA (NOT USED)	60.8'
S-601	NONE	FAA AIR MAST ANTENNA (NOT USED)	74.1'
W-250	NONE	RUNWAY 12R GLIDE SLOPE SHELTER	53.5'
W-310	NONE	RUNWAY 4 ALS & RUNWAY 22 LOCALIZER SHELTER	58.3'
W-320A	WR-23	MILLION AIR FBO HANGAR	81.0'
W-320B	WR-24	MILLION AIR FBO HANGAR	81.0'
W-320C	NONE	MILLION AIR FBO GUARD POST	51.3'
W-322	WR-22	MILLION AIR FBO HANGAR/OFFICE	84.4'
W-330A	WR-13	MILLION AIR FBO HANGAR/OFFICE	86.8'
W-334	WR-16	MILLION AIR FBO HANGAR/OFFICE	67.1'
W-336	WR-15	MILLION AIR FBO HANGAR/OFFICE	87.8'
W-338	WR-14	MILLION AIR FBO HANGAR/OFFICE (TO BE DEMO)	75.3'
W-340	WR-12	UNITED AIRLINES MAINTENANCE HANGAR 6	93.4'
W-340A	WR-12	UNITED AIRLINES MAINTENANCE HANGAR 6 STORAGE	78.5'
W-340B	WR-12	UNITED AIRLINES MAINTENANCE HANGAR 6 STORAGE	78.5'
W-342	WR-11	UNITED AIRLINES MAINTENANCE HANGAR 7	85.1'
W-344	WR-7	AIR TRAFFIC CONTROL TOWER COMPLEX	187.9'
W-350A	WR-10	UNITED AIRLINES STORAGE	57.3'
W-352	WR-9	HOUSTON AERONAUTICAL HERITAGE SOCIETY(AIRPORT MUSEUM)	121.3'
W-360	WR-6	SUMMIT SEAFOOD	82.2'
W-362	WR-5	MILLION AIR FBO HANGAR	72.9'
W-370	WR-4	HOUSTON AERONAUTICAL HERITAGE SOCIETY HANGAR	63.4'
W-382A	NONE	RUNWAY 30L LOCALIZER SHELTER	51.7'
W-382B	NONE	RUNWAY 12R ALS SHELTER	49.1'
W-383	NONE	MILLION AIR FBO TERMINAL	90.0'
W-384	NONE	MILLION AIR FBO FUEL FARM (N OF W-370)	54.8'

LEGEND

- RUNWAY PAVEMENT
- TAXIWAY PAVEMENT
- APRON PAVEMENT
- BUILDING
- AIRCRAFT RESCUE & FIRE FIGHTING (ARFF)
- DETENTION BASIN/DRAINAGE DITCH
- FACILITY TO BE DEMOLISHED
- FACILITY UNDER CONSTRUCTION
- EXISTING AIRPORT PROPERTY LINE
- FENCE (8' AGL)
- APPROACH RUNWAY PROTECTION ZONE (A-RPZ)
- DEPARTURE RUNWAY PROTECTION ZONE (D-RPZ)
- RUNWAY SAFETY AREA (RSA)
- RUNWAY OBSTACLE FREE ZONE (OFZ)
- PRECISION RUNWAY OBSTACLE FREE ZONE (POFZ)
- RUNWAY OBJECT FREE AREA (ROFA)
- BUILDING RESTRICTION LINE (BRL)
- LOCALIZER CRITICAL AREA
- GLIDESLOPE CRITICAL AREA
- ASOS CRITICAL AREA
- HOLD BAR
- ILS CRITICAL AREA HOLD BAR
- RUNWAY VISIBILITY ZONE (RVZ)
- CONTOUR ELEVATION (FEET)
- WIND CONE
- HELIPAD
- ROTATING BEACON
- ASDE-X ANTENNA

Notes:
1. All coordinates reference the North American Datum 1983 (NAD 83).
2. All elevations reference the North American Vertical Datum 1988 (NAVD 88).

RICONDO & ASSOCIATES

REVISIONS

NO.	DATE	BY	DESCRIPTION	APP'D	NO.

WILLIAM P. HOBBY AIRPORT
Houston, Texas

EXISTING AIRPORT LAYOUT PLAN

HOUSTON AIRPORTS

APPROVED BY:
CITY OF HOUSTON
DEPARTMENT OF AVIATION
DATE 3/25/15 — DIRECTOR OF AVIATION

APPROVED BY:
CITY OF HOUSTON
DEPARTMENT OF AVIATION
DATE 3/23/15 — PLANNING MANAGER

APPROVED BY:
FEDERAL AVIATION ADMINISTRATION
SOUTHWEST REGION

- ☐ ALP APPROVED
- ☒ ALP APPROVED - SUBJECT TO CONDITIONS/COMMENTS IN LETTER DATED 4/13/2015
- ☒ AERONAUTICAL STUDY NO. 2015-ASW-363-NRA
- ☐ DISTRIBUTION: FTW FPO (3), ASW-470 (1), ASW-520 (2), TXDOT (#)

DATE 4/13/15 — MANAGER, TX ADO

DRAWN BY: AFB

CHECKED BY: EMG

PREPARED BY:
Ricondo & Associates, Inc.

DATE: March 2015

Sheet 2 of 29

Appendix C. FAA AC 150/5370-2G

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

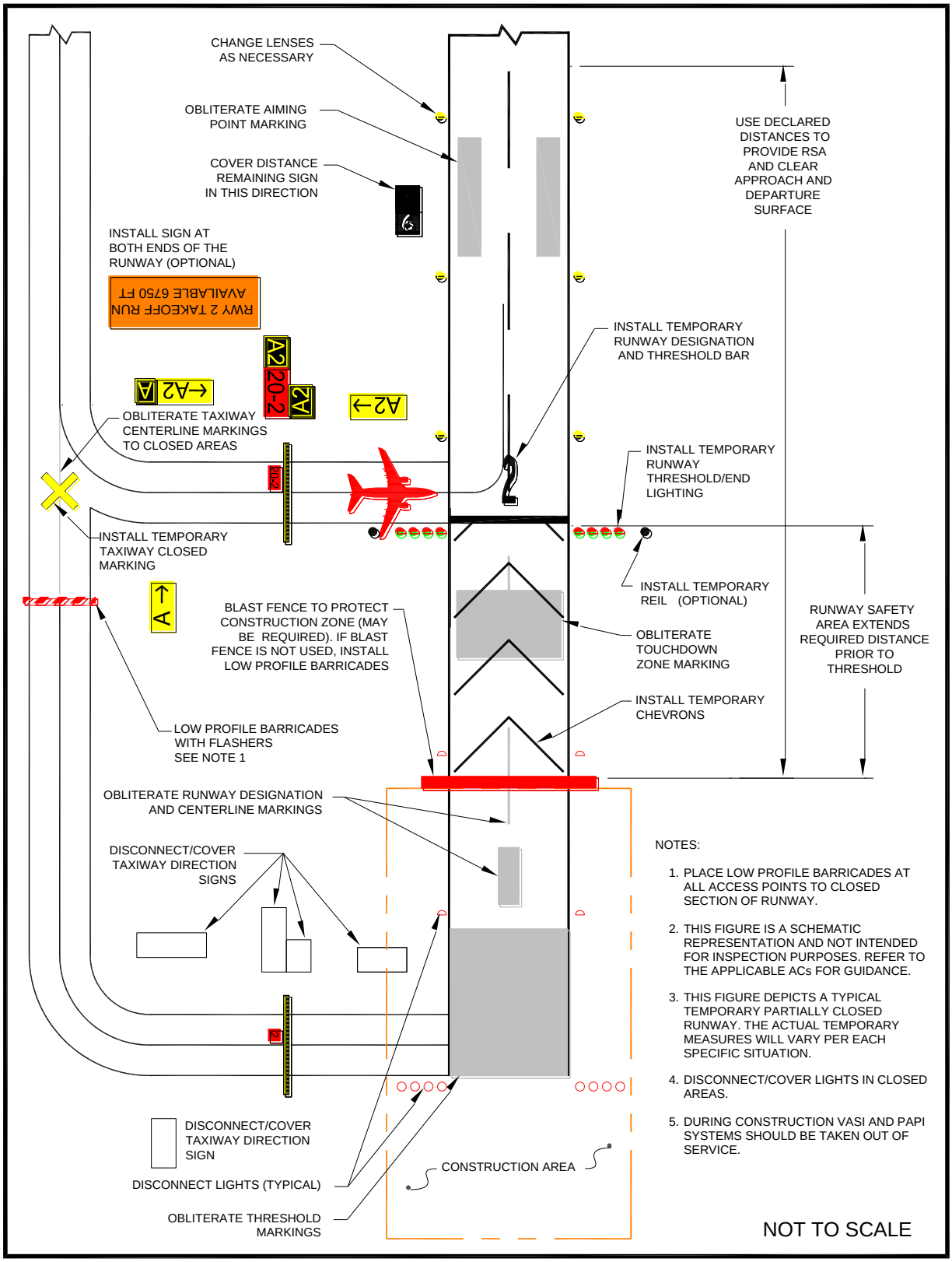
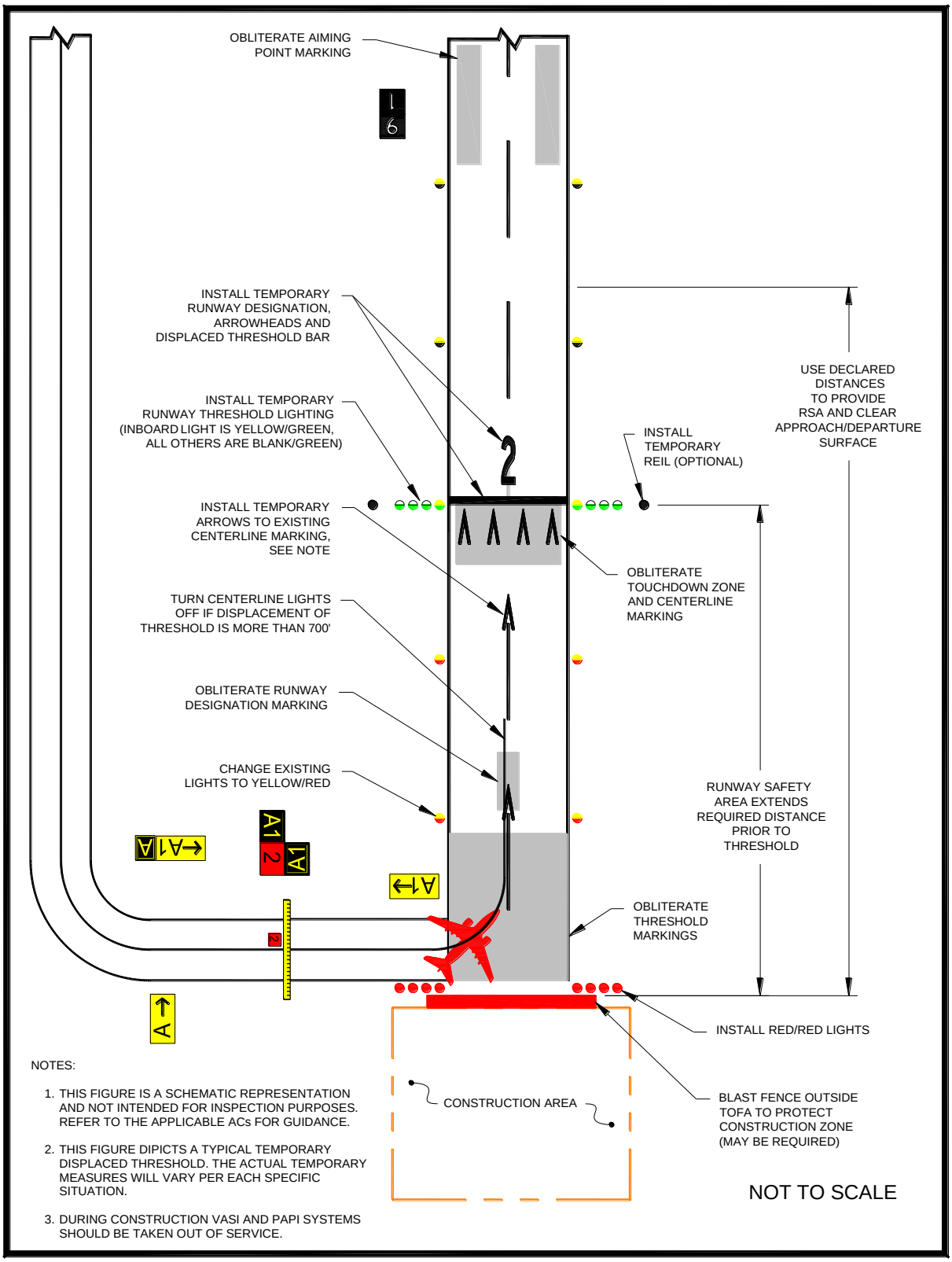


Figure 2-2. Temporary Displaced Threshold



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

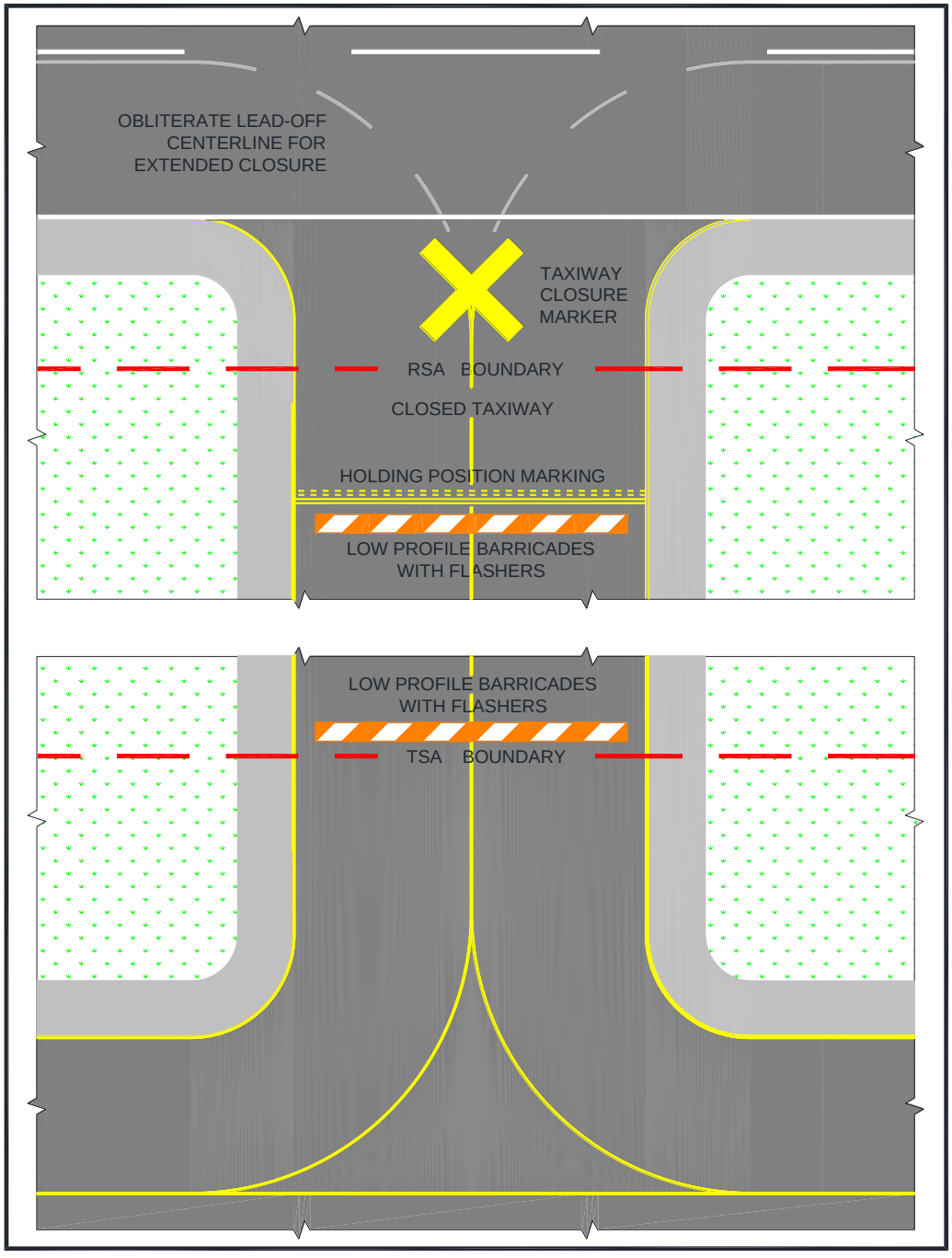
1. **Partially Closed Runways.** Pavement markings for temporary closed portions of the runway consist of a runway threshold bar, runway designation, and yellow chevrons to identify pavement areas that are unsuitable for takeoff or landing (see AC 150/5340-1). Obliterate or cover markings prior to the 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.

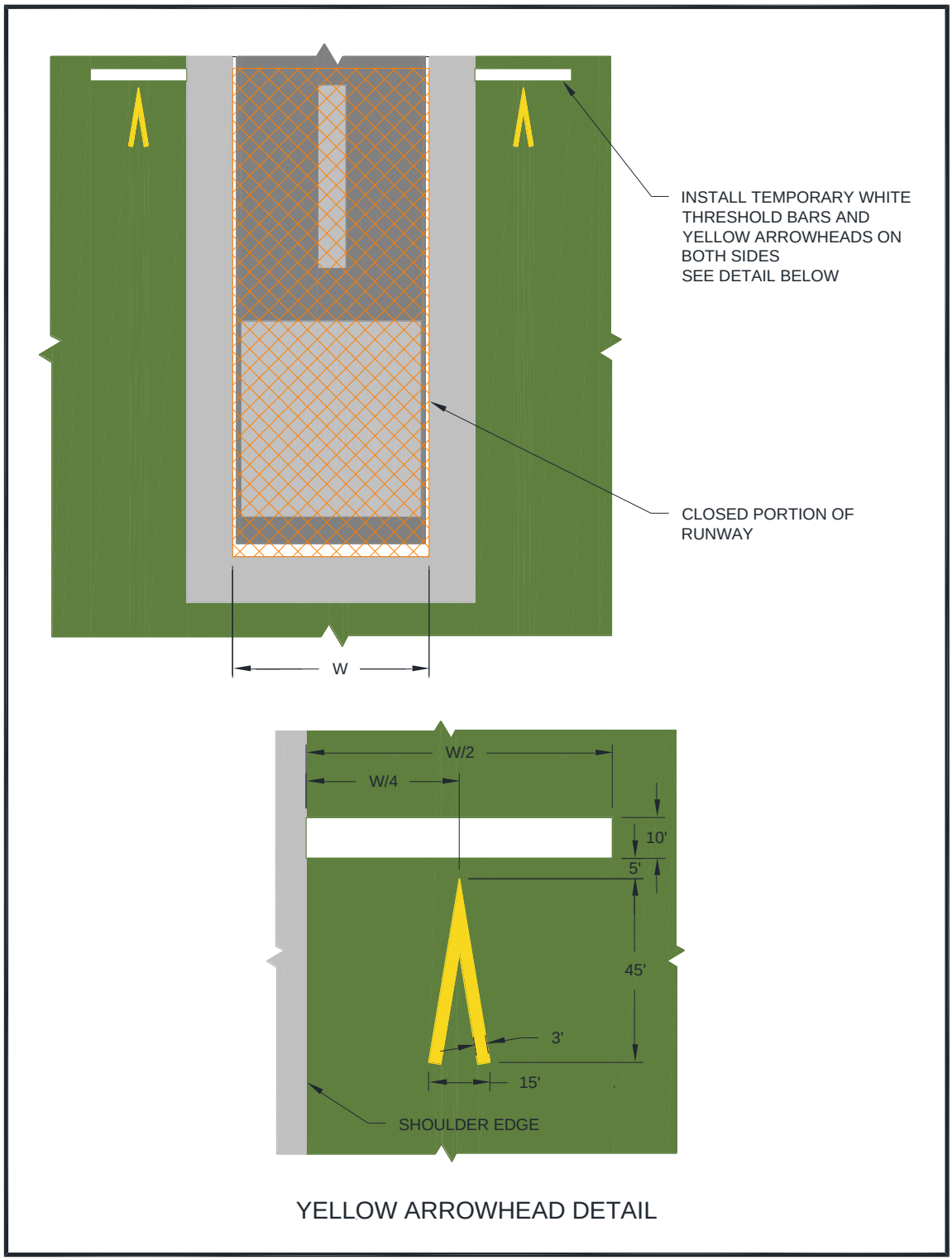
2.18.2.3 It may be necessary to remove or cover runway markings, including but not limited to, runway designation markings, threshold markings, centerline markings, edge stripes, touchdown zone markings and aiming point markings, depending on the length of construction and type of activity at the airport. 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.		

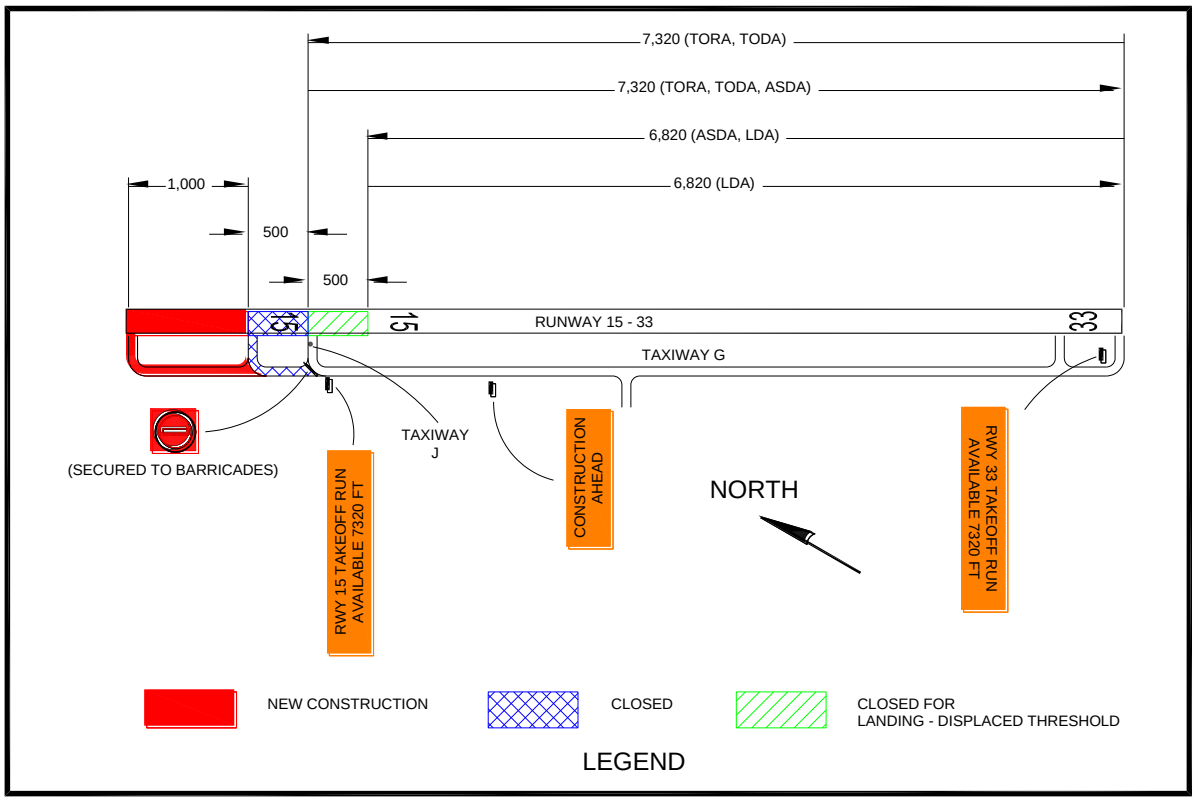
APPENDIX E. SAMPLE OPERATIONAL EFFECTS TABLE

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

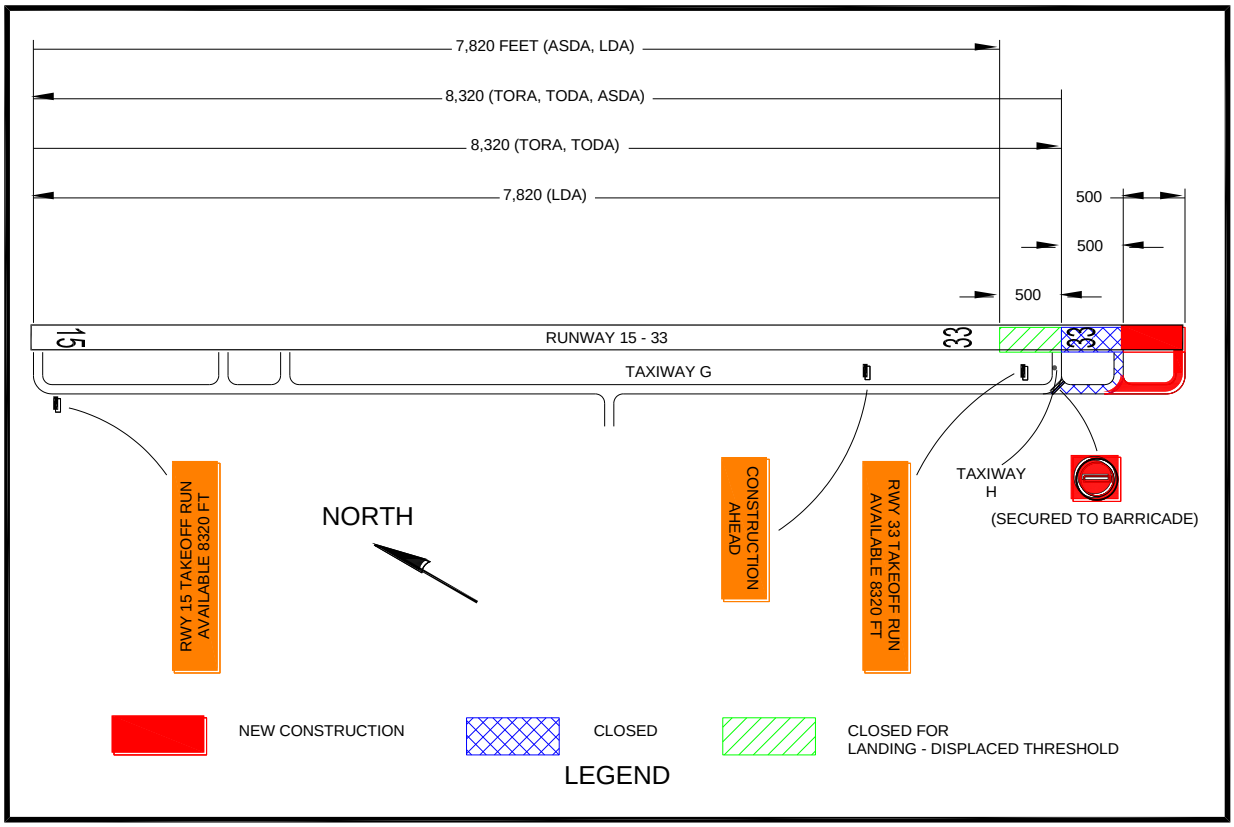


Note 1: Where hold signs are installed on both sides of a taxiway, install the TORA sign on the left side of the taxiway before the final turn to the runway intersection.

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

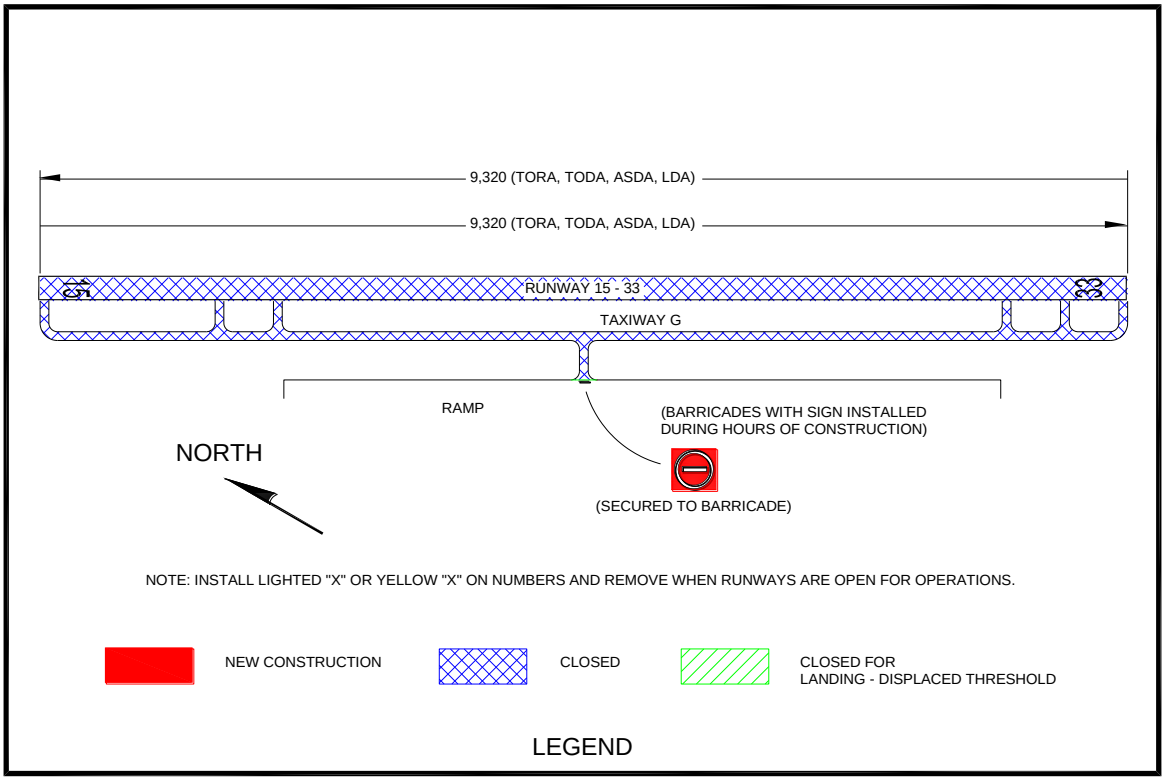


Table E-1. Operational Effects Table

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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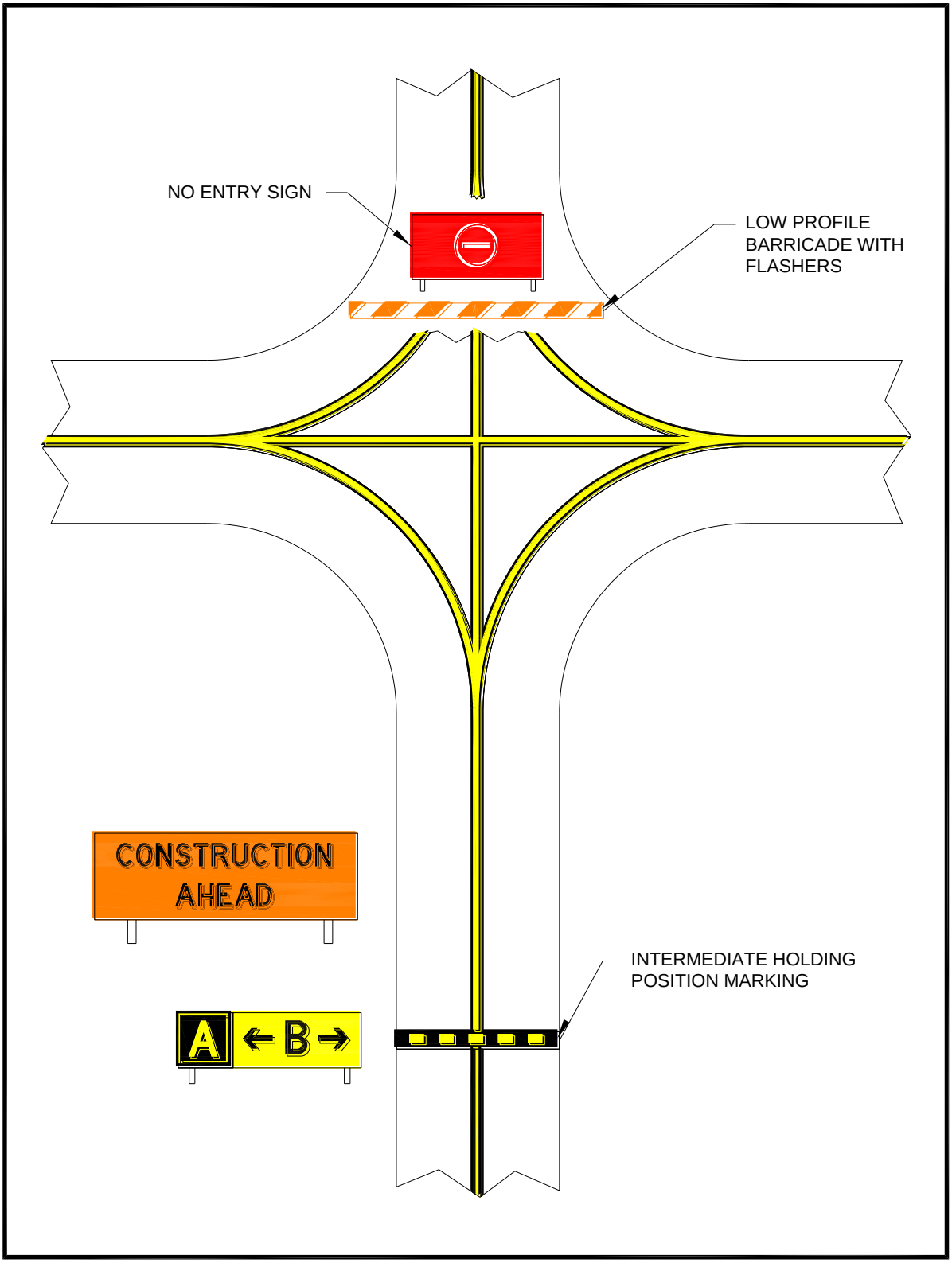
APPENDIX F. ORANGE CONSTRUCTION SIGNS

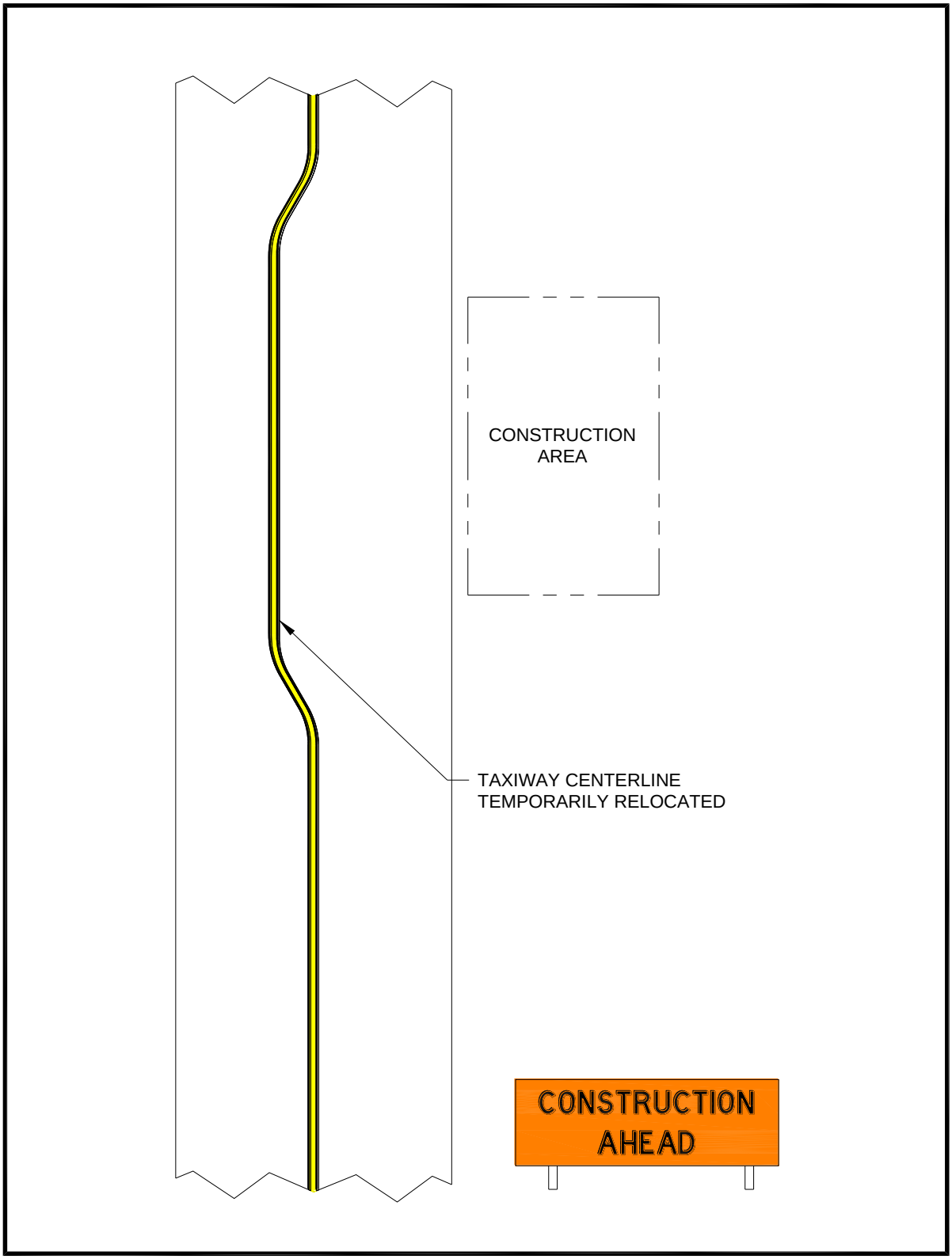
Figure F-1. Approved Sign Legends

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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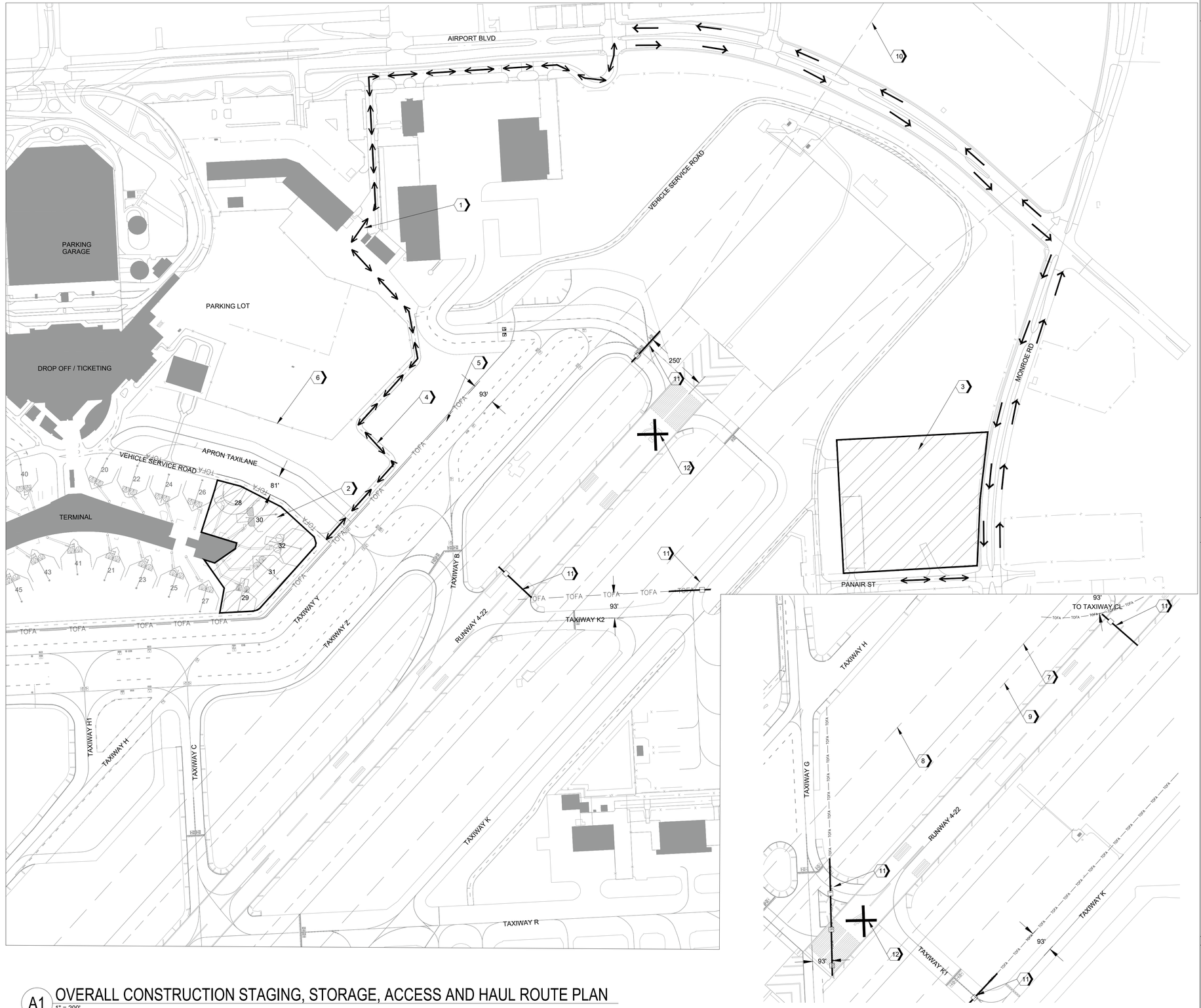
Appendix D. CSPP Drawings



A1 OVERALL CONSTRUCTION STAGING, STORAGE, ACCESS AND HAUL ROUTE PLAN
1" = 200'

A3 SOUTH AIRFIELD STAGING, STORAGE, ACCESS AND HAUL ROUTE PLAN
1" = 200'

GENERAL NOTES

1. TYPICAL WORK HOURS SHALL BE 7:00AM TO 5:00PM. CRANE OPERATIONS AND ELECTRICAL SHUTDOWNS SHALL BE COMPLETED DURING RESTRICTED WORK HOURS FROM 12:00AM TO 5:00AM AS COORDINATED AND SCHEDULED DAILY WITH OPERATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR TRANSPORTING EMPLOYEES TO AND FROM THE JOB SITE. PERSONAL VEHICLES SHALL NOT BE PARKED ANYWHERE WITHIN THE AIRPORT OPERATIONS AREA (AOA).
3. ALL AOA CONSTRUCTION VEHICLES SHALL BE OPERATED BY A BADGED EMPLOYEE WITH RAMP DRIVING PRIVILEGES OR BE ESCORTED BY A VEHICLE OPERATED BY A BADGED EMPLOYEE WITH RAMP DRIVING AND ESCORT PRIVILEGES WHEN ENTERING THE AOA. ALL UNBADGED EMPLOYEES SHALL BE ESCORTED AND WITHIN VOICE AND VISUAL RANGE OF A BADGED SUPERVISOR PER HOU SECURITY REQUIREMENTS.
4. GATE N-80 IS THE ONLY GATE TO BE USED FOR AOA ACCESS.
5. PERSONNEL AND EQUIPMENT SHALL NOT CROSS A NON-MOVEMENT LINE OR ENTER THE OBJECT FREE AREA OF AN ACTIVE TAXIWAY, TAXILANE, OR RUNWAY WITHOUT PRIOR COORDINATION WITH THE HAS PROJECT MANAGER, HOU AIRSIDE OPERATIONS STAFF, AND ATCT. ALL AIRCRAFT SHALL HAVE THE RIGHT OF WAY AT ALL TIMES.
6. RUNWAY CLOSURES SHALL BE COORDINATED IN ADVANCE WITH WITH HOU AIRSIDE OPERATIONS STAFF. CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE 7460 DETERMINATION.
7. CONTRACTOR SHALL COORDINATE USE OF THE STAGING AREA WITH HOU OPERATIONS AND OTHER CONTRACTORS.

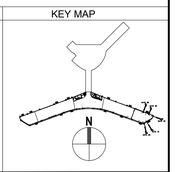
KEYNOTES

1.GATE N-80 IS TO BE USED FOR AOA ACCESS.
2. WORK AREA: GATES 28, 29, 30, 31, AND 32
3. CONTRACTOR STAGING AND STORAGE AREA
4. HAUL ROUTE
5. NON-MOVEMENT LINE / TAXIWAY OBJECT FREE AREA
6. EXISTING AOA FENCE
7. RUNWAY SAFETY AREA
8. RUNWAY OBJECT FREE AREA
9. RUNWAY OBSTACLE FREE ZONE
10. RUNWAY PROTECTION ZONE
11. LOW PROFILE BARRICADES
12. LIGHTED RUNWAY CLOSURE DEVICE

GRAPHIC SCALES: AS NOTED

0 100' 200' 400' 600'
(IN FEET)

KEY MAP



HOUSTON AIRPORT SYSTEM
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TEXAS P.E. FIRM F-2966

REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR BID	04-04-2022	JLW

WILLIAM P. HOBBY AIRPORT (HOU)
PASSENGER LOADING BRIDGE REPLACEMENT

OVERALL CONSTRUCTION STAGING, STORAGE, ACCESS, AND HAUL ROUTE PLAN

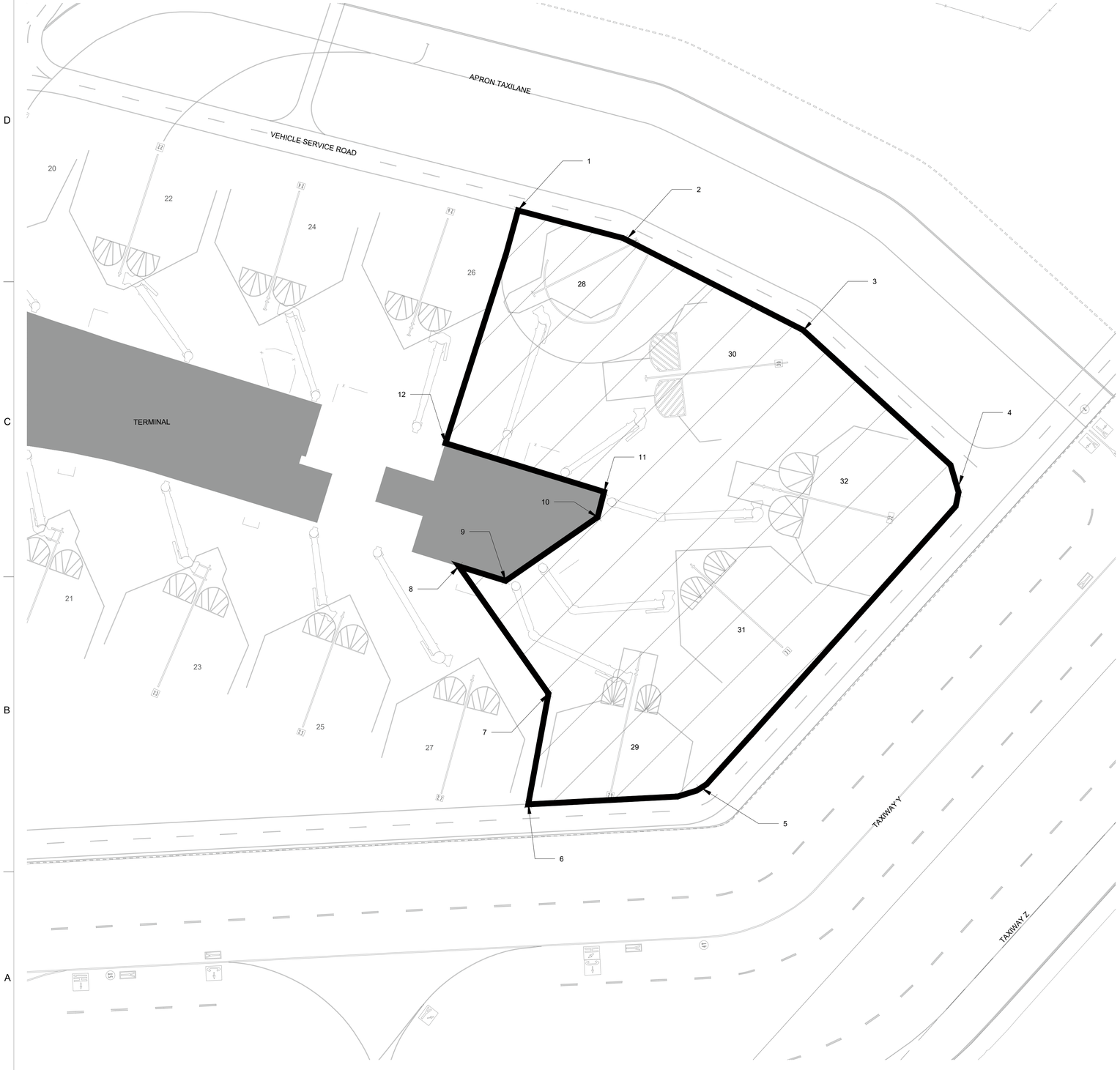
PROJECT MGR:	JLW
DESIGNER:	TRM
DRAWN BY:	TRM
CHECKED BY:	TLM
SCALE:	AS SHOWN
DATE:	APRIL 04, 2022

FIRM REGISTRATION NO. F-2966
JACOBS ENGINEERING GROUP, INC.
STATE OF TEXAS
THOMAS L. MILLS III
103660
LICENSED PROFESSIONAL ENGINEER
04/04/2022

APPROVED BY: DATE:

DIRECTOR
HOUSTON AIRPORT SYSTEM

JACOBS PROJECT NO: WHXK7119
C.I.P. NO:
H.A.S. NO: PN946B
SHEET NO: G-3.01



A1 MAXIMUM EQUIPMENT HEIGHT RESTRICTION PLAN

1" = 50'

CONSTRUCTION NOTES:

1. SEE TABLE THIS SHEET FOR HEIGHT RESTRICTION POINTS AND COORDINATES.
2. THE MAXIMUM EQUIPMENT HEIGHT IN THE STAGING AREA AND ALONG THE HAUL ROUTE IS 20'. TEMPORARY STOCKPILES ARE NOT ALLOWED UNLESS APPROVED IN WRITING FROM THE CONSTRUCTION MANAGER AND AIRPORT OPERATIONS.
3. RUNWAY 4-22 SHALL BE CLOSED WHEN EQUIPMENT EXCEEDS THE MAXIMUM ALLOWANCE HEIGHT RESTRICTIONS PER THE 7460 DETERMINATION. RUNWAY CLOSURES SHALL BE COORDINATED IN ADVANCE WITH WITH HOU AIRSIDE OPERATIONS STAFF. CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE 7460 DETERMINATION.

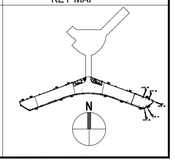
HEIGHT RESTRICTION POINT TABLE

POINT	NORTHING	EASTING	GROUND ELEVATION	AIRSPACE SURFACE ELEVATION	MAXIMUM EQUIPMENT HEIGHT
1	13805716.09	3151881.191	42	136	94
2	13805690.78	3151976.735	42	123	81
3	13805607.7	3152138.717	41	98	57
4	13805461.14	3152278.084	40	68	28
5	13805195.3	3152045.526	40	68	28
6	13805180.95	3151890.352	40	83	43
7	13805280.82	3151908.59	41	91	50
8	13805395.51	3151827.851	42	110	68
9	13805382.39	3151870.009	41	105	64
10	13805439.69	3151952.845	41	101	60
11	13805462.53	3151958.739	42	103	61
12	13805506.37	3151815.879	43	122	79

GRAPHIC
SCALES: AS NOTED

0 25' 50' 100' 150'
(IN FEET)

KEY MAP



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REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR BID	04-04-2022	JLW

WILLIAM P. HOBBY AIRPORT (HOU)
PASSENGER LOADING BRIDGE REPLACEMENT

MAXIMUM EQUIPMENT HEIGHT RESTRICTION PLAN

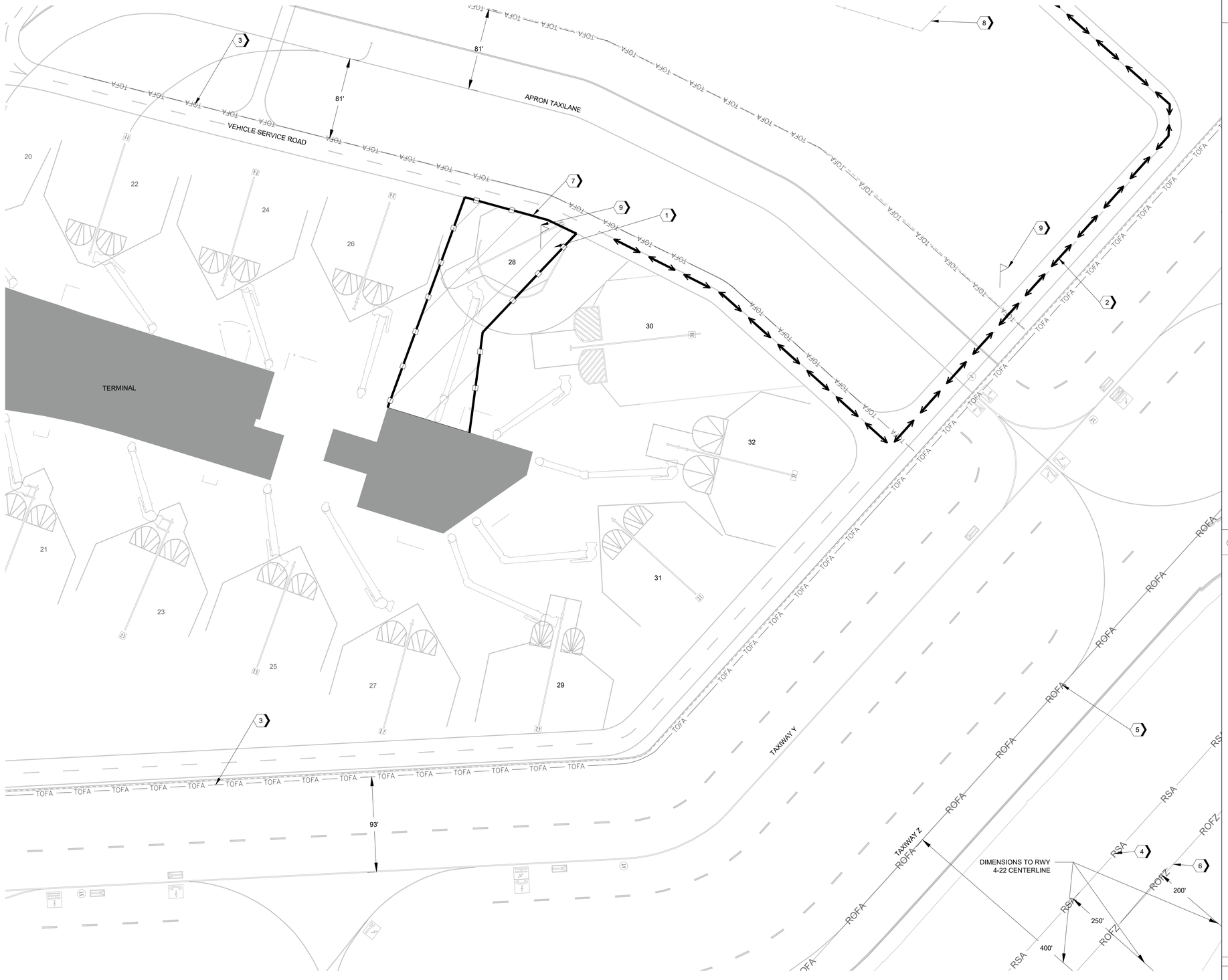
PROJECT MGR:	JLW
DESIGNER:	TRM
DRAWN BY:	TRM
CHECKED BY:	TLM
SCALE:	AS SHOWN
DATE:	APRIL 04, 2022

FIRM REGISTRATION NO. F-2966
JACOBS ENGINEERING GROUP, INC.
STATE OF TEXAS
THOMAS L. MILLS III
103660
LICENSED PROFESSIONAL ENGINEER
04/04/2022

APPROVED BY: DATE:

DIRECTOR
HOUSTON AIRPORT SYSTEM

JACOBS PROJECT NO: WHXK7119
C.I.P. NO:
H.A.S. NO: PN946B
SHEET NO: G-3.02



A1 CONSTRUCTION PHASING PLAN 1 - GATE 28
1" = 50'

GENERAL NOTES

CONSTRUCTION PHASING NOTES:

1. REQUIREMENTS TO START: CONSTRUCTION NOTICE-TO-PROCEED, FILED NOTAM FOR WORK AREA, APPROVED SUBMITTALS INCLUDING SPCD, PRE-CONSTRUCTION MEETING, AND PRE-ACTIVITY MEETING.
2. TYPICAL WORK HOURS: WORK HOURS SHALL BE 7:00AM TO 5:00PM. CRANE OPERATIONS AND ELECTRICAL SHUTDOWNS SHALL BE COMPLETED DURING RESTRICTED WORK HOURS FROM 12:00AM TO 5:00AM AS COORDINATED AND SCHEDULED DAILY WITH OPERATIONS.
3. ESTIMATED CONSTRUCTION DURATION: 28 CALENDAR DAYS
4. WORK AREA PROGRESSIONS: WORK SHALL PROGRESS ONE GATE AT A TIME FROM GATE 28 TO GATE 30, TO GATE 32, TO GATE 31, AND TO GATE 29.
5. MAJOR ITEMS OF WORK: DISCONNECT ELECTRICAL EQUIPMENT AND UTILITIES FROM EXISTING PLB, GPU, AND PCA. DISCONNECT COMMUNICATION EQUIPMENT AND UTILITIES FROM EXISTING PLB, GPU, AND PCA. DEMOLITION AND REMOVAL OF EXISTING PLB, GPU, AND PCA. INSTALLATION OF NEW PLB, GPU, AND PCA; RE-CONNECT TO ELECTRICAL, PLUMBING, AND IT/TELECOM UTILITIES.
6. AIRFIELD OPERATIONS: THE CONTRACTOR SHALL COORDINATE AND SCHEDULE GATE CLOSURES WITH THE HAS CONSTRUCTION MANAGER AND HOU AIRPORT OPERATIONS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

OPERATIONS AND SAFETY:

7. GENERAL: BARRICADES SHALL BE PLACED AT THE DISCRETION OF THE HAS CONSTRUCTION MANAGER IN ACCORDANCE WITH AIRPORT OPERATIONAL REQUIREMENTS AND SPECIFICATIONS. WORK AREAS AND BARRICADE LOCATIONS ARE DEPICTED FOR BIDDING PURPOSES. ACTUAL LIMITS MAY VARY IN THE FIELD AS NECESSARY FOR THE COMPLETION OF WORK AND SHALL BE COORDINATED IN ADVANCE WITH HOU AIRPORT OPERATIONS AND THE HAS CONSTRUCTION MANAGER DURING THE PRE-ACTIVITY MEETING.
8. GATE CLOSURES: GATE 28 SHALL BE CLOSED.
9. RUNWAY CLOSURES: RUNWAY 4-22 SHALL BE CLOSED WHEN EQUIPMENT EXCEEDS THE MAXIMUM ALLOWANCE HEIGHT RESTRICTIONS PER THE 7460 DETERMINATION. RUNWAY CLOSURES SHALL BE COORDINATED IN ADVANCE WITH WITH HOU AIRSIDE OPERATIONS STAFF. CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE 7460 DETERMINATION.
10. TAXIWAY CLOSURES: TAXIWAY Y SHALL BE CLOSED BETWEEN TAXIWAY Z AND RUNWAY 4-22. TAXIWAY K SHALL BE CLOSED NORTHEAST OF TAXIWAY K2. TAXIWAY K1 SHALL BE CLOSED BETWEEN TAXIWAY K AND RUNWAY 4-22.
11. REQUIREMENTS TO REOPEN: THE CONTRACTOR SHALL COMPLETE THE FOLLOWING ITEMS PRIOR TO RE-OPENING THE GATE TO AIRCRAFT: ALL FOD REMOVED; ALL CONSTRUCTION EQUIPMENT MOVED OUTSIDE OF THE AIRCRAFT PARKING AND GSE OPERATING AREAS; OBTAIN AIRPORT OPERATIONS INSPECTION APPROVAL; REMOVAL OF ALL CLOSURE BARRICADES; CLOSURE NOTAM REMOVED AND OPERATIONAL NOTAMS FILED; AND ALL INCIDENTALS NECESSARY TO COMPLY WITH THE CONTRACT DOCUMENTS.

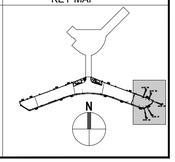
KEYNOTES

1. PHASE 1 WORK AREA: GATE 28
2. HAUL ROUTE
3. TAXIWAY/TAXILANE OBJECT FREE AREA
4. RUNWAY SAFETY AREA
5. RUNWAY OBJECT FREE AREA
6. RUNWAY OBSTACLE FREE ZONE
7. LOW PROFILE BARRICADE LINE
8. AOA FENCE
9. FLAGGER

GRAPHIC SCALES: AS NOTED

0 25' 50' 100' 150'
(IN FEET)

KEY MAP



HOUSTON AIRPORT SYSTEM
WILLIAM P. HOBBY AIRPORT
HOUSTON TEXAS

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5985 ROGERDALE ROAD
HOUSTON, TEXAS 77072
+1-281-721-8400
WWW.JACOBS.COM
TEXAS P.E. FIRM F-2966

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR BID	04-04-2022	JLW

WILLIAM P. HOBBY AIRPORT (HOU)
PASSENGER LOADING BRIDGE REPLACEMENT

CONSTRUCTION PHASING PLAN 1 - GATE 28

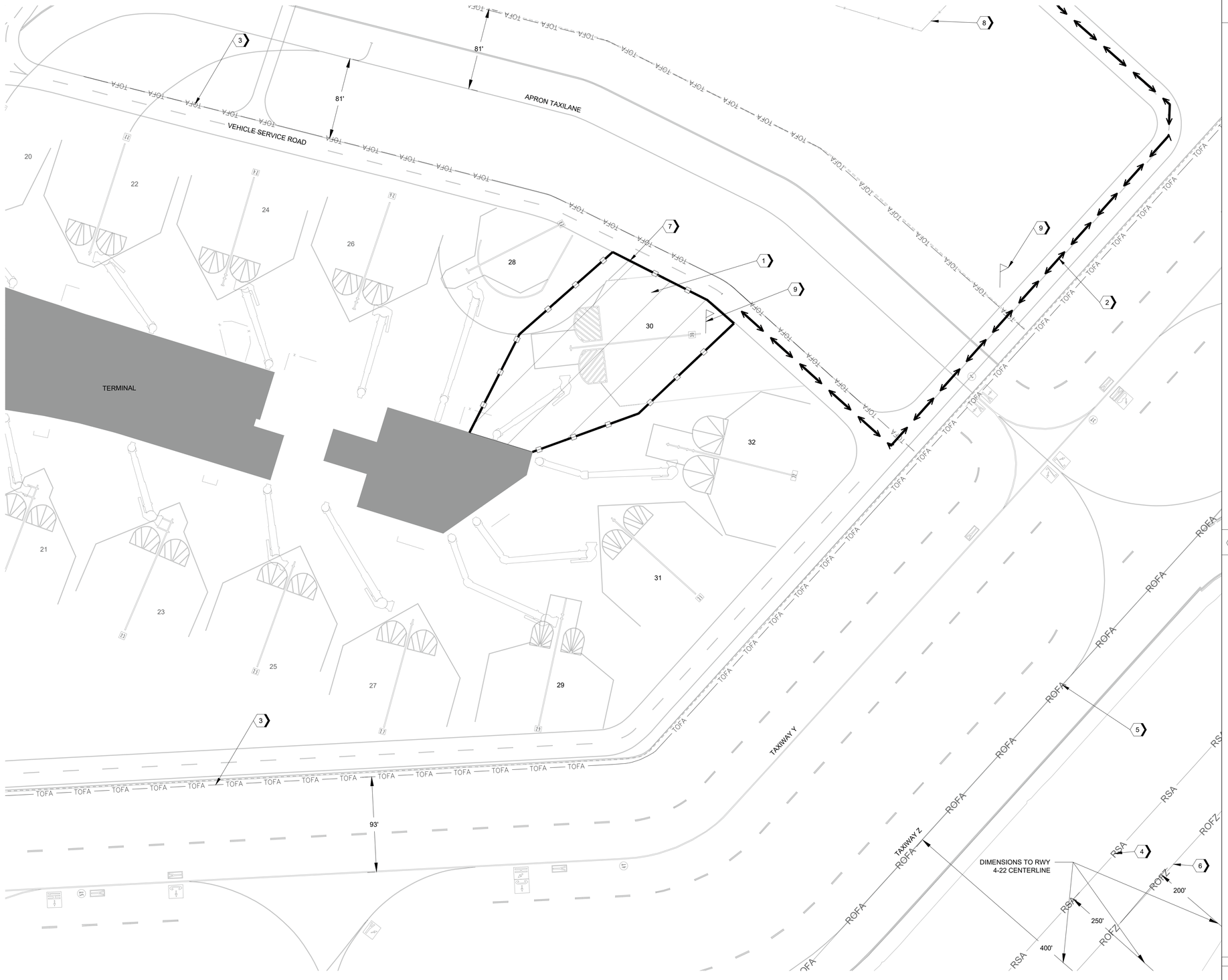
PROJECT MGR:	JLW
DESIGNER:	TRM
DRAWN BY:	TRM
CHECKED BY:	TLM
SCALE:	AS SHOWN
DATE:	APRIL 04, 2022

FIRM REGISTRATION NO. F-2966
JACOBS ENGINEERING GROUP, INC.
STATE OF TEXAS
THOMAS L. MILLS III
103660
LICENSED PROFESSIONAL ENGINEER
04/04/2022

APPROVED BY: DATE:

DIRECTOR
HOUSTON AIRPORT SYSTEM

JACOBS PROJECT NO: WHXK7119
C.I.P. NO:
H.A.S. NO: PN946B
SHEET NO: G-4.01



A1 CONSTRUCTION PHASING PLAN 2 - GATE 30
1" = 50'

GENERAL NOTES

CONSTRUCTION PHASING NOTES:

1. REQUIREMENTS TO START: CONSTRUCTION NOTICE-TO-PROCEED, FILED NOTAM FOR WORK AREA, APPROVED SUBMITTALS INCLUDING SPCD, PRE-CONSTRUCTION MEETING, AND PRE-ACTIVITY MEETING.
2. TYPICAL WORK HOURS: WORK HOURS SHALL BE 7:00AM TO 5:00PM. CRANE OPERATIONS AND ELECTRICAL SHUTDOWNS SHALL BE COMPLETED DURING RESTRICTED WORK HOURS FROM 12:00AM TO 5:00AM AS COORDINATED AND SCHEDULED DAILY WITH OPERATIONS.
3. ESTIMATED CONSTRUCTION DURATION: 28 CALENDAR DAYS
4. WORK AREA PROGRESSIONS: WORK SHALL PROGRESS ONE GATE AT A TIME FROM GATE 28 TO GATE 30, TO GATE 32, TO GATE 31, AND TO GATE 29.
5. MAJOR ITEMS OF WORK: DISCONNECT ELECTRICAL EQUIPMENT AND UTILITIES FROM EXISTING PLB, GPU, AND PCA. DISCONNECT COMMUNICATION EQUIPMENT AND UTILITIES FROM EXISTING PLB, GPU, AND PCA. DEMOLITION AND REMOVAL OF EXISTING PLB, GPU, AND PCA. INSTALLATION OF NEW PLB, GPU, AND PCA; RE-CONNECT TO ELECTRICAL, PLUMBING, AND IT/TELECOM UTILITIES.
6. AIRFIELD OPERATIONS: THE CONTRACTOR SHALL COORDINATE AND SCHEDULE GATE CLOSURES WITH THE HAS CONSTRUCTION MANAGER AND HOU AIRPORT OPERATIONS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

OPERATIONS AND SAFETY:

7. GENERAL: BARRICADES SHALL BE PLACED AT THE DISCRETION OF THE HAS CONSTRUCTION MANAGER IN ACCORDANCE WITH AIRPORT OPERATIONAL REQUIREMENTS AND SPECIFICATIONS. WORK AREAS AND BARRICADE LOCATIONS ARE DEPICTED FOR BIDDING PURPOSES. ACTUAL LIMITS MAY VARY IN THE FIELD AS NECESSARY FOR THE COMPLETION OF WORK AND SHALL BE COORDINATED IN ADVANCE WITH HOU AIRPORT OPERATIONS AND THE HAS CONSTRUCTION MANAGER DURING THE PRE-ACTIVITY MEETING.
8. GATE CLOSURES: GATE 30 SHALL BE CLOSED.
9. RUNWAY CLOSURES: RUNWAY 4-22 SHALL BE CLOSED WHEN EQUIPMENT EXCEEDS THE MAXIMUM ALLOWANCE HEIGHT RESTRICTIONS PER THE 7460 DETERMINATION. RUNWAY CLOSURES SHALL BE COORDINATED IN ADVANCE WITH WITH HOU AIRSIDE OPERATIONS STAFF. CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE 7460 DETERMINATION.
10. TAXIWAY CLOSURES: TAXIWAY Y SHALL BE CLOSED BETWEEN TAXIWAY Z AND RUNWAY 4-22. TAXIWAY K SHALL BE CLOSED NORTHEAST OF TAXIWAY K2. TAXIWAY K1 SHALL BE CLOSED BETWEEN TAXIWAY K AND RUNWAY 4-22.
11. REQUIREMENTS TO REOPEN: THE CONTRACTOR SHALL COMPLETE THE FOLLOWING ITEMS PRIOR TO RE-OPENING THE GATE TO AIRCRAFT: ALL FOD REMOVED; ALL CONSTRUCTION EQUIPMENT MOVED OUTSIDE OF THE AIRCRAFT PARKING AND GSE OPERATING AREAS; OBTAIN AIRPORT OPERATIONS INSPECTION APPROVAL; REMOVAL OF ALL CLOSURE BARRICADES; CLOSURE NOTAM REMOVED AND OPERATIONAL NOTAMS FILED; AND ALL INCIDENTALS NECESSARY TO COMPLY WITH THE CONTRACT DOCUMENTS.

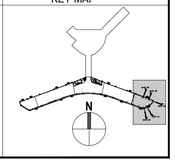
KEYNOTES

1. PHASE 2 WORK AREA: GATE 30
2. HAUL ROUTE
3. TAXIWAY/TAXILANE OBJECT FREE AREA
4. RUNWAY SAFETY AREA
5. RUNWAY OBJECT FREE AREA
6. RUNWAY OBSTACLE FREE ZONE
7. LOW PROFILE BARRICADE LINE
8. AOA FENCE
9. FLAGGER

GRAPHIC SCALES: AS NOTED

0 25' 50' 100' 150'
(IN FEET)

KEY MAP



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TEXAS P.E. FIRM F-2966

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR BID	04-04-2022	JLW

WILLIAM P. HOBBY AIRPORT (HOU)
PASSENGER LOADING BRIDGE REPLACEMENT

CONSTRUCTION PHASING PLAN 2 - GATE 30

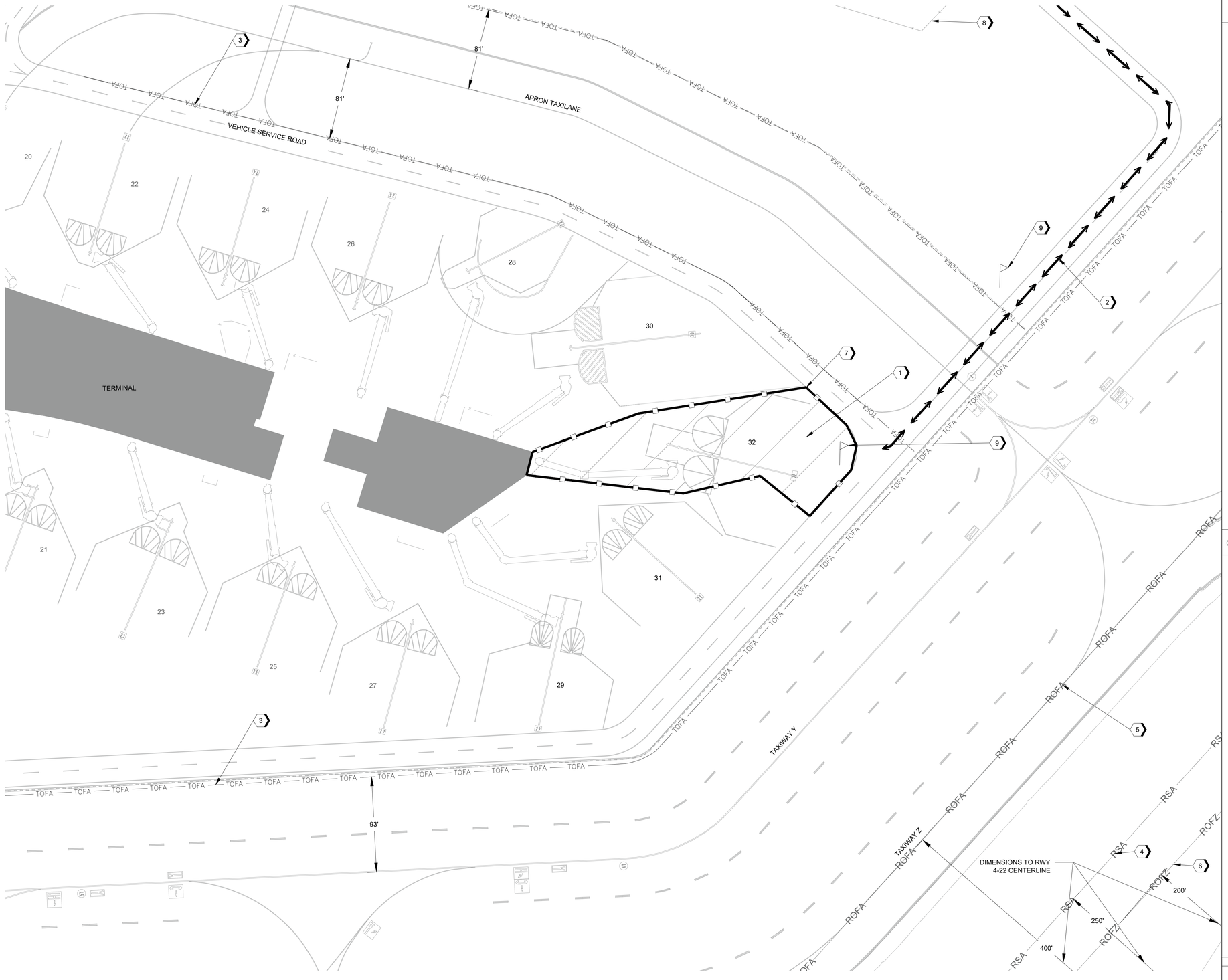
PROJECT MGR:	JLW
DESIGNER:	TRM
DRAWN BY:	TRM
CHECKED BY:	TLM
SCALE:	AS SHOWN
DATE:	APRIL 04, 2022

FIRM REGISTRATION NO. F-2966
JACOBS ENGINEERING GROUP, INC.
STATE OF TEXAS
THOMAS L. MILLS III
103660
LICENSED PROFESSIONAL ENGINEER
04/04/2022

APPROVED BY: DATE:

DIRECTOR
HOUSTON AIRPORT SYSTEM

JACOBS PROJECT NO: WHXK7119
C.I.P. NO:
H.A.S. NO: PN946B
SHEET NO: G-4.02



A1 CONSTRUCTION PHASING PLAN 3 - GATE 32
1" = 50'

GENERAL NOTES

CONSTRUCTION PHASING NOTES:

1. REQUIREMENTS TO START: CONSTRUCTION NOTICE-TO-PROCEED, FILED NOTAM FOR WORK AREA, APPROVED SUBMITTALS INCLUDING SPCD, PRE-CONSTRUCTION MEETING, AND PRE-ACTIVITY MEETING.
2. TYPICAL WORK HOURS: WORK HOURS SHALL BE 7:00AM TO 5:00PM. CRANE OPERATIONS AND ELECTRICAL SHUTDOWNS SHALL BE COMPLETED DURING RESTRICTED WORK HOURS FROM 12:00AM TO 5:00AM AS COORDINATED AND SCHEDULED DAILY WITH OPERATIONS.
3. ESTIMATED CONSTRUCTION DURATION: 28 CALENDAR DAYS
4. WORK AREA PROGRESSIONS: WORK SHALL PROGRESS ONE GATE AT A TIME FROM GATE 28 TO GATE 30, TO GATE 32, TO GATE 31, AND TO GATE 29.
5. MAJOR ITEMS OF WORK: DISCONNECT ELECTRICAL EQUIPMENT AND UTILITIES FROM EXISTING PLB, GPU, AND PCA. DISCONNECT COMMUNICATION EQUIPMENT AND UTILITIES FROM EXISTING PLB, GPU, AND PCA. DEMOLITION AND REMOVAL OF EXISTING PLB, GPU, AND PCA. INSTALLATION OF NEW PLB, GPU, AND PCA; RE-CONNECT TO ELECTRICAL, PLUMBING, AND IT/TELECOM UTILITIES.
6. AIRFIELD OPERATIONS: THE CONTRACTOR SHALL COORDINATE AND SCHEDULE GATE CLOSURES WITH THE HAS CONSTRUCTION MANAGER AND HOU AIRPORT OPERATIONS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

OPERATIONS AND SAFETY:

7. GENERAL: BARRICADES SHALL BE PLACED AT THE DISCRETION OF THE HAS CONSTRUCTION MANAGER IN ACCORDANCE WITH AIRPORT OPERATIONAL REQUIREMENTS AND SPECIFICATIONS. WORK AREAS AND BARRICADE LOCATIONS ARE DEPICTED FOR BIDDING PURPOSES. ACTUAL LIMITS MAY VARY IN THE FIELD AS NECESSARY FOR THE COMPLETION OF WORK AND SHALL BE COORDINATED IN ADVANCE WITH HOU AIRPORT OPERATIONS AND THE HAS CONSTRUCTION MANAGER DURING THE PRE-ACTIVITY MEETING.
8. GATE CLOSURES: GATE 32 SHALL BE CLOSED.
9. RUNWAY CLOSURES: RUNWAY 4-22 SHALL BE CLOSED WHEN EQUIPMENT EXCEEDS THE MAXIMUM ALLOWANCE HEIGHT RESTRICTIONS PER THE 7460 DETERMINATION. RUNWAY CLOSURES SHALL BE COORDINATED IN ADVANCE WITH WITH HOU AIRSIDE OPERATIONS STAFF. CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE 7460 DETERMINATION.
10. TAXIWAY CLOSURES: TAXIWAY Y SHALL BE CLOSED BETWEEN TAXIWAY Z AND RUNWAY 4-22. TAXIWAY K SHALL BE CLOSED NORTHEAST OF TAXIWAY K2. TAXIWAY K1 SHALL BE CLOSED BETWEEN TAXIWAY K AND RUNWAY 4-22.
11. REQUIREMENTS TO REOPEN: THE CONTRACTOR SHALL COMPLETE THE FOLLOWING ITEMS PRIOR TO RE-OPENING THE GATE TO AIRCRAFT: ALL FOD REMOVED; ALL CONSTRUCTION EQUIPMENT MOVED OUTSIDE OF THE AIRCRAFT PARKING AND GSE OPERATING AREAS; OBTAIN AIRPORT OPERATIONS INSPECTION APPROVAL; REMOVAL OF ALL CLOSURE BARRICADES; CLOSURE NOTAM REMOVED AND OPERATIONAL NOTAMS FILED; AND ALL INCIDENTALS NECESSARY TO COMPLY WITH THE CONTRACT DOCUMENTS.

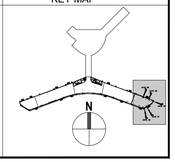
KEYNOTES

1. PHASE 3 WORK AREA: GATE 32
2. HAUL ROUTE
3. TAXIWAY/TAXILANE OBJECT FREE AREA
4. RUNWAY SAFETY AREA
5. RUNWAY OBJECT FREE AREA
6. RUNWAY OBSTACLE FREE ZONE
7. LOW PROFILE BARRICADE LINE
8. AOA FENCE
9. FLAGGER

GRAPHIC SCALES: AS NOTED

0 25' 50' 100' 150'
(IN FEET)

KEY MAP



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TEXAS P.E. FIRM F-2966

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR BID	04-04-2022	JLW

WILLIAM P. HOBBY AIRPORT (HOU)
PASSENGER LOADING BRIDGE REPLACEMENT

CONSTRUCTION PHASING PLAN 3 - GATE 32

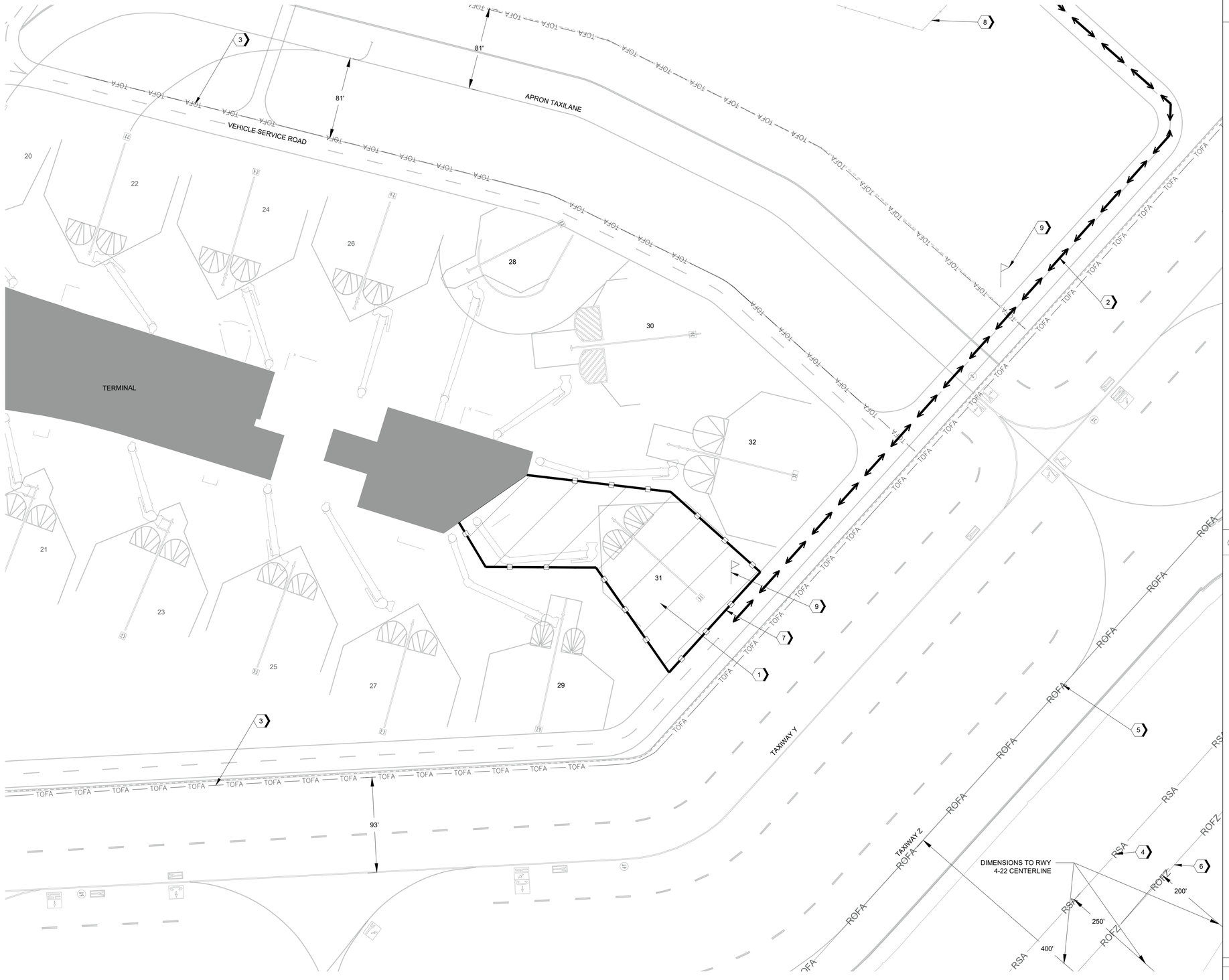
PROJECT MGR:	JLW
DESIGNER:	TRM
DRAWN BY:	TRM
CHECKED BY:	TLM
SCALE:	AS SHOWN
DATE:	APRIL 04, 2022

FIRM REGISTRATION NO. F-2966
JACOBS ENGINEERING GROUP, INC.
STATE OF TEXAS
THOMAS L. MILLS III
103660
LICENSED PROFESSIONAL ENGINEER
04/04/2022

APPROVED BY: DATE:

DIRECTOR
HOUSTON AIRPORT SYSTEM

JACOBS PROJECT NO: WHXK7119
C.I.P. NO:
H.A.S. NO: PN946B
SHEET NO: G-4.03



A1 CONSTRUCTION PHASING PLAN 4 - GATE 31
1" = 50'

GENERAL NOTES

CONSTRUCTION PHASING NOTES:

1. REQUIREMENTS TO START: CONSTRUCTION NOTICE-TO-PROCEED, FILED NOTAM FOR WORK AREA, APPROVED SUBMITTALS INCLUDING SPCD, PRE-CONSTRUCTION MEETING, AND PRE-ACTIVITY MEETING.
2. TYPICAL WORK HOURS: WORK HOURS SHALL BE 7:00AM TO 5:00PM. CRANE OPERATIONS AND ELECTRICAL SHUTDOWNS SHALL BE COMPLETED DURING RESTRICTED WORK HOURS FROM 12:00AM TO 5:00AM AS COORDINATED AND SCHEDULED DAILY WITH OPERATIONS.
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5. MAJOR ITEMS OF WORK: DISCONNECT ELECTRICAL EQUIPMENT AND UTILITIES FROM EXISTING PLB, GPU, AND PCA. DISCONNECT COMMUNICATION EQUIPMENT AND UTILITIES FROM EXISTING PLB, GPU, AND PCA. DEMOLITION AND REMOVAL OF EXISTING PLB, GPU, AND PCA. INSTALLATION OF NEW PLB, GPU, AND PCA; RE-CONNECT TO ELECTRICAL, PLUMBING, AND IT/TELECOM UTILITIES.
6. AIRFIELD OPERATIONS: THE CONTRACTOR SHALL COORDINATE AND SCHEDULE GATE CLOSURES WITH THE HAS CONSTRUCTION MANAGER AND HOU AIRPORT OPERATIONS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

OPERATIONS AND SAFETY:

7. GENERAL: BARRICADES SHALL BE PLACED AT THE DISCRETION OF THE HAS CONSTRUCTION MANAGER IN ACCORDANCE WITH AIRPORT OPERATIONAL REQUIREMENTS AND SPECIFICATIONS. WORK AREAS AND BARRICADE LOCATIONS ARE DEPICTED FOR BIDDING PURPOSES. ACTUAL LIMITS MAY VARY IN THE FIELD AS NECESSARY FOR THE COMPLETION OF WORK AND SHALL BE COORDINATED IN ADVANCE WITH HOU AIRPORT OPERATIONS AND THE HAS CONSTRUCTION MANAGER DURING THE PRE-ACTIVITY MEETING.
8. GATE CLOSURES: GATE 31 SHALL BE CLOSED.
9. RUNWAY CLOSURES: RUNWAY 4-22 SHALL BE CLOSED WHEN EQUIPMENT EXCEEDS THE MAXIMUM ALLOWANCE HEIGHT RESTRICTIONS PER THE 7460 DETERMINATION. RUNWAY CLOSURES SHALL BE COORDINATED IN ADVANCE WITH WITH HOU AIRSIDE OPERATIONS STAFF. CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE 7460 DETERMINATION.
10. TAXIWAY CLOSURES: TAXIWAY Y SHALL BE CLOSED BETWEEN TAXIWAY Z AND RUNWAY 4-22. TAXIWAY K SHALL BE CLOSED NORTHEAST OF TAXIWAY K2. TAXIWAY K1 SHALL BE CLOSED BETWEEN TAXIWAY K AND RUNWAY 4-22.
11. REQUIREMENTS TO REOPEN: THE CONTRACTOR SHALL COMPLETE THE FOLLOWING ITEMS PRIOR TO RE-OPENING THE GATE TO AIRCRAFT: ALL FOD REMOVED; ALL CONSTRUCTION EQUIPMENT MOVED OUTSIDE OF THE AIRCRAFT PARKING AND GSE OPERATING AREAS; OBTAIN AIRPORT OPERATIONS INSPECTION APPROVAL; REMOVAL OF ALL CLOSURE BARRICADES; CLOSURE NOTAM REMOVED AND OPERATIONAL NOTAMS FILED; AND ALL INCIDENTALS NECESSARY TO COMPLY WITH THE CONTRACT DOCUMENTS.

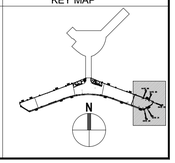
KEYNOTES

1. PHASE 4 WORK AREA: GATE 31
2. HAUL ROUTE
3. TAXIWAY/TAXILANE OBJECT FREE AREA
4. RUNWAY SAFETY AREA
5. RUNWAY OBJECT FREE AREA
6. RUNWAY OBSTACLE FREE ZONE
7. LOW PROFILE BARRICADE LINE
8. AOA FENCE
9. FLAGGER

GRAPHIC SCALES: AS NOTED

0 25' 50' 100' 150'
(IN FEET)

KEY MAP



HOUSTON AIRPORT SYSTEM
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WWW.JACOBS.COM
TEXAS P.E. FIRM F-2966

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR BID	04-04-2022	JLW

WILLIAM P. HOBBY AIRPORT (HOU)
PASSENGER LOADING BRIDGE REPLACEMENT

CONSTRUCTION PHASING PLAN 4 - GATE 31

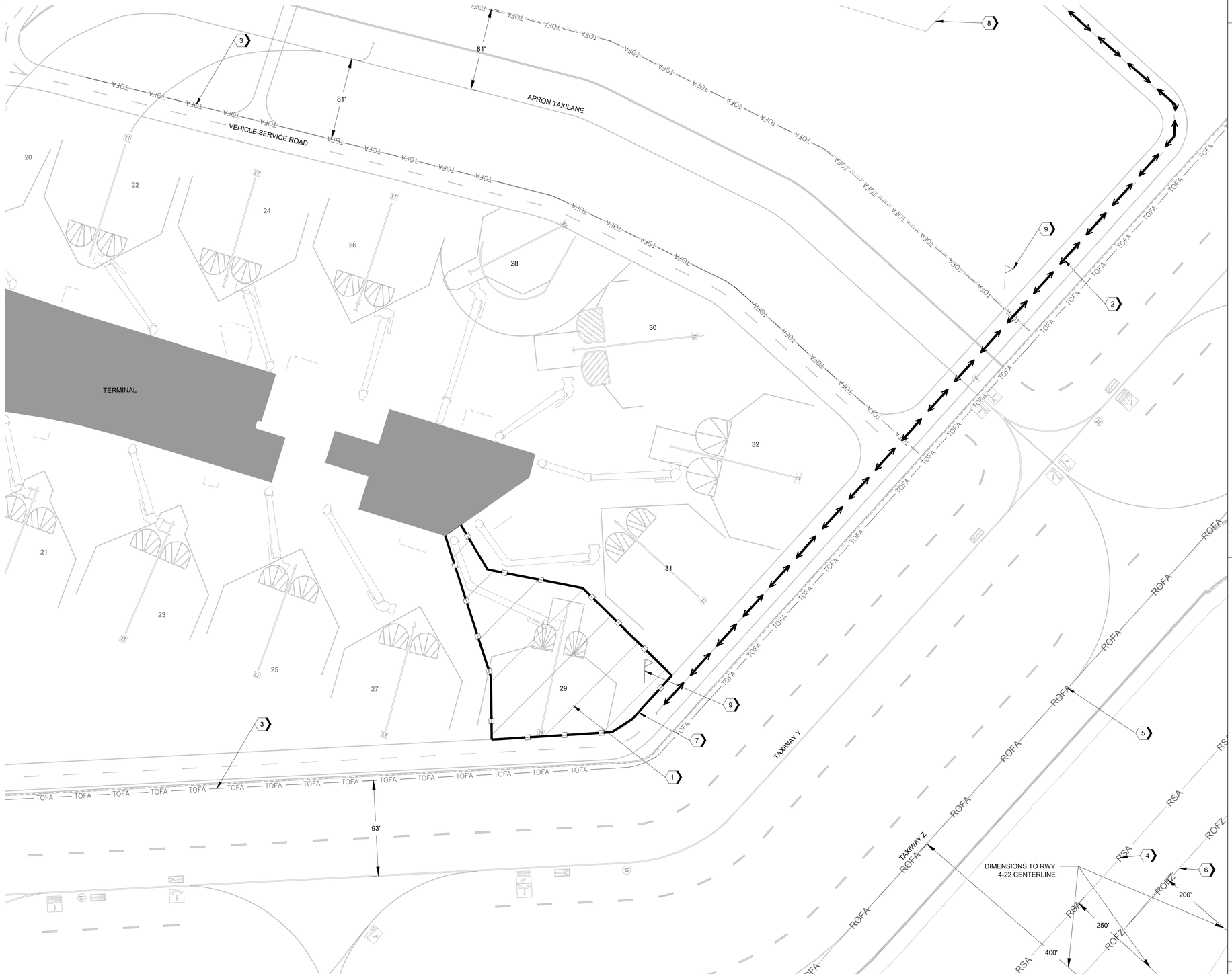
PROJECT MGR:	JLW
DESIGNER:	TRM
DRAWN BY:	TRM
CHECKED BY:	TLM
SCALE:	AS SHOWN
DATE:	APRIL 04, 2022

FIRM REGISTRATION NO. F-2966
JACOBS ENGINEERING GROUP, INC.
STATE OF TEXAS
THOMAS L. MILLS III
103660
LICENSED PROFESSIONAL ENGINEER
04/04/2022

APPROVED BY: DATE:

DIRECTOR
HOUSTON AIRPORT SYSTEM

JACOBS PROJECT NO: WHXK7119
C.I.P. NO:
H.A.S. NO: PN946B
SHEET NO: G-4.04



A1 CONSTRUCTION PHASING PLAN 5 - GATE 29
1" = 50'

GENERAL NOTES

CONSTRUCTION PHASING NOTES:

1. REQUIREMENTS TO START: CONSTRUCTION NOTICE-TO-PROCEED, FILED NOTAM FOR WORK AREA, APPROVED SUBMITTALS INCLUDING SPCD, PRE-CONSTRUCTION MEETING, AND PRE-ACTIVITY MEETING.
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6. AIRFIELD OPERATIONS: THE CONTRACTOR SHALL COORDINATE AND SCHEDULE GATE CLOSURES WITH THE HAS CONSTRUCTION MANAGER AND HOU AIRPORT OPERATIONS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

OPERATIONS AND SAFETY:

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8. GATE CLOSURES: GATE 29 SHALL BE CLOSED.
9. RUNWAY CLOSURES: RUNWAY 4-22 SHALL BE CLOSED WHEN EQUIPMENT EXCEEDS THE MAXIMUM ALLOWANCE HEIGHT RESTRICTIONS PER THE 7460 DETERMINATION. RUNWAY CLOSURES SHALL BE COORDINATED IN ADVANCE WITH WITH HOU AIRSIDE OPERATIONS STAFF. CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE 7460 DETERMINATION.
10. TAXIWAY CLOSURES: TAXIWAY Y SHALL BE CLOSED BETWEEN TAXIWAY Z AND RUNWAY 4-22. TAXIWAY K SHALL BE CLOSED NORTHEAST OF TAXIWAY K2. TAXIWAY K1 SHALL BE CLOSED BETWEEN TAXIWAY K AND RUNWAY 4-22.
11. REQUIREMENTS TO REOPEN: THE CONTRACTOR SHALL COMPLETE THE FOLLOWING ITEMS PRIOR TO RE-OPENING THE GATE TO AIRCRAFT: ALL FOD REMOVED; ALL CONSTRUCTION EQUIPMENT MOVED OUTSIDE OF THE AIRCRAFT PARKING AND GSE OPERATING AREAS; OBTAIN AIRPORT OPERATIONS INSPECTION APPROVAL; REMOVAL OF ALL CLOSURE BARRICADES; CLOSURE NOTAM REMOVED AND OPERATIONAL NOTAMS FILED; AND ALL INCIDENTALS NECESSARY TO COMPLY WITH THE CONTRACT DOCUMENTS.

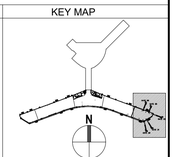
KEYNOTES

1. PHASE 5 WORK AREA: GATE 29
2. HAUL ROUTE
3. TAXIWAY/TAXILANE OBJECT FREE AREA
4. RUNWAY SAFETY AREA
5. RUNWAY OBJECT FREE AREA
6. RUNWAY OBSTACLE FREE ZONE
7. LOW PROFILE BARRICADE LINE
8. AOA FENCE
9. FLAGGER

GRAPHIC SCALES: AS NOTED

0 25' 50' 100' 150'
(IN FEET)

KEY MAP



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TEXAS P.E. FIRM F-2966

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR BID	04-04-2022	JLW

WILLIAM P. HOBBY AIRPORT (HOU)
PASSENGER LOADING BRIDGE REPLACEMENT

CONSTRUCTION PHASING PLAN 5 - GATE 29

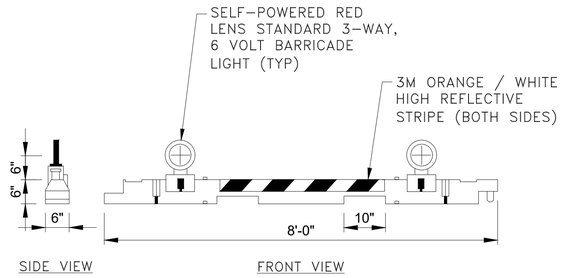
PROJECT MGR:	JLW
DESIGNER:	TRM
DRAWN BY:	TRM
CHECKED BY:	TLM
SCALE:	AS SHOWN
DATE:	APRIL 04, 2022

FIRM REGISTRATION NO. F-2966
JACOBS ENGINEERING GROUP, INC.
STATE OF TEXAS
THOMAS L. MILLS III
103660
LICENSED PROFESSIONAL ENGINEER
04/04/2022

APPROVED BY: DATE:

DIRECTOR
HOUSTON AIRPORT SYSTEM

JACOBS PROJECT NO: WHXK7119
C.I.P. NO:
H.A.S. NO: PN946B
SHEET NO: G-4.05

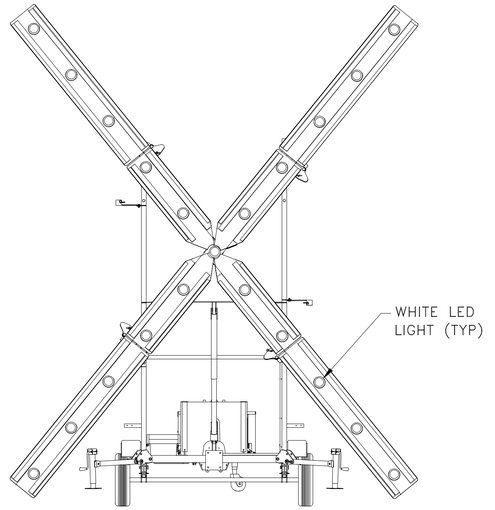


NOTES:

1. BARRICADES SEPARATING THE CONSTRUCTION AREA FROM THE EXISTING PAVEMENT SHALL BE CONTINUOUSLY CONNECTED END-TO-END WITH NO SPACING BETWEEN THEM.
2. BARRICADE STRIPING SHALL BE ORANGE AND WHITE CONFORMING TO FAA AC 150/5370-2G (OR LATEST EDITION) OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.
3. THE REQUIRED LIGHTS MUST BE RED AND FLASHING. INTENSITIES AND LUMINANCE MUST BE AT LEAST FIVE CANDELAS EFFECTIVE INTENSITY AND FLASH AT A RATE OF FROM 55 TO 160 FLASHES PER MINUTE.
4. LIGHTS MUST BE OPERATED BETWEEN SUNSET AND SUNRISE AND DURING PERIODS OF LOW VISIBILITY WHENEVER THE AIRPORT IS OPEN FOR OPERATIONS.
5. ALL BARRICADES SHALL BE FILLED WITH WATER UNLESS OTHERWISE DIRECTED BY HOU AIRPORT OPERATIONS.

B1 LOW-PROFILE BARRICADE DETAIL

SCALE: NONE



NOTES:

1. CONTRACTOR SHALL PLACE LIGHTED RUNWAY CLOSURE MARKER AT EACH END OF CLOSED RUNWAY IN ACCORDANCE WITH THE PHASING PLANS. LIGHTED CLOSURE MARKERS SHALL BE PLACED ON TOP OF THE PAINTED NUMBER DESIGNATOR FOR EACH RUNWAY END, UNLESS OTHERWISE SHOWN. CONTRACTOR SHALL ALSO TEMPORARY DISCONNECT POWER OF RUNWAY LIGHTS AT VAULT TO PREVENT THE POSSIBILITY OF THEM TURNING ON AND CREATING A POTENTIAL RUNWAY INCURSION. FOLLOW APPLICABLE HAS "LOCKOUT" – "TAG-OUT" PROCEDURES.
2. THE CONTRACTOR SHALL MAINTAIN THE LIGHTED RUNWAY CLOSURE MARKERS UNTIL COMPLETION OF THE RUNWAY CLOSURE AND REMOVE AT END OF CLOSURE IN ACCORDANCE WITH PHASING PLANS AND AS DIRECTED BY AIRPORT OPERATIONS.
3. LIGHTED RUNWAY CLOSURE MARKERS SHALL BE LIT DURING SCHEDULED CLOSURES.
4. LIGHTED RUNWAY CLOSURE MARKERS SHALL MEET THE FOLLOWING FAA STANDARDS:
   - FAA ADVISORY CIRCULAR AC 150/5345-55A, 'SPECIFICATION FOR L-893, LIGHTED VISUAL AID TO INDICATE TEMPORARY RUNWAY CLOSURE'
   - FAA ADVISORY CIRCULAR AC 150/5345-53D, 'AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM'
   - FAA ENGINEERING BRIEF 67D, 'LIGHT SOURCES OTHER THAN INCANDESCENT AND XENON FOR AIRPORT AND OBSTRUCTION LIGHTING FIXTURES'

B4 LIGHTED RUNWAY CLOSURE DEVICE DETAIL

SCALE: NONE

HOUSTON AIRPORT SYSTEM
WILLIAM P. HOBBY AIRPORT
HOUSTON TEXAS

Jacobs
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TEXAS P.E. FIRM F-2966

REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR BID	04-04-2022	JLW

WILLIAM P. HOBBY AIRPORT (HOU)
PASSENGER LOADING BRIDGE REPLACEMENT

CONSTRUCTION SAFETY AND PHASING DETAILS

PROJECT MGR:	JLW
DESIGNER:	TRM
DRAWN BY:	TRM
CHECKED BY:	TLM
SCALE:	AS SHOWN
DATE:	APRIL 04, 2022

FIRM REGISTRATION NO. F-2966
JACOBS ENGINEERING GROUP, INC.
STATE OF TEXAS
THOMAS L. MILLS III
103660
LICENSED PROFESSIONAL ENGINEER
04/04/2022

APPROVED BY: DATE:

DIRECTOR
HOUSTON AIRPORT SYSTEM

JACOBS PROJECT NO:
WHXK7119
C.I.P. NO:
H.A.S. NO:
PN946B
SHEET NO:
G-5.01

Appendix E. Safety and Security Notes

GENERAL NOTES

1. THE TERMS "CONSTRUCTION CONTRACTOR," "GENERAL CONTRACTOR" AND "CONTRACTOR" SHALL BE UNDERSTOOD TO BE THE SAME UNLESS SPECIFICALLY NOTED OTHERWISE.
2. WHERE THE TERM "OR EQUAL" IS USED IN SPECIFICATIONS IT SHALL BE UNDERSTOOD THAT THE REFERENCE IS MADE SUBJECT TO THE RULING AND JUDGMENT OF THE ENGINEER AND SHALL BE SUBMITTED TO THE ENGINEERING TEAM FOR REVIEW AND APPROVAL. ACTUAL SAMPLES OF THE SUBSTITUTIONS SHALL ALSO BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
3. ALL WORK FOR THIS PROJECT SHALL CONFORM TO STANDARDS PUBLISHED BY RECOGNIZED PROFESSIONAL AND INDUSTRY ORGANIZATIONS.
4. DRAWINGS ARE NOT TO BE SCALED UNLESS PERMITTED BY THE ENGINEER. DIMENSIONS SHALL GOVERN.
5. ALL DRAWINGS AND CONSTRUCTION NOTES ARE COMPLEMENTARY AND WHAT IS CALLED FOR BY ONE WILL BE AS BINDING AS IF CALLED FOR BY ALL.
6. NO SUBSTITUTIONS OF SPECIFIED MATERIAL SHALL BE MADE WITHOUT THE WRITTEN AUTHORIZATION OF THE ENGINEER AND OWNER. THE ENGINEER AND OWNER WILL CONSIDER MATERIAL CHANGE REQUESTS ON AN INDIVIDUAL BASIS. CONTRACTOR SHALL SUBMIT SAMPLES AND CUT SHEETS FOR WRITTEN APPROVAL BY THE ENGINEERING TEAM PRIOR TO THE PROCUREMENT OF ANY SUCH MATERIAL.
7. ALL MANUFACTURED ARTICLES, MATERIALS AND EQUIPMENT SHALL BE SUPPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED, CONDITIONED, AND COMMISSIONED AS DIRECTED BY THE MANUFACTURERS, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
8. DISCREPANCIES:
   a. SHOULD A DISCREPANCY OR CONFLICT BE DISCOVERED IN THE CONTRACT DOCUMENTS THE MORE STRICT REQUIREMENTS SHALL APPLY.
   b. THE CONTRACTOR SHALL HAVE ALL ITEMS OR DETAILS CLARIFIED WITH THE ENGINEER AND OWNER PRIOR TO SUBMITTING A BID, OTHERWISE THE ENGINEER'S AND OWNER'S INTERPRETATION SHALL BE FINAL.
   c. ON-SITE VERIFICATION OF ALL DIMENSIONS AND CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER AT ONCE BEFORE PROCEEDING.
9. EQUIPMENT OF OTHERS AND AREAS ADJACENT TO THE CONSTRUCTION AREA SHALL BE PROTECTED AND RESTORED IF DAMAGED IN THE COURSE OF CONSTRUCTION, TO THE SATISFACTION OF THE OWNER.
10. CONTRACTOR SHALL PREPARE AND MAINTAIN ALL CONSTRUCTION AREAS, AS WELL AS SURROUNDING AREAS FREE OF DEBRIS OR HAZARDOUS EQUIPMENT AT ALL TIMES.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL DEBRIS AND CONSTRUCTION MATERIAL FROM THE SITE. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PROPERLY CLEANING ALL AREAS PRIOR TO FINAL ACCEPTANCE BY THE OWNER INCLUDING BUT NOT LIMITED TO HAUL ROUTES, ACCESS GATES, APRON PAVEMENTS, PLUMBING AND STORM DRAINS, PASSENGER LOADING BRIDGES, EXTERIOR AND INTERIOR BUILDING AREAS, MECHANICAL, ELECTRICAL AND IT ROOMS, ETC.
12. THE GENERAL CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT DUST FROM RISING.
13. CONTRACTOR SHALL REVIEW, LOCATE AND PHOTOGRAPH EXISTING UTILITIES MECHANICAL AND ELECTRICAL FACILITIES WITH THE AIRPORT MAINTENANCE STAFF PRIOR TO BEGINNING WORK. PHOTOGRAPHS SHALL BE APPROPRIATELY LABELED AND PROVIDED TO THE CONSTRUCTION MANAGER.
14. THE CONTRACTOR IS TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THE PLANS AND WHAT EXISTS IN THE FIELD, CONTRACTOR IS TO NOTIFY THE ENGINEER IMMEDIATELY.
15. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY UNEXPECTED OR UNKNOWN FIELD CONDITIONS, ERRORS, OMISSIONS, OR DISCREPANCIES IN THE DRAWINGS, SPECIFICATIONS, OR CONTRACT DOCUMENTS PRIOR TO PROCEEDING WITH THE WORK OR SHOP FABRICATIONS.
16. CONTRACTOR SHALL NOTIFY ENGINEER FOR CLARIFICATION PRIOR TO BIDDING OF ANY DISCREPANCIES IN THESE DRAWINGS. BID SHALL BE BASED ON THE MOST STRINGENT REQUIREMENT.
17. THE CONTRACTOR SHALL LOCATE AND PROTECT EXISTING UTILITIES AND FACILITIES (I.E., AIRPORT LIGHTING, NAVAIDS, ETC.) FROM DAMAGE BY EQUIPMENT OR PERSONNEL. THE CONTRACTOR SHALL CONTACT ALL UTILITY AND FACILITY AGENCIES FOR FIELD MARKING PRIOR TO BEGINNING CONSTRUCTION.
18. ANY DAMAGE TO EXISTING STRUCTURE TO REMAIN DURING THE CONSTRUCTION OR CLEAN-UP OF THE NEW WORK SHALL BE REPAIRED TO EQUIVALENT OR BETTER THAN ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.
19. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. ALL UTILITIES AND FACILITIES ARE NOT NECESSARILY SHOWN. THE CONTRACTOR SHALL ADVISE THE ENGINEER, IN WRITING, OF ANY EXISTING DAMAGED UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
20. THE CONTRACTOR SHALL HAND DIG WHEN WITHIN THREE (3) FEET OF ANY KNOWN OR SUSPECTED UNDERGROUND UTILITY.
21. CONTRACTOR SHALL VERIFY THE INVERT, AND/OR FLOW LINE ELEVATIONS OF POINTS OF CONNECTIONS PRIOR TO THE COMMENCEMENT OF WORK.
22. THE CONTRACTOR PERFORMING THE WORK SHALL UNCOVER (WHEN AND WHERE POSSIBLE) EXISTING UTILITIES AT ALL "POINTS OF CROSSING" TO DETERMINE IF ANY CONFLICTS EXIST BEFORE COMMENCING ANY CONSTRUCTION. NOTIFY THE ENGINEER AT ONCE OF ANY CONFLICT. SIGNIFICANT DESIGN AND/OR LOCATION CHANGES MAY REQUIRE REVISION OF THESE PLANS BY THE ENGINEER.
23. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT UNDERGROUND UTILITIES ALONG THE AREA OF EXCAVATION.
24. ANY DAMAGE TO ANY OF THE EXISTING PAVEMENT AND/OR UTILITIES MUST BE REPAIRED IMMEDIATELY. THE CONTRACTOR MUST NOTIFY THE APPROPRIATE UTILITY OWNER, WHO WILL MAKE THE REPAIRS AT THE CONTRACTORS EXPENSE.
25. CONTRACTOR TO PROVIDE A SAFETY PLAN COMPLIANCE DOCUMENT PRIOR TO START OF CONSTRUCTION TO CLEARLY DELINEATE AREAS FOR CONSTRUCTION, SAFETY BARRIERS, EGRESS, EXITS, CONSTRUCTION TRAFFIC DURING THE VARIOUS PHASES AND WHEN CONDITIONS CHANGE IN ACCORDANCE WITH THE APPROVED FAA 7460 AND HOU OPERATIONAL REQUIREMENTS. GENERAL CONTRACTOR SHALL COMPLY WITH CURRENT VERSION OF THE HAS AND FAA STANDARDS. PERMITS SHALL BE POSTED IN A VISIBLE PLACE AT ALL TIMES.
26. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE PRIOR TO BIDDING AND BE FAMILIAR WITH ALL EXISTING CONDITIONS AFFECTING THE WORK.
27. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO MAINTAIN HARMONY AMONG ALL TRADES AND AVOID ANY LABOR DISPUTE THAT MAY CAUSE A DELAY IN COMPLETING THE WORK. ANY DAMAGES TO THE OWNER'S PROPERTY OR TO THE WORK RESULTING FROM LABOR DISPUTE, SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

GENERAL NOTES (continued)

28. CONTRACTOR SHALL NOTIFY ENGINEER FOR CLARIFICATION PRIOR TO BIDDING OF ANY DISCREPANCIES IN THESE CIVIL AND ELECTRICAL DRAWINGS. BID SHALL BE BASED ON THE MOST STRINGENT REQUIREMENT.
29. CONTRACTOR TO OBTAIN WRITTEN APPROVAL FROM OWNER AND ENGINEER PER A WORK CHANGE DIRECTIVE (WCD) OR CHANGE ORDER PRIOR TO ANY CHANGES OR DEVIATION FROM THE CONTRACT DOCUMENTS.
30. THE GENERAL CONTRACTOR SHALL SUBMIT IN WRITING ALL PROPOSALS FOR ADDITIONAL WORK TO THE OWNER FOR REVIEW AND APPROVAL. NO WORK IS TO PROCEED VIA A WORK CHANGE DIRECTIVE (WCD) OR CHANGE ORDER UNTIL AN AUTHORIZATION TO PROCEED, SIGNED BY THE ENGINEER & OWNER'S REPRESENTATIVE IS RETURNED TO THE GENERAL CONTRACTOR.
31. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL BE REQUIRED TO ATTEND PROJECT MEETINGS AT THE PROJECT SITE WHEN REQUIRED BY THE ENGINEER AND OWNER'S REPRESENTATIVE. OWNER WILL PREPARE MEETING AGENDA AND MINUTES.
32. ALL WORK, MATERIALS AND EQUIPMENT SPECIFIED IN THIS PROJECT SHALL BE NEW AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS.
33. GENERAL CONTRACTOR SHALL PROVIDE ALL THE REQUIRED DOCUMENTS AND CERTIFICATES OF INSPECTION AND SHALL PERFORM ALL THE CONTROLLED INSPECTIONS REQUIRED BY THE HAS, FAA AND OTHER GOVERNING ENTITIES.
34. ARRANGE FOR, PROVIDE AND MAINTAIN TEMPORARY FACILITIES AND CONTROLS AS REQUIRED FOR THE PROPER AND EXPEDITIOUS EXECUTION OF THE WORK.
35. THE PLANS WERE DEVELOPED FROM "AS-BUILT" INFORMATION. THE INFORMATION REPRESENTED IS BASED ON THE DESIGNERS' BEST KNOWLEDGE OF THE EXISTING CONDITIONS. IT IS THE CONTRACTORS' RESPONSIBILITY TO REVIEW THESE DRAWINGS WITH THE CITY ENGINEER, HAS AND/OR FAA PRIOR TO BEGINNING ANY WORK AT THE AIRPORT. SHOULD THE CONTRACTOR DISCOVER CONDITIONS DIFFERING FROM OR NOT REFLECTED ON THESE PLANS, THE CONTRACTOR SHALL CONTACT OWNER/ENGINEER.
36. CONSTRUCTION PERSONNEL SHALL BE CONFINED TO THE LIMITS OF THE CONSTRUCTION AREA. ALL OSHA REGULATIONS FOR CONSTRUCTION AREAS SHALL BE STRICTLY FOLLOWED.
37. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED DEVELOPMENT AND CONSTRUCTION PERMITS, LOCAL, STATE OR FEDERAL, PRIOR TO THE START OF ANY WORK.
38. PROJECT PAY ITEMS - THE PROJECT PAY ITEMS PROVIDED SHALL BE INCLUSIVE OF ALL WORK TO BE PERFORMED AS SHOWN ON THE PLANS. WORK SHOWN ON THE PLANS, BUT NOT ASSOCIATED WITH A SPECIFIC PAY ITEM SHALL BE CONSIDERED AS INCIDENTAL TO THE OTHER PAY ITEMS OF WORK.
39. AREAS OF STOCKPILED MATERIAL WITHIN THE CONSTRUCTION AREA SHALL BE TREATED IN ACCORDANCE WITH FAA ADVISORY CIRCULAR 150-5370-2G. THE CONTRACTOR IS RESPONSIBLE FOR IMMEDIATE CLEANUP OF ANY DEBRIS FALLING ON AIRPORT PAVEMENT AS A RESULT OF THE WORK. CONTRACTOR SHALL SWEEP ALL ROADWAYS ALONG THE HAUL ROUTES AT LEAST DAILY. AIRPORT PAVEMENTS, INCLUDING THOSE USED AS PART OF THE HAUL ROUTE SHALL BE IMMEDIATELY CLEANED OF ANY FALLEN DEBRIS OR MUD RESULTING FROM CONSTRUCTION ACTIVITIES.
40. THE WASTE AREA FOR ALL CLEAN SELECT MATERIAL IS TO BE PLACED AT THE CONTRACTOR'S STAGING AREA. ALL BROKEN CONCRETE, ASPHALT, ETC. SHALL BE DISPOSED OF OFFSITE BY THE CONTRACTOR IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
41. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL MAKE ALL NECESSARY REPAIRS TO THE HAUL ROAD AS ORDERED BY THE HAS PROJECT MANAGER. ALL REPAIR AND RESTORATION WORK FOR THE HAUL ROUTES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
42. THE OWNER RESERVES THE RIGHT TO CONTRACT AND PERFORM OTHER OR ADDITIONAL WORK ADJACENT TO AND WITHIN THE WORK AREA COVERED BY THIS CONTRACT. WHEN SEPARATE CONTRACTS ARE LET WITHIN THE LIMITS OF ANY ONE PROJECT, EACH CONTRACTOR SHALL CONDUCT HIS WORK SO AS NOT TO INTERFERE WITH OR HINDER THE PROGRESS OR THE COMPLETION OF THE WORK BEING COMPLETED BY OTHER CONTRACTORS. THE CONTRACTORS WORKING ON THE SAME PROJECT SHALL COOPERATE WITH EACH OTHER AS ORDERED BY THE OWNER. ANY ADDITIONAL EFFORT OR WORK REQUIRED FOR SUCH COORDINATION WITH OTHER CONTRACTORS SHALL BE INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE.
43. ALL CONTRACTOR PERSONNEL SHALL ARRIVE AT THE PROJECT IN COMPANY VEHICLES. ONLY AUTHORIZED VEHICLES WILL BE ALLOWED INSIDE THE SECURITY FENCE. AT THE END OF EACH WORK DAY, THE CONTRACTOR SHALL POSITION ALL EQUIPMENT, TOOLS, MATERIAL, ETC. IN THE APPROVED CONTRACTOR'S STAGING AREA UNLESS OTHERWISE REQUESTED BY THE CONTRACTOR AND APPROVED BY THE OWNER.
44. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL AIR QUALITY AND POLLUTION CONTROL REGULATIONS WHICH PERTAIN TO THE CONSTRUCTION ACTIVITIES AND/ OR PLANT OPERATIONS.
45. THE CONTRACTOR SHALL FIELD VERIFY ALL BENCHMARKS AND ELEVATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY. IF NO VERIFICATION IS MADE, CONTRACTOR ACCEPTS ALL RESPONSIBILITY FOR SURVEY INFORMATION.
46. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT (800) 245-4545/611 A MINIMUM OF 48 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION.
47. THE CONTRACTOR IS REQUIRED TO COMPLY WITH THE LATEST EDITION OF THE O.S.H.A. REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING EXCAVATION.
48. THE CONTRACTOR PERFORMING THE WORK SHALL BE LIABLE FOR ALL LEGAL ACTIONS RESULTING FROM THE CONSTRUCTION ACTIVITY IN THE VICINITY OF THIS PROJECT AND BY ACCEPTING THESE PLANS, AGREES TO HOLD THE OWNER, ARCHITECT, AND ENGINEER HARMLESS FROM ANY CLAIMS OR DAMAGES RESULTING FROM THIS WORK.
49. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHIPPING OF ALL MATERIALS. THE LOADING AND UNLOADING OF ALL PASSENGER LOADING BRIDGES (PLB). GROUND POWER UNITS (GPU). PRE-CONDITIONED AIR UNITS (PCA) AND OTHER ACCESSORIES SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED PRACTICES AND SHALL BE AT ALL TIMES PERFORMED WITH CARE TO AVOID ANY DAMAGE TO THE SYSTEMS AND MATERIAL. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO EXAMINE SUCH MATERIAL AT THE POINT OF DELIVERY AND TO REJECT ALL DEFECTIVE MATERIAL. THE DEFECTIVE MATERIAL MUST BE REPLACED WITH SOUND MATERIAL.
50. ACCESS TO ALL EXISTING AIRFIELD PAVEMENTS AND SERVICE ROADS SHALL BE MAINTAINED AT ALL TIMES.
51. SURFACE RESTORATION: AT THE END OF ALL CONSTRUCTION, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES TO BE MADE EQUAL TO OR BETTER THAN EXISTING SITE CONDITION PRIOR TO CONSTRUCTION. THROUGHOUT CONSTRUCTION OF THIS PROJECT, SHALL BE AS GOOD OR BETTER THAN EXISTING CONDITION PRIOR TO STARTING WORK BY CONTRACTOR. ANY DEBRIS ON THE SURROUNDING PAVEMENT NETWORK ORIGINATING FROM THE CONSTRUCTION SITE SHALL BE REMOVED IMMEDIATELY.
52. CONTRACTOR SHALL PREPARE A SET OF "AS-BUILT" DRAWINGS SHOWING ANY FIELD CHANGES MADE TO THE APPROVED ENGINEERING PLANS AND SUBMIT TO THE DESIGN CONSULTANT FOR SUBMISSION TO OWNER.
53. IF THE CONSTRUCTION DOES NOT BEGIN WITHIN A YEAR AFTER THE PLANS HAVE BEEN APPROVED BY GOVERNING AGENCIES, NEW APPROVALS MUST BE OBTAINED AND LETTERS OF AVAILABILITY MUST BE UPDATED.
54. THE CONTRACTOR IS ADVISED THAT AIRCRAFT MAINTENANCE OPERATIONS ARE CONDUCTED ADJACENT TO THE PROJECT. SPECIAL ATTENTION TO DUST CONTROL WILL BE REQUIRED DURING THE COURSE OF THE PROJECT. THE

GENERAL NOTES (continued)

USE OF WATER AND CALCIUM CHLORIDE SHALL BE ANTICIPATED. THE ENGINEER OR THE OWNER RESERVES THE RIGHT TO HALT WORK OR HAULING IN NON-CONFORMING AREAS, IF CORRECTIVE ACTIONS ARE NOT PROMPTLY TAKEN BY THE CONTRACTOR TO CONTROL DUST.

55. THE CONTRACTOR SHALL KEEP AIRFIELD AREAS, WHICH ARE SUBJECT TO CONSTRUCTION TRAFFIC, CLEAN OF ALL DEBRIS AND DIRT WITH A VACUUM TRUCK. FOD AND DEBRIS DEPOSITED ON THE AIRFIELD PAVEMENTS AS A RESULT OF CONSTRUCTION SHALL BE IMMEDIATELY VACUUMED CLEAN. THE CONSTRUCTOR SHALL HAVE ON HAND, AT ALL TIMES, A BACK-UP VACUUM TRUCK FOR USE WHEN DEEMED NECESSARY BY THE CONSTRUCTION MANAGER, HAS AND/OR FAA.
56. A MINIMUM OF 48 HOURS IN ADVANCE OF ANY EXCAVATION OR BORINGS, THE CONTRACTOR SHALL CONTACT TEXAS ONE CALL (811) TO VERIFY ALL UNDERGROUND CABLE LOCATIONS IN THE VICINITY OF THE PROPOSED WORK:

CABLE OWNER	CONTACT PERSON	PHONE NUMBER
FEDERAL AVIATION ADMINISTRATION	RON ADAIR	(713) 847-1430 (O) (337) 254-1336 (M)
HOUSTON AIRPORT SYSTEM (HAS)	JUAN PEDRACOVA	(281) 230-8915 (C) (281) 299-6409 (M)
HOU AIRPORT OPERATIONS CENTER	DUTY PHONE	(713) 845-6555

GRAPHIC SYMBOLS

◂○▸	CAMK	(CABLE MARKER)	⊠	EBOX	(ELECTRIC BOX)
∅	CO	(CLEANOUT)	●	ELMH	(ELEC. M.H.)
∴	CONC	(CONCRETE)	•	WTRV	(WATER VALVE)

SECURITY AND SAFETY NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL AIRPORT AND FAA ADVISORY CIRCULAR OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION REQUIREMENTS AS DESCRIBED IN FAA ADVISORY CIRCULAR 150/5370-2G. THE CONTRACTOR SHALL OBTAIN SECURITY BADGES FOR SUPERVISORS, SUBCONTRACTOR SUPERVISORS AND DESIGNATED ESCORTS WITHIN THE CONSTRUCTION AREA, AS A MINIMUM. NO SEPARATE PAYMENT SHALL BE MADE FOR AIRPORT SECURITY BADGES AND COMPLIANCE.
2. THE CONTRACTOR SHALL MARK AND LIGHT AREAS UNDER CONSTRUCTION IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. AIRCRAFT AND PUBLIC SAFETY SHALL NOT BE COMPROMISED AND PROPER SEPARATION SHALL BE MAINTAINED AT ALL TIMES. EQUIPMENT AND VEHICLES SHALL BE MARKED WITH 3' X 3' ORANGE AND WHITE CHECKER FLAGS AND YELLOW FLASHING DOME TYPE LIGHT.
3. CONSTRUCTION LIMITS - ALL CONTRACT VEHICLES AND CONSTRUCTION TRAFFIC IS REQUIRED BY FAA ADVISORY CIRCULARS TO STAY WITHIN THE LIMITS OF CONSTRUCTION WHILE ON THE CONSTRUCTION SITE. LIMITS SHALL BE STRICTLY MAINTAINED. ACCESS ROUTES TO THE CONSTRUCTION SITE ARE SHOWN ON THE PLANS. TRAFFIC ASSOCIATED WITH CONSTRUCTION SHALL USE ONLY THOSE AREAS SHOWN FOR CONSTRUCTION USE. FAILURE TO DO SO COULD RESULT IN OFFENDERS' REMOVAL FROM THE SITE AND BADGE REVOCATION.
4. CONTRACTOR'S ACCESS TO THE SITE IS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL NOT PERMIT ANY UNAUTHORIZED PERSONNEL OR TRAFFIC ON THE CONSTRUCTION SITE.
5. AOA GATES WHICH REMAIN OPEN FOR CONSTRUCTION TRAFFIC MUST BE MANNED BY A CERTIFIED GATE GUARD - AS A MINIMUM.
6. NO DEBRIS OF ANY NATURE SHALL BE ALLOWED IN ACTIVE AIRCRAFT OPERATIONS AREAS. ALL LOOSE MATERIALS (DIRT, STONE, PAVEMENT, FORMING, ETC.) MUST BE KEPT WITHIN THE LIMITS OF CONSTRUCTION. WHEN THE CONSTRUCTION BARRIERS ARE MOVED DURING CONSTRUCTION, THE CLEANUP OF THE AREAS OUTSIDE THE BARRIERS SHALL OCCUR IMMEDIATELY. IN ADDITION, NO LOOSE MATERIALS THAT COULD BLOW INTO AIRCRAFT OPERATIONS AREAS SHALL BE ALLOWED IN THE CONSTRUCTION AREA.
7. PRIOR TO ENTERING ANY AIR OPERATIONS AREA (AOA), SAFETY OR OBJECT FREE AREA, THE CONTRACTOR SHALL OBTAIN CLEARANCE WITH AIRPORT OPERATIONS. TWO-WAY RADIO COMMUNICATIONS WITH THE TOWER BY THE CONTRACTOR IS NOT ALLOWED. NO EQUIPMENT OR PERSONNEL SHALL ENTER AN OPEN RUNWAY OR TAXIWAY SAFETY OR OBJECT FREE AREA UNLESS PROPERLY COORDINATED WITH THE HOUSTON AIRPORT OPERATIONS. THE USE OF TRAINED FLAGMEN AND TWO-WAY RADIOS SHALL BE REQUIRED IN THESE AREAS. THE CONTRACTOR SHALL MONITOR THE COMMON TRAFFIC ADVISORY FREQUENCY PER AIRPORT OPERATIONS. THE CONTRACTOR SHALL HAVE AN ADEQUATE NUMBER OF TWO-WAY RADIOS ON-SITE AT ALL TIMES AND SHALL BE RESPONSIBLE FOR PROVIDING THE RADIOS TO FLAGGERS. REFERENCE IS DIRECTED TO THE FAA ADVISORY CIRCULAR 150/5370-2G OF THE SPECIFICATIONS.
8. UPON NOTIFICATION FROM AIRPORT OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY CLEAR THE RUNWAY AND/OR TAXIWAY OF EQUIPMENT AND PERSONNEL IN THE EVENT OF A DECLARED AIRCRAFT EMERGENCY OR UNSAFE CONDITIONS.
9. ALL BARRICADES SHALL BE SECURED IN PLACE AGAINST MOVEMENT BY WIND OR JET BLAST, IN A MANNER APPROVED BY THE CONSTRUCTION MANAGER AND AIRPORT OPERATIONS.
10. ALL BARRICADE LIGHTS SHALL BE INSPECTED AND VERIFIED FOR PROPER OPERATION AT THE END OF EACH DAY BEFORE CONTRACTOR CEASES WORK, BUT NO LATER THAN SIXTY (60) MINUTES PRIOR TO SUNDOWN. INSPECTION SHALL BE PERFORMED BY THE CONTRACTOR AND WILL BE VERIFIED BY AIRPORT OPERATIONS. ALL LIGHTS SHALL BE OPERATING BEFORE CONTRACTOR LEAVES THE SITE.

ABBREVIATIONS

GENERAL

ELEV = ELEVATION
TYP = TYPICAL
NTS = NOT TO SCALE
STA = STATION
RT = RIGHT
LT = LEFT
SHT = SHEET
ST = STREET
AVE = AVENUE
DEPT = DEPARTMENT
TYP = TYPICAL
NIC = NOT IN CONTRACT
N = NORTHING
E = EASTING

CURVES

R, RAD = RADIUS
DIA, Ø = DIAMETER
ID = INSIDE DIAMETER
OD = OUTSIDE DIAMETER

LINES

℄ = CENTER LINE
BL = BASE LINE
FL = FLOW LINE

PIPES

CP = CONCRETE PIPE
PMP = PERFORATED METAL PIPE
RCP = REINFORCED CONCRETE PIPE
SWR = SANITARY SEWER
STM = STORM SEWER
WTR = WATERLINE

SYMBOLS

NG = NATURAL GROUND
BLDG = BUILDING
PP = POWER POLE
IR = IRON ROD
MH = MANHOLE
PVMT = PAVEMENT
CONC = CONCRETE
PCC = PORTLAND CEMENT CONCRETE
ASPH = ASPHALT
RWY = RUNWAY
TWY = TAXIWAY
REINF = REINFORCED
EG = EXISTING GRADE
IAH = GEORGE BUSH INTERCONTINENTAL AIRPORT
COH = HOUSTON AIRPORT SYSTEM
DOA = CITY OF HOUSTON DEPARTMENT OF AVIATION
FAA = FEDERAL AVIATION ADMINISTRATION
ASTM = AMERICAN SOCIETY FOR TESTING MATERIALS
TXDOT = TEXAS DEPARTMENT OF TRANSPORTATION
OSHA = OCCUPATIONAL SAFELY AND HEALTH ADMINISTRATION
AACE = AMERICAN ASSOCIATION OF COST ENGINEERS
AASHTO = AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
AC = ADVISORY CIRCULAR
ACN = AIRCRAFT CLASSIFICATION NUMBER
ADG = AIRPLANE DESIGN GROUP
AGL = ABOVE GROUND LEVEL
AIP = AIRPORT IMPROVEMENT PLAN

ALP = AIRPORT LAYOUT PLAN
ALS = APPROACH LIGHT SYSTEM
AOA = AIRPORT OPERATIONS AREA
APMS = AIRPORT PAVEMENT MANAGEMENT SYSTEM
ARFF = AIRPORT RESCUE AND FIREFIGHTING
ATC = AIR TRAFFIC CONTROL
ATCT = AIR TRAFFIC CONTROL TOWER
BMP = BEST MANAGEMENT PRACTICES
CATEX = CATEGORICAL EXCLUSION
CBR = CALIFORNIA BEARING RATIO
CCR = CONSTANT CURRENT REGULATOR
CFR = CODE OF FEDERAL REGULATIONS
CSPP = CONSTRUCTION SAFETY PHASING PLAN
GPU = GROUND POWER UNIT
HAS = HOUSTON AIRPORT SYSTEM
DOT = DEPARTMENT OF TRANSPORTATION
EA = ENVIRONMENTAL ASSESSMENT
EB = ENGINEERING BRIEF
EIS = ENVIRONMENTAL IMPACT SYSTEM
EPA = ENVIRONMENTAL PROTECTION AGENCY
FAARFIELD = FAA RIGID AND FLEXIBLE ITERATIVE ELASTIC LAYER DESIGN
FAR = FEDERAL AVIATION REGULATION
FBO = FIXED BASE OPERATOR
FOD = FOREIGN OBJECT DAMAGE (OR DEBRIS)
FWD = FALLING WEIGHT DEFLECTOMETER
GPS = GLOBAL POSITIONING SYSTEM
HH = HANDHOLE
HMA = HOT MIX ASPHALT
HIRL = HIGH-INTENSITY RUNWAY LIGHTING
ILS = INSTRUMENT LANDING SYSTEM
LAHSO = LAND AND HOLD SHORT OPERATIONS
LOC = LOCALIZER
MALSR = MEDIUM-INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS

ABBREVIATIONS (continued)

MIRL = MEDIUM-INTENSITY RUNWAY LIGHTING
MITL = MEDIUM-INTENSITY TAXIWAY LIGHTING
MILS = MICROWAVE LANDING SYSTEM
MSL = MEAN SEA LEVEL
NAS = NATIONAL AIRSPACE SYSTEM
NAVAID = NAVIGATIONAL AID
NDT = NON-DESTRUCTIVE TESTING
NEPA = NATIONAL ENVIRONMENTAL POLICY ACT
NOTAM = NOTICE TO AIRMEN
NPDES = NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NOI = NOTICE OF INTENT
NTP = NOTICE TO PROCEED
NTSB = NATIONAL TRANSPORTATION SAFETY BOARD
O&M = OPERATIONS AND MAINTENANCE
PAPI = PRECISION APPROACH PATH INDICATOR
PCA = PRE CONDITIONED AIR
PCC = PORTLAND CEMENT CONCRETE
PCI = PAVEMENT CONDITION INDEX
PCN = PAVEMENT CLASSIFICATION NUMBER
PI = POINTS OF INTERSECTION
PLB = PASSENGER LOADING BRIDGE
PLS = PROFESSIONAL LAND SURVEYOR
REIL = RUNWAY END IDENTIFIER LIGHTS
RGL = RUNWAY GUARD LIGHTS
RPZ = RUNWAY PROTECTION ZONE
RSA = RUNWAY SAFETY AREA
RT = REMOTE TRANSMITTER
SWPPP = STORM WATER POLLUTION PREVENTION PLAN
HCFCD = HARRIS COUNTY FLOOD CONTROL DISTRICT
SOW = SCOPE OF WORK
SPCD = SAFETY PLAN COMPLIANCE DOCUMENT
SPT = STANDARD PENETRATION TEST
TCEQ = TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
TERPS = TERMINAL INSTRUMENT PROCEDURES
TRACON = TERMINAL RADAR APPROACH CONTROL
TSA = TAXIWAY SAFETY AREA
TOFA = TAXIWAY OBJECT FREE AREA
VFR = VISUAL FLIGHT RULES

HOUSTON AIRPORT SYSTEM
WILLIAM P. HOBBY AIRPORT
HOUSTON TEXAS

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REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR BID	04-04-2022	JLW

WILLIAM P. HOBBY AIRPORT (HOU)
PASSENGER LOADING BRIDGE REPLACEMENT

GENERAL NOTES, ABBREVIATIONS, AND LEGENDS

PROJECT MGR:	JLW
DESIGNER:	RC
DRAWN BY:	RC
CHECKED BY:	DJ
SCALE:	AS SHOWN
DATE:	APRIL 04, 2022

FIRM REGISTRATION NO. F-2966
JACOBS ENGINEERING GROUP, INC.
REGISTERED ARCHITECT
TODD MICHAEL NIESNER
25135
STATE OF TEXAS
04-04-2022

APPROVED BY: DATE:

DIRECTOR
HOUSTON AIRPORT SYSTEM

JACOBS PROJECT NO: WHXK7119
C.I.P. NO:
H.A.S. NO: PN946B
SHEET NO: G-1.02

Appendix F. Houston Airport System, Tenant Violations – Offenses, Charging Instrument, Due Process Provisions

Operating Instruction

HOUSTON AIRPORT SYSTEM

TITLE **Tenant Violations - Offenses, Charging Instrument, Due Process Provisions**	**OI Category I No.** 05-03
	Date Original Approved: August 01, 2005
Authorized Signature: Mario C. Diaz, Director of Aviation	Revised Date: February 1, 2016

I. PURPOSE

A. To explain the rationale of the system of enforcing compliance with various laws, ordinances, policies, procedures, rules and regulations of or pertaining to the Houston Airport System (HAS), including, but not limited to, the Airport Security Plan (ASP), Organization Policy & Procedures (OPPS), Airport Operating Procedures (AOP) and Airport Security Manual and/or Operating Instructions (O.I.).

B. To identify the persons authorized to issue Notice(s) of Violation(s), which is the charging instrument in the Houston Airport System (HAS) for O.I. and other administrative violations.

C. To identify violations, including, but not limited to the specific violations enumerated herein.

D. To assign consequences to such violations.

E. To provide a means of providing for due process to those charged.

II. POLICY BASIS

Title 49 Code of Federal Regulations Parts 1540 & 1542, Airport Security Plan, Title 14 Code of Federal Regulations Part 139, Chapter 9 of the City of Houston Code of Ordinances, Houston Airport System Operating Instruction 05-02

III. BACKGROUND

A. HAS, along with various federal, state and local governmental bodies, including administrative bodies, has developed, and continues to develop, various laws, policies, procedures, rules and regulations that are deemed reasonable and necessary for the safe, efficient and secure operation of the Houston Airport System (HAS).

1. At the Houston Airport System there are three enforcers of these laws, ordinances, policies, procedures, rules and regulations:

   a. The Airport Operations and Airport Security Sections, as designated by the Airport General Manager, are the primary Sections responsible for enforcement of security, non-security, safety, and operations related laws, ordinances, policies, procedures, rules and regulations; and

   b. Law Enforcement Officers-Law Enforcement Officers only have the authority to enforce criminal laws and not administrative or civil law nor the administrative or civil counterpart of any criminal law.

   c. The Section Directors may designate those within their Sections who are authorized to enforce non-criminal and administrative violations, and/or the administrative or civil counterpart of any criminal law, i.e. issue Notices of Violation, by either name or by their operating title class, and any designated by operating title class shall include any and all of those becoming employed in

said operating title class after the date of designation, as well as, those in any operating title class that is named as a successor to a prior operating title class.

d. The Airport General Manager, as he/she deems necessary, may designate any other section with the responsibility of the enforcement of security, non-security, safety, and operations related laws, ordinances, policies, procedures, rules and regulations.

2. The means of notifying an individual or an organization that they have violated an administrative or civil law, policy, procedure, rule and/or regulation is by means of issuing a charging instrument called an NOV or Notice of Violation. This form may be used for either issuing a warning or for formal charging. (See Attachment #1)

3. This O.I. provides periods of time and a procedure in which to file a contest and a procedure for a fair and impartial hearing.

4. Besides a general offense of violating a law, ordinance, policy, procedure, rule or regulation, specific offenses are listed herein so as to provide the HAS Community a clearer view of some of the areas that the Community needs to concentrate in resolving for the safety, security and efficiency of the HAS airports.

5. This O.I provides a procedure to follow the NOV from issuance through completion of the consequences and to allow for better tracking of the NOV history of each individual and sponsoring organization's sponsored individuals.

6. The title to any HAS position stated in this O.I. or any other O.I. related to ID Badging may be changed by posting the change in the public area at the main ID Badging Office at any HAS Airport affected thereby.

IV. POLICY APPLICABILITY

A. This (O.I) applies to any person or entity who uses, desires to use, or should be using, the HAS Airport Security Section ID Badging system and/or Access Control System at any one or more of the HAS airports or facilities, employees of HAS who are governed by other HAS and City Of Houston ordinances, rules and regulations.

B. This (O.I), by this paragraph, does hereby extend and apply O.I. 05-02 (Security Access Control System & ID Badging) to any person or entity who uses, desires to use, or should be using, the HAS Airport Security Section ID Badging system and/or Access Control System at any one or more of the HAS airports or facilities, employees of HAS who are governed by other HAS and City Of Houston ordinances, rules and regulations.

C. This O.I. and O.I. 05.02 as applicable per airport, also applies to airline crews, airline mechanics and others who are allowed access to restricted or controlled areas based upon identification or access media issued by their employers (included in the definition of "HAS authorized ID Badges") and who are not otherwise required to possess an HAS issued ID Badge shall be required to submit to and undergo the same sanctions as if they had an HAS issued ID Badge and failure to submit to and undergo such sanctions for violations shall make them a trespasser after warning and subject to being so charged under the Penal Code of the State of Texas.

D. This O.I. and O.I. 05.02 as applicable per airport, also applies to any individual who's employed at HAS owned, leased or controlled property for the purpose of providing any work, goods or services to HAS or any of its contractors, subcontractors, lessees, concessionaires, etc. and in so providing said work, goods

or services enters into any controlled or restricted area of such HAS owned, leased or controlled is required to obtain an HAS issued ID Badge. Individuals employed at all locations requiring a HAS ID badge shall be required to submit a completed HAS badge application to a HAS Badging Office prior to being authorized to work in a controlled or restricted area. These individuals may only be escorted after submitting a completed badge application to HAS Badging Office.

Individuals denied an HAS ID badge due to disqualifying criminal crimes and conditions prohibiting such issuance (O. I. 05-02 Attachment A) or have their HAS ID badge privileges suspended may not be employed or provide goods or services at any HAS owned, leased or controlled property including public areas. The individuals described in this subparagraph shall make them a trespasser after warning and subject to being so charged under the Penal Code of the State of Texas.

V. RESPONSIBILITY

A. It is the responsibility of each individual and the tenant or other sponsoring entity and/or the party to whom they are providing work, goods or services, jointly and severally, to ensure that they and/or those sponsored or utilized by them are fully aware of the regulations, violations, penalties, and enforcement procedures contained in this (O.I), as well as, all other applicable laws, ordinances, rules and regulations, **before starting work and/or providing work, goods or services at an HAS airport - lack of knowledge or understanding is not an excuse nor a defense.** It shall be the responsibility of all above mentioned are kept advised of all changes and revisions to the regulations, violations, penalties, and enforcement procedures contained in this (O.I) and other applicable laws, ordinances, rules and regulations.

B. It is the responsibility, duty and obligation of each and every individual to whom an ID Badge is issued, to know the limitations of their access, the laws, ordinances, policies, procedures, rules and regulations governing access, safety and security at the HAS airports and to timely and faithfully carryout their duties and obligations to the same, including, but not limited to, obeying each and every law, policy, procedure, rule and regulation and to strictly avoid any violation(s) of the same and by acceptance and/or retention of an ID Badge they represent that they have complied with these responsibilities, duties and obligations.

VI. DEFINITIONS

A. Wherever an "Attachment", "Form" or "Map" is referred to anywhere in this O.I., they are provided for your convenience only as a general assistance and do not constitute a legal description. The current "Attachment", "Form" or "Map" can be obtained from the HAS Airport Security Section.

B. The use of bolding, italics, underlining or other means of emphasizing a word or words is merely an aid to bring that portion to the reader's attention and does not denigrate the status or importance of any other word, words, sentences or paragraphs nor reduce their being mandatory in nature where appropriate.

C. Word and Phrase Definitions:

1. Airport Identification Badge (ID Badge): Any single identification media or combined identification media and access control media which is, and does always remain, the property of the Houston Airport System and is issued by HAS to provide identification, authorization, and access to restricted and/or controlled airport areas and other HAS facilities. Anytime the term "ID Badge" is used, it is referring to an ID Badge issued by HAS, Airport Security ID Badging, unless otherwise specifically noted. The term shall also include any medallions, etc. designated and authorized by HAS to be attached to the ID Badge.

2. Airport General Manager: Is the person designated as such by the Houston Airport System for each HAS Airport. The term "Airport General Manager" shall include the person designated by the Airport General

Manager or by the Director of Aviation as the Acting or Interim Airport General Manager, when the Airport General Manager is on leave (vacation, city business, sick leave, FMLA, etc.) or unable or unavailable to fulfill their normal duties.

3. Airport Security Coordinator (ASC): The Primary Airport Security Coordinator is the person that occupies the position as defined in 49 Code of Federal Regulations (CFR) 1542.3 and as designated in the Airport Security Plan. The "Primary Airport Security Coordinator", as used herein, is the Airport Security Manager. The Airport Security Coordinator for ID Badging, if any, is the person who is the Head Supervisor for the ID Badging Section or any successor title thereto, i.e., it is the person that is the highest ranking individual for an ID Badging Office. The Airport Security Coordinator for the Security Section, if any, is the person holding that operational title.

4. Airport Security Manager (ASM): Is the person so designated in that position by the General Manager of the airport. The term "Airport Security Manager" shall include the person designated by the Airport Security Manager as the Acting or Interim Airport Security Manager, when the Airport Security Manager is on leave (vacation, city business, sick leave, FMLA, etc.).

5. Air Operations Area (AOA): A portion of an airport, specified in the airport security program, in which security measures specified in Part 1540 are carried out. This area includes aircraft movement areas, aircraft parking areas, loading ramps, and safety areas, for use by aircraft regulated under 49 Code of Federal Regulations (CFR) Part 1544 or 1546, and any adjacent areas (such as general aviation areas) that are not separated by adequate security systems, measures, or procedures. Portions of the AOA may concurrently have more restrictive and controlled designations. The AOA is more specifically delineated in attachments to the Airport's ASP.

6. Airport Security Plan (ASP): An airport's security program developed for and approved by the Transportation Security Administration (TSA) under the provisions of 49 CFR Chapter XII Part 1542.101. The Airport Security Plan is sometimes referred to as the Airport's Security Program.

7. Airport Tenant Security Program (ATSP): The agreement, if applicable, between the airport operator and an airport tenant that specifies the measures by which the tenant will perform security functions, and approved by TSA, under Part 1542.113 of 49 CFR Chapter XII.

8. Apron Areas/Ramps: Any area at an HAS airport where aircraft operate or park without being under direct control of the Air Traffic Control Tower, excluding corporate hanger areas, Fixed Based Operator (FBO) areas, and general aviation areas. Access to apron areas is restricted for security/safety reasons as defined in TSA 49 CFR 1540 & 1542, 1544 and 1546 and/or other applicable laws, rules and regulations.

9. Authorized ID Badge: Includes not only HAS issued ID Badges, but also, the ID Badges and access media of airline crews, airline mechanics or others who are allowed access to restricted or controlled areas based upon identification or access media issued by their employers and who are not otherwise required to possess an HAS ID Badge.

10. Authorized Signatory Authority: Is a person authorized by an employer or sponsoring company, and approved by an HAS ID Badging Office, to sign forms, including but not limited to Security Clearance Requests, Badge Renewal Requests, Key Requests, and PIN Requests, for individuals employed by or being sponsored for an HAS ID Badge.

11. Badging & Access Office: The HAS Airport Security ID Badging & Access Office Section that is primarily responsible for reviewing, approving, issuing, accounting to TSA for, and/or governing authorized ID Badges, Keys, PIN's and other access media. This Office is also responsible for Criminal History Records Check (CHRC)s, other security background checks, designation, assigning and entry of access rights, programming and deprogramming ID Badges, PIN data, etc. into the HAS access control computer system. ID Badges, PIN's and other media are issued by the Badging & Access Office located

at each of the HAS airports. In addition to each permanent Badging & Access Office at each HAS airport, the HAS Airport Security Section may, from time to time, specially and/or temporarily designate other locations. Hours of operation may vary depending on staffing and other considerations. Other names for this Office are the ID Badging & Access Office and/or ID Badging Office and/or Badging Office and/or other combinations thereof.

12. Company Offense: An offense that is chargeable against an organization, as opposed to, or in addition to, an individual. In a company offense, the sanction shall be performed by the highest ranking officer, project manager, station manager, superintendent, division manager, substantial owner or other management person of a rank similar to the foregoing that is directly connected with the business, operation, or project of the charged organization for the Airport or HAS facility related to the business, operation or project.

13. Controlled Areas: Those areas controlled by card readers, key lock, PIN pad or other access control device. These areas include, but are not limited to, certain parking areas, certain restricted areas, secured areas, sterile areas, apron areas, SIDA areas, AOA or any other area as defined in this O.I. or other applicable law, rule, regulation, Airport Security Plan, Security Program, lease, contract, agreement or by signage as off-limits to anyone not authorized to be in that area.

14. Current Picture: A picture of the applicant which is clear enough and closes enough in appearance so that a reasonable person can readily conclude that the document with the picture and the person presenting the document with the picture as being their own picture are one and the same person.

15. Disqualifying Condition: A pattern of criminal intent or activity as evidence by arrest records or convictions, irrespective of the type of the criminal offense(s) alleged or time period as determined by the Airport Security Manager. Termination of Badging/Access Rights or similar thereto, any airport within the 10 year period prior to seeking badging at an HAS Airport. (The term "Airport "as used herein shall mean any airport in the world)

16. Escort: To accompany or monitor and physically/visually control the activities of an individual who does not have unescorted access authority into or within a TSA Regulated Area as defined in the ASP.

17. Enforcement: The Airport Security and Airport Operations Sections are responsible for enforcement of safety, security and non-security related offenses described in this Operating Instruction and associated O.I.s.

18. Faithfully: Without variance, completely, devotedly, dependably.

19. HAS Airports: All land and improvements which are owned, leased, controlled and/or operated by the City of Houston under the auspices of the Houston Airport System at, or in conjunction with and/or support of, any one or more of the City owned airports.

20. Houston Airport System (HAS): City of Houston department responsible for operation of the City owned airports.

21. I.D. Badge Application and/or Application: Includes, but is not limited to, the Security Clearance Request form and the Security Clearance Renewal Request form, and any other application, clearance or request forms promulgated and used by HAS I.D. Badging Offices for the purpose of badging or issuance of access media.

22. Immediately or Immediate or Timely: Without delay, right there and then, time is of the essence, something to be accomplished before proceeding with other tasks, either business or personal.

23. Immediate Temporary Suspension: An individual's badging rights are immediately suspended as a result of behavior and/or action(s) that creates an unreasonable risk which may diminish the reputation, or the safety and/or security of the HAS community.

24. Key Set Symbol: The code number stamped on a controlled key used for identification purposes.

25. Media: Includes ID Badges, keys, PIN Numbers and other equipment and devices for identification and/or access.

26. Notice of Violation: Written notice on a form, or in a format, designated by HAS Airport Security, officially charging an individual or entity with a violation of Security, or non-security, laws, ordinances, policies, procedures, rules or regulations or any other laws, ordinances, policies, procedures, rules or regulations, including, but not limited to the Airport Security Plan, Organization Policy & Procedures (OPPS), Airport Operating Procedures (A.O.P.), Airport Security Plan and/or Operating Instructions (O.I.).

27. PIN Code: Personal Identification Number, normally identifiable to just one person, but which may, under some circumstances, be issued to more than one person, but often identifiable to a specific group of similarly engaged persons, needing access through a PIN controlled portal and normally used for access to Controlled Areas not covered by conventional locks or card readers.

28. Portal: Any opening through which an individual or object can enter into a place or exit from a place; a portal may be controlled or uncontrolled; a portal includes, but is not limited to, doors, windows, baggage conveyor doors, doorways, cutouts in walls and floors, gates, openings in fences, docks, driveways into and out of a building or area, conveyor openings, construction openings, etc.

29. Remedial Training: Such training as may be required by HAS of any individual or entity receiving a Notice of Violation.

30. Restricted Area: Areas not otherwise classified and which requires a grant of permission to enter and remain in from either HAS or a person or entity having greater rights of possession and control of the area than the person seeking to enter or remain therein.

31. Secured Area: A portion of an airport, specified in the Airport Security Plan, in which certain security measures specified in Part 1542 of 49 CFR Chapter XII are carried out. This area is where aircraft operators and foreign air carriers that have a security program under Part 1544 or 1546 of 49 CFR Chapter XII enplane and deplane passengers and sort and load baggage and any adjacent areas that are not separated by adequate security measures. The Secured Area is more specifically delineated in attachments to the Airport's ASP.

32. Security Identification Display Area (SIDA): A portion of an airport, specified in the airport security program, in which security measures specified in Part 1542 are carried out. *The Secured Area is always a SIDA but a SIDA is not always a Secured Area; other areas of an airport besides the Secured Area may be defined as SIDA*. The Secured Identification Display Area is more specifically delineated in attachments to the Airport's ASP.

33. SIDA Video: Security training media, including, but not limited to, film, videotapes, web-pages, CDs, and DVDs, required by TSA 49 CFR 1542 to be viewed by all of those who are granted access to the (SIDA), and required by HAS for all badged individuals, whether receiving SIDA access or not, prior to exercising the privileges of their Airport ID Badges, keys, PIN's or other access media or IDs.

34. Sponsor and/or Sponsoring Organization: This term, jointly and severally, includes the badging applicant's employer (including an Aircraft Operator subject to 49 CFR Part 1544 and governmental agencies normally exempt under 49 CFR 1542.209(m)(1)) as well as any other person, including the

entity that such other person is employed by, who is authorized by HAS to and does execute an HAS Badge Application in the signature block designated for the Sponsoring Company information and signature. Commonly referred to as "employer"

35. Station Manager: This term means the person that is the individual that is the top person in charge of the day to day overall operations of a company or organization at an HAS airport on the date of the issuance of an NOV. It is an affirmative defense that an individual receiving an NOV is not the individual meeting the foregoing definition, however, any individual claiming this affirmative defense must provide a sworn statement naming the correct individual in his/her company or organization that meets this definition.

36. Sterile Area: A portion of an airport defined in the airport security program that provides passengers access to boarding aircraft and to which the access generally is controlled by TSA, or by an aircraft operator under Part 1544 of 49 CFR Chapter XII or a foreign air carrier under Part 1546 of 49 CFR Chapter XII, through the screening of persons and property.

37. Transportation Security Administration (TSA): Division of the U.S. Department of Homeland Security responsible for administering Airport and other transportation venue Security Programs and/or its successor(s), if any, to one or more of its functions.

38. Under-Badged: An individual is under-badged for an area if the access rights granted by either the type of HAS I.D. Badge they have been issued or the access rights granted to that individual by HAS I.D. Badging is not of the level to permit the individual to be in or remain in an area without an escort.

39. Violation: The failure to, in whole or in part, strictly perform in a faithful and timely manner any duty or obligation, whether or not the duty or obligation is to do or not to do a general or specific matter imposed upon an HAS ID Badge holder by any federal, state or local, including Houston Airport System, law, ordinance, policy, procedure, rule or regulation.

40. Inchoate Offense: A type of crime completed by taking a punishable step towards the commission of another crime. The basic inchoate offenses are attempt, solicitation, and conspiracy.

D. All other words and phrases, not specifically defined in this section or otherwise, in this O.I., shall be defined as is commonly used and understood at HAS airports by HAS Management -- the interpretation of the HAS Director of Aviation, in his/her sole discretion, shall be final.

VII. VIOLATIONS / OFFENSES / CONSEQUENCES

A. The violation, a/k/a, offense, whether by act or omission, of any Federal, State or Local, law, ordinance, policy, procedure, rule or regulation or any part thereof, whether such violation is due to intentional, knowingly, reckless or negligent conduct or a combination thereof is an offense and may result in a consequence. All offenses covered by this O.I. are strict liability offenses, meaning that a certain state of mind, *mens reas*, is not an element of the offense, unless otherwise specifically stated. Each I.D. Badge holder is hereby personally charged with the duty and obligation to know all laws, ordinances, policies, procedures, rules and regulations concerning safety, conduct, and/or security at an HAS airport or other HAS controlled facility. Any offense that is not specifically listed below shall be a violation of this OI and shall bear the consequences set forth herein.

B. Should any offense as committed, whether general or specific, cause or have the reasonable possibility of placing another person in danger of imminent bodily injury or death, or should the offense cause or have the reasonable possibility of placing property in danger of imminent damage in an amount greater than $ 5,000.00, or should the offense or violation result in a TSA or FAA investigation being opened

and/or sanction imposed against HAS, or similar to a violation that resulted in a TSA or FAA investigation being opened and/or sanction being imposed against HAS within the immediately preceding three hundred sixty-five (365) calendar day period, then the offense may be enhanced by one (1) degree.

C. An individual committing or attempting to engage in an inchoate offense, including, but not limited to, conspiracy, aiding and abetting (either before or after the substantive offense), misprision (failure to report a violation of which the individual has reasonable knowledge to believe has occurred), shall be considered the same as if they had committed the offense and shall bear the consequences set forth herein.

D. A violator/offender is subject to the following sanctions, these sanctions are not exclusive, but are cumulative to other sanctions that may be imposed by other laws, ordinances, policies, procedures, rules and regulations -- the sanctions herein are mandatory and not subject to compromise, plea bargain, or reduction by a Hearing Panel/Hearing Officer or court:

E. Time calculations-Violations remain on an individual's record for seven hundred thirty (730) consecutive calendar days. The days will be calculated from the date of the violation.

1. Warning Notice: Can be given in the sole discretion of the person issuing the NOV. Two warnings in a three hundred sixty-five (365) consecutive calendar day period will result in the issuance of an NOV. For the NOV to be a Warning, the Issuer must, at the time of issuance, precede the Violation Details with "WARNING ONLY".

2. Class I-1st Offense: The violator's employer shall be responsible to retrain and educate the violator of the policies, procedures and regulations to prevent future violations.

   Class I-2nd Offense: Sanctions for a second Class I violation sustained or uncontested NOVs excluding Warning NOVs are that the violator and the violator's direct line supervisor must attend the viewings at the same time and must also pass the tests that the Airport Security Manager and/or the Airport Manager (ASM if security related and AM if non-security related) of that airport has determined is appropriate for the specific offense, unless it is a safety violation related to driving on the AOA, in which case the violator must watch and pass the tests on both the SIDA video and the Driving on the AOA video and/or such other prerequisites for driving on the AOA as may then be currently in force and effect. There will be a $25.00 administrative fee for the testing of each NOV. The fee may be paid by either the Company or the individual (billed through rates and charges or directly at the badging office) who received the NOV. The fee is required to be made prior to the test being administered.

   Class I-3rd Offense: Sustained or uncontested NOVs excluding Warning NOVs will result in a permanent loss of HAS ID Badge and Access Rights.

3. Class II Offenses: May result in Immediate Temporary Suspension. Sustained or uncontested violations shall result in permanent loss of ID Badge and Access Rights at all HAS airports.

4. Company Offense: An offense that is chargeable against an organization, as opposed to, or in addition to, an individual. In a company offense, the sanction shall be performed

by the highest ranking officer, project manager, station manager, superintendent, division manager, substantial owner or other management person of a rank similar to the foregoing that is directly connected with the business, operation, or project of the charged organization for the Airport or HAS facility related to the business, operation or project. The sponsoring organization must prepare and submit a plan, acceptable to the Airport Security Manager, in the event the offense is related to security, or acceptable to the Airport Manager, in the event the offense is related to other than security, at the airport where the NOV was issued, for preventing the violator and all other employees and/or sponsored individuals from violating the specific law, ordinance, policy, procedure, rule or regulation in the future. Such acceptable plan must be presented not later than the fourteenth (14th) calendar day from the date of the last day to file a Notice of Contest or from the date of the rendering of a decision by a Hearing Panel/Hearing Officer, whichever is later.

F. For a 3rd violation of the same rule within 365 calendar days, by an Employer/Sponsoring Organization the head of security and/or safety for the Employer/Sponsoring Organization, and if no person is normally designated as such by the Employer/Sponsoring Organization, then an officer, project manager, station manager, superintendent, division manager, substantial owner or other management person of a rank similar to the foregoing of the Employer/Sponsoring Organization must prepare and submit a plan, acceptable to the Airport General Manager, or his/her designee, of the airport where the NOV was issued, for preventing the violator and all other employees and/or sponsored individuals from violating the specific law, ordinance, policy, procedure, rule or regulation in the future. Such acceptable plan must be presented not later than the fourteenth (14th) calendar day from the date of the last day to file a Notice of Contest or from the date of the rendering of a decision by a Hearing Panel/Hearing Officer, whichever is later.

G. Sanctions time calculations:

1. The violation sanctions for each violation will remain on an individual's record for seven hundred thirty (730) consecutive calendar days from the date of the violation.

2. The accrual of three Class I violations, sustained or uncontested NOVs excluding Warning NOVs by any employee during a seven hundred thirty (730) consecutive day period will result in immediate suspension of and permanent loss of their HAS ID Badge and Access Rights.

3. The accrual of one or more Class II violation, sustained or uncontested NOV by any employee will result in immediate suspension of and permanent loss of their HAS ID Badge and Access Rights.

H. Offenses of Specific Violations:

1. Offenses of Specific Violations are attached hereto as "Attachment #2" and incorporated herein by reference, the same as if recited verbatim herein.

2. Other O.I.s can add additional Specific Violations without the need to amend this O.I.

3. The violation of any law, ordinance, policy, procedure, rule or regulation that is not specifically set forth in this O.I. or any other O.I. as to the sanction level is treated as a violation in accordance with the structure set forth in section VII.D above, however, if the violation results in an injury to or puts an individual in imminent danger of bodily injury, then such offense can be enhanced one (1) offense level and accrue the appropriate sanction points and monetary penalties.

VIII. THE CHARGING INSTRUMENT

A. As hereinabove stated, the administrative charging instrument for violations of this O.I. will be a Notice of Violation (NOV) by a person authorized pursuant to this O.I. to issue NOVs. The NOV will be on the form designated by the HAS Airport Security Section ID Badging Office. A copy of the current form is attached hereto as "Attachment # 1". The NOV form attached is for illustration purposes only.

B. The following are the only required information on the NOV, the lack of which would render the instrument invalid:

1. The date of the offense;

2. The approximate time of the offense;

3. The name and HAS ID Badge number of the issuing party;

4. The signature of the issuing party; and

5. A general description of the offense.

C. Any other information requested on the form or placed upon the form is for the sole benefit of HAS and the presence or lack of presence thereof will not render the NOV invalid nor void nor voidable.

D. NOVs shall bear a box for checking off the three (3) letter designation of the airport where the NOV is issued and shall bear a number that is specific to that particular NOV.

E. An NOV determined to be invalid may be cured by issuance of a new and correct NOV; however, all dates for requesting hearings, etc. or compliance with sanctions shall then run from the date of issuance of the new and correct NOV.

F. The issuer of the Notice of Violation (NOV) after properly and fully completing the NOV will:

1. At time of issuance, provide the pink copy to the violator;

2. Place the manila cardstock copy in their Section's records in the manner directed by their Section management not later than the end of the issuer's shift the same day as the date of issue -- each Section authorized to issue NOV's will develop a filing system within their Section for the retention and rapid recall of NOV's issued by those in that Section;

3. Deliver the white and green copies to the HAS Airport Security Badging Office at the airport where the NOV was issued;

4. The Badging Office will retain the white copy in their Centralized NOV file and will send the green copy to the offender's employer or sponsor's Authorized Signatory Authority;

5. The Badging Office will, within 48 hours of receipt (or the next business day if the Badging Office is closed for more than 48 hours), enter the violation into the Access Control Computer System and/or any alternative computer system that may be developed and designated by the Airport Security Manager or his/her designee; and

6. The individual issuing the NOV shall retain the yellow copy in their personal file for use at any hearing.

7. The person investigating the alleged violation and/or issuing the Notice of Violation will, at a minimum, contact the violator's Direct Line Supervisor and advise him/her of the alleged violation and subsequent investigation.

G. Failure to perform any of the instructions contained immediately above, set forth in Section VIII.F, will not invalidate the charging instrument nor serve as the basis for the dismissal of the charged violation.

H. In the event that the violator leaves the scene prior to completion of the NOV or refuses to sign and/or take delivery of the NOV, good and sufficient notice and service is complete upon delivery of the green copy to the offender's employer or sponsor's Authorized Signatory Authority along with a note that service was not possible on the violator at the time of issuance -- no explanation for the lack of service at time of issuance is required; however, any time limits start to run on the day of delivery to said employer or sponsor's Authorized Signatory Authority and any person listed with the ID Badging Office as an Authorized Signatory Authority may be served.

I. If an offense is not witnessed by an authorized issuer of NOVs, an authorized issuer of NOVs may issue an NOV based upon the written statement of a direct witness or based upon a review of such documentation, including, but not limited to, video replays (including digital), photographs (including digital) and access control records or such other evidence, as they, in their sole discretion, conclude is probable cause to believe that an offense has taken place by one or more specific individuals.

J. The Airport General Manager, or his/her designee, of the HAS Airport and/or other HAS facility where the offense occurred shall have the authority, in their sole discretion, to void any NOV issued by those under their line command. All voids must be in writing, signed by the individual making the void and shall state thereon the date and reason for the voiding and the writing shall be attached by the HAS Badging Office to the White copy of the NOV and retained. A voided NOV cannot be used for the enhancement of other violations.

K. The Airport General Manager, or his/her designee, of an HAS Airport, and/or other HAS facility for which he/she is responsible, shall have authority to immediately suspend the HAS ID Badge of any person whom said Airport General Manager, or designee, deems, in his/her sole discretion, to be of imminent and/or continuing threat to the safety and/or security of the airport, meets disqualifying conditions, including, but not limited to, its assets (including, but not limited to, its reputation, employees, real (including improvements thereto) and personal property), tenants and concessionaires and/or their assets, contractors and/or their assets, airlines and their assets, the traveling public, the general public, dignitaries, the airport community, the airport and/or air transportation industry, the United States of America, the State of Texas and/or any of its political subdivisions, including, but not limited to the County of Harris and/or the City of Houston and/or their citizens and employees.

L. The Airport General Manager, or his/her designee, shall also have the authority to, in his/her sole discretion, suspend any person not holding an HAS Authorized Badge from coming onto or remaining on HAS controlled property based on the same criteria as if they were an HAS ID Badge holder.

IX. CONTEST HEARING PROCESS

A. All hearings held on an NOV shall be heard before a Hearing Panel of 1-3 Houston Airport System employees or a contracted Hearing Officer. The Airport General Manager or designee shall appoint a Hearing Panel/Hearing Officer for the airport wherein the NOV was issued. The appointed Hearing Panel members will be, at a minimum Pay grade 23 or higher. There shall not be any matter such as an arraignment or motion docket.

B. A failure to file a Notice of Contest within fourteen (14) calendar days from the date of issue of the Notice of Violation shall constitute a plea of No Contest and acceptance of the consequence of having committed the violation.

C. Hearings shall be restricted to the question of whether or not the alleged violator committed the offense. The records of the Houston Airport System shall be prima facie (the burden to prove the records are wrong are upon the person who claims they are wrong) evidence of the sustaining of or entry of no contest to a prior violation.

D. There shall not be any hearing on any question of law, mitigation, probation or reduction of sanction. Any challenge as to questions of law shall be heard in a civil court of competent jurisdiction in Harris County, Texas, and such challenge must be filed by the alleged violator in such civil court not later than the thirtieth (30th) calendar day from the date the violation is sustained either by operation of rule or by written decision of the Hearing Panel/Hearing Officer. A challenge as to a question of law need not be proceeded by a Notice of Contest, the serving of a Citation and Petition shall be sufficient notice to HAS. HAS does hereby appoint the Assistant General Manager for Security as the agent upon which to serve process in, and only in, a challenge pursuant to this O.I.

E. An entry of "No Contest" shall not require presentation to a Hearing Panel/Hearing Officer and shall be entered in the violator's records in the HAS Badging Office by an employee thereof.

F. The following procedures will be the method of contesting a Notice of Violation by a holder of an authorized HAS ID Badge. The Notice of Contest challenging the factual validity that the violator committed a violation charged in the NOV must be made by the alleged violator or by their Authorized Signature Authority in writing, on a form available from the ID Badging Office, delivered to the Head Supervisor for ID Badging (or to his/her specific Designee for this purpose) by either hand delivery or receipted delivery. Delivery may not be made by e-mail or fax. A written receipt of delivery must be signed by the Head Supervisor for ID Badging (or by his/her specific Designee for this purpose) – delivery to anyone else and acceptance by anyone else will not be effective delivery.

G. The Contest Hearing shall be in person at an office or conference room made available to the Hearing Panel/Hearing Officer and attendance of the alleged violator's Authorized Signature Authority with the alleged violator(s) is mandatory and will be at a time and date set by the Head Supervisor for ID Badging or designee. There shall not be any resets for the convenience of the Authorized Signature Authority or for the alleged violator, unless such reset is requested in writing, delivered to the Head Supervisor for ID Badging (or to his/her specific Designee for this purpose) by either hand delivery or receipted delivery, not later than five (5) calendar days prior to the date of the Hearing. Delivery may not be made by e-mail or fax. A written receipt of delivery must be signed by the Head Supervisor for ID Badging (or by his/her specific Designee for this purpose) – delivery to anyone else and acceptance by anyone else will not be effective delivery. Failure to attend a scheduled Notice of Contest Hearing may result in a sustained verdict for the Notice of Violation being challenged. Any reset shall be at the discretion of the Hearing Panel/Hearing Officer.

H. All consequences of an alleged violation shall be suspended until the Hearing Panel/Hearing Officer has issued a written ruling or the time has passed for the filing of a Notice of Contest. When the alleged violation is a 3rd offense, there may be an Immediate Temporary Suspension and the alleged violator may follow the process for contesting the Immediate Temporary Suspension listed in Section X below, entitled "CONTEST HEARING PROCESS – Immediate Temporary Suspension".

I. Any service required or desired to be made upon the alleged violator may be served directly upon the alleged violator or upon any Authorized Signatory Authority at his/her employer/sponsor.

J. The alleged violator and HAS shall have the right to compel any individual holding an HAS airport ID Badge to appear at any hearing before a Hearing Panel/Hearing Officer and failure to appear may result in the issuance of an NOV to the individual who did not appear. To invoke this right, the alleged violator must file a Requested Compelled ID Badged Witness List with the Head Supervisor for ID Badging (or to his/her specific Designee for this purpose) by either hand delivery or receipted delivery, not later than ten (10) calendar days prior to the date of the Hearing. The individual being compelled shall be entitled to a

total fee of $ 20.00; including mileage, for their attendance and said fees must be attached to the Requested Compelled ID Badged Witness List. Delivery may not be made by e-mail or fax. A written receipt of delivery must be signed by the Head Supervisor for ID Badging (or to his/her specific Designee for this purpose) – delivery to anyone else and acceptance by anyone else will not be effective delivery. Such compunction shall not be available for Contest of Immediate Temporary Suspension and it shall be incumbent on the alleged violator to produce his/her own witnesses.

K. At any hearing, all of which are administrative in nature, the Hearing Panel/Hearing Officer hearing the matter shall review the details of the offense, receive the testimony of the alleged violator, the person issuing the NOV, witnesses called by the alleged violator and witnesses called by HAS, the testimony of the alleged violator's Authorized Signature Authority (ASA) (if desired by the alleged violator, the ASA or HAS), and shall, in their sole discretion, make all decisions regarding the factual nature of the testimony, including, but not limited to, the weight to be given to the testimony of any party or witness, whether or not to believe the testimony, in whole or in part, apply the facts as determined by the person hearing the matter, in their sole discretion, to the elements of the offense and render a decision in accordance other provisions of this O.I.

L. Each side shall be allowed five (5) minutes for an opening statement, thirty (30) minutes for examination of witnesses (this time includes, direct, cross, redirect, re-cross and rebuttal examination) and each party shall be allowed ten (10) minutes for a closing statement/argument.

M. The Hearing Panel/Hearing Officer hearing the matter shall, not later than 24 hours after the hearing, issue and start delivery to the alleged violator's Employer and/or Sponsoring Organization and to the Assistant General Manager of Security, a written decision on the form then presently in use, save and except for a Contest of Immediate Temporary Suspension, the decision for which will be issued and be delivered at the conclusion of the hearing.

N. The ruling of the Hearing Panel/Hearing Officer hearing the matter need not be detailed nor technical; a simple statement along the lines of "After hearing was held on XX day of XXXX, 2XXX, the undersigned person(s) sitting as the Hearing Panel/Hearing Officer hearing the contest of NOV # XXXXX wherein the party alleged to have committed the violation of XXXXX XXXXXX finds that the charge in the NOV is (either sustained or overruled)." and the Hearing Panel/Hearing Officer shall sign and date the same and file the ruling with the appropriate ID Badging Office.

O. Except as otherwise specifically stated, the burden of proof shall be upon HAS as to the ultimate question in each hearing; the ultimate question being did the alleged violator commit the offense.

P. The standard of proof shall be preponderance of evidence.

Q. All decisions as to matters of fact and applying the facts to the violated rule shall be in the sole discretion of the Hearing Panel/Hearing Officer.

R. Formal rules of evidence shall not apply; copies of documents may be introduced providing that the Hearing Panel/Hearing Officer hearing the matter, in their sole discretion, after considering testimony and argument as to the trustworthiness or lack of trustworthiness of the copy, has been heard and considered.

S. There shall not be any pre-hearing discovery allowed.

T. At any hearing, whether an NOV is issued by Airport Security personnel or by Airport Operations personnel, the HAS representative, i.e., the person who shall present the case on behalf of HAS, shall be the person who wrote the NOV.

U. In any and all hearings, either HAS or the alleged violator may invoke "the Rule", requiring that witnesses not be allowed to hear the testimony of other witnesses.

V. In any and all hearings, all witnesses shall testify under oath or affirmation with penalty of perjury.

W. All hearings shall be either voice or video (with voice) recorded. The Badging Office will retain the recordings, records and will be provided to either HAS or the alleged violator upon written request.

X. There is not an automatic stay of sanctions when an individual appeals to a court of competent jurisdiction; the appealing party must seek and obtain injunctive relief for a stay.

Y. An alleged violator may not be represented by any individual or organization other than himself/herself at any hearing, save and except for an Attorney at Law duly licensed in the State of Texas.

Z. The decision of the Hearing Panel/Hearing Officer is final and non-appealable as to the facts and the sanctions imposed.

X. CONTEST HEARING PROCESS – Immediate Temporary Suspension

A. In the event of an Immediate Temporary Suspension the same shall be timely contestable by Notice of Contest of Immediate Temporary Suspension, in writing, on the form available from the ID Badging Office and filed by the alleged violator or their Authorized Signature Authority with the ID Badging Office at the HAS Airport where the NOV was issued. A hearing, restricted solely as to the issue as to whether or not the continued presence of the alleged violator represents any level of danger to the airport or other individuals or entities at the airport shall be heard by the Airport General Manager of Security (or to his/her specific Designee for this purpose) not later than forty-eight (48) hours after the request for such a hearing is delivered to the ID Badging Office by either hand delivery or receipted delivery. Delivery may not be made by e-mail or fax. A written receipt of delivery must be signed by the Head Supervisor for ID Badging (or by his/her specific Designee for this purpose) – delivery to anyone else and acceptance by anyone else will not be effective delivery.

B. There shall not be any hearing on any question of law, mitigation, probation or reduction of sanction. Any challenge as to questions of law shall be heard in a civil court of competent jurisdiction in Harris County, Texas.

C. Any service required or desired to be made upon the alleged violator may be served directly upon the alleged violator or upon any Authorized Signatory Authority at his/her employer/sponsor.

D. When the alleged violation is a 3rd Class I violation there may be an immediate suspension. The alleged violator may be instructed to immediately surrender and deliver their ID Badge to the Head Supervisor for ID Badging, or his/her specific Designee for this purpose, and may be instructed to immediately thereafter remove themselves from HAS owned or lease property and any presence on HAS owned or lease property during the period of suspension, save and except for the specific purpose of arrival or departure from the HAS airport on a flight, shall be trespass after warning and the violator shall be subject to arrest. If it is necessary for the suspended party to visit their employer who is located on HAS owned or lease property at the employer's request, the suspended party must notify the Airport Communications Center's Security Dispatch at least sixty (60) minutes prior to coming upon HAS owned or lease property and must be and remain, at all times, under an escort, even in the public areas, from the employer. During this time the suspended party MAY NOT engage in any business on behalf of the employer or any other party -- the suspended party shall not be or remain on the HAS owned or leased property in excess of sixty (60) minutes.

E. The Assistant General Manager of Security or Operations (or designee) will render a decision which will be issued at the conclusion of the hearing.

F. The ruling of the party hearing a Contest of Immediate Temporary Suspension need not be detailed nor technical; a simple statement along the lines of "After hearing was held on XX day of XXXX, 2XXX, the

undersigned person hearing the Contest of Suspension due to NOV # XXXXX wherein the party alleged to have committed the violation of XXXXX XXXXXX finds (choose one of the following) (a) that the alleged violator presents an unreasonable risk and it is in the interest of the safety and/or security of the HAS community alleged violator be immediately suspended and the Immediate Temporary Suspension is sustained or (b) that the alleged violator does not present an unreasonable risk to the safety or security of the HAS community and the Immediate Temporary Suspension is overruled)." and the person hearing the matter shall sign the same.

G. The burden of proof in a hearing on a Contest of Immediate Temporary Suspension shall be on the alleged violator to prove that the alleged violator's presence on HAS property does not present an unreasonable risk of safety and/or security of the HAS community.

H. In, and only in, a Contest of Immediate Temporary Suspension the alleged violator, the alleged violator's employer and/or sponsor and the Assistant General Manager of Security and the Airport General Manager may, prior to the contest hearing, enter into an Agreed Order to remove the Immediate Temporary Suspension, subject to certain conditions being imposed upon the alleged violator and those conditions and the decision to enter into such an Agreed Order or not to enter into such an Agreed Order shall be in the sole discretion of HAS -- all of the foregoing parties must agree in order for there to be a valid Agreed Order and a lifting of the Immediate Temporary Suspension.

I. All decisions as to matters of fact and applying the facts to the rule shall be in the sole discretion of the Assistant General Manager for Security (or designee).

J. Formal rules of evidence shall not apply; copies of documents may be introduced providing that the Assistant General Manager of Security (or designee) hearing the matter, in their sole discretion, after considering testimony and argument as to the trustworthiness or lack of trustworthiness of the copy, has been heard and considered.

K. HAS and/or the alleged violator may introduce written statements.

L. An alleged violator may not be represented by any individual or organization other than himself/herself at any hearing, save and except for an Attorney at Law duly licensed in the State of Texas.

M. The decision of the Assistant General Manager of Security is final and non-appealable as to the facts and the sanctions imposed.

XI. MISCELLANEOUS MATTERS

A. Having an HAS ID Badge and/or access rights is not a right, but is a privilege, and persons so having such ID Badge and/or access rights are only entitled to the same for so long as they meet all qualifications, including, but not limited to, being employed with an authorized sponsor and not having been found to have committed a violation or violations which can result in the suspension of the ID Badge and/or access rights.

B. In the event that acts or omissions could result in the issuance of an NOV for more than one offense and if an NOV is, in fact, issued for multiple offenses, all of the charged offenses may be adjudicated and accrue sanctions for each sustained violation; however, in any event, it shall not be a defense, nor a mitigating fact that an NOV could have been written for only one violation;

C. The Airport General Manager, in his/her sole discretion, has the right to make reasonable and prudent changes, clarifications, modifications, additions and/or subtractions to this O.I. and to O.I. 05-02, provided that the changes do not result in the loss of any substantive rights to any individual or entity charged with a violation prior to the date of the changes, clarifications, modifications, additions and/or subtractions or within 30 calendar days of posting such revision in the I.D. Badging Office.

D. In the event that any agency, department, or division named herein changes its name or its duties be assigned to another agency, department or division, such new name or the name of the successor/replacement agency, department or division shall be substituted in place of any such agency, department or division presently named herein and no amendment to this O.I. shall be required;

E. In the event that any specifically enumerated law, ordinance, rule or regulation set forth herein shall be renumbered, modified or replaced, then the new number and/or law, ordinance, rule or regulation that, in the sole discretion of the Airport General Manager, deems to be appropriate for replacement of the present law, ordinance, rule or regulation shall be substituted in place thereof and no amendment to this O.I. shall be required, however, the replacement law, ordinance, rule or regulation so designated shall be posted in the ID Badging Office and shall be obtainable therefrom.

F. Any and all violations listed within this document can be charged as company offense.

ATTACHMENT # 1

Notice Of Violation Sample
(FRONT)

Sample (To Fit on Approx. 5 x 7.5) (Printer to Reduce to Fit) **Sample**

Houston Airport System

Date of Issue:_____ **NOTICE OF VIOLATION** **NO. XXXXXXXXXX**

|__| IAH Date of Offense: _____ Time: _____ am or pm _____

|__| HOU Name of Offender: _____
Last First MI

|__| EFD HAS Badge No.: _____ Expires: _____

Badge Sponsoring Organization: _____

Supervisor's Name: _____ Supervisor's Phone #: _____

If Vehicle/Equipment Involved: _____
Type Make Plate or ID Number

If No HAS Badge Driver's License #: _____ State: _____ D/O/B: _____

Offense Approximate Location: _____

Rule #:_____ SIDA AOA STERILE
(Circle If Applicable)

Violation Details: _____

_____

_____.

_____ _____
Signature of Violator Signature of Issuer Name Printed ID Badge No.

White - Badging Pink - Violator Green - Badging Yellow - Issuer Manila - Division Mgmt. of Issuer

ATTACHMENT # 1

Notice Of Violation Sample (BACK)

YOU HAVE THE RIGHT TO CONTEST THIS NOV VIA A HEARING.

TO EXERCISE THIS RIGHT YOU MUST FILE A NOTICE OF CONTEST WITHIN FOURTEEN CALENDAR DAYS FROM THE DATE OF ISSUE OF THIS NOV.

Failure to file the Notice of Contest within the aforesaid time will forever bar you from contesting the NOV and a plea of "No Contest" shall be automatically entered into your records and you will be assessed the sanctions for such violation and you will accrue sanction points for possible enhancement in the event of further violations, etc.

An entry of "No Contest" shall not require presentation to a Hearing Panel/Hearing Officer and shall be entered in the violator's records in the HAS Badging Office by an employee thereof.

The following procedures will be the method of contesting a Notice of Violation by a holder of an authorized HAS ID Badge. The Notice of Contest challenging the factual validity that the violator committed the violation charged in the NOV must be made by the alleged violator in writing, on a form available from the ID Badging Office, delivered to the Head Supervisor for ID Badging (or to his/her specific Designee for this purpose) by either hand delivery or receipted delivery. All Notice of Contests must include a complete statement as to the basis of the appeal as well as any and all supporting documentation, including but not limited to witness statements. Delivery may not be made by e-mail or fax. A written receipt of delivery must be signed by the Head Supervisor for ID Badging (or by his/her specific Designee for this purpose) – delivery to anyone else and acceptance by anyone else will not be effective delivery.

In the event of an immediate HAS ID Media confiscation, the Airport General Manager, or his/her designee, will review the relevant circumstances to determine if the immediate confiscation should remain in effect or be over-ruled. This review will be completed and a ruling issued no later than the following two (2) business days. The alleged violator retains the option to file a Notice of Contest within fourteen (14) calendar days of the immediate confiscation.

At any hearing, all of which are administrative in nature, the Hearing Panel/Hearing Officer reviewing the matter shall review the Notice of Contest documentation, to include details of the offense, the written appeal statement of the alleged violator, any applicable written witness statements, the written report from the person issuing the NOV, and shall, in their sole discretion, make all decisions regarding the factual nature of the written statements, apply the facts as determined by the Hearing Panel/Hearing Officer reviewing the matter to the elements of the offense and render a decision in accordance with other provisions of this O.I.

The ID Badging Office will at time of filing of your Notice of Contest supply you with a copy of the hearing procedures and rules therefore. **These procedures and rules are also set forth in an Operating Instruction (O.I.) of the Houston Airport System - your badge sponsor and/or employer should have a copy of the O.I., but you are personally responsible to make sure you are going by the most current version of the O.I.**

ATTACHMENT #2

Violations:

CLASS I Notice of Violations:

1. Failure to display valid HAS approved identification and/or ID Badge or HAS authorized ID Badge that is appropriate for the airport and the area in the prescribed manner, for special management and security purposes, specifically authorized in writing by either the Airport Security Manager or Director of Operations;

2. Failure to challenge someone in a controlled or restricted area who is not properly displaying an ID badge;

3. Possession of an HAS ID Badge that is substantially damaged, broken, faded, illegible;

4. Using a portal in a manner that has not been specifically authorized by HAS;

5. Failure to follow picketing/solicitation procedures anywhere on the Airport;

6. Smoking in an area where smoking is unauthorized and/or unlawful;

7. Violation of the Ten Foot Clear Zone, i.e., having an asset, including a disposed or abandoned asset, located closer than 10 feet to the perimeter fence line in areas where a 10 feet or greater distance is required, either inside or outside of the fence line – This may be a company offense for the company or organization whose assets are located in violation;

8. Failure to properly secure or dispose of Sensitive Security Information;

9. Displaying and/or using an ID Badge that has been reported lost, stolen, is expired or has been deactivated;

10. Failure to show an HAS authorized ID Badge appropriate for the airport and the area when challenged;

11. Piggybacking -- when one or more individuals, who are holders of an HAS ID Badge, follow another individual through a controlled access point without using their own ID Badge, Security Key or PIN Number (unless they are under proper escort procedures and have a legitimate need to move through that portal);

12. Tailgating -- when one or more individuals, who are not holders of an HAS authorized ID Badge, or are holders of an HAS authorized ID Badge but do not have it on their person, follows another HAS ID Badged individual through a controlled access point -- the HAS ID Badged individual who does have their ID Badge with them must ensure the portal is secure prior to moving away and challenge the person, peacefully attempt to get them to leave the area, immediately notify Airport Security Dispatch, 281-230-1300 IAH or 713-845-6555 HOU and EFD and assist Airport Operations Officers in attempting to locate the tailgater;

13. Failure to challenge a Piggybacker or Tailgater -- a HAS ID Badged individual must ensure the portal is secure prior to moving away and challenge someone who is piggybacking. They shall wait while the piggybacker exits and returns through the portal properly using their own ID Badge, Security Key or PIN Number, if the piggybacker refuses to so comply a HAS ID Badged Individual must attempt to obtain the piggybacker's name, but whether they can obtain the name or not they must immediately report the same to Airport Security Dispatch, 281-230-1300 IAH or 713-845-6555 HOU and EFD and assist Airport Operations Officers in attempting to locate the piggybacker;

14. Failure to secure or follow stop and wait procedures any portal: which is required to be secure if not in use for operational needs, including, but not limited to a vehicle gate, pedestrian gate, door, and/or other portal;

15. Failure to use the "timed override" door function at a controlled portal where or when required;

16. Violation of Escort Procedures -- the escorting of one or more individuals (on foot or in a vehicle) into a restricted or controlled area and not strictly following the procedures related to proper identification, vehicle signs, and/or the requirement to remain with the individual/vehicle being escorted. **Special Note #1** Individuals who have been issued an ID Badge but who do not have the badge in their possession (left it home, in vehicle, lost, etc.) may not be escorted through any security access point or in or into any restricted or controlled area -- to do so is an offense for both the escorter and the escortee. **Special Note #2** Individuals who have applied for, but have not yet been issued an HAS or HAS Authorized Badge, if even allowed at all in a restricted or controlled area, must be at all times escorted and remain under strict escort and control of the escorting party at all times they are in a restricted or controlled area.

17. Failure to properly store and/or secure TSA prohibited items in a secured, restricted, or sterile area;

18. Failure to obey airside traffic controls, postings, or devices;

19. The violation of any other law, ordinance, policy, procedure, rule or regulation related to HAS and its security, airside safety, life safety or operations, including but not limited to business and field operations;

20. Performance of any action in conflict with FAR Part 139, the Airport Certification Manual, and/or the AOA Driver Training program;

21. Failure to yield to an aircraft under either tow or taxiing;

22. Failure to yield to an emergency vehicle;

23. Operating a vehicle on the airside without airport authorization;

24. Conducting and/or permitting an unsafe fueling operation anywhere on the airport;

25. Failure to control, as opposed to failure to properly escort, personnel and equipment in a secured area ;

26. Failure to submit to or perform the requirements of sanctions, after the sanctions have become final under this O.I., within the time allotted in this O.I. -- is a separate offense;

27. Towing an excessive number of trailer devices;

28. Operating a ground vehicle on the airside without having required lights in proper working order and/or not having lights in operation;

29. Operating a ground vehicle on the airside without a valid driver's license;

30. Operating a vehicle on the airside without required markings;

31. Unauthorized vehicle on the Aircraft Operating Area;

32. Abandoning a disabled vehicle in a secure area;

33. Failure to report a "reportable" hazardous material spill anywhere on the airport;

34. Operating and/or permitting the operation, including the movement thereof, of improperly maintained fueling equipment anywhere on the Airport;

35. Improper cleanup and/or permitting improper cleanup of a hazardous material spill anywhere on the airport;

36. Failure to follow prescribed engine run-up procedures;

37. Operating a ground vehicle in the secured area in excess of posted or published speed limit, in a reckless/unsafe manner and/or in excess of a safe speed limit considering the conditions of traffic (including, but not limited to pedestrian, aircraft, equipment and/or vehicular), driving surface, weather conditions, and/or exigent circumstances and;

38. Failure to display appropriate company signage on both sides of a vehicle or displaying or attempting to use any other expired permissive vehicle media, on an unattended vehicle parked in a "No Parking", "Tow Away" , "Restricted" parking area, SIDA or AOA;

39. Allowing an individual to begin work in a controlled or secured area prior to successfully completing and submitting the required HAS badge application and process even if under escort.

Class II Sanctions are:

Permanent loss of ID Badge and Access Rights at all HAS airports. Violators of a Class II violation are subject to Immediate Temporary Suspension.

CLASS II Notice of Violations:

40. Displaying, loaning and/or permitting use of an HAS authorized ID Badge, assigned keys or PIN Number to or by another individual;

41. Failure or refusal to fully, completely, timely and truthfully cooperate -- including appearing when and at the place designated, with an investigation, audit or a proceeding by or instituted by or flowing from the acts of any Division of HAS. Misrepresentation or falsification, including but not limited to, intentionally or knowingly or recklessly leaving off any relevant information on any document delivered to HAS ;

42. Failure to surrender an individual's own ID Badge upon termination of employment to the individual's employer/sponsor/HAS ID Badging Office, or failure to surrender ID Badge upon request to anyone authorized to issue an NOV or a Law Enforcement Officer;

43. Intentionally or knowingly interfering with or failure to follow legitimate instructions from an employee of or contractor to HAS Airport Security or Airport Operations in the performance of their official duties;

44. Use, duplicate, or reproduce media or keys or authorizing access to any controlled or restricted area without written permission from either the ID Badging Office or, if the access device is not under the control of the ID Badging Office, the owner of the access device;

45. The failure to immediately notify the HAS ID Badging Office of an arrest for an HAS listed disqualifying crime;

46. Displaying and/or using an ID Badge that is not the violator's own badge;

47. Intentionally physically forcing a secured portal open instead of using an ID badge, PIN pad, or key;

48. Sabotaging, damaging, destroying a security or life safety device or system or any portion thereof; or disabling, bypassing, removal or modifying a security or life safety device or system or any portion thereof, without written permission of the Airport Security Manager or Director of Operations, or his/her designee -- *the actual existence of a life safety emergency is exception to the enforcement of this subparagraph, however, the burden of proof of the actual existence of a life safety emergency is upon the alleged violator -- this offense may also be a company offense, if any supervisor for the company had any knowledge that such may be occurring*;

49. Causing a runway vehicle/pedestrian incursion and or entering the airside Movement Area without an Air Traffic Control Tower clearance and/or failure to obey instructions from the Air Traffic Control Tower;

50. Theft in any amount occurring upon HAS property;

51. Introducing or having a prohibited weapon or weapons (other than tools, knifes and other items that are essential and authorized for a work related purpose) or a firearm by an employee other than law enforcement officers and/or Security personnel specifically authorized to do so other in a restricted, secured or controlled area. Replicas or non-functional devices will be treated as prohibited weapons for the purpose of this policy.

52. Possession or consumption of alcoholic beverages or controlled substances on HAS property, other than by a person licensed or employed by a licensee in the course and scope of their employment for the beverage or controlled substance including if the violator is driving on the AOA, airside ramps and/or tug tunnels, or part of their primary work function involves driving in one or more of the foregoing areas and then offense is a Class II Violation;

53. Refusing, or failing to comply with a required inspection, search, or screening of an individual or an individual's accessible property.

54. An airline employee including, but not limited to, Flight Crew, Cabin Crew, mechanic or any other employee boarding or attempting to board an aircraft as a passenger or any individual not specifically designated or acting as an active crew member for that flight that accessed the sterile area through an access point other than a TSA screening checkpoint.

Appendix G. Spill Response and Procedures

HOUSTON AIRPORT SYSTEM

SPILL RESPONSE & PROCEDURES

Is this an INCIDENTAL RELEASE?

- *The spill is small in size and/or **CAN** be cleaned up safely by 1 or 2 people **&***
- *The material spilled is a **KNOWN** material **&***
- *The hazards associated with the material are **KNOWN** and **NOT** considered extremely dangerous.*

Or

Is this an EMERGENCY RESPONSE?

- *The spill is large in size and/or **CANNOT** be cleaned safely by 1 or 2 people or (More than **3 Gallons** or **50 Square Feet** (5 * 10 Foot Area) *NFPA-407**
- *The material spilled is an **UNKNOWN** material or*
- ***Aircraft Overfill/Mechanical Failure of Fuel System** *NFPA-407**

INCIDENTAL RELEASE

PROTECT THE STORM DRAINS AND CONTAIN THE SPILL USING SPILL KITS. WEAR APPROPRAITE PERSONAL PROTECTIVE EQUIPMENT, BE SAFE, & DON'T WALK OR DRIVE THROUGH SPILL.

NOTIFY AIRSIDE OPERATIONS AND PROVIDE SPILL REPORT
IAH: (281) 233-1131
HOU: (713) 417-5710
EFD: (281) 433-1612

CLEAN-UP CONTAMINATED MATERIALS AND PLACE INTO APPROPRAITE CONTAINERS AND LABEL CONTAINERS TO REFLECT CONTENTS
ENSURE ALL MATERIALS PROPERLY CLEANED UP & NOT FOD HAZARD

STORE CONTAINERS IN A SECURED COVERED LOCATION

CONTACT YOUR COMPANY'S ENVIRONMENTAL REPESENTATIVE TO INSURE PROPER PICK-UP AND DISPOSAL

IAH, EFD, HOU
JAMES PARISE (ENVIRONMENTAL INVESTIGATOR V)
OFFICE..... 281/233-1756
CELL..... 281/684-5156
EMAIL: JIM.PARISE@HOUSTONTX.GOV

EMERGENCY RESPONSE

CLEAR AREA IF POSSIBLE & REMAIN UP-WIND & OUT OF THE MATERIAL

CALL **911**& AIRPORT DISPATCH
IAH: (281) 230-1300
HOU/EFD: (713) 641-4100
PROVIDE THE FOLLOWING INFORMATION:

- ANY INJURIES
- NAME OF MATERIAL SPILLED
- ESTIMATED AMOUNT SPILLED
- LOCATION OF SPILL (GATE/RAMP)

PROTECT STORM DRAINS IF ABLE & AWAIT EMERGANCY RESPONDERS

PERFORM CLEAN-UP AS DIRECTED BY EMERGANCY RESPONDERS. WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT & UTILIZE SPILL KITS IN AREA. BE SAFE & DON'T WALK OR DRIVE THROUGH SPILL.
ENSURE ALL MATERIALS PROPERLY CLEANED UP & NOT FOD HAZARD

PLACE CONTAMINATED MATERIALS INTO APPROPRIATE CONTAINERS AND LABEL CONTAINERS TO REFLECT CONTENTS

STORE CONTAINERS IN A SECURED COVERED LOCATION

CONTACT YOUR COMPANY'S ENVIRONMENTAL REPESENTATIVE TO INSURE PROPER PICK-UP AND DISPOSAL

REMEMBER TO FOLLOW THIS PROCEDURE FOR SPILLS IN ADDITION TO ANY COMPANY PROCEDURES OR PROTICALS REGARDING SPILLS.

SAFETY IS EVERYONE'S RESPONSIBILITY!

Rev.8.2016

Appendix H. 7460

NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

§ 77.7 Form and time of notice.

(a) If you are required to file notice under §77.9, you must submit to the FAA a completed FAA Form 7460–1, Notice of Proposed Construction or Alteration. FAA Form 7460–1 is available at FAA regional offices and on the Internet.

(b) You must submit this form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

(c) If you propose construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit notice to the FAA on or before the date that the application is filed with the FCC.

(d) If you propose construction or alteration to an existing structure that exceeds 2,000 ft. in height above ground level (AGL), the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. You must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

(e) The 45-day advance notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health, or public safety. You may provide notice to the FAA by any available, expeditious means. You must file a completed FAA Form 7460–1 within 5 days of the initial notice to the FAA. Outside normal business hours, the nearest flight service station will accept emergency notices.

§ 77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

(a) Any construction or alteration that is more than 200 ft. AGL at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177
Fax: (817) 222-5920

Website: https://oeaaa.faa.gov

INSTRUCTIONS FOR COMPLETING FAA FORM 7460-1

PLEASE TYPE or PRINT

ITEM #1. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #2. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #3. New Construction would be a structure that has not yet been built.

Alteration is a change to an existing structure such as the addition of a side mounted antenna, a change to the marking and lighting, a change to power and/or frequency, or a change to the height. The nature of the alteration shall be included in ITEM #21 "Complete Description of Proposal".

Existing would be a correction to the latitude and/or longitude, a correction to the height, or if filing on an existing structure which has never been studied by the FAA. The reason for the notice shall be included in ITEM #21 "Complete Description of Proposal".

ITEM #4. If Permanent, so indicate. If Temporary, such as a crane or drilling derrick, enters the estimated length of time the temporary structure will be up.

ITEM #5. Enter the date that construction is expected to start and the date that construction should be completed.

ITEM #6. Please indicate the type of structure. DO NOT LEAVE BLANK.

ITEM #7. In the event that obstruction marking and lighting is required, please indicate type desired. If no preference, check "other" and indicate "no preference" DO NOT LEAVE BLANK. NOTE: High Intensity lighting shall be used only for structures over 500' AGL. In the absence of high intensity lighting for structures over 500' AGL, marking is also required.

ITEM #8. If this is an existing tower that has been registered with the FCC, enter the FCC Antenna Structure Registration number here.

ITEM #9 and #10. Latitude and longitude must be geographic coordinates, accurate to within the nearest second or to the nearest hundredth of a second if known. Latitude and longitude derived solely from a hand-held G P S instrument is NOT acceptable. A hand-held GPS is only accurate to within 100 meters (328 feet) 95 percent of the time. This data, when plotted, should match the site depiction submitted under ITEM #20.

ITEM #11. NAD 83 is preferred; however, latitude and longitude may be submitted in NAD 27. Also, in some geographic areas where NAD 27 and NAD 83 are not available other datum may be used. It is important to know which datum is used. DO NOT LEAVE BLANK.

ITEM #12. Enter the name of the nearest city and state to the site. If the structure is or will be in a city, enter the name of that city and state.

ITEM #13. Enter the full name of the nearest public-use (not private-use) airport or heliport or military airport or heliport to the site.

ITEM #14. Enter the distance from the airport or heliport listed in #13 to the structure.

ITEM #15. Enter the direction from the airport or heliport listed in #13 to the structure.

ITEM #16. Enter the site elevation above mean sea level and expressed in whole feet rounded to the nearest foot (e.g. 17'3" rounds to 17', 17'6" rounds to 18'). This data should match the ground contour elevations for site depiction submitted under ITEM #20.

ITEM #17. Enter the total structure height above ground level in whole feet rounded to the next highest foot (e.g. 17'3" rounds to 18'). The total structure height shall include anything mounted on top of the structure, such as antennas, obstruction lights, lightning rods, etc.

ITEM #18. Enter the overall height above mean sea level and expressed in whole feet. This will be the total of ITEM #16 + ITEM #17.

ITEM #19. If an FAA aeronautical study was previously conducted, enter the previous study number.

ITEM #20. Enter the relationship of the structure to roads, airports, prominent terrain, existing structures, etc. Attach an 8-1/2" x 11" non-reduced copy of the appropriate 7.5 minute U.S. Geological Survey (USGS) Quadrangle Map MARKED WITH A PRECISE INDICATION OF THE SITE LOCATION. To obtain maps, contact USGS at 1-888-275-8747 or via internet at "http://store.usgs.gov". If available, attach a copy of a documented site survey with the surveyor's certification stating the amount of vertical and horizontal accuracy in feet.

ITEM #21.

- For transmitting stations, include maximum effective radiated power (ERP) and all frequencies.
- For antennas, include the type of antenna and center of radiation (Attach the antenna pattern, if available).
- For microwave, include azimuth relative to true north.
- For overhead wires or transmission lines, include size and configuration of wires and their supporting structures (Attach depiction).
- For each pole/support, include coordinates, site elevation, and structure height above ground level or water.
- For buildings, include site orientation, coordinates of each corner, dimensions, and construction materials.
- For alterations, explain the alteration thoroughly.
- For existing structures, thoroughly explain the reason for notifying the FAA (e.g. corrections, no record or previous study, etc.).

Filing this information with the FAA does not relieve the sponsor of this construction or alteration from complying with any other federal, state or local rules or regulations. If you are not sure what other rules or regulations apply to your proposal, contact local/state aviation's and zoning authorities.

Please Type or Print on This Form

Form Approved OMB No.2120-0001
Expiration Date: 04/30/2023

U.S. Department of Transportation
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY
Aeronautical Study Number

1. Sponsor *(person, company, etc. proposing this action):*
Attn. of
Name: Juan PEDRACOVA-VARELA
Address: 18600 Lee Rd
City: Humble State: TX Zip: 77338
Telephone: (281) 230-8915 Fax:

2. Sponsor's Representative *(if other than #1):*
Attn. of
Name:
Address:
City: State: Zip:
Telephone: Fax:

3. Notice of: ☑ New Construction ☐ Alteration ☐ Existing
4. Duration: ☐ Permanent ☑ Temporary (___ months, ____days)
5. Work Schedule: Beginning _____ End _____
6. Type: ☐ Antenna Tower ☑ Crane ☐ Building ☐ Power Line ☐ Landfill ☐ Water Tank ☐ Other
7. Marking/Painting and/or Lighting Preferred:
☐ Red Lights and Paint ☐ Dual - Red and Medium Intensity
☐ White-Medium Intensity ☐ Dual - Red and high Intensity
☐ White -High Intensity ☑ Other no preference
8. FCC Antenna Structure Registration Number *(if applicable)*:

9. Latitude: see attch. ° ' "
10. Longitude: ° ' "
11. Datum: ☑ NAD 83 ☐ NAD 27 ☐ Other
12. Nearest: City: Houston State TX
13. Nearest *Public-use* *(not private-use)* or Military Airport or Heliport:
William P. Hobby
14. Distance from #13. to Structure: on airport
15. Direction from #13. to Structure: north west
16. Site Elevation ***(AMSL)***: 43 ft.
17. Total Structure Height ***(AGL)***: 100 ft.
18. Overall Height (#16 + #17) ***(AMSL)***: 143 ft.
19. Previous FAA Aeronautical Study Number *(if applicable)*:
N/A -OE
20. Description of Location: *(Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey)*

21. Complete Description of Proposal:

Crane area for the replacement of Gate 28, 29, 30, 31, and 32 Passenger Loading Bridges. Coordinates available in the attached exhibit.

Frequency/Power (kW)	

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301(a)

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

Date	Typed or Printed Name and Title of Person Filing Notice	Signature
03/04/2022	Juan PEDRACOVA-VARELA	JPV

HOU Passenger Loading Bridge Replacement Project
7460 Exhibit

Point	Latitude	Longitude	Site Elevation
1	29°39'08.39"N	95°16'31.51"W	43'
2	29°39'11.69"N	95°16'29.07"W	42'
3	29°39'09.22"N	95°16'25.39"W	40'
4	29°39'05.91"N	95°16'28.44"W	40'

HOU Passenger Loading Bridge Replacement Project
7460 Exhibit