CITY OF HOUSTON

Sylvester Turner
Mayor

HOUSTON AIRPORT SYSTEM
George Bush Intercontinental ~ William P. Hobby ~ Ellington Airport

Mario C. Diaz
Director of Aviation

November 9, 2023

SUBJECT: **Addendum No. 4**

REFERENCE: Invitation To Bid (ITB) for the IAH Term C Helix Ramp Bearing & Misc. Repairs at George Bush Intercontinental Airport; Solicitation No. H06-HELIXC-2024-006; Project No. 235A

To: All Prospective Bidders:

This Addendum is issued for the following reasons:

I. **Replace** the following pages with the attached document outlined below:
1. Pages 19-26 Document 000410A & 00410B Bid Form Part A & Bid Form Part B – Revised 11/8/23.
2. Sheet No. A1-701B IAH Term C Garage Level 7 West Side Floor Plan.
3. Sheet No. A1-401B IAH Term C Garage Level 4 West Side Floor Plan.

II. **Add** the following pages with the attached documents as outlined below.
1. Sheet No. A8-707 Section – Elevation – Plan at Stair 7.
2. Section 512000 Structural Steel Framing.

III. **To Respond to the following Questions.**

1. **Question:** Unit Price Table Items 1-12 have a footnote of (1) which states Fixed Unit Price determined prior to Bid. Cannot be adjusted by the Bidder.

   Response: Footnote has been removed. See revised Bid Form, Section 00410, attached to this addendum.

2. **Question:** Unit Price Table Item 2 has a unit of measure of LF and no Estimated Quantity

   Response: Estimated quantity has been added to the Unit Price Table. See revised Bid Form, Section 00410, attached to this addendum.

3. **Question:** The addendum mentions a helical installation record attachment and I can't seem to find it.

   Response: See attached PDF for Helical Pile Report Exhibit.

4. **Question:** Also, if a Geotech is available, where can I find it?

   Response: A geotechnical report is not available for this specific project. A report was prepared for the adjacent EBS Building, but it does not address use of helical piles.

5. **Question:** I have been estimating the glazing work on this project, I noticed that the details for stair 7, 10, and 11 are either mislabeled or the sheet was not issued. I checked both Addendum 1 and 2 and did not see anything referencing this issue. Can you provide me with any guidance on this topic?

   Response: Sheet A7-01B has been modified to give the correct enlarged plan location.

6. **Question:** Sheet A1-701B provides the sheet/detail callouts for the stair tower curtain wall enclosures. Stair Tower #7, 10 and 11 reference sheet A4-701. This sheet is not in the documents and has not been issued with Addendum 1 or 2. Sheet A1-701B was also not corrected in this regard in Addendum 1 or 2. Please advise.

   Response: Sheet A7-01B has been modified to give the correct enlarged plan location.

7. **Question:** Note: it appears that Stair Towers 10 and 11 should have been labeled A8-710 instead of A4-701 as A8-710 has drawings/details pertinent to towers 10 and 11.

   Response: Sheet A7-01B has been modified to give the correct enlarged plan location.

8. **Question:** Specification section 05 12 00 is listed in the specification table of contents but was not issued in the project manual. This spec section also was not issued in Addendum 1 or 2. Please provide.

   Response: See attachment for spec section 051200.

9. **Question:** The structural drawings and details do not indicate a roof system on the new Stair 7 steel canopy. No roofing spec was issued in the initial documents nor Addendum 1 or 2. There are also no architectural details/plans for the Stair 7 enclosure. Please advise if a roof system is intended in this location and if so, provide specs and details.

   Response: Structural deck is 1.5" deep, Type B, 20-gage metal deck (see note 2 on partial plan detail 2/S420). Deck and all accessories shall conform to ASTM A653 with a minimum yield strength of 50 KSI. Deck shall be zinc coated per ASTM A924, G90. Deck shall be fastened to supports with 5/8" puddle weld on 36/7 pattern or 6" on center for members parallel to deck. Side lap fasteners shall be #10 screws at 12" maximum spacing. RE: S421 Framing Details Stair Enclosure.

10. **Question:** Pertaining to the Bid Form – Part B; Section 1.0 of Part B, subsection (A). Stipulated Price: _____ which has a parenthetical statement below (A) typed in red. It appears that the Stipulated Price (A) sum component would be zero $ ($0) upon following the provided instructions in the parenthetical.

    Response: The Stipulated Price equals the Total Bid Price minus Base Unit Prices (B), Extra Unit Prices (C), Cash Allowances (D) and All Alternates (E), if any.
    The Total Bid Price includes all items that are not included in Base Unit Prices (B), Extra Unit Prices (C), Cash Allowances (D) and All Alternates (E) sections. Examples of Stipulated Price Items, but not limited to, include the following items: General Conditions, Bonds, Insurances, repair to the beams in the north and south west helix on the first floor, closing off the drains at the six floor, and all items called out in the plans and specifications that are not listed in the Base Unit Price Table (B), Extra Unit Prices (C), Cash Allowances (D) and All Alternates (E). The items not included in above sections need to be included in the Total Stipulated Price section, and this number should not be a zero cost. However, the Base Unit Prices (B), Extra Unit Prices (C), Cash Allowances (D) and All Alternates (E) shall include the total price to perform and complete all necessary work and acceptance of installation of such Work, including total price of delivery, equipment, material and labor, overhead & profit, etc.

11. **Question:** Please confirm that this is correct. Normally, Stipulated Price Bid means a fixed sum to do the complete project not a bid of Unit Prices. Please confirm that the project is a unit price bid and will be awarded based on the Total Bid Price (F) not a Stipulated Sum and/or clarify the parentheticals in Subsection (A) and (F).

    Response: Refer to the response provided to Question #10 above. The unit pricing gives the owner a base to compensate for additional work scope encountered in the field for unforeseen conditions.

12. **Question:** Is it acceptable to provide Tubelite brand aluminum framing system in lieu of Kawneer?

    Response: Yes, Tubelite storefront system that meets the criteria for the wind loading will be acceptable.

13. **Question:** The bid form and the project documents as a whole do not differentiate between vertical/overhead concrete repair and horizontal/ground level concrete repair. It is my experience that the difference in price between these two conditions can be significant. For bidding purposes, can the owner/engineer issue a new bid form indicating bid quantities for vertical/overhead patching and horizontal/ground level patching?

    Response: Price all repairs as vertical/overhead patching.

14. **Question:** The bid form indicates that there is 5,920 SF of concrete topping to slope away from the garage edge. The bid form stipulates that this is all allocated for level 6. The drawings show the same detail however on level 4. Cumulatively, by my calculations, the sloping square footage

should be approximately 10,095 SF across level 4 and level 6. Please advise and issue a new bid form or drawing if necessary.

Response: The fourth-floor garage does have the sloped topping but is limited to the western half garage only. The bid form has been modified to show a quantity of 8,940 sf. Re: A1-401B modified to the dimension area. The quantity of painted stripes was modified to include the additional work on level 4.

15. **Question:** The bid form quantity for traffic-bearing membrane is 76,544 SF. It appears that the actual quantity is 82,910 SF. Please confirm which is correct.

Response: Review the area of the 6th floor that is not covered by the 7th floor and shown shaded on the plans and verified the quantity as 76,544 sf as correct.

16. **Question:** Drawing scope #18 includes Blue Garage staircases and there are no blue garage staircase details in drawings.

Response: The work in the blue garage is similar to the work in the brown garage. We are painting the handrails pressure washing the stairs, landings and handrails, sealing the concrete landings and treads. See added Sheet A8-701.

17. **Question:** Can stairways be completely closed off during construction from public use for a period of time?

Response: Yes, coordination with HAS will be required; one stair at a time, unless given approval by HAS.

18. **Question:** Please clarify the areas of the project to receive pressure washing abrasive blasting and sealer. For instance, the bid form description for sealer reads as if the only areas to receive sealer are treads and landings. However, the quantity given is much greater than the actual square footage of the stair tower treads and landings. Additionally, the bid form reads as if the stair towers are the only locations to receive high pressure blast. However, the bid quantity given is much larger than the square footage of the stair towers. Please clarify.

Response: Abrasive blasting is only required where rusting is occurring in the stair metal components such as risers, railing, stringers, etc. The pressure washing work includes stair treads, stair risers, stair landings, underside of stair flights, stringers, stair treads, railing systems, etc.

19. **Question:** Is it acceptable to substitute Masterseal NP 270 (primerless base coat) in lieu of P255 primer and M265 base coat.

Response: Yes, the product is acceptable to substitute the P255 primer and M265 base coat for traffic coating.

20. **Question:** Is it acceptable to substitute flint #2 aggregate in lieu of Masterseal 941DR aggregate?

    Response: Yes, however, gradation requires to be similar to 941DR aggregate.

21. **Question:** Please clarify if the $300,000.00 shoring allowance is meant to cover all scopes shown on SJ001 through SJ004 or the design/rental/fabrication/placement of the shoring only? For example, are we to still price the helical piles, pads, bearing pad replacements etc. and then include the allowance in addition to that price? Or is the intention for the $300,000 to cover the repair process in its entirety? Please clarify.

Response: The shoring allowance is intended to cover the costs of subcontractors hired to provide the shoring system. This cost would typically include engineering and design of the shoring system, material purchases and rentals, installation of the shoring systems, moving and reassembly as needed to accommodate phasing, and dismantling of the system at completion of the work. The foundation for the shoring system is included in the allowance. Repairs are NOT included in this allowance.

22. **Question:** Pertaining to the Bid Form - Part B; For Bid Item #1, the specified deck costing system is called out to be installed on the garage ramps (6ea x 32' x 80' = +/-30,000 sf), where are the additional install areas?

Response: The fluid applied area includes uncovered surfaces on level 6 which are not covered by the level 7 deck. See Sheet A1-701B for shaded areas to receive fluid applied coating, which includes 14,000 sf for bridge conditions.

23. **Question:** For Bid Items #6 & #7, the high pressure washing/coatings estimated quantity for the stairs guardrails and handrails seems excessive - landings and stairs for Stairways 2,3,4,5,6,8,9,10 &11 (9ea x 3000 sf = +/-27,000 sf), Stairway #1 (+/- 2,000 sf), not including guardrails and handrails, if stairway walls are to be repainted add an additional +/- 68,000 sf. Is Stairway #7 to be included (not shown)? Please verify and confirm.

Response: Stairway # 7 is included. See Sheet A8-707 attached to this addendum.

When issued, Addendum shall automatically become part of the solicitation documents and shall supersede any previous specification(s) and/or provision(s) in conflict with the Addendum. Addendum will be incorporated into the Agreement as applicable. It is the responsibility of the bidder(s) to ensure that it has obtained all such letter(s). By submitting a bid on this project, bidder(s) shall be deemed to have received all Addendum and to have incorporated them into their bid.

If further clarification is needed regarding this solicitation, please contact Senior Procurement Specialist, David Martinez via email at david.martinez@houstontx.gov.

November 9, 2023
IAH Term C Helix Ramp Bearing & Misc. Repairs at George Bush Intercontinental Airport
Solicitation No. H06-HELIXC-2024-006
Project No. 235A

DS DE

DocuSigned by:
Cathy Vander Plaats
02232028DE99414...

DS AO

Cathy Vander Plaats
Aviation Procurement Officer
Houston Airport System

CVP/dm

cc: Alfredo Oracion
Dallas Evans
Solicitation File

Attachments:

1. Pages 19-26 Document 000410A & 00410B Bid Form Part A & Bid Form Part B – Revised 11/8/23.
2. Sheet No. A1-701B IAH Term C Garage Level 7 West Side Floor Plan.
3. Sheet No. A1-401B IAH Term C Garage Level 4 West Side Floor Plan.
4. Sheet No. A8-707 Section – Elevation – Plan at Stair 7.
5. Section 512000 Structural Steel Framing.

Document 00410A **Revised 11/8/23**

BID FORM – PART A

To: **The Honorable Mayor and City Council of the City of Houston**
City Hall Annex
900 Bagby Street
Houston, Texas 77002

Project: IAH TERMINAL C HELIX RAMP BEARING & MISC REPAIRS
Project No.: 235A
Bidder: _____
(Print or type full name of business entity, such as corporation, LLC, etc)

1.0 OFFER

A. Total Bid Price: Having examined the Project location and all matters referred to in Bid Documents for the Project, we, the undersigned, offer to enter into a Contract to perform the Work for the Total Bid Price shown on the signature page of this Document

B. Security Deposit: Included with the Bid is a Security Deposit in the amount of 10 percent of the Total Bid Price subject to terms described in Document 00200 – Instructions to Bidders.

C. Period for Bid Acceptance: This offer is open to acceptance and is irrevocable for 180 days from Bid Date. That period may be extended by mutual written agreement of the City and Bidder.

D. Addenda: All Addenda have been received. Modifications to Bid Documents have been considered and all related costs are included in the Total Bid Price.

E. Bid Supplements: The following documents are attached:

[X] Security Deposit *(as defined in Document 00200 – Instructions to Bidders)*
[X] Document 00450 - Bidder's Statement of MWSBE Status
[X] Document 00454 - Affidavit of Non-interest
[X] Document 00455 - Ownership Information Form
[ ] Document 00456 - Bidder's Certificate of Compliance with Buy American Program *(required for AIP funded project)*
[X] Document 00457 – Conflicts of Interest Questionnaire (CIQ)
[ ] Document 00458 - Bidder's Certificate Regarding Foreign Trade Restriction *(required for AIP funded project)*
[ ] Document 00459 - Contractor's Statement Regarding Previous Contracts Subject to EEO *(required for AIP funded project)*
[X] Document 00460 – Pay or Play Acknowledgement Form (POP 1-A)
[X] Document 00461 – Hire Houston First Affidavit
[X] Document 00470 – Bidder's MWSBE Participation Plan *(required unless no MWSBE participation goal is provided in Document 00800* (the "Goal"))*.*

[ ] Document 00470D - Bidder's DBE Participation Plan *(required for AIP funded project)*
[ ] Document 00471 – Bidder's Record of Good Faith Efforts *(required if the goal in Bidder's Participation Plan–Document 00470 is lower than the Goal).*
[ ] Document 00472 – Bidder's Goal Deviation Request *(required if the goal in Bidder's Participation Plan–Document 00470 is lower than the Goal).*
[X] Document 00480 – Form SCM-1 Reference Verification
[X] Document 00481 – Non-Collusion Statement
[X] Document 00842 – Letter of Intent
[ ] Others as listed: _____

2.0 CONTRACT TIME

A. If offer is accepted, Contractor shall achieve Date of Substantial Completion within Two Hundred Seventy (270) days after Date of Commencement of the Work, subject to adjustments of Contract Time as provided in the Contract.

Document 00410B

BID FORM – PART B

1.0 TOTAL BID PRICE HAS BEEN CALCULATED BY BIDDER, USING THE FOLLOWING COMPONENT PRICES AND PROCESS (PRINT OR TYPE NUMERICAL AMOUNTS):

A. STIPULATED PRICE: **$_____**

(Stipulated Price equals the Total Bid Price minus Base Unit Prices (B), Extra Unit Prices (C), Cash Allowances (D) and All Alternates (E), if any)

B. BASE UNIT PRICE TABLE:

Item No.	Spec/ Sheet Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
1	071816	Application of high-solids, fluid-applied, polyurethane, waterproofing, traffic-bearing, membrane deck coating system.	SF	90,544		
2	079500	Provide watertight Heavy Duty Expansion Control System that is capable of accommodating HS-20 loading requirements.	LF	500		
3	084113	Trifab® VersaGlaze® 451 Framing System. Price to include any demolition of handrails, floating of sidewalk to achieve drainage away from enclosure, roofing, structural elements, doors, hardware for stairs 4, 5, 6, 7, 8, 9,10 and 11.	LS	1		
4	099113-7	4-inch-wide Flat Yellow Exterior Traffic Striping Paint	LF	4,892		
5	030105	Prepare and fill concrete surface on the north and south side six floor of the garage to slope away from the garage edge.	SF	8,940		
6		High pressure washing and landings, underside of stairs, guardrails, and handrails. Surface preparation of substrates as required for acceptance of paint, including cleaning, small crack repair, patching, caulking, priming, and making good surfaces and areas.	SF	100,885		

7		Install foundation armor sx5000 penetrating sealer clear matte transparent concrete sealer ready-to-use on stair treads and landings after hp washing	SF	28,392		
8		On surfaces prepared for paint, apply a test patch of the recommended coating system, on the handrail, riser, or stringer, covering at least 2 to 3 square feet, or 36” section of handrail, and allowed to dry one week before testing adhesion per ASTM D3359. Perform 3 tests minimum in each of the 14 staircases.	EA	42		
9		Mobilization	LS			
10	01505	Temporary Facilities	LS			
11	01450	Contractor Quality Control (material testing, inspections, etc.) Do not include, in this number, Item 8 above.	LS			
12		Repair hollow metal door from binding condition	EA	20		
13		Replace hollow metal door with like kind.	EA	3		
14		Replace stair’s metal riser, 6-inch-high x 6-foot-wide, and prep to paint.	EA	25		
15		Patch crack in stair concrete landing	LF	300		
16		Repair of patch crack in concrete masonry unit	SF	100		
17		Abrasive blasting of stair’s railing system, nosing, stringer, etc., to remove rusted sections and prepare railing for paint application.	LF	2,000		
18		Abrasive blasting of stair’s hollow metal riser, 6-inch-high x 6-feet-wide and prepare for paint application.	EA	200		
19	S502	Level 4 concrete repair (with exposed rebar)	SF	40		
20	S502	Level 4 concrete repair (with no exposed rebar)	SF	40		
21	S502	Level 4 crack sealer (hairline cracks)	LF	40		
22	S502	Level 4 crack epoxy injection	LF	10		

23	S502	Level 4 Concrete corbels	EA	4		
24	S502	Level 4 steel bearing plate and neoprene pad replacement	EA	4		
25	S502	Level 5 concrete repair (with exposed rebar)	SF	10		
26	S502	Level 5 concrete repair (with no exposed rebar)	SF	30		
27	S502	Level 5 crack sealer (hairline cracks)	LF	250		
28	S502	Level 5 crack epoxy injection	LF	10		
29	S502	Level 5 Concrete corbels	EA	4		
30	S502	Level 5 steel bearing plate and neoprene pad replacement	EA	4		
31	S502	Level 6 concrete repair (with exposed rebar)	SF	30		
32	S502	Level 6 concrete repair (with no exposed rebar)	SF	10		
33	S502	Level 6 crack sealer (hairline cracks)	LF	10		
34	S502	Level 6 crack epoxy injection	LF	40		
35	S502	Level 6 Concrete corbels	EA	4		
36	S502	Level 6 steel bearing plate and neoprene pad replacement	EA	4		
37		Cut out and replace precast panel at helix side of bridge, 4 at each level.	EA	12		
38		Cosmec XL Bronze Self-Lubricating Bearings	EA	24		
39	XT Series Plans	Traffic Control Plan	LS	1		
40	P Series Plans	Plumbing installation to include 96 deck drains, 6,000 LF of storm piping, plumbing hangers and supports, and connectors and fittings.	LS	1		
41		Paint metal stair riser, both sides, stringers, underside of landing, rails,	SF	72,490		
TOTAL BASE UNIT PRICES						$_____

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C. EXTRA UNIT PRICE TABLE:

Item No.	Spec Ref.	Extra Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
1		N/A				
TOTAL EXTRA UNIT PRICES						$_____

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CASH ALLOWANCE TABLE:

Item No.	Spec Ref.	Cash Allowance Short Title	Cash Allowance in figures (1)
1		Building Permit	**$6,000.00**
2		Shoring System Allowance	**$300,000.00**
TOTAL CASH ALLOWANCES			**$306,000.00**

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E. ALTERNATES TABLE:

Item No.	Spec Ref.	Alternate Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total Price for Alternate in figures
1		N/A				
TOTAL ALTERNATES						$_____

REST OF PAGE INTENTIONALLY LEFT BLANK

F. TOTAL BID PRICE: **$**_____

(Add Totals for Stipulated Price (A), Base Unit Price, Extra Unit Price, Cash Allowance, and All Alternates, if any)

2.0 SIGNATURES: By signing this Document, I agree that I have received and reviewed all Addenda and considered all costs associated with the Addenda in calculating the Total Bid Price.

Bidder: _____
(Print or type full name of your proprietorship, partnership, corporation, or joint venture.*)

**By: _____
Signature Date

Name: _____
(Print or type name) Title

Address: _____
(Mailing)

_____
(Street, if different)

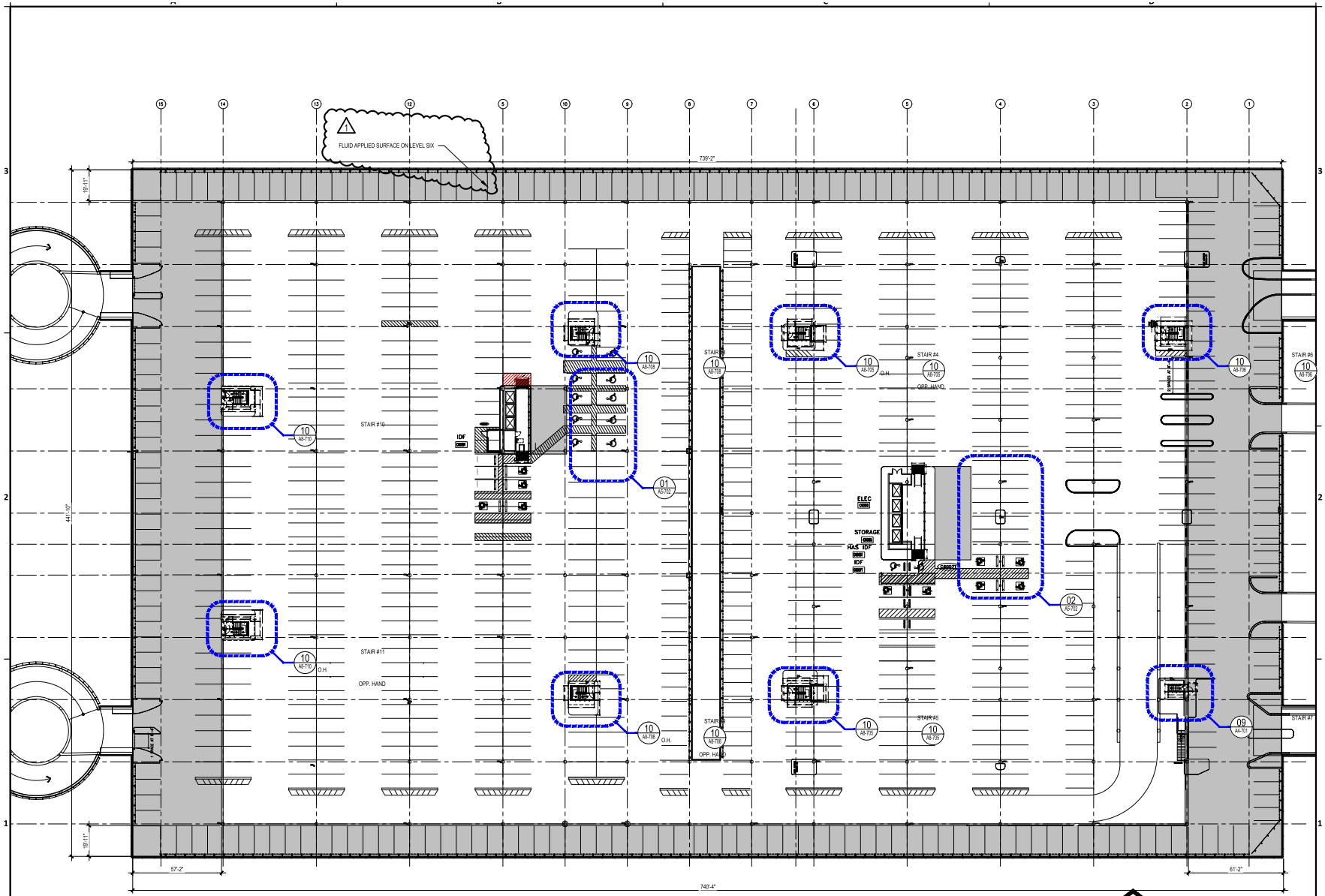
Telephone and Fax Number: _____
(Print or type numbers)

* If Bid is a joint venture, add additional Bid Form signature sheets for each member of the joint venture.

** Bidder certifies that the only person or parties interested in this offer as principals are those named above. Bidder has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding.

Note: This document constitutes a government record, as defined by § 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in § 37.10 of the Texas Penal Code.

Footnotes for Tables B through E:
(1) Fixed Unit Price determined prior to Bid. Cannot be adjusted by the Bidder.
(2) Minimum Bid Price determined prior to Bid. Can be increased by the Bidder, but not decreased, by crossing out the Minimum and inserting revised price on the line above. **Cannot** be decreased by the Bidder.
(3) Maximum Bid Price determined prior to Bid. Can be decreased by the Bidder, but not increased, by crossing out the Maximum and inserting revised price on the line above. A Bid that increases the Maximum Bid Price may be found non-conforming and non-responsive. **Cannot** be increased by the Bidder.
(4) Fixed Range Bid Price determined prior to Bid. Unit Price can be adjusted by Bidder to any amount within the range defined by crossing out prices noted and noting revised price on the line above.



01 TERMINAL C 7TH LEVEL FLOOR PLAN
1" = 30'-0"

HOUSTON AIRPORTS

TERMINAL C AT IAH - 2800 N TERMINAL RD
HOUSTON, TX 77032

IAH TERMINAL C HELIX RAMP BEARING AND MISC REPAIRS

C.I.P. No.	A.I.P. No.
C.O.H. No.	D.O.A No.

MWA ARCHITECTS
11767 KATY FREEWAY SUITE 430
HOUSTON, TEXAS 77079 - 713-482-2338

DESIGNER PROJECT No.:	19-21
PROJECT STATUS:	ISSUED FOR CONSTRUCTION

REVISIONS

No.	DESCRIPTION	DATE	BY
A	ISSUED FOR PERMIT	12/15/2022	J TOHILL
B	ISSUED FOR BID	01/20/2023	J TOHILL
0	ISSUED FOR CONSTRUCTION	05/08/2023	J TOHILL
1	ISSUED FOR ADD 01	10/16/2023	J TOHILL

DESIGNER:	J TOHILL
DRAWN BY:	J TOHILL
CHECKED BY:	TBD
ISSUE DATE:	10/16/2023
APPROVED BY:	
APPROVAL DATE:	

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Review/ Approval Category
IFP
ISSUED FOR REVIEW

REGISTERED ARCHITECT 12651 STATE OF TEXAS
09/25/2023

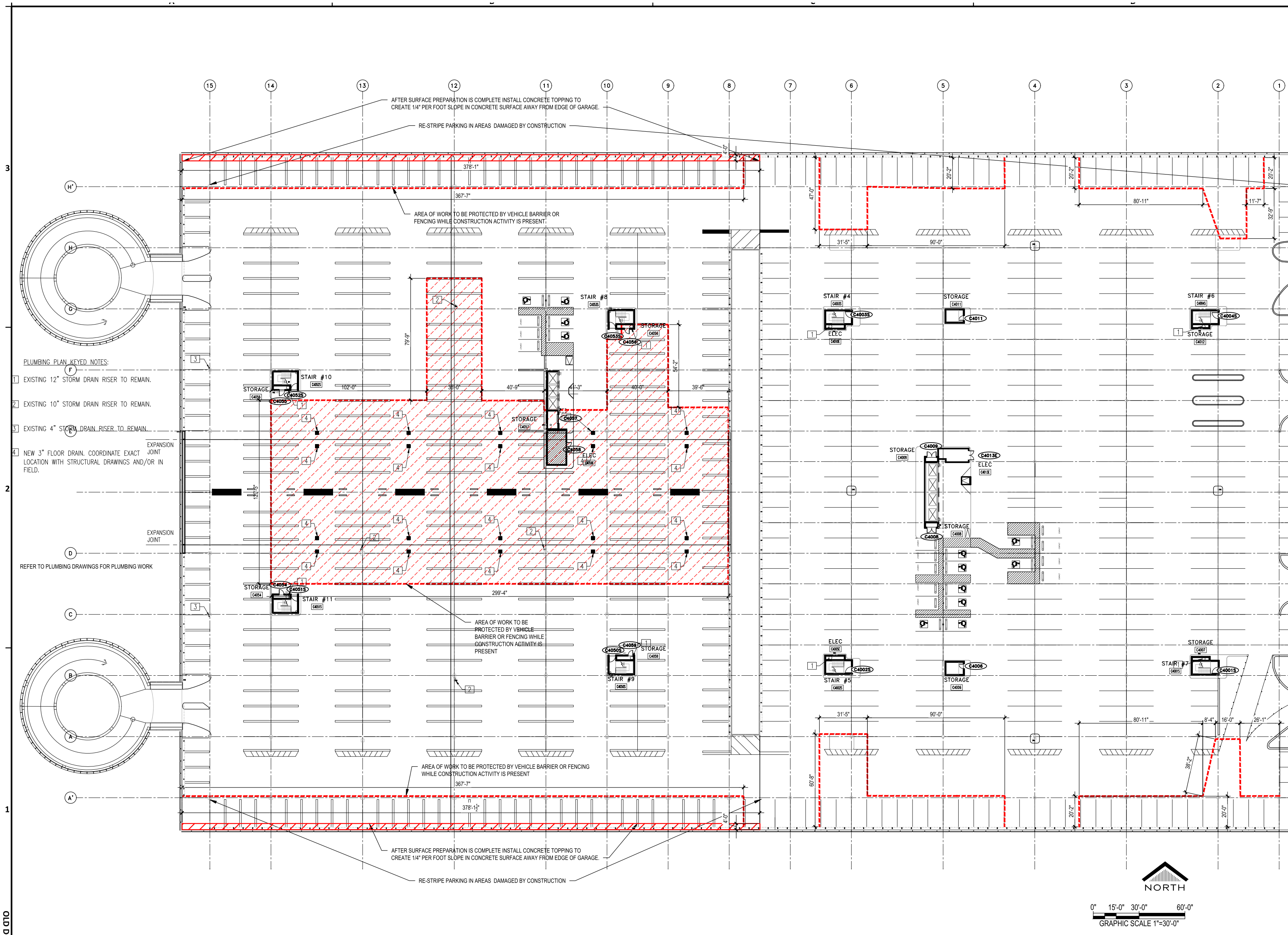
TERMINAL
"C"

NORTH

SHEET NAME: IAH TER C GARAGE LEVEL 7 WEST SIDE FLOOR PLAN
SHEET No. A1-701B
SCALE:

SHEET SIZE: 22"x34" ANSI-D

OLD DOA No.:
DOA DWG FILE: F:\2019\19-21 HAS- IAH TC STRUCTURAL & PONDING\DWGS\A1-701B IAH TER C GARAGE LEVEL 7 WEST SIDE FLOOR PLAN.DWG
PLOT DATE: 8 November 2023 11:50:54 AM
BY: C. PATEL



01 IAH TERMINAL C GARAGE LEVEL 4 WEST SIDE FLOOR PLAN

1" = 30'-0"

HOUSTON AIRPORTS

TERMINAL C AT IAH - 2800 N TERMINAL RD
HOUSTON, TX 77032

IAH TERMINAL C HELIX RAMP BEARING AND MISC REPAIRS

C.I.P. No.	A.I.P. No.
C.O.H. No.	D.O.A No.

MWA ARCHITECTS
11767 KATY FREEWAY SUITE 430
HOUSTON, TEXAS 77079 - 713-482-2338

DESIGNER PROJECT No.: 19-21
PROJECT STATUS: ISSUED FOR CONSTRUCTION

REVISIONS

No.	DESCRIPTION	DATE	BY
A	ISSUED FOR PERMIT 12/15/2022		J TOHILL
B	ISSUED FOR BID 01/20/2023		J TOHILL
0	ISSUED FOR CONSTRUCTION 05/08/2023		J TOHILL

DESIGNER:	J TOHILL
DRAWN BY:	J TOHILL
CHECKED BY:	TBD
ISSUE DATE:	05/08/2023
APPROVED BY:	
APPROVAL DATE:	

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Review/ Approval Category
IFP
ISSUED FOR REVIEW

09/25/2023

TERMINAL
"C"

NORTH

SHEET NAME:
IAH TER C GARAGE LEVEL 4 WEST SIDE FLOOR PLAN
SHEET No. A1-401B
SCALE:

SHEET SIZE: 22"x34" ANSI-D

OLD DOA No. :
DOA DWG FILE:
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PLOT DATE: 8 November 2023 11:51:35 AM
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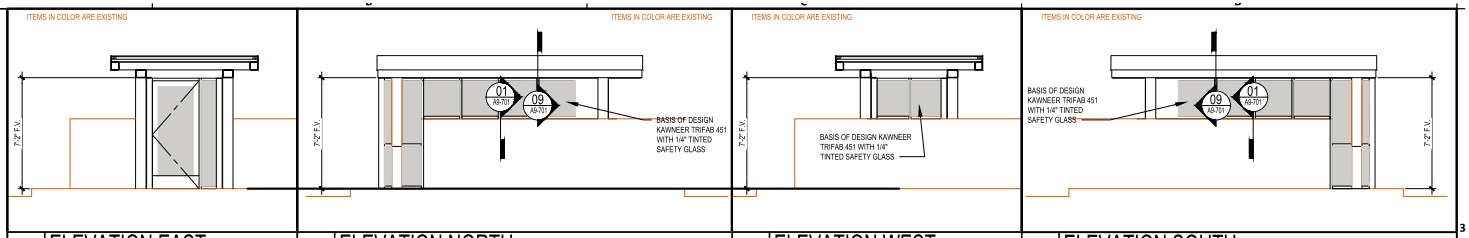
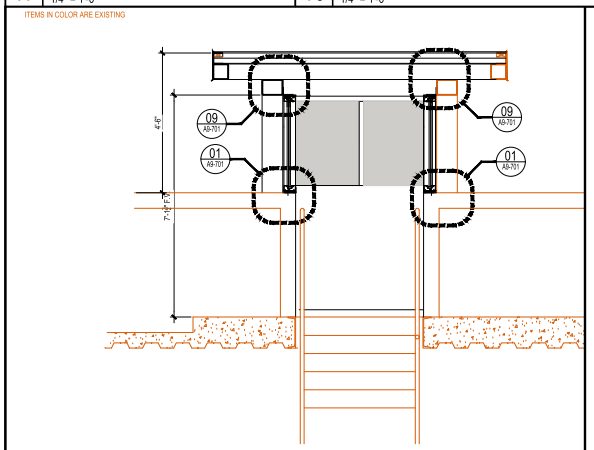


17 ELEVATION EAST 1/4" = 1'-0"

18 ELEVATION NORTH 1/4" = 1'-0"

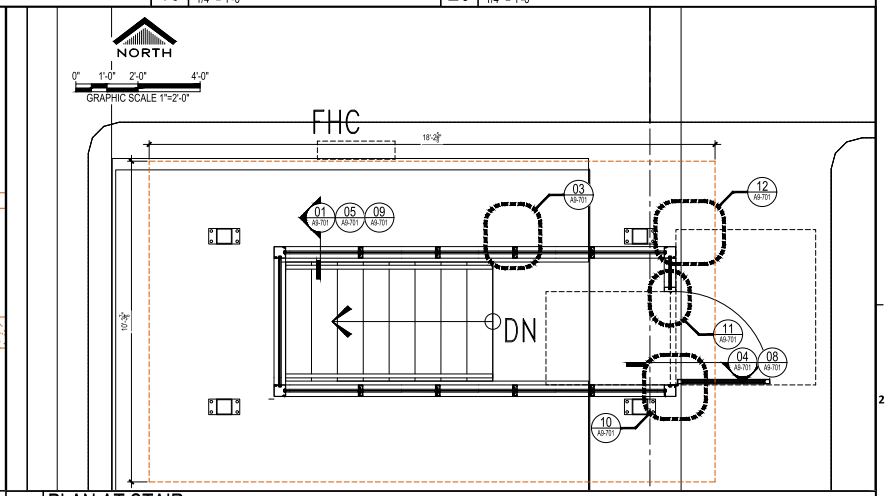
19 ELEVATION WEST 1/4" = 1'-0"

20 ELEVATION SOUTH 1/4" = 1'-0"



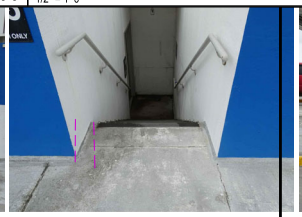
08 NOT USED

09 SECTION AT STAIR 1/2" = 1'-0"

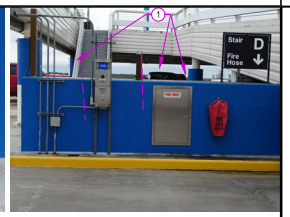


10 PLAN AT STAIR 1/2" = 1'-0"

05 PHOTO 04 - STAIR 7 1/8" = 1'-0"

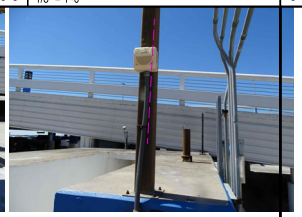


06 PHOTO 05 - STAIR 7 1/8" = 1'-0"

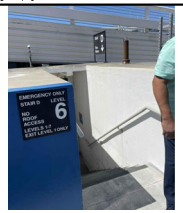


07 PHOTO 06 - STAIR 7 1/8" = 1'-0"

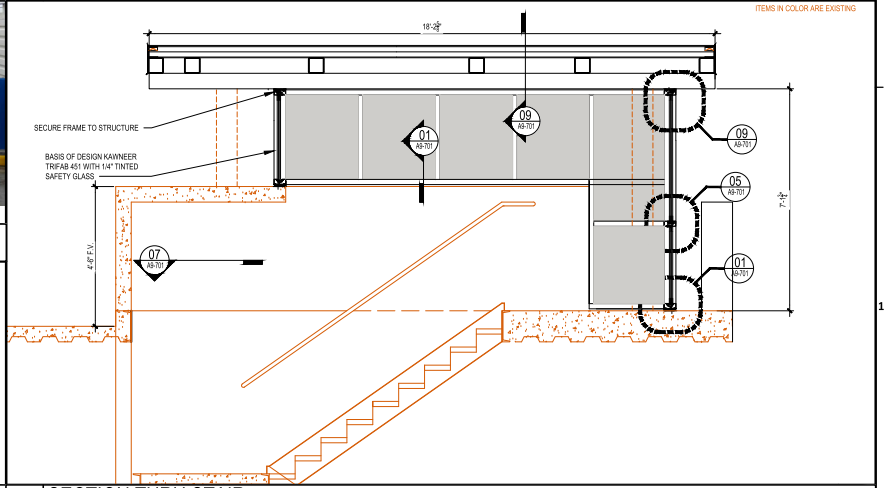
01 PHOTO 01 - STAIR 7 1/8" = 1'-0"



02 PHOTO 02 - STAIR 7 1/8" = 1'-0"



03 PHOTO 03 - STAIR 7 1/8" = 1'-0"



04 SECTION THRU STAIR 1/2" = 1'-0"

HOUSTON AIRPORTS
TERMINAL C AT IAH - 2800 N TERMINAL RD
HOUSTON, TX 77032

IAH TERMINAL C HELIX RAMP BEARING AND MISC REPAIRS

C.I.P. No.	A.I.P. No.
C.O.H. No.	D.O.A No.

MWA ARCHITECTS
11767 KATY FREEWAY SUITE 430
HOUSTON, TEXAS 77079 - 713-482-2338

DESIGNER PROJECT No.:	19-21
PROJECT STATUS:	ISSUED FOR CONSTRUCTION

REVISIONS

No.	DESCRIPTION	DATE	BY
A	ISSUED FOR ADD 02	11/08/2023	J TOHILL

DESIGNER:	J TOHILL
DRAWN BY:	J TOHILL
CHECKED BY:	TBD
ISSUE DATE:	11/08/2023
APPROVED BY:	
APPROVAL DATE:	

DIRECTOR of HOUSTON AIRPORT SYSTEM

Review/ Approval Category: IFP — ISSUED FOR REVIEW

09/25/2023

TERMINAL "C"

NORTH

SHEET NAME: SECTION - ELEVATION - PLAN AT STAIR 07

SHEET No.: A8-707

SCALE:

SHEET SIZE: 22"x34" ANSI-D

F:\2019\19-21 HAS- IAH TC STRUCTURAL & PONDING\DWGS\A8-707 SECTION - ELEVATION - PLAN AT STAIR 07.DWG

PLOT DATE: 8 November 2023 11:49:51 AM

OLD DOA No.:

DOA DWG FILE:

SECTION 512000

STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Structural steel.
2. Shrinkage-resistant grout.

1.02 DEFINITIONS

A. Structural Steel: Elements of the structural frame indicated on Drawings and as described in ANSI/AISC 303.

1.03 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.04 ACTION SUBMITTALS

A. Product Data:

1. Structural-steel materials.
2. High-strength, bolt-nut-washer assemblies.
3. Anchor rods.
4. Shop primer.
5. Galvanized-steel primer.
6. Galvanized repair paint.
7. Shrinkage-resistant grout.

B. Shop Drawings: Show fabrication of structural-steel components.

C. Delegated-Design Submittal: For structural-steel connections indicated on Drawings to comply with design loads, include analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.05 INFORMATIONAL SUBMITTALS

A. Welding certificates.

B. Mill test reports for structural-steel materials, including chemical and physical properties.

C. Source quality-control reports.

D. Field quality-control reports.

1.06 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel in accordance with AWS D1.1/D1.1M.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Comply with applicable provisions of the following specifications and documents:

1. ANSI/AISC 303.
2. ANSI/AISC 360.
3. RCSC's "Specification for Structural Joints Using High-Strength Bolts."

B. Connection Design Information:

1. Design connections and final configuration of member reinforcement at connections in accordance with ANSI/AISC 303 by fabricator's qualified professional engineer.

a. Use Load and Resistance Factor Design; data are given at factored-load level.

C. Moment Connections: Type FR, fully restrained.

D. Construction: Combined system of moment frame, braced frame, and shear walls.

2.02 STRUCTURAL-STEEL MATERIALS

A. W-Shapes: ASTM A992/A992M.

B. Channels, Angles: ASTM A36/A36M.

C. Plate and Bar: ASTM A36/A36M.

D. Cold-Formed Hollow Structural Sections: ASTM A500/A500M, Grade B structural tubing.

E. Steel Pipe: ASTM A53/A53M, Type E or Type S, Grade B.

F. Welding Electrodes: Comply with AWS requirements.

2.03 BOLTS AND CONNECTORS

A. High-Strength A325 Bolts, Nuts, and Washers: ASTM F3125/F3125M, Grade A325, Type 1, heavy-hex steel structural bolts; ASTM A563, Grade DH, heavy-hex carbon-steel nuts; and ASTM F436/F436M, Type 1, hardened carbon-steel washers; all with plain finish.

2.04 RODS

A. Headed or Unheaded Anchor Rods: ASTM F1554, Grade 36.

1. Configuration: Straight.
2. Finish: Mechanically deposited zinc coating, ASTM B695, Class 50.

B. Threaded Rods: ASTM A36/A36M.

2.05 PRIMER

A. Steel Primer:
1. Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.

B. Galvanized-Steel Primer: .

1. Etching Cleaner: MPI#25, for galvanized steel.
2. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20.

2.06 SHRINKAGE-RESISTANT GROUT

A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C1107/C1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.07 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate in accordance with ANSI/AISC 303 and to ANSI/AISC 360.

2.08 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for type of bolt and type of joint specified.

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

2.09 GALVANIZING

A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel in accordance with ASTM A123/A123M.

1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.

2.10 SHOP PRIMING

A. Shop prime steel surfaces, except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
2. Surfaces to be field welded.
3. Surfaces of high-strength bolted, slip-critical connections.
4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
5. Galvanized surfaces unless indicated to be painted.

B. Surface Preparation of Steel: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces in accordance with the following specifications and standards:

1. SSPC-SP 2.
2. SSPC-SP 3.

C. Surface Preparation of Galvanized Steel: Prepare galvanized-steel surfaces for shop priming by thoroughly cleaning steel of grease, dirt, oil, flux, and other foreign matter, and treating with etching cleaner or in accordance with SSPC-SP 16.

D. Priming: Immediately after surface preparation, apply primer in accordance with manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.

2.11 SOURCE QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform shop tests and inspections.

1. Allow testing agency access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
2. Bolted Connections: Inspect and test shop-bolted connections in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts."
3. Welded Connections: Visually inspect shop-welded connections in accordance with AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:

    a. Liquid Penetrant Inspection: ASTM E165/E165M.
    b. Magnetic Particle Inspection: ASTM E709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
    c. Ultrasonic Inspection: ASTM E164.
    d. Radiographic Inspection: ASTM E94/E94M.

4. In addition to visual inspection, test and inspect shop-welded shear stud connectors in accordance with requirements in AWS D1.1/D1.1M.
5. Prepare test and inspection reports.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify, with certified steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and in accordance with ANSI/AISC 303 and ANSI/AISC 360.

B. Baseplates Bearing Plates and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.

1. Set plates for structural members on wedges, shims, or setting nuts as required.
2. Weld plate washers to top of baseplate.

3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
4. Promptly pack shrinkage-resistant grout solidly between bearing surfaces and plates, so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for grouting.

C. Maintain erection tolerances of structural steel within ANSI/AISC 303.

3.03 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts" for bolt and joint type specified.

1. Joint Type: Snug tightened unless otherwise indicated..

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Comply with ANSI/AISC 303 and ANSI/AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.

3.04 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a special inspector to perform the following special inspections:

1. Verify structural-steel materials and inspect steel frame joint details.
2. Verify weld materials and inspect welds.
3. Verify connection materials and inspect high-strength bolted connections.

B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

1. Bolted Connections: Inspect and test bolted connections in accordance with RCSC's "Specification for Structural Joints Using High-Strength Bolts."
2. Welded Connections: Visually inspect field welds in accordance with AWS D1.1/D1.1M.

a. In addition to visual inspection, test and inspect field welds in accordance with AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:

1) Liquid Penetrant Inspection: ASTM E165/E165M.
2) Magnetic Particle Inspection: ASTM E709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
3) Ultrasonic Inspection: ASTM E164.
4) Radiographic Inspection: ASTM E94/E94M.

END OF SECTION