3780 N TERMINAL ROAD, HOUSTON, TX 77032

HAS PROJECT No.

0958

DATE:

10/26/2022

**CONSTRUCTION DOCUMENTS** 

**OCULUS** 

HOUSTON AIRPORTS

HOUSTON, TX 77032

GEORGE BUSH
INTERCONTINENTAL AIRPORT
CONSTRUCTION DOCUMENTS

CONSTRUCTION DOCUMENTS
OCULUS

No. A-0958 A.I.P. No.

1. No. 4600015176 D.O.A. No.

ITRP T.I.P. No.

Burns engineering, inc | 215 979-7700 TWO COMMERCE SQUARE,

DESIGNER PROJECT No.: 2022-10
PROJECT STATUS: 90%CD

REVISIONS

No. DESCRIPTION DATE BY

 DESIGN BY:
 C.M.C. & R.W.H.

 DRAWN BY:
 A.A & P.I.

 CHECKED BY:
 C.M.C. & R.W.H.

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 APPROVED BY:
 M.M

 APPROVAL DATE:
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DIRECTOR of HOUSTON AIRPORT SYSTEM

Drawing Status

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JAMES MEIER
10/26/2022, IT IS NO

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1" = 1'-0"

SHEET NAME:
COVER SHEET

SHEET SIZE: 30"x42" ARCH E1

DOA DWG FILE: OLD DOA No. :

В

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I-22-T-0958 - G1000 -

SHEET INDEX - OCULUS SHEET NAME SHEET NUMBER 00-GENERAL COVER SHEET OCULUS SHEET INDEX TE-TECHNOLOGY-ELEC TECHNOLOGY ABBREVIATIONS, LEGENDS AND GENERAL NOTES TE002 ELECTRICAL ABBREVIATIONS, LEGENDS, AND GENERAL NOTES TE112.00 OVERALL PLAN - B1 BASEMENT TE113.00 OVERALL PLAN - L1 ARRIVALS TE115.00 OVERALL PLAN - L2 DEPATURES BASEMENT LEVEL FLOOR PLAN TE122.0A ARRIVAL LEVEL 1 FLOOR PLAN TE123.0A DEPARTURE LEVEL 2 FLOOR PLAN TE125.0A ARRIVAL LEVEL 1 REFLECTED CEILING PLAN TE143.0A TE401 ENLARGED PLAN - OCULUS TE402 ELEVATION VIEW 1 TE403 ELEVATION VIEW 2 TE404 ENLARGED PLAN - IDF.B.06 TE405 COMBINED GENERAL PANELBOARD LOCATIONS TE501 TECHNOLOGY DETAILS - OCULUS SECTION CUT TE502 TECHNOLOGY DETAILS TE601 BLOCK DIAGRAMS - RESPONSIBILITY DIAGRAM TE602 BLOCK DIAGRAMS - OCULUS VIDEO DISTRIBUTION LINE DIAGRAM BLOCK DIAGRAMS - FIBER BACKBONE DIAGRAMS TE604 BLOCK DIAGRAMS - NETWORK DIAGRAMS PANEL SCHEDULES



3780 N TERMINAL ROAD
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GEORGE BUSH
INTERCONTINENTAL AIRPORT

CONSTRUCTION DOCUMENTS
OCULUS

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C.O.H. No. 4600015176 D.O.A. No.
B.S.G. No. H.A.S. No.

ITRP T.I.P. No.

Burns engineering, INC | 215 979-7700 TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 PHILADELPHIA, PA 19103

DESIGNER PROJECT No.: 2022-109
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SHEET NAME:
OCULUS SHEET INDEX

SHEET No.
GIO01 SCALE:
N.T.S.

SHEET SIZE: 30"x42" ARCH E1

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D

Aconex File Name: I-22-T-0958 - GI001 -

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В

**TECHNOLOGY GENERAL NOTES** THE TECHNOLOGY INFRASTRUCTURE AND MEDIA SHALL FOLLOW HAS IT STANDARDS AND SPECIFICATIONS FOR DIVISION 27 ALL ITEMS NOTED ON THE LEGENDS DO NOT NECESSARILY APPEAR ON PLANS. THESE NOTES APPLY TO ALL SYSTEMS IN THE DRAWING PACKAGE. SYSTEM SPECIFIC NOTES ARE IN ADDITION TO THE GENERAL DRAWINGS FOR THIS WORK ARE DIAGRAMMATIC AND INTENDED TO CONVEY THE EXTENT, GENERAL ARRANGEMENT AND LOCATIONS OF THE WORK. DUE TO THE DRAWING SCALE, ALL ITEMS SUCH AS ACCESS PANELS, CONDUITS, PENETRATION SLEEVES, PULL BOXES, BACKBOXES AND JUNCTION BOXES MA DUE TO DRAWING SCALE, EQUIPMENT SYMBOLS ARE SHOWN AS CLOSE AS POSSIBLE TO THEIR INTENDED LOCATION. CONTRACTOR SHALL FIELD COORDINATE THE PROPER INSTALLATION OF ALL EQUIPMENT, DEVICES, CONTROLS AND CABLING. REFER TO RELATED LOCATION OF ALL DEVICES ON PLANS ARE APPROXIMATE ONLY. VERIFY EXACT LOCATIONS, HEIGHTS, ETC. WITH OWNER AND/OR ARCHITECT PRIOR TO ROUGH-IN. COORDINATE CONDITIONS RELATED TO THE INSTALLATION OF WORK WITH THE GENERAL CONTRACTOR, RELATED TRADES, AND SYSTEM INTEGRATORS. COORDINATE WITH THE APPROPRIATE TRADE ALL INSTALLATION REQUIREMENTS IMPACTING THE PLACEMENT OF SYSTEM COMPONENTS TO THE SATISFACTION OF ALL CONCERNED TRADES. ALL NEW EQUIPMENT AND DEVICES SHALL MATCH EXISTING SYSTEM COMPONENTS AND BE FULLY COMPATIBLE WITH EXISTING PATHWAYS AND CABLING NOTES INSTALL COMMUNICATIONS HORIZONTAL CABLE IN ACCORDANCE WITH NEC ARTICLE 800, APPLICATIONS FOR CABLE ROUTING AND INSTALL LISTED CABLES AS REQUIRED BY THEIR APPLICATION; INSTALL RISER RATED CABLE IN RACEWAY AND PLENUM RATED CABLE WHERE ROUTED IN ENVIRONMENTAL AIR SPACES. PROVIDE PROTECTIVE INNERDUCT CONDUIT SYSTEM IN ALL TELECOMMUNICATIONS BACKBONE CONDUITS. ALIGN DATA OUTLETS WITH ELECTRICAL RECEPTACLES, SWITCHES, AND SIMILAR WALL MOUNTED EQUIPMENT. COORDINATE THE EXACT LOCATION OF DATA OUTLETS WITH ELECTRICAL RECEPTACLES AND FURNITURE PLANS PRIOR TO INSTALLATION. COORDINATE EXACT LOCATION OF ALL DESK, FURNITURE, COUNTER, CEILING MOUNTED EQUIPMENT, DATA, CONDUITS, WITH ALL ARCHITECTURAL PLANS, REFLECTED CEILING PLANS AND ALL TRADE PLANS PRIOR TO INSTALLATION. ALL CABLES AND RACEWAYS SHALL BE CONCEALED UNLESS SPECIFICALLY NOTED OTHERWISE OR APPROVED BY ENGINEER. ALL CONDUITS SHALL BE A MINIMUM OF 1" UNLESS OTHERWISE NOTED. ALL CONDUITS SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH NFPA 70 AND PROJECT SPECIFICATIONS. PROVIDE PULL STRINGS IN ALL EMPTY RACEWAYS/CONDUITS. ALL RACEWAY TERMINATIONS SHALL HAVE BUSHINGS AND BE GROUNDED WHERE RACEWAY IS METAL. WHERE EQUIPMENT AND/OR JUNCTION BOXES ARE INSTALLED ABOVE FINISHED CEILINGS, PROVIDE ACCESS HATCHES LISTED FOR THE INTENDED APPLICATION. ACCESS HATCHES SHALL BE LOCATED FOR UNIMPEDED SERVICE ACCESS TO THE CABLING AND EQUIPMENT. PENETRATIONS OF RATED WALLS AND/OR FLOORS SHALL BE FIRE STOPPED IN ACCORDANCE WITH ASTM AND NFPA REQUIREMENTS FOR THE RATING. INSTALLATION OF FIRE-STOPS SHALL BE PERFORMED BY A QUALIFIED APPLICATOR/INSTALLER TRAINED BY THE MANUFACTURER. INSTALLATION OF FIRE-STOPS SHALL BE PERFORMED IN STRICT ACCORDANCE WITH MANUFACTURER'S DETAILED INSTALLATION COORDINATE ALL EQUIPMENT AND CABINET RU SPACE REQUIREMENTS WITH THE APPROPRIATE SYSTEM INTEGRATOR. ALL SYSTEM WIRING, CONDUITS AND EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH IEEE, EIA, NEC, AND INDUSTRY BEST PRACTICES, AND MANUFACTURER RECOMMENDATIONS. ALL WIRING SHALL COMPLY WITH ALL STATE AND LOCAL ELECTRICAL CODES AND SHALL TEST FREE FROM ALL GROUNDS, SHORTS, PROVIDE ALL EQUIPMENT CLEARANCES IN ACCORDANCE WITH CODE REQUIREMENTS, NEC REQUIREMENTS, AND EQUIPMENT MANUFACTURER RECOMMENDED WORKING CLEARANCES. ARRANGE EQUIPMENT TO FACILITATE UNRESTRICTED ACCESS FOR MAINTENANCE AND SERVICE AROUND ALL EQUIPMENT, COMPONENTS AND/OR CABLE TERMINATIONS. PROPERLY GROUND ALL EQUIPMENT, RACKS, CABINETS, CONDUITS, CABLE TRAYS, AND CABLE SHIELDS IN ACCORDANCE WITH NFPA 70 AND EQUIPMENT MANUFACTURER RECOMMENDATIONS. ALL EQUIPMENT AND COMMUNICATIONS CIRCUITS SHALL BE PROPERLY SURGE PROTECTED AND GROUNDED TO MINIMIZE DAMAGE DUE TO LIGHTNING STRIKES, SNEAK CURRENTS AND OTHER TRANSIENT VOLTAGE SPIKES. SURGE PROTECTION AND GROUNDING SHALL BE IN ACCORDANCE WITH EQUIPMENT MANUFACTURER RECOMMENDATIONS AND NEC, WHERE CIRCUITS LEAVE THE BUILDING, PROVIDE ADDITIONAL TRANSIENT PROTECTION FOR EACH CIRCUIT. ALL TRANSIENT PROTECTION DEVICES MUST BE UL LISTED UNDER STANDARD #497B FOR ISOLATED LOOP PROTECTORS.

## TECHNOLOGY SYSTEMS GENERAL NOTES

PROVIDE THE PROPER INTERFACES WITH FIRE ALARM, SECURITY AND BUILDING MECHANICAL SYSTEMS IN ACCORDANCE WITH LIFE SAFETY CODES AND CONTRACT DOCUMENTS.

REFER TO RELATED DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND/OR REQUIREMENTS RELATED TO THE INSTALLATION, PROGRAMMING, TESTING, COMMISSIONING AND CERTIFICATION OF ALL COMMUNICATIONS SYSTEMS.

A/AMP	AMPERE	LFMC	LIQUIT TIGHT FLEXIBLE METALLIC CONDUIT
AC	ABOVE COUNTER	LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
ADA	AMERICANS WITH DISABILITIES ACT	LTG	LIGHTING
ADGS	AUTOMATIC DOCKING GUIDANCE SYSTEM	LV	LOW VOLTAGE
AEC	ACOUSTIC ECHO CANCELLATION		METER
AFF AFG	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE	M MATV	METER MASTER ANTENNA TELEVISION
AHJ	AUTHORITY HAVING JURISDICTION	MC	MECHANICAL CONTRACTOR
AL	ALUMINUM	MCR	MAIN COMMUNICATIONS ROOM
ALP	AIRPORT LAYOUT PLAN	MDF	MAIN DISTRIBUTION FRAME
AMP	AMPLIFIER	MFR	MANUFACTURER
AODB	AIRPORT OPERATIONAL DATABASE	MH	MANHOLE
AP	WIRELESS ACCESS POINT	MIC	MICROPHONE
ATBPP	AUTOMATIC TICKET AND BOARDING PASS PRINTER	MISC	MISCELLANEOUS
ATO	AIRLINE TICKET OFFICE	MM	MILLIMETER  MULTIMODE FIRED ODTIC
AV AVGDS	AUDIO VIDEO AIRCRAFT VISUAL DOCKING GUIDANCE SYSTEM	MMFO MNS	MULTI-MODE FIBER OPTIC MASS NOTIFICATION SYSTEM
AWG	AMERICAN WIRE GAUGE	MUFIDS	MULTI-USER FLIGHT INFORMATION DISPLAY SYSTEM
ВС	BELOW CEILING	N/A	NOT AVAILABLE/NOT APPLICABLE
BFC	BELOW FINISHED CEILING	NEC	NATIONAL ELECTRICAL CODE
BIDS	BAGGAGE INFORMATION DISPLAY SYSTEM	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
BMS	BUILDING MANAGEMENT SYSTEM	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
BPP	BOARDING PASS PRINTER	NIC	NOT IN CONTRACT
BPR	BOARDING PASS READER	NTS	NOT TO SCALE
BSO BTP	BAGGAGE SERVICE OFFICE BAGGAGE TAG PRINTER	OAR	OWNER AUTHROIZED REPRESENTATIVE
БП	BAOOAGE TAGT KINTEK	OC	ON CENTER
С	CONDUIT	OFNR	OPTICAL FIBER NON-CONDUCTIVE RISER CABLE
CAT	CATEGORY	OLT	OPTICAL LINE TERMINAL
CATV	CABLE TELEVISION	ONT	OPTICAL NETWORK TERMINAL
CBP	CUSTOMS AND BORDER PATROL	OP	OUTPUT PANEL
CH	CHANNEL COLUMNED IN FORMATION PIOPLAY OVOTEM	OTS	OFF THE SHELF
CIDS	COUNTER INFORMATION DISPLAY SYSTEM	DA.	DUDUIC ADDRESS
CM CMPT	COMPONENT	PA PB	PUBLIC ADDRESS PULL BOX
CMPT	COMPONENT CABLE NEWS NETWORK	PBX PBX	PULL BOX PRIVATE BRANCH EXCHANGE
COMM	COMMUNICATIONS	PC	PERSONAL COMPUTER
CPST	COMPOSITE	PDS	PREMISE DISTRIBUTION SYSTEM
CPU	CENTRAL PROCESSING UNIT	PLY	PLYWOOD
CR	COMMUNICATIONS ROOM	PNL	PANEL
CRT	CATHODE RAY TUBE	PON	PASSIVE OPTICAL NETWORK
CU	COPPER	PP 	PATCH PANEL/POWER PANEL
CUPPS CUSS	COMMON USE PASSENGER PROCESSING SYSTEM COMMON USE SELF-SERVICE	PR PSTN	PAIR PUBLIC SWITCHED TELEPHONE NETWORK
CUSS	COMMON USE WORKSTATION	PVC	POLYVINYL CHLORIDE
D.1.0	DIOTRIBUTED ANTENNA OVOTEN	5-	
DAS DB	DISTRIBUTED ANTENNA SYSTEM DECIBEL	RF RGB	RADIO FREQUENCY
DBS	DIRECT BROADCAST SATELLITE	RGS	RED, GREEN, BLUE SIGNAL RIGID GALVANIZED STEEL
DEMO	DEMOLISH	RIDS	RAMP INFORMATION DISPLAY SYSTEM
DHS	DEPARTMENT OF HOMELAND SECURITY	RM	ROOM
DIA	DIAMETER	RMC	RIGID METAL CONDUIT
DSP DWG	DIGITAL SIGNAL PROCESSING DRAWING	RMS RU	RESOURCE MANAGEMENT SYSTEM RACK UNIT
EA	EACH	SBD	SELF BAG DROP
EC	ELECRICAL CONTRACTOR		SCHEDULE
EDID EIA	EXTENDED DIGITAL IDENTIFICATION DATA ELECTRONICS INDUSTRY ASSOCIATION	SHLD SIDA	SHIELDED (AS IN CABLE) SECURE IDENTIFICATION DISPLAY AREA
ELEC	ELECTRIC/ELECTRICAL	SMATV	SATELLITE MASTER ANTENNA TELEVISION
ELEV	ELEVATOR	SMFO	SINGLE-MODE FIBER OPTIC
EMER	EMERGENCY	SNMP	SIMPLE NETWORK MANAGEMENT PROTOCOL
EMT	ELECTRICAL METALLIC TUBING	SS	STAINLESS STEEL
EO	EQUAL	SSCB	SECURITY SCREENING CHECKPOINT
EQ	EQUALIZER	STB	SET TOP BOX
ERP	EMERGENCY RESPONSE PLAN	TD	TIE DOV
EVIDS EX	ELECTRONIC VISUAL INFORMATION DISPLAY SYSTEM EXISTING	TB TBD	TIE BOX TO BE DETERMINED
	EXISTING	TDM	TIME DIVISION MULTIPLEXING
FA	FIRE ALARM	TDS	TELECOMMUNICATION DISTRIBUTION SYSTEM
FAA	FEDERAL AVIATION AUTHORITY	TELE	TELEPHONE
FAR	FEDERAL AVIATION REGULATION	TELECOM	TELECOMMUNICATIONS
FIDS	FLIGHT INFORMATION DISPLAY SYSTEM	TGB	TELECOMMUNICATIONS GROUND BUSBAR
FIS	FEDERAL INSPECTION SERVICE	TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
FL	FLOOR	TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
FMC FO	FLEXIBLE METAL CONDUIT FIBER OPTIC	TS TSA	TOUCH SCREEN TRANSPORTATION SECURITY ADMINISTRATION
FD FPD	FLAT PANEL DISPLAY	TSP	TRANSPORTATION SECURITY ADMINISTRATION TWISTED SHIELDED PAIR
		TV	TELEVISION
GC	GENERAL CONTRACTOR	TYP	TYPICAL
GIDS	GATE INFORMATION DISPLAY SYSTEM		
GRD	GROUND	UL	UNDERWRITER'S LABORATORIES
GRS	GALVANIZED RIGID STEEL	UON	UNLESS OTHERWISE NOTED
LIDOD	LICH BANDWIDTH DIGITAL CONTENT BROTESTION	UPS	UNINTERRUPTIBLE POWER SUPPLY
HDCP HDMI	HIGH BANDWIDTH DIGITAL CONTENT PROTECTION HIGH DEFINITION MULTIMEDIA INTERFACE	USCBP USCS	UNITED STATES CUSTOMS AND BORDER PROTECTION UNITED STATES CUSTOMS SERVICE
нымі НН	HANDHOLE	USCS	UNSHIELDED TWISTED PAIR
HVAC	HEATING VENTILATING AIR CONDITIONING	<b>311</b>	
HZ	HERTZ	V	VOLT
		VAC	VOLT ALTERNATING CURRENT
IDF	INTERMEDIATE DISTRIBUTION FRAME	VC	VIDEO CONFERENCE
IG	ISOLATED GROUND	VC	VOLUME CONTROL
IMC	INTERMEDIATE METAL CONDUIT	VDC VE	VOLT DIRECT CURRENT VOICE EVACUATION
IP IP	INTERNET PROTOCOL INPUT PANEL	VE VGA	VOICE EVACUATION VIDEO GRAPHICS ARRAY
IP IR	INPUT PANEL INFRARED	VGA VOIP	VOICE OVER INTERNET PROTOCOL
IK IT	INFRARED INFORMATION TECHNOLOGY	v OIF	. SIGE GVER HATERIALT I NOTOGOL
ITO	INFORMATION TECHNOLOGY OUTLET	W/	WITH
		W/IN	WITHIN
JB	JUNCTION BOX	W/O	WITHOUT
		WAP	WIRELESS ACCESS POINT
KVA	KILOVOLT AMPERE	WIFI	WIRELESS FIDELITY
KW	KILOWATT	WLAN	WIRELESS LAN
Ι Λ	LICHTNING ADDESTED	WP wt	WEATHERPROOF
LA LAN	LIGHTNING ARRESTER LOCAL AREA NETWORK	WT	WATERTIGHT
	LOCAL AREA NETWORK  LOCAL BOARDING APPLICATION	XFMR	TRANSFORMER
	LOCAL DOANDING AFFLICATION	/ 31 IVII X	- · · · · · · · · · · · · · · · · · · ·
LBA LCD	LIQUID CRYSTAL DISPLAY	XLR	ELECTRICAL AUDIO CONNECTOR

**EXPLOSION PROOF** 

XP

**ABBREVIATIONS** 

HOUSTON, TX 77032 GEORGE BUSH INTERCONTINENTAL AIRPORT CONSTRUCTION DOCUMENTS OCULUS A-0958 A.I.P. No. 600015176 D.O.A. No. H.A.S. No. ITRP T.I.P. No.

3780 N TERMINAL ROAD

2001 MARKET ST, SUITE 600

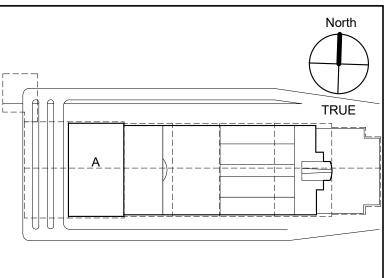
**DESIGNER PROJECT No.:** 2022-109 PROJECT STATUS: 90%CD **REVISIONS** DATE BY No. DESCRIPTION

C.M.C. & R.W.H **DESIGN BY:** A.A & P.I. DRAWN BY: C.M.C. & R.W.H. CHECKED BY: 10/26/22 ISSUE DATE: **APPROVED BY:** 10/26/22 APPROVAL DATE:

> DIRECTOR HOUSTON AIRPORT SYSTEM

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SHEET NAME:
TECHNOLOGY ABBREVIATIONS, LEGENDS AND GENERAL NOTES

N.T.S.

SHEET SIZE: 30"x42" ARCH E1

LIGHT EMITTING DIODE

LED

I-22-T-0958 - TE001 -

TE001 SCALE:

## OCULUS ELECTRICAL SPECIFICATIONS

### <u>GENERAL</u>

- . THE WORK DEFINED IN THESE SPECIFICATIONS INCLUDES ALL MATERIAL, SYSTEMS, COMPONENTS, AND INSTALLATION REQUIREMENTS OF THE DISPLAY SYSTEM INTEGRAL TO THE OCULUS AND ANY RELATED WORK REQUIRED FOR A COMPLETE AND WORKING INSTALLATION: IN COMPLIANCE WITH ALL HAS CODES AND REGULATIONS. THE LED DISPLAY SYSTEM PROVIDER IS RESPONSIBLE FOR PROVIDING INFORMATION ON THE SYSTEM TO ASSIST THE GC IN OBTAINING ALL APPROVALS AND PERMITS REQUIRED BY HAS. THE DISPLAY SYSTEM SHALL BE ENGINEERED TO MEET THE DESIGN INTENT OF THE LED DISPLAY SYSTEM CONTRACT DOCUMENTS. ENGINEERING OF THE DISPLAY SYSTEM IS A REQUIREMENT OF THE LED DISPLAY SYSTEM PROVIDER CONTRACT. THE SYSTEM NEEDS SHALL BE ENGINEERED AND FUNCTION TO THE DESIGN INTENT OF THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS INCLUDE HAS'S DESIGN INTENT.
- THE SHOP DRAWING STAGE WILL ALLOW FOR CONFIRMATION THAT THE DESIGN INTENT WAS MET.
- 2. THE SYSTEM CONSISTS OF ONE (1) KEY ELEMENT:
- A. THE OCULUS
- 3. THESE SPECIFICATIONS ARE FOR SPECIAL EQUIPMENT OR MATERIALS REQUIRED FOR THE INSTALLATION OF THE OCULUS ELEMENTS. REFER TO DIVISION 26 SPECIFICATIONS FOR THE STC FOR BASIC ELECTRICAL REQUIREMENTS AND MATERIALS INCLUDING BUT NOT LIMITED TO:
- B. BUILDING WIRE
- C. JUNCTION BOXES D. GROUNDING AND BONDING E. IDENTIFICATION
- 4. NOT USED
- 5. THE SEISMIC SUPPORT AND RESTRAINT SYSTEM FOR ALL MEDIA SYSTEMS SHALL BE DESIGNED AND BUILT BY THE LED DISPLAY SYSTEM PROVIDER. IT SHALL COMPLY WITH CURRENT IBC REQUIREMENTS FOR A SAFETY IMPORTANCE FACTOR OF 2.
- 6. VERIFY PROPER FUNCTIONING OF THE DISPLAY SYSTEM BEFORE FINAL INSPECTION BY THE HAS/DESIGNER/ARCHITECT AND ENGINEER OF
- 7. PROVIDE CORE DRILLING AND FIREPROOFING AT ALL PENETRATIONS THROUGH SLABS AND FIRE RATED WALLS. PROVIDE IN ACCORDANCE WITH HAS/ITRP BUILDING CODES.

### **EQUIPMENT & MATERIAL:**

TBD

GENERAL SCOPE OF WORK

GENERAL NOTES

## **ELECTRICAL GENERAL NOTES**

- . THE FOLLOWING GENERAL NOTES AS LISTED BELOW SHALL APPLY TO ALL DISPLAY SYSTEM REQUIREMENTS AS INDICATED IN THE PROCUREMENT PACKAGE.
- DRAWINGS FOR THIS WORK ARE DIAGRAMMATIC AND INTENDED TO CONVEY THE EXTENT, GENERAL ARRANGEMENT AND LOCATIONS OF THE WORK. BECAUSE OF THE SCALE OF THE DRAWINGS, CERTAIN BASIC ITEMS SUCH AS ACCESS PANELS, CONDUITS, CABINET SIZES, PENETRATION SLEEVES, PULL BOXES, BACKBOXES AND JUNCTION BOXES MAY NOT BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR INCLUDING ALL ITEMS WHERE REQUIRED BY CODE, MANUFACTURER AND RELATED SPECIFICATION SECTIONS FOR THE PROPER INSTALLATION OF ALL WORK.
- . DUE TO SCALE OF THE DRAWINGS, ALL DEVICE SYMBOLS ARE SHOWN ON DRAWINGS AS CLOSE AS POSSIBLE TO THEIR INTENDED LOCATION. CONTRACTOR SHALL COORDINATE IN THE FIELD THE PROPER INSTALLATION OF ALL EQUIPMENT, DEVICES, CONTROLS AND CABLING. REFER TO RELATED SPECIFICATIONS IN THE PROCUREMENT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
- . COORDINATE WITH ALL TRADES AND SYSTEM INTEGRATORS ANY CONDITIONS RELATED TO THE INSTALLATION OF THE DISPLAY SYSTEM. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE TRADE ALL INSTALLATION REQUIREMENTS IMPACTING THE PLACEMENT OF ALL SYSTEM COMPONENTS TO THE SATISFACTION OF ALL CONCERNED TRADES.
- . THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING EXACT LOCATION(S) OF ALL DATA OUTLETS WITH ELECTRICAL RECEPTACLES PRIOR TO INSTALLATION.
- 6. REFER TO ALL RELATED PROCUREMENT DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND/OR REQUIREMENTS RELATED TO THE INSTALLATION, PROGRAMMING, TESTING, COMMISSIONING AND CERTIFICATION OF ALL DISPAY SYSTEMS.

### **ABBREVIATIONS** ALTERNATING CURRENT MCM THOUSAND CIRCULAR MILS MCP MOTOR CIRCUIT PROTECTOR ARCHITECT/ENGINEER (OR ENGINEER WHEN ARCHITECT NOT APPLICABLE) MANUFACTURER ADD# ADDENDA# MANHOLE; METAL HALIDE ADJUSTABLE FREQUENCY DRIVE AFD MINIMUM ABOVE FINISHED FLOOR MTD MOUNTED AMPS INTERRUPTING CAPACITY NEUTRAL NORMALLY CLOSED AMERICAN NATIONAL STANDARDS INSTITUTE N.O. NORMALLY OPEN AMERICAN WIRE GAUGE NATIONAL ELECTRIC CODE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NEMA BLDG BUILDING NON FUSED BRKR BREAKER NATIONAL FIRE PROTECTION ASSOCIATION CONDUIT NOT IN CONTRACT NUMBER CENTER LINE OVERLOAD CKT. CIRCUIT OUTLET BOX CLG. CEILING **OUTSIDE DIAMETER** CONN. PERCENT CONT. CONTINUOUS PHASE COPPER POLE DISC. DISCONNECT P.T. POTENTIAL TRANSFORMER DN. DOWN PULLBOX DPST DOUBLE POLE SINGLE THROW PNL PANEL PR PAIR ELECTRICAL CONTRACTOR (OR GENERAL CONTRACTOR) PRIMARY ELECTRIC METALLIC TUBING POLYVINYL CHLORIDE **EMERGENCY POWER** RECEPTACLE RECEPT **EQUIP** S/N SOLID NEUTRAL **EQUIPMENT** EST **ESTIMATE** SCA SHORT CIRCUIT AMPS FULL LOAD AMPERES SEC. SECONDARY FLR SQUARE FOOT SHEET FNC FLEXIBLE NON-METTALIC CONDUIT SWITCH FEET SWBD SWITCHBOARD GALV. GALVANIZED SYS. SYSTEM GROUND FAULT INTERRUPTING TEMP. **TEMPERATURE** GND. GROUND THWN NYLON JACKETED WIRE THHN GRS GALVANIZED RIGID STEEL CONDUIT TTB TELEPHONE TERMINAL BOARD HORSEPOWER TELEPHONE TERMINAL CABINET HOUR TELEVISION HEIGHT TVEC TELEVISION EQUIP. CABINET HERTZ (CYCLES) TVTC TELEVISION TERMINAL CABINET INTERMEDIATE METALLIC CONDUIT TYP TYPICAL INCHES UNDERWRITERS' LABORATORIES JUNCTION BOX UNLESS OTHERWISE NOTED U.O.N. KVA KILOVOLT AMPERE VOLT KW KILOWATTS **VOLT AMPERES** KWH KILOWATT HOUR WIRE LIQUIDTIGHT FLEXIBLE NON-METALLIC CONDUIT W.P., WP WEATHERPROOF M.C.B. MAIN CIRCUIT BREAKER XFMR. TRANSFORMER M.L.O. MAIN LUGS ONLY WYE MAINT. MAINTENANCE YARD YR. YEAR

SYMBOL	DESCRIPTION	DESIGN SELECTION	APPROVED SELECTION	APPROVED SELECTION	REMARKS
$\ominus$	WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE	P&S #PS5362	HUBBELL #HBL5352	LEVITON #5362	b
<b></b>	TWO GANG WALL OUTLET BOX AND TWO 20 AMP DUPLEX RECEPTACLES	(2)-P&S #PS5362	(2)-HUBBELL #HBL-5352	(2)-LEVITON #5362	b
UPS	WALL OUTLET BOX AND 20 AMP ISOLATED GROUND DUPLEX RECEPTACLE (ORANGE DEVICE). PLATE TO BE STAINLESS STEEL ENGRAVED TO READ "UPS POWER".	P&S #IG5362	HUBBELL #IG5362	LEVITON #5362-IG	b
J	FLUSH WALL JUNCTION BOX AND BLANK PLATE				b
	SURFACE JUNCTION BOX AND BLANK PLATE, WALL MTD. OR MTD. TO CEILING/STRUCTURE AS INDICATED	STEEL CITY	RACO		a,b,d,e
	DISCONNECT SWITCH, SIZE AS NOTED				d,f
	120/208V BRANCH CIRCUIT PANELBOARD SURFACE MOUNTED				b
_	277/480V BRANCH CIRCUIT PANELBOARD SURFACE MOUNTED				f
[]	TRANSFORMER				f
	HOME RUN WIRING. ONE CIRCUIT PER ARROW HEAD				
	CONDUIT CAPPED OFF				
<u> </u>	CONDUIT CONTINUED				
0	CONDUIT RUN UP				
•	CONDUIT RUN DOWN				
_	CONDUIT SEAL-OFF FITTING	CROUSE HINDS	APPLETON		С
—G—	GROUND WIRE, CONCEALED				
ı	GROUND OR GROUND ROD AS NOTED				

# **REMARK NOTES**

- a. SUPPORT OUTLET BOX FROM STRUCTURE WITH (1) 3/8" ALL THREADS MINIMUM. BOXES LARGER THAN 25 SQUARE INCHES SHALL BE SUPPORTED WITH (2) 3/8" ALL THREADS MINIMUM.
- b. JUNCTION/OUTLET BOX SHALL BE SIZED AS REQUIRED FOR CONDUCTOR/DEVICE FILL PER N.E.C.
- THREADED CONDUIT HUBS SHALL BE SIZED AND CONFIGURED AS REQUIRED FOR APPLICATION.
- I. WHEN SURFACE JUNCTION BOX SYMBOL IS COMBINED WITH DEVICE SYMBOL, PROVIDE APPROPRIATE SURFACE PLATE FOR OUTLET APPLICATION AND CAST OUTLET BOX.
- MAINTAIN WORKING CLEARANCES IN STRICT ACCORDANCE WITH N.E.C. COORDINATE EXACT LOCATION OF EQUIPMENT WITH ALL DISCIPLINES
- (I.E. STRUCTURAL, HVAC, PLUMBING, FIRE PROTECTION, KITCHEN, MILLWORK, ETC.) PRIOR TO ROUGH-IN TO MAINTAIN CLEARANCES.
- f. OUTLET BOX SHALL BE SIZED PER SYSTEM INSTALLER REQUIREMENTS.

# **GENERAL NOTES**

## NOTES:

- 1. ALL DEVICES TO BE GREY WITH SMOOTH METAL #302 S.S. PLATES UNLESS OTHERWISE NOTED. PROVIDE MID-SIZE OR JUMBO COVER PLATES
- 2. "R" BY DEVICE DENOTES EXISTING TO BE REMOVED COMPLETELY.
- 3. "H" BY DEVICE DENOTES DEVICE TO BE MOUNTED HORIZONTALLY.
- 4. MOUNT SWITCHES AT 48" AFF TO TOP.
- 5. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 6. ALL ITEMS NOTED ON THE LEGENDS DO NOT NECESSARILY APPEAR ON PLANS.



3780 N TERMINAL ROAD HOUSTON, TX 77032 INTERCONTINENTAL AIRPORT

CONSTRUCTION DOCUMENTS OCULUS A-0958 A.I.P. No. 600015176 D.O.A. No. B.S.G. No. H.A.S. No. ITRP T.I.P. No.

2001 MARKET ST, SUITE 600

PHILADELPHIA, PA 19103

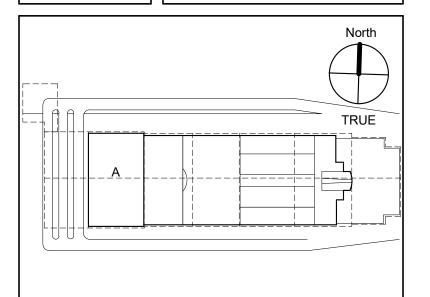
DESIGNER PROJECT No.: 2022-109 90%CD **REVISIONS** No. DESCRIPTION DATE BY

C.M.C. & R.W.H. **DESIGN BY:** A.A & P.I. DRAWN BY: C.M.C. & R.W.H. CHECKED BY: ISSUE DATE: **APPROVED BY:** 10/26/22 **APPROVAL DATE:** 

DIRECTOR HOUSTON AIRPORT SYSTEM

Drawing Status

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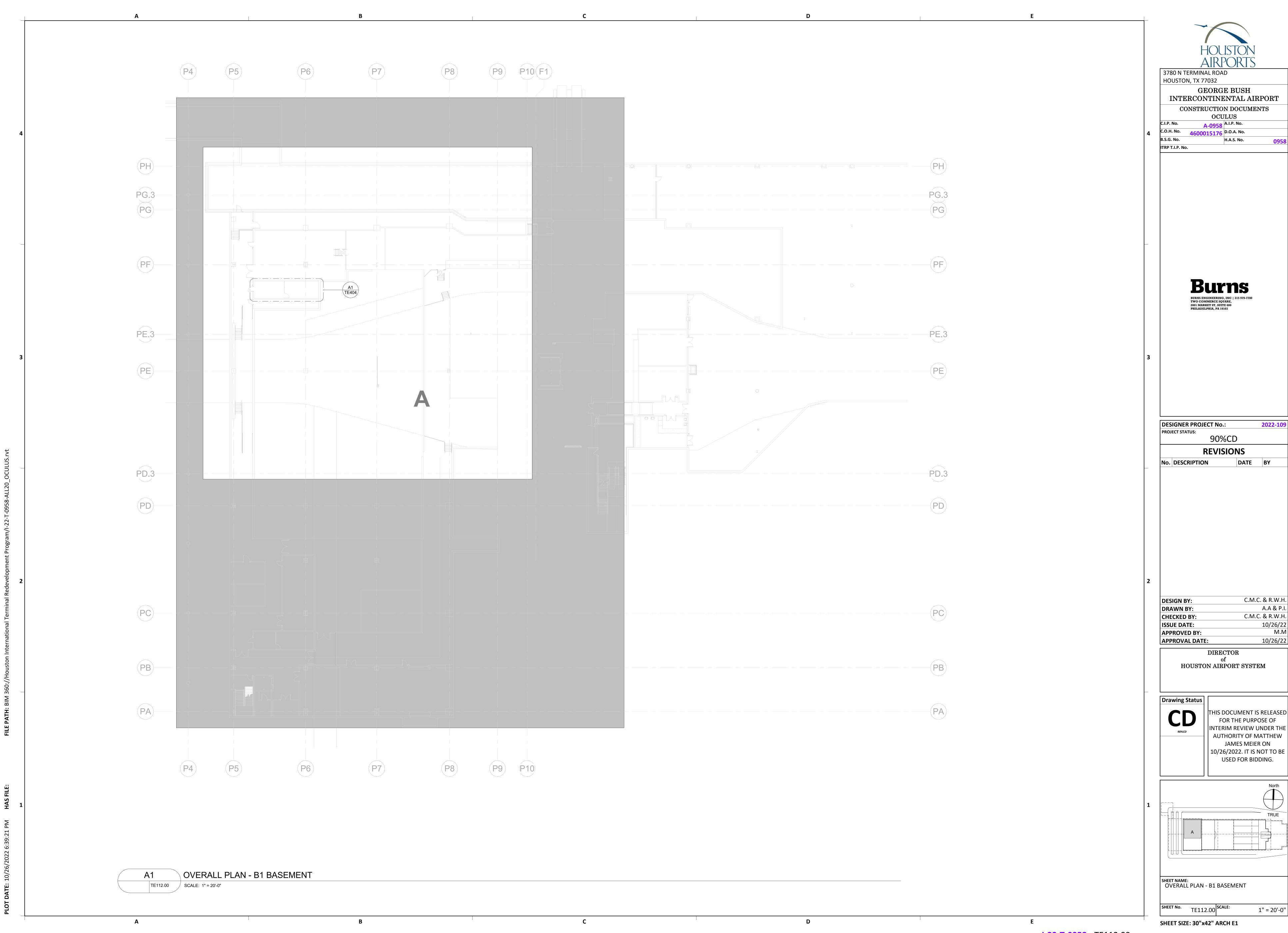
ELECTRICAL ABBREVIATIONS, LEGENDS, AND **GENERAL NOTES** 

N.T.S.

TE002 SCALE:

SHEET SIZE: 30"x42" ARCH E1

I-22-T-0958 - TE002 -



A-0958 A.I.P. No. 4600015176 D.O.A. No.

2022-109

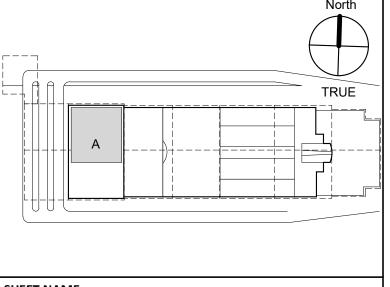
DATE BY

C.M.C. & R.W.H. A.A & P.I. C.M.C. & R.W.H. 10/26/22

HOUSTON AIRPORT SYSTEM

INTERIM REVIEW UNDER THE AUTHORITY OF MATTHEW JAMES MEIER ON 10/26/2022. IT IS NOT TO BE USED FOR BIDDING.

10/26/22



1" = 20'-0"

I-22-T-0958 - TE112.00 -

3780 N TERMINAL ROAD P9 P10 F1 INTERCONTINENTAL AIRPORT ITRP T.I.P. No. PG.3 PG **DESIGN BY:** DRAWN BY: CHECKED BY: ISSUE DATE: APPROVED BY: APPROVAL DATE: **Drawing Status** SHEET NAME: OVERALL PLAN - L1 ARRIVALS ARRIVAL LEVEL 1 OVERALL PLAN SCALE: 1" = 20'-0" SHEET No. TE113.00 SCALE: I-22-T-0958 - TE113.00 -

HOUSTON, TX 77032 GEORGE BUSH

> CONSTRUCTION DOCUMENTS OCULUS A-0958 A.I.P. No. 4600015176 D.O.A. No.

> > BURNS ENGINEERING, INC | 215 979-7700 TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 PHILADELPHIA, PA 19103

**DESIGNER PROJECT No.:** 90%CD

**REVISIONS** 

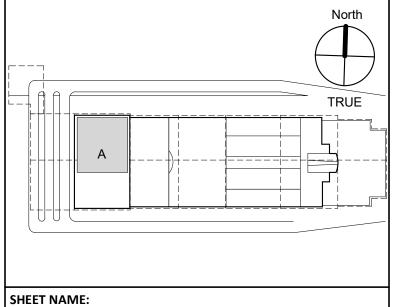
DATE BY No. DESCRIPTION

C.M.C. & R.W.H. A.A & P.I. C.M.C. & R.W.H. 10/26/22

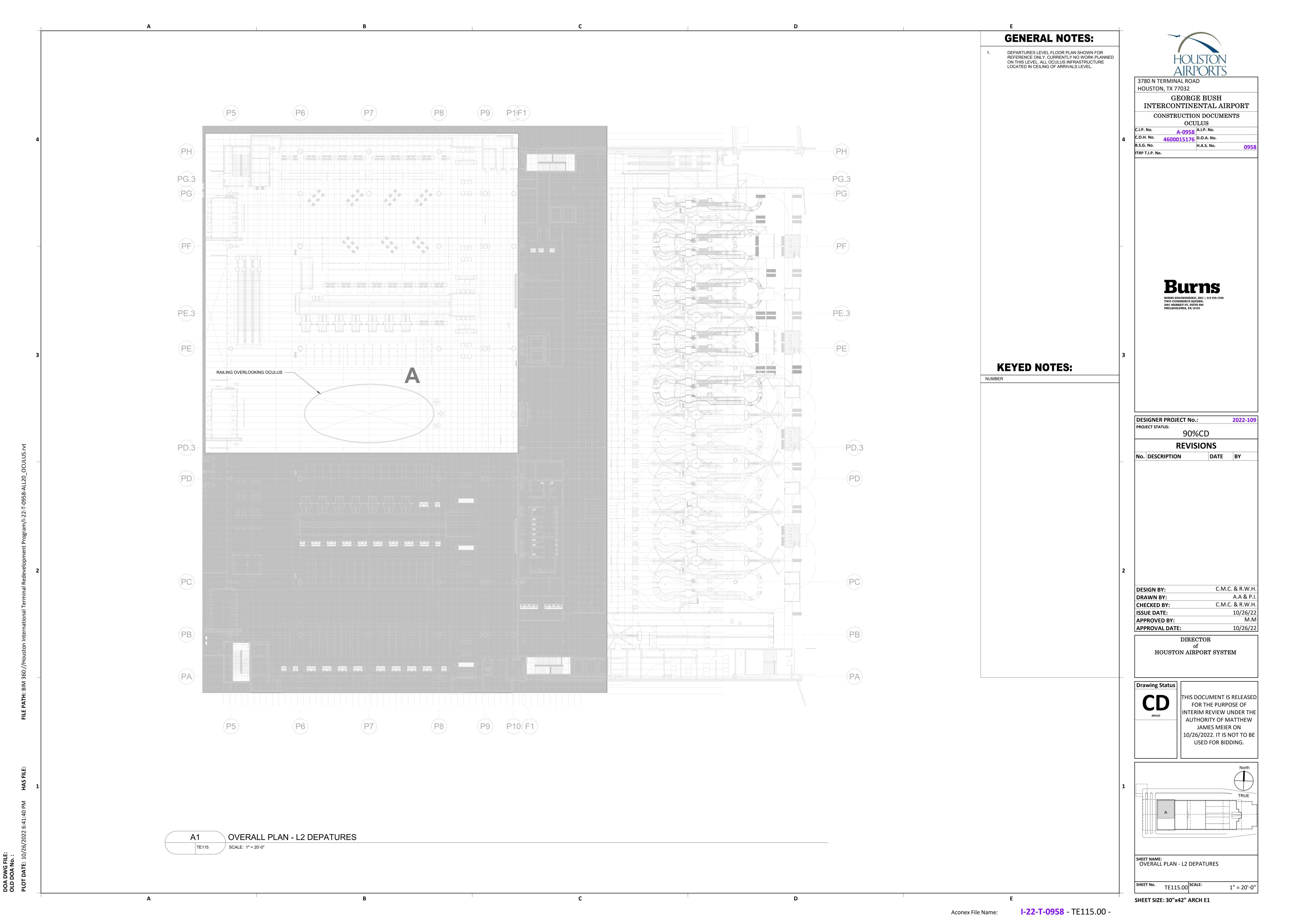
> DIRECTOR HOUSTON AIRPORT SYSTEM

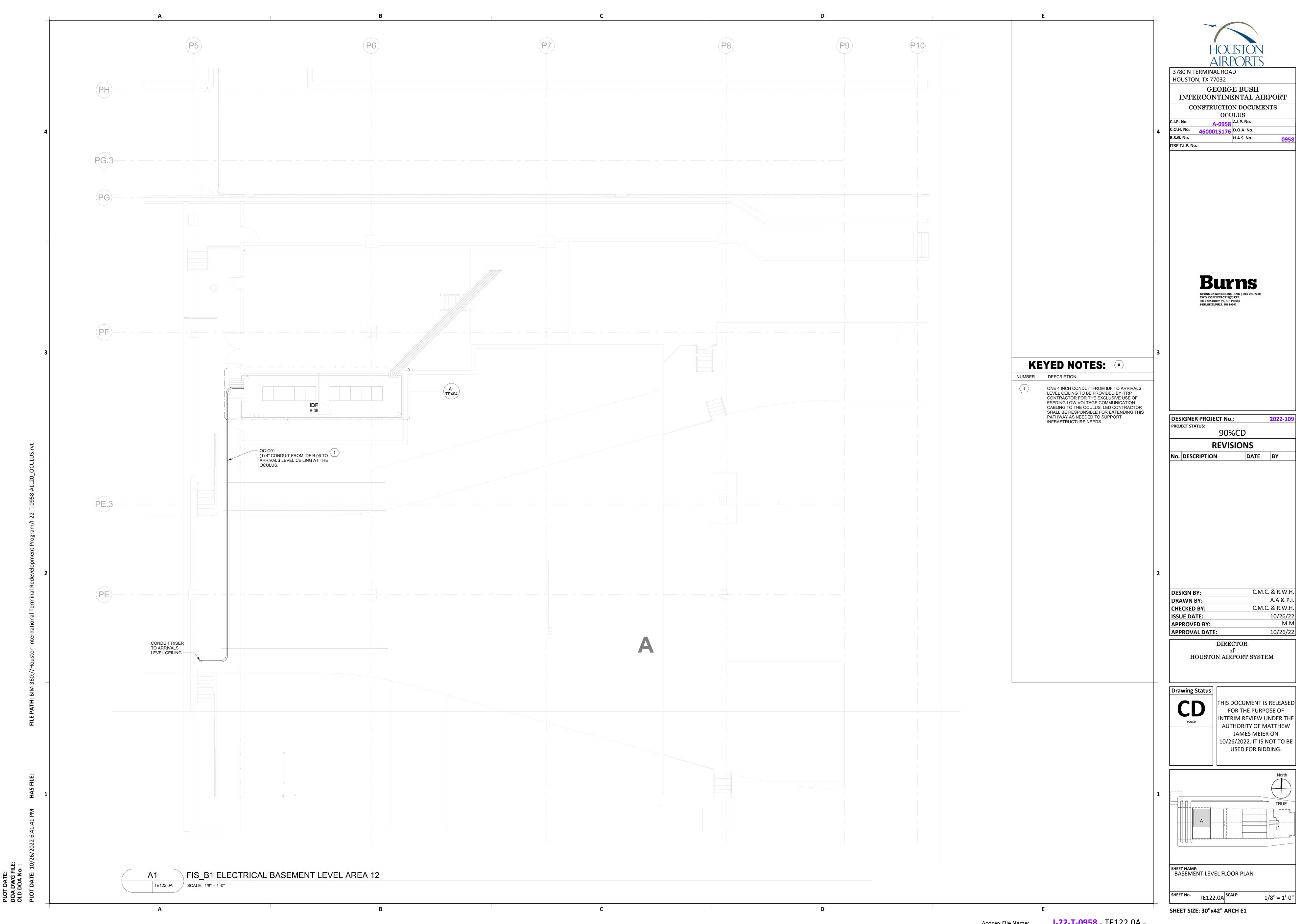
AUTHORITY OF MATTHEW JAMES MEIER ON 10/26/2022. IT IS NOT TO BE USED FOR BIDDING.

1"=20'-0"



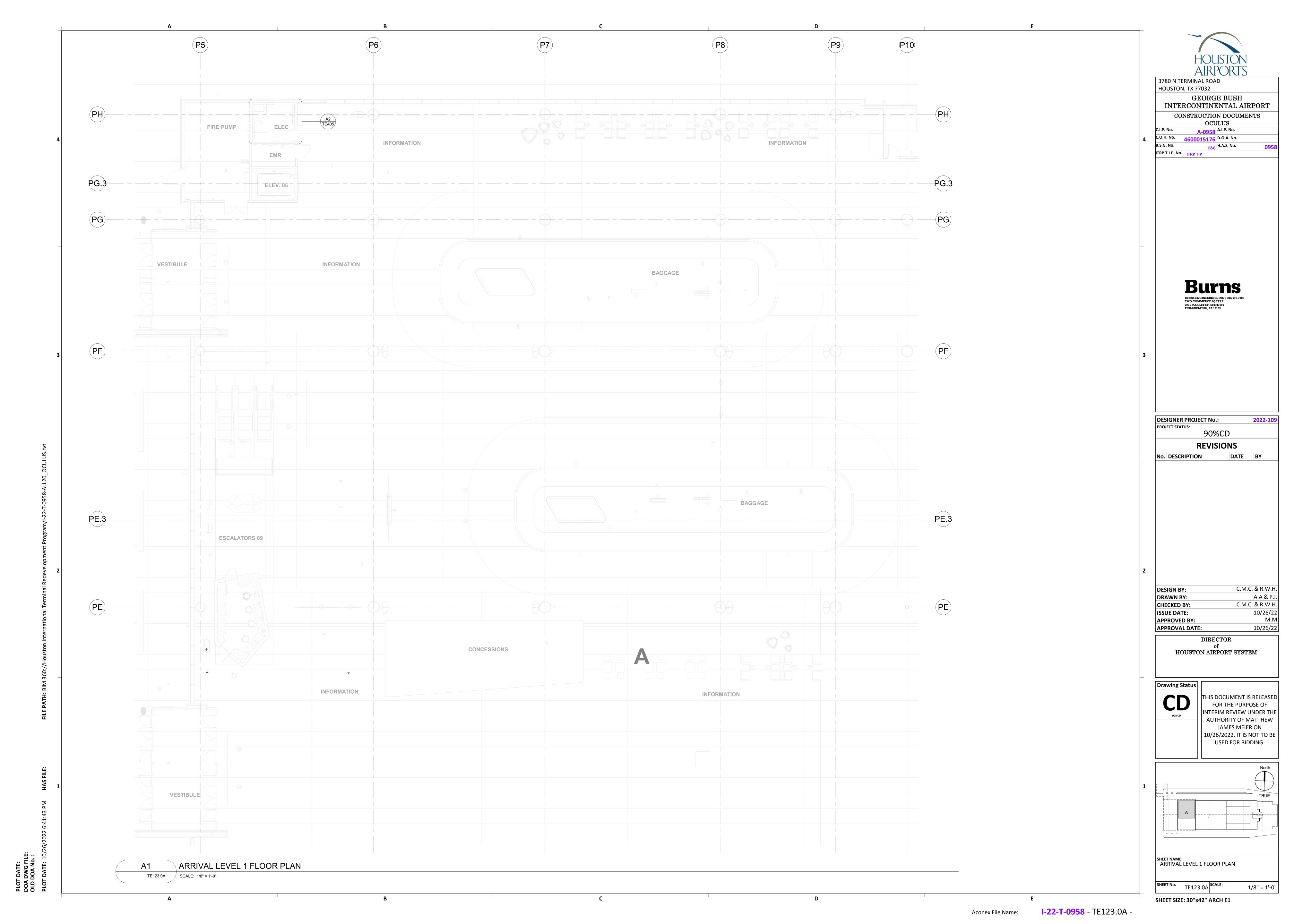
SHEET SIZE: 30"x42" ARCH E1

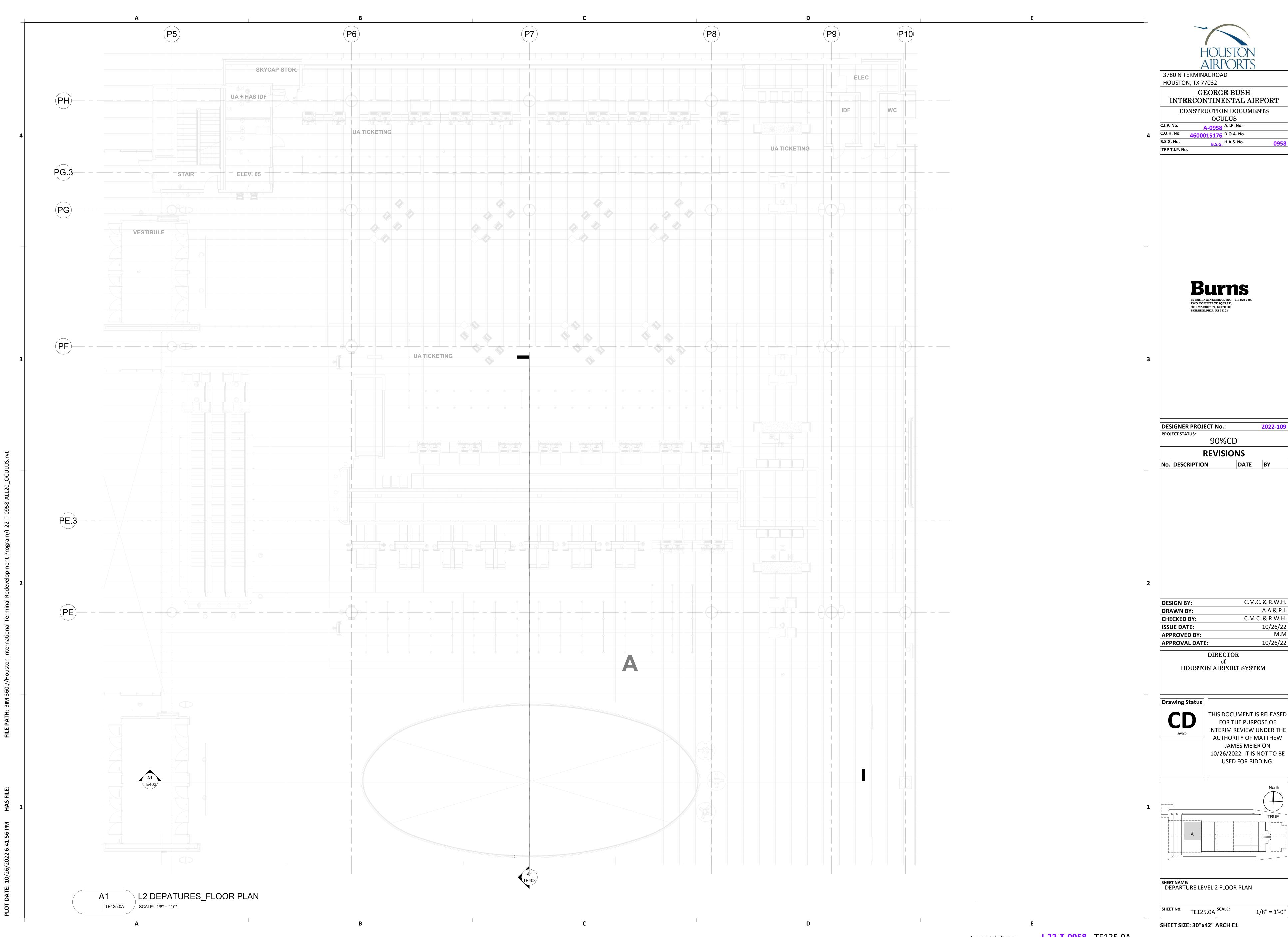




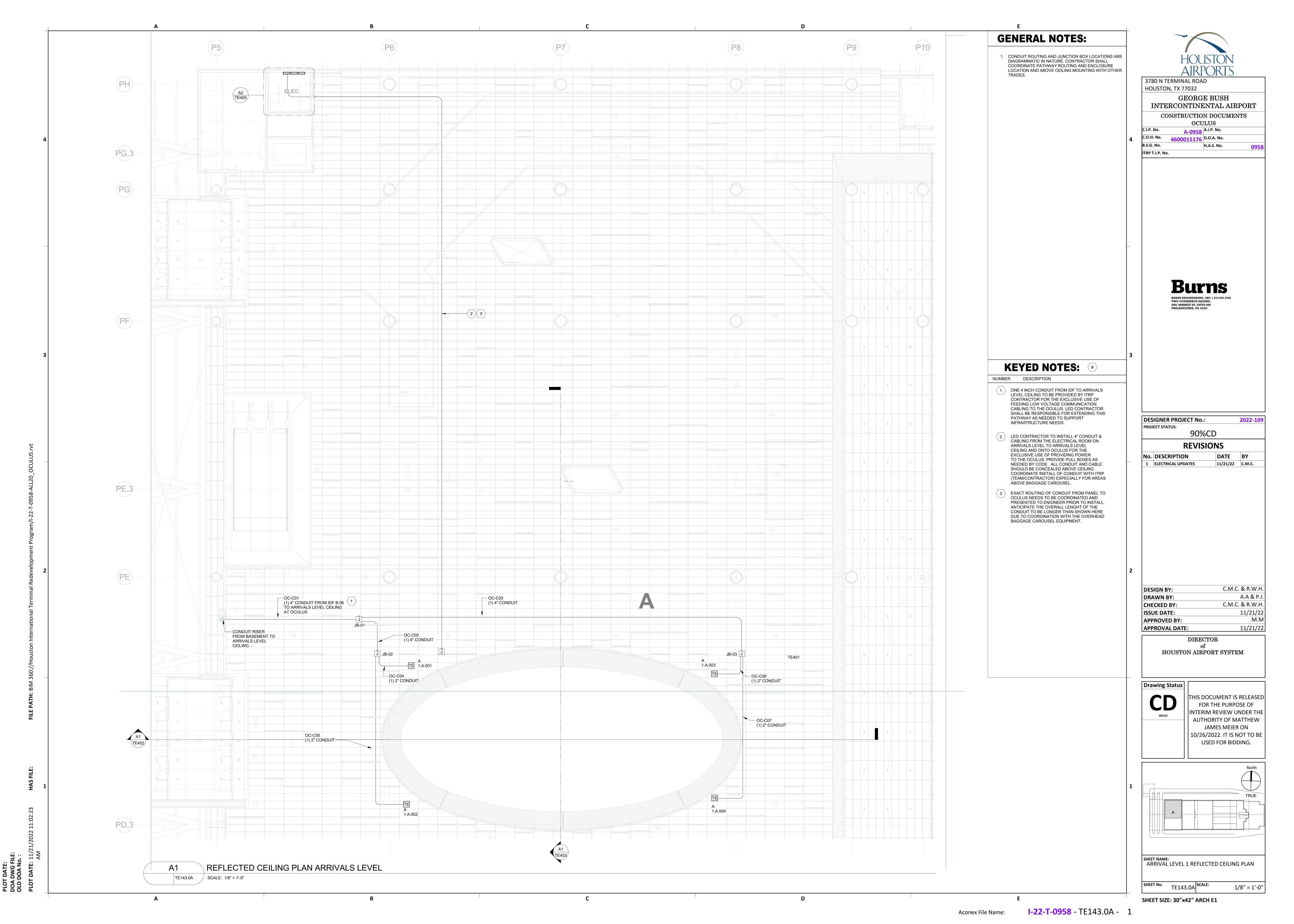
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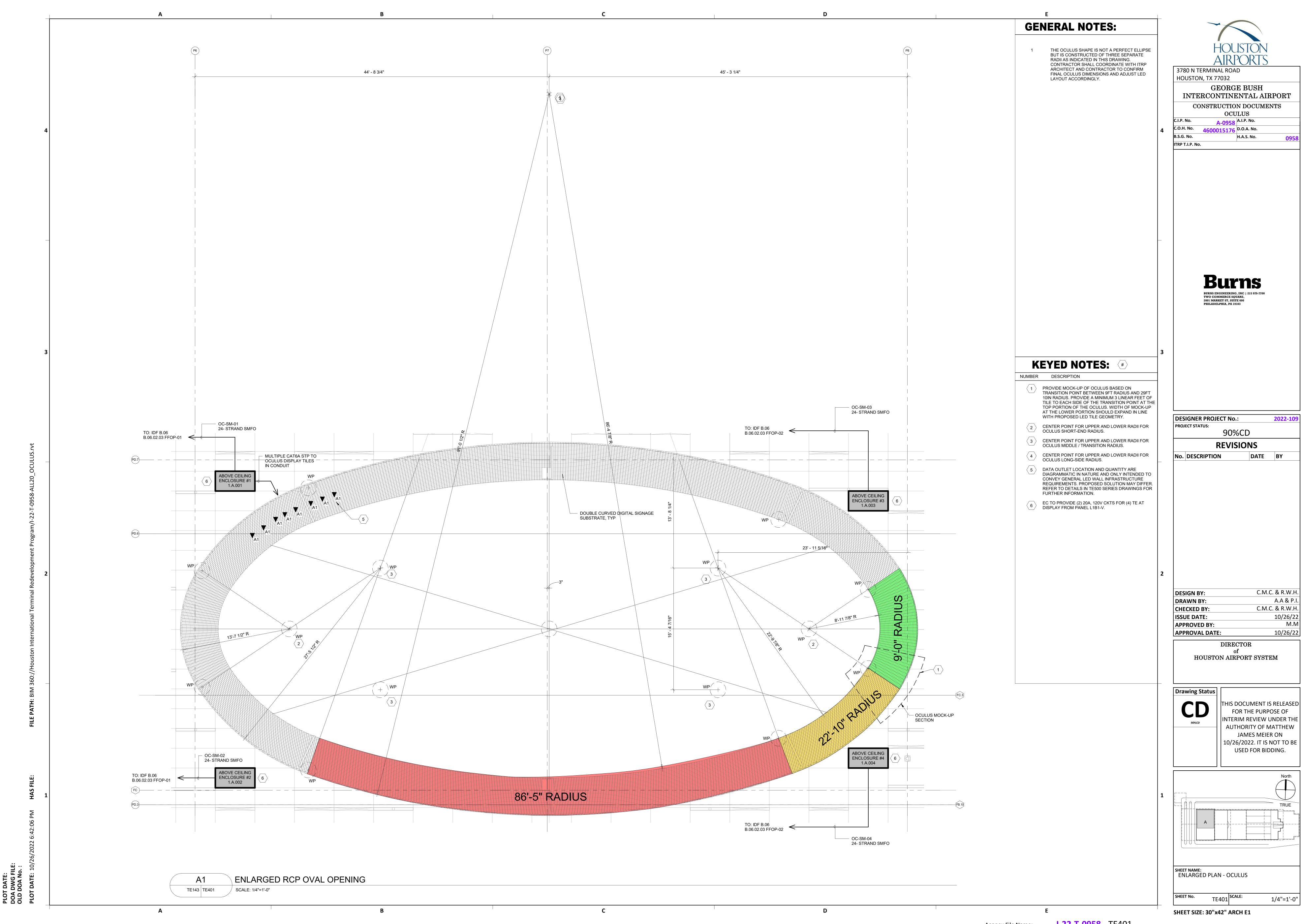
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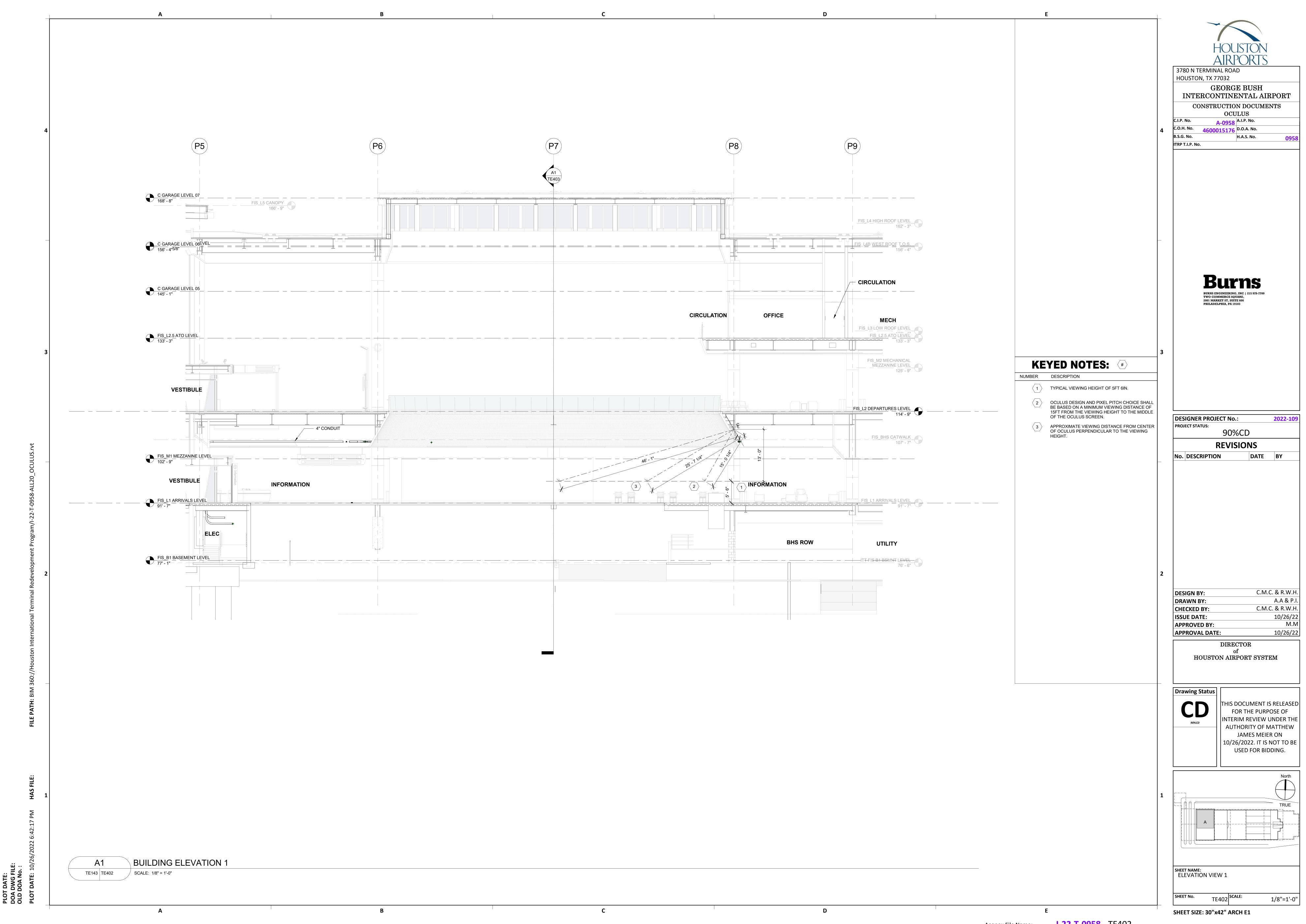


I-22-T-0958 - TE125.0A -





I-22-T-0958 - TE401 -Aconex File Name:



Aconex File Name:

I-22-T-0958 - TE402 -

3780 N TERMINAL ROAD ITRP T.I.P. No. PD.3 C GARAGE LEVEL 06EVEL C GARAGE LEVEL 05 145' - 1" FF TICKETING FF TICKETING **UA TICKETING** \_\_\_ 4" CONDUIT No. DESCRIPTION ELECTRICAL ROOM ON ARRIVALS LEVEL, AT THIS LOCATION, AT COLUMN PG.3 AND PH. **BAGGAGE** CONCESSION-QUICK SERVE F&B CIRCULATION **INFORMATION DESIGN BY:** DRAWN BY: CHECKED BY: ISSUE DATE: TRAIN LOBBY UTILIDOR EXTENSION TRAIN TUNNEL APPROVAL DATE: BUILDING ELEVATION 2 SCALE: 1/8" = 1'-0" TE403 SCALE:

HOUSTON, TX 77032 GEORGE BUSH INTERCONTINENTAL AIRPORT

CONSTRUCTION DOCUMENTS OCULUS A-0958 A.I.P. No.
4600015176 D.O.A. No.

BURNS ENGINEERING, INC | 215 979-7700 TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 PHILADELPHIA, PA 19103

**DESIGNER PROJECT No.:** 2022-109 90%CD **REVISIONS** 

DATE BY

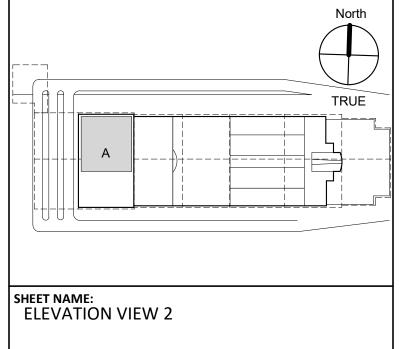
C.M.C. & R.W.H. A.A & P.I. C.M.C. & R.W.H. 10/26/22 APPROVED BY: 10/26/22

> DIRECTOR HOUSTON AIRPORT SYSTEM

**Drawing Status** 

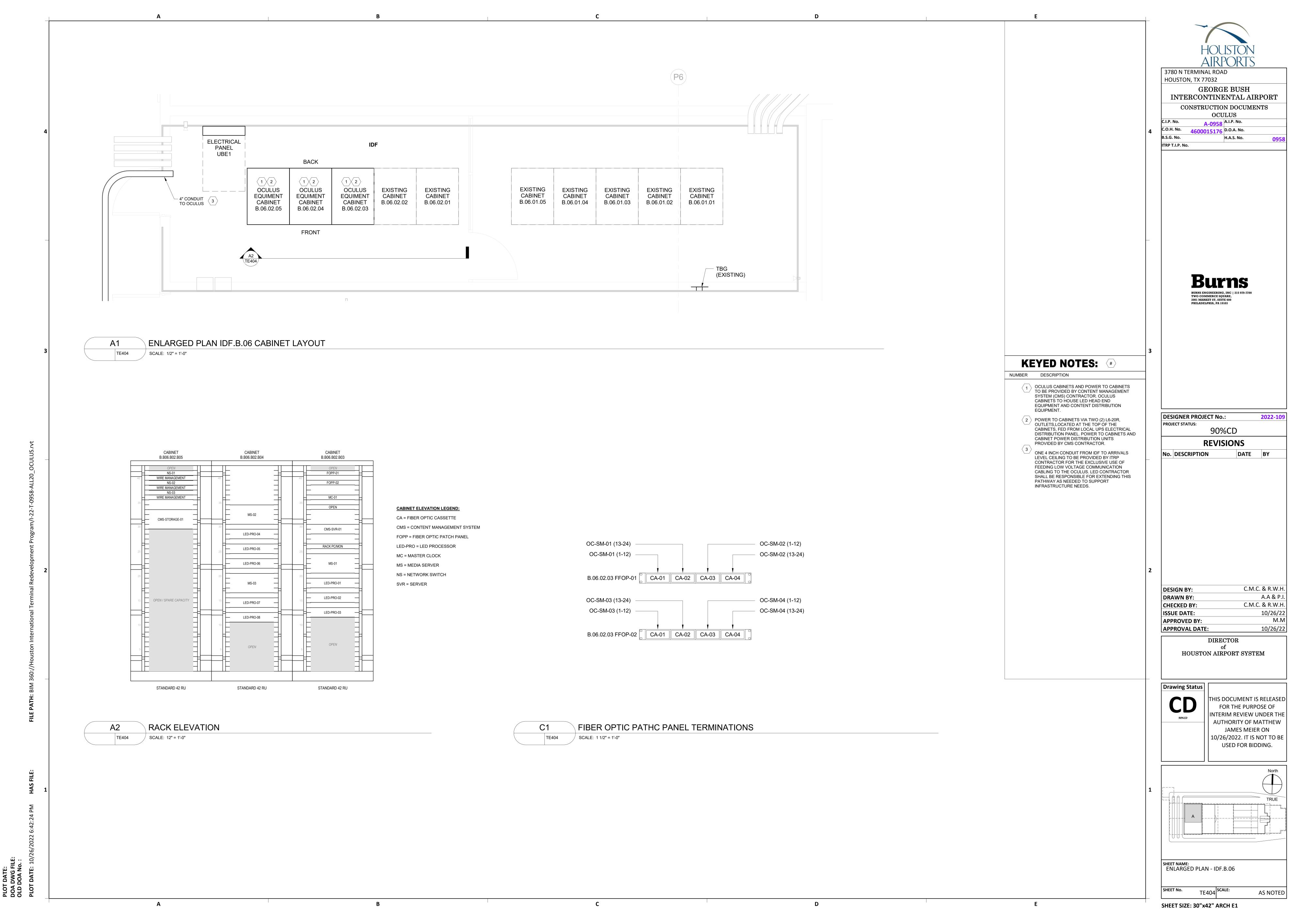
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1/8" = 1'-0"



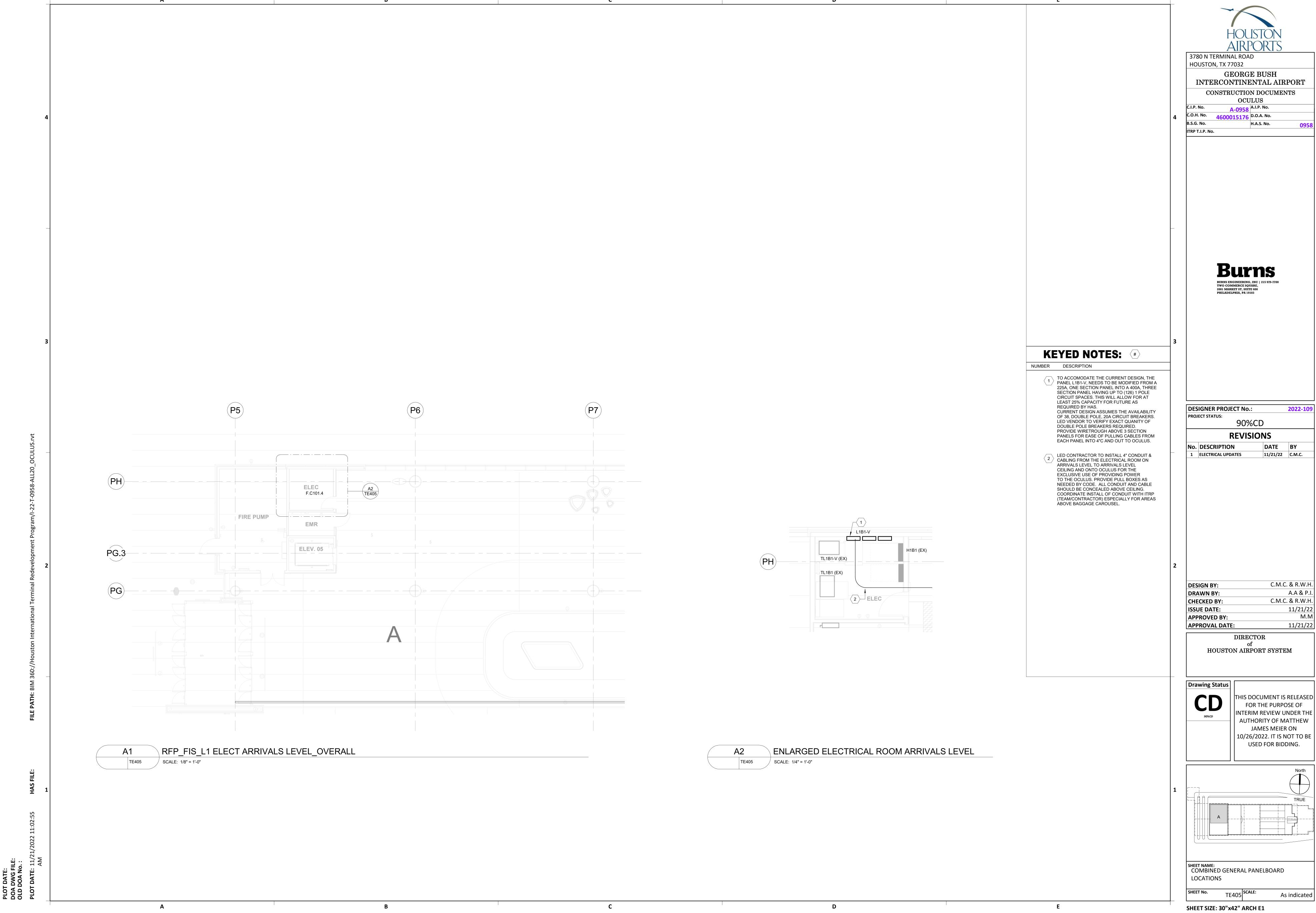
SHEET SIZE: 30"x42" ARCH E1

**I-22-T-0958** - TE403 -



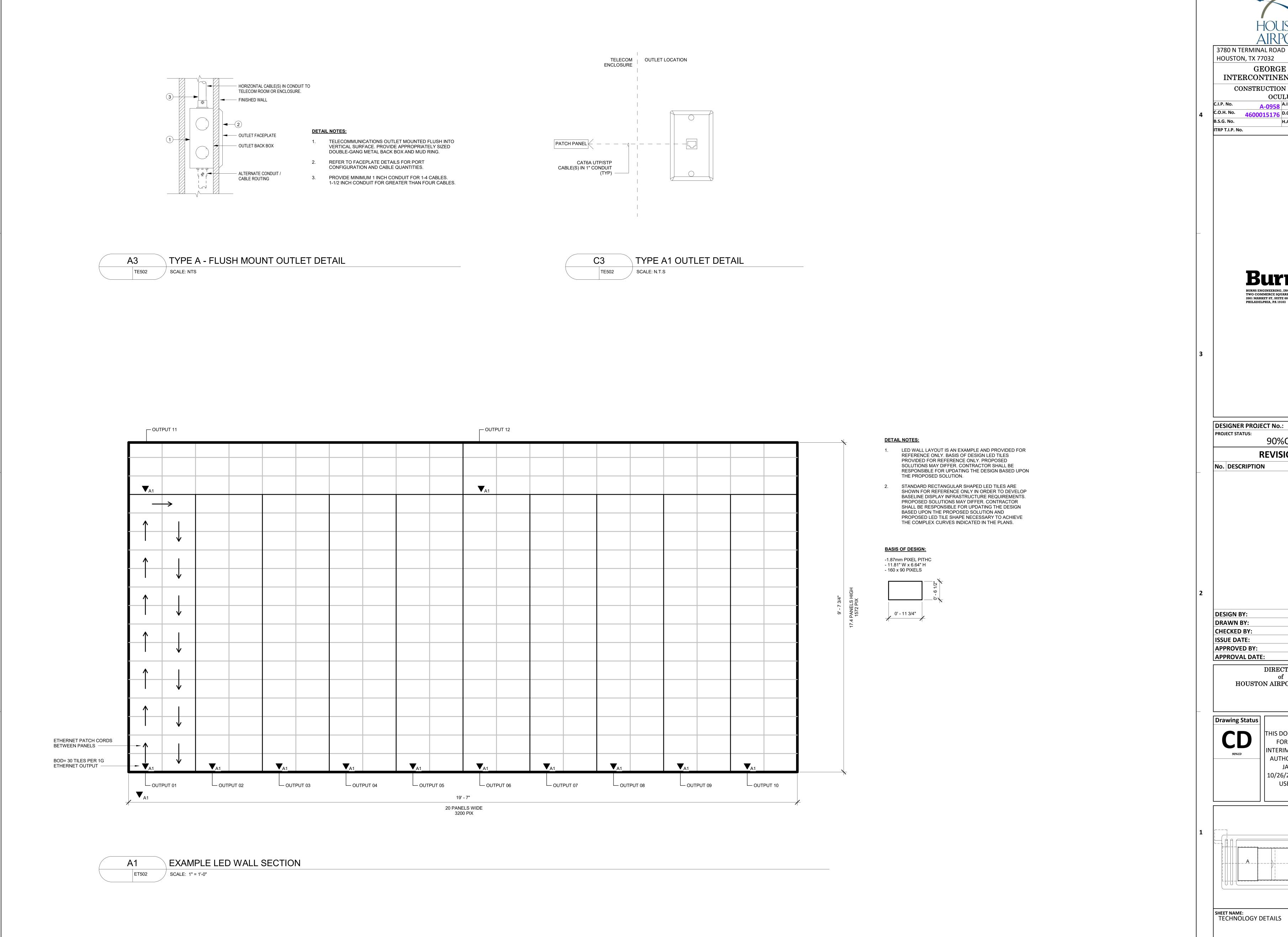
Aconex File Name:

**I-22-T-0958** - TE404 -



**I-22-T-0958** - TE405 - 1 Aconex File Name:

**GENERAL NOTES:** NOTES FOR OCULUS LED PANEL MOUNTING: OCULUS LED VENDOR SHALL SUBMIT DIMENSIONED, DETAILED SHOP DRAWINGS FOR EACH PANEL. DRAWINGS SHALL IDENTIFY, AT A MINIMUM: - TOTAL WEIGHT OF EACH PANEL 3780 N TERMINAL ROAD HOUSTON, TX 77032 - DETAILS FOR MOUNTING THE PANELS TO THE BASE BUILDING STUD FRAMING INCLUDING ANY CLIPS, GEORGE BUSH - BRACKETS AND ALL ASSOCIATED HARDWARE REQUIRED FOR A COMPLETE INSTALLATION. INTERCONTINENTAL AIRPORT CONSTRUCTION DOCUMENTS - CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE OCULUS STATE OF TEXAS WHICH DEMOSTRATE THAT A-0958 A.I.P. No. SUPPORT BRACKETS AND HARDWARE USED FOR MOUNTING HAVE SUFFICENT CAPACITY TO SUPPORT 4600015176 D.O.A. No. THE PANEL WEIGHT WITHOUT DEFLECTION OR DEFORMATION THAT WILL COMPROMISE THE B.S.G. No. H.A.S. No. INSTALLATION. ITRP T.I.P. No. THE EFFECTS OF CONCOURSE LEVEL FLOOR VIBRATION SHALL BE CONSIDERED IN THE DESIGN AND PERFORMANCE OF THE LED PANELS AS WELL AS THE DESIGN OF THE SUPPORT CONNECTIONS FOR EACH PANEL. SCHEDULED FLOOR FINISH — - PAINTED 5/8" GYPSUM METAL DECKING WALL BOARD STRUCTURAL -BURNS ENGINEERING, INC | 215 979-7700 TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 PHILADELPHIA, PA 19103 - 3" GALV STUD FRAMING @ 16"OC TYP - SCHEDULED STRUCTURAL - 7/8" GALV FURRING @ 16" OC MIN, DOUBLE CURVED **DESIGNER PROJECT No.:** 2022-109 1/4" FRT PLYWD, 2 STAGGERED LAYERS, DOUBLE CURVED SURFACE PROJECT STATUS: 90%CD REVEALED CEILING PANEL **REVISIONS** END CLIP — DATE BY No. DESCRIPTION SCHED. ACOUSTICAL METAL CEILING PANEL (MCP) -ANGLED PERIMETER CEILING 0' - 6 1/2" PANEL TRIM — C.M.C. & R.W.H DESIGN BY: A.A & P.I DRAWN BY: C.M.C. & R.W.H CHECKED BY: 10/26/22 ISSUE DATE: APPROVED BY: 10/26/22 APPROVAL DATE: DIRECTOR HOUSTON AIRPORT SYSTEM **Drawing Status** THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF MATTHEW JAMES MEIER ON 10/26/2022. IT IS NOT TO BE USED FOR BIDDING. PLOT DATE:
DOA DWG FILE:
OLD DOA No.:
PLOT DATE: 10/2 OCULUS SECTION CUT SHEET NAME:
TECHNOLOGY DETAILS - OCULUS SECTION SCALE: 1" = 1'-0" As indicated SHEET SIZE: 30"x42" ARCH E1 I-22-T-0958 - TE501 -Aconex File Name:



HOUSTON, TX 77032 GEORGE BUSH INTERCONTINENTAL AIRPORT

> CONSTRUCTION DOCUMENTS OCULUS A-0958 A.I.P. No. 4600015176 D.O.A. No. H.A.S. No.

> > BURNS ENGINEERING, INC | 215 979-7700 TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 PHILADELPHIA, PA 19103

DESIGNER PROJECT No.: 2022-109 PROJECT STATUS: 90%CD **REVISIONS** No. DESCRIPTION DATE BY

C.M.C. & R.W.H. **DESIGN BY:** A.A & P.I. DRAWN BY: C.M.C. & R.W.H. CHECKED BY: 10/26/22 **ISSUE DATE: APPROVED BY:** 10/26/22 APPROVAL DATE:

> DIRECTOR HOUSTON AIRPORT SYSTEM

Drawing Status

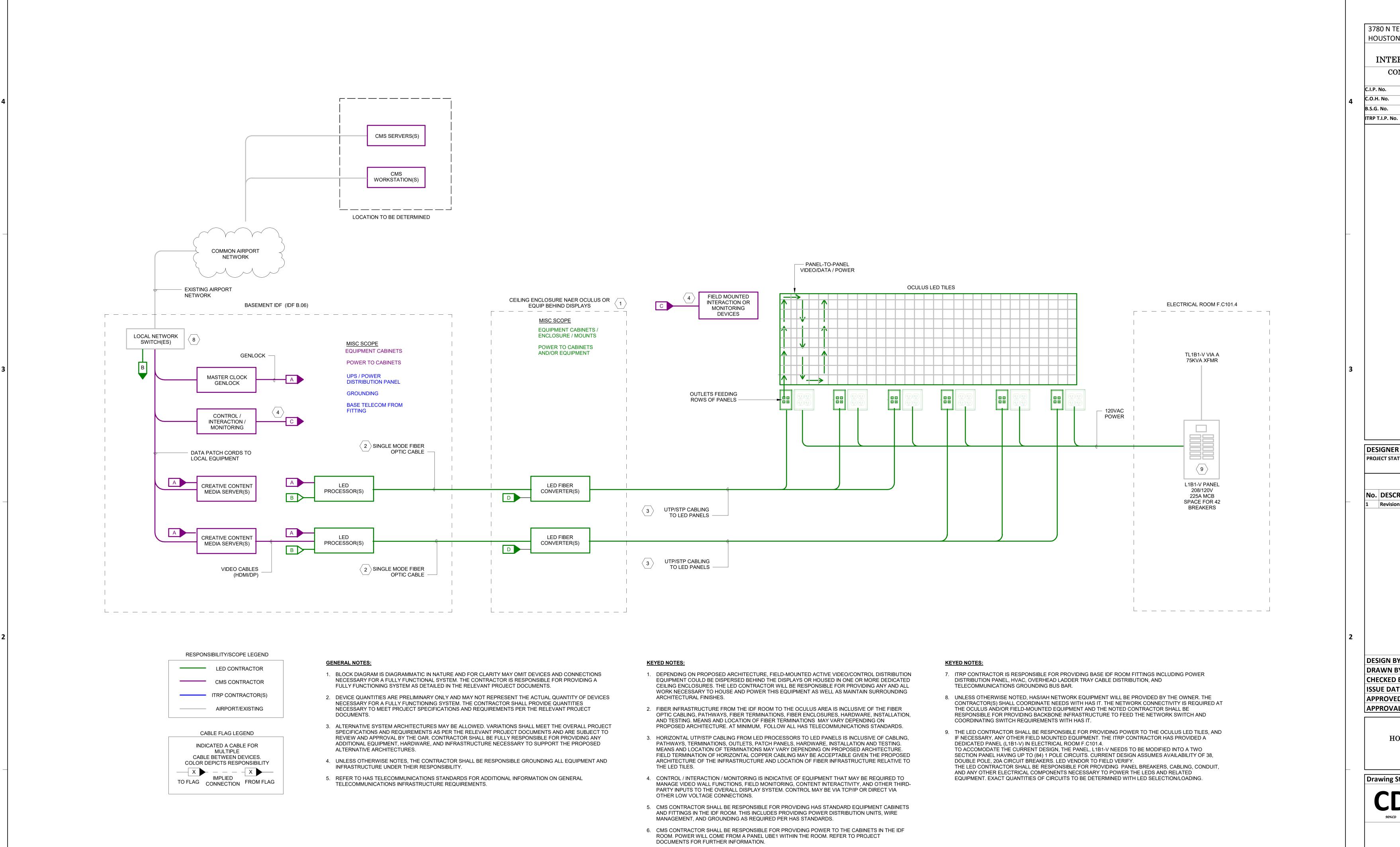
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE **AUTHORITY OF MATTHEW** JAMES MEIER ON 10/26/2022. IT IS NOT TO BE USED FOR BIDDING.

As indicated

SHEET NAME: TECHNOLOGY DETAILS

SHEET SIZE: 30"x42" ARCH E1

I-22-T-0958 - TE502 -Aconex File Name:



H.A.S. No.

3780 N TERMINAL ROAD HOUSTON, TX 77032 GEORGE BUSH INTERCONTINENTAL AIRPORT

CONSTRUCTION DOCUMENTS OCULUS A-0958 A.I.P. No. 1600015176 D.O.A. No.

TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600

PHILADELPHIA, PA 19103

**DESIGNER PROJECT No.:** 2022-109 PROJECT STATUS: 90%CD **REVISIONS** No. DESCRIPTION DATE BY Revision 1 Date 1

C.M.C. & R.W.H. **DESIGN BY:** A.A & P.I. DRAWN BY: C.M.C. & R.W.H. CHECKED BY: 10/26/22 ISSUE DATE: M.M **APPROVED BY:** 10/26/22 APPROVAL DATE:

> DIRECTOR HOUSTON AIRPORT SYSTEM

Drawing Status

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE **AUTHORITY OF MATTHEW** JAMES MEIER ON 10/26/2022. IT IS NOT TO BE USED FOR BIDDING.

N.T.S.

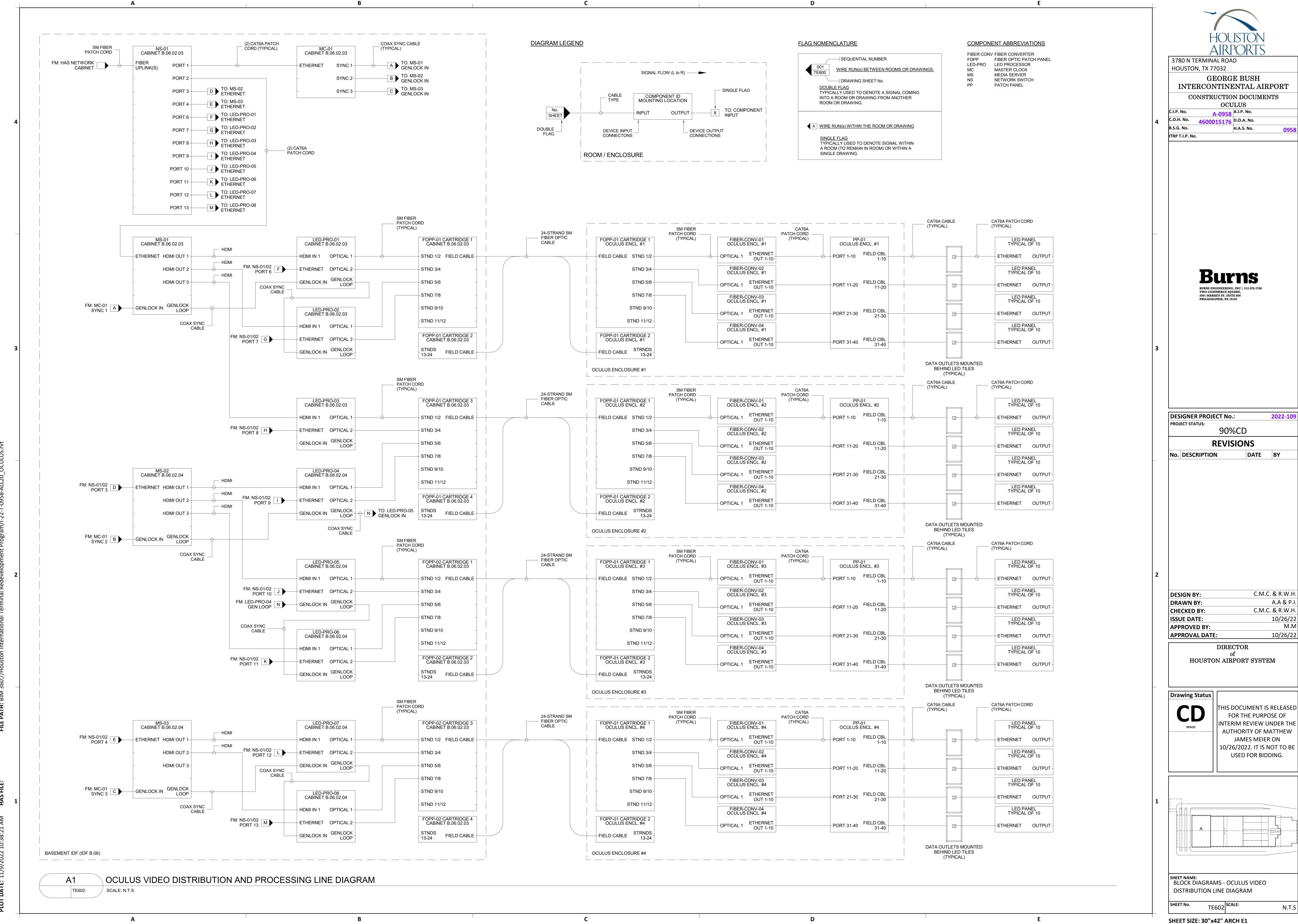
SHEET NAME: BLOCK DIAGRAMS - RESPONSIBILITY DIAGRAM

TE601 SCALE: SHEET SIZE: 30"x42" ARCH E1

**I-22-T-0958** - TE601 - 1

RESPONSIBILITY BLOCK DIAGRAM

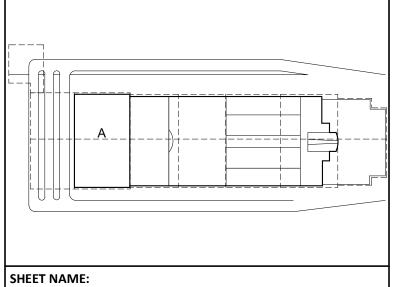
SCALE: N.T.S.



2022-109 DATE BY

C.M.C. & R.W.H A.A & P.I C.M.C. & R.W.H 10/26/22 10/26/22

FOR THE PURPOSE OF INTERIM REVIEW UNDER THE **AUTHORITY OF MATTHEW** JAMES MEIER ON 10/26/2022. IT IS NOT TO BE USED FOR BIDDING.



**I-22-T-0958** - TE602 -

Aconex File Name:



3780 N TERMINAL ROAD HOUSTON, TX 77032 GEORGE BUSH INTERCONTINENTAL AIRPORT CONSTRUCTION DOCUMENTS OCULUS A-0958 A.I.P. No. 4600015176 D.O.A. No. ITRP T.I.P. No. TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 PHILADELPHIA, PA 19103 **DESIGNER PROJECT No.:** PROJECT STATUS: 90%CD **REVISIONS** No. DESCRIPTION **DESIGN BY:** DRAWN BY: CHECKED BY: **ISSUE DATE:** APPROVED BY: APPROVAL DATE: DIRECTOR HOUSTON AIRPORT SYSTEM **Drawing Status** THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF MATTHEW 10/26/2022. IT IS NOT TO BE USED FOR BIDDING.

H.A.S. No.

2022-109

DATE BY

C.M.C. & R.W.H.

C.M.C. & R.W.H.

JAMES MEIER ON

SHEET NAME: BLOCK DIAGRAMS - FIBER BACKBONE

A.A & P.I.

10/26/22

10/26/22

N.T.S

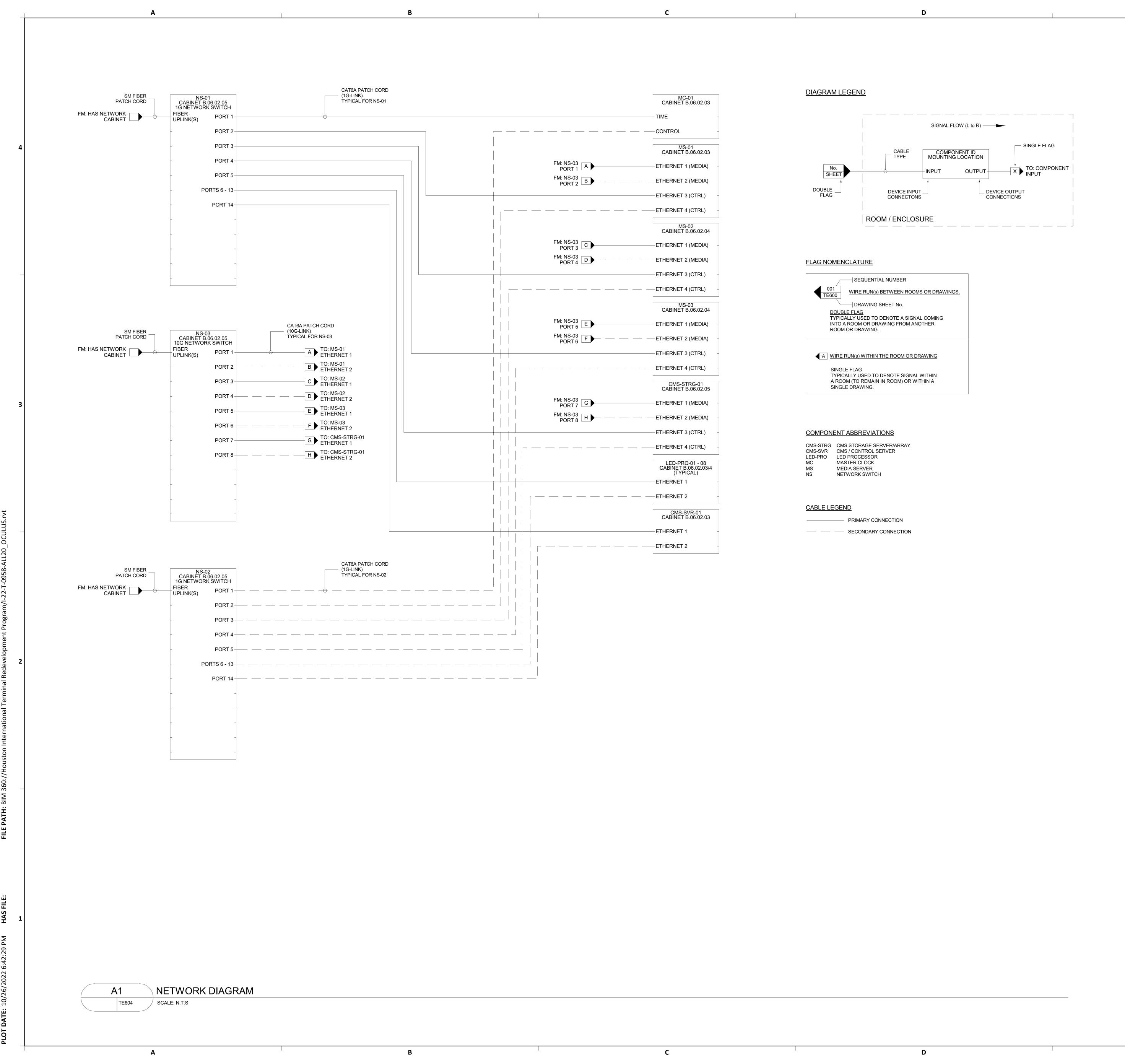
- TE603 -

DIAGRAMS

SHEET No. TE603 SCALE:

SHEET SIZE: 30"x42" ARCH E1

Aconex File Name:



HOUSTON AIRPORTS

3780 N TERMINAL ROAD
HOUSTON, TX 77032

GEORGE BUSH
INTERCONTINENTAL AIRPORT
CONSTRUCTION DOCUMENTS

OCULUS
C.I.P. No. A-0958 A.I.P. No.
C.O.H. No. 4600015176 D.O.A. No.
B.S.G. No. H.A.S. No. 095
ITRP T.I.P. No.

Burns engineering, INC | 215 979-7700 TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 PHILADELPHIA, PA 19103

DESIGNER PROJECT No.: 2022-109
PROJECT STATUS: 90%CD

REVISIONS

No. DESCRIPTION DATE BY

 DESIGN BY:
 C.M.C. & R.W.H.

 DRAWN BY:
 A.A & P.I.

 CHECKED BY:
 C.M.C. & R.W.H.

 ISSUE DATE:
 10/26/22

 APPROVED BY:
 M.M

 APPROVAL DATE:
 10/26/22

DIRECTOR of HOUSTON AIRPORT SYSTEM

Drawing Status

CD

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JAMES MEIER ON
10/26/2022. IT IS NOT TO BE
USED FOR BIDDING.

N.T.S

SHEET NAME:
BLOCK DIAGRAMS - NETWORK DIAGRAMS

TE604 SCALE:

SHEET SIZE: 30"x42" ARCH E1

PANEL SCHEDULE PANEL: L1B1-V INTERRUPTING RATING: 22kAIC MOUNTING: SURFACE AMP: 400A MAIN: 400A MCB VOLTAG... 208Y/120V PHASE: 3Ø VA/PHASE WIRE DESCRIPTION DESCRIPTION 2#8&#8G OCULUS CKT 22 OCULUS CKT 1 2#8&#8G 2 1670 | 1670 | 20 | 2 | 2#8&#8G | OCULUS CKT 23 | 6 OCULUS CKT 2 2#8&#8G OCULUS CKT 24 OCULUS CKT 3 OCULUS CKT 4 2#8&#8G 2 20 1670 1670 2#8&#8G OCULUS CKT 25 OCULUS CKT 5 2#8&#8G OCULUS CKT 26 OCULUS CKT 6 2#8&#8G OCULUS CKT 27 22 OCULUS CKT 7 2#8&#8G OCULUS CKT 28 26 OCULUS CKT 8 1670 | 1670 | 20 | 2 | 2#8&#8G | OCULUS CKT 29 | | 30 OCULUS CKT 9 OCULUS CKT 10 2#8&#8G OCULUS CKT 31 38 | 1670 | 1670 | 20 | 2 | 2#8&#8G | OCULUS CKT 32 | 42 OCULUS CKT 11 OCULUS CKT 12 2#8&#8G OCULUS CKT 33 46 2#8&#8G OCULUS CKT 34 50 OCULUS CKT 13 | 2#8&#8G | 2 | 20 | 1670 | 1670 1670 | 1670 | 20 | 2 | 2#8&#8G | OCULUS CKT 35 | 54 OCULUS CKT 14 OCULUS CKT 15 2#8&#8G 2 2#8&#8G OCULUS CKT 36 58 2#8&#8G OCULUS CKT 37 62 OCULUS CKT 16 2#8&#8G 2 20 1670 1670 1670 1670 20 2 2#8&#8G OCULUS CKT 38 66 OCULUS CKT 17 2#8&#8G 2 20 OCULUS CKT 18 2#8&#8G 2 20 SPACE SPACE OCULUS CKT 19 | 2#8&#8G | 2 | 20 | 1670 | 0 SPARE SPACE OCULUS CKT 20 2#8&#8G 2 SPARE SPACE OCULUS CKT 21 SPARE 2#8&#8G SPACE 126 SPACE LOAD TOTALS

43420 41750 41750

126920

		PANEL:	UBE1	INTERRUF	INTERRUPTING RATING:				14kAIC						MOUNTING	SURFACE	
		VOLTAGE:	208Y/120V	PHASE:	30	ð			WIRE:	4W		AMP:	150A		MAIN:	150 A	
								VA/PI		⊥ HASE							
CIRCUIT	S			WIRE	POLES	SIZE	A		F	В		C	SIZE	S			SEI
	NOTES		DESCRIPTION			BKR 9		RIGHT	LEFT			RIGHT	BKR 9	POLES	WIRE	DESCRIPTION	NOTES
1	A	FXIS	TING RECP (SPARE)	EXISTING	1	30	0	180					20	1	EXISTING	EXISTING LOAD	2
	Α		EXISTING LOAD	EXISTING	 1	20		100	720	750	]		30	 1	EXISTING	EXISTING LOAD	A 4
	A		EXISTING LOAD	EXISTING		20			120	7 00	400	400	20	1	EXISTING	EXISTING LOAD	A 6
	A		EXISTING LOAD	EXISTING	1	20	720	2200	]		400	400	30	1	EXISTING	EXISTING LOAD	A 8
	A		EXISTING LOAD	EXISTING	1	30	120	2200	750	0	1		30	1	EXISTING	EXISTING RECP (SPARE)	10
	A		EXISTING LOAD	EXISTING	1	30			100		2200	0	30	1	EXISTING	EXISTING RECP (SPARE)	12
3			TING RECP (SPARE)	EXISTING	1	30	0	1100	]		2200		20	 1	EXISTING	EXISTING LOAD	A 14
	Α		EXISTING LOAD	EXISTING	1	30			1100	1100			20	1	EXISTING	EXISTING LOAD	A 16
_	A		EXISTING LOAD	EXISTING	1	30					1100	1100	30	1	EXISTING	EXISTING LOAD	A 18
	Α		EXISTING LOAD	EXISTING	1		1100	0	]				20	1		SPARE	20
	В		AB B.B06.B02.B05	2#12,#12G.	2	20			1200	0			20	1		SPARE	22
23				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							1200	0	20	1		SPARE	24
	В	CAB B.B0	6.B02.B05 (REDUNDANT)	2#12,#12G.	2	20	0	0					20	1		SPARE	26
27			,						0	0			20	1		SPARE	28
29	В	C/	AB B.B06.B02.B04	2#12,#12G.	2	20					1140	0	20	1		SPARE	30
31							1140	0					20	1		SPARE	32
33	В	CAB B.B0	6.B02.B04 (REDUNDANT)	2#12,#12G.	2	20			0	0						SPACE	34
35											0	950	20	2	2#12,#12G.	CAB B.B06.B02.B03	C 36
37			SPARE		1	20	0	950									38
39			SPARE		1	20			0	0			20	2	2#12,#12G.	CAB B.B06.B02.B03	C 40
ļ1			SPARE		1	20					0	0					42
									TOTAL	LOAD	I	I					
					73	380	56	20	8.	480							

**DEMAND LOAD:** 

-		_	-		
LIGHTING LOAD =	0.0	KVA	@ 100% =	0.0	K\
RECEPTACLE LOAD =	21.5	KVA	@ 45% =	9.7	K\
HVAC LOAD =	2.4	KVA	@60% =	1.4	K
MISC. LOAD =	0.0	KVA	@ 100% =	0.0	K\
TOTAL CONNECTED	23.9	KVA	TOTAL DEMAND	11.1	K

21480

A. ASSUMED LOADING FOR PURPOSES OF VERIFYING ABILITY TO ADD NEW LOAD - EC TO VERIFY EXISTING LOADS PRIOR TO CONSTRUCTION.

B. (2) EXISTING 20A/1P C/B TO BE REPLACED WITH NEW C/B AS SHOWN.

C. (2) EXISTING 20A/1P C/B SPACES TO BE PROVIDED WITH NEW C/B AS SHOWN.

## **GENERAL NOTES:**

**ELECTRICAL PARAMETERS** 

208 / 1 PHASE

20

3328

31

107

3850

#8 AWG

2.7%

221

19%

VOLTAGE(V / PHASE)

OVERCURRENT DEVICE (A)

OVERCURRENT DEVICE (VA)

AVAILABLE POWER PER

POWER PER TILE (VA)

# OF TILES PER CIRCUIT

ASSUMED NUMBER OF TILES

ASSUMED NUMBER OF CIRCUITS

CONDUCTOR SIZE

%VD

MAXIMUM ESTIMATED LENGTH

OF RUN (FT)

CONDUIT % FILL

3

1. ALL INSTALLATIONS RELATED TO THE OCULUS LED WILL BE CONDUCTED WITHIN FINISHED SPACES.

3780 N TERMINAL ROAD

ITRP T.I.P. No.

HOUSTON, TX 77032 GEORGE BUSH INTERCONTINENTAL AIRPORT CONSTRUCTION DOCUMENTS EME - OCULUS A-0958 A.I.P. No. 4600015176 D.O.A. No. B.S.G. No. H.A.S. No.

TWO COMMERCE SQUARE, 2001 MARKET ST, SUITE 600 PHILADELPHIA, PA 19103

## KEYED NOTES: (#)

NUMBER DESCRIPTION

TO ACCOMODATE THE CURRENT DESIGN, THE PANEL L1B1-V, NEEDS TO BE MODIFIED FROM A 225A, ONE SECTION PANEL INTO A 400A, THREE SECTION PANEL HAVING UP TO (126) 1 POLE CIRCUIT SPACES. THIS WILL ALLOW FOR AT LEAST 25% CAPACITY FOR FUTURE AS REQUIRED BY HAS. CURRENT DESIGN ASSUMES THE AVAILABILITY OF 38, DOUBLE POLE, 20A CIRCUIT BREAKERS. LED VENDOR TO VERIFY EXACT QUANITY OF DOUBLE POLE BREAKERS REQUIRED. PROVIDE WIRETROUGH ABOVE 3 SECTION PANELS FOR EASE OF PULLING CABLES FROM EACH PANEL INTO 4"C AND OUT TO OCULUS.

- LED VENDOR TO CONFIRM EXACT NUMBER OF TILES, NUMBER OF TILES PER CIRCUIT AND TILES, NUMBER OF TILES PER CIRCUIT AND NUMBER OF CIRCUITS.
- CONDUIT FILL CALCULATIONS ARE BASED ON THE INSTALLATION OF A NEW 4" EMT CONDUIT.
- PANEL RESERVED FOR OCULUS POWER. 4 NOTED LOADS ARE ESTIMATED BY ELECTRICAL PARAMETERS SHOWN ON THIS SHEET. LED MANUFACTURER TO CONFIRM REQUIRED CIRCUIT BREAKERS AND IF LOADING AS SHOWN WILL BE EXCEEDED.

**I-22-T-0958** - TE610 - 1

**DESIGNER PROJECT No.:** 2022-109 PROJECT STATUS: 90%CD

**REVISIONS** 

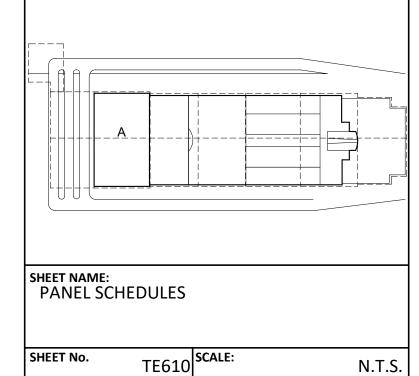
No. DESCRIPTION DATE BY 11/21/22 C.M.C. **ELECTRICAL UPDATES** 

C.M.C. & R.W.H. **DESIGN BY:** A.A & P.I. DRAWN BY: C.M.C. & R.W.H. CHECKED BY: 11/21/22 **ISSUE DATE:** M.M**APPROVED BY:** 11/21/22 **APPROVAL DATE:** 

> DIRECTOR HOUSTON AIRPORT SYSTEM

**Drawing Status** 

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SHEET SIZE: 30"x42" ARCH E1

Aconex File Name: