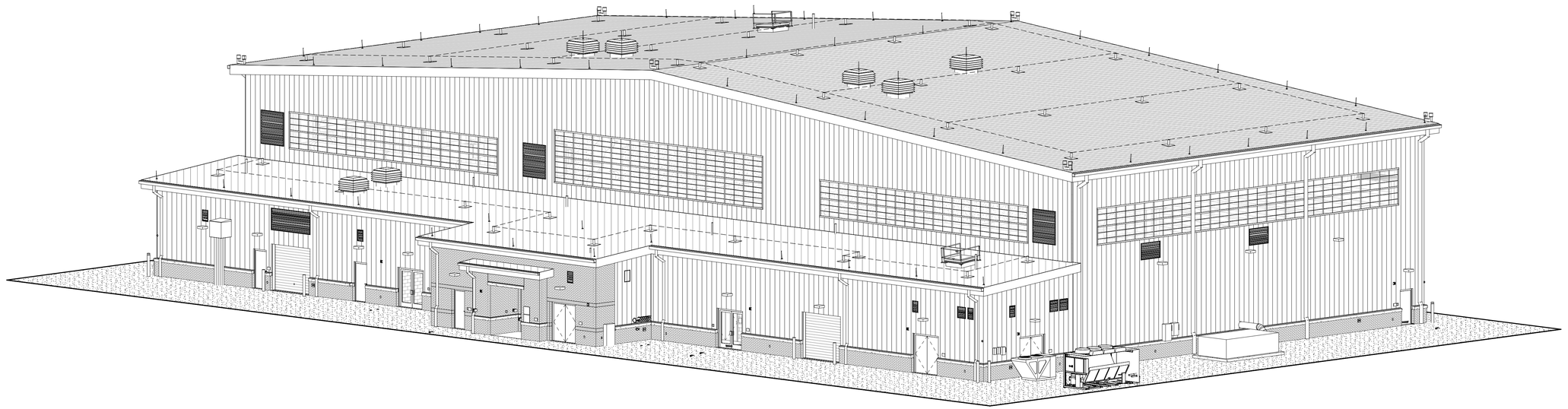
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PN: 512203



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CONTRACT NO.:
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DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
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US ARMY CORPS OF ENGINEERS
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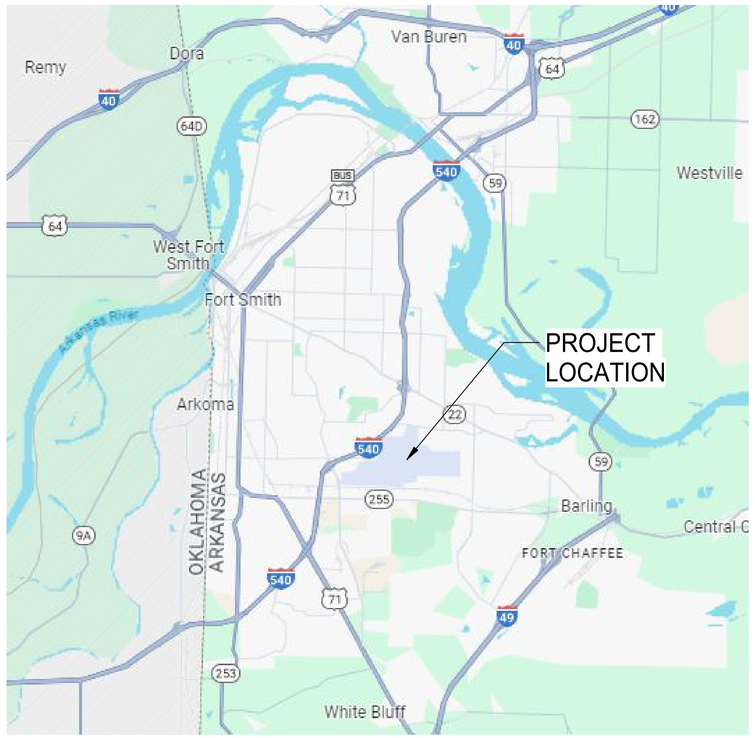
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H1 STATE MAP
NTS



A1 LOCATION MAP
NTS



A9 SITE MAP
NTS

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PROJECT LOCATION MAPS

SHEET ID

G-002

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M-504	MECHANICAL DETAILS
M-505	MECHANICAL DETAILS
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M-507	MECHANICAL DETAILS
M-508	MECHANICAL DETAILS
M-509	MECHANICAL DETAILS
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TY105	SECURITY PLAN - AREA E
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TY502	CCTV DETAILS

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MARK	DESCRIPTION	DATE

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US ARMY CORPS OF ENGINEERS
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2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

SHEET INDEX

SHEET ID

G-003

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DRAWING ABBREVIATIONS

A ----------
A LABEL CLASS A DOOR
A/C AIR CONDITION
A/C UNIT AIR CONDITIONING UNIT
A/E ARCHITECT/ENGINEER
AB ANCHOR BOLT
ACC ACCESSIBLE
ACS AUTOMATIC CONTROL SYSTEM
ACS DR ACCESS DOOR
ACS PNL ACCESS PANEL
ACT ACOUSTICAL CEILING TILE
ADA AMERICANS WITH DISABILITIES ACT
ADMIN ADMINISTRATION
AFC ABOVE FINISHED COUNTER
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AFS ABOVE FINISHED SLAB
AGGR AGGREGATE
AHU AIR HANDLING UNIT
AIB AIR INFILTRATION BARRIER
ALT ALTERNATE
ALUM ALUMINUM
ANOD ANODIZE
APC ACOUSTICAL PANEL CEILING
APPROX APPROXIMATE
AR AS REQUIRED
ARCH ARCHITECT
ASC ABOVE SUSPENDED CEILING
ASSY ASSEMBLY
ATC ACOUSTICAL TILE CEILING
AVG AVERAGE
AW ARCHITECTURAL WOODWORK
AWT ACOUSTICAL WALL TREATMENT

B ----------
B LABEL CLASS B DOOR
BALC BALCONY
BB BASEBOARD
BC BOOKCASE
BD BOARD
BDRY BOUNDARY
BFF BELOW FINISH FLOOR
BHMA BUILDER'S HARDWARE MANUFACTURER'S ASSOCIATION
BLDG BUILDING
BLKG BLOCKING
BLT IN BUILT-IN
BN BULLNOSE
BOS BOTTOM OF STEEL
BOT BOTTOM
BP BUILDING PAPER
BRKT BRACKET
BSMT BASEMENT
BTWN BETWEEN
BUR BUILT-UP ROOFING

C ----------
C CONC CAST CONCRETE
C LABEL CLASS C DOOR
CAB CABINET
CATW CATWALK
CAV CAVITY
CBB CEMENTITIOUS (BACKER) BOARD
CD CONSTRUCTION DOCUMENTS
CDW CHILLED DRINKING WATER
CEM PLAS CEMENT PLASTER
CER CERAMIC
CF CONTRACTOR FURNISHED
CF/CI CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CFE CONTRACTOR FURNISHED EQUIPMENT
CFLG COUNTERFLASHING
CFM CUBIC FEET PER MINUTE
CFMF COLD-FORMED METAL FRAMING
CFS CUBIC FEET PER SECOND
CG CORNER GUARD
CI CAST IRON
CIP CAST-IN-PLACE
CJ CONTROL JOINT
CL CENTER LINE
CLG CEILING
CLG DIFF CEILING DIFFUSER
CLG HT CEILING HEIGHT
CLL COLUMN LINE
CLO CLOSET
CLR COLOR
CLRM CLASSROOM
CMU CONCRETE MASONRY UNIT
CNDS CONDENSATE
CDR CARD READER
CO CLEANOUT
COL COLUMN
COMM COMMUNICATION
CONC CONCRETE
CONC FLR CONCRETE FLOOR
CONF CONFERENCE
CONT CONTINUE
COORD COORDINATE
CORR CORRIDOR
CP CONCRETE PIPE
CPT CARPET
CR CONTROL ROOM
CS CAST STONE
CSWK CASEWORK
CT CERAMIC TILE
CTB CERAMIC TILE BASE
CTF CERAMIC TILE FLOOR
CTR CENTER
CU FT CUBIC FEET
CW CASEMENT WINDOW

D ----------
D DEPTH
D LABEL CLASS D DOOR
DBL DOUBLE
DEMO DEMOLITION
DEPT DEPARTMENT
DET DETAIL
DIA DIAMETER
DIR DIRECTION
DIST DISTANCE
DOC DOCUMENT
DR DOOR
DS DOWNSPOUT

E ----------
E LABEL CLASS E DOOR
EA EACH
EF EACH FACE
EIFS EXTERIOR INSULATION AND FINISH SYSTEM
EJ EXPANSION JOINT
ES EACH SIDE
EL ELEVATION
ELEV ELEVATOR
ENTR ENTRANCE
EPS EXPANDED POLYSTYRENE BOARD (INSULATION)
EQ EQUAL
EWC ELECTRIC WATER COOLER
EXP EXPOSED
EXT EXTERIOR
EXT EXTINGUISHER
EXT GR EXTERIOR GRADE

F ----------
FA FIRE ALARM
FAAP FIRE ALARM ANNUNCIATOR PANEL
FAS BD FASCIA BOARD
FC BRK FACE BRICK
FCO FLOOR CLEANOUT
FD FLOOR DRAIN
FDTN FOUNDATION
FE FIRE EXTINGUISHER
FEC FIRE EXTINGUISHER CABINET
FED FEDERAL
FF FINISH FACE
FF EL FINISH FLOOR ELEVATION
FF INSUL FOIL BACKED INSULATION
FGL FIBERGLASS
FH FIRE HOSE
FHP FULL HEIGHT PARTITION
FIN FINISH
FIN BS FINISH BOTH SIDES
FIN FLR FINISH FLOOR
FIN GR FINISH GRADE
FIXT FIXTURE
FLDG FOLDING
FLEX FLEXIBLE
FLG BOARDING
FLMT FLUSH MOUNT
FLR FLOOR
FM FACTORY MUTUAL
FOC FACE OF CONCRETE
FOM FACE OF MASONRY
FR FIRE RESISTANT
FRG FIBER REINFORCED GYPSUM
FRMG FRAMING
FRP FIBERGLASS REINFORCED PLASTIC
FRTW FIRE RETARDANT TREATED WOOD
FS FEDERAL SPECIFICATION
FSTNR FASTENER
FT FEET
FTG FOOTING
FWC FABRIC WALLCOVERING

G ----------
G NATURAL GAS
GALV GALVANIZED
GB GRAB BAR
GFCI GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI GOVERNMENT INSTALLED GOVERNMENT INSTALLED
GFRG GLASS-FIBER-REINFORCED GYPSUM
GLZ GLAZING
GR FL GROUND FLOOR
GUT GUTTER
GYP BD GYPSUM BOARD
GYP PLAS GYPSUM PLASTER

H ----------
HB HOSE BIBB
HDPE HIGH DENSITY POLYETHYLENE
HDW HARDWARE
HDWD HARDWOOD
HEPA HIGH EFFICIENCY PARTICULATE AIR (FILTER)
HM HOLLOW METAL
HMD HOLLOW METAL DOOR
HORIZ HORIZONTAL
HT HEIGHT
HYDR HYDRAULIC

I ----------
IBC INTERNATIONAL BUILDING CODE
INSUL INSULATION
INT INTERIOR
ILO IN LIEU OF

J ----------
JAN JANITOR

K ----------
KPD KEYPAD
KIT KITCHEN
KPL KICKPLATE

L ----------
LAM LAMINATE
LAV LAVATORY
LBR LUMBER
LBS POUND
LDG LANDING
LF LINEAR FEET (FOOT)
LIB LIBRARY
LIN LINEAR
LKR LOCKER
LOC LOCATION
LT LIGHT
LVDR LOUVER DOOR
LVR LOUVER

M ----------
MACH RM MACHINE ROOM
MATL MATERIAL
MAX MAXIMUM
MC MOISTURE CONTENT
MD METAL DECK
MECH MECHANICAL
MECH RM MECHANICAL ROOM
MEMB MEMBRANE
MF MILL FINISH
MFR MANUFACTURER
MID MIDDLE
MIL STD MILITARY STANDARD
MIN MINIMUM, MINUTE
MIRR MIRROR
MISC MISCELLANEOUS
MLDG MOLDING (MOULDING)
MO MASONRY OPENING
MOD MODIFY
MB MOISTURE BARRIER
MTG MOUNTING
MTL METAL
MVBL MOVABLE
MWP MEMBRANE WATERPROOFING

N ----------
N NORTH
NA NOT APPLICABLE
NFPA NATIONAL FIRE PROTECTION ASSOCIATION
NIC NOT IN CONTRACT
NO NUMBER
NOM NOMINAL
NP NO PAINT
NRC NOISE REDUCTI

O ----------
OA OVERALL
OC ON CENTER
OD OUTSIDE DIAMETER
OFD OVERFLOW DRAIN
OFF OFFICE
OGL OBSCURE GLASS
OPH OPPOSITE HAND
OPNG OPENING
OPP OPPOSITE
OPQ OPAQUE
OWSJ OPEN WEB STEEL JOIST
OPR OPERABLE
ORD OVERFLOW ROOF DRAIN
ORIG ORIGINAL

P ----------
PA PUBLIC ADDRESS
PAR PARAPET
PAT PATTERN
PB PULL BOX
PBD PARTICLEBOARD
PCC PRECAST CONCRETE
PCF POUNDS PER CUBIC FOOT
PCT PERCENT
PERF PERFORATED
PERIM PERIMETER
PH PHASE
PIL PILASTER
PL PROPERTY LINE
PL GL PLATE GLASS
PLAM PLASTIC LAMINATE
PLAS PLASTER
PLBG PLUMBING
PLG PILING
PLYWD PLYWOOD
PNL PANEL
PP PL PUSH/PULL PLATE
PR PAIR
PRCST PRECAST
PRKG PARKING
PS CONC PRESTRESSED CONCRETE
PSF POUNDS PER SQUARE FOOT
PSI POUNDS PER SQUARE INCH
PT PRESSURE TREATED
PTD PAPER TOWEL DISPENSER
PTDR PAPER TOWEL DISPENSER AND RECEPTACLE
PTN PARTITION
PWR POWER

Q ----------
QT QUARRY TILE
QTY QUANTITY

R ----------
RB RESILIENT BASE
RBM REINFORCED BRICK MASONRY
RBR RUBBER
RC REINFORCED CONCRETE
RCP REFLECTED CEILING PLAN
RD ROOF DRAIN
RDG INS RIGID INSULATION, SOLID
REC RECESSED
REC ROOM RECREATION ROOM
REF REFERENCE
REM REMOVABLE
REP REPAIR
REPL REPLACE
REQ REQUIRE
REQD REQUIRED
RESIL RESILIENT
REST RESTROOM
RF RESILIENT FLOORING
RFG ROOFING
RH ROOF HATCH
RHR RIGHT HAND REVERSE
RL ROOF LEADER
RLG RAILING
RM ROOM
RO ROUGH OPENING
RSD ROLLING STEEL DOOR
RV ROOF VENT
RVL REVEAL

S ----------
SB SPLASH BLOCK
SCHED SCHEDULE
SD SMOKE DETECTOR
SF SQUARE FOOT (FEET)
SFTWD SOFTWOOD
SGL SINGLE
SHT MTL FLASH (FLASHING) SHEET METAL
SHTHG SHEATHING
SHV SHELVING
SIM SIMILAR
SJ SCORED JOINT
SKLT SKYLIGHT
SLNT SEALANT
SMK SMOKE
SMLS SEAMLESS
SP EL SPOT ELEVATION
SPEC SPECIFICATION
SQ SQUARE
SQ IN SQUARE INCH
SQ YD SQUARE YARD
SST STAINLESS STEEL
ST STAIRS
STD STANDARD
STL JST STEEL JOIST
STL RF DK STEEL ROOF DECK
STOR STORAGE
STR STRINGERS
STRB/HRN STROBE/HORN
SUB FL SUBFLOOR
SV SHEET VINYL
SW SIDEWALK

T ----------
T TREAD
T/S TUB/SHOWER
TC TERRA COTTA
TD TRENCH DRAIN
TEL TELEPHONE
TEMP TEMPORARY
TER TERRAZZO
TFF TOP OF FINISH FLOOR
THK THICKNESS
TK BD TACKBOARD
TMPD GL TEMPERED GLASS
TN TRUE NORTH
TOF TOP OF FOOTING
TOM TOP OF MASONRY
TOP TOP OF PARAPET
TOPO TOPOGRAPHY
TOS TOP OF SLAB
TRANS TRANSOM
TRTD TREATED
TV TELEVISION

BUILDING SUMMARY

GENERAL NOTES

INDEX OF DRAWINGS

NUMBERING SYSTEM:

XX100

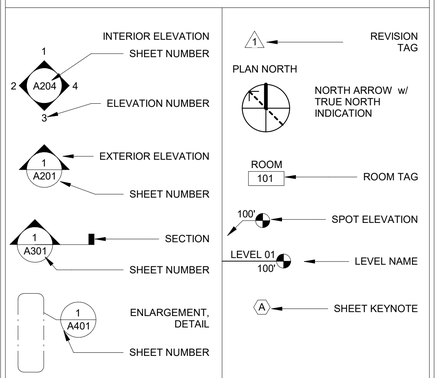
DISCIPLINE:
G - GENERAL
C - CIVIL
L - LANDSCAPE
A - ARCHITECTURE
I - INTERIOR
M - MECHANICAL
E - ELECTRICAL
P - PLUMBING
S - STRUCTURAL
K - FOOD SERVICE

DISCIPLINE MODIFIER

SHEET NUMBER WITHIN SERIES

REFER TO A/E/C CAD STANDARD FOR SHEET NUMBERINGSTANDARDS

ANNOTATION CALLOUTS/DRAWING SYMBOLS



US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	C. LONGACRE
DRAWN BY:	R. READER
CHECKED BY:	M. HOOVER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_A_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
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TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
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PN: 512203

GENERAL NOTES AND ABBREVIATIONS

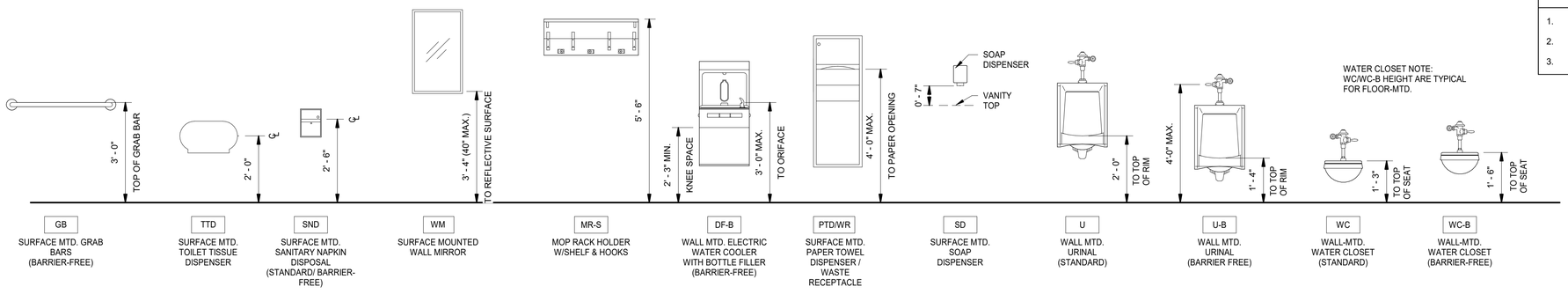
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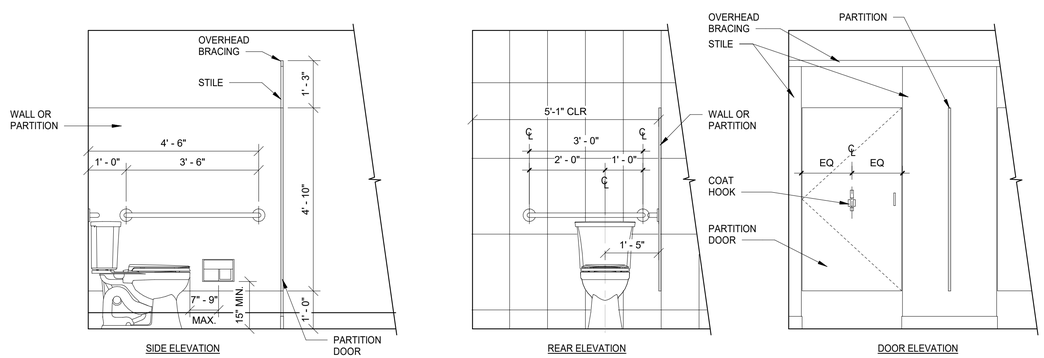
GENERAL ACCESSIBILITY NOTES

1. COMPLY WITH ARCHITECTURAL BARRIERS ACT (ABA) STANDARDS (2015).
2. SEE DETAIL A2/A-721 FOR ACCESSIBLE LAVATORY DIMENSIONS.
3. SEE DETAIL A15/A-721 FOR ACCESSIBLE MILLWORK DIMENSIONS.



L1 MOUNTING HEIGHTS

1/2" = 1'-0"



DETAIL NOTE:
TOILET STALL ELEVATIONS ARE SHOWN WITH SOLID REINFORCED COMPOSITE PARTITION SIDE PANELS. CLEAR DISTANCES AND WALL-MOUNTED ACCESSORY LOCATIONS WILL MATCH THAT SHOWN WHERE TILED SIDE WALLS ARE INDICATED FOR ACCESSORY INSTALLATION.

F1 TYPICAL BARRIER-FREE TOILET STALL

1/2" = 1'-0"

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MARK	DESCRIPTION	DATE

DESIGNED BY: T. MANN
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
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PROJECT NO: 512203
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ACCESSIBILITY AND STANDARD DETAILS

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PLUMBING FIXTURES REQUIREMENTS

PLUMBING FIXTURE COUNTS SHALL BE PROVIDED AS SHOWN IN TABLE BELOW. THE ACTUAL OCCUPANTS FOR WHOM EACH OCCUPIED SPACE, FLOOR OR BUILDING IS DESIGNED TO CALCULATE THE DESIGN OCCUPANT LOAD, PER UFC 3-420-01, 4-5.3.

ACTUAL OCCUPANT LOAD: 17

NUMBER OF REQUIRED PLUMBING FIXTURES PER ACTUAL OCCUPANT LOAD

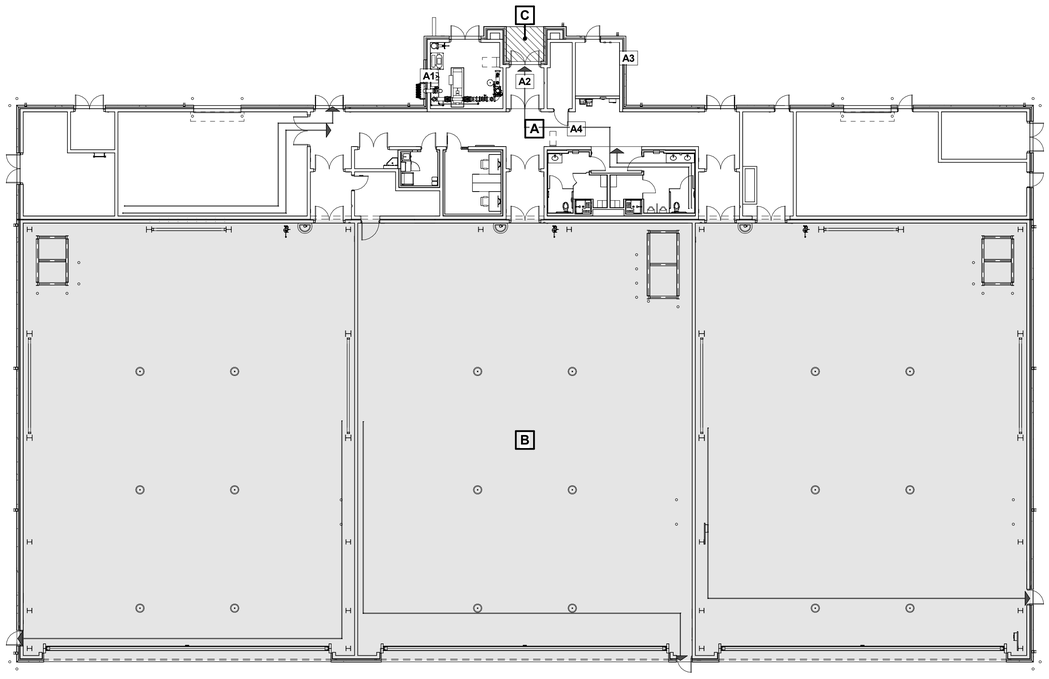
IPC 2021, TABLE 403.1. WAS REFERENCED FOR THE TABLE BELOW AS REQUIRED BY UFCE 3-420-01, 4-5.3.

CLASSIFICATION	OCCUPANT LOAD	CRITERIA (NUMBER OF FIXTURES PER OCCUPANT)				REQUIRED			
		WATER CLOSETS	LAVATORIES	DRINKING FOUNTAINS	SERVICE SINKS	WATER CLOSETS	LAVATORIES	DRINKING FOUNTAINS	SERVICE SINKS
STORAGE	0	1 PER 100	1 PER 100	1 PER 1,000	0	0	0	0	0
INDUSTRIAL	15	1 PER 100	1 PER 100	1 PER 400	1	0.15	0.15	0.0375	1
BUSINESS	2	1 PER 25 FOR THE FIRST 50	1 PER 40 FOR THE FIRST 80	1 PER 100	0*	0.2	0.2	0.0375	0*
TOTAL FIXTURES						1	1	1	1

* FOR BUSINESS AND MERCANTILE CLASSIFICATIONS WTIH AN OCCUPANT LOAD OF 15 OR FEWER, A SERVICE SINK SHALL NOT BE REQUIRED.
** URINAL SHALL NOT BE SUBSTITUED FOR MORE THAN 50 PERCENT OF THE REQUIRED WATER CLOSETS

NUMBER OF PROVIDED PLUMBING FIXTURES

FIXTURE	REQUIRED	PROVIDED
WATER CLOSET / URINAL **	1	1 - WOMENS 3 - MENS (2 URINALS**)
LAVATORIES	1	3
DRINKING FOUNTAINS	1	2
SERVICE SINK	1	1
SCRUB SINK	-	3
SHOWERS	-	2



LEGEND OF COVERED BUT NOT ENCLOSED SPACES

- AREA A - ADMIN
- AREA B - HANGARS
- AREA C - COVERED ENTRANCES - HALF SQUARE FOOTAGE

GROSS FLOOR AREA CALCULATIONS:

AREA A

AREA A1 (17'-4" X 16'-0") + (4'-8" X 2'-0") = 287 SF
AREA A2 8'-0" X 10'-8" = 85 SF
AREA A3 (17'-4" X 16'-0") + (4'-8" X 2'-0") - (10'-8" X 1'-5") = 257 SF
AREA A4 (24'-0" X 214'-8") + (10'-8" X 1'-5") - (32-0" X 1'-0") = 5,125 SF

TOTAL AREA A 5,754 SF

AREA B

AREA B 93'-4" X 214'-8" - [3(59'-10" x 2'-4")] = **19,644 SF**

AREAS C (EXTERIOR COVERED - 1/2 AREA)

AREA C 8'-0" X 7'-4" / 2= **30 SF**

BUILDING TOTAL GROSS AREA 25,428 SF

A1 GROSS SQUARE FOOTAGE CALCULATIONS
1/16" = 1'-0"

0 8' 16' 32'

PLAN NORTH

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MARK	DESCRIPTION	DATE

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DESIGNED BY:	
C. LONGACRE	
DRAWN BY:	
R. READER	
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M. HOOVER, R.A.	
SUBMITTED BY:	
A. BLANKENSHIP, P.E.	
SIZE:	FILE NAME:
ANSI D	EANG_512203_A_3BAYH_RVT22.rvt
ISSUE DATE:	
5 DECEMBER 2025	
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CONTRACT NO.:	
PROJECT NO:	
512203	

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2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

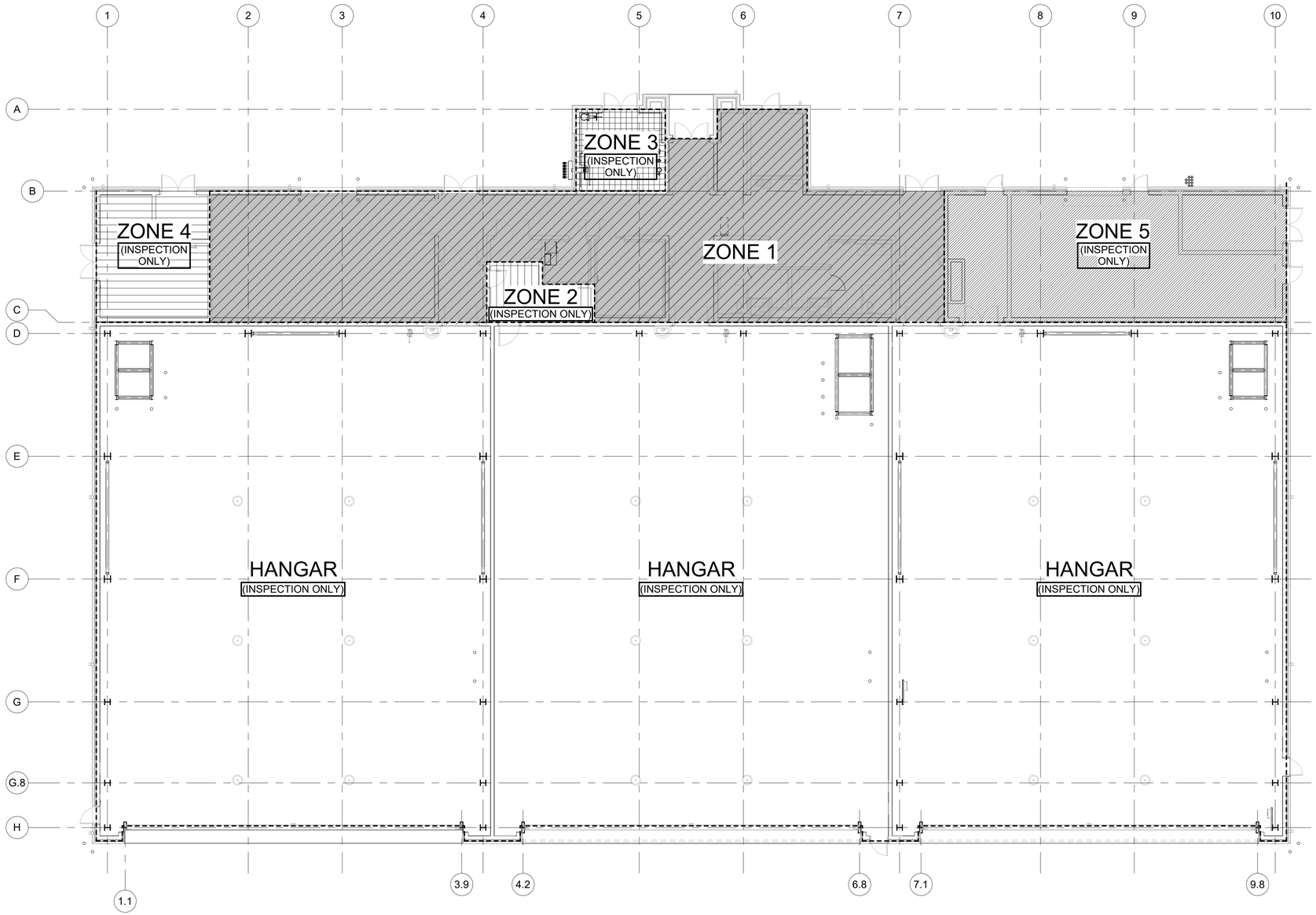
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CALCULATIONS

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G-006

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A1 AIR BARRIER FLOOR PLAN

3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'

GENERAL NOTES

1. SEE SPECIFICATIONS 01 91 19 BUILDING ENCLOSURE COMMISSIONING AND 07 27 10 BUILDING AIR BARRIER SYSTEM FOR AIR BARRIER REQUIREMENTS.
2. COORDINATE INSTALLATION OF INSULATION AND AIR BARRIER ASSEMBLIES CONTAINED IN ROOF AND WALL SYSTEMS TO ENSURE CONTINUOUS THERMAL AND AIR INFILTRATION PROTECTION.
3. REFERENCE WALL SECTIONS, WALL DETAILS, AND ROOF DETAILS FOR CONTINOUS AIR BARRIER INSTALLATION DETAILS.
4. JOIN AND SEAL THE AIR BARRIER MATERIAL OF EACH ASSEMBLY IN A FLEXIBLE MANNER TO THE AIR BARRIER MATERIAL OF ADJACENT ASSEMBLIES, ALLOWING FOR THE RELATIVE MOVEMENT OF THESE ASSEMBLIES AND COMPONENTS.
5. IF ANY UNAVOIDABLE PENETRATIONS OF THE AIR BARRIER BY ELECTRICAL BOXES OR CONDUIT, MECHANICAL/PLUMBING, STRUCTURAL MEMBERS, AND OTHER ASSEMBLIES ARE NOT AIRTIGHT, MAKE THEM AIRTIGHT BY SEALING THE ASSEMBLY AND INTERFACE BETWEEN THE ASSEMBLY AND THE AIR BARRIER, OR BY EXTENDING THE AIR BARRIER OVER THE ASSEMBLY.
6. WRAP ALL EXTERIOR OPENINGS WITH AIR BARRIER MEMBRANE FLASHING PER MANUFACTURER'S INSTRUCTIONS.
7. SEAL ALL PENETRATIONS PRIOR TO AIR BARRIER TESTING.
8. SEAL THE INTERNAL BOUNDARIES DIVIDING DIFFERENT AIR BARRIER ZONES PRIOR TO AIR BARRIER TESTING. SEE WALL SECTIONS.

SHEET LEGEND

----------	AIR BARRIER
	TESTED AREA INSIDE AIR BARRIER ENVELOPE
	UNTESTED AREA INSIDE AIR BARRIER ENVELOPE

AIR BARRIER CALCULATIONS

ZONE 1 (ADMIN SPACE)	
FLOOR AREA	3,220 S.F.
WALL AREA	6,133 S.F.
ROOF AREA	3,220 S.F.
	12,573 SF x 0.25 = 3,143 CFM (MAX LEAKAGE)
ZONE 2 (RVE STORAGE - INSPECTION ONLY)	
FLOOR AREA	172 S.F.
WALL AREA	1,025 S.F.
ROOF AREA	172 S.F.
	1,369 SF x 0.25 = 342 CFM (MAX LEAKAGE)
ZONE 3 (FIRE PUMP ROOM - INSPECTION ONLY)	
FLOOR AREA	235 S.F.
WALL AREA	942 S.F.
ROOF AREA	235 S.F.
	1,412 SF x 0.25 = 353 CFM (MAX LEAKAGE)
ZONE 4 (MECH AND ELEC - INSPECTION ONLY)	
FLOOR AREA	474 S.F.
WALL AREA	1,457 S.F.
ROOF AREA	474 S.F.
	2,405 SF x 0.25 = 601 CFM (MAX LEAKAGE)
ZONE 5 (MECH AND ELEC (NEOPRENE) - INSPECTION ONLY)	
FLOOR AREA	1,431 S.F.
WALL AREA	2,988 S.F.
ROOF AREA	1,431 S.F.
	5,850 SF x 0.25 = 1,463 CFM (MAX LEAKAGE)
HANGAR - INSPECTION ONLY)	
FLOOR AREA	19,325 S.F.
WALL AREA	24,034 S.F.
ROOF AREA	19,325 S.F.
	62,684 SF x 0.25 = 15,671 CFM (MAX LEAKAGE)

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MARK	DESCRIPTION	DATE

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DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOPER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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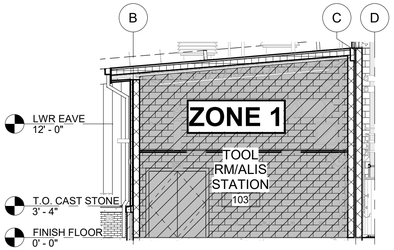
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AIR BARRIER FLOOR PLAN AND CALCULATIONS

SHEET ID

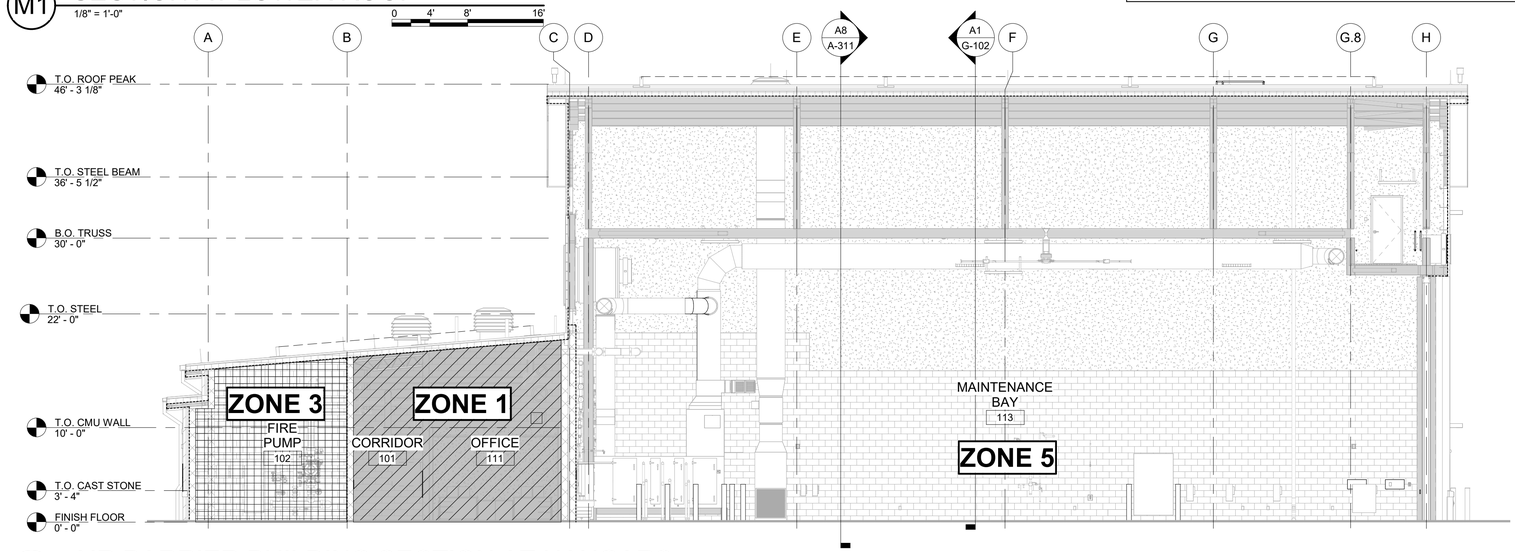
G-101

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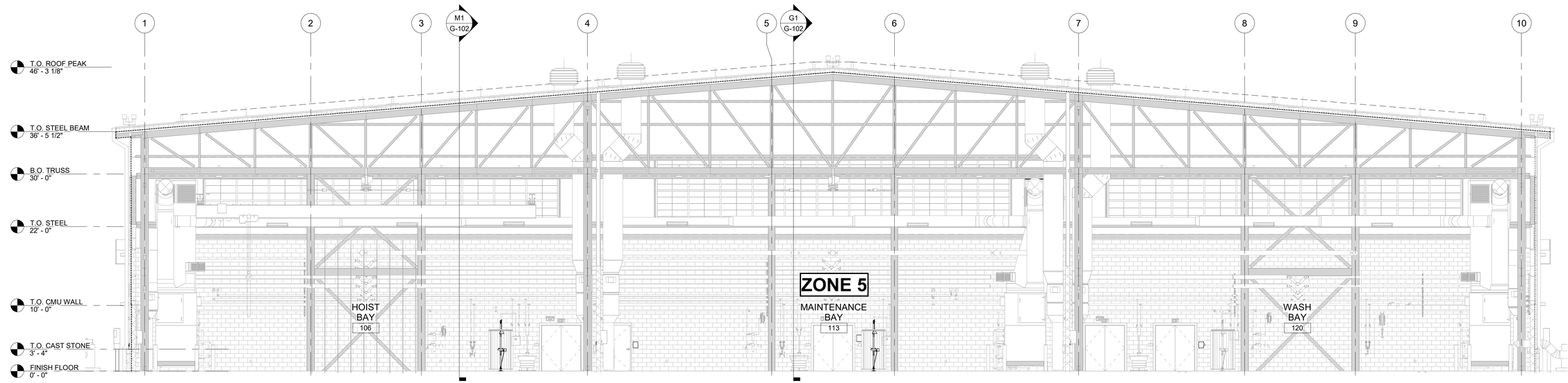
M1 AIR BARRIER BUILDING SECTION AT LOWER ROOF

1/8" = 1'-0"



G1 AIR BARRIER BUILDING SECTION AT HANGARS

1/8" = 1'-0"



A1 AIR BARRIER BUILDING SECTION AT HANGARS

1/8" = 1'-0"

GENERAL NOTES

1. SEE SPECIFICATIONS 01 91 19 BUILDING ENCLOSURE COMMISSIONING AND 07 27 10 BUILDING AIR BARRIER SYSTEM FOR AIR BARRIER REQUIREMENTS.
2. COORDINATE INSTALLATION OF INSULATION AND AIR BARRIER ASSEMBLIES CONTAINED IN ROOF AND WALL SYSTEMS TO ENSURE CONTINUOUS THERMAL AND AIR INFILTRATION PROTECTION.
3. REFERENCE WALL SECTIONS, WALL DETAILS, AND ROOF DETAILS FOR CONTINOUS AIR BARRIER INSTALLATION DETAILS.
4. JOIN AND SEAL THE AIR BARRIER MATERIAL OF EACH ASSEMBLY IN A FLEXIBLE MANNER TO THE AIR BARRIER MATERIAL OF ADJACENT ASSEMBLIES, ALLOWING FOR THE RELATIVE MOVEMENT OF THESE ASSEMBLIES AND COMPONENTS.
5. IF ANY UNAVOIDABLE PENETRATIONS OF THE AIR BARRIER BY ELECTRICAL BOXES OR CONDUIT, MECHANICAL/PLUMBING, STRUCTURAL MEMBERS, AND OTHER ASSEMBLIES ARE NOT AIRTIGHT, MAKE THEM AIRTIGHT BY SEALING THE ASSEMBLY AND INTERFACE BETWEEN THE ASSEMBLY AND THE AIR BARRIER, OR BY EXTENDING THE AIR BARRIER OVER THE ASSEMBLY.
6. WRAP ALL EXTERIOR OPENINGS WITH AIR BARRIER MEMBRANE FLASHING PER MANUFACTURER'S INSTRUCTIONS.
7. SEAL ALL PENETRATIONS PRIOR TO AIR BARRIER TESTING.
8. SEAL THE INTERNAL BOUNDARIES DIVIDING DIFFERENT AIR BARRIER ZONES PRIOR TO AIR BARRIER TESTING. SEE WALL SECTIONS.

SHEET LEGEND

.....	AIR BARRIER
	TESTED AREA INSIDE AIR BARRIER ENVELOPE
	UNTESTED AREA INSIDE AIR BARRIER ENVELOPE

AIR BARRIER CALCULATIONS

ZONE 1 (ADMIN SPACE)	
FLOOR AREA	3,220 S.F.
WALL AREA	6,133 S.F.
ROOF AREA	3,220 S.F.
	12,573 SF x 0.25 = 3,143 CFM (MAX LEAKAGE)
ZONE 2 (RVE STORAGE - INSPECTION ONLY)	
FLOOR AREA	172 S.F.
WALL AREA	1,025 S.F.
ROOF AREA	172 S.F.
	1,369 SF x 0.25 = 342 CFM (MAX LEAKAGE)
ZONE 3 (FIRE PUMP ROOM - INSPECTION ONLY)	
FLOOR AREA	235 S.F.
WALL AREA	942 S.F.
ROOF AREA	235 S.F.
	1,412 SF x 0.25 = 353 CFM (MAX LEAKAGE)
ZONE 4 (MECH AND ELEC - INSPECTION ONLY)	
FLOOR AREA	474 S.F.
WALL AREA	1,457 S.F.
ROOF AREA	474 S.F.
	2,405 SF x 0.25 = 601 CFM (MAX LEAKAGE)
ZONE 5 (MECH AND ELEC (NEOPRENE) - INSPECTION ONLY)	
FLOOR AREA	1,431 S.F.
WALL AREA	2,988 S.F.
ROOF AREA	1,431 S.F.
	5,850 SF x 0.25 = 1,463 CFM (MAX LEAKAGE)
HANGAR - INSPECTION ONLY)	
FLOOR AREA	19,325 S.F.
WALL AREA	24,034 S.F.
ROOF AREA	19,325 S.F.
	62,684 SF x 0.25 = 15,671 CFM (MAX LEAKAGE)

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
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Plot Date: 10/20/2025 1:41:19 PM File Path:

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

AIR BARRIER BUILDING SECTIONS AND CALCULATIONS

SHEET ID

G-102

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES:

1. EBBING ANG BASE CIVIL ENGINEERING FORM AF-103 DIG PERMIT MUST BE OBTAINED FROM THE 188TH AIR BASE WING CE OFFICE FOR APPROVAL SIGNATURES. THIS MAY TAKE APPROXIMATELY 3 WEEKS OR MORE TO COMPLETE. UPON COMPLETION CONTRACTOR MUST CALL ARKANSAS 811 ONE-CALL FOR UTILITY LOCATE SERVICES AT 1-800.482.8998

2. CONTRACTOR IS REQUIRED TO FILE FAA FORM 7460 IN REFERENCE TO THE CONTRACTOR'S SITE CONSTRUCTION EQUIPMENT. MAXIMUM EQUIPMENT HEIGHT IS 150 FEET. CONTRACTOR MUST COORDINATE WITH EBBING ANG CE OFFICE FOR ANY TEMPORARY AIRFIELD WAIVERS. REQUEST LOCAL AIRFIELD CONSTRUCTION WAIVERS FROM 188TH ABW/CENP AT LEAST 60 DAYS PRIOR TO CONSTRUCTION ACTIVITY START DATE.
WAIVERS REQUEST LEAD TIMES HAVE BEEN IN EXCESS OF 60 DAYS UP TO 90 DAYS. IT MUST BE THE RESPONSIBILITY OF THE CONTRACTOR TO REQUEST WELL AHEAD OF THE MINIMUM TIME LISTED.
LOCAL AIRFIELD CONSTRUCTION WAIVERS WILL BE APPROVED AFTER THE CONTRACTOR HAS RECEIVED FAA APPROVAL/DETERMINATION.

3. CONTRACTOR MUST COMPLETE THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) REFER TO THE SPECIFICATIONS FOR DETAILS ON STORMWATER POLLUTION PREVENTION MEASURES FOR THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL ARKANSAS DIVISION OF ENVIRONMENTAL QUALITY REQUIREMENTS FOR EROSION CONTROL.

4. CONTRACTOR MUST INSTALL A STABILIZED CONSTRUCTION ENTRANCE ROAD IN ACCORDANCE WITH THE SPECIFICATIONS AND AS INDICATE IN PLANS. THE LOCATION AND PLACEMENT MUST BE COORDINATE AND APPROVED BY THE CONTRACTING OFFICER.

5. CONTRACTOR MUST STOP WORK IMMEDIATELY AND CONTACT THE CONTRACTING OFFICER IF A UTILITY LINE IS DISTURBED.

6. CONTRACTORS MUST KEEP ALL ROADS AND STREETS CLEAN OF CONSTRUCTION DEBRIS, MUD, ETC., AT ALL TIMES. CONTRACTOR MUST PROVIDE EQUIPMENT AND PERSONNEL TO CLEAN ANY STREETS AS REQUESTED BY THE CONTRACTING OFFICER. CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS TO STREETS, PARKING AREAS, AND BASE OR GOVERNMENT PROPERTY, DUE TO DAMAGE BY THEIR CONSTRUCTION ACTIVITIES. CONTRACTOR MUST PROVIDE PHOTOGRAPHS AND/OR VIDEO RECORDING OF THE EXISTING STATE FOR THE PROJECT LIMITS. ACCESS POINTS, HAUL ROUTES, LAYDOWN AREA AND ANY OTHER AREAS DISTURBED BY THE CONTRACTOR MUST BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE CONTRACTING OFFICER. CONTRACTOR MUST COORDINATE WITH THE CONTRACTING OFFICER FOR A PRECONSTRUCTION VIDEO DETAILING THE EXISTING CONDITION OF ACCESS POINTS, HAUL ROUTES, AND LAYDOWN AREAS TO BE PERFORMED.

7. ALL WORK MUST BE SUBJECT TO INSPECTION BY AUTHORIZED PERSONNEL OF STATE, LOCAL, AND GOVERNMENT REGULATORY AGENCIES AND THE CONTRACTING OFFICER.

8. ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, STATE, LOCAL, AND GOVERNMENT CODES, ORDINANCES, AND REGULATIONS. WHERE DISCREPANCIES OR CONFLICTS BETWEEN REQUIREMENTS IS FOUND, THE CONTRACTOR MUST FOLLOW THE MOST STRINGENT REQUIREMENT. WHERE QUESTION REMAINS ON WHICH REQUIREMENT IS THE MOST STRINGENT, CONTRACTOR MUST SUBMIT AN RFI TO THE CONTRACTING OFFICER IN WRITING FOR CLARIFICATION AND INTERPRETATION.

9. INSTALL ALL TEMPORARY FENCING IN ACCORDANCE WITH SPECIFICATIONS FOR TEMPORARY FACILITIES AND ENVIRONMENTAL CONTROLS AROUND LAYDOWN AREAS, STAGING AREAS, ETC., AND AS NECESSARY OR AS DIRECTED BY THE CONTRACTING OFFICER. PRELIMINARY FENCING LIMITS SHOWN IN PLANS NEED TO BE FIELD VALIDATED BY THE CONTRACTOR AND A FINAL LAYOUT NEEDS TO BE SUBMITTED TO THE CONTRACTING OFFICER FOR APPROVAL

10. COORDINATE THE DISCONNECTION OF UTILITIES THROUGH THE CONTRACTING OFFICER. DEMOLITION MUST NOT BEGIN UNTIL WRITTEN APPROVAL IS RECEIVED FROM UTILITY OWNER/AGENCY. ALL EXISTING UTILITIES ARE TO BE TERMINATED AT THEIR POINT OF CONNECTION TO THE MAINS. WHERE CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR MUST EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THE LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.

11. THE CONTRACTOR MUST EXPOSE, VERIFY AND BACKFILL ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES AT UTILITY CROSSINGS PRIOR TO EXCAVATION OF PIPELINE TRENCH. UTILITY CROSSINGS AT A DEPTH GREATER THAN 12-INCHES BELOW TRENCH BOTTOM DO NOT NEED TO BE EXPOSED. UTILITY ALIGNMENT AND GRADE MAY BE CHANGED IF THERE ARE CONFLICTS WITH ANY EXISTING UNDERGROUND UTILITIES AND STRUCTURES, WHETHER SHOWN ON THE PLANS OR NOT. COORDINATE WITH THE CONTRACTING OFFICER AND DESIGN ENGINEER.

12. CONTRACTOR IS RESPONSIBLE FOR MOWING AND MAINTAINING ALL AREAS WITHIN THE PROJECT LIMITS EXCEPT WORK AREAS FOR OTHER CONTRACTS AS COORDINATED WITH CONTRACTING OFFICE. FROM NOTICE-TO-PROCEED DATE THROUGH THE DURATION OF THE PROJECT. MOW TO A MAXIMUM AVERAGE HEIGHT OF 3-INCHES FOR SPRING/SUMMER MAINTENANCE AND 6-INCHES FOR FALL/WINTER MAINTENANCE.

13. EROSION CONTROL DEVICES MUST BE USED FOR THE STAGING AREA AND ANY MATERIAL STOCK PILES WHEN NECESSARY TO CONTROL EROSION AND STORMWATER RUNOFF, IN ACCORDANCE WITH SPECIFICATIONS, FEDERAL, STATE, AND LOCAL REGULATIONS.

ACCESS AND SAFETY NOTES:

1. ACCESS TO THE PROJECT FOR ALL CONTRACTOR PERSONNEL, VEHICLES, AND EQUIPMENT IS ILLUSTRATED ON DRAWINGS. ACCESS ROUTES MAY BE SUBJECT TO CHANGE BASED ON OPERATIONAL REQUIREMENTS ON EBBING ANG. POTENTIAL SCHEDULE IMPACTS MUST BE COORDINATED WITH THE CONTRACTING OFFICER.

2. THE EXISTING BASE ROAD SPEED LIMITS AND LOAD LIMITS ARE STRICTLY ENFORCED. ALL CONCRETE TRUCKS MUST PUT DOWN EXTRA AXLES WHEN TRAVELING ON EBBING ANG PROPERTY.

3. CONTRACTOR MUST PROVIDE AND INSTALL A PROFESSIONALLY PAINTED SIGN, MEETING CONTRACTING OFFICER APPROVAL, AT THE TEMPORARY CONSTRUCTION ENTRANCE TO DIRECT MATERIAL SUPPLIERS AND EMPLOYEES TO THE CONSTRUCTION SITE. CONTRACTOR MUST PROVIDE A MINIMUM NOTICE OF 48 HOURS TO THE CONTRACTING OFFICER REGARDING OVERSIZED OR CONSTRUCTION DELIVERIES TO THE EBBING ANG GATE PRIOR TO THOSE DELIVERIES. DELIVERIES MUST BE SCHEDULED MONDAY - FRIDAY, 0600 TO 1800. CONTRACTOR MUST COORDINATE DELIVERIES WITH BASE SECURITY FORCES BY SUBMISSION OF THE CORRECT ENTRY PASS PAPERWORK VIA THE CONTRACTING OFFICER.

4. CONTRACTOR'S STAGING AREA AND POV EMPLOYEE PARKING WILL BE LOCATED AS INDICATED ON DRAWINGS OR AS DIRECTED BY THE CONTRACTING OFFICER. CONTRACTOR MAY SUBMIT ALTERNATIVES TO STAGING AREA LOCATIONS SHOWN.
CONTRACTOR'S STAGING AREA MUST BE SUBJECT TO APPROVAL OF CONTRACTING OFFICER'S REPRESENTATIVE. LOCATION OF CONTRACTOR'S STAGING AREA MUST BE WITHIN THE PROJECT WORK AREA. SUBMIT PROJECT OFFICE/MATERIAL STAGING AREA REQUEST TO BASE CE AT LEAST 30 DAYS PRIOR TO REQUIRED OCCUPANCY DATE OR AS SPECIFIC ED IN SPECIFICATIONS.

5. EXISTING BASE ROADS USED AS HAUL ROADS MUST BE MAINTAINED SUCH THAT UNOBSTRUCTED ACCESS WILL BE PROVIDED AT ALL TIMES FROM THE ROAD TO THE STAGING AREA AND FROM THE STAGING AREA TO THE WORK SITE AND FACILITATE GOVERNMENT ACCESS TO THE BASE AT ALL TIMES. THE HAUL ROUTE MUST BE AS SHOWN IN PLANS AND AS APPROVED BY THE CONTRACTING OFFICER.

6. CONTRACTOR MUST COORDINATE ACTIVITIES THROUGHOUT THE DURATION OF THE PROJECT AND ALLOW EMERGENCY ACCESS AT ALL TIMES TO PROJECT SITE OR BASE WITHOUT OBSTRUCTING EMERGENCY ACCESS.

7. CONTRACTOR MUST MAINTAIN THE ACCESS ROUTE TO BE FREE FROM DEBRIS CAUSED FROM CONSTRUCTION ACTIVITIES ON A DAILY BASIS.

8. ANY DISTURBED AREAS BY THE CONTRACTOR TO CONSTRUCT THIS PROJECT MUST BE RESTORED TO THE PRE-DISTURBED CONDITIONS OR BETTER AND TO THE SATISFACTION OF THE CONTRACTING OFFICER.
CONTRACTOR MUST PROVIDE PHOTOGRAPHS AND VIDEO RECORDING OF THE EXISTING SITE CONDITIONS OF THE PROJECT LIMITS.

9. ALL AREAS DISTURBED BY ANY CONSTRUCTION ACTIVITIES INCLUDING BORROW AREAS, STOCKPILE AREAS, MATERIAL LAYDOWN , EQUIPMENT PARKING, CONTRACTOR PARKING, EARTHWORK ACTIVITIES, UTILITY TRENCHING, OVERHEAD UTILITY WORK, ETC MUST BE RESTORED TO BETTER THAN EXISTING CONDITIONS. ALL AREAS NOT DESIGNATED FOR PAVEMENT OR GRAVEL SURFACING MUST BE COVERED WITH A MINIMUM 4-INCHES OF TOPSOIL, SEEDED, AND IRRIGATED/MAINTAINED FOR A MINIMUM OF 12 MONTHS OR UNTIL 95% COVERAGE OF GROUND COVER PER THE SPECIFICATIONS.

10. ALL CONTRACTOR VEHICLES AND PERSONNEL MAY BE SEARCHED BY EBBING ANG SECURITY POLICE WHEN ENTERING THE BASE AND MAY EXPERIENCE DELAYS. ALL PERSONNEL ENTERING EBBING ANG MUST HAVE A VALID PHOTO ID PER BASE SECURITY REQUIREMENTS. ALL VEHICLES ENTERING THE BASE MUST HAVE CURRENT/VALID REGISTRATION, CURRENT/VALID INSURANCE, AND CURRENT/VALID DRIVER'S LICENSE FOR THE OPERATOR. ALL CONTRACTOR VEHICLES AND PERSONNEL MUST BE RESPONSIBLE FOR COORDINATING WITH THE BASE SECURITY OFFICER IN OBTAINING PROPER SECURITY CLEARANCE AND BADGING PRIOR TO ENTERING SECURE AREAS.

11. MISCELLANEOUS CONTRACTOR ACCESS PROCEDURES: PERIODIC AIR NATIONAL GUARD EXERCISES MAY OR MAY NOT IMPACT DAILY ENTRY PROCEDURES TO WORK AREAS ON EBBING ANGB. IN ADDITION, ALL CONTRACTOR PERSONNEL MAY BE REQUIRED TO LEAVE AN AREA AND REACCOMPLISH ENTRY PROCEDURES. IN THE EVENT OF AN EMERGENCY THAT REQUIRES EVACUATION FROM THE AREA, CONTRACTOR MUST COMPLY WITH THE INSTRUCTIONS FROM SECURITY FORCES.

12. CONTRACTOR MUST PROVIDE ALL NECESSARY WATER AND TOILET FACILITIES FOR HIS WORKERS WITHIN THE CONSTRUCTION ZONE. CONTRACTOR WORKERS MUST NOT USE GOVERNMENT FACILITIES UNLESS SPECIFICALLY INDICATED OTHERWISE. LOCATIONS OF FACILITIES MUST BE COORDINATED WITH CONTRACTING OFFICER.

13. WHEN NOT ENGAGED IN CONSTRUCTION ACTIVITIES, THE CONTRACTOR'S CONSTRUCTION EQUIPMENT AND VEHICLES MUST BE PARKED WITHIN THE WORK AREA/STAGING AREA.

14. CONTRACTOR MUST COORDINATE WITH CONTRACTING OFFICER'S REPRESENTATIVE CONCERNING ANY GOVERNMENT OWNED EQUIPMENT REQUIRING RELOCATION TO COMPLETE PROJECT.

15. IF ANY EMERGENCY ROUTES REQUIRE CLOSURE DUE TO CONSTRUCTION ACTIVITIES, CONTRACTOR MUST NOTIFY THE CONTRACTING OFFICER, POLICE, LOCAL FIRE AUTHORITY, AND ALL OTHER EMERGENCY SERVICES OF THE CLOSURE.

TRAFFIC CONTROL:

1. PRIOR TO CONSTRUCTION, CONTRACTOR MUST CORDON OFF THE LIMITS OF CONSTRUCTION IN ACCORDANCE WITH TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS SPECIFICATIONS AND APPROVED BY THE CONTRACTING OFFICER.

2. ALL CONSTRUCTION EQUIPMENT AND VEHICLES MUST BE MARKED WITH COMPANY DESIGNS, INSIGNIAS, OR OTHER MARKINGS, WHICH ARE CLEARLY VISIBLE. CONTRACTOR MUST PROVIDE EACH VEHICLE WORKING INSIDE THE AIRFIELD SECURITY FENCE WITH A FLAG ATTACHED TO THE VEHICLE WHICH SHOULD BE AT LEAST 3-FOOT SQUARE HAVING INTERNATIONAL ORANGE AND WHITE CHECKERED PATTERN SO THAT THE FLAG IS EASILY VISIBLE.

3. CONSTRUCTION EQUIPMENT MUST HAVE AUTOMATIC SIGNALING DEVICES TO SOUND AN ALARM WHEN MOVING IN REVERSE.

4. ONLY RUBBER-TIRE VEHICLES WILL BE ALLOWED ON EXISTING PAVEMENT-TO-REMAIN.

5. CONTRACTOR MUST PROVIDE A MINIMUM 21 DAY NOTICE TO EBBING ANG AND THE CONTRACTING OFFICER PRIOR TO ANY REQUESTED ROAD CLOSURE. THE 21 DAY ADVANCE NOTICE DOES NOT MEAN THE REQUEST WILL BE AUTOMATICALLY APPROVED. THE 21 DAYS PROVIDES NECESSARY TIME FOR BASE CE TO COORDINATE AND VERIFY IF CLOSURE IS ACCEPTABLE. CONTRACTOR MUST WORK WITH THE BASE CE AND CONTRACTING OFFICER TO FINALIZE DATES IF THE BASE HAS CONFLICTS WITH OTHER ACTIVITIES.

6. CONTRACTOR MUST ATTEND ANY EBBING ANG VEHICLE OPERATOR OR FOREIGN OBJECT DEBRIS (FOD) CONTROL TRAINING COURSE.

7. CONTRACTOR IS REQUIRED TO IMMEDIATELY CLEAN ANY DEBRIS DEPOSITED ONTO THE SITE, ROADS, ETC., FROM CONTRACTOR'S EQUIPMENT OR OPERATIONS. MATERIAL DROPPED WITHIN THESE AREAS MUST BE CONTINUOUSLY REMOVED BY SURFACE SWEEPERS OR OTHER APPROVED METHODS DURING WORKING HOURS. CONTRACTOR TO MAINTAIN ONE FULLY OPERATIONAL STREET SWEEPER/VAC TRUCK ON SITE AT ALL TIMES.

8. STOCKPILED MATERIAL MUST BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT RESULTING FROM AIRCRAFT PROPWASH OR JET BLAST.

9. CONTRACTOR MUST BE RESPONSIBLE FOR COMPLETING AND SUBMITTING OUTAGE REQUEST WITH EBBING ANG CE OFFICE FOR ANY WORK DISTURBING NORMAL TRAFFIC FLOW.

COORDINATION AND COMMUNICATION:

1. THE CONTRACTOR MUST APPOINT A CONSTRUCTION SUPERINTENDENT, SUBJECT TO THE APPROVAL OF THE CONTRACTING OFFICER, WHO MUST BE PRESENT ON THE CONSTRUCTION SITE AT ALL TIMES DURING WORKING HOURS WHILE THE JOB IS IN PROGRESS. THE SUPERINTENDENT MUST BE DESIGNATED THE RESPONSIBLE CONTRACTOR'S REPRESENTATIVE WHO MUST BE AVAILABLE ON A 24-HOUR BASIS. WHEN THE CONTRACTOR'S REPRESENTATIVE IS NOT AVAILABLE ON THE CONSTRUCTION SITE, AN ALTERNATE REPRESENTATIVE MUST BE PROVIDED. CONTRACTOR MUST PROVIDE NAMES AND CONTACT INFORMATION OF REPRESENTATIVES TO THE CONTRACTING OFFICER PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

2. THE CONTRACTOR MUST BE RESPONSIBLE FOR MAINTAINING CONSTANT COMMUNICATION AND COORDINATION BETWEEN ANY SUBCONTRACTORS AND THE CONTRACTING OFFICER. ALL CONSTRUCTION ACTIVITIES PLANNED BY THE CONTRACTOR MUSTBE REVIEWED AND APPROVED BY THE CONTRACTING OFFICER.

3. THERE ARE SEVERAL ONGOING, CONCURRENTLY AND FUTURE PROJECTS ADJACENT TO EACH SITE OR WITHIN EBBING ANG BASE. THE CONTRACTOR MUST COORDINATE WITH EACH PROJECT ON A WEEKLY BASIS TO ENSURE NO CONSTRUCTION RELATED CONSTRAINTS FOR EITHER PARTY ARISE THAT WOULD INHIBIT CONSTRUCTION OR CAUSE DELAYS IN TIMING, ACCESS, ETC.

AIRFIELD COORDINATION NOTES

1. CONTRACTOR MUST COMPLY WITH THE CONSTRUCTION AND OPERATIONAL SAFETY ON THE AIRFIELD DURING CONSTRUCTION INDICATED IN UFC 3-260-01 (APPENDIX B SECTION 14), FEDERAL AVIATION ADMINISTRATION (FAA) ADVISORY CIRCULAR (AC) 150/5370-2G (LATEST EDITION) AND OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION (LATEST EDITION).
REFER TO SPECIFICATIONS SECTION 01 35 26 FOR ADDITIONAL INFORMATION.

2. CONTRACTOR MUST NOT ACCESS THE AIRCRAFT OPERATIONS AREA WITHOUT CLEARANCE FROM BASE AIRFIELD OPERATIONS AND THE CONTRACTING OFFICER; AND MUST CONDUCT WORK IN SUCH A MANNER TO MINIMIZE HINDRANCE TO AVIATION OPERATIONS.
CONTRACTOR MUST PROVIDE A MINIMUM NOTICE OF 21 DAYS TO BASE AIRFIELD OPERATIONS FOR ACCESS TO AN AIRCRAFT OPERATIONS AREA.
PEDESTRIAN TRAFFIC AND PRIVATELY OWNED VEHICLES ARE NOT ALLOWED IN THE AIRCRAFT OPERATIONS AREA.
CONSTRUCTION ACTIVITY AFFECTING AIRCRAFT MOVEMENT AREAS AND AIRFIELD SAFETY REQUIREMENTS MUST BE COORDINATED WITH BASE AIRFIELD OPERATIONS AND THE CONTRACTING OFFICER.
AIRCRAFT OPERATIONS AREAS MUST NOT BE CLOSED WITHOUT APPROVAL FROM BASE OPERATIONS.

3. VEHICLES AND EQUIPMENT MUST BE IDENTIFIED BY FLASHING OR STEADY BURNING AMBER BEACON MOUNTED ON THE UPPER MOST PART OF THE VEHICLE OR EQUIPMENT SUCH THAT IT IS CONSPICUOUS FROM DIRECTION INCLUDING FROM THE AIR. IF A VEHICLE OR PIECE OF EQUIPMENT IS NOT FURNISHED WITH SUCH A BEACON, IT MUST BE ESCORTED INTO THE AIRCRAFT OPERATIONS AREA BY A VEHICLE MEETING THE REQUIREMENTS DESCRIBED HEREIN.

4. NOTICES TO AIRMEN (NOTAMS) MUST BE ISSUED IN ACCORDANCE WITH AC 150/5200-28F (LATEST EDITION) NOTICES TO AIRMEN FOR AIRPORT OPERATORS, UFC 3-260-01 APPENDIX B SECTION 14 AND AC 150/5370-2G (LATEST EDITION) OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION.
NOTAMS MUST BE COORDINATED WITH BASE AIRFIELD OPERATIONS AND THE CONTRACTING OFFICER.
BASE AIRFIELD OPERATIONS MUST BE NOTIFIED AT LEAST 21 DAYS IN ADVANCE REGARDING THE NEED FOR NOTICES TO AIRMEN (NOTAMS.
NO WORK ACTIVITIES MUST COMMENCE ON AIRFIELD AREAS UNTIL NOTAMS HAVE BEEN ISSUED TO IDENTIFY WORK ACTIVITIES.
THE NOTAM INFORMATION MUST INCLUDE PORTIONS OF THE AIRFIELD THAT ARE CLOSED OR DISPLACED, THE DATE AND TIME OF THE BEGINNING AND ENDING OF WORK, AND THE DURATION OF THE WORK.

5. NAVIGATIONAL AID (NAVAID) EQUIPMENT AND ASSOCIATED STRUCTURES AND UTILITIES MUST BE PROTECTED AT ALL TIMES. CONTRACTOR MUST NOTIFY IMMEDIATELY THE CONTRACTING OFFICER IF CONSTRUCTION ACTIVITY DISRUPTS NAVAID EQUIPMENT. THE CONTRACTOR MUST REPAIR AND/OR REPLACE DAMAGED NAVAID EQUIPMENT TO THE SATISFACTION OF THE CONTRACTING OFFICER AND AT NO ADDITIONAL COST TO THE GOVERNMENT.

6. DEBRIS, WASTE, AND LOOSE MATERIALS CAPABLE OF CAUSING DAMAGE TO AIRCRAFT MUST NOT BE LEFT WITHIN ACTIVE AIRCRAFT OPERATION AREAS. CONTRACTOR IS REQUIRED TO CLEAN IMMEDIATELY DEBRIS CARRIED ONTO AIRFIELD FROM CONTRACTOR'S EQUIPMENT OR OPERATIONS TO PREVENT FOREIGN OBJECT DAMAGE (FOD). MATERIAL DROPPED WITHIN THESE AREAS MUST BE CONTINUOUSLY REMOVED BY APPROVED METHODS DURING WORKING HOURS.

7. DAMAGE TO EXISTING AIRFIELD LIGHTING, AIRFIELD PAVEMENTS AND OTHER AIRFIELD APPURTENANCES TO REMAIN MUST BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE CONTRACTING OFFICER AT NO ADDITIONAL COST TO THE GOVERNMENT.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
22"x34"	FILE NAME:
	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
F-16 AMU HANGAR
FORT SMITH, AR
PN: 512203

CIVIL GENERAL NOTES

SHEET ID

GC101

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TEMPORARY CONSTRUCTION CRANE AND STOCKPILE HEIGHT:

1. TEMPORARY OBSTRUCTIONS, SUCH AS CRANES, MUST BE MARKED AND LIGHTED IN ACCORDANCE WITH FAA AC 70/7460 AND EM 385-1-1. ALL HAZARDOUS AREAS (SUCH AS EXCAVATIONS OR STOCKPILED MATERIALS) ON THE AIRFIELD MUST BE DELINEATED WITH LIGHTED BARRICADES ON ALL EXPOSED (VISIBLE OR ACCESSIBLE) SIDES. CONTRACTOR MUST PROVIDE ALL NECESSARY INFORMATION TO THE BASE CE FOR CONSTRUCTION CRANES, EQUIPMENT, AND RELATED EQUIPMENT, AND RELATED ACTIVITIES. ALL FORMS MUST BE APPROVED PRIOR TO USING OR BRINGING EQUIPMENT ON SITE. BASE CE TO SUBMIT 7460 FORMS TO FAA FOR PERMANENT BUILDING. CONTRACTOR TO SUBMIT 7460 FORMS TO FAA FOR ALL TEMPORARY CONSTRUCTION.

2. THE MAXIMUM ALLOWABLE HEIGHT OF CONSTRUCTION EQUIPMENT OPERATING IN AN AIRCRAFT OPERATIONS AREA IS GOVERNED BY FAA AC 150/5370-2F AND AC 150/5300-13A (CURRENT EDITIONS). TEMPORARY OBSTRUCTIONS, SUCH AS CRANES AND EQUIPMENT LESS THAN 200'-0" IN HEIGHT REQUIRE ADDITIONAL LOCAL APPROVAL AS WELL AS FAA 7460 APPROVAL. COORDINATE WITH EBBING ANG CE OFFICE FOR LOCAL OBSTRUCTION APPROVAL.
WHEN EQUIPMENT IS EXPECTED TO PENETRATE THE AIRFIELD APPROACH SURFACES OR WHEN CRANES WILL BE USED ON-SITE, CONTRACTOR MUST PROVIDE A NOTICE AT LEAST 60-90 DAYS IN ADVANCE TO THE CONTRACTING OFFICER AND BASE AIRFIELD OPERATIONS PRIOR TO THE START OF CONSTRUCTION TO COORDINATE THE SUBMITTAL OF FAA FORM 7460 TO THE FAA REGIONAL OFFICE.
PERMISSION TO USE CRANES MUST BE ISSUED BY BASE AIRFIELD OPERATIONS AND THE CONTRACTING OFFICER AFTER APPROVAL BY THE FAA.

3. OBSTRUCTION LIGHT FIXTURES MUST BE AVIATION RED INCANDESCENT STEADY BURNING FAA AC 150/5345-43, TYPE L-810. AIR FORCE POLICY DOES NOT ALLOW USE OF LED FIXTURES FOR OBSTRUCTION LIGHTING, CONTRACTOR MUST VERIFY WITH EBBING ANG.

4 WHEN NOT IN OPERATION, ALL EQUIPMENT AND CRANES MUST HAVE BOOMS OR ARMS LOWERED TO THEIR LOWEST ELEVATION.

5. CONTRACTOR MUST NOT STOCKPILE CONSTRUCTION MATERIALS, SPOILS, OR DEBRIS IN ANY AREA WHERE SUCH STOCKPILES WOULD PENETRATE AVIATION SURFACES. A 360 DEGREE RED OBSTRUCTION LIGHT MUST BE PLACED AT THE HIGHEST POINT OF THE STOCKPILE. STOCKPILING OF MATERIAL WITHIN THE AIRFIELD SAFETY AREAS IS PROHIBITED.

EXISTING UTILITIES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY DOCUMENTS AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST COORDINATE WITH THE CONTRACTING OFFICER, UTILITY LOCATE SERVICE PROVIDERS, AND UTILITY COMPANIES AT LEAST 10 WORKING DAYS (EXCLUDING HOLIDAYS OR WEEKENDS) PRIOR TO ANY EXCAVATION OR AS INDICATED IN DIVISIONS 00s AND 01s OF THE CONTRACT DOCUMENTS.

CONTRACTOR PERMITTING REQUIREMENTS:

1. OBTAIN A STORMWATER PERMIT FOR LAND DISTURBANCE EXCEEDING ONE (1) ACRE PRIOR TO START CONSTRUCTION. COORDINATE WITH THE CONTRACTING OFFICER (ACO) TO PREPARE AND SUBMIT THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) TO THE STATE OF ARKANSAS, DIVISION OF ENVIRONMENTAL QUALITY, FOR APPROVAL. REFER TO SPECIFICATION SECTION 01 57 19 FOR ADDITIONAL INFORMATION.

2 OBTAIN ALL PERMITS, LICENSES, FEES, AND REQUIRED TRAINING NECESSARY FOR THIS PROJECT TO COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS. THE PERMITTING PROCESS MAY INCLUDE THE SUBMISSION OF THE FOLLOWING TYPES OF PERMITS:
A. EROSION AND SEDIMENT CONTROL.
B. STORMWATER MANAGEMENT.
C. ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
D. MONITORING WELLS.
E. SOLID AND HAZARDOUS WASTE.
F. DIGGING.
G. TRAFFIC CONTROL.
H. WELDING PERMIT FOR ANY WELDING OR CUTTING OPERATIONS
I. FAA FORM 7460

SECURITY REQUIREMENTS NOTES:

1. THE CONTRACTOR MUST COMPLY WITH ALL THE REQUIREMENTS AND PROCEDURES OF "DAFFARS 5353.242-9000, CONTRACTOR ACCESS TO DEPARTMENT OF THE AIR FORCE INSTALLATIONS", IN ACCORDANCE WITH THE SITE ACCESS AS INDICATED ON PLANS AND SPECS. CONSTRUCTION ACCESS ALLOWS FOR MOST PROJECT WORK AREA TO BE COMPLETED OUTSIDE OF EBBING ANG SECURITY PERIMETER IN A CONSTRUCTION ZONE CONTROLLED BY THE CONTRACTOR.

2. ALL CONTRACTOR EMPLOYEES MUST CARRY CONTRACTOR PHOTO IDENTIFICATION AT ALL TIMES WHILE WORKING INSIDE EBBING ANG SECURE PERIMETER.

3. CONTRACTOR EMPLOYEES MUST COMPLY WITH ANY INTEGRATED DEFENSE MEASURES THAT MAY BE NECESSARY DURING CONTINGENCY OPERATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, VEHICLE INSPECTIONS, IDENTIFICATION CHECKS, ETC.

4. CONTRACTOR AND EMPLOYEE IDENTIFICATION CREDENTIALS: DUE TO THE NATURE OF THE MILITARY MISSION AT EBBING ANG, STRINGENT SECURITY PROCEDURES ARE ESTABLISHED TO ENSURE MISSION SUCCESS. PART OF THE MISSION ASSURANCE PIECE IS TO CONDUCT IDENTITY PROOFING AND VETTING OF ALL CONTRACTORS WHO ENTER THE INSTALLATION. THE VETTING PROCESS INCLUDES AN EXTENSIVE CRIMINAL HISTORY CHECK TO DETERMINE THE INDIVIDUAL'S FITNESS FOR AUTHORIZATION TO ENTER THE INSTALLATION. THE PRIME CONTRACTOR WILL ENSURE ALL EMPLOYEES WORKING INSIDE EBBING ANG SECURITY PERIMETER POSSESS PROPER CREDENTIALS ALLOWING THEM TO WORK IN THE UNITED STATES. EXECUTIVE ORDER 12989 REQUIRES CONTRACTORS TO USE THE DEPARTMENT OF HOMELAND SECURITY'S E-VERIFY SYSTEM FOR ALL EMPLOYEES WORKING ON FEDERAL CONTRACTS. REFER TO PROJECT SPECIFICATIONS FOR FULL LISTING OF ALL REQUIREMENTS.

5. EMPLOYEES WILL BE IDENTITY-PROOFED AND VETTED EACH TIME A PASS AND/OR CREDENTIAL IS ISSUED. SECURITY FORCES PERSONNEL MAY ALSO CONDUCT RANDOM SCREENING AT ANY TIME. IF DISQUALIFYING INFORMATION IS FOUND, EMPLOYEES MAY BE DENIED ACCESS TO THE INSTALLATION AND THE CONTRACTING OFFICER OR CONTRACT ADMINISTRATOR WILL BE NOTIFIED OF THE DENIAL. DUE TO MANDATES OF USC 552A (B) (3) AS RELATED TO PRIVACY ACT 1974 AS AMENDED, THE INFORMATION CAN ONLY BE DISCUSSED WITH THE EMPLOYEE AND WILL NOT BE EXPRESSED OUTSIDE OF LAW ENFORCEMENT.

6. BASE ACCESS CREDENTIALS:
THE CONTRACTOR MUST SUBMIT ALL EBBING ANG FORMS AT LEAST 7 WORKING DAYS (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO, IF THE EMPLOYEE WILL BE REQUIRED TO DRIVE ON THE INSTALLATION, HE/SHE MUST PRESENT A VALID DRIVER'S LICENSE, STATE VEHICLE REGISTRATION AND PROOF OF INSURANCE. FURTHER, THE VEHICLES AND EQUIPMENT MAY BE ESCORTED DURING EXERCISE OPERATIONS AND MAY BE RENDERED IMMOBILE WHEN NOT IN OPERATION BY THE REMOVAL OF IGNITION KEYS OR BY OTHER READILY REVERSIBLE MEANS. CONTRACTOR VEHICLES ARE SUBJECT TO SEARCH PRIOR TO ENTERING, WHILE TRANSITING AND/OR WHILE EXITING THE INSTALLATION.

7. IF THE CONTRACT REQUIRES WORK TO BE DONE IN THE RESTRICTED AREAS ON THE INSTALLATION, ACCESS TO THOSE AREAS WILL REQUIRE COORDINATION AND APPROVAL BY THE ORGANIZATIONS CONTROLLING THOSE AREAS. MORE DETAILED INFORMATION MAY BE REQUESTED FROM THE CONTRACTING OFFICER UPON AWARD OF THE CONTRACT.

CIVIL LEGEND

410	EXISTING MAJOR CONTOUR	BM	BENCH MARK/MONUMENT
412	EXISTING MINOR CONTOUR	CO	CLEANOUT
410	NEW MAJOR CONTOUR		
412	NEW MINOR CONTOUR		
x	FENCE	FO	FIBER OPTIC MANHOLE
F	FIRE LINE	FDC	FIRE DEPT CONNECTION
OE	POWER LINE OVERHEAD	FH	FIRE HYDRANT
G	GAS LINE		
O	OIL LINE	GM	GAS METER
UGE	POWER UNDERGROUND	LP	LIGHT POLE
UGC	COMMUNICATIONS UNDERGROUND	P	POWER MANHOLE
FO	UNDERGROUND FIBER OPTICS		POWER POLE
W	WATER LINE	SS	SANITARY MANHOLE
SS	SANITARY SEWER LINE	S	STORM MANHOLE
SD	STORM SEWER LINE	C	COMM MANHOLE
	FLOW LINE DITCH	XFMR	TRANSFORMER PAD
SF	SILT FENCE	WV	VALVE
UD	UNDER DRAIN	WM	WATER METER
RD	ROOF DRAIN		
INW	INDUSTRIAL WASTE LINE		

CIVIL ABBREVIATIONS

BOS	BOT OF STAIRS	PAVT	PAVEMENT
BW	BOT OF WALL	PE	POLYETHYLENE
CI	CAST IRON	PCES	PRECAST CONCRETE END SECTION
CLR	CLEAR	PVC	POLY VINYL CHLORIDE
CJ	CONSTRUCTION JOINT	R	RADIUS
DB	DRAINAGE BASIN	RD	ROOF DRAIN
DIP	DUCTILE IRON PIPE	R/W	RIGHT OF WAY
DGDI	DOUBLE GRATE CURB INLET	RCP	REINF CONCRETE PIPE
DO	DOOR OPENING	RJ	RESTRAINED JOINT
EJ	EXPANSION JOINT	SGDI	SINGLE GRATE CURB INLET
EL	ELEVATION	SF	SQUARE FEET
FF	FINISHED FLOOR	SJ	SAW JOINT
FG	FINISHED GRADE	STD	STANDARD
FL	FLOWLINE	STRUC	STRUCTURAL
HB	HOSE BIB	TC	TOP OF CURB
HDPE	HIGH DENSITY POLYETHYLENE	TG	TOP OF GRATE
JB	STORM JUNCTION BOX	TOS	TOP OF STAIRS
LF	LINEAR FEET	TP	TOP OF PAVEMENT
ME	MATCH EXISTING	TR	TOP OF RIM
MH	MANHOLE	TS	TOP OF SIDEWALK
OHD	OVERHEAD DOOR	TW	TOP OF WALL
FOD	FOREIGN OBJECT DEBRIS	UNO	UNLESS NOTED OTHERWISE
RE	REFER TO		
W/	WITH		
ELECT	ELECTRICAL		
PLUMB	PLUMBING		
MECH	MECHANICAL		
STRUC	STRUCTURAL		
CONT	CONTINUATION		
ARCH	ARCHITECTURAL(DISCIPLINE AND NOT ARCH PIPE)		
CONC.	CONCRETE		

MISC CIVIL ABBREVIATIONS

ANG	AIR NATIONAL GUARD
W/	WITH
EA	EACH
CC	CENTER TO CENTER
OC	OF CENTER

NOTE: LEGEND AND ABBREVIATIONS ARE DISCIPLINE SPECIFIC IN GENERAL AND THIS LEGEND IT'S FOR CIVIL ONLY. FOR OTHER LEGEND SPECIFICS, REFER EACH DISCIPLINE.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILE NAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FORT SMITH AIR FORCE BASE
FORT SMITH, AR
PN: 512203

CIVIL
GENERAL NOTES & LEGEND

SHEET ID
GC102

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION

N

80 40 0 40 80

1" = 80'

AIRPORT BLVD

APPROXIMATE WORK

BASE ACCESS GATE

EXISTING AIRFIELD

BLDG# 113

BLDG# 115

BLDG# T88

BLDG# 132

HAY HANGAR FP 551.40'

LEGEND

HAUL ROUTE

A HAUL ROUTE PLAN

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. ALVAREZ
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. BLANKENSHIP, P.E.
E-FILE NAME:	EANG_512203_C_3BAYH_mdl.dgn
22"x34"	AS SHOWN
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	1:1

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
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ENGINEERING BRANCH

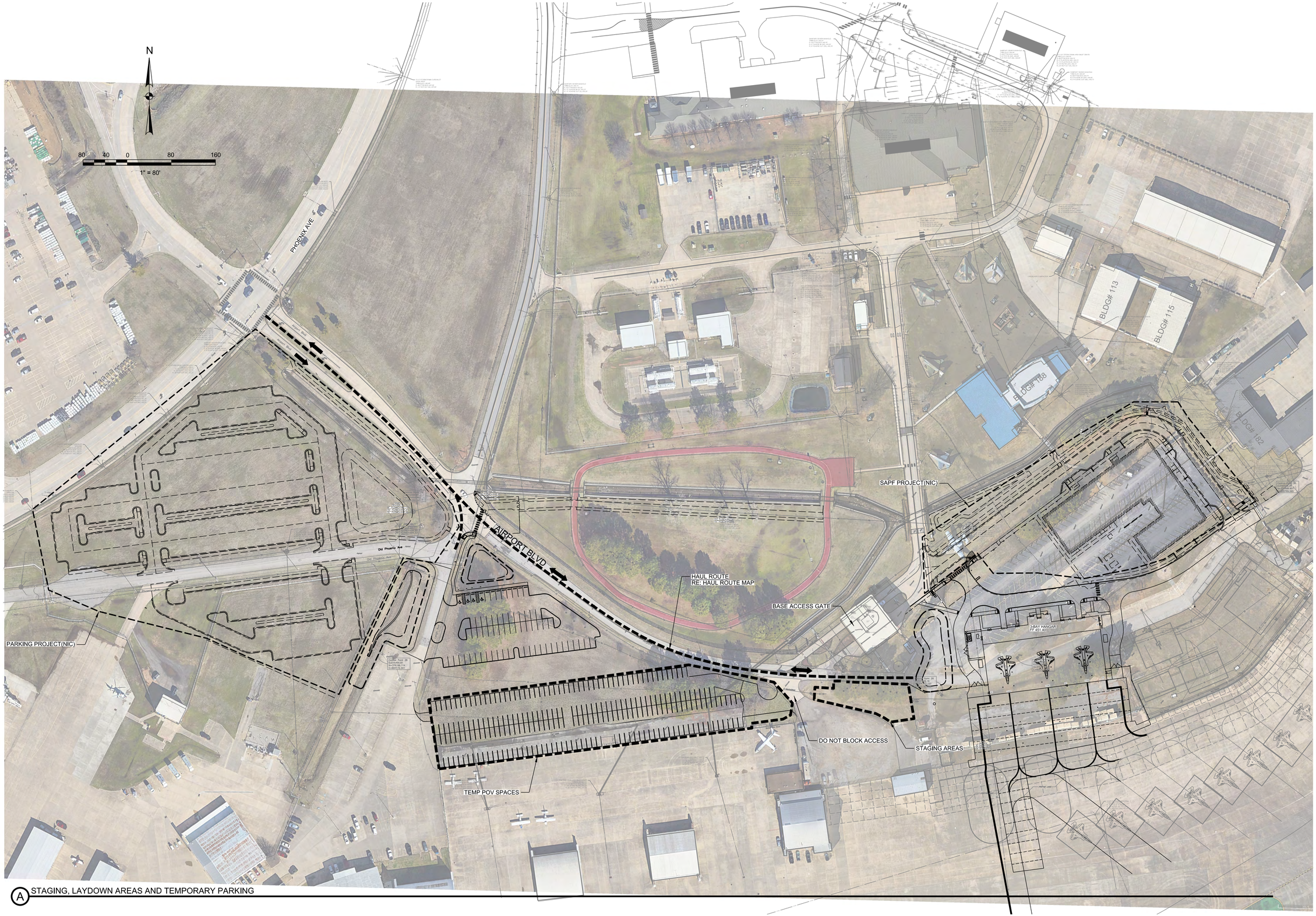
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F-35A AMU HANGAR
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PN: 512203

HAUL ROUTE PLAN

SHEET ID

GC103

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A STAGING, LAYDOWN AREAS AND TEMPORARY PARKING

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: J. ALVAREZ	SOLICITATION NO.: W912BV26RA004
REVIEWED BY: J. ALVAREZ	CONTRACT NO.: -
SUBMITTED BY: A. RANKIN, P.E.	PLOT SCALE: AS SHOWN
22"x34"	FILE NAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

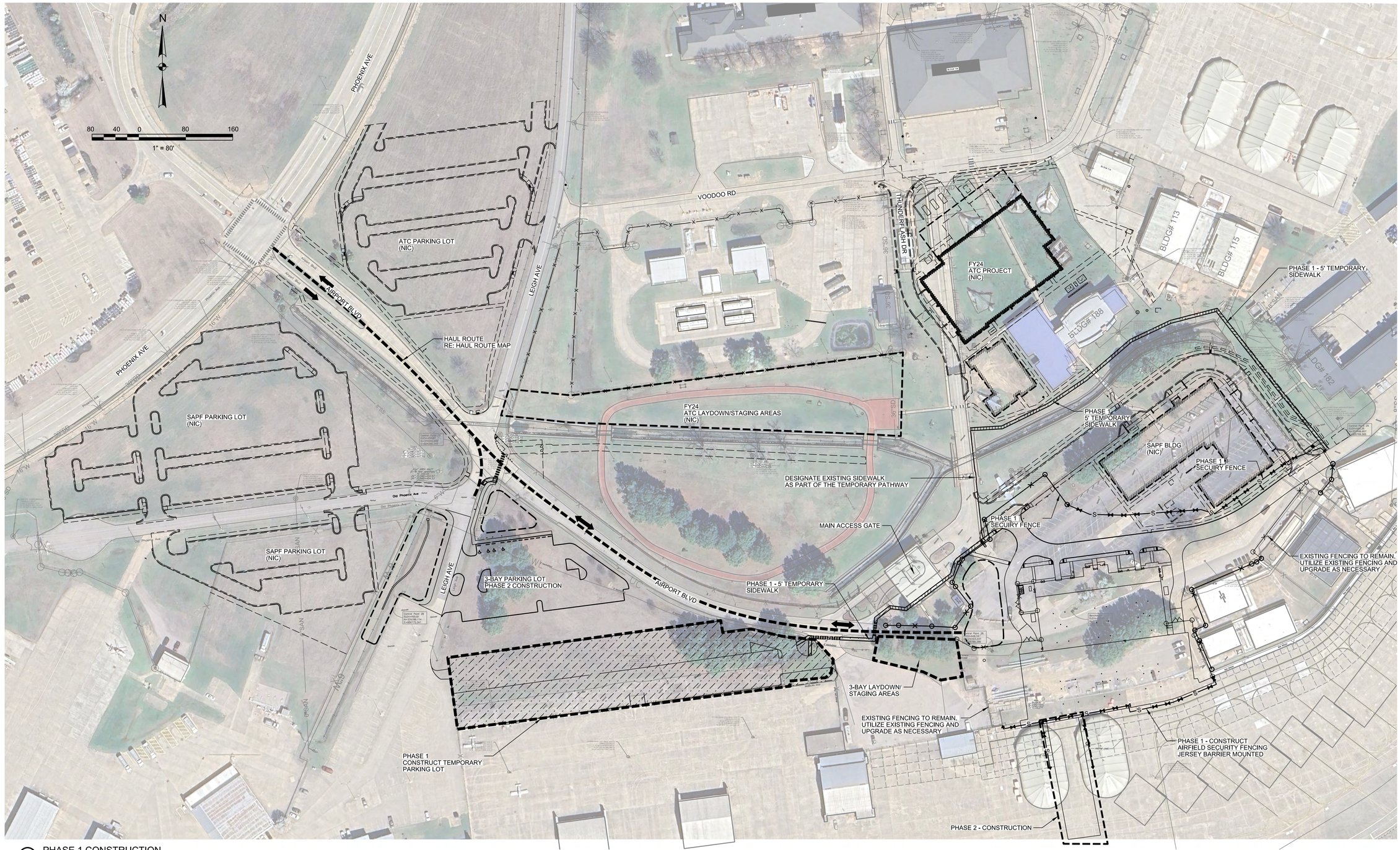
EBBING ANG, ARKANSAS
F-35A HANGAR
FORT SMITH, AR
PN: 512203

STAGING, LAYDOWN AREAS AND TEMPORARY POV PARKING PLAN

SHEET ID

GC104

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A1 PHASE 1 CONSTRUCTION

SCALE: AS SHOWN

1. REFER TO SHEETS GC101-GC104 FOR GENERAL ACCESS AND SAFETY NOTES.

2. CONSTRUCT THE TEMPORARY PARKING LOT AS SHOWN. PROVIDE NEW ASPHALT PARKING LOT IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS IN THE CONTRACT DOCUMENTS.

3. CONSTRUCT A NEW TEMPORARY SIDEWALK CONNECTING THE TEMPORARY PARKING LOT TO BASE. REFER TO NOTE 9 AND CLIN SCHEDULE FOR ADDITIONAL REQUIREMENTS.

4. PROVIDE 20'-24' VEHICULAR TEMPORARY ACCESS GATE AND 4' PERSONNEL GATES AS NECESSARY OR AS INDICATED.

5. CONTRACTOR MUST MAINTAIN ADEQUATE ACCESS FOR SEMI-TRUCK DELIVERIES AND PERSONNEL TO ALL EXISTING SITE FACILITIES THROUGHOUT CONSTRUCTION.

6. ALL CLEARING AND GRUBBING MUST BE COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. BASE AND LOCAL ENVIRONMENTAL DEPARTMENTS AND MAINTAINED THROUGHOUT THE CONTRACT DURATION. COORDINATE WITH EBBING ENVIRONMENTAL DEPARTMENT AND WITH ACO FOR ANY OTHER IMPACTS AS NECESSARY

7. CONTRACTOR MUST MAINTAIN VEHICULAR ACCESS TO THE EXISTING FACILITY. PROVIDE MINIMUM 24' WIDE AGGREGATE ACCESS DRIVE AND A MINIMUM 6-INCH THICK. WHEN THE FACILITY IS FOD SENSITIVE, PROVIDE A 6-INCH THICK RIGID PAVEMENT ON 6-INCH AGGREGATE BASE.

8. CONTRACTOR MUST NOT CROSS ESTABLISHED AIRFIELD SECURITY PERIMETER FENCE WITHOUT COORDINATING WITH ACO, BASE SECURITY FORCES AND AIRFIELD OPERATIONS. ALL WORK WITHIN INTRUSION DETECTION SYSTEM FENCE SHALL BE COORDINATED WITH BASE SECURITY FORCES A MINIMUM OF 7-DAYS PRIOR TO WORK IN THE AREA.

9. TEMPORARY WALKWAY SURFACE REQUIREMENTS:
- -PROVIDE A TEMPORARY WALKWAY AT LEAST 5 FEET WIDE USING POROUS ASPHALT OR REMOVABLE MATERIALS.
- -THE WALKWAY MUST REMAIN IN PLACE AND BE MAINTAINED FOR THE ENTIRE DURATION OF THE 3-BAY HANGAR CONSTRUCTION PROJECT.
- -WALKWAY CONSTRUCTION MAY USE A COMBINATION OF APPROVED MATERIALS.
- -IF USING POROUS ASPHALT, IT MUST BE 3 INCHES THICK, AR DOT-APPROVED, AND INSTALLED OVER A 4-INCH AGGREGATE BASE, INSTALLED ON WOVEN GEOTEXTILE FABRIC.
- -UPON PROJECT COMPLETION, ALL WALKWAY MATERIALS MUST BE REMOVED, AND THE AREA RESTORED TO ITS PRE-EXISTING CONDITIONS.

LEGEND

PHASE 1 WORK AREA

NIC = NOT IN CONTRACT

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MARK	DESCRIPTION	DATE

DESIGNED BY:	J. ALVAREZ
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. BLANKENSHIP, P.E.
22"x34"	

ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN
FILE NAME:	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
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TULSA, OKLAHOMA

ENGINEERING &
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ENGINEERING BRANCH

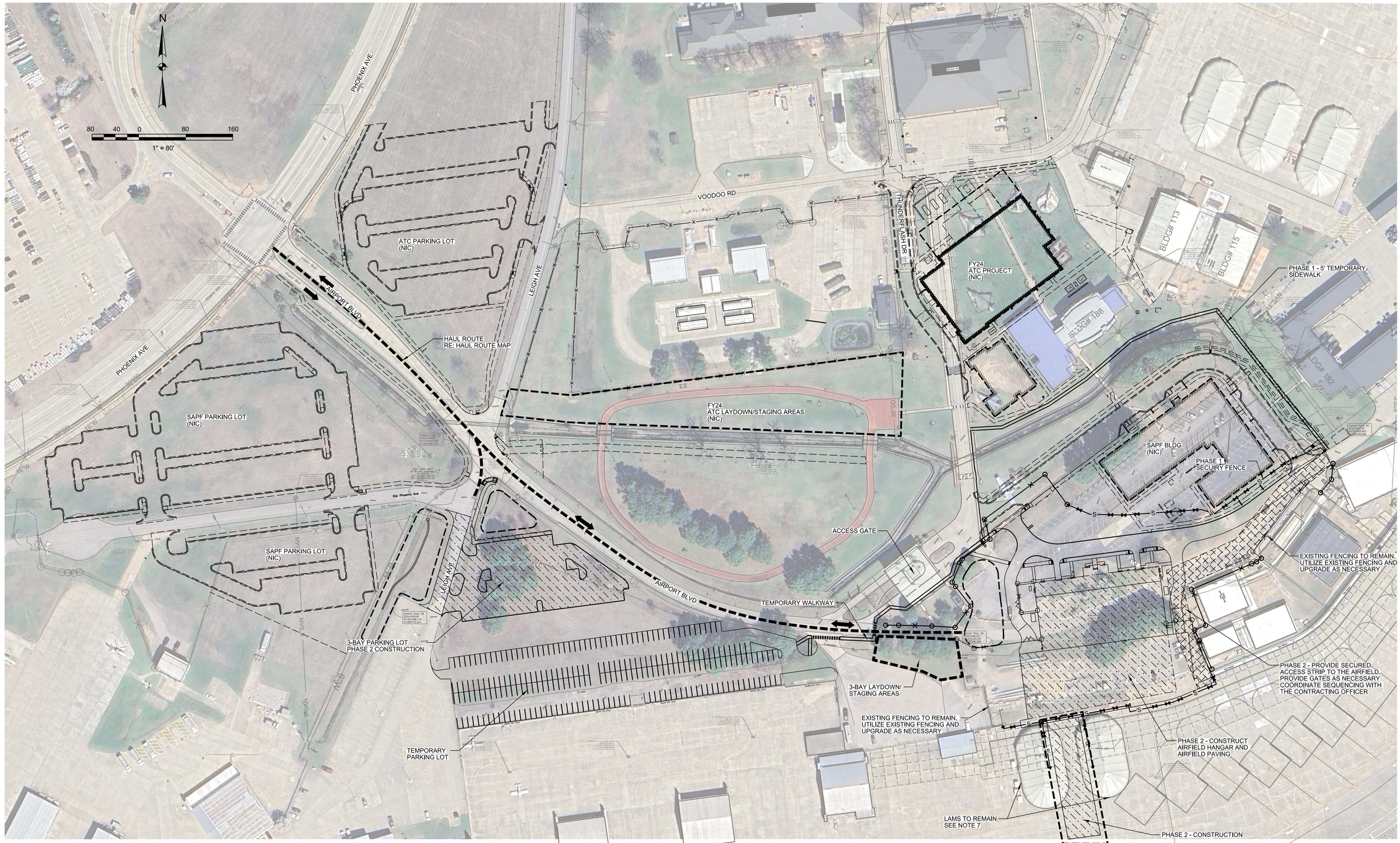
EBBING ANG, ARKANSAS
F-35A 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

PHASE 1 CONSTRUCTION

SHEET ID

GC105

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A1 PHASE 2 CONSTRUCTION

SCALE: AS SHOWN

1. REFER TO SHEETS GC101-GC104 FOR GENERAL ACCESS AND SAFETY NOTES.

2. CONSTRUCT THE IMPROVMENTS FOR THE HANGAR, PARKING LOT AND ASSOCIATED SITEWORK IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS IN THE CONTRACT DOCUMENTS.

3. PROVIDE 20'-24' SECURED VEHICULAR STRIP AND ACCESS GATES AND 4' PERSONNEL GATES AS NECESSARY OR AS INDICATED.

4. CONTRACTOR'S SHALL MAINTAIN ADEQUATE ACCESS FOR SEMI-TRUCK DELIVERIES AND PERSONNEL TO ALL EXISTING SITE FACILITIES THROUGHOUT CONSTRUCTION.

5. CONTRACTOR MUST MAINTAIN VEHICULAR ACCESS TO THE EXISTING FACILITY. PROVIDE MINIMUM 24' WIDE AGGREGATE ACCESS DRIVE AND A MINIMUM 6-INCH THICK. WHEN THE FACILITY IS FOD SENSITIVE, PROVIDE A 6-INCH THICK RIGID PAVEMENT ON 6-INCH AGGREGATE BASE.

6. CONTRACTOR MUST NOT CROSS ESTABLISHED AIRFIELD SECURITY PERIMETER FENCE WITHOUT COORDINATING WITH BASE SECURITY AND AIRFIELD OPERATIONS. ALL WORK WITHIN INTRUSION DETECTION SYSTEM FENCE SHALL BE COORDINATED WITH BASE SECURITY FORCES A MINIMUM OF 7-DAYS PRIOR TO WORK IN THE AREA.

7. THE LAMS (LARGE AREA MAINTENANCE SHELTER) TO REMAIN FUNCTIONAL AND IN PLACE UNTIL OTHER HANGAR SPACE ON BASE, CURRENTLY BEING RENOVATED BY OTHERS, BECOMES AVAILABLE AND READY FOR USE. THE CONTRACTOR TO ASSUME AND SCHEDULE THE APRON REPAIR WORK TO OCCUR NEAR THE END OF THE PROJECT AND MUST IDENTIFY THE APRON REPAIR START MILESTONE IN THE INITIAL PROJECT SCHEDULE, AS REQUIRED BY SECTION 01 32 00.

LEGEND

PHASE 2 WORK AREA

NIC = NOT IN CONTRACT

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: A.B., A.B., J.A.
DRAWN BY: A.B. J.ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
22"x34": EANG_512203_C_3BAYH_mdl.dgn

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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PLOT SCALE: AS SHOWN

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PHASE 2 CONSTRUCTION

SHEET ID

GC106

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SUBMITTED BY:	A. RANKERSHIP, P.E.
FILE NAME:	EANG_512203_C_3BAYH_mdl.dgn
SIZE:	22"x34"
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN

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TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

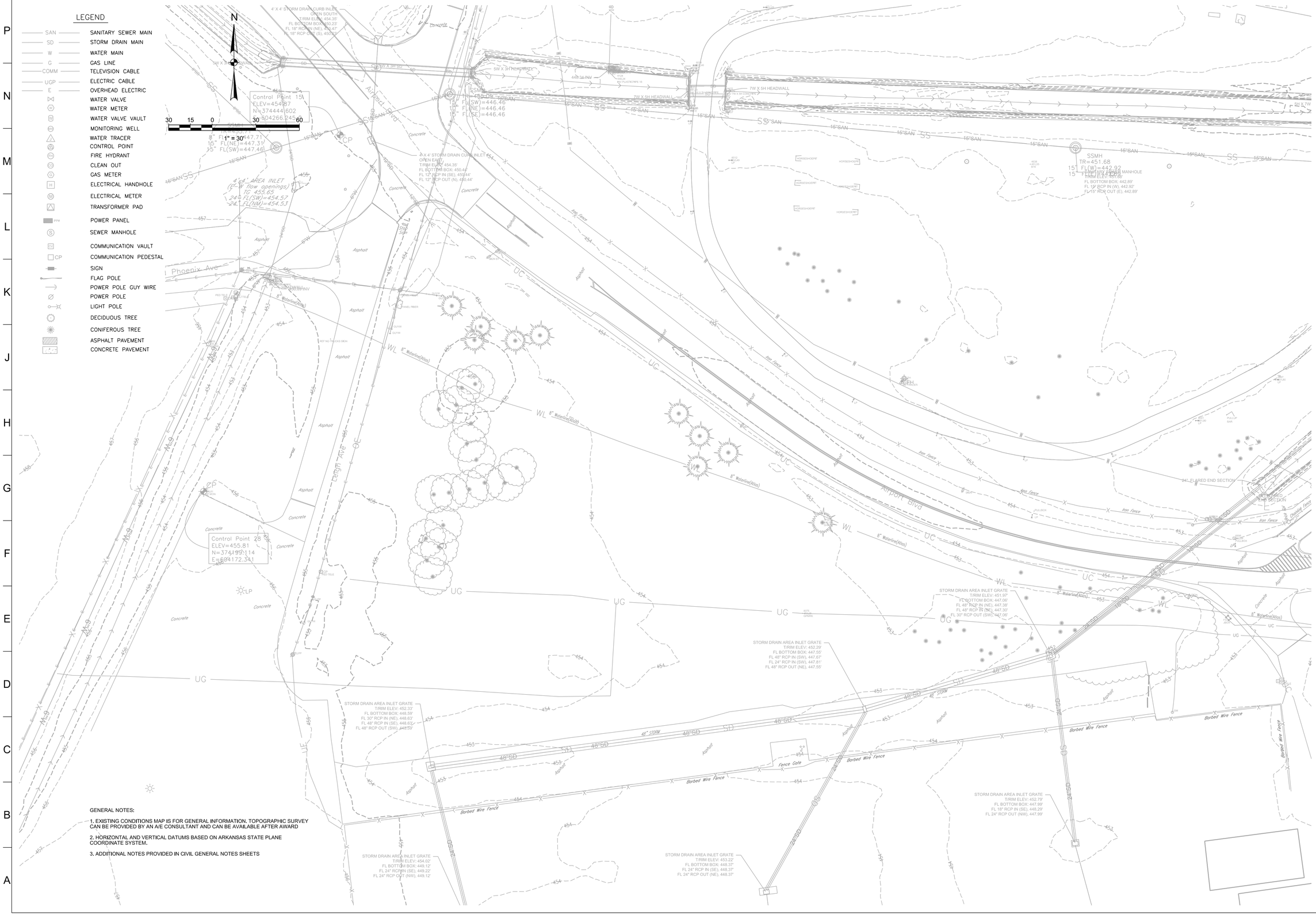
EBBING ANG, ARKANSAS
F-35A ALERT HANGAR
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PN: 512203

EXISTING CONDITIONS

SHEET ID

V101

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J. ALVAREZ	5 DECEMBER 2025
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J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
A/E FILE NAME:	FILE NAME:
22"x34"	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
2755 S. ARKANSAS AVENUE
FORT SMITH, AR
PN: 512203

EXISTING CONDITIONS

SHEET ID

V102

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Boring Designation B-7

DRILLING LOG — DIVISION: Southwestern — INSTALLATION: — Sheet 1 of 3

1. PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB	10. COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL:	
2. HOLE NUMBER: B-7	3. DRILLING AGENCY: Data Testing, Inc	LOCATION COORDINATES: 35.337767, -94.370925	LOCATION METHOD:
4. NAME OF DRILLER: Kolby Rassmussen	11. DATE BORING: STARTED: Jun 24 2024	COMPLETED: Jun 26 2024	
5. EQUIPMENT: Geoprobe 7822DT	12. HAMMER TYPE: Automatic	EFFICIENCY (%)	
6. DIRECTION OF BORING: Vertical — DEG FROM VERTICAL: 0 — BEARING	13. SIZE AND TYPE OF BIT: 4" Auger Diamond Tungsten		
7. THICKNESS OF OVERBURDEN: 8.0'	14. ELEVATION SURFACE: 447.7'	15. ELEVATION GROUND WATER: - 0"	
8. DEPTH DRILLED INTO ROCK: 42.0'	16. TOTAL NUMBER CORE BOXES:		
9. TOTAL DEPTH OF BORING: 50.0'	17. SIGNATURE AND TITLE OF INSPECTOR: Randell C. Coleman, PE		

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LABORATORY: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					LEAN CLAY (CL) brown, medium plasticity		ST-1						24	CL	*Rain prior to groundwater measurement (4) Shelby tubes pushed from 0.0' to 2.5', 2.5' to 5.0', 5.0' to 7.5', and 7.5' to 8.0'
445.17	2.50				FAT CLAY (CH) brown, high plasticity		ST-2	0	9	90	74	52	29	CH	(1) SPT test at 8.0' to refusal Continued SFA to 30.0'
442.67	5.00				LEAN CLAY (CL) tan and gray, medium plasticity		ST-3						25	CL	30' - 35' REC=100% RQD = 91.7% 35' - 40' REC=96.7%RQD = 96.7%
439.67	8.00						ST-4						13	CL	40' - 43.25' REC=100% RQD = 78.9%
		10			SHALE, weathered, light brown with light gray at 24 ft, soft		SPT-1						22		43.25' - 45' REC=100% RQD = 100%
		16	66												45' - 50' REC=99% RQD = 85.8%
		50					A						13		

(continued on next page)

USACE FORM 1836 — **Boring Designation B-7** — Sheet 1 of 3

Boring Designation B-7

DRILLING LOG (Cont Sheet) — INSTALLATION: — Sheet 2 of 3

PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB	COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL:	
	LOCATION COORDINATES: 35.337767, -94.370925		LOCATION METHOD:

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LABORATORY: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					SHALE, weathered, light brown with light gray at 24 ft, soft		B						21		
							C						13		
							D						10		
417.67	30.00				SHALE, unweathered, gray and black, hard		C-1								

(continued on next page)

USACE FORM 1836 — **Boring Designation B-7** — Sheet 2 of 3

Boring Designation B-7

DRILLING LOG (Cont Sheet) — INSTALLATION: — Sheet 3 of 3

PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB	COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL:	
	LOCATION COORDINATES: 35.337767, -94.370925		LOCATION METHOD:

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LABORATORY: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					SHALE, unweathered, gray and black, hard		C-2								
							C-3								
							C-4								
							C-5								
397.67	50.00				Borehole finished at 50.0										

USACE FORM 1836 — **Boring Designation B-7** — Sheet 3 of 3

GENERAL NOTES

1. BORING LOGS AND RELATED INFORMATION, INCLUDING WATER LEVELS, DEPICT CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND AT THE PARTICULAR DATE DESIGNATED ON THE DRILLING LOGS. THESE LOGS ARE PROVIDED FOR REFERENCE ONLY, AND ARE SHOWN IN SHEETS B101 THROUGH B105.
2. SOIL CONDITIONS MAY NOT BE THE SAME AS THESE BORING LOGS. DO NOT SCALE OR INTERPOLATE. REFER UNCLEAR ITEMS TO THE CONTRACTING OFFICER.
3. CHANGES IN WATER LEVELS AND GROUNDWATER CONDITIONS CAN BE INFLUENCED BY EXTERNAL SOURCES SUCH AS RAINFALL, DRAINAGE CONDITIONS, ETC., AROUND THE SITE. FLUCTUATIONS SHOULD BE ANTICIPATED BETWEEN THE TIMES OF THE GEOTECHNICAL INVESTIGATION AND CONSTRUCTION.
4. THE FINAL LOGS REFLECT VISUAL OBSERVATION DURING DRILLING ACTIVITIES AND RESULTS OBTAINED FROM THE LABORATORY TESTING.
5. STRATIFICATION BOUNDARIES INDICATED ON THE BORING LOGS WERE BASED ON OBSERVATIONS DURING DRILLING, AN EXTRAPOLATION OF INFORMATION OBTAINED BY INSPECTING SAMPLES FROM THE BORINGS AND COMPARISONS OF SOILS WITH SIMILAR ENGINEERING CHARACTERISTICS. LOCATIONS OF THESE BOUNDARIES ARE APPROXIMATE AND THE TRANSITIONS BETWEEN SOIL TYPES MAY BE GRADUAL RATHER THAN CLEARLY DEFINED.
6. THE ELEVATION AND LOCATION COORDINATES OF THE BORINGS, WATER LEVELS, AND SOIL/ROCK LAYERING ARE APPROXIMATE AND TO THE DEGREE OF ACCURACY IMPLIED WITH THE METHODS EMPLOYED OF SURVEYING AND MEASUREMENT.
7. BORING LOGS ARE NOT TO SCALE.
8. BORING LOCATIONS ARE SHOWN IN THE BORING PLAN MAPS. LOCATIONS ARE APPROXIMATE.





1 BORING LOCATION MAP
SCALE: NTS

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MARK	DESCRIPTION	DATE

ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN
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DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
22"x34"

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TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
F-35 SAPF & 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

GEOTECHNICAL NOTES
& BORING LOGS

SHEET ID
B101

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION

Boring Designation B-8

DRILLING LOG — Sheet 1 of 3

1. PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB	DIVISION: Southwestern	10. COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL
2. HOLE NUMBER: B-8	3. DRILLING AGENCY: Data Testing, Inc	LOCATION COORDINATES: 35.338094, -94.370997	LOCATION METHOD:
4. NAME OF DRILLER: Kolby Rassmussen		11. DATE BORING: STARTED Jun 24 2024	COMPLETED Jun 29 2024
5. EQUIPMENT: Geoprobe 7822DT		12. HAMMER TYPE: Automatic	EFFICIENCY (%)
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL: 0	BEARING	13. SIZE AND TYPE OF BIT: 4" Auger Diamond Tungsten
7. THICKNESS OF OVERBURDEN: 7.5'			14. ELEVATION SURFACE: 449.2'
8. DEPTH DRILLED INTO ROCK: 47.5'			15. ELEVATION GROUND WATER: - 0"
9. TOTAL DEPTH OF BORING: 55.0'			16. TOTAL NUMBER CORE BOXES
			17. SIGNATURE AND TITLE OF INSPECTOR: Randell C. Coleman, PE

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
448.81	0.36				4.3" ASPHALT										6" Diamter Core through pavement section, cleared remaining base-rock by hand prior thickness measurement
448.31	0.86				6" AGGREGATE BASE										*Rain prior to groundwater measurement
					FAT CLAY (CH) with gravel, brown, high plasticity		ST-1	16	15	70	63	39	22	CH	
446.67	2.50				LEAN CLAY (CL) tan and gray, medium plasticity		ST-2						27	CL	(3) Shelby tubes pushed from 0.86' to 2.5', 2.5' to 5.0', and 5.0' to 7.5'
444.17	5.00				FAT CLAY (CH) light gray, with sand, high plasticity		ST-3	0	24	76	52	30	28	CH	Split Spoon (7.5' - 9.0')
441.67	7.50	14	67		SHALE, weathered, light borwn with brown, fine to medium grained, dry, soft		SPT-1						24		4" SFA begin at 8.5'
440.17	9.00	17 50			SHALE, weathered, brown with gray at 23 ft, fine to medium grained, dry, soft		A						15		35' - 40' REC=100% RQD = 81.8%
							B						10		40' - 45' REC=100% RQD = 93.3%
															45' - 50' REC=90.7% RQD = 62.0%
															50' - 55' REC=100% RQD = 81.7%

(continued on next page)

Boring Designation B-8

DRILLING LOG (Cont Sheet) — Sheet 2 of 3

PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB | COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84) | VERTICAL | LOCATION COORDINATES: 35.338094, -94.370997 | LOCATION METHOD:

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					SHALE, weathered, brown with gray at 23 ft, fine to medium grained, dry, soft		C						8		
							D						9		
							E						7		
							F						8		
414.17	35.00				SHALE, unweathered, gray and black, clay seam between 45.75 and 45.88 ft, hard										

(continued on next page)

Boring Designation B-8

DRILLING LOG (Cont Sheet) — Sheet 3 of 3

PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB | COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84) | VERTICAL | LOCATION COORDINATES: 35.338094, -94.370997 | LOCATION METHOD:

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					SHALE, unweathered, gray and black, clay seam between 45.75 and 45.88 ft, hard		C-1								
							C-2								
							C-3								
							C-4								
394.17	55.00				Borehole finished at 55.0										

Boring Designation B-9

DRILLING LOG — Sheet 1 of 3

1. PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB	DIVISION: Southwestern	10. COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL
2. HOLE NUMBER: B-9	3. DRILLING AGENCY: Data Testing, Inc	LOCATION COORDINATES: 35.338169, -94.370294	LOCATION METHOD:
4. NAME OF DRILLER: Kolby Rassmussen		11. DATE BORING: STARTED Jun 24 2024	COMPLETED Jun 27 2024
5. EQUIPMENT: Geoprobe 7822DT		12. HAMMER TYPE: Automatic	EFFICIENCY (%)
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL: 0	BEARING	13. SIZE AND TYPE OF BIT: 4" Auger Diamond Tungsten
7. THICKNESS OF OVERBURDEN: 9.0'			14. ELEVATION SURFACE: 449.3'
8. DEPTH DRILLED INTO ROCK: 43.0'			15. ELEVATION GROUND WATER: - 4.8
9. TOTAL DEPTH OF BORING: 52.0'			16. TOTAL NUMBER CORE BOXES
			17. SIGNATURE AND TITLE OF INSPECTOR: Randell C. Coleman, PE

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					LEAN CLAY (CL) brown, tan and dark gray, medium plasticity		ST-1						12	CL	(3) Shelby tubes pushed from 0' to 2.5', 2.5' to 3.5', and 7.5' to 9.0'
							ST-2						19	CL	(3) SPT tests at 3.5', 5.5', and 9.0' to refusal
445.77	3.50	3 3 5	8		LEAN CLAY (CL) low plasticity, medium stiff, brown with light gray mottled seams, with sand, slightly moist		ST-3	3	16	81	35	15	15	CL	Split spoon refusal at 10.5'
443.77	5.50	3 5 6 8	11		LEAN CLAY (CL) medium plasticity, stiff, brown and gray mottled seams, trace fine sized gravel, slightly moist		SPT-2						19	CL	Continued SFA drilling to 27.0'
440.27	9.00	1 16 50	66		SHALE, weathered, brown, fine grained, dry, soft		ST-3						13	CL	Commence 2" NWL Coring Procedure
439.27	10.00				SHALE, weathered, light gray and light brown, fine grained, dry, soft		SPT-3						11		27' - 32' REC=0% RQD = 0.0%
							A	12	46	43	40	21	9		32' - 37' REC=80% RQD = 65%
															Harder Drill
															37' - 42' REC=98.3% RQD = 60.8%
															37.75 Vertically Fractured Core Segment
															42' - 47' REC=100% RQD = 90.8%
															47.0' - 52.0' REC=100% RQD = 88.3%
															Boring terminated at 52.0'

(continued on next page)

Boring Designation B-9

DRILLING LOG (Cont Sheet) — Sheet 2 of 3

PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB | COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84) | VERTICAL | LOCATION COORDINATES: 35.338169, -94.370294 | LOCATION METHOD:

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					SHALE, weathered, light gray and light brown, fine grained, dry, soft		B						5		
							C						20		
422.27	27.00				SHALE, weathered shale with gravel, gray and black; no intact core returned, soft		C-1								
416.27	33.00				SHALE, unweathered, gray and black, fine grained, dry, brown sandstone seam between 33.04 and 33.16 ft, hard		C-2								

(continued on next page)

Boring Designation B-9

DRILLING LOG (Cont Sheet) — Sheet 3 of 3

PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB | COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84) | VERTICAL | LOCATION COORDINATES: 35.338169, -94.370294 | LOCATION METHOD:

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					SHALE, unweathered, gray and black, fine grained, dry, brown sandstone seam between 33.04 and 33.16 ft, hard		C-3								
							C-4								
							C-5								
397.27	52.00				Borehole finished at 52.0										

US Army Corps of Engineers®

DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
FILENAME:	
ENAG_512203_C_3BAYH_mdl.dgn	
22"x34"	

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

MARK	DESCRIPTION	DATE

EBBING ANG, ARKANSAS
F-35 SAPF & 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

BORING LOGS

SHEET ID

B102

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION

Boring Designation B-10

DRILLING LOG — Sheet 1 of 3

1. PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB		10. COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL
2. HOLE NUMBER: B-10	3. DRILLING AGENCY: Data Testing, Inc	LOCATION COORDINATES: 35.338011 / -94.370231	LOCATION METHOD:
4. NAME OF DRILLER: Kolby Rassmussen		11. DATE BORING: STARTED Jun 24 2024	COMPLETED Jul 01 2024
5. EQUIPMENT: Geoprobe 7822DT		12. HAMMER TYPE: Automatic	EFFICIENCY (%)
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL: 0	BEARING:	13. SIZE AND TYPE OF BIT: 4" Auger Diamond Tungsten
7. THICKNESS OF OVERBURDEN: 6.0'		14. ELEVATION SURFACE: 448.9'	
8. DEPTH DRILLED INTO ROCK: 49.0'		15. ELEVATION GROUND WATER: - 5	
9. TOTAL DEPTH OF BORING: 55.0'		16. TOTAL NUMBER CORE BOXES:	
		17. SIGNATURE AND TITLE OF INSPECTOR: Randell C. Coleman, PE	

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
		6			LEAN CLAY (CL) sandy, medium plasticity, very stiff, brown with light brown, dry		SPT-1							CL	(3) SPT tests at 0.0', 1.5', and 6.0'
		8	18												SFA 3' - 4'
		10													(1) Shelby tube pushed 4' - 6'
		13					SPT-2	13	21	66	37	18	8	CL	Continued SFA to 35.0'
		11	23												Water coming up from boring, very hard drill, high resitance (33.0').
		12					ST-1						10	CL	Begin 2" NWL Coring Operations at 35.0'
442.90	6.00				SHALE, weathered, brown with light brown, fine grained, soft										35' - 36.25' REC=100% RQD = 100%
		3					SPT-3						12		36.25' - 41.25' REC=100% RQD = 92.1%
		10	25												37.84' Vertically Fractured Core Segment
		15					A						11		41.25' - 46.25' REC=100% RQD = 94.2%
437.90	11.00				SHALE, weathered, brown with light grey, soft										46.25' - 51.25' REC=100% RQD = 93.3%
							B	6	31	63	41	18	9		51.25' - 55' REC=100% RQD = 86.7%
															Terminate Boring at 55.0'
432.90	16.00				SHALE, weathered, light grey, fine grained, dry, soft										

(continued on next page)

USACE FORM 1836 — Boring Designation B-10 — Sheet 1 of 3

Boring Designation B-10

DRILLING LOG (Cont Sheet) — Sheet 2 of 3

PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB		COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL
		LOCATION COORDINATES: 35.337869 / -94.370231	LOCATION METHOD:

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					SHALE, weathered, light grey, fine grained, dry, soft		C						5		
							D						4		
422.90	26.00				SHALE, weathered, dark grey, fine grained, moist, soft										
420.90	28.00				SHALE, weathered, dark grey, fine grained, wet, soft		E						18		
415.90	33.00				SHALE, weathered, dark grey, wet, soft										
413.90	35.00				SHALE, unweathered, black and grey, hard		C-1								

(continued on next page)

USACE FORM 1836 — Boring Designation B-10 — Sheet 2 of 3

Boring Designation B-10

DRILLING LOG (Cont Sheet) — Sheet 3 of 3

PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB		COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL
		LOCATION COORDINATES: 35.337869 / -94.370231	LOCATION METHOD:

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					SHALE, unweathered, black and grey, hard		C-2								
							C-3								
							C-4								
393.90	55.00				Borehole finished at 55.0		C-5								

USACE FORM 1836 — Boring Designation B-10 — Sheet 3 of 3

Boring Designation B-11

DRILLING LOG — Sheet 1 of 3

1. PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB		10. COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL
2. HOLE NUMBER: B-11	3. DRILLING AGENCY: Data Testing, Inc	LOCATION COORDINATES: 35.338011 / -94.370656	LOCATION METHOD:
4. NAME OF DRILLER: Kolby Rassmussen		11. DATE BORING: STARTED Jun 24 2024	COMPLETED Jun 26 2024
5. EQUIPMENT: Geoprobe 7822DT		12. HAMMER TYPE: Automatic	EFFICIENCY (%)
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL: 0	BEARING:	13. SIZE AND TYPE OF BIT: 4" Auger Diamond Tungsten
7. THICKNESS OF OVERBURDEN: 7.0'		14. ELEVATION SURFACE: 449.9'	
8. DEPTH DRILLED INTO ROCK: 43.0'		15. ELEVATION GROUND WATER: - 5.3	
9. TOTAL DEPTH OF BORING: 50.0'		16. TOTAL NUMBER CORE BOXES:	
		17. SIGNATURE AND TITLE OF INSPECTOR: Randell C. Coleman, PE	

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					LEAN CLAY (CL) light brown, medium plasticity, with sand		ST-1	3	23	73	37	19	10	CL	(2) Shelby tubes pushed from 0.0' to 2.8' and 2.8' to 5.5'
															(2) SPT tests at 5.5' and 7.0'
447.07	2.80														8.5' begin 4" SFA
					LEAN CLAY (CL) sandy, tan and brown, medium plasticity		ST-2						14	CL	Terminate 4" SFA at 30.0', drill refusal. Initiate 2" NWL Rock Coring
															30' - 35' REC=99.2% RQD = 85.8%
444.37	5.50														
		2			LEAN CLAY (CL) stiff, medium plasticity, brown light brown, medium sized gravel, little medium to fine sized gravel, dry.		SPT-1						14	CL	Highly fractured core segment at 33.16'
		4	11												
		7													
442.87	7.00				SHALE, weathered, brown, soft										35' - 40' REC=100% RQD = 100%
		2					SPT-2						10		
		11	25												40' - 45' REC=83.3% RQD = 70.8%
		14					A						15		
437.87	12.00				SHALE, weathered, grey, soft										45.0' - 49.37' REC=100% RQD = 100%
															Highly fractured core segment at 48.42' with vertical fracture
							B						9		49.37' - 50.0' REC=92.3% RQD = 0%
															Teriminate 2" NWL Boring at 50.0'

(continued on next page)

USACE FORM 1836 — Boring Designation B-11 — Sheet 1 of 3

Boring Designation B-11

DRILLING LOG (Cont Sheet) — Sheet 2 of 3

PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB		COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL
		LOCATION COORDINATES: 35.338011 / -94.370656	LOCATION METHOD:

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					SHALE, weathered, grey, soft		C						6		
							D						4		
419.87	30.00				SHALE, unweathered, grey and black, fine grained, dry, hard										
							C-1								

(continued on next page)

USACE FORM 1836 — Boring Designation B-11 — Sheet 2 of 3

Boring Designation B-11

DRILLING LOG (Cont Sheet) — Sheet 3 of 3

PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB		COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)	VERTICAL
		LOCATION COORDINATES: 35.338011 / -94.370656	LOCATION METHOD:

ELEV	DEPTH	BLOWS/ 0.5ft	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					SHALE, unweathered, grey and black, fine grained, dry, hard		C-2								
							C-3								
403.87	46.00				SHALE, unweathered, black, hard		C-4								
399.87	50.00				Borehole finished at 50.0		C-5								

USACE FORM 1836 — Boring Designation B-11 — Sheet 3 of 3

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
FILENAME: EANG_512203_C_3BAYH_mdl.dgn
PLOT SCALE: AS SHOWN
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
SIZE 22"x34"

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
F-35 SAPF & HANGAR
FORT SMITH, AR
PN: 512203

BORING LOGS

SHEET ID
B103

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION

Boring Designation B-12

DRILLING LOG

DIVISION: Southwestern	INSTALLATION:		Sheet 1 of 1
1. PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB	10. COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)		VERTICAL
	LOCATION COORDINATES: 35.338439	-94.369711	LOCATION METHOD:
2. HOLE NUMBER: B-12	3. DRILLING AGENCY: Data Testing, Inc	11. DATE BORING: STARTED: Jun 21 2024	COMPLETED: Jun 21 2024
4. NAME OF DRILLER: Kolby Rassmussen		12. HAMMER TYPE: Automatic	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: 4" Auger Diamond Tungsten	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL: 0	BEARING:	14. ELEVATION SURFACE: 448.0'
7. THICKNESS OF OVERBURDEN: 6.5'			15. ELEVATION GROUND WATER: - 6.7
8. DEPTH DRILLED INTO ROCK: 8.5'			16. TOTAL NUMBER CORE BOXES:
9. TOTAL DEPTH OF BORING: 15.0'			17. SIGNATURE AND TITLE OF INSPECTOR: Randell C. Coleman, PE

ELEV	DEPTH	BLOWS/ 0.5ft.	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
447.58	0.45				5.4" CONCRETE										6" Core through pavement section
					LEAN CLAY (CL) dark brown and grey, medium plasticity, with sand										(2) Shelby tubes pushed from 0.45' to 2.5' and 2.5' to 5.8'
445.53	2.50						ST-1	5	17	78	42	26	21	CL	
					LEAN CLAY (CL) tan and brown, medium plasticity, with ironstone nodules										(1) SPT test at 6.25' to refusal
							ST-2						21	CL	Continued SFA to 15.0' termination
441.53	6.50	7			SHALE, weathered, brown, soft										
		10	50/3"				SPT-1						17		
		50					A						10		
							B						11		
433.03	15.00				Borehole finished at 15.0										

444 / 439 / 434

USACE FORM 1836 — Boring Designation B-12 — Sheet 1 of 1

Boring Designation B-15

DRILLING LOG

DIVISION: Southwestern	INSTALLATION:		Sheet 1 of 1
1. PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB	10. COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)		VERTICAL
	LOCATION COORDINATES: 35.338283	-94.371167	LOCATION METHOD:
2. HOLE NUMBER: B-15	3. DRILLING AGENCY: Data Testing, Inc	11. DATE BORING: STARTED: Jun 21 2024	COMPLETED: Jun 21 2024
4. NAME OF DRILLER: Kolby Rassmussen		12. HAMMER TYPE: Automatic	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: 4" Auger Diamond Tungsten	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL: 0	BEARING:	14. ELEVATION SURFACE: 448.2'
7. THICKNESS OF OVERBURDEN: 5.0'			15. ELEVATION GROUND WATER: - 2.8
8. DEPTH DRILLED INTO ROCK: 10.0'			16. TOTAL NUMBER CORE BOXES:
9. TOTAL DEPTH OF BORING: 15.0'			17. SIGNATURE AND TITLE OF INSPECTOR: Randell C. Coleman, PE

ELEV	DEPTH	BLOWS/ 0.5ft.	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					FAT CLAY (CH) soft to medium stiff, high plasticity, tan brown, fine to medium grained sand, slightly moist		ST-1	1	12	87	64	44	17	CH	Shelby tube refusal at 1.66'
446.17	2.00	3													Use SFA to drill to 2.0'
		5	9		LEAN CLAY (CL) sandy, stiff, medium plasticity, dark brown with mottled grey, fine to medium grained sand, slightly moist.		SPT-1						18	CL	
		4													
		4					SPT-2						21	CL	
443.17	5.00	5	9		SHALE, weathered, tan light brown, fine to medium grained, moist/dry, soft										
		6													
		5					SPT-3						18		
		8	58												
		50					A						14		
440.17	8.00				SHALE, weathered, light grey with light tan, very fine to fine grained, soft										
438.17	10.00				SHALE, weathered, light grey with grey, soft										
							B						8		
435.17	13.00				SHALE, weathered; brown, soft										
433.17	15.00				Borehole finished at 15.0										

444 / 439 / 434

USACE FORM 1836 — Boring Designation B-15 — Sheet 1 of 1

Boring Designation B-16

DRILLING LOG

DIVISION: Southwestern	INSTALLATION:		Sheet 1 of 1
1. PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB	10. COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)		VERTICAL
	LOCATION COORDINATES: 35.337722	-94.370425	LOCATION METHOD:
2. HOLE NUMBER: B-16	3. DRILLING AGENCY: Data Testing, Inc	11. DATE BORING: STARTED: Jun 21 2024	COMPLETED: Jun 21 2024
4. NAME OF DRILLER: Kolby Rassmussen		12. HAMMER TYPE: Automatic	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: 4" Auger Diamond Tungsten	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL: 0	BEARING:	14. ELEVATION SURFACE: 449.4'
7. THICKNESS OF OVERBURDEN: 7.5'			15. ELEVATION GROUND WATER: - 3.7
8. DEPTH DRILLED INTO ROCK: 7.5'			16. TOTAL NUMBER CORE BOXES:
9. TOTAL DEPTH OF BORING: 15.0'			17. SIGNATURE AND TITLE OF INSPECTOR: Randell C. Coleman, PE

ELEV	DEPTH	BLOWS/ 0.5ft.	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
449.25	0.10				1.5" ASPHALT										6" Core through pavement section , cleared remaining base-rock by hand prior to thickness measurement
448.80	0.55				5" BASE ROCK										
					LEAN CLAY (CL) reddish brown, medium plasticity		ST-1						29	CL	
446.85	2.50														
					FAT CLAY (CH) reddish brown and gray, high plasticity		ST-2	1	13	86	82	59	30	CH	Split spoon refusal at 8.0'
444.35	5.00														Terminate at 15.0'
					LEAN CLAY (CL) sandy, reddish brown, medium plasticity		ST-3						24	CL	
441.85	7.50				SHALE, weathered, light grey, fine to medium grained, soft										
		50	50				SPT-1						10		
							A						11		
439.35	10.00				SHALE, weathered, grey with drak grey, very fine to fine grained, soft										
436.85	12.50				SHALE, weathered, grey, soft		B						10		
434.35	15.00				Borehole finished at 15.0										

445 / 440 / 435

USACE FORM 1836 — Boring Designation B-16 — Sheet 1 of 1

Boring Designation B-17

DRILLING LOG

DIVISION: Southwestern	INSTALLATION:		Sheet 1 of 1
1. PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB	10. COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)		VERTICAL
	LOCATION COORDINATES: 35.337717	-94.370169	LOCATION METHOD:
2. HOLE NUMBER: B-17	3. DRILLING AGENCY: Data Testing, Inc	11. DATE BORING: STARTED: Jun 21 2024	COMPLETED: Jun 21 2024
4. NAME OF DRILLER: Kolby Rassmussen		12. HAMMER TYPE: Automatic	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: 4" Auger Diamond Tungsten	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL: 0	BEARING:	14. ELEVATION SURFACE: 449.6'
7. THICKNESS OF OVERBURDEN: 8.0'			15. ELEVATION GROUND WATER: - 3.4
8. DEPTH DRILLED INTO ROCK: 7.0'			16. TOTAL NUMBER CORE BOXES:
9. TOTAL DEPTH OF BORING: 15.0'			17. SIGNATURE AND TITLE OF INSPECTOR: Randell C. Coleman, PE

ELEV	DEPTH	BLOWS/ 0.5ft.	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
					FAT CLAY (CH) brown, high plasticity		ST-1	3	10	87	57	36	26	CH	(4) Shelby tubes pushed from 0.0' to 2.5', 2.5' to 5.0', 5.0' to 7.5', 7.5' to 8.0'
447.13	2.50														(1) SPT test at 8.0' to refusal
					LEAN CLAY (CL) sandy, brown and dark brown, medium plasticity		ST-2						24	CL	Terminate at 15.0'
							ST-3						19	CL	
441.63	8.00						ST-4						12	CL	
		23			SHALE, weathered, blue with light grey, soft										
		50	50				SPT-1						10		
439.63	10.00				SHALE, weathered, grey with light grey and dark grey, soft										
437.13	12.50				SHALE, weathered, brown with light grey, soft		A						10		
434.63	15.00				Borehole finished at 15.0										

445 / 440 / 435

USACE FORM 1836 — Boring Designation B-17 — Sheet 1 of 1

Boring Designation B-20

DRILLING LOG

DIVISION: Southwestern	INSTALLATION:		Sheet 1 of 1
1. PROJECT: Ebbing ANGB F-35 SAPF and 3-Bay Hangar, Fort Smith ANGB	10. COORDINATE SYSTEM: World Geodetic System Longitude / Latitude (WGS 84)		VERTICAL
	LOCATION COORDINATES: 35.337983	-94.373858	LOCATION METHOD:
2. HOLE NUMBER: B-20	3. DRILLING AGENCY: Data Testing, Inc	11. DATE BORING: STARTED: Jun 21 2024	COMPLETED: Jun 21 2024
4. NAME OF DRILLER: Kolby Rassmussen		12. HAMMER TYPE: Automatic	EFFICIENCY (%)
5. EQUIPMENT: Geoprobe 7822DT		13. SIZE AND TYPE OF BIT: 4" Auger Diamond Tungsten	
6. DIRECTION OF BORING: Vertical	DEG FROM VERTICAL: 0	BEARING:	14. ELEVATION SURFACE: 454.0'
7. THICKNESS OF OVERBURDEN: 6.0'			15. ELEVATION GROUND WATER: - 3.8
8. DEPTH DRILLED INTO ROCK: 9.0'			16. TOTAL NUMBER CORE BOXES:
9. TOTAL DEPTH OF BORING: 15.0'			17. SIGNATURE AND TITLE OF INSPECTOR: Randell C. Coleman, PE

ELEV	DEPTH	BLOWS/ 0.5ft.	N	LEGEND	FIELD CLASSIFICATION OF MATERIALS (Description)	% REC	Samp No.	LAB: Gravel	Sand	Fines	LL	PI	MC	ASTM Class	REMARKS
		5			LEAN CLAY (CL) very stiff, medium plasticity, light brown with tan with fine grained sand, trace fine sized gravel, dry		ST-1	6	26	69	34	16	14	CL	(2) Shelby tubes pushed from 0.0' to 2.5' and 2.5' to 5.0'
		7	15												(4) SPT tests at 0.5', 2.0', 3.5', and 5.0'
451.97	2.00	8													
		2			LEAN CLAY (CL) sandy, very stiff, medium to high plasticity, brown with mottled red seams with fine sized gravel, trace silt, dry										
		7	16												
450.47	3.50	9					ST-2						22	CL	
		7			LEAN CLAY (CL) very stiff, medium plasticity, brown with mottled grey seams, trace fine sized gravel, dry										
		10	20												
		10					SPT-4						10	CL	
		2													
447.97	6.00	19	42		SHALE, weathered, blue black, fine to medium grained, dry, soft										
		23													
							A						26		
443.97	10.00				SHALE, weathered, brown, fine to medium grained, dry, soft										
							B						15		
438.97	15.00				Borehole finished at 15.0										

449 / 444 / 439

USACE FORM 1836 — Boring Designation B-20 — Sheet 1 of 1

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
FILENAME:	
EANG_512203_C_3BAYH_mdl.dgn	
22"x34"	

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
F-35 SAPF HANGAR
FORT SMITH, AR
PN: 512203

BORING LOGS

SHEET ID

B104

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BORING NUMBER B-02

PAGE 1 OF 1

McClelland Consulting Engineers
1580 E Stearns St
Fayettville, AR 72703
Telephone: 4734432377

CLIENT Ahtna Design-Build, Inc.
PROJECT NAME Ebbing Cargo Deployment Processing Ramp
PROJECT NUMBER 23-3908
PROJECT LOCATION Fort Smith, Arkansas
DATE STARTED 1/3/24 **COMPLETED** 1/3/24
GROUND ELEVATION 450 ft **HOLE SIZE** 4.25 inches
DRILLING CONTRACTOR McClelland Consulting Engineers, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING ---
LOGGED BY C. Chiddister **CHECKED BY** S. Schumacher
AT END OF DRILLING ---
NOTES Conducted Using a CME-45B Truck Mounted Drill Rig
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0.0		ASPHALT (2") AGGREGATE BASE (2") (CL) LEAN CLAY WITH SAND: Grayish-Brown to Dark Brown; Medium-Stiff; Moderate Plasticity; Moist	SPT 1		2-3-2 (5)			
2.5		(CH) FAT CLAY WITH SAND: - Light Brown with Reddish-Brown to Gray; Stiff; Moderate to High Plasticity; Trace Gravels; Little Sands; Wet	SPT 2		2-4-5 (9)			
		- Grayish-Brown to Dark Brown - Soft to Medium-Stiff	SPT 3		0-0-3 (3)			
5.0		- Light Brown with Gray to Light Reddish-Brown; Moist - Stiff	SPT 4		2-3-4 (7)			
7.5		HIGHLY WEATHERED SHALE: Brown to Grayish-Brown; Moderately Hard; Low to Moderate Plasticity; Moist	SPT 5		12-22-34 (56)			
10.0		Bottom of borehole at 10.0 feet.						

PLATE 3

BORING NUMBER B-05

PAGE 1 OF 1

McClelland Consulting Engineers
1580 E Stearns St
Fayettville, AR 72703
Telephone: 4734432377

CLIENT Ahtna Design-Build, Inc.
PROJECT NAME Ebbing Cargo Deployment Processing Ramp
PROJECT NUMBER 23-3908
PROJECT LOCATION Fort Smith, Arkansas
DATE STARTED 1/3/24 **COMPLETED** 1/3/24
GROUND ELEVATION 449 ft **HOLE SIZE** 4.25 inches
DRILLING CONTRACTOR McClelland Consulting Engineers, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Solid Stem Auger
AT TIME OF DRILLING ---
LOGGED BY C. Chiddister **CHECKED BY** S. Schumacher
AT END OF DRILLING ---
NOTES Conducted Using a CME-45B Truck Mounted Drill Rig
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
0.0		TOPSOIL (3") (CL) LEAN CLAY WITH SAND: Dark Brown to Brown; Very Stiff; Moderate Plasticity; Little Sands; Moist	SPT 1		6-9-9 (18)			
2.5			SPT 2		4-6-8 (14)			
		- Brown to Light Brown - Stiff to Very Stiff	SPT 3		4-5-7 (12)			
5.0		- Wet	SPT 4		3-5-7 (12)			
7.5		HIGHLY WEATHERED SHALE: Brown to Grayish-Brown; Moderately Hard; Low to Moderate Plasticity; Moist	SPT 5		9-21-38 (59)			
10.0		Bottom of borehole at 10.0 feet.						

PLATE 6



1 BORING LOCATION MAP
SCALE: NTS

NOTES

1. THE TWO SOIL BORINGS CHARACTERISTICS PRESENTED ON THIS SHEET IS PROVIDED FOR INFORMATIONAL AND REFERENCE PURPOSES ONLY. THIS INVESTIGATION WAS PERFORMED BY OTHER CONTRACTORS ON BASE UNDER A SEPARATE CONTRACT ASSOCIATED WITH A PRIOR CDP (CARGO DEPLOYMENT PROCESSING) RAMP REPAIR PROJECT. THE 3-BAY HANGAR DESIGN TEAM DID NOT REVIEW, VERIFY, OR VALIDATE THE ACCURACY OR APPLICABILITY OF THIS INFORMATION. AS SUCH, ITS USAGE SHOULD BE LIMITED AND NOT RELIED UPON IF THE SITE CONDITIONS DIFFER.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
SIZE:	FILENAME:
22"x34"	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FORT SMITH AIR GUARD
FORT SMITH, AR
PN: 512203

BORING LOGS

SHEET ID

B105

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

P N M L K J H G F E D C B A

N

80 40 0 80 160

1" = 80'

CD102

CD101

BLDG# 113

BLDG# 115

BLDG# 188

BLDG# 182

Airport Blvd

Old Phoenix Ave

A OVERALL DEMO PLAN

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
CHIEF, ENGINEERING BRANCH
22"x34"

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILENAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

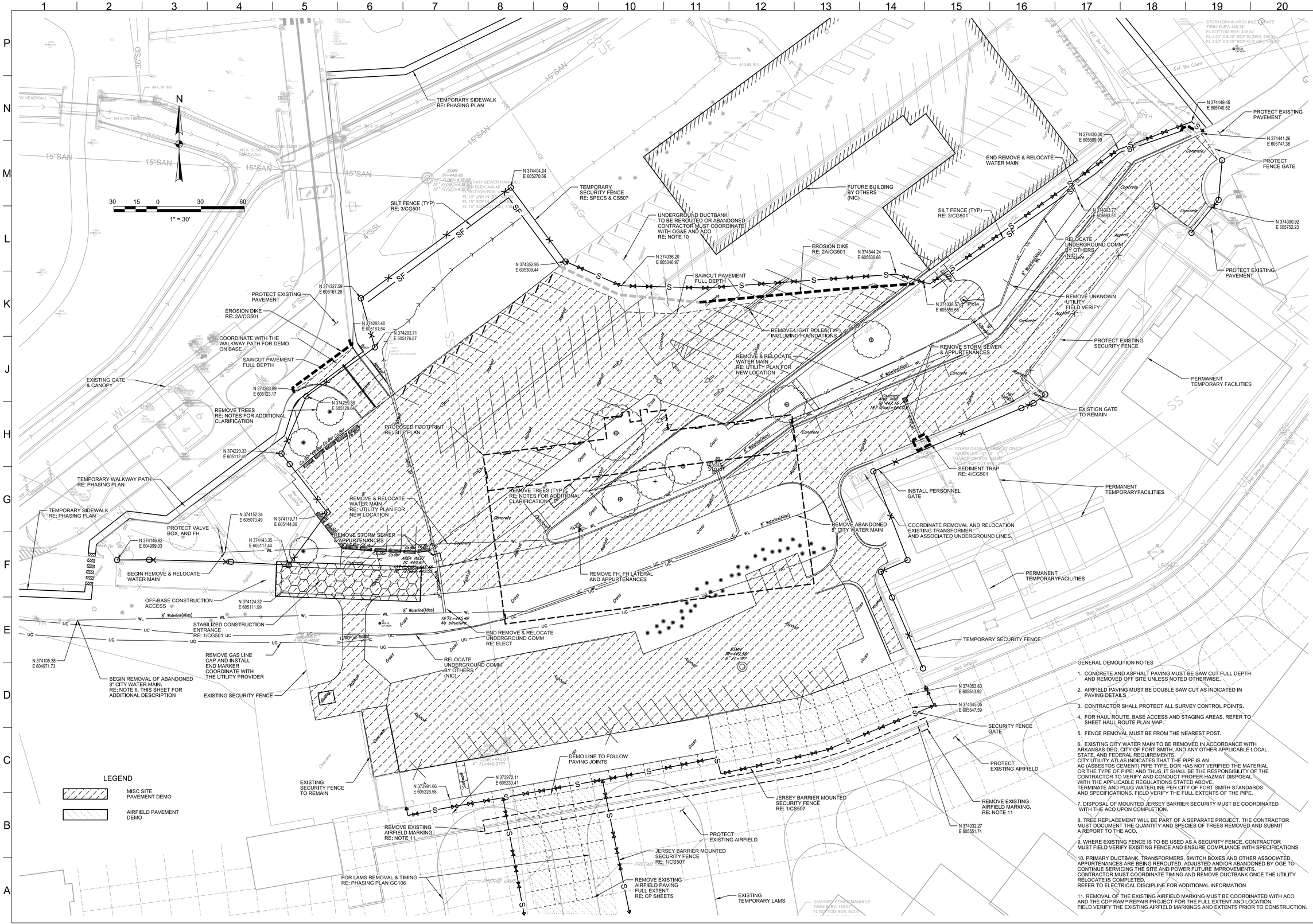
EBBING ANG, ARKANSAS
FMS: AMU HANGAR
FORT SMITH, AR
PN: 512203

DEMOLITION PLAN OVERALL

SHEET ID

CD100

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GENERAL DEMOLITION NOTES

1. CONCRETE AND ASPHALT PAVING MUST BE SAW CUT FULL DEPTH AND REMOVED OFF SITE UNLESS NOTED OTHERWISE.
2. AIRFIELD PAVING MUST BE DOUBLE SAW CUT AS INDICATED IN PAVING DETAILS
3. CONTRACTOR SHALL PROTECT ALL SURVEY CONTROL POINTS.
4. FOR HAUL ROUTE, BASE ACCESS AND STAGING AREAS, REFER TO SHEET HAUL ROUTE PLAN MAP.
5. FENCE REMOVAL MUST BE FROM THE NEAREST POST.
6. EXISTING CITY WATER MAIN TO BE REMOVED IN ACCORDANCE WITH ARKANSAS DEQ, CITY OF FORT SMITH, AND ANY OTHER APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
CITY UTILITY ATLAS INDICATES THAT THE PIPE IS AN AC (ASBESTOS CEMENT) PIPE TYPE. DOR HAS NOT VERIFIED THE MATERIAL OR THE TYPE OF PIPE; AND THUS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY AND CONDUCT PROPER HAZMAT DISPOSAL WITH THE APPLICABLE REGULATIONS STATED ABOVE. TERMINATE AND PLUG WATERLINE PER CITY OF FORT SMITH STANDARDS AND SPECIFICATIONS. FIELD VERIFY THE FULL EXTENTS OF THE PIPE.
7. DISPOSAL OF MOUNTED JERSEY BARRIER SECURITY MUST BE COORDINATED WITH THE ACO UPON COMPLETION.
8. TREE REPLACEMENT WILL BE PART OF A SEPARATE PROJECT. THE CONTRACTOR MUST DOCUMENT THE QUANTITY AND SPECIES OF TREES REMOVED AND SUBMIT A REPORT TO THE ACO.
9. WHERE EXISTING FENCE IS TO BE USED AS A SECURITY FENCE, CONTRACTOR MUST FIELD VERIFY EXISTING FENCE AND ENSURE COMPLIANCE WITH SPECIFICATIONS
10. PRIMARY DUCTBANK, TRANSFORMERS, SWITCH BOXES AND OTHER ASSOCIATED APPURTENANCES ARE BEING REROUTED, ADJUSTED AND/OR ABANDONED BY OGE TO CONTINUE SERVICING THE SITE AND POWER FUTURE IMPROVEMENTS. CONTRACTOR MUST COORDINATE TIMING AND REMOVE DUCTBANK ONCE THE UTILITY RELOCATE IS COMPLETED. REFER TO ELECTRICAL DISCIPLINE FOR ADDITIONAL INFORMATION
11. REMOVAL OF THE EXISTING AIRFIELD MARKING MUST BE COORDINATED WITH ACO AND THE CDP RAMP REPAIR PROJECT FOR THE FULL EXTENT AND LOCATION. FIELD VERIFY THE EXISTING AIRFIELD MARKINGS AND EXTENTS PRIOR TO CONSTRUCTION.

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MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SCALE: AS SHOWN
22"x34"
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: 1" = 30'
FILE NAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
F-35 ANG/AFRC WING
FORT SMITH, AR
PN: 512203

DEMOLITION PLAN

SHEET ID
CD101

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AIRPORT BLVD

Control Point 15
ELEV=454.87
N=374444.602
E=604266.245

Control Point 2
ELEV=455.81
N=374199.114
E=604172.301

SSMH
TR=455.71
8" FL(NW)=447.71
15" FL(NE)=447.31
15" FL(SW)=447.46

SSMH
TR=455.09
15" FL(SW)=446.46
10" FL(NE)=446.46
15" FL(SE)=446.46

SSMH
TR=451.68
15" FL(W)=442.92
15" FL(E)=442.89

4'x4' AREA INLET
(E-W flow openings)
TC 455.65
24" FL(SW)=454.57
24" FL(NW)=454.57

4'X4' STORM DRAIN CURB INLET
OPEN END
T/RIM ELEV: 454.35'
FL BOTTOM BOX: 450.44'
FL 12" RCP IN (SE), 450.44'
FL 12" RCP OUT (N), 450.44'

STORM DRAIN AREA INLET GRATE
T/RIM ELEV: 451.97'
FL BOTTOM BOX: 447.06'
FL 48" RCP IN (NE), 447.38'
FL 48" RCP IN (SE), 447.26'
FL 30" RCP OUT (SW), 447.06'

STORM DRAIN AREA INLET GRATE
T/RIM ELEV: 452.29'
FL BOTTOM BOX: 447.55'
FL 48" RCP IN (SW), 447.67'
FL 24" RCP IN (SW), 447.81'
FL 48" RCP OUT (NE), 447.55'

STORM DRAIN AREA INLET GRATE
T/RIM ELEV: 452.37'
FL BOTTOM BOX: 448.58'
FL 30" RCP IN (NE), 448.68'
FL 48" RCP IN (SE), 448.68'
FL 48" RCP OUT (SW), 448.58'

STORM DRAIN AREA INLET GRATE
T/RIM ELEV: 454.02'
FL BOTTOM BOX: 449.12'
FL 24" RCP IN (SE), 449.22'
FL 24" RCP OUT (NW), 449.12'

STORM DRAIN AREA INLET GRATE
T/RIM ELEV: 453.22'
FL BOTTOM BOX: 448.37'
FL 24" RCP IN (SE), 448.37'
FL 24" RCP OUT (NE), 448.37'

STORM DRAIN AREA INLET GRATE
T/RIM ELEV: 452.79'
FL BOTTOM BOX: 447.99'
FL 16" RCP IN (SE), 448.29'
FL 24" RCP OUT (NW), 447.99'

PROVIDE ACCESS GATES
INLET PROTECTION
RE: 4/CG501
PROTECT
EXISTING PAVEMENT
STABILIZED CONSTRUCTION
ENTRANCE
RE: 1/CG501
REMOVE TREES
& ROOTBALL
PROTECT WATER LINE
STABILIZED
CONSTRUCTION ENTRANCE
REMOVE EXISTING
PAVEMENT
PROTECT POWER LINES,
POLES AND APPURTENANCES
CAUTION
EXISTING CITY WATER MAIN
SILT FENCE
RE: 3/CG501
REMOVE SHRUB
SAWCUT FULL DEPTH
TRAINGULAR SILT DIKE
CAUTION, PROTECT
GAS LINE
TEMPORARY PARKING LOT FROM PHASE 1
DO NOT DISTURB
CAUTION
UNDERGROUND UTILITY
PROTECT EXISTING
ROAD AND UTILITIES
TEMPORARY WALKWAY PATH
RE: PHASING PLAN
PROTECT EXISTING
INLET AND GRATE (TYP)
PROTECT EXISTING
SECURITY FENCING
REMOVE TREES
& ROOTBALL
DEMOLITION AND CONSTRUCTION
ON THIS AREA MUST BE DONE
UNDER PHASING PLAN 1

LEGEND

MISC SITE
PAVEMENT DEMO

TEMPORARY PARKING
UNDER PHASE 1

N

30 15 0 30 60
1" = 30'

GENERAL DEMOLITION NOTES

1. CONCRETE AND ASPHALT PAVING MUST BE SAW CUT FULL DEPTH AND REMOVED OFF SITE UNLESS NOTED OTHERWISE.
2. CONTRACTOR MUST PROTECT ALL SURVEY CONTROL POINTS.
3. FOR HAUL ROUTE, BASE ACCESS AND STAGING AREAS, REFER TO SHEET HAUL ROUTE PLAN MAP.
4. FENCE REMOVAL MUST BE FROM THE NEAREST POST.
5. DISPOSAL OF MOUNTED JERSEY BARRIER SECURITY MUST BE COORDINATED WITH THE ACO UPON COMPLETION.
6. TREE REPLACEMENT WILL BE PART OF A SEPARATE PROJECT. THE CONTRACTOR MUST DOCUMENT THE QUANTITY AND SPECIES OF TREES REMOVED AND SUBMIT A REPORT TO THE ACO.
7. CONTINUOUS ACCESS TO THE AIRPORT FACILITIES THROUGH LEIGH AVE. MUST BE MAINTAINED. ALL CONTINGENCY MEASURES AND TEMPORARY IMPROVEMENTS REQUIRED TO MEET THIS NEED MUST BE INCLUDED IN THE BASE BID.
8. ALL EXISTING STORM INLETS, FRAMES, AND GRATES IN THE TEMPORARY PARKING LOT MUST BE INSPECTED, TESTED, AND UPGRADED AS NECESSARY TO ACCOMMODATE THE INTENDED TEMPORARY VEHICULAR TRAFFIC. THESE UPGRADES, ALONG WITH ANY ASSOCIATED APPURTENANCES, MUST BE INCLUDED IN THE BASE BID.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
G.E.	FILE NAME:
22"x34"	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

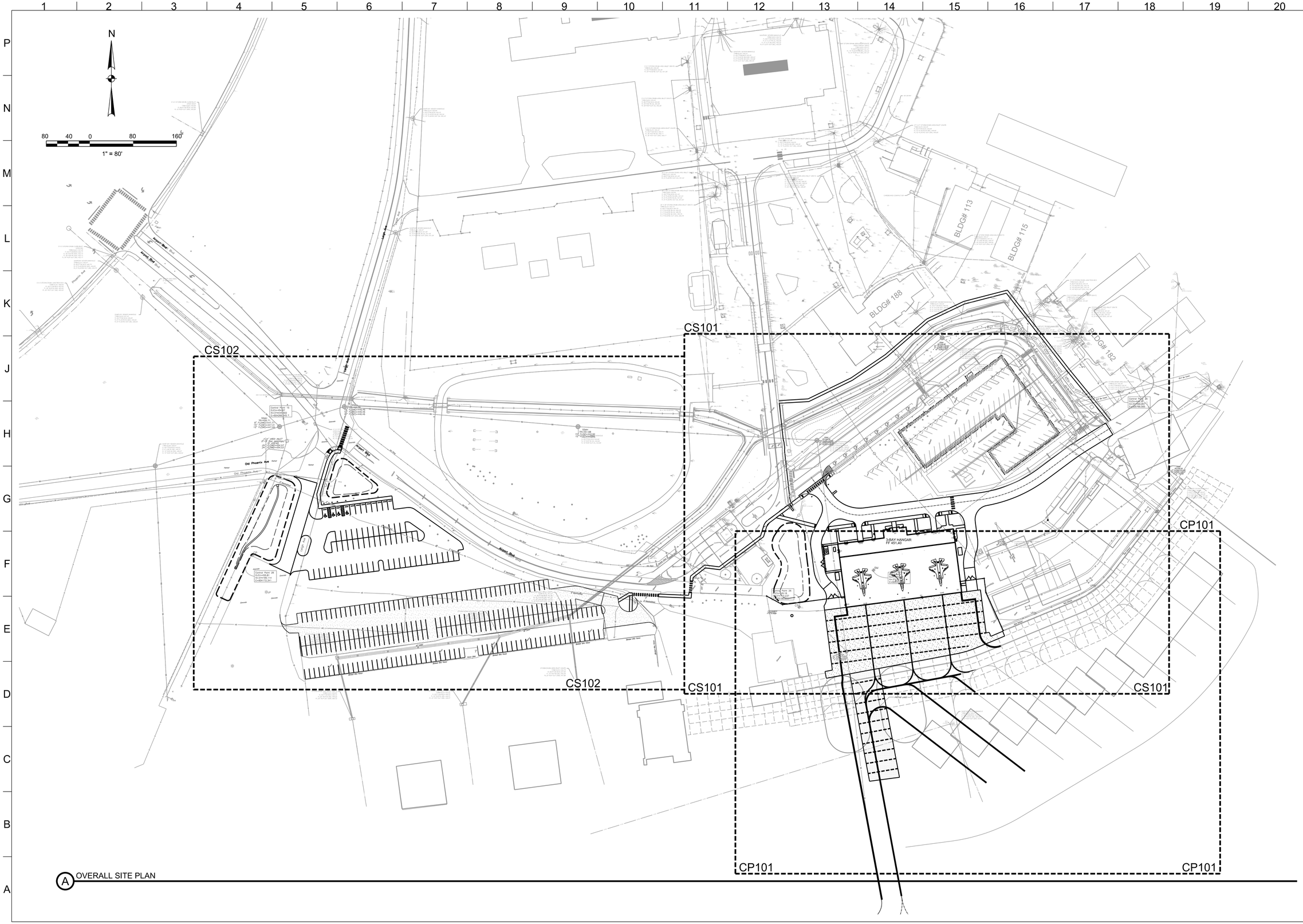
EBBING ANG, ARKANSAS
FOR ANG MAINTENANCE HANGAR
FORT SMITH, AR
PN: 512203

DEMOLITION PLAN

SHEET ID

CD102

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A OVERALL SITE PLAN

US Army Corps of Engineers®

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J. ALVAREZ	5 DECEMBER 2025
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J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
SIZE:	FILE NAME:
22"x34"	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

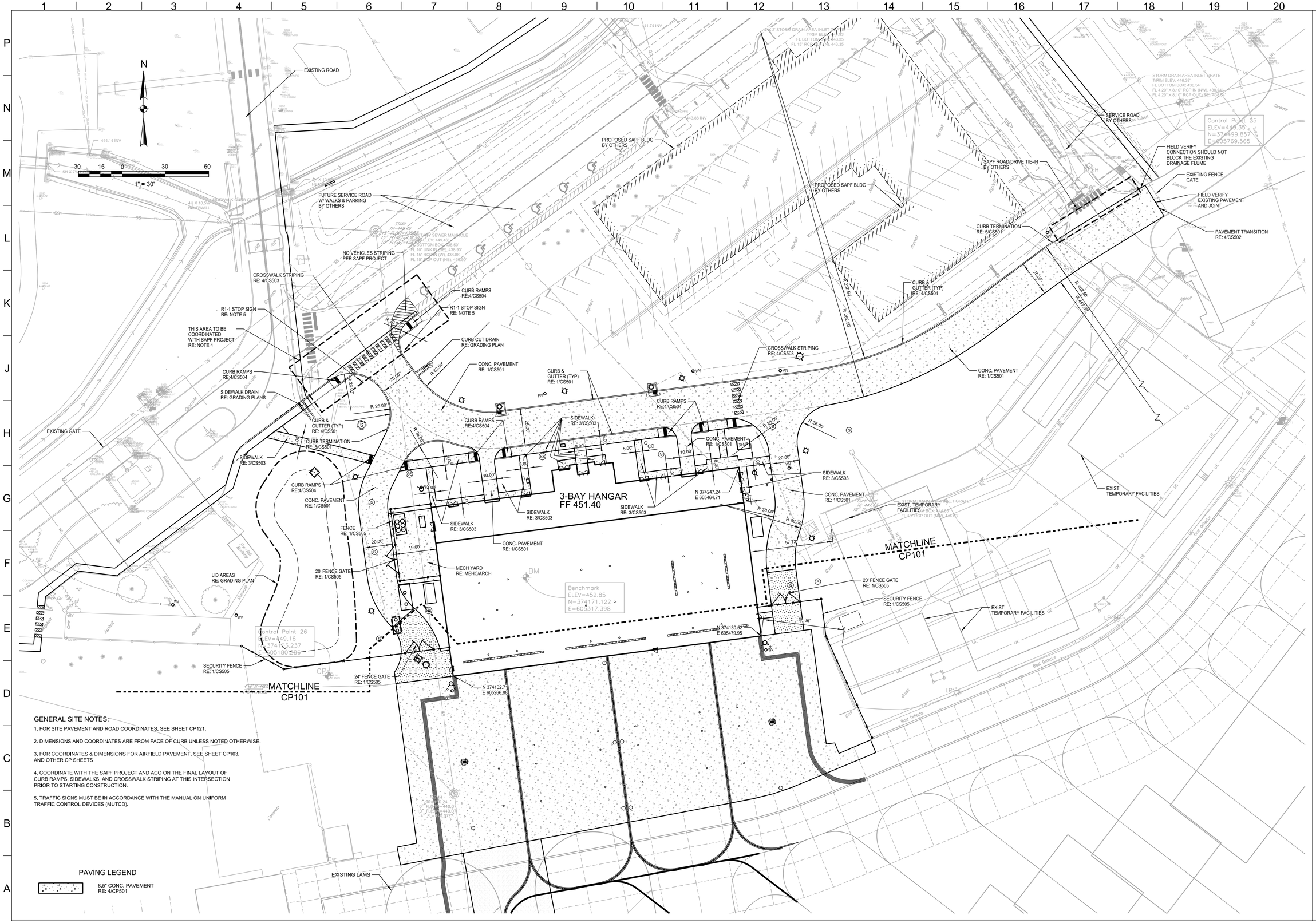
EBBING ANG, ARKANSAS
FORT SMITH AIR GUARD
FORT SMITH, AR
PN: 512203

SITE PLAN OVERALL

SHEET ID

CS100

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



GENERAL SITE NOTES:

1. FOR SITE PAVEMENT AND ROAD COORDINATES, SEE SHEET CP121.

2. DIMENSIONS AND COORDINATES ARE FROM FACE OF CURB UNLESS NOTED OTHERWISE.

3. FOR COORDINATES & DIMENSIONS FOR AIRFIELD PAVEMENT, SEE SHEET CP103, AND OTHER CP SHEETS

4. COORDINATE WITH THE SAPF PROJECT AND ACO ON THE FINAL LAYOUT OF CURB RAMPS, SIDEWALKS, AND CROSSWALK STRIPING AT THIS INTERSECTION PRIOR TO STARTING CONSTRUCTION.

5. TRAFFIC SIGNS MUST BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

PAVING LEGEND

8.5" CONC. PAVEMENT
RE: 4/CP501

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
A/E: EANG_512203_C_3BAYH_mdl.dgn
22"x34"

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

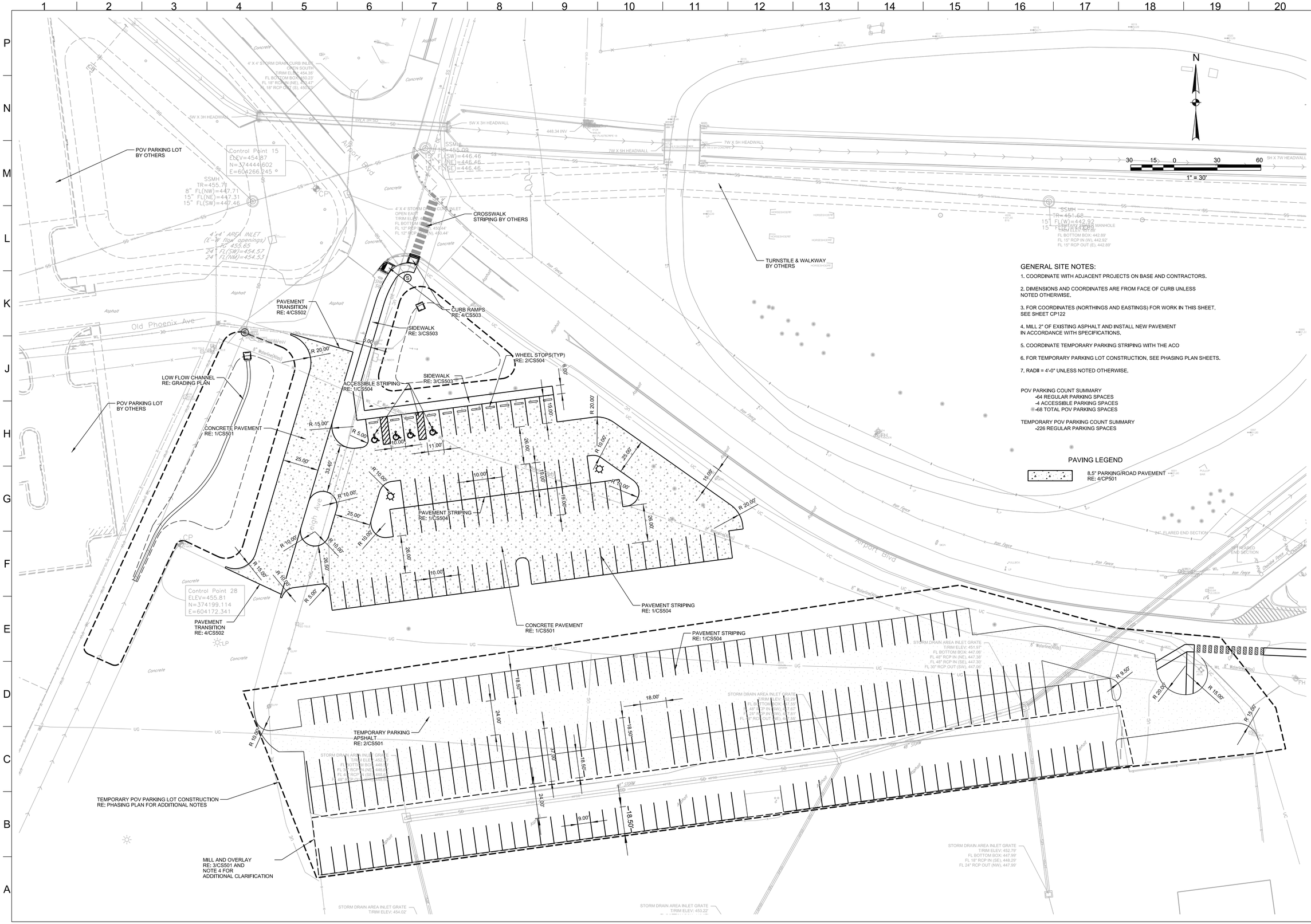
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
F-35 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

SITE PLAN

SHEET ID
CS101

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



GENERAL SITE NOTES:

1. COORDINATE WITH ADJACENT PROJECTS ON BASE AND CONTRACTORS.

2. DIMENSIONS AND COORDINATES ARE FROM FACE OF CURB UNLESS NOTED OTHERWISE.

3. FOR COORDINATES (NORTHINGS AND EASTINGS) FOR WORK IN THIS SHEET, SEE SHEET CP122

4. MILL 2" OF EXISTING ASPHALT AND INSTALL NEW PAVEMENT IN ACCORDANCE WITH SPECIFICATIONS.

5. COORDINATE TEMPORARY PARKING STRIPING WITH THE ACO

6. FOR TEMPORARY PARKING LOT CONSTRUCTION, SEE PHASING PLAN SHEETS.

7. RADII = 4'-0" UNLESS NOTED OTHERWISE.

POV PARKING COUNT SUMMARY
-64 REGULAR PARKING SPACES
-4 ACCESSIBLE PARKING SPACES
-68 TOTAL POV PARKING SPACES

TEMPORARY POV PARKING COUNT SUMMARY
-226 REGULAR PARKING SPACES

PAVING LEGEND

8.5" PARKING/ROAD PAVEMENT RE: 4/CP501

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILENAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

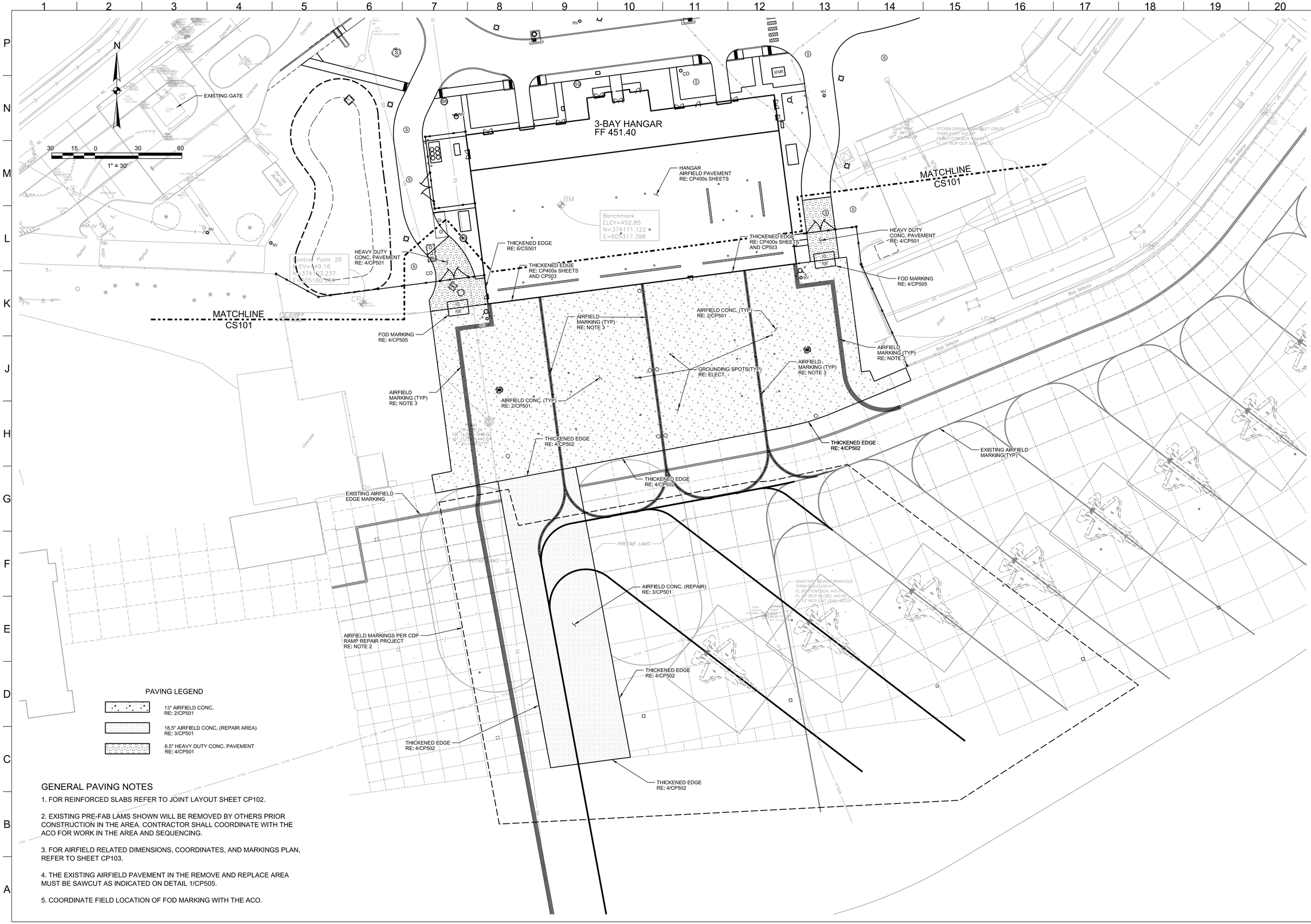
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FORT SMITH AIR FORCE
FORT SMITH, AR
PN: 512203

SITE PLAN

SHEET ID
CS102

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PAVING LEGEND

- 13" AIRFIELD CONC. RE: 2/CP501
- 18.5" AIRFIELD CONC. (REPAIR AREA) RE: 3/CP501
- 8.5" HEAVY DUTY CONC. PAVEMENT RE: 4/CP501

GENERAL PAVING NOTES

1. FOR REINFORCED SLABS REFER TO JOINT LAYOUT SHEET CP102.

2. EXISTING PRE-FAB LAMS SHOWN WILL BE REMOVED BY OTHERS PRIOR CONSTRUCTION IN THE AREA. CONTRACTOR SHALL COORDINATE WITH THE ACO FOR WORK IN THE AREA AND SEQUENCING.

3. FOR AIRFIELD RELATED DIMENSIONS, COORDINATES, AND MARKINGS PLAN, REFER TO SHEET CP103.

4. THE EXISTING AIRFIELD PAVEMENT IN THE REMOVE AND REPLACE AREA MUST BE SAWCUT AS INDICATED ON DETAIL 1/CP505.

5. COORDINATE FIELD LOCATION OF FOD MARKING WITH THE ACO.

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MARK	DESCRIPTION	DATE

DESIGNED BY: W. GREEN C. HARDEN
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
22"x34" | ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
ENG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FSCA 3-BAY HANGAR
FORT SMITH, AR.
PN: 512203

AIRFIFLED PAVING PLAN

SHEET ID
CP101

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GENERAL SITE NOTES

1. PAVEMENT PANELS MARKED WITH "R", INCLUDING ALL NONSQUARE PANELS, INDICATE REINFORCED CONCRETE PANELS.

2. FOR NON-AIRFIELD PAVEMENT JOINTS, REFER TO SHEETS CP121 AND CP122

LEGEND

- D — DOWELED CONTRACTION JOINT
- E — DOWELED CONSTRUCTION JOINT
- THICKENED EDGE JOINT

FOR AIRFIELD PAVING JOINT DETAILS
SEE SHEETS CP502 AND CP503

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: W. GREEN, C. HARDEN	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: J. ALVAREZ	SOLICITATION NO.: W912BV26RA004
REVIEWED BY: J. ALVAREZ	CONTRACT NO.: -
SUBMITTED BY: A. RANKENBURG, P.E.	PLOT SCALE: AS SHOWN
FILE NAME: EANG_512203_C_3BAYH_mdl.dgn	SIZE: 22"x34"

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

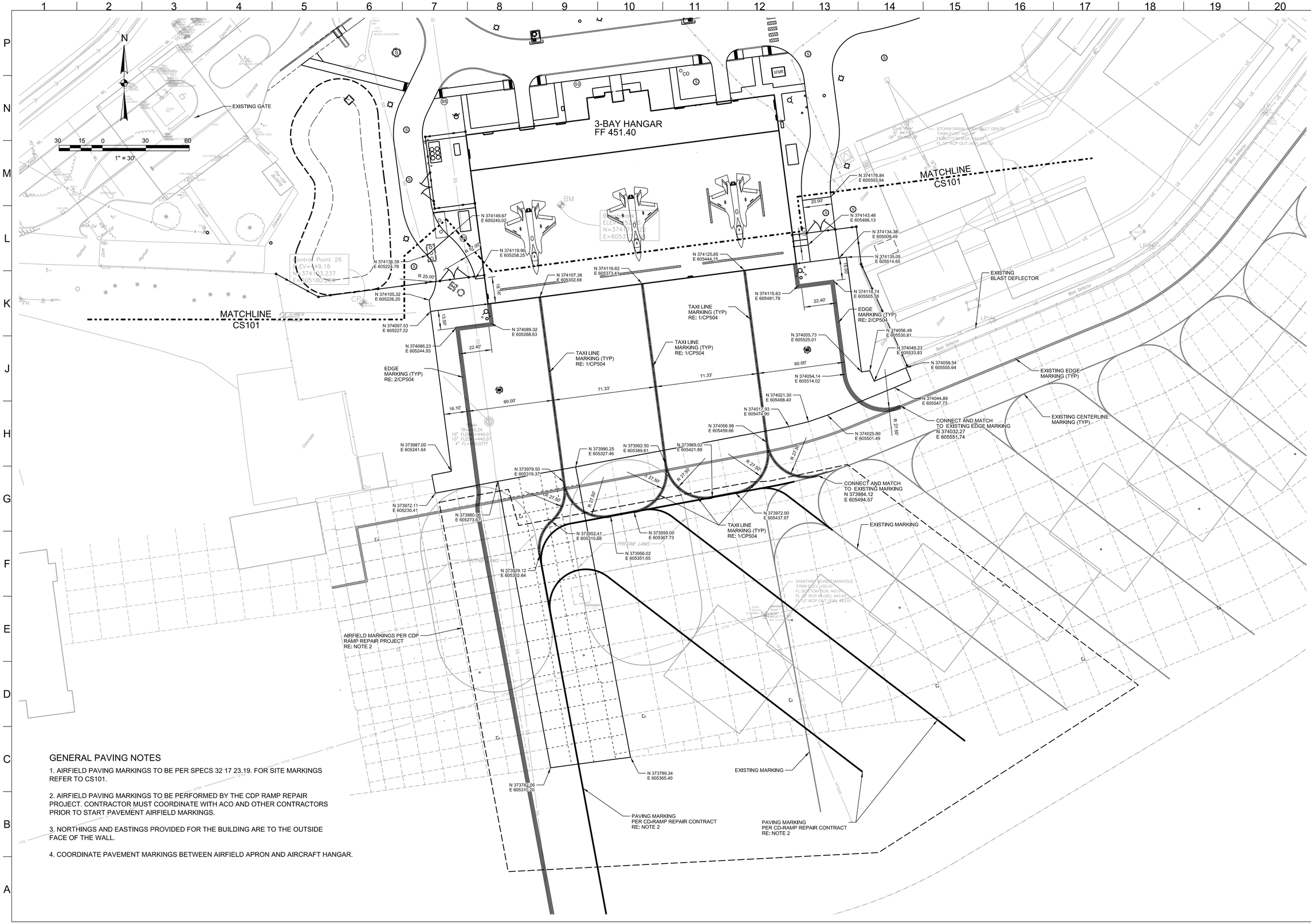
EBBING ANG, ARKANSAS
FOR 188 ARW/184 WG
FORT SMITH, AR
PN: 512203

PAVEMENT JOINTING PLAN

SHEET ID

CP102

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GENERAL PAVING NOTES

1. AIRFIELD PAVING MARKINGS TO BE PER SPECS 32 17 23.19. FOR SITE MARKINGS REFER TO CS101.

2. AIRFIELD PAVING MARKINGS TO BE PERFORMED BY THE CDP RAMP REPAIR PROJECT. CONTRACTOR MUST COORDINATE WITH ACO AND OTHER CONTRACTORS PRIOR TO START PAVEMENT AIRFIELD MARKINGS.

3. NORTHINGS AND EASTINGS PROVIDED FOR THE BUILDING ARE TO THE OUTSIDE FACE OF THE WALL.

4. COORDINATE PAVEMENT MARKINGS BETWEEN AIRFIELD APRON AND AIRCRAFT HANGAR.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE
		CH/JA

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
PLOT BY: P. E. ALANKERSHIMER
FILE NAME: EANG_512203_C_3BAYH_mdl.dgn
22"x34"

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. ALANKERSHIMER, P.E.

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

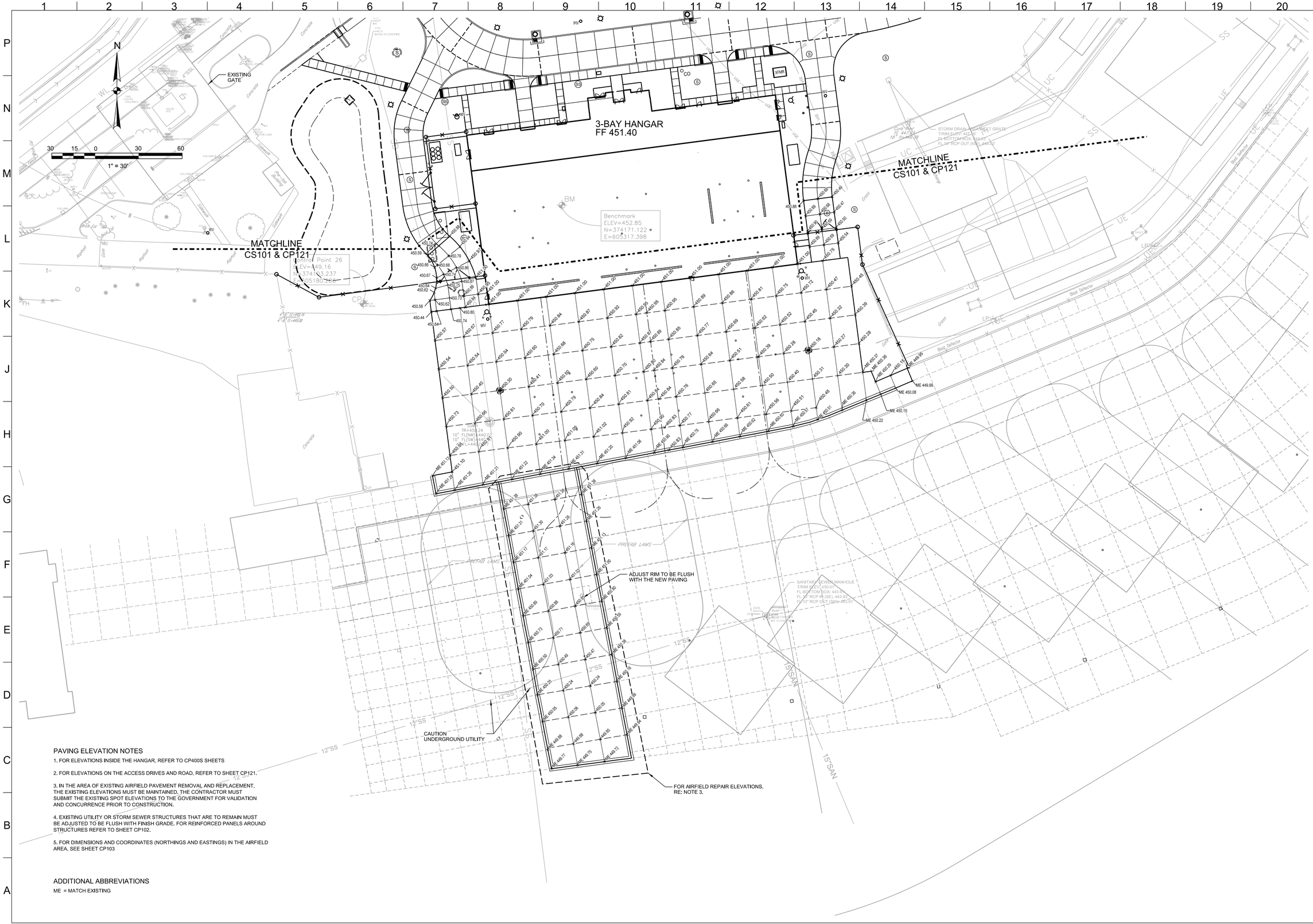
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
F-35 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

AIRFIELD PAVEMENT MARKING PLAN

SHEET ID
CP103

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PAVING ELEVATION NOTES

1. FOR ELEVATIONS INSIDE THE HANGAR, REFER TO CP400S SHEETS

2. FOR ELEVATIONS ON THE ACCESS DRIVES AND ROAD, REFER TO SHEET CP121.

3. IN THE AREA OF EXISTING AIRFIELD PAVEMENT REMOVAL AND REPLACEMENT, THE EXISTING ELEVATIONS MUST BE MAINTAINED, THE CONTRACTOR MUST SUBMIT THE EXISTING SPOT ELEVATIONS TO THE GOVERNMENT FOR VALIDATION AND CONCURRENCE PRIOR TO CONSTRUCTION.

4. EXISTING UTILITY OR STORM SEWER STRUCTURES THAT ARE TO REMAIN MUST BE ADJUSTED TO BE FLUSH WITH FINISH GRADE, FOR REINFORCED PANELS AROUND STRUCTURES REFER TO SHEET CP102.

5. FOR DIMENSIONS AND COORDINATES (NORTHINGS AND EASTINGS) IN THE AIRFIELD AREA, SEE SHEET CP103

ADDITIONAL ABBREVIATIONS

ME = MATCH EXISTING

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MARK	DESCRIPTION	DATE

DESIGNED BY: W. GREEN, C. HARDEN	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: J. ALVAREZ	SOLICITATION NO.: W912BV26RA004
REVIEWED BY: J. ALVAREZ	CONTRACT NO.: -
SUBMITTED BY: A. RANKENBURG, P.E.	PLOT SCALE: AS SHOWN
SIZE: 22"x34"	FILE NAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
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ENGINEERING BRANCH

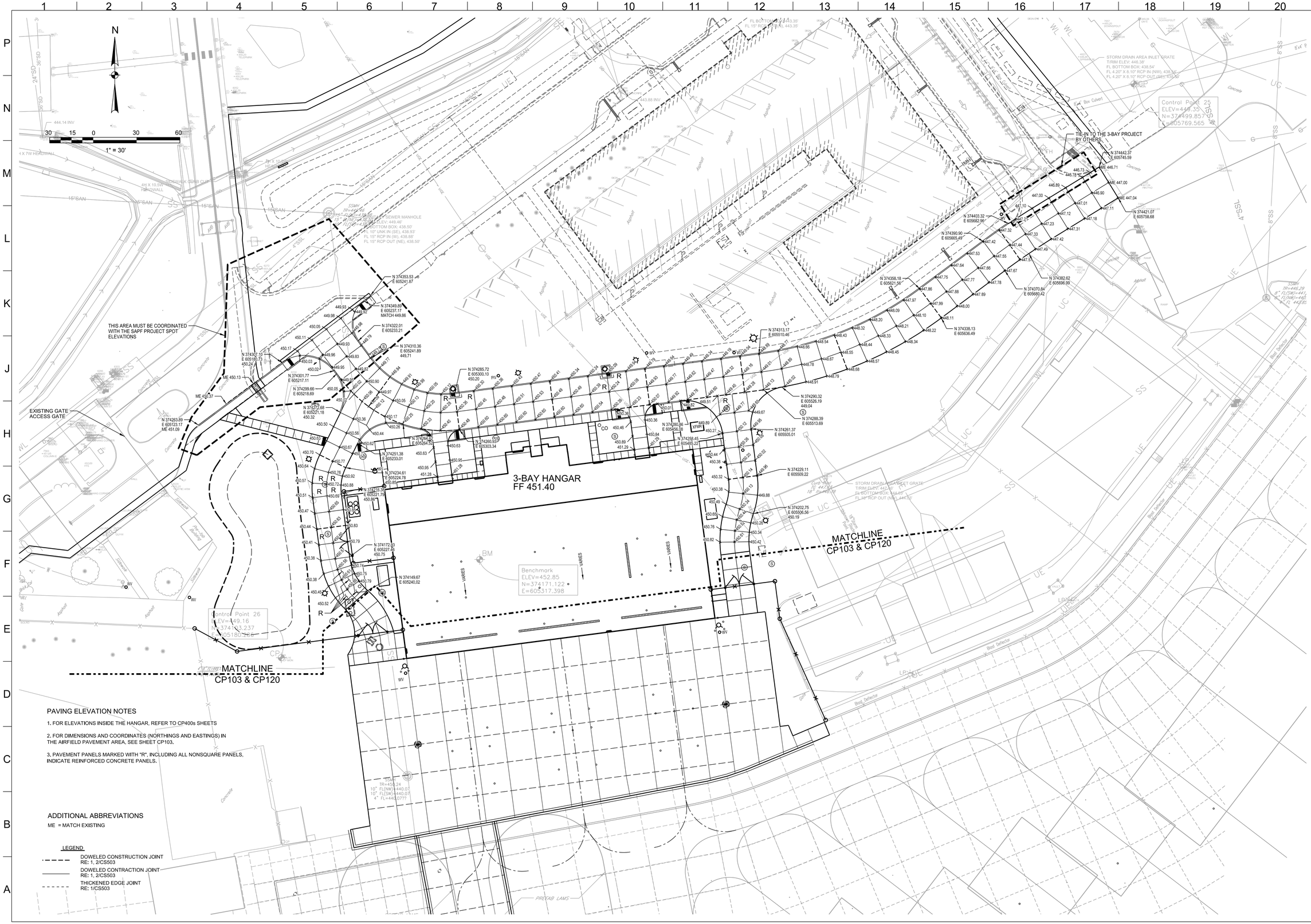
EBBING ANG, ARKANSAS
FSRS - 3 BAY HANGAR
FORT SMITH, AR
PN: 512203

PAVEMENT JOINTING ELEVATION PLAN

SHEET ID

CP120

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DESIGNED BY:	J. ALVAREZ
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	J. ALVAREZ
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN
A. BLANKENSHIP, P.E.	
FILE NAME:	EANG_512203_C_3BAYH_mdl.dgn
22"x34"	

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

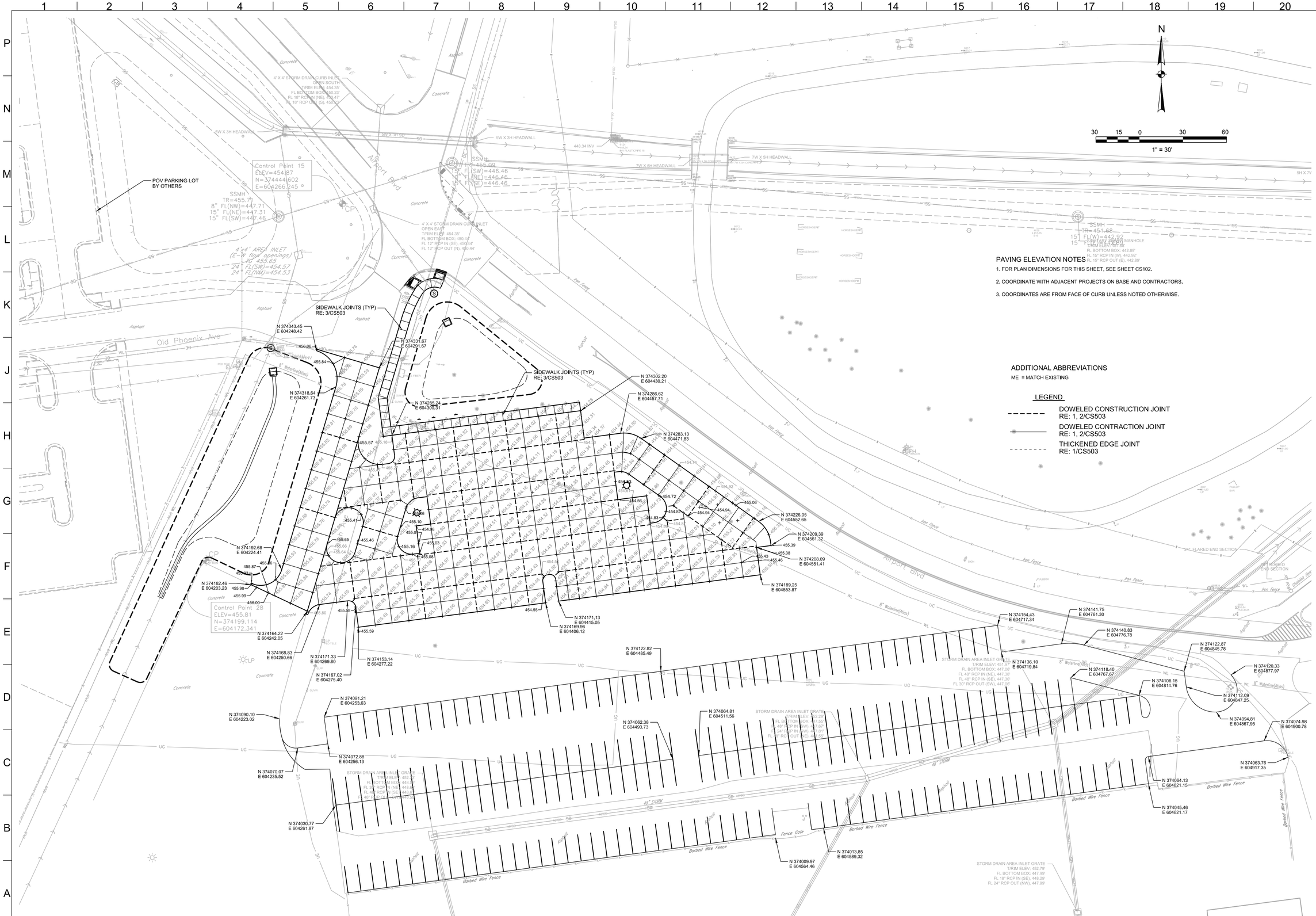
EBBING ANG, ARKANSAS
FSCA, 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

PAVEMENT JOINTING ELEVATION PLAN

SHEET ID

CP121

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ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN
DESIGNED BY:	J. ALVAREZ
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. RANKIN-BRUNAME, P.E.
22"x34"	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

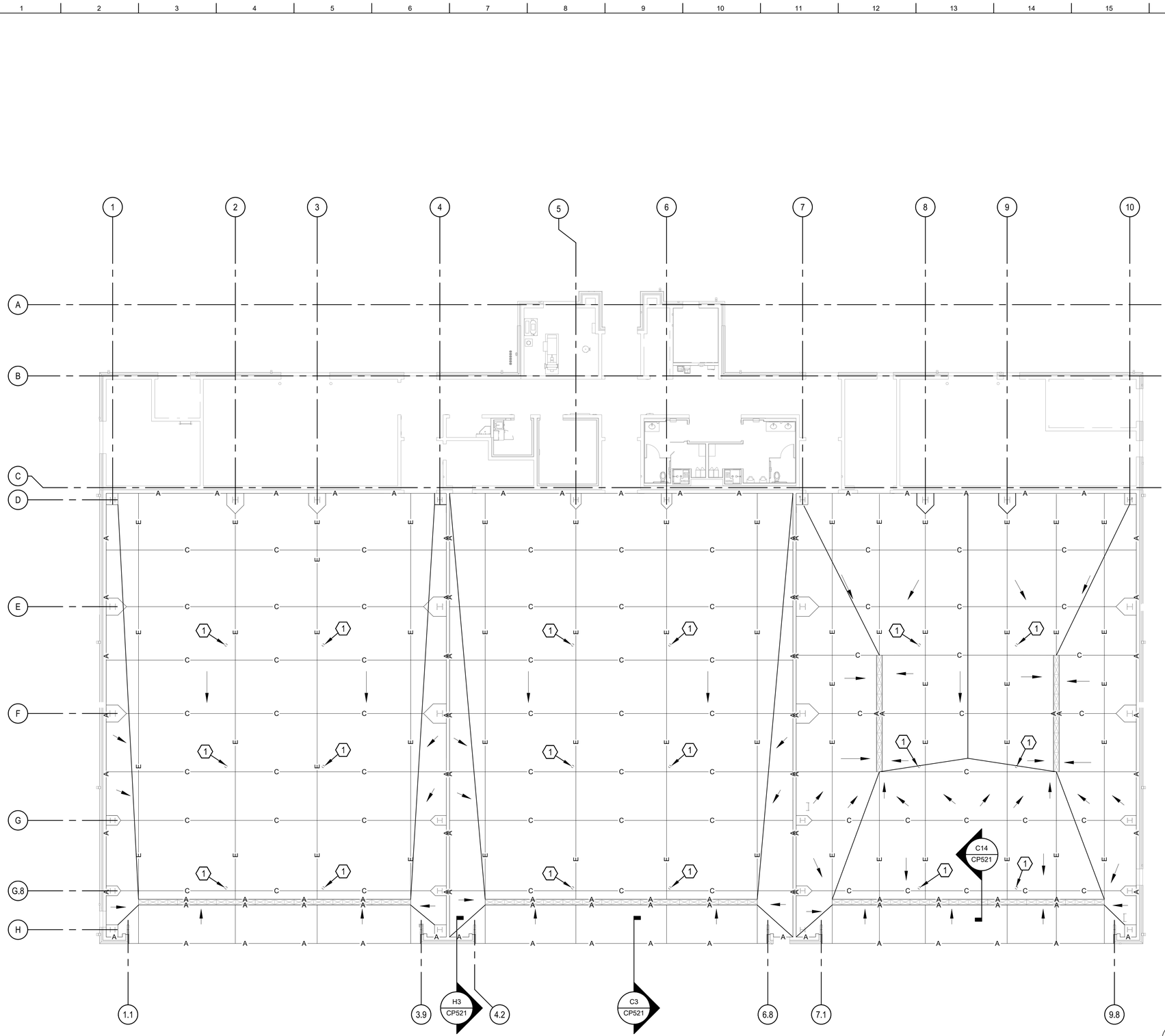
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
2ND AVIATION BAR
FORT SMITH, AR
PN: 512203

PAVEMENT JOINTING ELEVATION PLAN

SHEET ID
CP122

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



A1 OVERALL HANGAR BAY PAVING PLAN

SCALE: 3/32" = 1'-0"

GENERAL SHEET NOTES

1. SEE PLUMBING DRAWINGS FOR TRENCH DRAIN SPECIFICATIONS.
2. ALL HANGAR BAY CONCRETE TO BE 650 FLEXURAL STRENGTH AND BE IN ACCORDANCE WITH UFGS 32 13 14.13

SHEET KEY NOTES

1. LOCATION OF IN-FLOOR GROUNDING RECEPTACLES. REFERENCE ELECTRICAL GROUNDING DRAWINGS.

LEGEND

- A — THICKENED EDGED ISOLATION JOINT
- C — DOWELED CONTRACTION JOINT
- E — DOWELED CONSTRUCTION JOINT
- INDICATES DIRECTION OF FLOOR SLOPE TOWARD DRAINS
- TRENCH DRAIN

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203

DESIGNED BY: W. GREEN
DRAWN BY: B. CASH
CHECKED BY: A. LOPEZ
SUBMITTED BY: A. BLANKENSHIP
SIZE: ANSI D

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 RAM HANGAR
PN: 512203

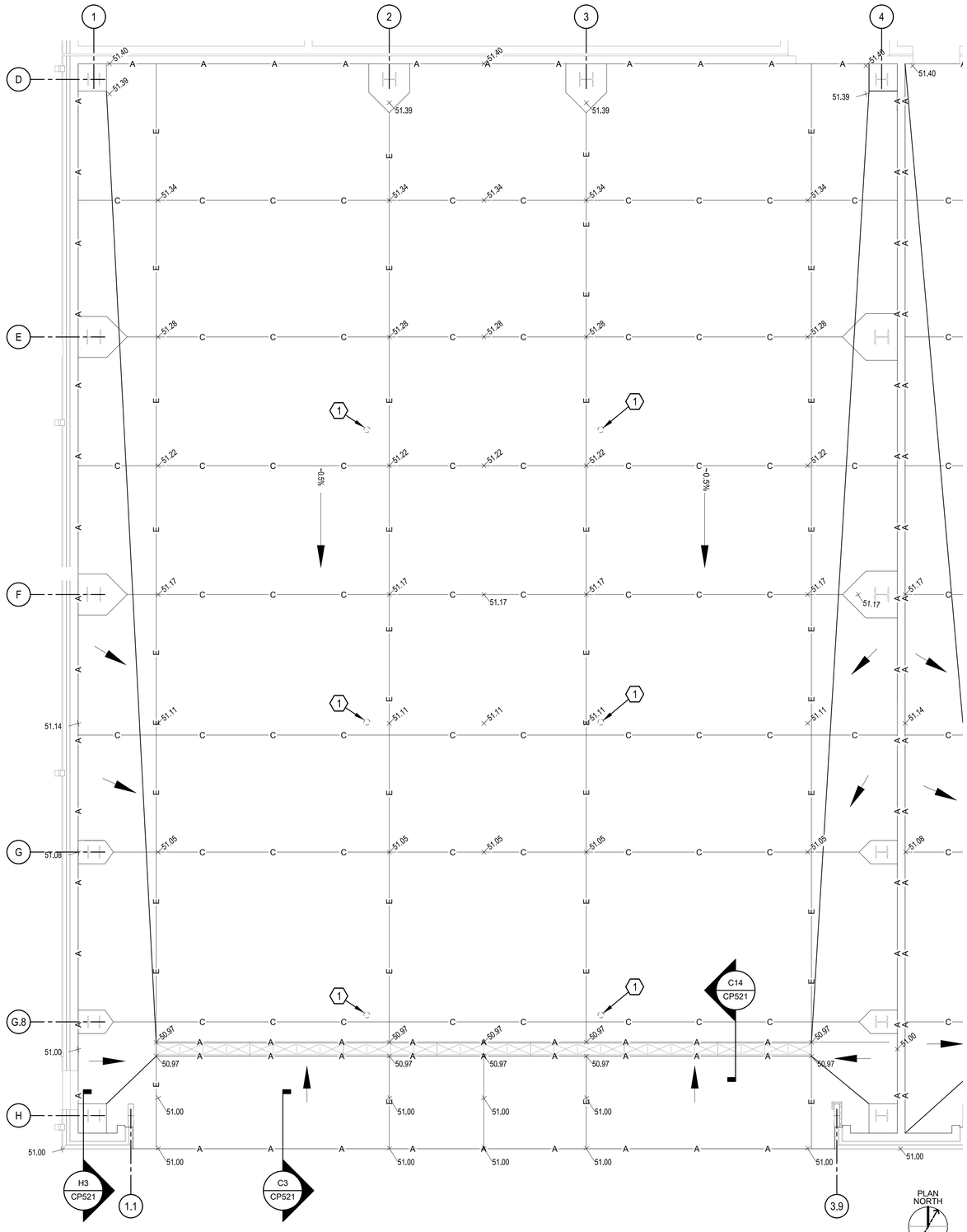
OVERALL HANGAR BAY PAVING PLAN

SHEET ID

CP420

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10:06:02 AM 10/20/2025

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A1 ENLARGED HANGAR BAY PAVING PLAN - AREA D

SCALE: 3/16" = 1'-0"

GENERAL SHEET NOTES

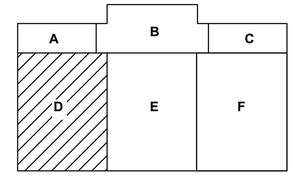
1. SEE PLUMBING DRAWINGS FOR TRENCH DRAIN SPECIFICATIONS.
2. ALL HANGAR BAY CONCRETE TO BE 650 FLEXURAL STRENGTH AND BE IN ACCORDANCE WITH UFGS 32 13 14.13

SHEET KEY NOTES

1. LOCATION OF IN-FLOOR GROUNDING RECEPTACLES. REFERENCE ELECTRICAL GROUNDING DRAWINGS.

LEGEND

- A — THICKENED EDGED ISOLATION JOINT
- C — DOWELED CONTRACTION JOINT
- E — DOWELED CONSTRUCTION JOINT
- INDICATES DIRECTION OF FLOOR SLOPE TOWARD DRAINS
- 51.00 — PROPOSED HANGAR FLOOR ELEVATIONS
- TRENCH DRAIN



KEY PLAN

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: W. GREEN
DRAWN BY: B. CASH
CHECKED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

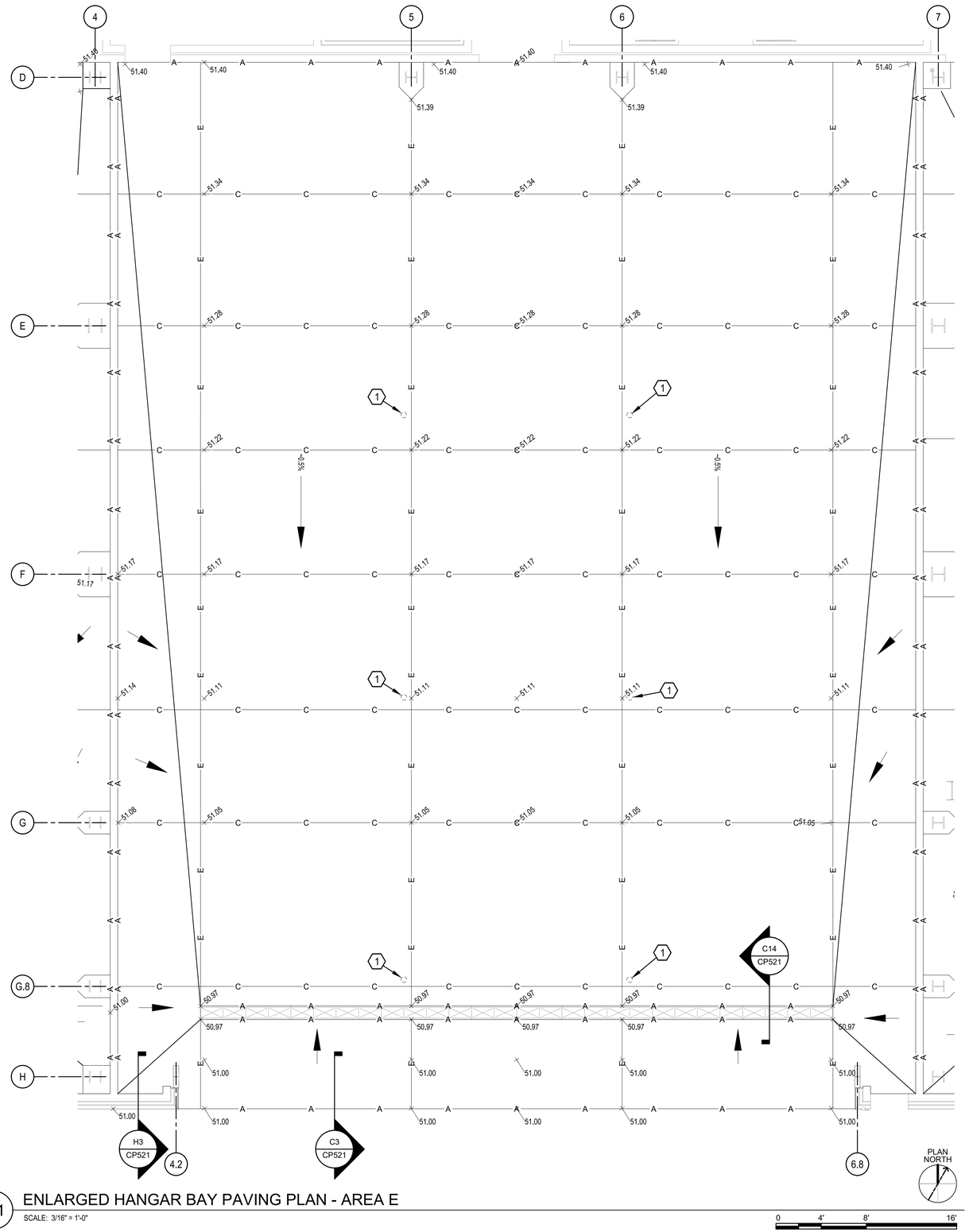
EBBING ANGB - ARKANSAS
F-35 SQUADRON HANGAR
PN: 512203

ENLARGED HANGAR BAY PAVING PLAN - AREA D

SHEET ID
CP421

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A1 ENLARGED HANGAR BAY PAVING PLAN - AREA E

SCALE: 3/16" = 1'-0"

0 4' 8' 16'

GENERAL SHEET NOTES

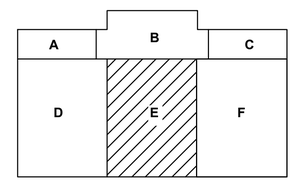
1. SEE PLUMBING DRAWINGS FOR TRENCH DRAIN SPECIFICATIONS.
2. ALL HANGAR BAY CONCRETE TO BE 650 FLEXURAL STRENGTH AND BE IN ACCORDANCE WITH UFGS 32 13 14.13

SHEET KEY NOTES

1. LOCATION OF IN-FLOOR GROUNDING RECEPTACLES. REFERENCE ELECTRICAL GROUNDING DRAWINGS.

LEGEND

- A — THICKENED EDGED ISOLATION JOINT
- C — DOWELED CONTRACTION JOINT
- E — DOWELED CONSTRUCTION JOINT
- INDICATES DIRECTION OF FLOOR SLOPE TOWARD DRAINS
- 51.00 — PROPOSED HANGAR FLOOR ELEVATIONS
- TRENCH DRAIN



KEY PLAN

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DESIGNED BY: W. GREEN	ISSUE DATE: 5 DECEMBER 2025
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CHECKED BY: J. ALVAREZ	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP	PROJECT NO.: 512203
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2488 E 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

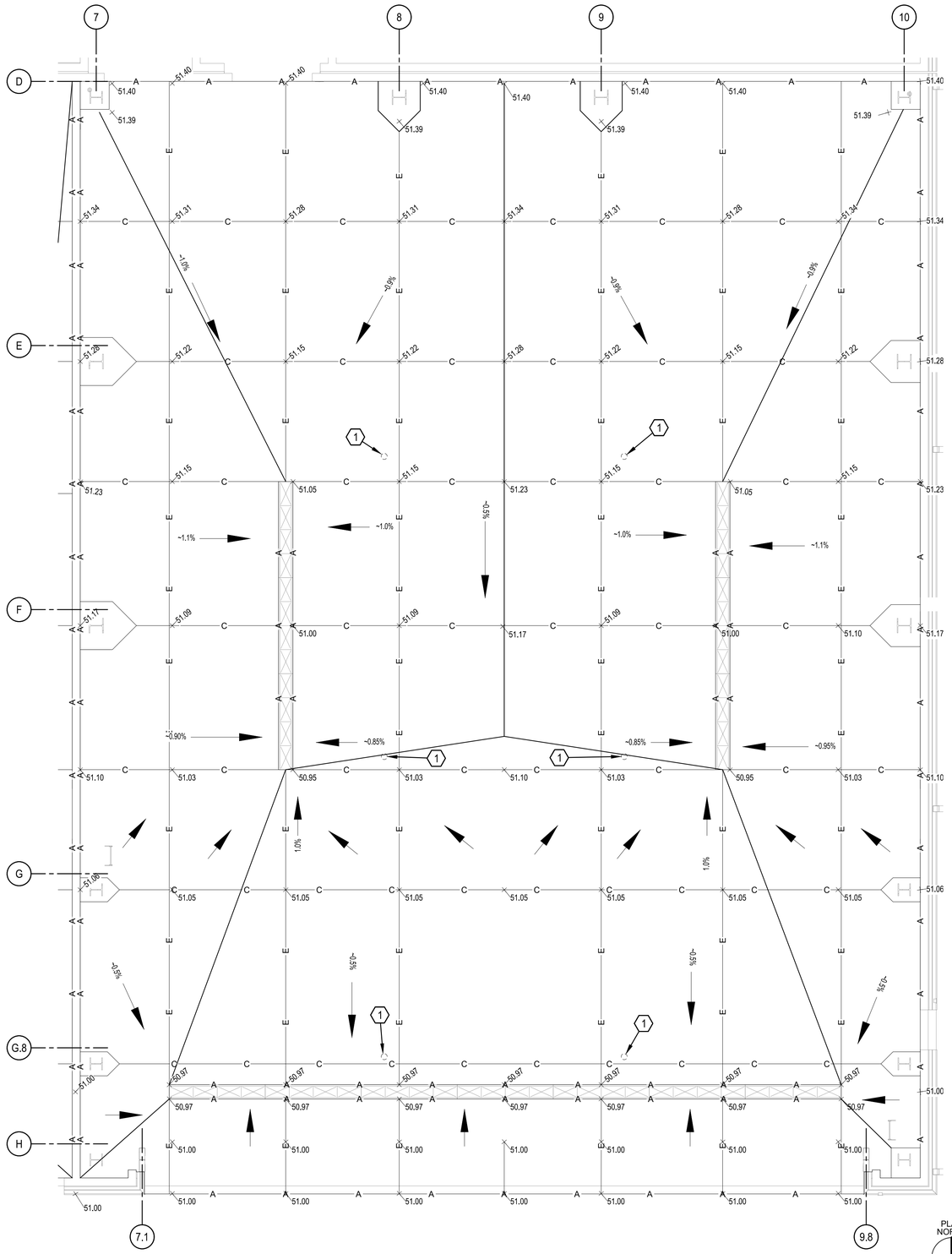
ENLARGED HANGAR BAY PAVING PLAN - AREA E

SHEET ID

CP422

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A1 ENLARGED HANGAR BAY PAVING PLAN - AREA F

SCALE: 3/16" = 1'-0"

GENERAL SHEET NOTES

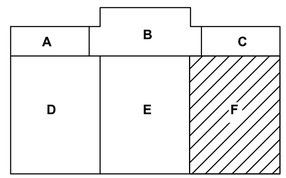
1. SEE PLUMBING DRAWINGS FOR TRENCH DRAIN SPECIFICATIONS.
2. ALL HANGAR BAY CONCRETE TO BE 650 FLEXURAL STRENGTH AND BE IN ACCORDANCE WITH UFGS 32 13 14.13

SHEET KEY NOTES

1. LOCATION OF IN-FLOOR GROUNDING RECEPTACLES. REFERENCE ELECTRICAL GROUNDING DRAWINGS.

LEGEND

- A — THICKENED EDGED ISOLATION JOINT
- C — DOWELED CONTRACTION JOINT
- E — DOWELED CONSTRUCTION JOINT
- INDICATES DIRECTION OF FLOOR SLOPE TOWARD DRAINS
- +51.00 — PROPOSED HANGAR FLOOR ELEVATIONS
- TRENCH DRAIN



KEY PLAN

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DESIGNED BY: W. GREEN	ISSUE DATE: 5 DECEMBER 2025
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CHECKED BY: A. LAWLESS	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP	PROJECT NO.: 512203
SIZE: ANSI D	

U.S. ARMY CORPS OF ENGINEERS
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2488 E 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

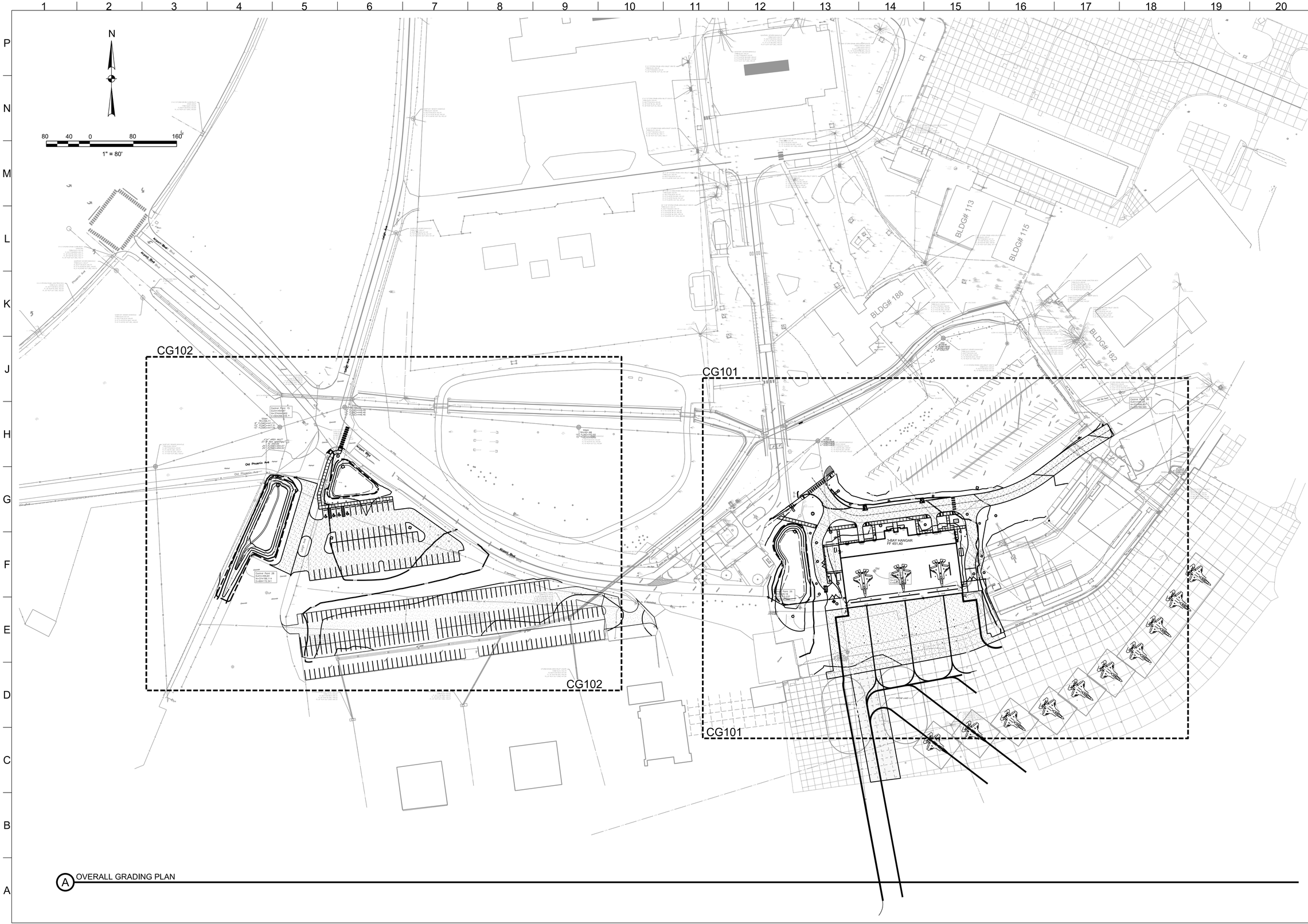
ENLARGED HANGAR BAY PAVING PLAN - AREA F

SHEET ID

CP423

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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A OVERALL GRADING PLAN

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. ALVAREZ
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. BLANKENSHIP, P.E.
FILENAME:	EANG_512203_C_3BAYH_mdl.dgn
22"x34"	AS SHOWN

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE:

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

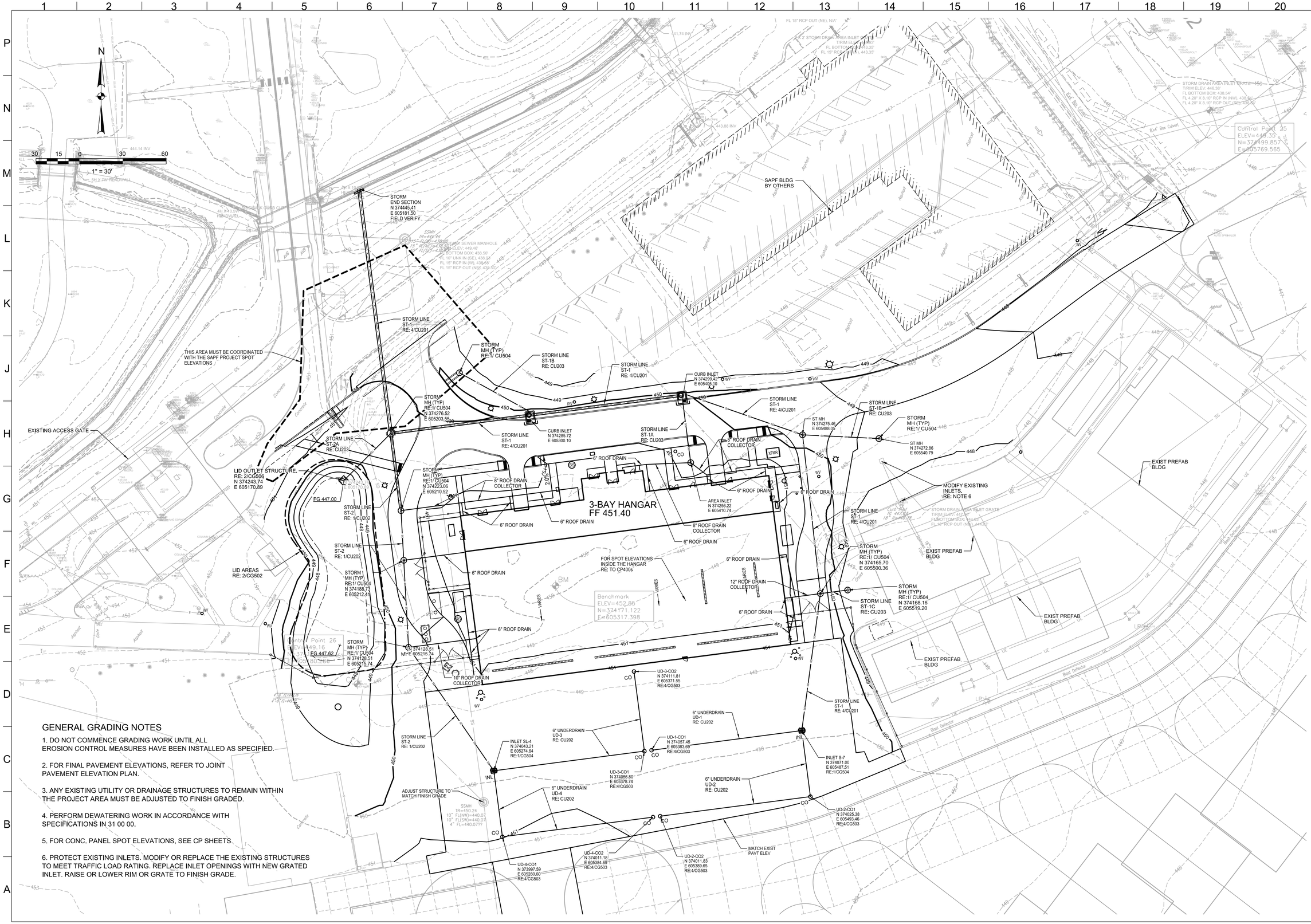
ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FMS: KANG HANGAR
FORT SMITH, AR
PN: 512203

GRADING PLAN OVERALL

SHEET ID
CG100

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US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. RANKIN-SHUMAKE, P.E.	AS SHOWN
22"x34"	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

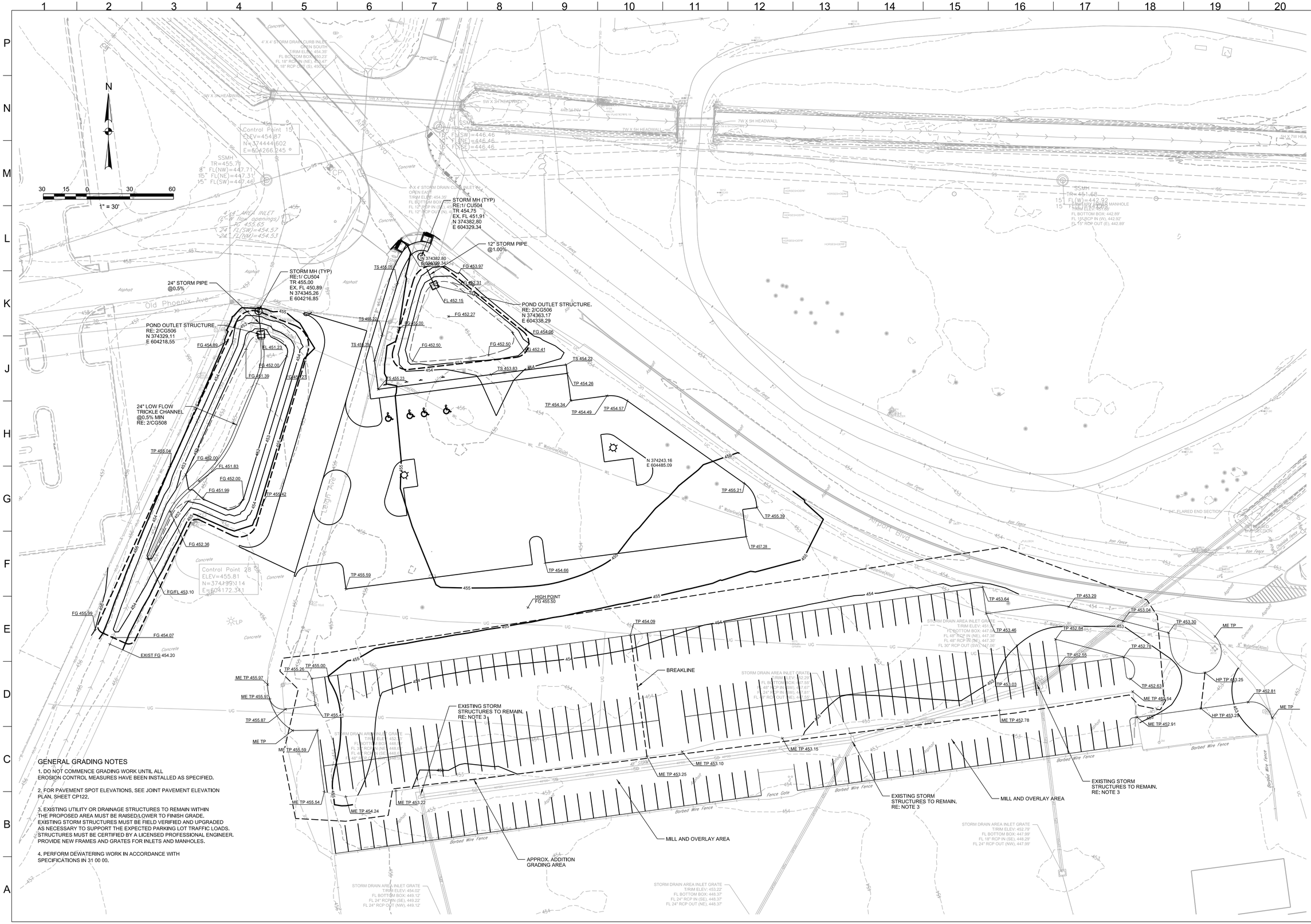
EBBING ANG, ARKANSAS
FORT SMITH AIR GUARD
FORT SMITH, AR
PN: 512203

GRADING PLAN

SHEET ID

CG101

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GENERAL GRADING NOTES

1. DO NOT COMMENCE GRADING WORK UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED AS SPECIFIED.

2. FOR PAVEMENT SPOT ELEVATIONS, SEE JOINT PAVEMENT ELEVATION PLAN, SHEET CP122.

3. EXISTING UTILITY OR DRAINAGE STRUCTURES TO REMAIN WITHIN THE PROPOSED AREA MUST BE RAISED/LOWER TO FINISH GRADE. EXISTING STORM STRUCTURES MUST BE FIELD VERIFIED AND UPGRADED AS NECESSARY TO SUPPORT THE EXPECTED PARKING LOT TRAFFIC LOADS. STRUCTURES MUST BE CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. PROVIDE NEW FRAMES AND GRATES FOR INLETS AND MANHOLES.

4. PERFORM DEWATERING WORK IN ACCORDANCE WITH SPECIFICATIONS IN 31 00 00.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	
J. ALVAREZ	
DRAWN BY:	
J. ALVAREZ	
REVIEWED BY:	
J. ALVAREZ	
SUBMITTED BY:	
A. BLANKENSHIP, P.E.	
CERTIFICATE NAME:	
EANG_512203_C_3BAYH_mdl.dgn	
22"x34"	

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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PLOT SCALE: AS SHOWN

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

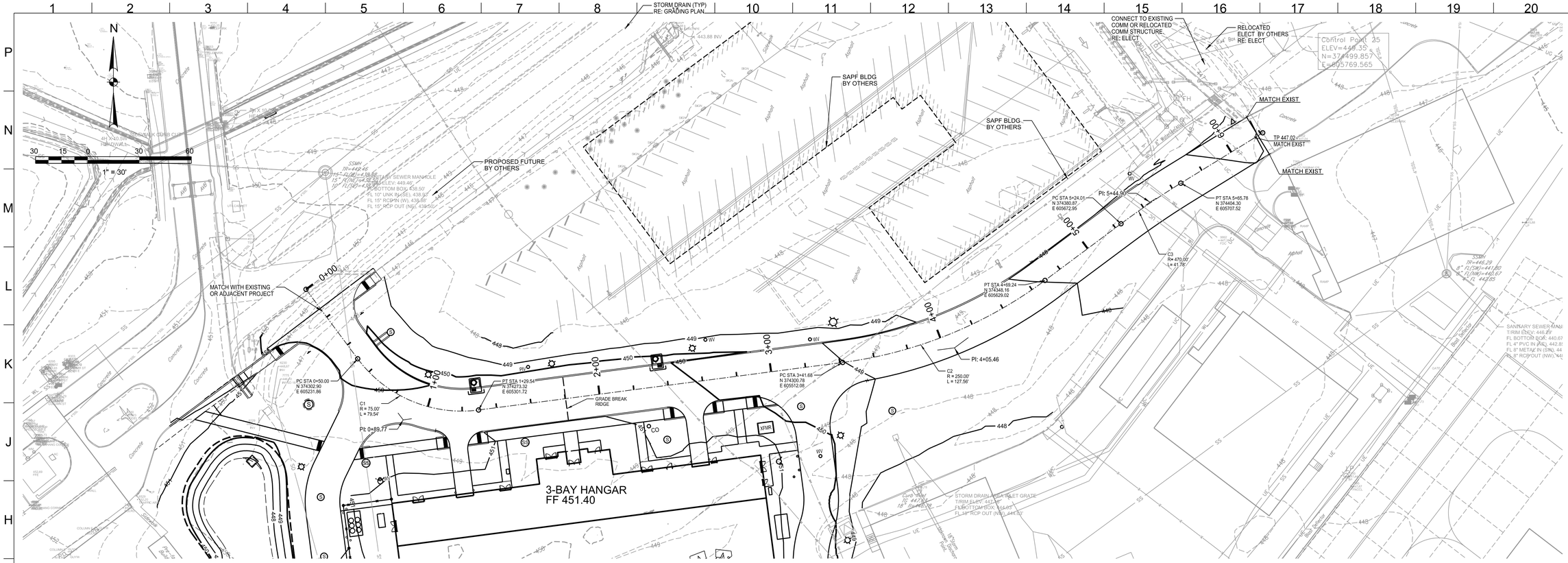
ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FORT SMITH AIR GUARD
FORT SMITH, AR
PN: 512203

GRADING PLAN

SHEET ID
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STORM DRAIN (TYP)
RE: GRADING PLAN
CONNECT TO EXISTING COMM OR RELOCATED COMM STRUCTURE. RE: ELECT
RELOCATED ELECT BY OTHERS RE: ELECT
Control Point 25
ELEV=446.35
N=374499.857
E=605769.565
SAPF BLDG BY OTHERS
SAPF BLDG BY OTHERS
PROPOSED FUTURE BY OTHERS
MATCH EXIST
TP 447.02
MATCH EXIST
MATCH EXIST
MATCH WITH EXISTING OR ADJACENT PROJECT
0+00
1+00
2+00
3+00
4+00
5+00
PC STA 0+50.00
N 374302.90
E 605231.86
C1
R = 75.00'
L = 79.54'
PT STA 1+29.54
N 374273.32
E 605301.72
PI: 0+89.77
GRADE BREAK
RIDGE
PC STA 3+41.68
N 374300.78
E 605512.08
C2
R = 250.00'
L = 127.56'
PI: 4+05.46
PT STA 4+69.24
N 374346.16
E 605629.02
PC STA 5+24.01
N 374380.87
E 605672.95
PI: 5+44.93
PT STA 5+65.78
N 374404.30
E 605707.52
C3
R = 470.00'
L = 41.76'
3-BAY HANGAR
FF 451.40
SANITARY SEWER MANHOLE
TRIM ELEV: 449.46'
FL BOTTOM BOX: 438.50'
FL 10" UNK IN (SE): 438.93'
FL 15" RCP IN (W): 439.06'
FL 15" RCP OUT (NE): 439.50'
SANITARY SEWER MANHOLE
TRIM ELEV: 446.29'
FL BOTTOM BOX: 440.67'
FL 6" PVC IN (NE): 442.81'
FL 8" METAL IN (SW): 442.85'
FL 8" RCP OUT (NW): 440.67'
STORM DRAIN AREA INLET GRATE
TRIM ELEV: 447.39'
FL BOTTOM BOX: 443.65'
FL 18" RCP OUT (NW): 444.02'
Curb Inlet
TC 447.39
18" RCP NW
FLOWLINE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

P N M L K J H G F E D C B A

N

80 40 0 80 160

1" = 80'

CU102

CU101

BLDG# 113

BLDG# 115

BLDG# 188

BLDG# 182

PROPOSED 3 BAY HANGAR

3 BAY HANGAR FF 451.40

Airport Blvd

Old Phoenix Ave

Taxiway A

Taxiway B

A1 OVERALL UTILITY PLAN

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILENAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FS-SOUTH HANGAR
FORT SMITH, AR
PN: 512203

UTILITY PLAN OVERALL

SHEET ID

CU100

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1" = 30'

3-BAY HANGAR
FF 451.40

Benchmark
ELEV=452.85
N=374171.122
E=605317.398

Control Point 26
ELEV=449.16
N=374103.237
E=605180.286

SSMH
TR=449.36
10" FL(NE)=438.93
15" FL(NE)=438.88
10" FL(SE)=438.93
4" FL=449.46?

SSMH
TR=450.24
10" FL(NW)=440.07
10" FL(SW)=440.07
4" FL=440.07??

UTILITY NOTES

1. PRIOR TO CONSTRUCTION, FIELD VERIFY ALL SITE UTILITIES AND COORDINATE WITH THE APPROPRIATE UTILITY SERVICE PROVIDER.

2. NOTIFY CONTRACTING OFFICER AND THE UTILITY AGENCIES PRIOR TO CONNECTING TO ANY EXISTING LINE IN ACCORDANCE WITH SPECS.

3. PROVIDE RESTRAINED JOINTS ON 3" AND LARGER WATERLINES AND FIRELINES AT ALL BENDS, TEES AND FIRE HYDRANTS FOR A MINIMUM OF 2 JOINTS BOTH SIDES OF FITTING AS SPECIFIED 33 11 00.

4. TERMINATE SERVICE PIPING 5' FROM THE BUILDING WALL UNTIL BUILDING PIPING SYSTEMS ARE INSTALLED. TERMINATE PIPING WITH VALVE AND CAP PLUG OR FLANGE AS REQUIRED FOR PIPING MATERIAL. MAKE CONNECTIONS TO BUILDING PIPING SYSTEMS WHEN THOSE SYSTEMS ARE INSTALLED.

5. ALL TRENCHING, PIPE LAYING AND BACKFILLING MUST BE AS SPECIFIED IN 31 00 00.

6. REFER TO PLUMBING AND/OR FIRE PROTECTION, ELECTRICAL, MECHANICAL AND COMM. FOR CONTINUATION OF UTILITIES AT BUILDING.

7. FOR PIV & FDC COORDINATE WITH FIRE PROTECTION.

8. METER LOCATION MUST BE AS INDICATED IN PLUMBING PLANS. REFER TO PLUMB/MECHANICAL.

9. CONTRACTOR IS RESPONSIBLE FOR ALL ASSOCIATED PERMITTING AND COORDINATION WITH BASE AND PRIVATIZED UTILITIES.

10. COMMUNICATIONS LINES AND DUCTBANKS ARE BEING EXTENDED BY PRIVATIZED UTILITY COMPANIES BY A SEPARATE CONTRACT. COORDINATE WITH THE PRIVATIZED UTILITY COMPANY FOR THE FINAL LOCATION TO CONNECT THE 3-BAY COMM. SERVICE LINES.

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MARK	DESCRIPTION	DATE

DESIGNED BY:	J. ALVAREZ
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. E. RANKIN, P.E.
FILENAME:	EANG_512203_C_3BAYH_mdl.dgn
22"x34"	

ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

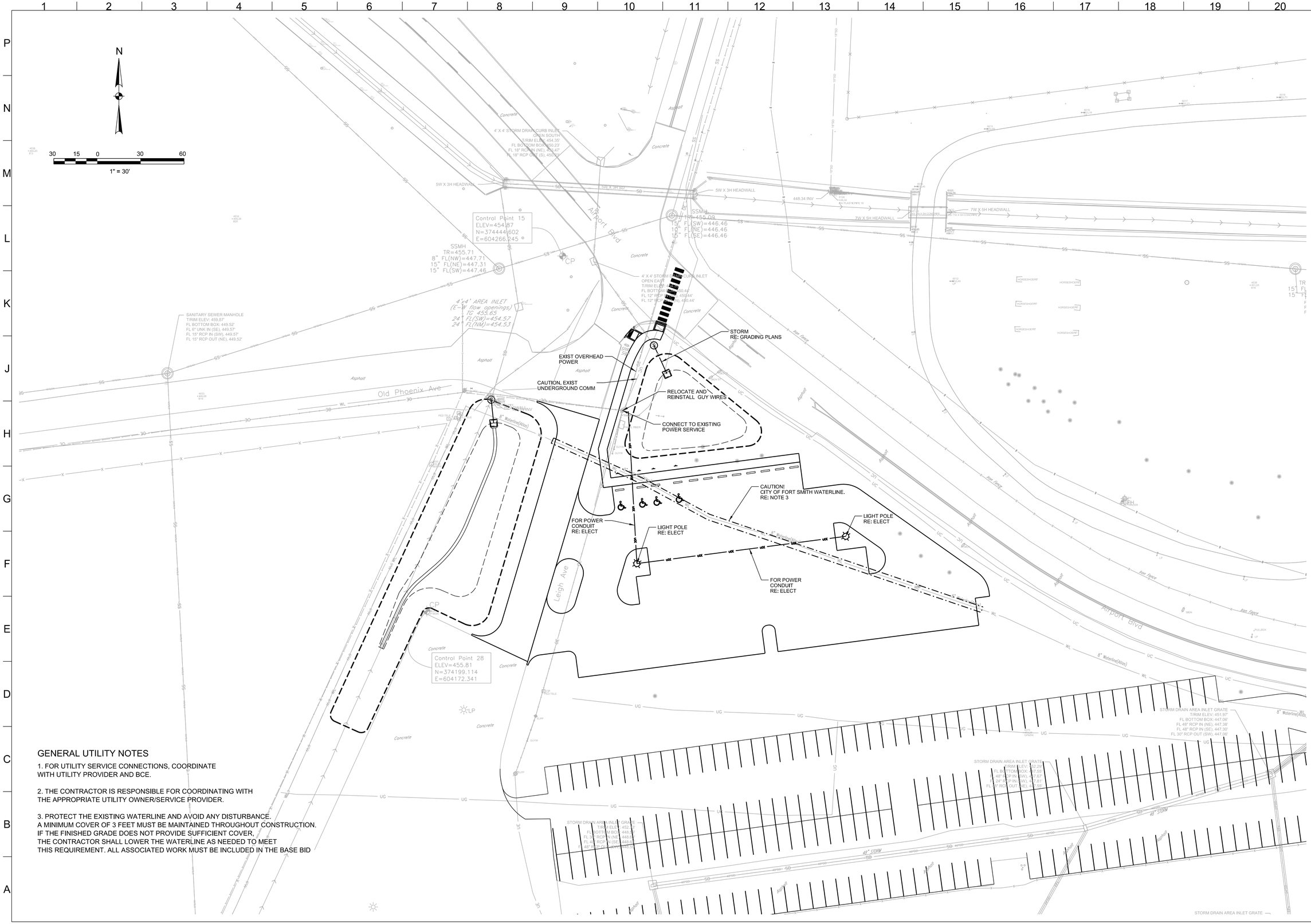
EBBING ANG, ARKANSAS
F-35A HANGAR
FORT SMITH, AR
PN: 512203

UTILITY PLAN

SHEET ID

CU101

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GENERAL UTILITY NOTES

1. FOR UTILITY SERVICE CONNECTIONS, COORDINATE WITH UTILITY PROVIDER AND BCE.

2. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE UTILITY OWNER/SERVICE PROVIDER.

3. PROTECT THE EXISTING WATERLINE AND AVOID ANY DISTURBANCE. A MINIMUM COVER OF 3 FEET MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. IF THE FINISHED GRADE DOES NOT PROVIDE SUFFICIENT COVER, THE CONTRACTOR SHALL LOWER THE WATERLINE AS NEEDED TO MEET THIS REQUIREMENT. ALL ASSOCIATED WORK MUST BE INCLUDED IN THE BASE BID

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DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. BLANKENSHIP, P.E.
FILE NAME:	ENAG_512203_C_3BAYH_mdl.dgn
SIZE:	22"x34"
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

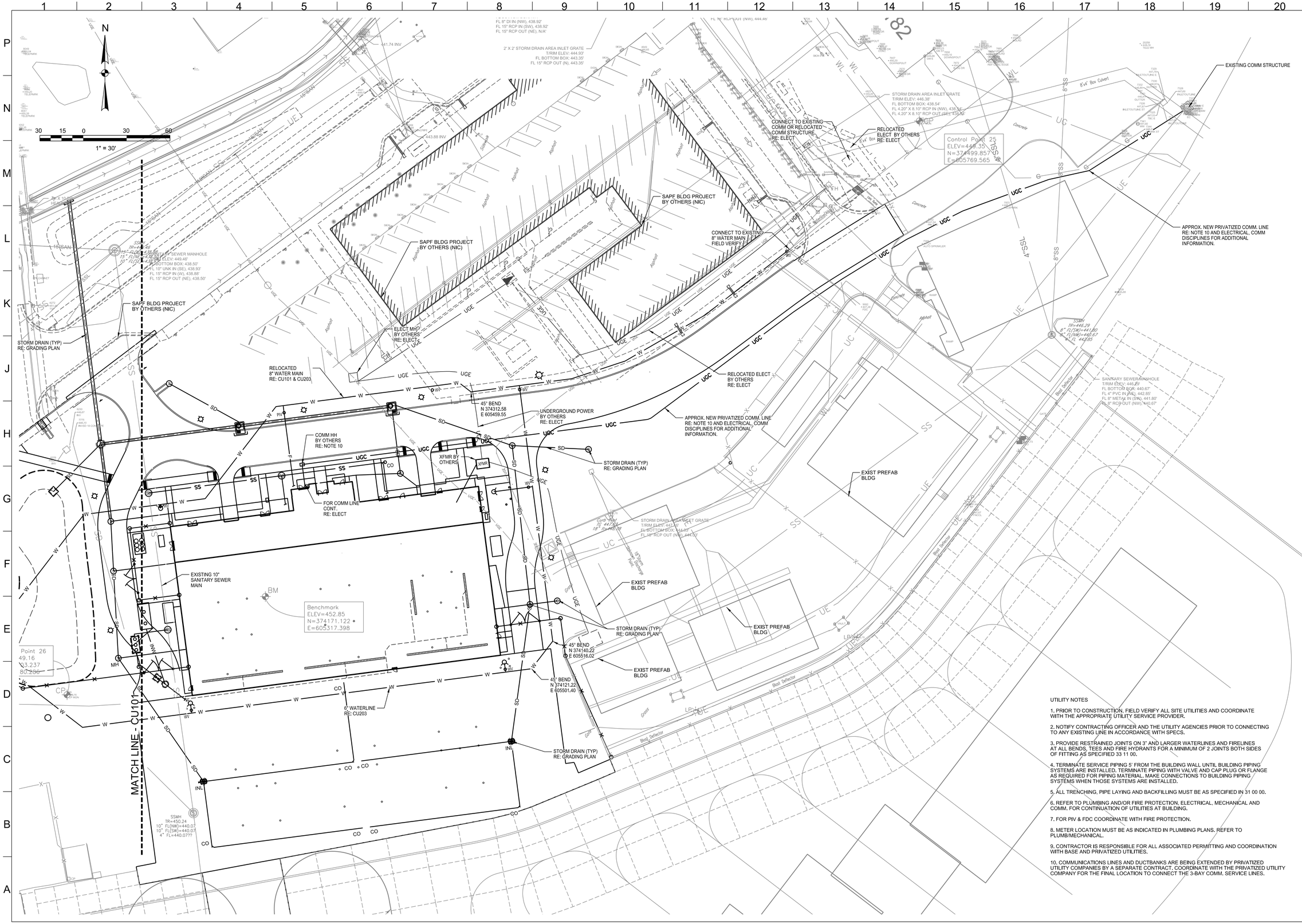
EBBING ANG, ARKANSAS
FORT SMITH AIR HARBOR
FORT SMITH, AR
PN: 512203

UTILITY PLAN

SHEET ID

CU102

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UTILITY NOTES

1. PRIOR TO CONSTRUCTION, FIELD VERIFY ALL SITE UTILITIES AND COORDINATE WITH THE APPROPRIATE UTILITY SERVICE PROVIDER.

2. NOTIFY CONTRACTING OFFICER AND THE UTILITY AGENCIES PRIOR TO CONNECTING TO ANY EXISTING LINE IN ACCORDANCE WITH SPECS.

3. PROVIDE RESTRAINED JOINTS ON 3" AND LARGER WATERLINES AND FIRELINES AT ALL BENDS, TEES AND FIRE HYDRANTS FOR A MINIMUM OF 2 JOINTS BOTH SIDES OF FITTING AS SPECIFIED 33 11 00.

4. TERMINATE SERVICE PIPING 5' FROM THE BUILDING WALL UNTIL BUILDING PIPING SYSTEMS ARE INSTALLED. TERMINATE PIPING WITH VALVE AND CAP PLUG OR FLANGE AS REQUIRED FOR PIPING MATERIAL. MAKE CONNECTIONS TO BUILDING PIPING SYSTEMS WHEN THOSE SYSTEMS ARE INSTALLED.

5. ALL TRENCHING, PIPE LAYING AND BACKFILLING MUST BE AS SPECIFIED IN 31 00 00.

6. REFER TO PLUMBING AND/OR FIRE PROTECTION, ELECTRICAL, MECHANICAL AND COMM. FOR CONTINUATION OF UTILITIES AT BUILDING.

7. FOR PIV & FDC COORDINATE WITH FIRE PROTECTION.

8. METER LOCATION MUST BE AS INDICATED IN PLUMBING PLANS. REFER TO PLUMB/MECHANICAL.

9. CONTRACTOR IS RESPONSIBLE FOR ALL ASSOCIATED PERMITTING AND COORDINATION WITH BASE AND PRIVATIZED UTILITIES.

10. COMMUNICATIONS LINES AND DUCTBANKS ARE BEING EXTENDED BY PRIVATIZED UTILITY COMPANIES BY A SEPARATE CONTRACT. COORDINATE WITH THE PRIVATIZED UTILITY COMPANY FOR THE FINAL LOCATION TO CONNECT THE 3-BAY COMM. SERVICE LINES.

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MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"

ISSUE DATE: 5 DECEMBER 2025
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PLOT SCALE: AS SHOWN
FILE NAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

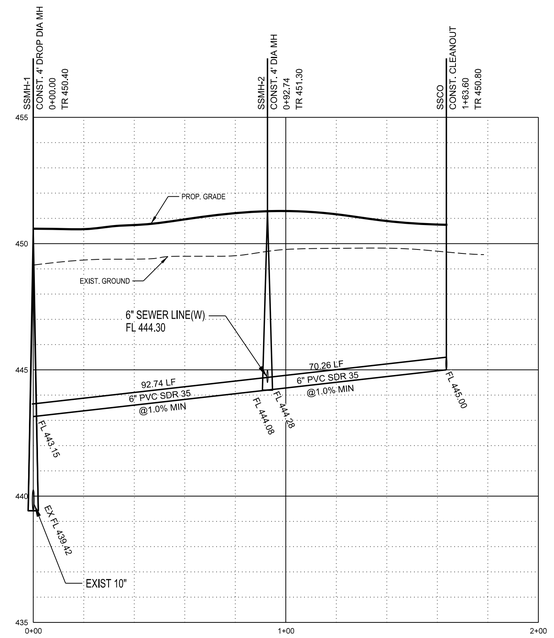
EBBING ANG, ARKANSAS
F-35A MAINTENANCE HANGAR
FORT SMITH, AR
PN: 512203

UTILITY PLAN

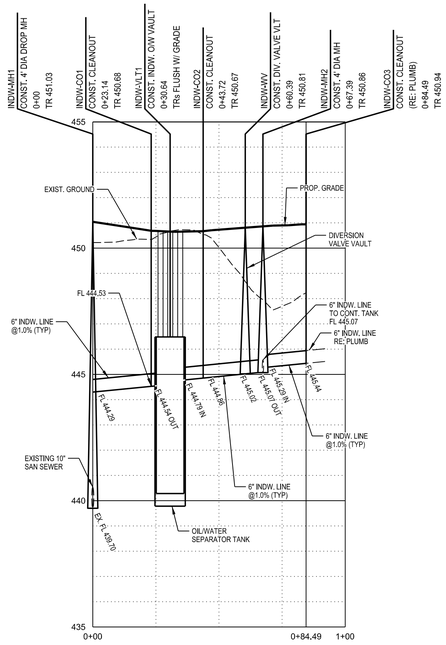
SHEET ID

CU103

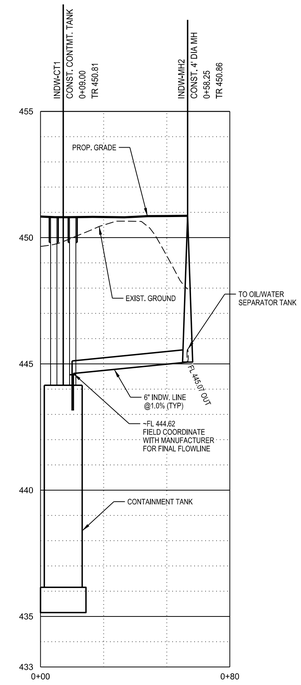
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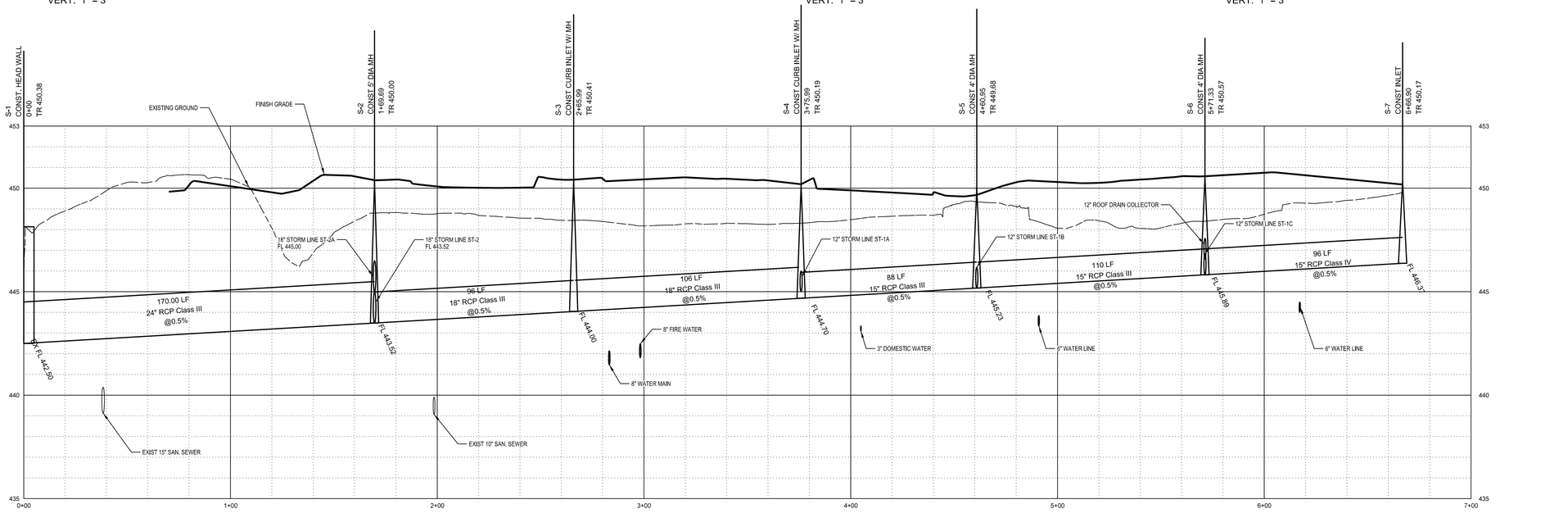
1 6" SANITARY SEWER
SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'



2 6" INDW. LINE TO SEWER MAIN
SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'



3 6" INDW. LINE TO CONTAINMENT TANK
SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'



4 STORM SEWER LINE ST-1
SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. ALVAREZ
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	22"x34"
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN
FILE NAME:	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

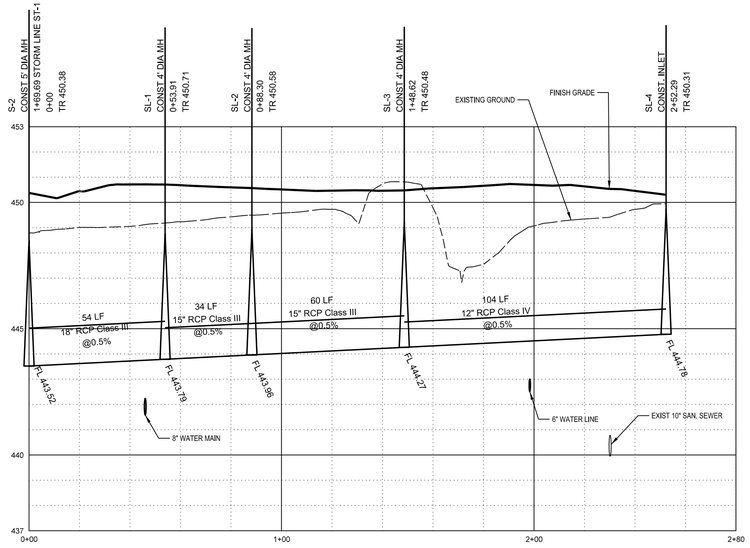
EBBING ANG, ARKANSAS
FMS 3 BAY HANGAR
FORT SMITH, AR
PN: 512203

UTILITY & STORM PROFILES

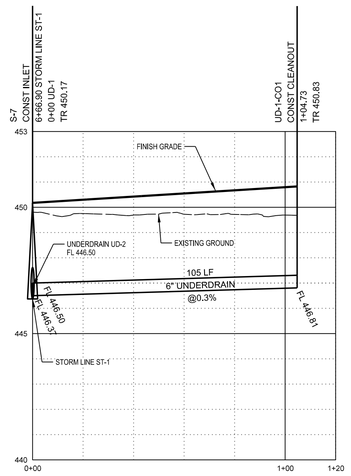
SHEET ID

CU201

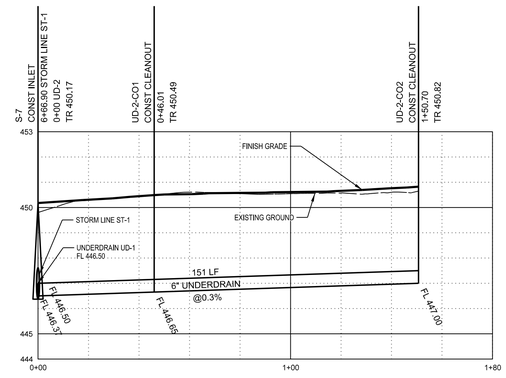
100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



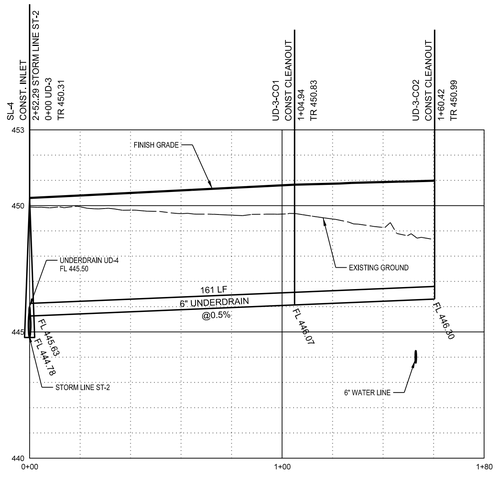
1 STORM SEWER LINE ST-2
SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'



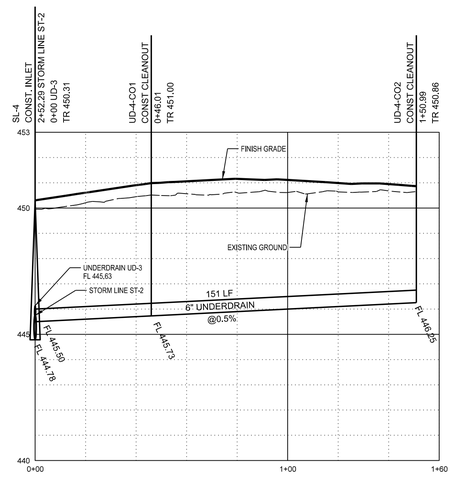
2 UNDERDRAIN UD-1
SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'



3 UNDERDRAIN UD-2
SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'



4 UNDERDRAIN UD-3
SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'



5 UNDERDRAIN UD-4
SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'

US Army Corps of Engineers®

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PLOT SCALE: AS SHOWN
FILENAME: EANG_512203_C_3BAYH_mdl.dgn

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

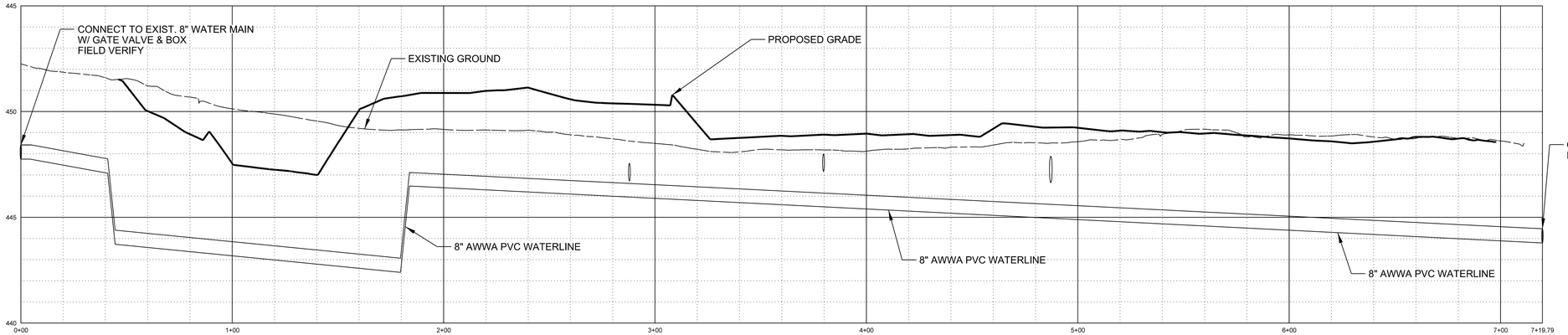
ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FS#3 & 30 HANGAR
FORT SMITH, AR.
PN: 512203

UTILITY & STORM PROFILES

SHEET ID
CU202

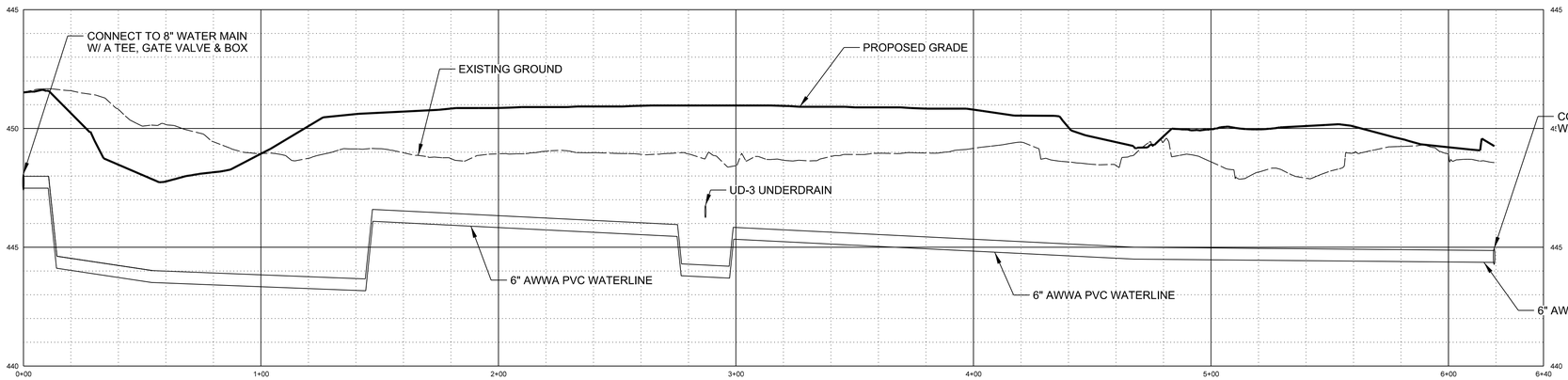
100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



NOTES
1.- 45° VERT. BENDS TYPICAL
& AND FIELD BENDS AS NECESSARY

1 8" WATER MAIN RELOCATION

SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'



NOTES
1.- 45° VERT. BENDS TYPICAL
& AND FIELD BENDS AS NECESSARY

2 6" WATER MAIN LOOP

SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'

US Army Corps of Engineers®

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J. ALVAREZ	5 DECEMBER 2025
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J. ALVAREZ	W912BV26RA004
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U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
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ENGINEERING BRANCH

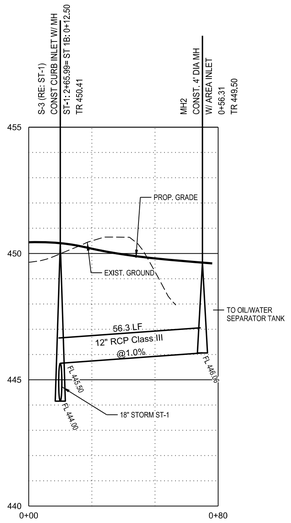
EBBING ANG, ARKANSAS
F-35A 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

UTILITY & STORM PROFILES

SHEET ID

CU203

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1 STORM SEWER LINE ST-1B

SCALE: HORIZ: 1" = 30'
VERT: 1" = 3'

US Army Corps of Engineers®

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J. ALVAREZ	5 DECEMBER 2025
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U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

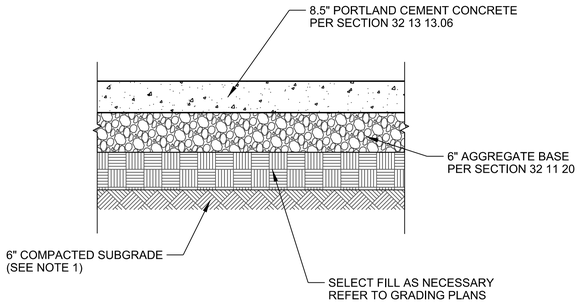
EBBING ANG, ARKANSAS
F-16 AMU HANGAR
FORT SMITH, AR
PN: 512203

UTILITY & STORM PROFILES

SHEET ID

CU204

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION

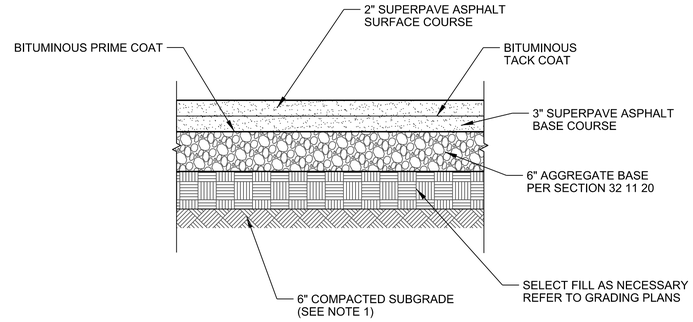


NOTES:

1. REMOVE EXISTING MATERIAL IN ACCORDANCE WITH SECTION 31 00 00 & PLANS

2. PANELS THAT ARE SHADED OR MARKED WITH "R" IN PAVING JOINT PLANS INDICATE REINFORCED PANELS. RE: DETAILS FOR REINFORCING.

1 CONCRETE PAVEMENT FOR SITE & ROADS
SCALE: NTS

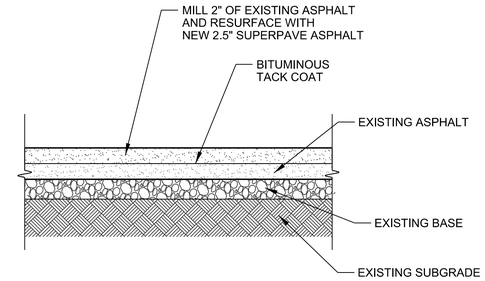


NOTES:

1. REMOVE EXISTING MATERIAL IN ACCORDANCE WITH SECTION 31 00 00.

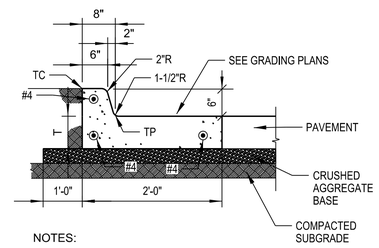
2. APPLY TACK COAT BETWEEN LAYERS AS SPECIFIED in section

2 TEMPORARY PARKING LOT - ASPHALT PAVEMENT
SCALE: NTS



NOTES:
1. FIELD VERIFY PRIOR TO PERFORMING MILL AND OVERLAY.
2. MILL & REMOVE EXISTING MATERIAL IN ACCORDANCE WITH SECTION 32 01 16.71.
3. PERFORM OVERLAY WITH NEW 2.5" ASPHALT SURFACE COURSE PER SPECS 32 12 16.16

3 TEMPORARY PARKING LOT - MILL AND OVERLAY
SCALE: NTS



NOTES:

1. PLACE 1/2" EXPANSION JOINTS AT RADIUS POINTS. DOWELS SHALL BE GREASED ON ONE END.

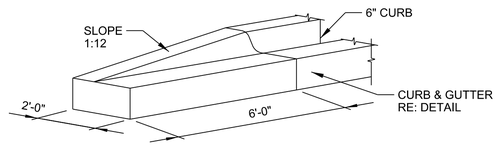
2. PLACE 1-1/2" DEEP CONTRACTION JOINTS AT 15' INTERVALS MAX. JOINTS SHALL PASS THROUGH THE ENTIRE CURB SECTION OR AS SPECIFIED IN SECTION 32 16 19.

3. "T" = THICKNESS, MIN 7", WHERE PAVEMENT THICKNESS IS GREATER, MATCH PAVEMENT THICKNESS

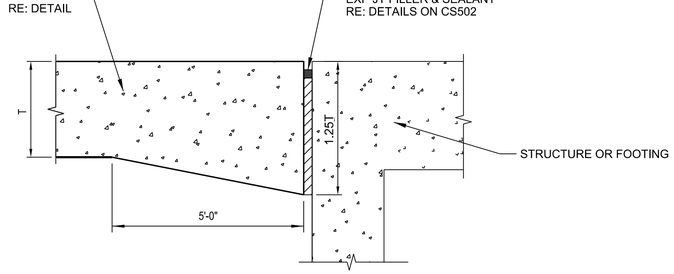
4. FOR PAVEMENT THICKNESS "T", REFER TO PAVEMENT DETAIL

5. PROVIDE #4 REINFORCING BARS WITH A MINIMUM OF 3" COVER.

4 CURB & GUTTER
SCALE: NTS



5 CURB TERMINATION
SCALE: NTS



6 THICKENED AT STRUCTURE
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
SIZE:	FILE NAME:
22"x34"	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

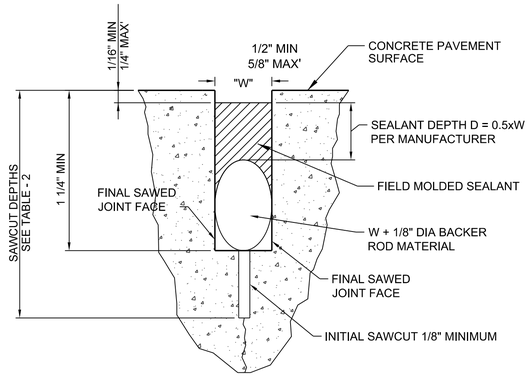
EBBING ANG, ARKANSAS
FMS: 3BAYH, MAGAZINE
FORT SMITH, AR
PN: 512203

SITE DETAILS - 1

SHEET ID

CS501

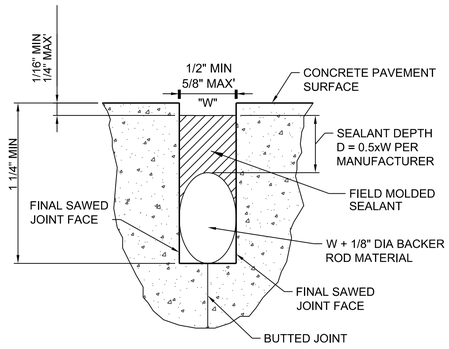
100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



NOTE:
1.COORDINATE SAWCUT DEPTH OF JOINT RESERVOIR WITH SEALANT MANUFACTURER'S RECOMMENDATIONS

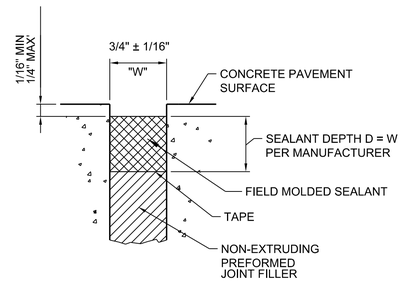
1 CONTRACTION JOINT
SCALE: NTS

TABLE - 2	
PAVEMENT THICKNESS (INCHES)	DEPTH OF INITIAL SAW CUT
LESS THAN 12"	1/4 SLAB THICKNESS



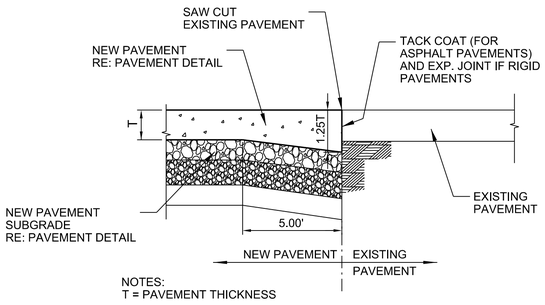
NOTE:
1.COORDINATE SAWCUT DEPTH OF JOINT RESERVOIR WITH SEALANT MANUFACTURER'S RECOMMENDATIONS

2 CONSTRUCTION JOINT
SCALE: NTS



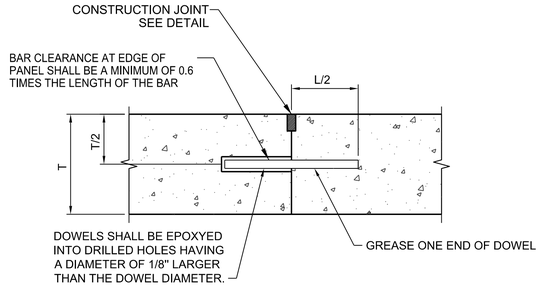
NOTE:
1.COORDINATE SAWCUT DEPTH OF JOINT RESERVOIR WITH SEALANT MANUFACTURER'S RECOMMENDATIONS

3 EXPANSION JOINT
SCALE: NTS



NOTES:
T = PAVEMENT THICKNESS

4 PAVEMENT TRANSITION CONCRETE- EXISTING PAVEMENT
SCALE: NTS



NOTES:
1. CONSTRUCT A DOWELED CONSTRUCTION JOINT WHENEVER PAVING OPERATIONS ARE DELAYED OR STOPPED.

2.CONCRETE SHALL NOT BE DRILLED UNTIL AT LEAST 72 HOURS AFTER PLACEMENT.

5 DOWELED CONSTRUCTION JOINT
SCALE: NTS

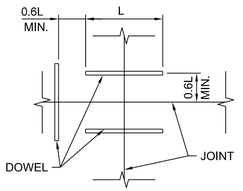


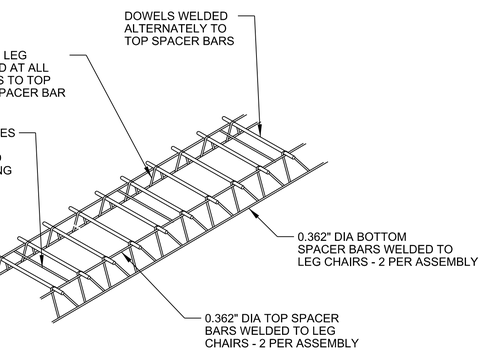
TABLE - 1			
THICKNESS OF SLAB (T)	DIA	LENGTH	SPACING
8.5"	1"	16"	12"

NOTES:

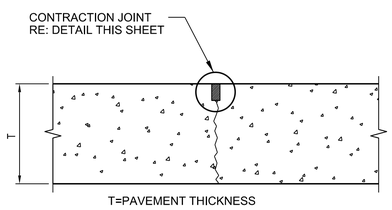
1. SEE SPECIFICATIONS FOR CONCRETE PAVEMENTS AND OTHER HEAVY DUTY PAVEMENTS FOR ADDITIONAL DOWEL BAR SPACING REQUIREMENTS.

2. WHEN DOWELED JOINTS ARE REQUIRED BETWEEN PAVEMENTS OF DIFFERING THICKNESS, THE DOWELS SHALL BE SIZED FOR THINNER SECTION, AND PLACED AT T/2 ± D/2 OF THE THINNER PAVEMENT.

DOWEL LOCATION AND SIZES



6 DOWEL BAR ASSEMBLY
SCALE: NTS



7 CONTRACTION JOINT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILE NAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FMS: ARKANSAS ANG
FORT SMITH, AR
PN: 512203

SITE DETAILS - 2

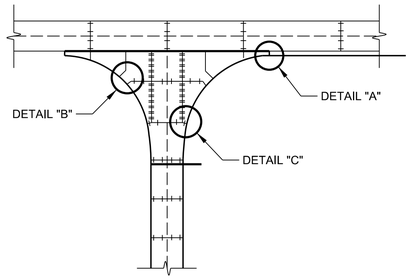
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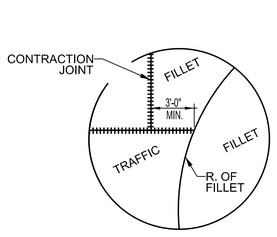
100% READY TO ADVERTISE – NOT FOR CONSTRUCTION

LEGEND

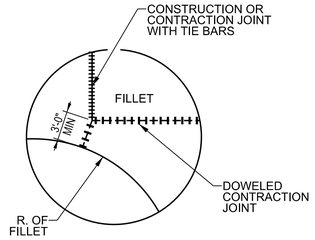
- THICKENED EDGE EXPANSION
- DOWELED CONSTRUCTION JOINT
- LONGITUDINAL CONTRACTION JOINT
- DOWELED CONTRACTION JOINT

NOTES:
1. LEGEND IS PROVIDED FOR CLARITY AND ADDITIONAL INFORMATION FOR SITE PAVEMENT JOINT LAYOUT. LAYOUT JOINTS AS INDICATED IN PLANS AND NOTED HEREIN.

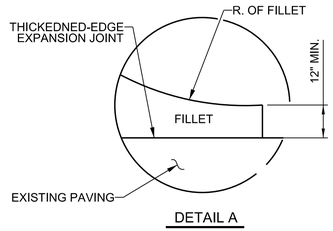




DETAIL C

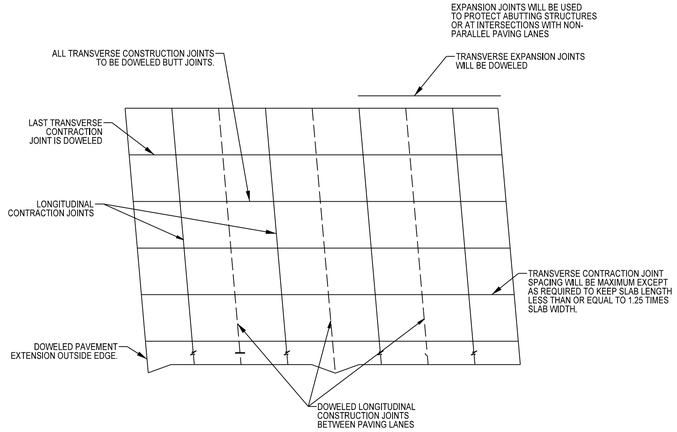


DETAIL B

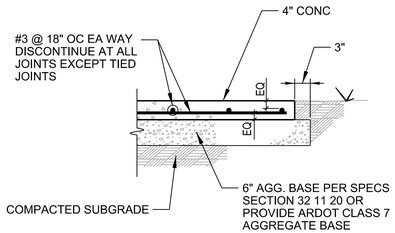


DETAIL A

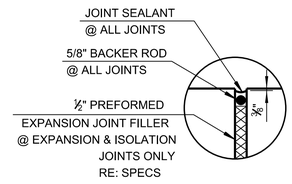
1 JOINT LAYOUT FOR ROADS AND INTERSECTIONS
SCALE: NTS



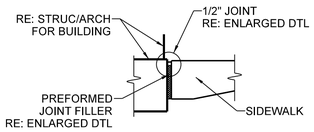
2 JOINT LAYOUT FOR PAKING AREAS
SCALE: NTS



NOTES:
1. SIDEWALK CROSS SLOPE SHALL BE 2% MAX
2. SIDEWALK FINISH SHALL BE BROOM FINISH, UNO
3. EXPANSION JOINTS SPACING @ 40' MAX

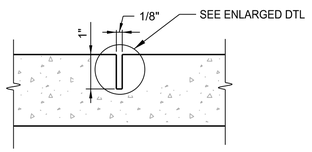


ENLARGED DTL

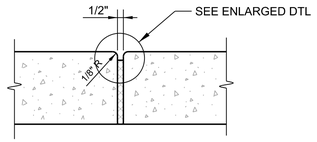


FOR ISOLATION JOINT RE: ARCH & STRUCT.
IF NO JOINT SPECS EXIST, PROVIDE ½" ISOLATION JOINTS @ STRUCTURES AS SHOWN

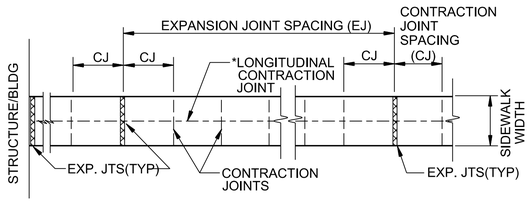
ISOLATION JOINT



CONTRACTION JOINT



EXPANSION JOINT

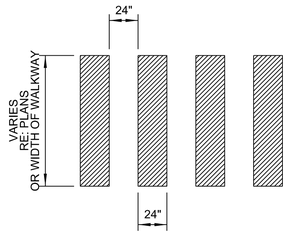


NOTES:
1. CONSTRUCT JOINTS AS PER SPECIFICATIONS 32 16 19.

2. (*) LONGITUDINAL JOINTS ARE REQUIRED WHEN SIDEWALKS ARE GREATER THAN 6' IN WIDTH OR AS SHOWN IN PLANS.

3. PROVIDE EXPANSION JOINTS SPACING MUST NOT EXCEED 48' OR AS SHOWN IN PLANS.

3 SIDEWALK
SCALE: NTS



4 CROSSWALK STRIPING
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: J. ALVAREZ	SOLICITATION NO.: W912BV26RA004
REVIEWED BY: J. ALVAREZ	CONTRACT NO.: -
SUBMITTED BY: A. BLANKENSHIP, P.E.	PLOT SCALE: AS SHOWN
SIZE: 22"x34"	FILENAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

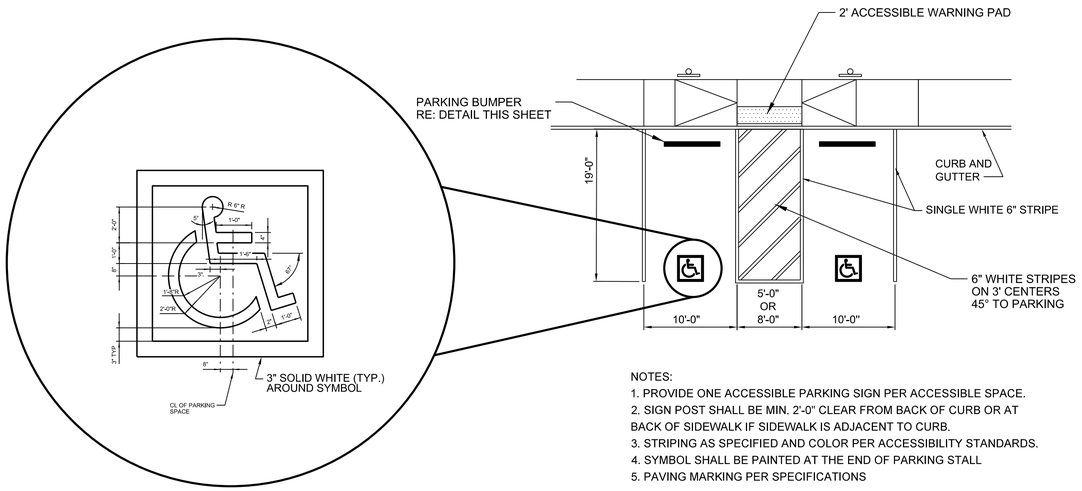
EBBING ANG, ARKANSAS
F-35 ADAL HANGAR
FORT SMITH, AR
PN: 512203

SITE DETAILS - 3

SHEET ID

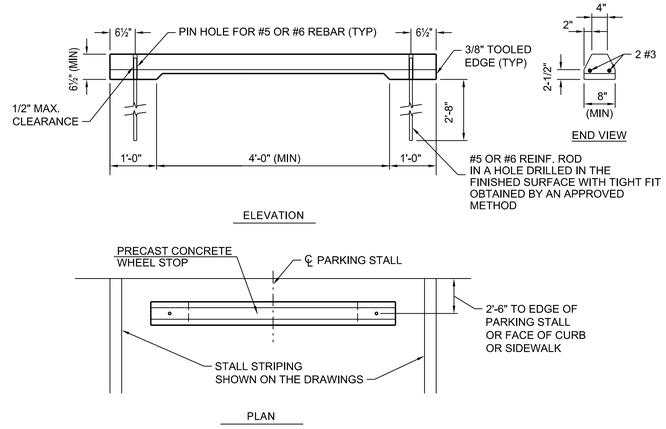
CS503

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



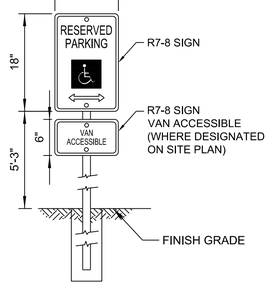
NOTES:
1. PROVIDE ONE ACCESSIBLE PARKING SIGN PER ACCESSIBLE SPACE.
2. SIGN POST SHALL BE MIN. 2'-0" CLEAR FROM BACK OF CURB OR AT BACK OF SIDEWALK IF SIDEWALK IS ADJACENT TO CURB.
3. STRIPING AS SPECIFIED AND COLOR PER ACCESSIBILITY STANDARDS.
4. SYMBOL SHALL BE PAINTED AT THE END OF PARKING STALL
5. PAVING MARKING PER SPECIFICATIONS

1 ACCESSIBLE MARKING
SCALE: NTS

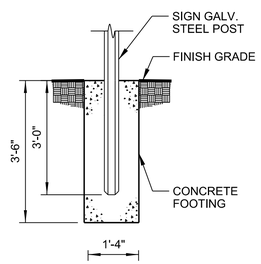


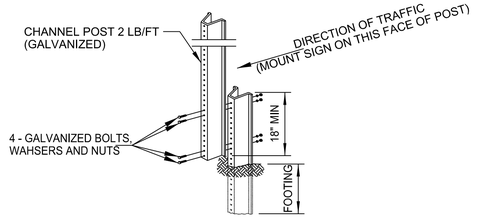
NOTES:
1. MINOR DEVIATIONS OF A MANUFACTURER'S STANDARD PRODUCT FROM THE CROSS SECTIONS, HOLES, AND DRAINAGE OPENINGS SHOWN ARE ACCEPTABLE.

2 PARKING BUMPER
SCALE: NTS



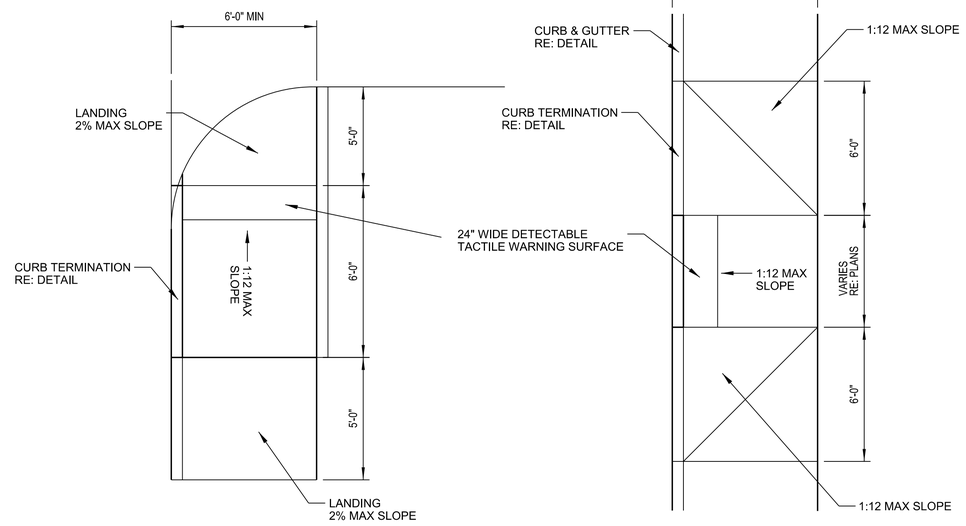
ACCESSIBLE SIGN





NOTES:
1. STUB HEIGHT AND SPLICE LAP SHALL BE 18" MIN.
2. SPLICE SHALL NOT EXTEND BELOW THE GROUND.
3. ONLY ONE SPLICE WILL BE ALLOWED PER POST.
4. THIS DETIAL SHALL BE USED FOR ALL SIGNS WITH A 12" X 18" DIMENSION.

3 ACCESSIBLE SIGN & SIGN FOOTING
SCALE: NTS



4 CURB RAMPS
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"
ISSUE DATE: 5 DECEMBER 2025
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U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

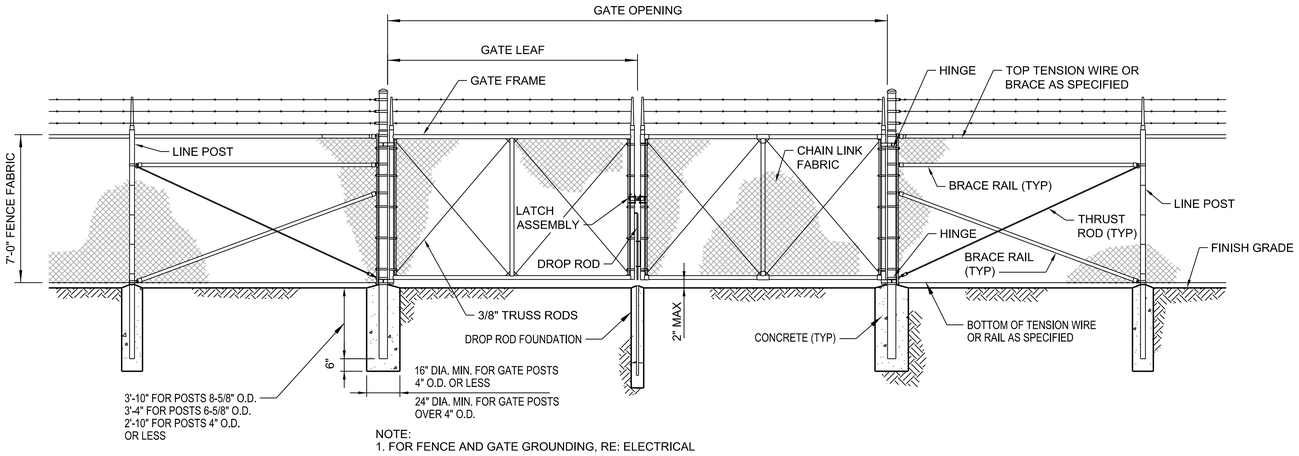
ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
F-35 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

SITE DETAILS - 4

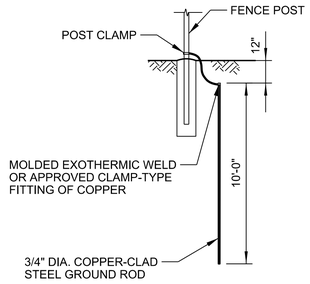
SHEET ID
CS504

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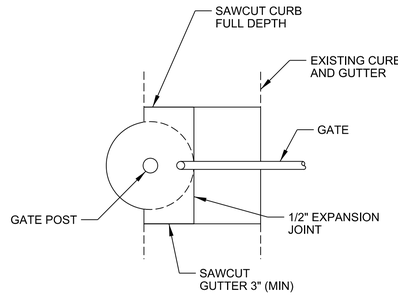


NOTE:
1. FOR FENCE AND GATE GROUNDING, RE: ELECTRICAL

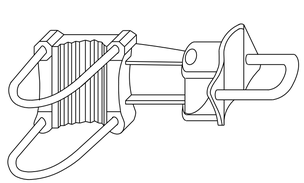
DOUBLE SWING GATE



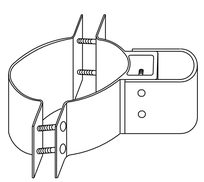
GROUNDING DETAIL



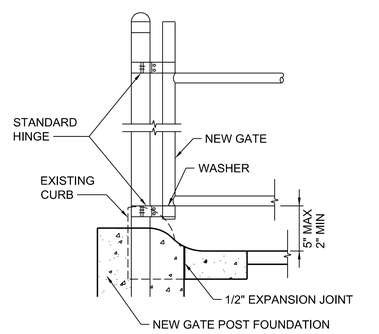
PLAN



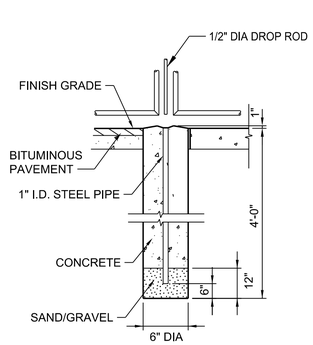
OFFSET HINGE



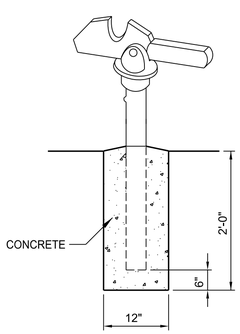
STANDARD HINGE



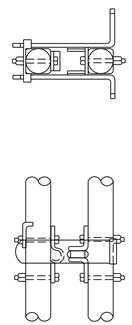
SECTION GATE POST DETAIL AT CURB & GUTTER



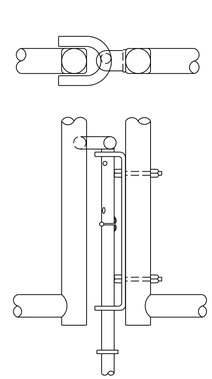
DROP ROD FOUNDATION



GATE KEEPER



LATCH ASSEMBLY



DROP ROD ASSEMBLY

NOTES:

1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT METHODS OF INSTALLATION TO ONE MANUFACTURER.

2. SWING GATES SHALL BE CONSTRUCTED WITH DROP RODS, PADLOCKS, LATCH ASSEMBLY AND GATE KEEPERS EXCEPT AS NOTED.

3. ALL GATE FRAMES SHALL BE A MINIMUM OF 1.90" NOMINAL(ROUND) OR 2.00" NOMINAL (SQUARE). GATE FRAMES SHALL BE WELDED CONSTRUCTION OR SHALL BE ASSEMBLED USING HEAVY FITTINGS. AT CONTRACTOR'S OPTION, A WELDED HORIZONTAL BRACE MAY BE USED IN LIEU OF TRUSS RODS TO BRACE ALL WELDED GATE FRAMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER RIGID CONSTRUCTION OF ALL GATES SUPPLIED.

GATE POST SCHEDULE	
GATE LEAF WIDTH (NOMINAL)	OUTSIDE DIMENSION (NOMINAL)
6' OR LESS	2.875" O.D. 2.5" SQ.
MORE THAN 6' TO 13'	4.0" O.D.
MORE THAN 13' TO 18'	6.625" O.D.
MORE THAN 18'	8.625" O.D.

1 DOUBLE SWING GATE
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
PLANKENHORN, P.E.
ENAME: EANG_512203_C_3BAYH_mdl.dgn
DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. PLANKENHORN, P.E.
SIZE: 22"x34"

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

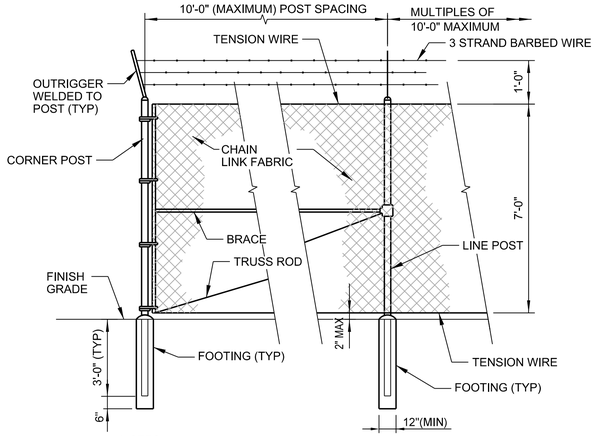
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FLOOD RISK MANAGEMENT
FORT SMITH, AR
PN: 512203

SITE DETAILS - 5

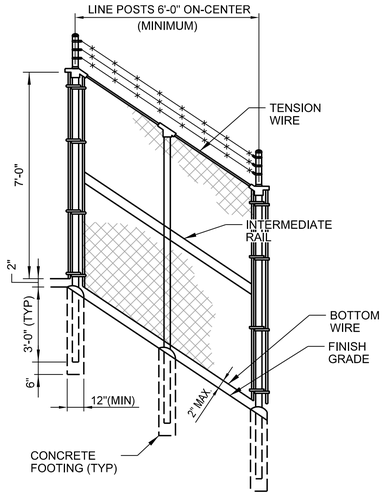
SHEET ID
CS505

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION

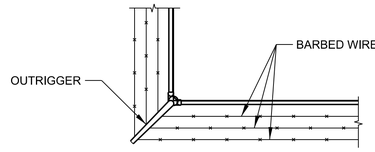


NOTES:
1. SEE SPECIFICATIONS FOR MATERIAL ANCHORAGE AND COLOR.

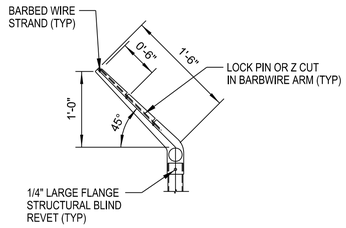
TYPICAL FENCE SECTION



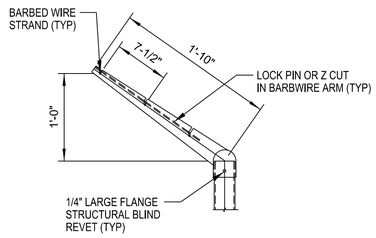
TYPICAL FENCE SECTION ON SLOPE



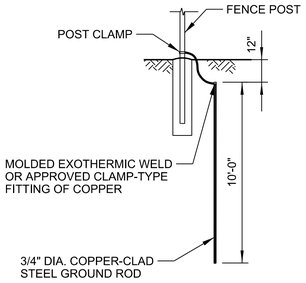
CORNER FENCE PLAN



LINE POST

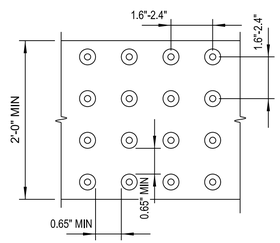


CORNER POST

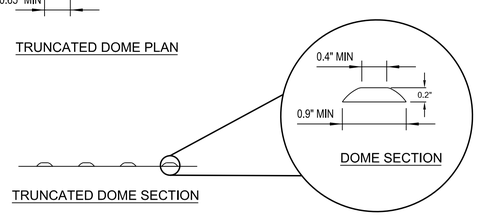


GROUNDING DETAIL

1 CHAIN-LINK SECURITY FENCE
SCALE: NTS



TRUNCATED DOME PLAN



TRUNCATED DOME SECTION

NOTES:

1. PROVIDE ACCESSIBLE WARNING PAD FOR SIDEWALKS OR WALKWAYS AS INDICATED IN PLANS OR REQUIRED BY CODE.

2. DETECTABLE WARNING PAD MUST BE 2'-0" MINIMUM IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF RAMP OR SIDEWALK WIDTH.

3. TRUNCATED DOMES MUST BE IN ACCORDANCE WITH THE ACCESSIBILITY STANDARDS AND AS INDICATED HEREIN.

4. DETECTABLE WARNING PAD MUST BE COORDINATED WITH ACO AND EBBING PRIOR TO CONSTRUCTION.

2 ACCESSIBLE DETECTABLE WARNING PAD
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: J. ALVAREZ	SOLICITATION NO.: W912BV26RA004
REVIEWED BY: J. ALVAREZ	CONTRACT NO.: -
SUBMITTED BY: A. BLANKENSHIP, P.E.	PLOT SCALE: AS SHOWN
SIZE: 22"x34"	FILENAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

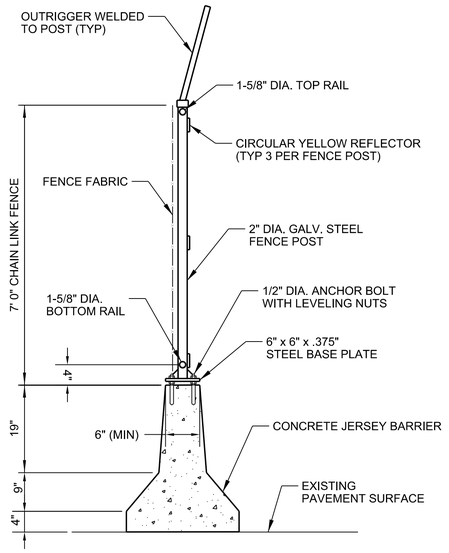
EBBING ANG, ARKANSAS
F-16 AMU HANGAR
FORT SMITH, AR
PN: 512203

SITE DETAILS - 6

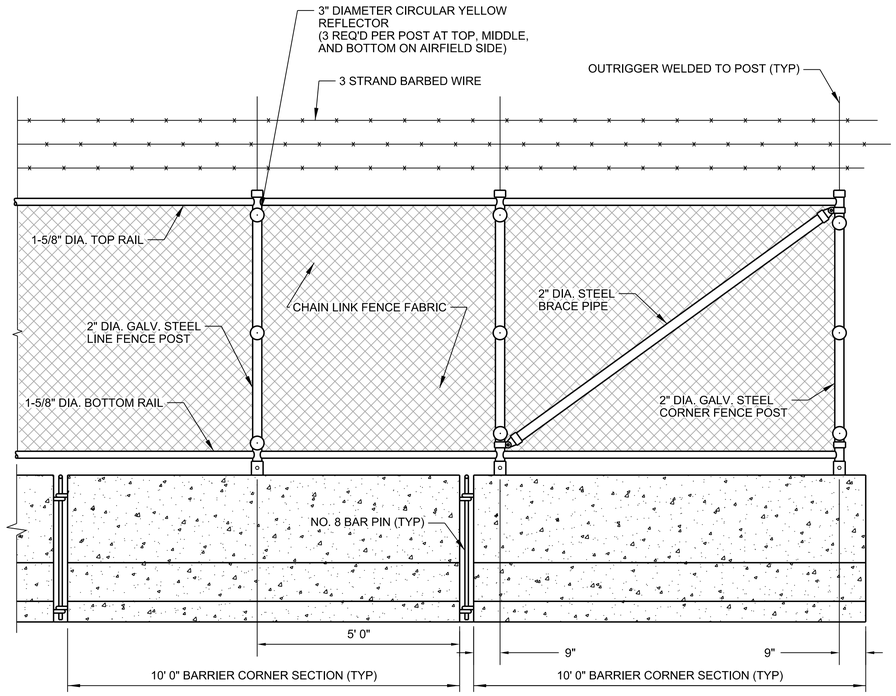
SHEET ID

CS506

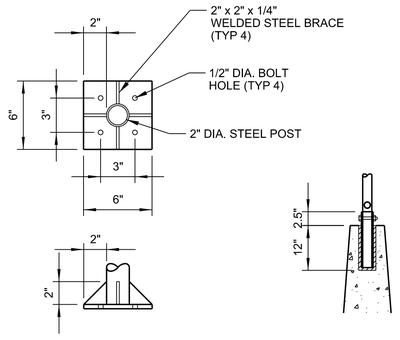
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SECTION



ELEVATION



DETAIL OF BASE PLATE

ALTERNATE METHOD OF POST ATTACHMENT

NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIALS SHOWN INCLUDING CONCRETE BARRIERS.

2. FOD BARRIERS WILL BE SUBJECTED TO JET BLAST FROM TAXIING AIRCRAFT ON APRON. WIND SPEEDS POSSIBLE UP TO 70 MPH AND JET EXHAUST SPEEDS OF UP TO 100 MPH. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE FOD BARRIER SYSTEM SUCH THAT OVERTURN FROM JET BLAST IS PREVENTED AND CONTRACTOR PERSONNEL PROTECTION FROM FOD RESULTING FROM JET BLAST IS MAXIMIZED.

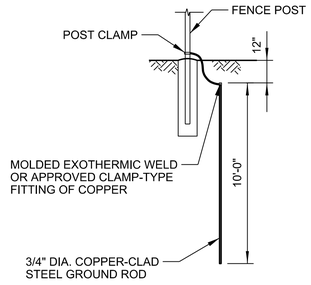
3. BARRIERS SHALL BE INTERCONNECTED WITH ONE ANOTHER TO RESIST THE POSSIBILITY OF OVERTURN DUE TO JET BLAST.

4.THE POST ATTACHMENT METHODS SHOWN ARE RECOMMENDATIONS. THE CONTRACTOR SHALL SUBMIT METHODS TO THE COR FOR APPROVAL.

5. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF FENCE MATERIAL, BARRIERS, ETC. THROUGHOUT CONSTRUCTION.

6. FINAL LOCATION FOR MOVEABLE BARRIER MOUNTED SECURITY FENCE SHALL BE AS SHOWN IN CONCEPT DRAWINGS

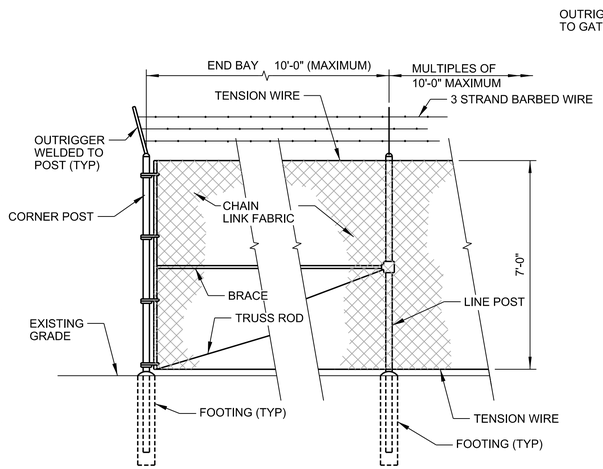
7. GAP DIMENSIONS SHALL NOT EXCEED AS INDICATED ON DRAWINGS.



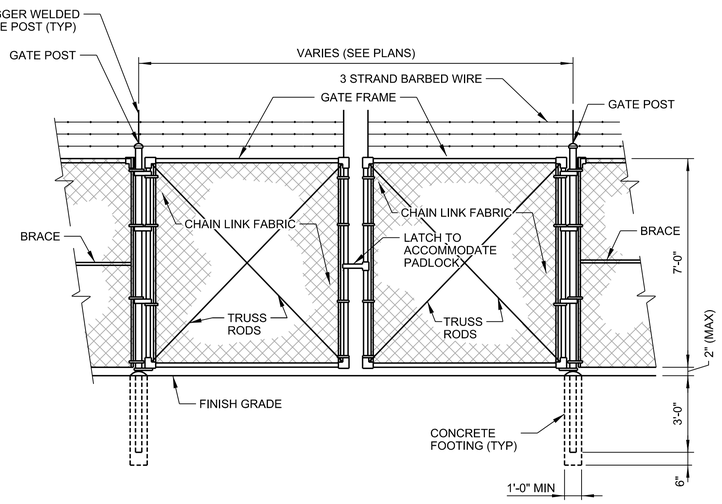
GROUNDING DETAIL

1 MOVEABLE BARRIER MOUNTED SECURITY FENCE

SCALE: NTS



NOTES:
1. SEE SPECIFICATIONS FOR MATERIAL ANCHORAGE AND COLOR.



2 TEMPORARY CONSTRUCTION SECURITY FENCE AND GATE

SCALE: NTS

NOTES:

1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT METHODS OF INSTALLATION TO ONE MANUFACTURER.

2. SWING GATES SHALL BE CONSTRUCTED WITH DROP RODS, PADLOCKS, LATCH ASSEMBLY AND GATE KEEPERS EXCEPT AS NOTED.

3. ALL GATE FRAMES SHALL BE A MINIMUM OF 1.90" NOMINAL(ROUND) OR 2.00" NOMINAL (SQUARE). GATE FRAMES SHALL BE WELDED CONSTRUCTION OR SHALL BE ASSEMBLED USING HEAVY FITTINGS. AT CONTRACTOR'S OPTION, A WELDED HORIZONTAL BRACE MAY BE USED IN LIEU OF TRUSS RODS TO BRACE ALL WELDED GATE FRAMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER RIGID CONSTRUCTION OF ALL GATES SUPPLIED.

GATE POST SCHEDULE	
GATE LEAF WIDTH (NOMINAL)	OUTSIDE DIMENSION (NOMINAL)
6' OR LESS	2.875" O.D. 2.5" SQ.
MORE THAN 6' TO 13'	4.0" O.D.
MORE THAN 13' TO 18'	6.625" O.D.
MORE THAN 18'	8.625" O.D.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILENAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

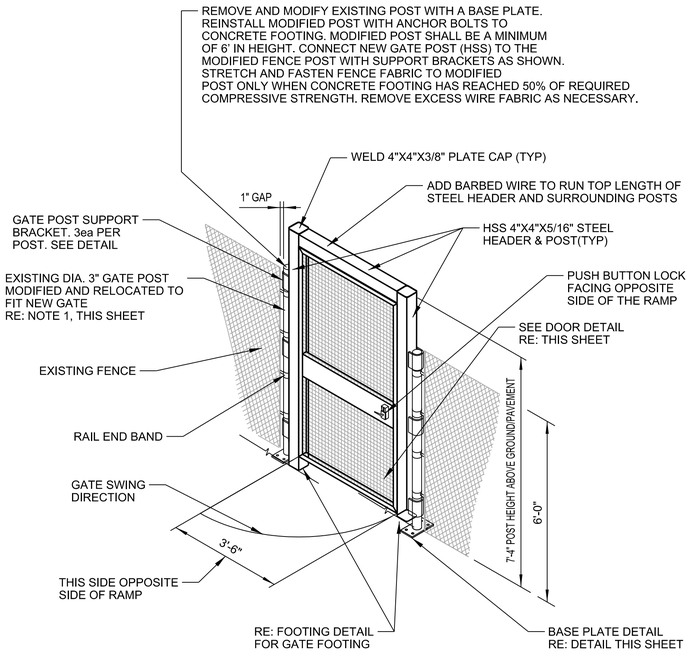
EBBING ANG, ARKANSAS
F-35 ADAL HANGAR
FORT SMITH, AR
PN: 512203

SITE DETAILS - 7

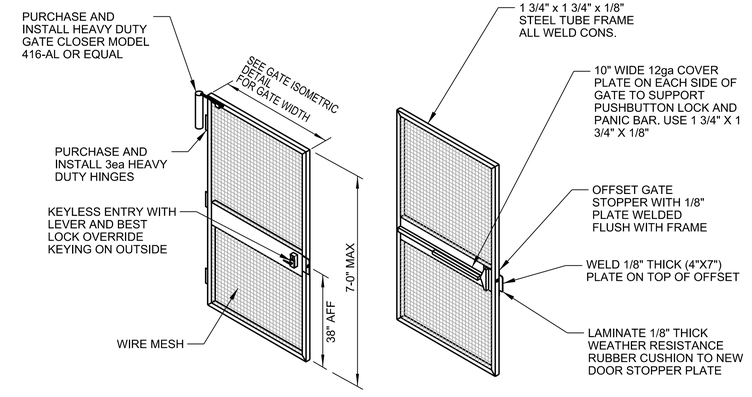
SHEET ID

CS507

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



GATE ISOMETRIC



DOOR DETAIL

NOTES:

2. PAINT GATE LIGHT GRAY COLOR MATCHING THE EXISTING CHAIN-LINK FENCE. PAINT THE NEW HSS POST ENTIRE LENGTH BEFORE INSTALLING IN THE FOOTING FOUNDATION.

3. ALL HSS STEEL SHALL BE ASTM A500 GR. B 46 ksi; AND ALL STEEL PLATES SHALL BE A572, 50 ksi.

4. INSTALL GATE AFTER THE STEEL POST FOOTINGS HAVE SUFFICIENTLY HARDENED.

5. GATE POSTS SHALL BE PLUMB AND ALIGNED TO THE EXISTING CHAIN-LINK FENCE.

6. TROWEL FINISH CONCRETE AROUND GATE POST AT GROUND/PAVEMENT LEVEL AND SLOPE DOWNWARD TO DIRECT WATER AWAY AND MATCH EXISTING FINISH LEVEL.

7. PROVIDE BOTTOM OF GATES APPROXIMATELY 3" OF PAVEMENT/GROUND CLEARANCE.

8. CAUTION SHALL BE TAKEN TO PREVENT DAMAGE TO UNDERGROUND UTILITY LINES AND EXISTING STRUCTURE (BUILDING) FOUNDATION WHILE DIGGING FOR GATE FOOTING.

9. UNLESS NOTED ALL WELDS ARE FILLET WELD TYPE

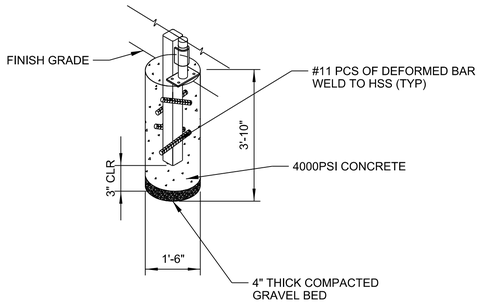
10. DIMENSIONS ARE APPROXIMATE AND SHALL BE VERIFIED AS SITE CONDITION REQUIRES PRIOR TO CUTTING STEEL MATERIALS.

11. CONCRETE PAVEMENT DEPTH AT EXISTING GATE LOCATION WILL NEED TO BE VERIFIED.

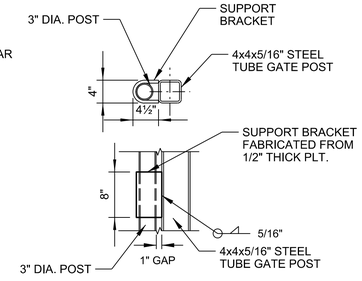
12. INSTALL CENTER OF SUPPORT BRACKETS AT BOTTOM, MID, AND TOP EQUALLY SPACED.

13. CONTRACTOR MAY PROPOSE ALTERNATE SQUARE FOOTING INSTEAD OF ROUND FOOTING IF ROUND FOOTING IS NOT FEASIBLE TO CONSTRUCT. SQUARE FOOTING DIMENSIONS SHALL BE 1'-6"X1'-6". SUBMIT ALTERNATE SHOP DRAWINGS TO CONTRACTING OFFICER FOR APPROVAL.

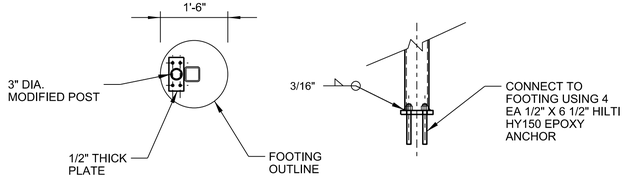
14. MODIFIED CHAIN-LINK POSTS SHALL MATCH EXISTING MATERIAL AND SIZE. EXISTING POSTS ARE ZINC COATED GALVANIZED STEEL. STANDARD STEEL IS NOT ALLOWED FOR FENCE POSTS.



FOOTING DETAIL



POST SUPPORT BRAKET DETAIL



BASE PLATE DETAIL



GATE NUMBER SIGN

1 PERSONNEL GATE DETAIL
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
22"x34" | EANG_512203_C_3BAYH_mdl.dgn
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U.S. ARMY CORPS OF ENGINEERS
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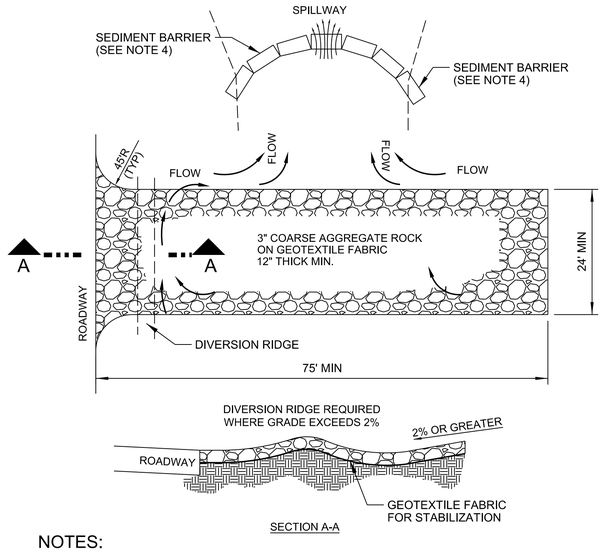
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
F-16'S AND HANGAR
FORT SMITH, AR
PN: 512203

SITE DETAILS - 8

SHEET ID
CS508

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

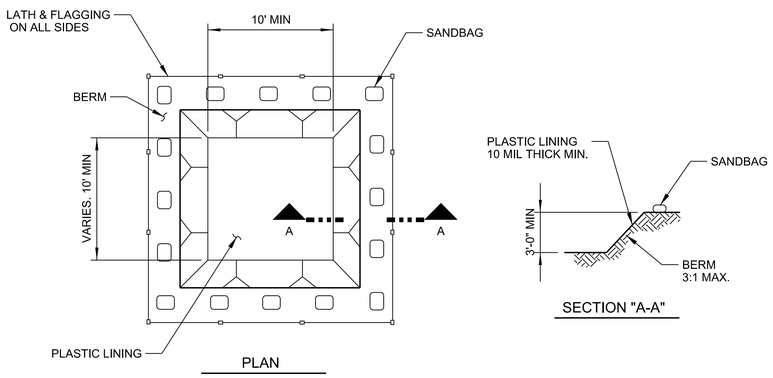
2. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. CONTRACTOR TO PROVIDE EQUIPMENT FOR WASHING.

3. USE SANDBAGS OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

4. PROVIDE CRUSHED AGGREGATE FOR CONSTRUCTION EXITS. FURNISH AGGREGATES THAT ARE CLEAN, HARD, DURABLE, AND FREE FROM ADHERENT COATINGS SUCH AS SALT, ALKALI, DIRT, CLAY, LOAM, SHALE, SOFT, OR FLAKY MATERIALS AND ORGANIC AND INJURIOUS MATTER. PROVIDE 5" TO 8" CRUSHED ROCK.

1 TEMPORARY ROCK CONSTRUCTION ENTRANCE/EXIT

SCALE: NTS



PLAN

SECTION "A-A"

NOTES

1. FINAL LAYOUT AND PLACEMENT SHALL BE DETERMINED ON THE FIELD.

2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT PIT.

3. SIGN SHALL BE 48"x24" PLYWOOD BOARD PAINTED WHITE W/ BLACK LETTERS OF 6" IN HEIGHT MINIMUM. SIGN POSTS SHALL BE STEEL OR WOOD POST OF 3½"x3½"x8' MINIMUM. EMBED POSTS ON GROUND MIN 36" BELOW GRADE.

4. MATERIALS USED FOR TEMPORARY CONCRETE WASHOUT SHALL BE DISPOSED IN ACCORDANCE WITH SPECIFICATIONS AND AR DEQ ENVIRONMENTAL REGULATIONS

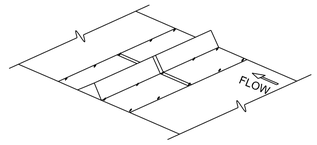
5. WASHOUT PIT SHALL NOT BE LOCATED WITHIN 50' OF ANY WATERWAY OR STORM SEWER CONVEYANCE SYSTEM.

6. WASHOUT PIT AREA AND DISTURBED AREA SHALL BE RESTORED TO EXISTING CONDITIONS UPON PROJECT COMPLETION.

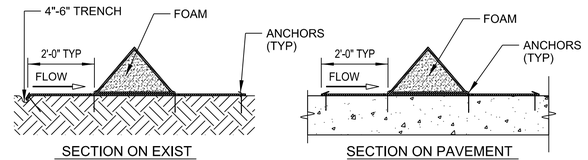
7. WASHOUT PIT DAMAGE SHALL BE REPAIRED IMMEDIATELY.

2 CONCRETE WASH-OUT DETAIL

SCALE: NTS



ISOMETRIC VIEW



NOTES

1. FINAL LAYOUT AND PLACEMENT SHALL BE DETERMINED ON THE FIELD.

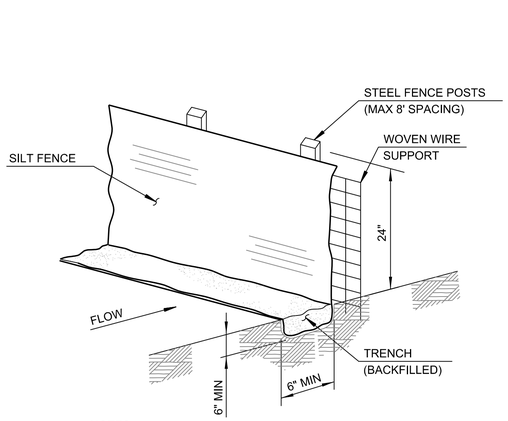
2. PLACE STAPLES WHERE THE UNITS OVERLAP, IN THE CENTERS OF EACH UNIT, AND AS RECOMMENDED BY THE MANUFACTURER. TYPICAL LENGTH OF EACH UNIT IS 7'

3. ANCHORS MUST BE 12" MINIMUM IN LENGTH.

4. MINIMUM SILT DIKE HEIGHT MUST BE 14".

2A EROSION TRIANGULAR SILT DIKE

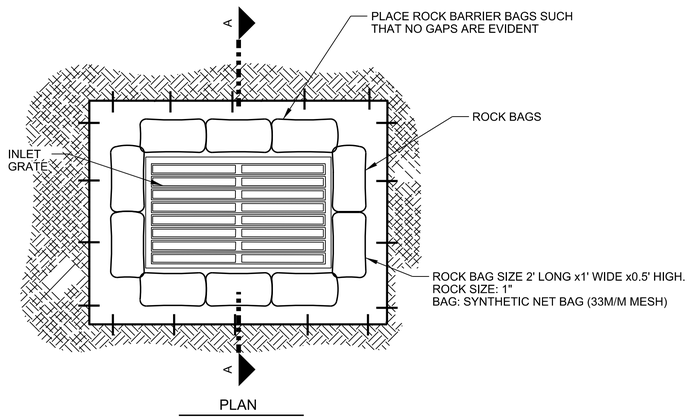
SCALE: NTS



NOTES:
1. EMBED STEEL POST MIN 12"
2. POST MAX HEIGHT 36"
3. INSPECT & MAINTAIN ACCORDING TO ENVIRONMENTAL SPECS AND LOCAL DEQ.

3 SILT FENCE

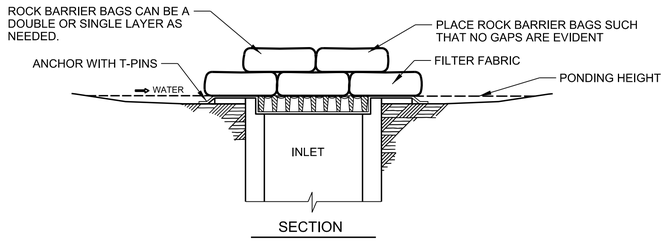
SCALE: NTS



PLAN

4 INLET SEDIMENT ROCK BAG / FILTER MAT

SCALE: NTS



SECTION

NOTES
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%)
2. USE T-PINS TO ANCHOR FIBER MAT INTO THE SOIL.
3. PARTICLE SIZE MUST BE SIZED TO CAPTURE SOLIDS BASED ON THE UPSTREAM SEDIMENT CONDITIONS
4. SIZE DISTRIBUTION OF UPSTREAM SOIL PARTICLES MUST BE EVALUATED.
5. INFLOW AND OUTFLOW FROM THE SYSTEM FOR A SPECIFIC FREQUENCY STORM MUST BE KNOWN.
6. POND VOLUME IS DIRECTLY PROPORTIONAL TO THE DISCHARGE RATE OF WATER FROM THE SYSTEM.
7. POND VOLUME IS INVERSELY PROPORTIONAL TO THE MASS OF THE DESIGN SIZE SUSPENDED PARTICLE.
8. A SYSTEM MUST PROVIDE SUFFICIENT FLOW TO ALLOW FOR DEPOSITION OF DESIGN SIZE PARTICLES.
9. THE PONDING HEIGHT MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNNOFF FROM
BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

4 INLET SEDIMENT ROCK BAG / FILTER MAT

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. ALVAREZ
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	22"x34"
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN
FILENAME:	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

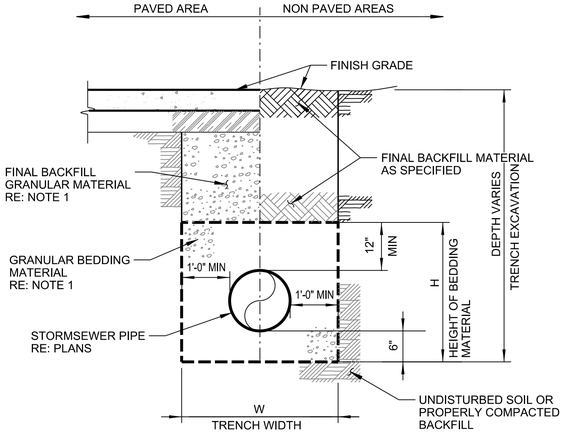
EBBING ANG, ARKANSAS
FMS: XXXXXXXXXX
FORT SMITH, AR
PN: 512203

EROSION CONTROL DETAILS

SHEET ID

CG501

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION

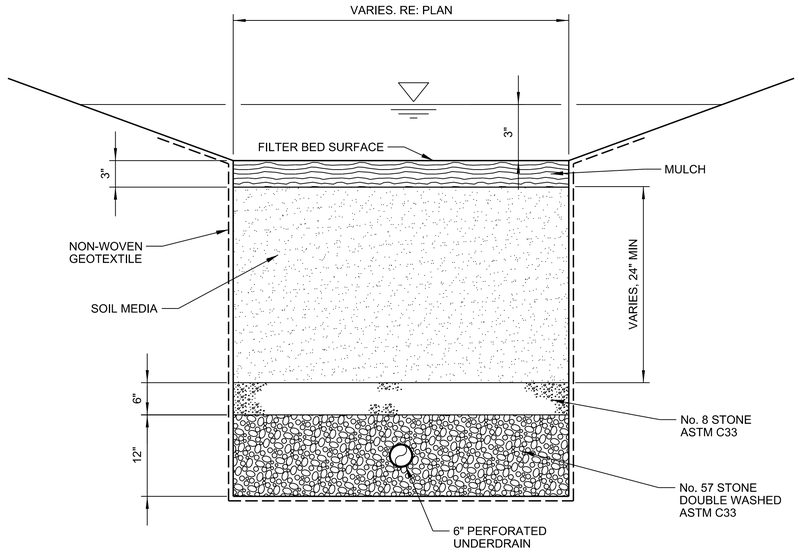


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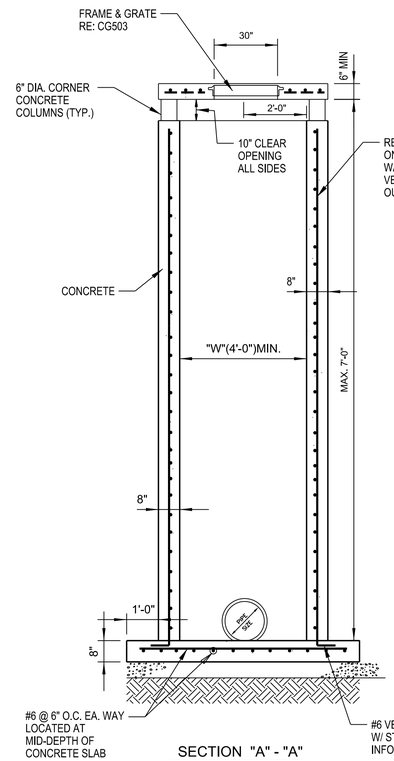
1. BEDDING MATERIAL MUST BE ARDOT CLASS 7 OR CRUSHED STONE AS SPECIFIED.
2. BEDDING AND BACKFILL MATERIAL MUST BE COMPACTED AS SPECIFIED.
3. FOR TRENCHING, BRACING AND SHEATHING OR OTHER TRENCH PROTECTION MEASURES REFER TO SPECS AND EM 385-1-1
4. TRENCHING WIDTHS ARE CONCEPT. FINAL FIELD TRENCH WIDTHS MUST FOLLOW AND COMPLY WITH EM 385-1-1

PIPE DIAMETER	TRENCH WIDTH (MINIMUM)
ID <= 24"	OD + 2'
24" > ID < 36"	OD + 2.5'
36" > ID < 60"	OD + 3.5'

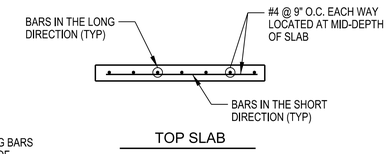
1 TRENCHING & PIPE BEDDING FOR STORMSEWER
SCALE: NTS



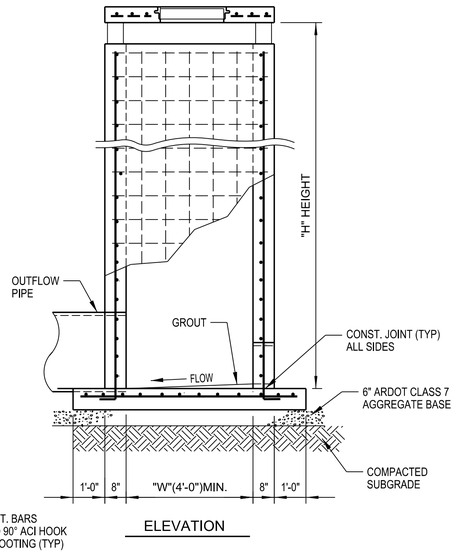
2 BIO-RETENTION
SCALE: NTS



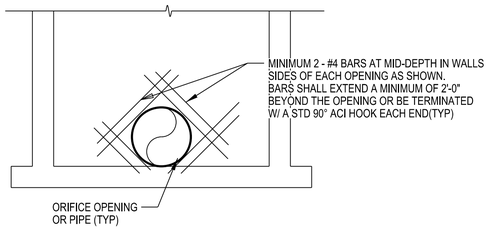
SECTION "A" - "A"

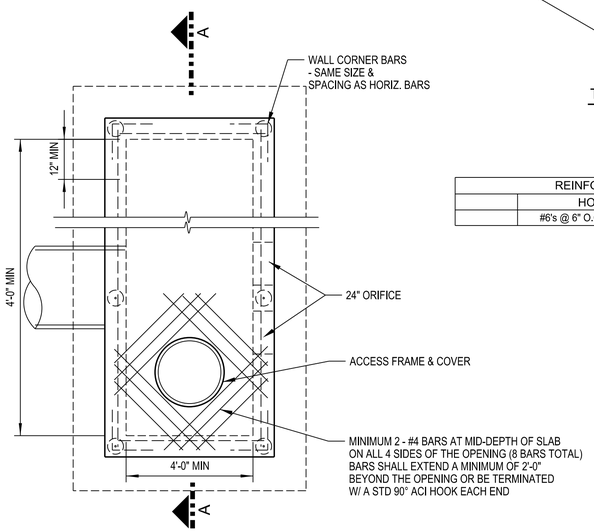


TOP SLAB

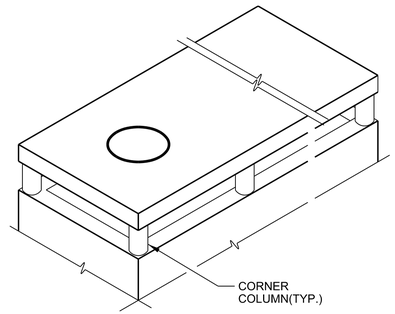


ELEVATION





PLAN



TOP ISOMETRIC

REINFORCEMENT SCHEDULE, ALL WALLS		
	HORZ.	VERT.
	#6's @ 6" O.C. EA. WAY	#6's @ 6" O.C. EA. WAY

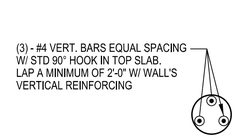
NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.

2. SEE GRADING AND STORMSEWER PLANS FOR FLOWLINES AND ADDITIONAL PLAN INFORMATION

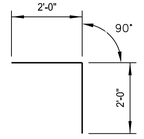
3. MINIMUM CONCRETE STRENGTH = 4,500 PSI @ 28 DAYS UNLESS NOTED OTHERWISE.
MINIMUM REINFORCING ASTM A615, GRADE 60, DEFORMED.

4. STRUCTURE MAY BE PRECAST AND SHALL BE MANUFACTURED IN ACCORDANCE WITH SPECIFICATIONS.

5.ALL PRECAST STRUCTURES SHALL BE DESIGNED BY A LICENSED ENGINEER IN THE STATE OF ARKANSAS. CONTRACTOR SHALL SUBMIT STAMPED AND SEALED DRAWINGS, DESIGN CALCULATIONS AND WATER PROOFING METHOD FOR APPROVAL PRIOR TO FABRICATION.



CORNER
COLUMN REINFORCING



CORNER BAR

3 POND OULET STRUCTURE
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILENAME: EANG_512203_C_3BAYH_mdl.dgn

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"X34"

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

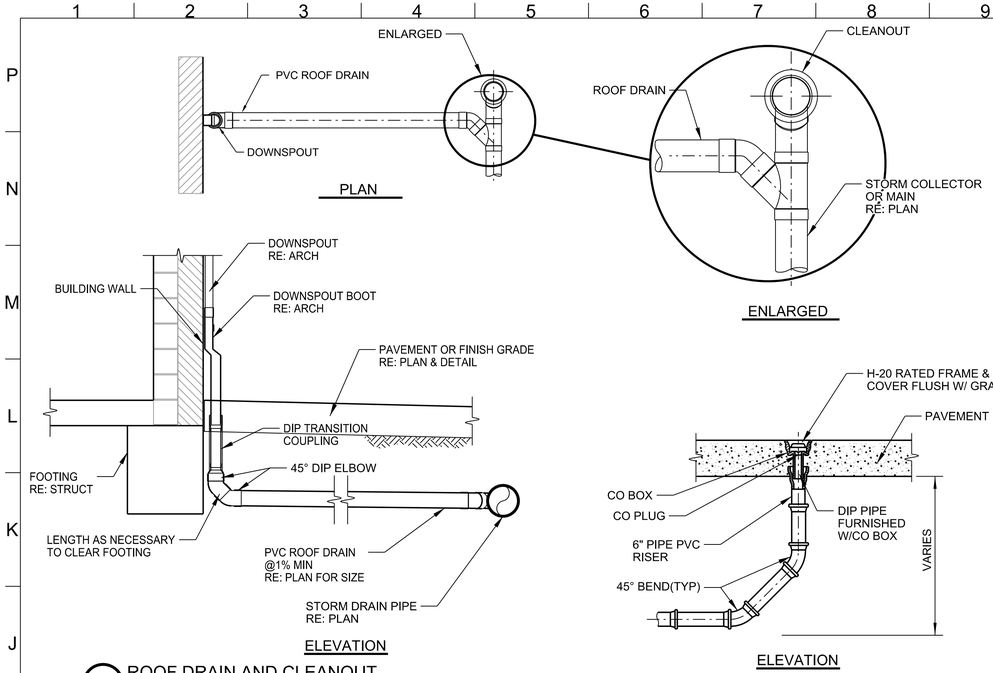
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FORT SMITH AIR GUARD
FORT SMITH, AR.
PN: 512203

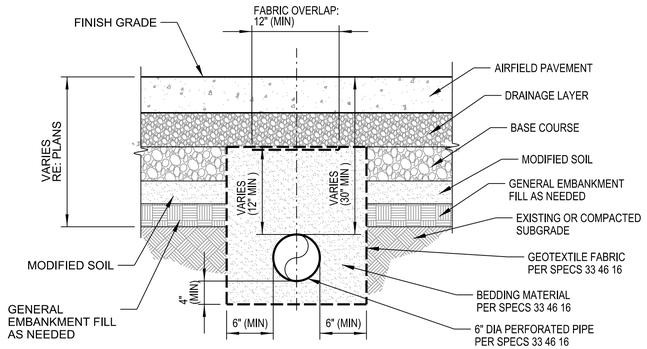
STORM SEWER DETAILS - 1

SHEET ID
CG502

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



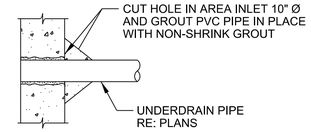
1 ROOF DRAIN AND CLEANOUT
SCALE: NTS



NOTES:
1. THE SIDES OF THE TRENCH SHALL BE SLOPED NOT MORE THAN 1 VERTICAL ON 10 HORIZONTAL FOR THE MINIMUM FROST DEPTH OF 30-INCHES.

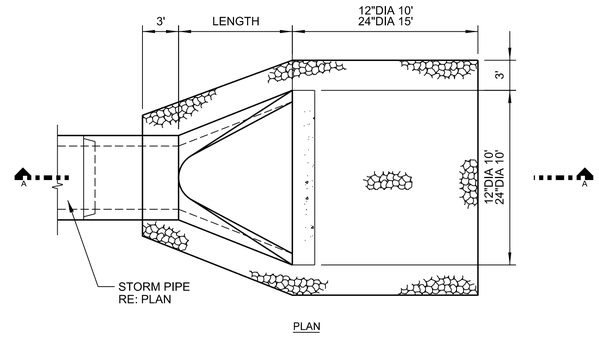
2. FOR CONCRETE PAVEMENTS LOCATE THE PIPE IN VICINITY OF A JOINT.

3. GEOTEXTILE FABRIC REQUIRED AROUND UNDERDRAIN PIPE AND UNDERDRAIN BEDDING MATERIAL. MINIMUM 12" FABRIC OVERLAP.



UNDERDRAIN CONNECTION TO AREA INLET/MANHOLE/PIPE

2 APRON PAVEMENT UNDERDRAIN
SCALE: NTS



NOTES:

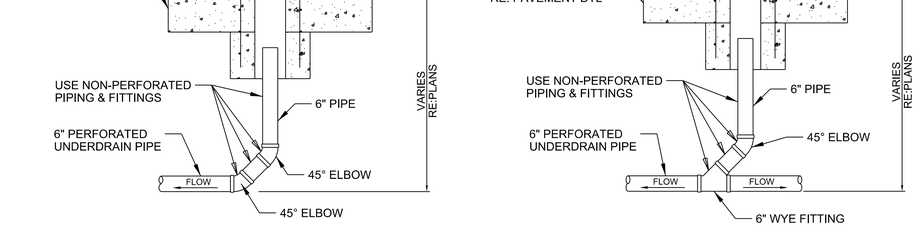
1. FLARED CONCRETE END SECTION SHALL BE PRECAST AND SAME SHAPE(ROUND, ARCH OR ELLIPTICAL) AS THE DISCHARGE PIPE.

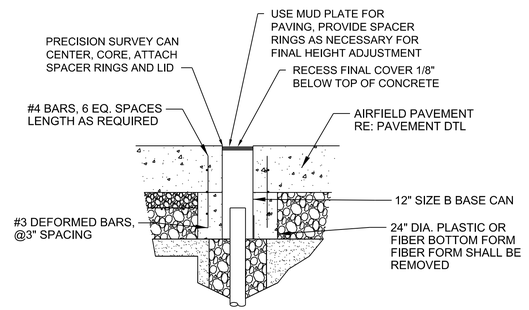
2. PIPE AND END SECTION SHALL BE COMPATIBLE WITH EACH OTHER.

3. PROVIDE RIPRAP TYPE I, BEDDING AND FILTER BLANKET CONFORMING TO DOT SPECIFICATIONS SECTION 601.

4. MINIMUM DIMENSIONS ARE PROVIDED BY DOT, BUT ARE SUBJECT TO MANUFACTURER TOLERANCES

3 PRECAST FLARED END SECTION W/ RIPRAP
SCALE: NTS





TYP UNDERDRAIN CLEANOUT ANCHOR PAD IN AIRFIELD PAVEMENTS

4 AIRFIELD UNDERDRAIN CLEANOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
SIZE:	FILENAME:
22"x34"	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

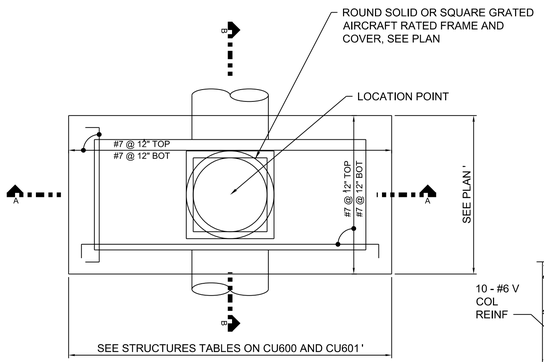
EBBING ANG, ARKANSAS
FMS 3&4 HANGAR
FORT SMITH, AR
PN: 512203

STORM SEWER DETAILS - 2

SHEET ID

CG503

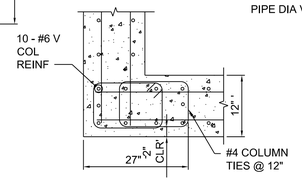
100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



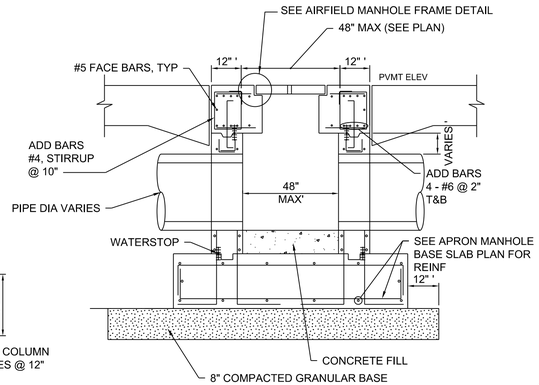
NOTES:

1. SEE PIPE OPENING REINFORCEMENT.DETAIL THIS SHEET

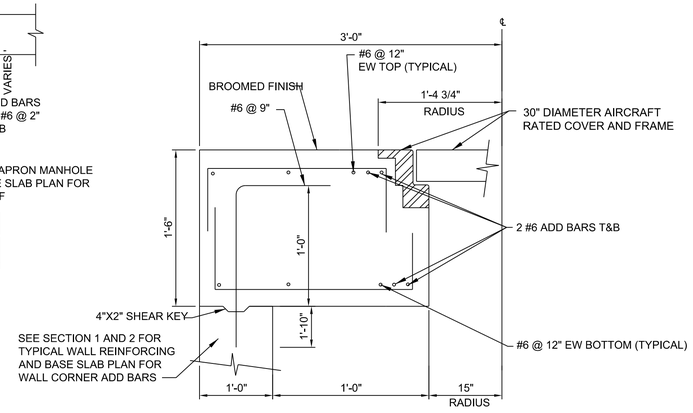
APRON MANHOLE/INLET - TOP SLAB PLAN



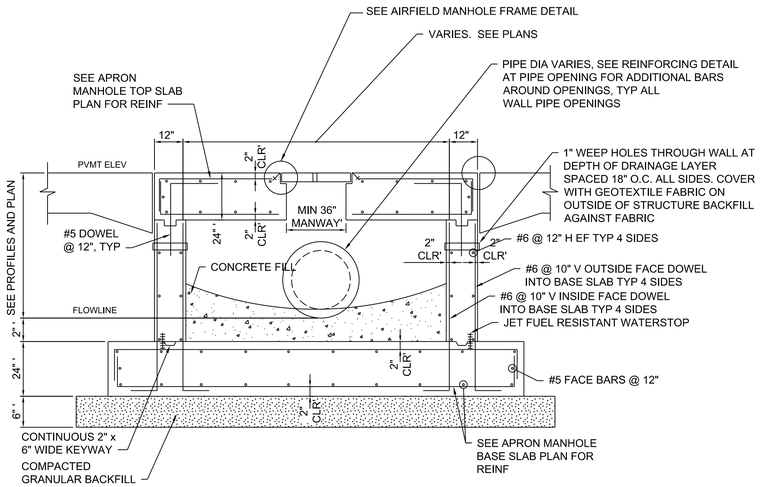
REINFORCING DETAIL H



SECTION B-B

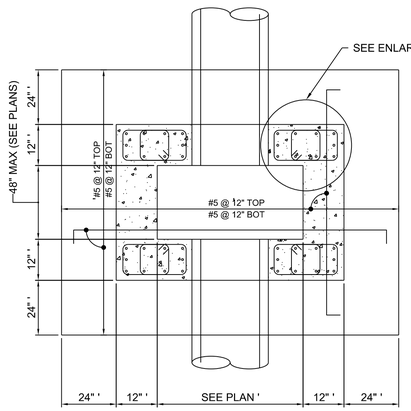


AIRFIELD MANHOLE FRAME DETAIL

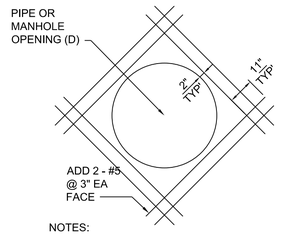


SECTION A-A
APRON MANHOLE/ INLET

1. COORDINATE DIMENSIONS OF OPENING IN LID WITH SELECTED GRATE AND FRAME AND MANUFACTURER



BASE SLAB PLAN
APRON MANHOLE/ INLET



NOTES:
ALL BAR MINIMUM LENGTHS TO BE (D + 20") WITH BARS CENTERED ON OPENINGS.

REINFORCING @ PIPE OPENING OR MANHOLE LID OPENING

NOTES:

1. REINFORCED CONCRETE: PER SPECIFICATIONS.
A. REINFORCED CONCRETE SHALL BE PREPARED AND PLACED IN ACCORDANCE WITH ACI MANUAL OF CONCRETE PRACTICE.

2. UNLESS NOTED OTHERWISE: MINIMUM 28-DAY COMPRESSIVE STRENGTH 4000 PSI, NORMAL WEIGHT.

3. FORMWORK
A. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, ENGINEERING, STRUCTURAL ADEQUACY, AND CONSTRUCTION OF ALL CONCRETE FORMWORK IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
B. COORDINATE ALL CONCRETE WORK WITH THE PLACEMENT OF PIPING, INSERTS, FLOOR DRAINS, AND OTHER EMBEDDED ITEMS INDICATED ON THE CONTRACT DRAWINGS OR IN THE CONTRACT SPECIFICATIONS.
C. PROVIDE 3/4 INCH CHAMFER STRIPS ON ALL EDGES OF EXPOSED CONCRETE, UNLESS NOTED OTHERWISE.

4. REINFORCING STEEL
A. BARS: ASTM A615M GRADE 420 (ASTM A615, GRADE 60).
B. WELDED WIRE FABRIC: ASTM A185.
C. ALL CONCRETE SHALL BE REINFORCED UNLESS SPECIFICALLY MARKED "NOT REINFORCED" OR "UNREINFORCED".
D. SUBCONTRACTOR SHALL DETAIL AND PLACE ALL REINFORCEMENT IN ACCORDANCE WITH ACI SP-66, ACI 301, ACI 318, AND CRSI MANUAL OF STANDARD PRACTICE.

5.
MINIMUM CONCRETE CLEAR COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 INCHES.
B. CONCRETE EXPOSED TO EARTH OR WEATHER: Ø19 THROUGH Ø36 BARS (#6 THROUGH #11 BARS) - 2 INCHES; Ø16 AND SMALLER BARS (#5 AND SMALLER BARS), WELDED WIRE FABRIC - 1.5 INCHES.
C.CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND: SLABS AND WALLS - 3/4 INCHES; BEAMS AND COLUMNS, PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS - 1.5 INCHES.

6. EMBEDMENT AND LAP SPLICE LENGTHS FOR ALL REINFORCING STEEL BARS SHALL CONFORM TO THE FOLLOWING PROVISIONS, UNLESS NOTED OTHERWISE.
A. MINIMUM STRAIGHT EMBEDMENT LENGTHS:
#3 - 11" #6 - 22" #9 - 41"
#4 - 15" #7 - 32" #10 - 46"
#5 - 18" #8 - 36" #11 - 51"
B. MINIMUM LAP SPLICE LENGTHS (mm):
#3 - 14" #6 - 28" #9 - 53"
#4 - 19" #7 - 41" #10 - 59"
#5 - 24" #8 - 47" #11 - 66"
C. MINIMUM HOOK EMBEDMENT LENGTHS:
#3 - 8" #6 - 15" #9 - 22"
#4 - 10" #7 - 17" #10 - 25"
#5 - 12" #8 - 19" #11 - 27"
D. HORIZONTAL BARS HAVING MORE THAN 12 INCHES OF CONCRETE PLACED BELOW THEM SHALL BE CONSIDERED TOP REINFORCEMENT
AND SHALL HAVE MINIMUM STRAIGHT EMBEDMENT AND LAP SPLICE LENGTHS INCREASED BY NOT LESS THAN 30% OVER THOSE GIVEN
ABOVE.

7. PROVIDE ADDITIONAL REINFORCEMENT AT ALL OPENINGS AND CORNER BARS AT ALL INTERSECTING GRADE BEAMS, WALLS, AND CURBS IN ACCORDANCE WITH THE STANDARD DETAILS ON THE DRAWINGS, UNLESS NOTED OTHERWISE.

8. AIRCRAFT DESIGN LOADS: STRUCTURES NOTED AS AIRCRAFT RATED ARE DESIGNED IN ACCORDANCE WITH AIR FORCE ETL 02-1. ALL SUBMIT STAMPED AND SEALED STRUCTURAL DRAWINGS, DESIGN CALCULATIONS AND WATER PROOFING METHOD FOR APPROVAL PRIOR TO

9. AIRCRAFT RATED FRAME AND COVER 30" MINIMUM DIAMETER, OR AS SHOWN ON PLANS, OPENING SOLID COVER FOR MANHOLES AND GRATED COVER FOR STORM DRAIN INLETS.
PRECAST STRUCTURES SHALL BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF ARKANSAS. CONTRACTOR SHALL FABRICATION. SEE UTILITY PLANS AND PROFILES
FOR SIZES, TOP OF RIM AND FLOWLINES.

1 AIRCRAFT RATED APRON MANHOLE/INLET
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. ALVAREZ
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	22"x34"
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN
FILE NAME:	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

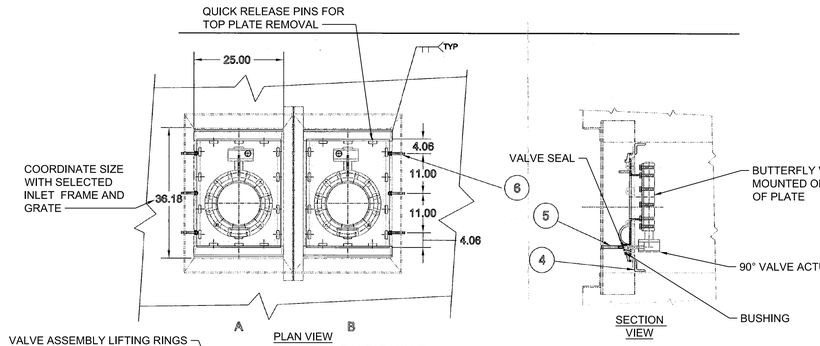
ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FORT SMITH AIR GUARD
FORT SMITH, AR
PN: 512203

STORM SEWER DETAILS - 3

SHEET ID
CG504

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



BASIN TO LOWER FLANGE CONNECTION

BASIN TO WALL CONNECTION

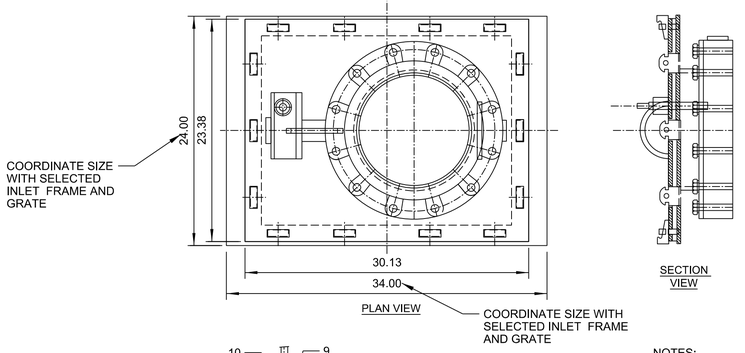
INSTALLATION PROCEDURES:

1. INSTALL ANGLES TO CATCH BASINS WALLS.
2. INSTALL AND WELD LOWER "I" BEAM FLANGE FILLER PLATES FLUSH WITH INSIDE OF FLANGE
3. WELD ENDS OF ANGLE TO FLANGE FILLER EDGE AND "I" BEAM
4. INSTALL CATCH BASIN INSERT ASSEMBLY, CENTERING VALVE SHAFT IN THE MIDDLE OF CRATE OPENING (STITCH WELD 1" x4")
8. APPLY FOAM SEALER AND FLEXIGUARD EPOXY AS SHOWN.
6. TEST VALVE OPERATION AND CHECK FOR LEAKS FOR 6 HOURS

VALVE FLOW DATA:
INCHES OF WATER COLUMN: 14.5"
P.S.I.A. INLET PRESSURE: 15.22
P.S.I.A OUTLET PRESSURE 14.7
WATER FLOW USGPM: 5846

ITEM	QTY	PART NO	DESCRIPTION	MATERIAL	MATERIAL SIZE
8.	AR	5510740	FOAM SEALER	VQUIP	
7.	AR	5510719	FLEXI TOP 555N EPOXY	VQUIP	
6.	6	3813435	LAG BOLT ASS'Y	GALV	5/8 UNC x 4"LG
5.	1	8513000	"T" BAR HANDLE		
4.	4	TBD	2"x3"x22-1/2" END ANGLE		
3.	2	TBD	2"x3"x35-11/16" SIDE ANGLE	PRE-DRILLED FOR LAGBOTLS	
2.	2	TBD	FILLER PLATE 3/8"x2"	CUT TO FIT IN FIELD	
1.	5	9915770	CATCH BASIN ASS'Y	12" BRAY	

12" BRAY VALVE - VQUIP OR APPROVED EQUAL



ITEM	QTY	PART NO	DESCRIPTION	MATERIAL	MATERIAL SIZE
12" CATCH BASIN INSERT					
11.	1	9912140	MALE HEX HEAD ADAPTER	VQUIP	
10.	1	8516940	"T" BAR HANDLE	VQUIP	
9.	2	3810600	VALVE SHAFT SEAL	VQUIP	
8.	1	4014780	BUSHING	VQUIP	
7.	14	8016511R1	RETAINER PIN	VQUIP	
6.	12	3810555	LOCK WASHER	18.8 SS	7/8
5.	12	3810550	HEX HEAD BOLT	18.8 SS	7/8 UNC
4.	1	3811795	VALVE-12" BRAY	VQUIP	
3.	1	6813065	GASKET	VQUIP	
2.	1	8516965	BOTTOM PLATE ASS'Y	VQUIP	
1.	1	8514765	TOP PLATE ASS'Y	VQUIP	

12" BRAY VALVE -VQUIP OR APPROVED EQUAL

NOTES:

1. THE VALVES ARE DESIGNED TO CONTROL THE UNINTENDED DISCHARGE OF CONTAMINATED STORMWATER. ONCE INSTALLED, THE VALVES ARE CLOSED MANUALLY PRIOR TO OR DURING A DE-ICING EVENT OR SPILL USING A MANUAL DRIVER KEY. INSERT THE HEX KEY T HANDLE DOWN INTO THE GRATE AND PLACE THE FEMALE SOCKET FROM THE VALVE DRIVER ON TOP OF THE MALE VALVE ACTUATOR STEM. THIS POSITION IS MARKED FOR EASY REFERENCE.

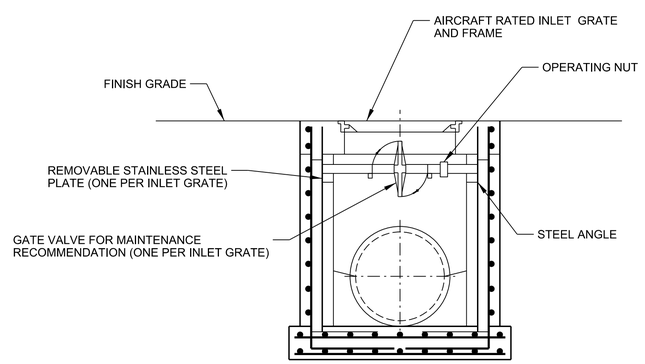
2. WHEN CLOSED, THE SPILL OR CONTAMINATED FLUID WILL NOW BE CONTROLLED ABOVE THE STORMWATER SURFACE. ALL COMPONENTS INCLUDING VALVES, SEALS AND MASTICS HAVE BEEN DESIGNED AND RATED FOR EXPOSURE TO ETHYLENE AND PROPYLENE DE-ICING FLUIDS AS WELL AS GRADES OF FUELS AND OILS COMMON IN AVIATION AND INDUSTRIAL APPLICATIONS. ONCE CONTROLLED, THE FLUID CAN BE COLLECTED USING MOBILE EQUIPMENT OR PUMPING STATIONS AND DIRECTED TO THE APPROPRIATE FACILITY FOR TREATMENT. ONCE ALL FLUIDS HAVE BEEN REMOVED FROM THE SURFACE, AND THE STORM WATER EFFLUENT COMPLIES WITH LOCAL REGULATIONS, THE MANUAL DRIVER CAN BE RE-INSERTED THROUGH THE GRATE AND THE VALVES CAN BE OPENED BY TURNING THE VALVE DRIVER CLOCKWISE TO OPEN.

3. VALVE MOUNTING PLATES AND FRAMES ARE CUSTOM DESIGNED TO SUIT THE SPECIFIC APPLICATION AND ARE FIELD INSTALLED. THE FLUID CONTROL VALVE OR VALVES ARE BOLTED ONTO RECEIVING FLANGES THAT FORM PART OF THE VALVE MOUNTING PLATE. THE VALVES ARE SEALED BY AN INTEGRAL VALVE SEAL THAT FORMS THE FLUID SEAL FROM THE VALVE TO THE FLANGE. THE VALVE BUTTERFLY IS ROTATED BY A 90 DEGREE GEAR ACTUATOR ARRANGEMENT THAT PROVIDES A VERTICAL ROTARY SHAFT TO EFFECT VALVE OPENING. THIS VALVE SHAFT IS PROTECTED BY ITS OWN SEAL AND IS MOUNTED IN A PROTECTIVE HOUSING. VALVE SIZES ARE 12-INCH, AND MULTIPLE VALVES ARE INDICATED.

4. VALVES AND ASSOCIATED DRIVERS ARE MOUNTED ONTO QUICK RELEASE REMOVABLE PLATES THAT PROVIDE ACCESS FOR MANHOLE INSPECTION AND CLEANING, AS WELL AS THE ABILITY TO PROVIDE VALVE SERVICING WITHOUT REMOVING THE MOUNTING STRUCTURE.

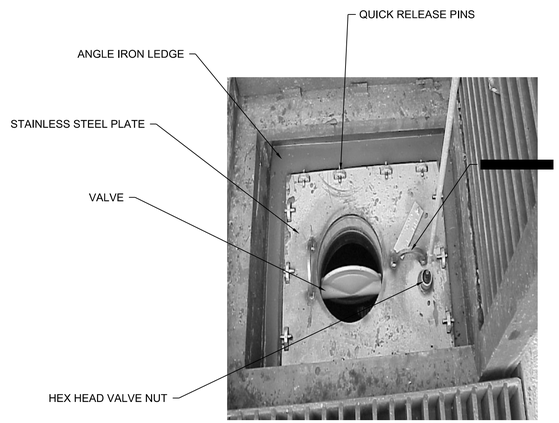
5. 12" BRAY VALVE INDICATED IS MANUFACTURED BY VQUIP, INC. VQUIP DE-ICING INSERTS AND ASSOCIATED APPURTENANCES ARE APPROVED PRODUCTS. OTHER MANUFACTURES ARE ACCEPTED PROVIDED THAT THOSE MEET THE SALIENT CHARACTERISTICS SHOWN HEREIN.

12" DUAL BRAY VALVE (DUAL GRATE INLET)



SECTION

12" BRAY VALVE (SINGLE GRATE INLET) (ENLARGED VIEW)



PICTURE 1 - VALVE



PICTURE 2 - VALVE

AIRFIELD STORM DRAIN DEICING CONTAINMENT VALVE INSERT

1 AIRFIELD STORM DRAIN DEICING CONTAINMENT VALVE INSERT, INLET, GRATES
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: ALEX BLANKENSHIP, P.E.
FILE NAME: 22"x34"
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

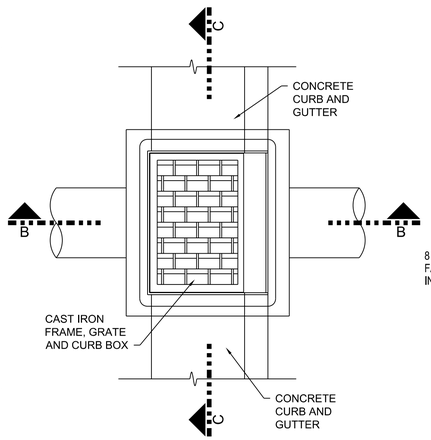
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FSRS - 3 BAY HANGAR
FORT SMITH, AR
PN: 512203

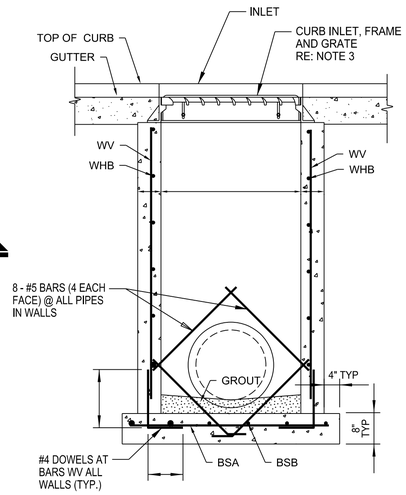
STORM SEWER DETAILS - 4

SHEET ID
CG505

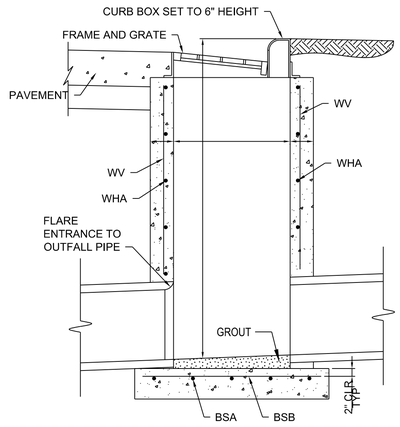
100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



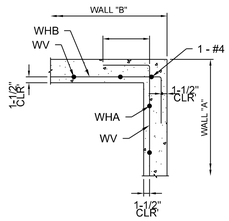
PLAN



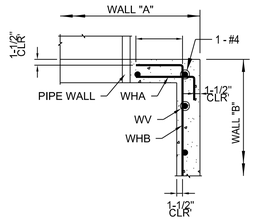
SECTION "C - C"



SECTION "B - B"



SECTION 3



SECTION 4

CURB INLET DATA SCHEDULE

MAX SIZE	RANGE OF		REINFORCING						
"A" "B"	DIMEN. "D"	T	BSA	BSB	WV	WHA*	WHB*	TSA	TSB
4' x 3'	0' to 3'-11"	6"	#4@12"	#4@12"	#4@12"	#4@12"	#4@12"	#4@6"	#4@6"
4' x 3'	4' to 7'-11"	6"	#4@12"	#4@12"	#4@12"	#4@9"	#4@9"	#4@6"	#4@6"
3' x 2.5'	8' to 11'-11"	6"	#4@10"	#4@10"	#4@12"	#4@8"	#4@8"	#4@6"	#4@6"
3' x 2.5'	12' to 14'	7"	#4@10"	#4@10"	#4@12"	#5@9"	#5@9"	#4@6"	#4@6"

LEGEND:
BSA BOTTOM STEEL IN "A" DIRECTION
BSB BOTTOM STEEL IN "B" DIRECTION
WV WALL STEEL VERTICAL
WHA WALL STEEL HORIZONTAL IN "A" WALL
WHB WALL STEEL HORIZONTAL IN "B" WALL
T WALL THICKNESS

NOTES:

1. VARIABLE DIMENSIONS (A,B,D & T) FOR STRUCTURES ARE SHOWN ON THE SCHEDULE.

2. THE SAME WALL THICKNESS AND SIZE AND SPACING OF REINFORCING SHALL BE USED FOR THE FULL HEIGHT OF EACH INDIVIDUAL STRUCTURE BASED ON THE MAXIMUM REQUIRED FOR THE DEPTH "D" ACCORDING TO THE SCHEDULE. "D" IS MEASURED FROM THE TOP OF THE CURB BOX TO THE INVERT OF THE OUTFALL PIPE AT THE CENTERLINE OF THE STRUCTURE.

3. FRAME, GRATE AND CURB INLET BOX MUST BE OF THE SAME MATERIAL AND MANUFACTURER. NEENAH R-3067-L IS AN APPROVED PRODUCT OR THOSE W/ SALIENT CHARACTERISTICS TO INCLUDE FRAME, GRATE AND CURB INLET BOX (HOOD AND GRATE) AND ASSOCIATED HARDWARE.

4. THE GROUT SHALL BE LIMITED TO THAT REQUIRED TO PREVENT STANDING WATER.
WHERE PIPES HAVE NEARLY THE SAME INVERT ELEVATION, GROUT SHALL TAPER FROM THE SIDES TOWARDS THE FLOWLINE BETWEEN PIPES WITH NO GROUT PLACED ALONG AND 3" EACH SIDE OF THE FLOWLINE.

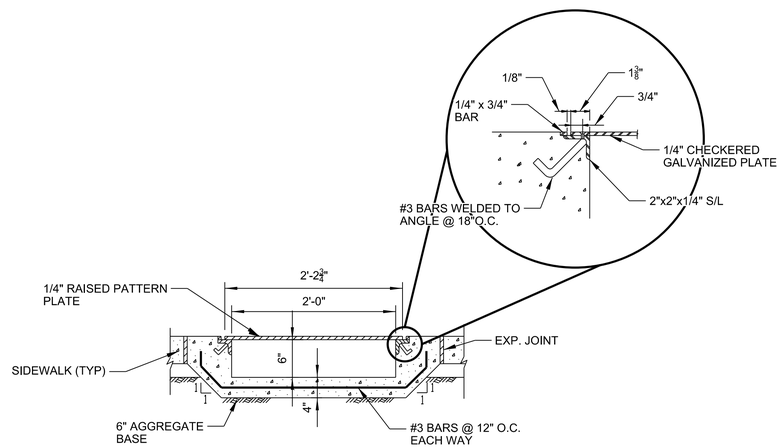
5. THE REINFORCEMENT CLEARANCE OF 1-1/2" SHOWN IS APPLICABLE TO #5 BARS AND SMALLER. THE CLEARANCE FOR #6 BARS AND LARGER IS 2".

6. REINFORCING STEEL FY = 60 KSI.

7. THE MINIMUM CLEAR COVER OF CONCRETE OVER REINFORCING STEEL SHALL BE 3" FOR CONCRETE PLACED DIRECTLY AGAINST THE SOIL.

1 CURB INLET DETAILS
SCALE: NTS

2 NOT USED
SCALE: NTS



3 SIDEWALK DRAIN DETAILS
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILENAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

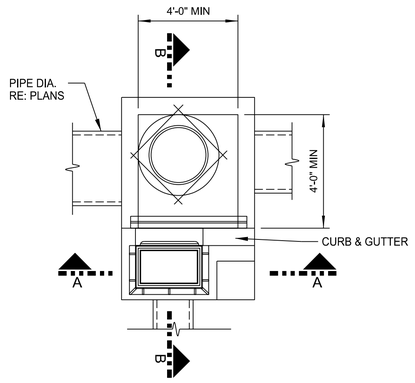
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FORT SMITH ARMORY
FORT SMITH, AR
PN: 512203

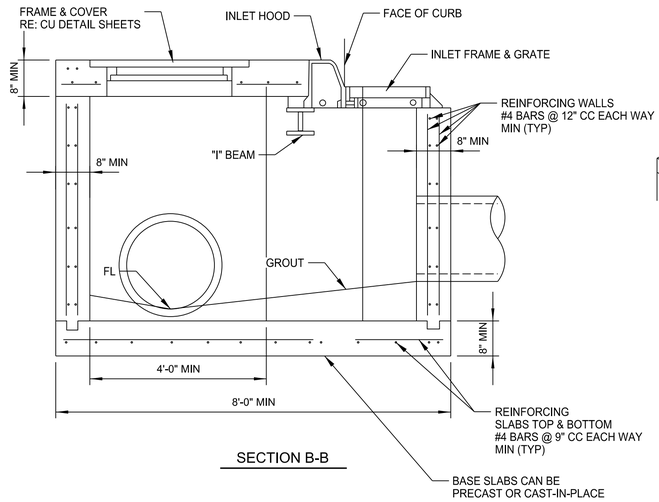
STORM SEWER DETAILS - 5

SHEET ID
CG506

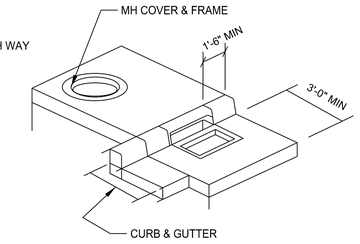
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PLAN



SECTION B-B



ISOMETRIC VIEW

NOTES:

1. THE INLET STRUCTURE MUST BE DESIGNED IN ACCORDANCE WITH PRECAST STRUCTURE SPECIFICATIONS AND RATED FOR AASHTO HS-20 LOAD RATING

2. CAST IRON FRAME, GRATE AND CURB HOOD MUST BE OF THE SAME MATERIAL AND MANUFACTURER. MINIMUM REQUIRED DIMENSIONS ARE PROVIDED.

3. THE GROUT SHALL BE LIMITED TO THAT REQUIRED TO PREVENT STANDING WATER.
WHERE PIPES HAVE NEARLY THE SAME INVERT ELEVATION, GROUT SHALL TAPER FROM THE SIDES TOWARDS THE FLOWLINE BETWEEN PIPES WITH NO GROUT PLACED ALONG AND 3" EACH SIDE OF THE FLOWLINE.

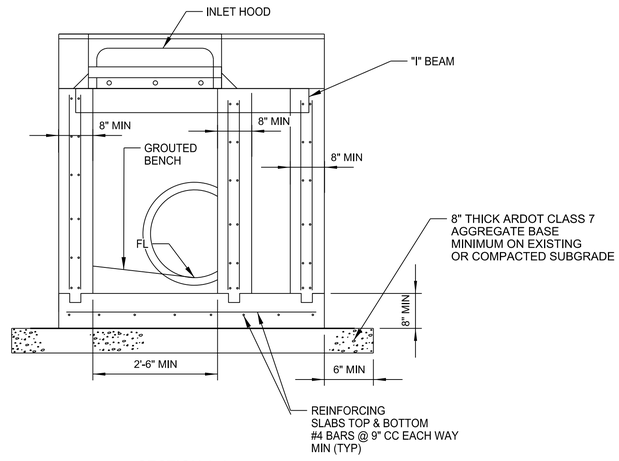
4. STRUCTURAL STEEL I-BEAMS AND ANGLE BEAMS MUST BE PER 05 12 00.

5. CURB INLET GRATE OPENINGS MUST BE 0.5" MAX FOR PEDESTRIAN GRATES AND 1" MAX FOR NON-PEDESTRIAN GRATES

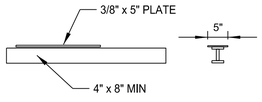
6. CURB INLET FRAMES, HOODS AND GRATES MUST BE COMPATIBLE WITH EACH OTHER AND FROM THE SAME MANUFACTURER; AND ACCESS MANHOLE FRAME AND COVER MUST ALSO BE COMPATIBLE WITH EACH OTHER AND SUPPLIED BY THE SAME MANUFACTURER.

7. CURB INLET GRADES MUST BE ALIGNED WITH THE CURB AND GUTTER SLOPES AND MUST MATCH THE PAVEMENT SLOPE.

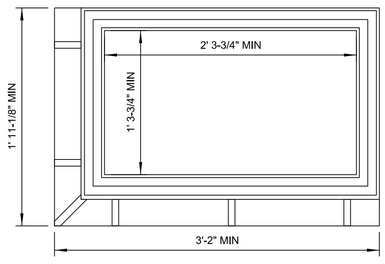
8. SUBMIT SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS, PREPARED BY A LICENSED PROFESSIONAL ENGINEER, FOR THE INLET AS A COMPLETE UNIT. SUBMITTAL MUST INCLUDE ALL ASSOCIATED INFORMATION FOR THE INLET'S I-BEAM, HOOD, FRAME, GRATE, AND ACCESS MANHOLE FRAME AND GRATE.



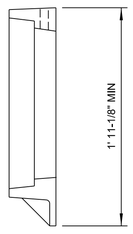
SECTION A-A



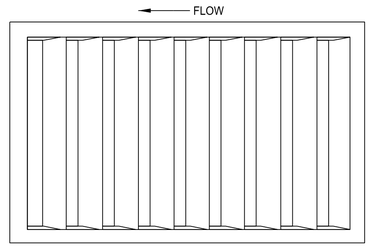
I- BEAM



INLET FRAME



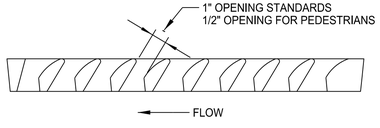
INLET FRAME SECTION



GRATE



GRATE SECTION



GRATE SECTION

1 PRECAST CURB INLET/JUNCTION BOX WITH ACCESS MH
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: J. ALVAREZ	SOLICITATION NO.: W912BV26RA004
REVIEWED BY: J. ALVAREZ	CONTRACT NO.: -
SUBMITTED BY: A. BLANKENSHIP, P.E.	PLOT SCALE: AS SHOWN
SIZE: 22"x34"	FILE NAME: ENG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

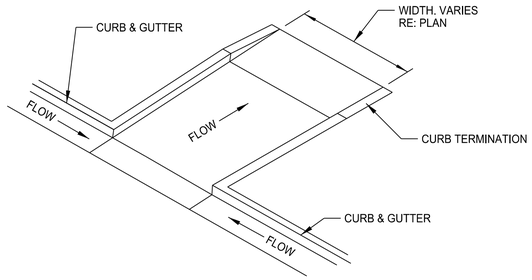
EBBING ANG, ARKANSAS
FORT SMITH AIR FORCE
FORT SMITH, AR
PN: 512203

STORM SEWER DETAILS - 6

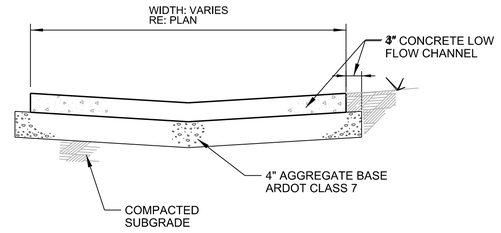
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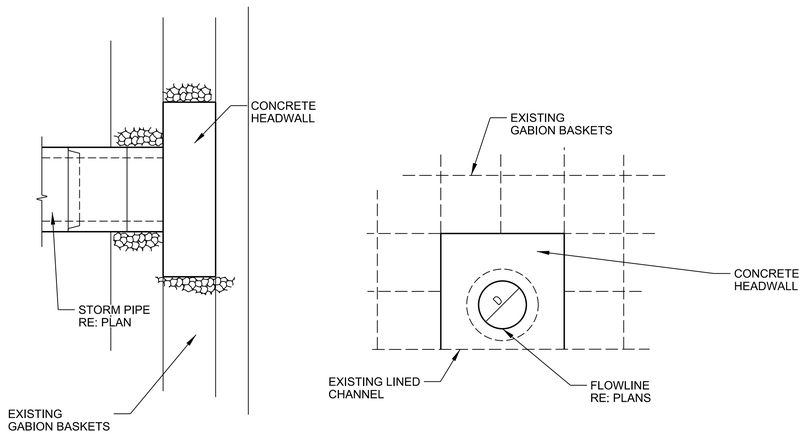
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1 CURB CUT FLUME
SCALE: NTS



2 TRICKLE LOW FLOW CHANNEL
SCALE: NTS



NOTES:

1. DEMO GABION BASKETS AS NECSSARY AND RESTORE TO EXISTING CONDITIONS

3 END SECTION/HEADWALL TO THRU EXISTING GABION
SCALE: NTS

US Army Corps of Engineers®

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DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
J. ALVAREZ	W912BV26RA004
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J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
SIZE:	FILENAME:
22"x34"	ENG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

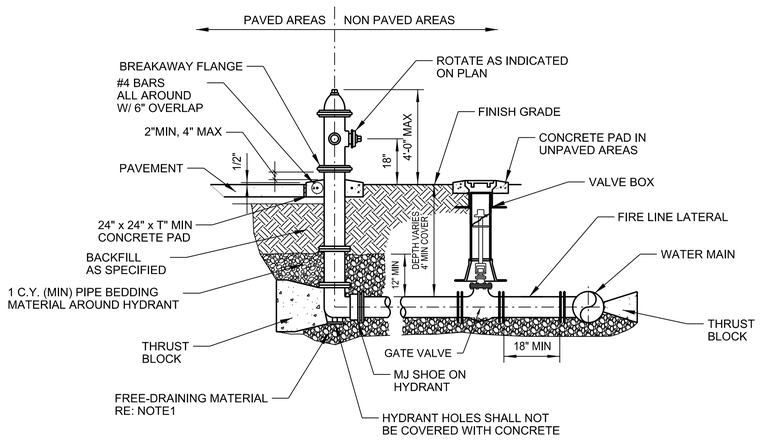
EBBING ANG, ARKANSAS
FISCAL YEAR HANGAR
FORT SMITH, AR
PN: 512203

STORM SEWER DETAILS - 7

SHEET ID

CG508

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T = PAVEMENT THICKNESS

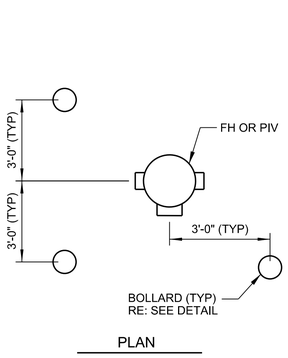
NOTES:

1. NOT LESS THAN 7 CUBIC FEET OF FREE-DRAINING MATERIAL SHALL BE PLACED AROUND AND BENEATH THE WASTE OPENING OF DRY BARREL HYDRANTS TO ENSURE DRAINAGE.

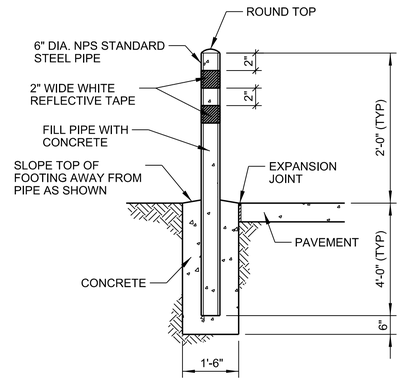
2. CONTRACTOR SHALL COORDINATE WITH CONTRACTING OFFICER FOR FIRE HYDRANT LOCKING MECHANISM (WHERE NEEDED).

3. THE CONTRACTOR SHALL COORDINATE WITH CONTRACTING OFFICER PRIOR TO USING ANY FIRE HYDRANTS FOR CONSTRUCTION WATER.

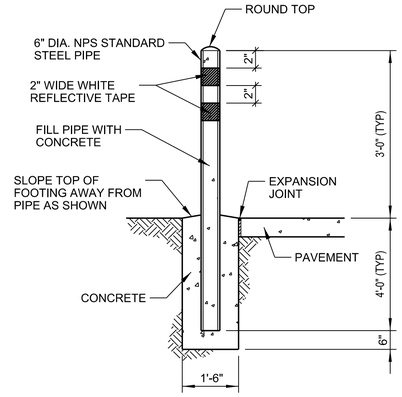
1 FIRE HYDRANT AND ISOLATION VALVE
SCALE: NTS



PLAN



FH CONCRETE FILLED BOLLARD
@AIRFIELD APRON



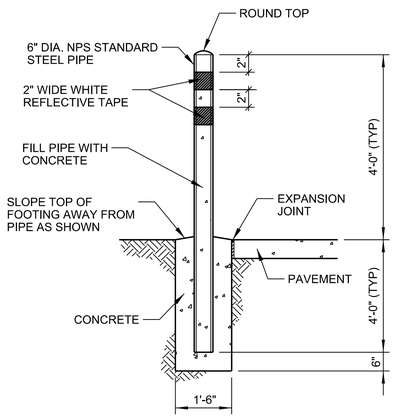
CONCRETE FILLED BOLLARD
AT FH OR PIV NON-APRON LOCATIONS

NOTES:

1. STEEL PIPE GUARDS SHALL CONFORM TO SPECIFICATIONS SECTION 05 50 13 - MISCELLANEOUS METAL FABRICATIONS

2. STANDARD FINISH COLOR IS OSHA YELLOW WITH 2-INCH WIDE WHITE REFLECTIVE TAPE AS SHOWN

2 PIPE BOLLARD @ FH AND PIV
SCALE: NTS



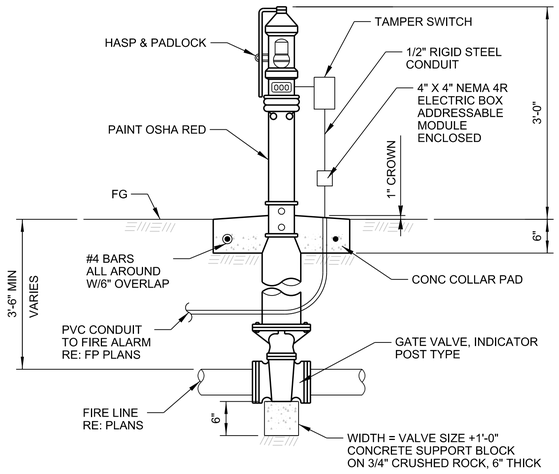
NOTES:

1. STEEL PIPE GUARDS SHALL CONFORM TO SPECIFICATIONS SECTION 05 50 13 - MISCELLANEOUS METAL FABRICATIONS

2. STANDARD FINISH COLOR IS OSHA YELLOW WITH 2-INCH WIDE WHITE REFLECTIVE TAPE AS SHOWN

CONCRETE FILLED BOLLARD

3 PIPE BOLLARD AT STRUCTURES OR EQUIPMENT
SCALE: NTS



NOTES:

1. PROVIDE SPOOL PIECES AS REQUIRED TO SET HYDRANT AT PROPER GRADE.

2. PROVIDE A 1" REFLECTIVE TAPE AROUND THE TOP COLLAR OF EACH HYDRANT.

3. PLACE A 4 MIL POLYETHYLENE SHEET BETWEEN CONCRETE THRUST BLOCK AND FITTING (CONCRETE SHALL NOT INTERFERE WITH JOINT).

4. THRUST BLOCKS SHALL BE PROVIDED AT ALL VERTICAL BENDS AND AT LOCATIONS WHERE DOUBLE FITTINGS ARE REQUIRED TO MATCH APPROPRIATE BEND ANGLE.

5. ELECTRIC COMPONENTS SHOWN ON THIS DETAIL ARE CONCEPT ONLY. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL MATERIALS, APPURTENANCES AND REQUIREMENTS WITH FIRE PROTECTION AND ELECTRICAL ENGINEER

4 POST INDICATOR VALVE DETAIL
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: J. ALVAREZ	SOLICITATION NO.: W912BV26RA004
REVIEWED BY: J. ALVAREZ	CONTRACT NO.: -
SUBMITTED BY: A. BLANKENSHIP, P.E.	PLOT SCALE: AS SHOWN
SIZE: 22"x34"	FILENAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

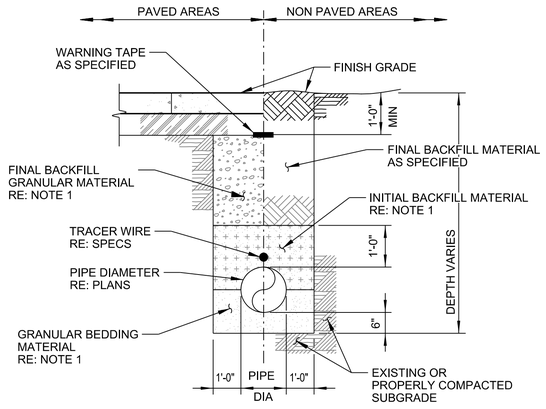
EBBING ANG, ARKANSAS
F-35 SQUADRON HANGAR
FORT SMITH, AR
PN: 512203

UTILITY DETAILS - 1

SHEET ID

CU501

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NOTES

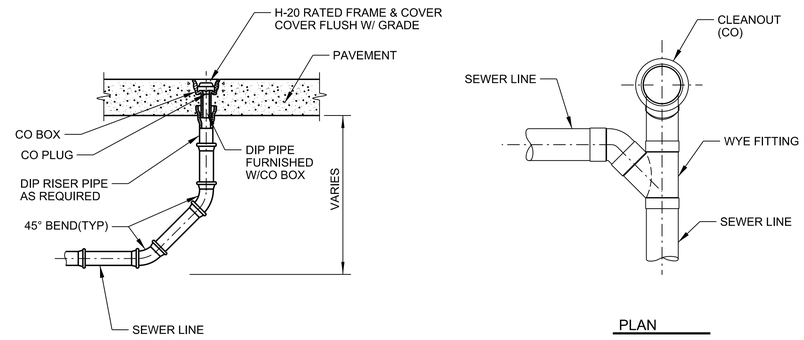
1. BEDDING AND INITIAL BACKFILL MATERIAL MUST BE ASTM C33, No. 67 OR AS SPECIFIED IN 31 00 00.

2. BEDDING AND BACKFILL MATERIAL MUST BE COMPACTED AS SPECIFIED.

3. FOR TRENCHING, BRACING AND SHEATHING OR OTHER TRENCH PROTECTION MEASURES REFER TO SPECS AND EM 385-1-1

1 TRENCHING & PIPE BEDDING FOR UTILITIES OTHER THAN STORMSEWER

SCALE: NTS



ELEVATION

PLAN

2 SANITARY SEWER CLEANOUT

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
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J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
SIZE:	FILENAME:
22"x34"	ENG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

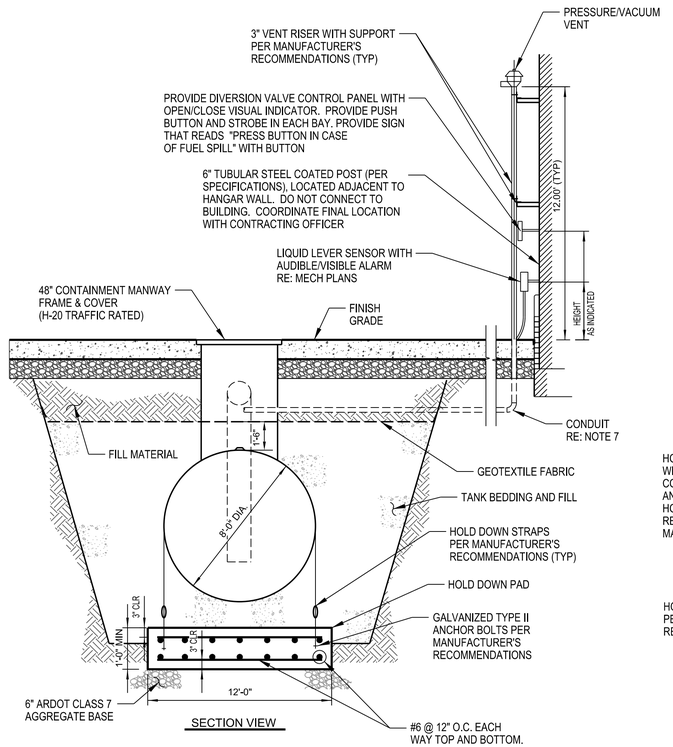
EBBING ANG, ARKANSAS
FMS AVIATION HANGAR
FORT SMITH, AR
PN: 512203

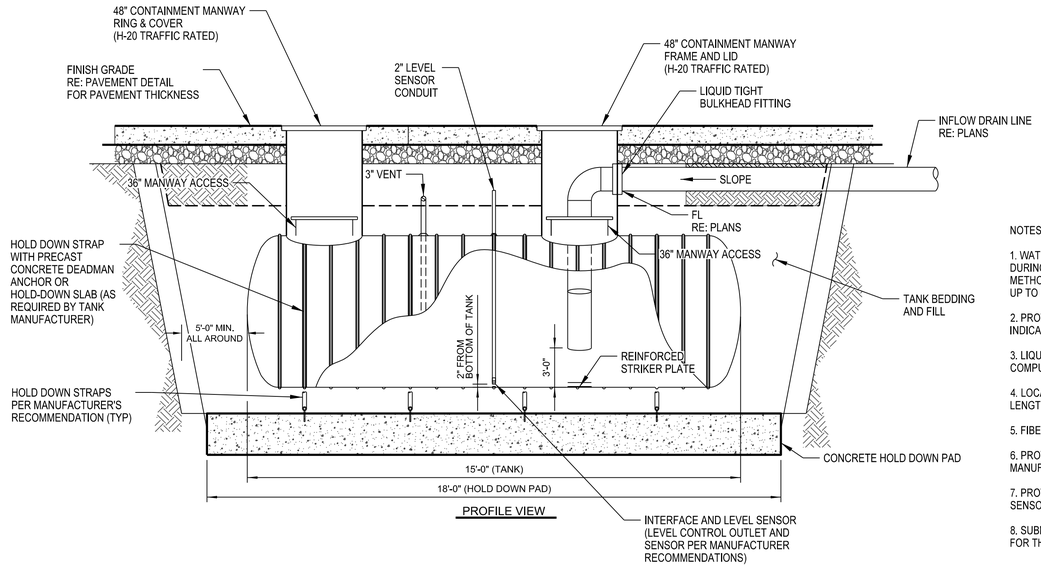
UTILITY DETAILS - 2

SHEET ID

CU502

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NOTES:

1. WATER LEVEL AROUND THE TANK MUST NOT EXCEED THE TANK CENTERLINE LEVEL AT ANY TIME DURING THE TANK INSTALLATION PHASE. CONTRACTOR MUST UTILIZE PROPER DEWATERING METHODS, AS NEEDED, TO CONTROL THE WATER LEVEL UNTIL COMPLETION OF THE BACKFILL PROCESS UP TO FINISH GRADE LEVEL.

2. PROVIDE DIVERSION VALVE STATUS TO DDC CONTROL SYSTEM. PROVIDE ALARM WHEN VALVE IS CLOSED. INDICATE ALARM ON BUILDING GUI. REFER TO MECHANICAL CONTROLS

3. LIQUID LEVEL SENSOR AND ALARM MUST BE CONNECTED TO BUILDING DDC CONTROL SYSTEM COMPUTER IN MAIN OFFICE. ALARM TO NOTIFY OF FLUID IN THE TANK.

4. LOCATE CONTROL PANEL, SUPPORT RACK, AND VENT ALONG HANGAR BUILDING. PROVIDE NECESSARY LENGTH OF CABLES FROM DIVERSION VALVE, AND SENSOR TO PANEL.

5. FIBERGLASS CONTAINMENT TANK MUST HAVE A MINIMUM STORAGE CAPACITY OF 5,000 GALLONS

6. PROVIDE CONCRETE HOLD DOWN PAD, HOLD DOWN STRAPS, ANCHORS, VENT PIPES, LEVEL SENSOR PER MANUFACTURER'S RECOMMENDATIONS SUITABLE FOR THE INTENDED USE.

7. PROVIDE 1" CONDUIT TO CONTROL PANEL IN THE HANGAR FOR ELECTRICAL INTERFACE AND LEVEL SENSOR. COORDINATE WITH ACO FOR FINAL LOCATION

8. SUBMIT SEALED AND STAMPED SHOP DRAWINGS AND CALCS BY A PROFESSIONAL LICENSED ENGINEER FOR THE COMPLETE TANK, HOLD DOWN PAD, SENSORS, ALARMS, ETC.

1 CONTAINMENT TANK
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. ALVAREZ
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	22"x34"
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PLOT SCALE:	AS SHOWN
FILE NAME:	ENG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

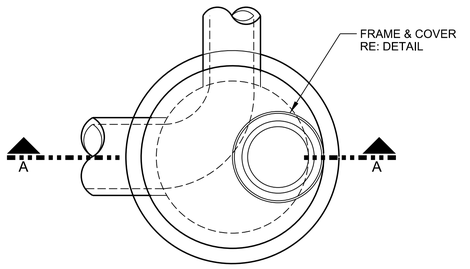
EBBING ANG, ARKANSAS
FSS, 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

UTILITY DETAILS - 3

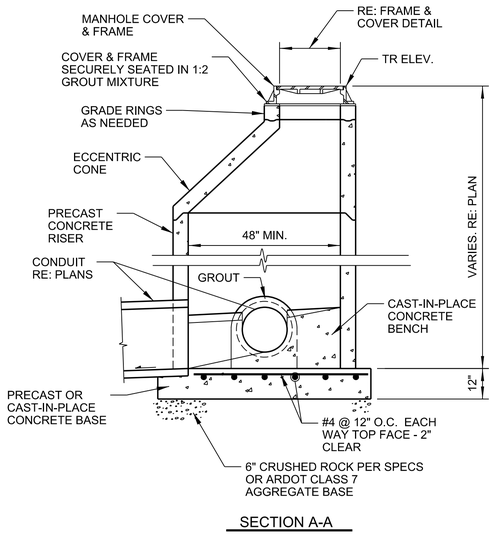
SHEET ID

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PLAN



SECTION A-A

NOTES:

1. MANHOLE STRUCTURE, MANHOLE COVER AND FRAME ARE TO BE H-20 TRAFFIC RATED.

2. THICKNESS AND REINFORCING FOR PRECAST CONCRETE MANHOLE WALLS AND REINFORCING FOR PRECAST CONCRETE FLAT TOPS ARE NOT SHOWN BUT SHALL CONFORM TO THE LOADING REQUIREMENTS INDICATED IN ABOVE.

3. MANHOLE BASE SLABS MAY BE PRECAST OR CAST-IN-PLACE CONCRETE. THICKNESS AND REINFORCING OF CAST-IN-PLACE BASE SHALL BE AS INDICATED. THICKNESS AND REINFORCING OF PRECAST BASES SHALL BE AS REQUIRED BY MANUFACTURER. CONTRACTOR SHALL SUBMIT STRUCTURAL DRAWINGS, DESIGN CALCULATIONS, AND WATERPROOFING METHOD, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OKLAHOMA, FOR APPROVAL ON ALL PRECAST STRUCTURES. BUOYANCY CALCULATIONS SHALL ASSUME WATER LEVEL IS AT GRADE.

4.ALL PIPE ENTRIES INTO THE BASE OF MANHOLES SHALL BE CONNECTED BY OPEN CHANNELS FORMED USING CAST-IN-PLACE CONCRETE BENCHES. CHANNELS SHALL BE ADJUSTED FOR PIPE SIZE, SHAPE, SLOPE, AND DIRECTION OF FLOW. THE INVERT CHANNELS SHALL BE SMOOTH AND SEMICIRULAR IN SHAPE CONFORMING TO THE INSIDE OF THE ADJACENT PIPE SECTION. CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE OF AS LARGE A RADIUS AS THE SIZE OF THE MANHOLE WILL PERMIT. CHANGES IN SIZE AND GRADE OF THE CHANNELS SHALL BE MADE GRADUALLY AND EVENLY.

5. DIAMETER OF MANHOLE SHALL DEPEND ON NUMBER AND SIZE OF PIPES CONNECTING TO THE STRUCTURE. FOR LOCATION AND ORIENTATION SEE PLANS.

6. MINIMUM CONCRETE STRENGTH = 4000 PSI @ 28 DAYS UNLESS NOTED OTHERWISE. MINIMUN REINFORCING ASTM A615, GRADE 60, DEFORMED.

7. USE FULL CONTACT LAP SPLICES OF REINFORCING STEEL AS FOLLOWS.

8. ALLOWABLE SOIL BEARING PRESSURE UNDER MANHOLES AND INLETS EQUAL TO 2500 LBS\FT².

9. LOCATE AND INSTALL 3" DIAMETER WEEP HOLES TO DRAIN SUBBASE MATERIAL PRIOR TO PAVEMENT INSTALLATION. WEEP HOLE WITH 12" X 12" PLASTIC GEOTEXTILE CLOTH WITH 1/4" MESH OR GALVANIZED STEEL WIRE DIAMETER 0.03" NUMBER 4 MESH HARDWARE CLOTH ANCHORED FIRMLY TO OUTSIDE OF STRUCTURE.

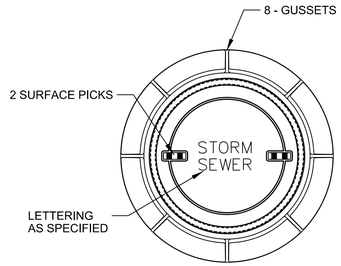
10. COVERS AND CASTINGS OF MANHOLES AND STRUCTURES SHALL BE STAMPED PER THE APPROPRIATE UTILITY TYPE OR PER THE LOCAL STANDARDS AND SHALL BE STAMPED PER THE ORIGIN OF MANUFACTURE. SEE DETAIL FRAME & COVER REQUIREMENTS.

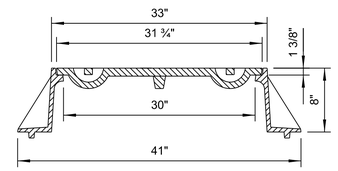
11. ALL JOINTS SHALL BE SEALED WITH JOINT COMPOUND OR GROUTED WITH MORTAR.

12. LIFT LOOPS IF ANY SHALL BE GROUTED FLUSH AFTER INSTALLATION.

13. MANHOLE CONNECTORS FOR MANHOLE-PIPE SEAL SHALL BE PER ASTM C923.

BAR SIZE (IN)	LAP SPLICE (IN)
1/2"	24
5/8"	32
3/4"	36
7/8"	54
1"	64





STANDARD MANHOLE FRAME AND COVER

1 PRECAST CONCRETE MANHOLE FOR STORM SEWER
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILE NAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

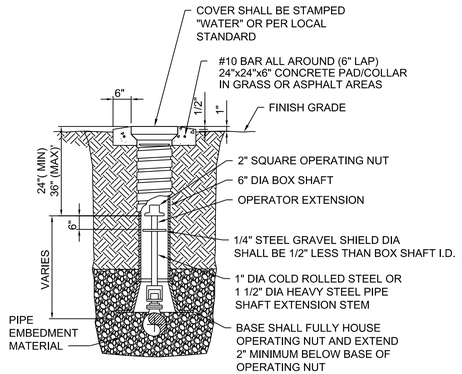
ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FISA BAY HANGAR
FORT SMITH, AR
PN: 512203

UTILITY DETAILS - 4

SHEET ID
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NOTES:

1. VALVE BOX SHALL NOT REST ON OPERATING ASSEMBLY.

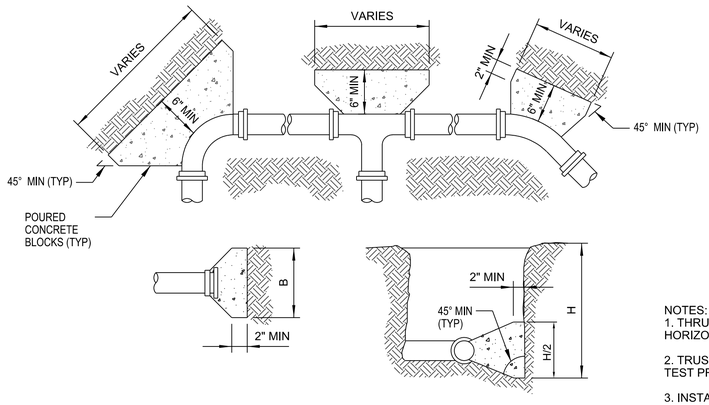
2. VALVE BOXES LOCATED IN VEHICULAR AREAS SHALL BE TRAFFIC RATED, AND AIRCRAFT RATED ON THE AIRFIELD.

3. VALVE BOXES LOCATED IN PAVED AREAS SHALL BE INSTALLED FLUSH WITH FINAL GRADING.

4. CONCRETE COLLAR MAY BE LOWERED ON RISER ASSEMBLY TO ACCOMMODATE SPECIAL FINISH GRADING.

5. VALVE BOX SHALL BE PAINTED WITH HEAVY COAT OF BITUMINOUS PAINT.

1 SCREW SHAFT-TYPE VALVE BOX
SCALE: NTS



THRUST BLOCK BEARING AREA (SQ FT)					
FITTING SIZE	TEE & END	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
6"	4.24	6.00	3.25	1.65	0.83
8"	7.54	10.66	5.77	2.94	1.48

NOTE: BEARING AREA BASED ON 2500 PSF SOIL BEARING CAPACITY AND A PIPE TEST PRESSURE OF 250 PSI, FACTOR OF SAFETY OF 1.5.

NOTES:
1. THRUST BLOCKS ARE REQUIRED AT ALL VERTICAL AND HORIZONTAL TEES, OR ELBOWS OF PRESSURIZED PIPING.

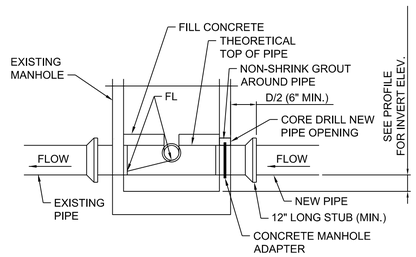
2. TRUST BLOCKS MUST BE ADEQUATE TO WITHSTAND FULL TEST PRESSURE.

3. INSTALL A NONPOROUS MATERIAL 15 LB MIN FELT SHALL BE PLACED BETWEEN THE FITTING AND CONCRETE THRUST BLOCK.

4. PROVIDE SUFFICIENT CLEARANCE BETWEEN CONCRETE AND FITTINGS. JOINTS MUST NOT BE COVERED WITH CONCRETE.

5. JOINT RESTRAINTS CAN BE PROVIDED WHERE USE OF CONCRETE THRUST BLOCKING CANNOT BE USED BECAUSE OF OBSTRUCTIONS OR REQUIREMENTS IN THE SPECIFICATIONS. FULL RESTRAINT CALCULATIONS, DETAILS AND LAYOUT MUST BE PROVIDED ENCOMPASSING ALL ASSOCIATED CHARACTERISTICS WITH THE RESTRAINTS FOR APPROVAL PRIOR TO INSTALLATION.

2 THRUST BLOCK
SCALE: NTS



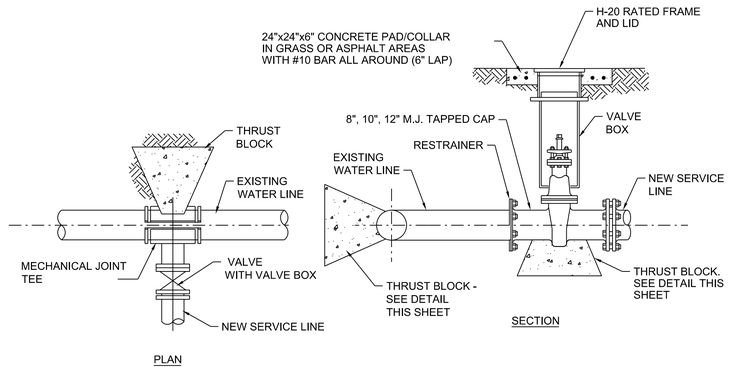
NOTES:

1. CORE CUT SHALL BE MADE WITHOUT SPALLING OR DAMAGE TO THE EXISTING STRUCTURE.

2. PIPE CONNECTION THROUGH MANHOLE WALL SHALL BE MADE WITH GROUTING RING GASKET AND NON-SHRINK GROUT.

3. EXISTING FLOWLINE CHANNEL SHALL BE RE-SHAPED TO ACCOMMODATE NEW FLOWLINE.

3 PIPE CONNECTION TO EXISTING MANHOLE
SCALE: NTS



4 WATER SERVICE CONNECTION
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
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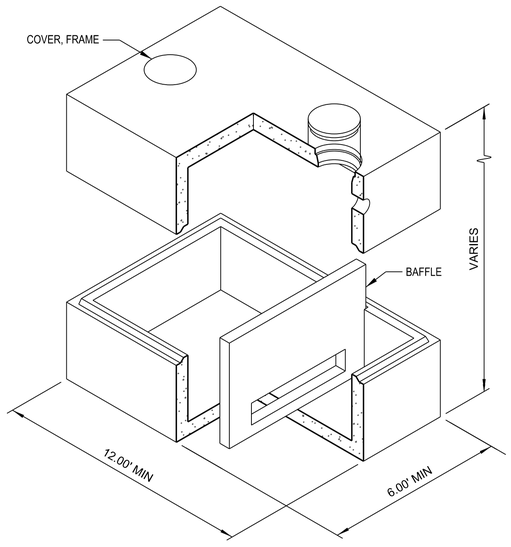
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
F-35 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

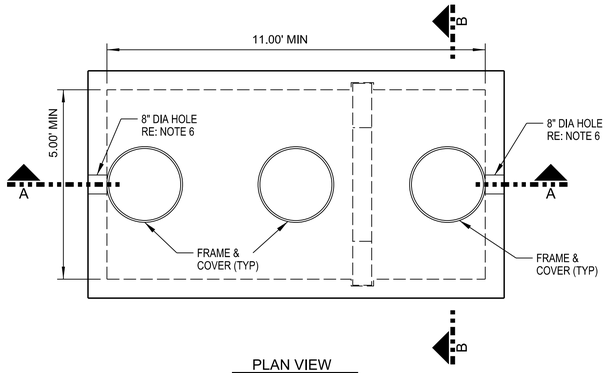
UTILITY DETAILS - 5

SHEET ID
CU505

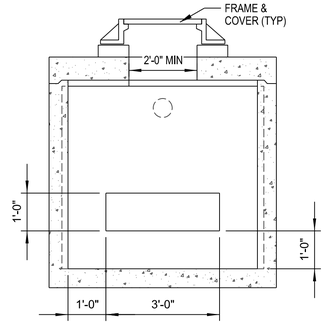
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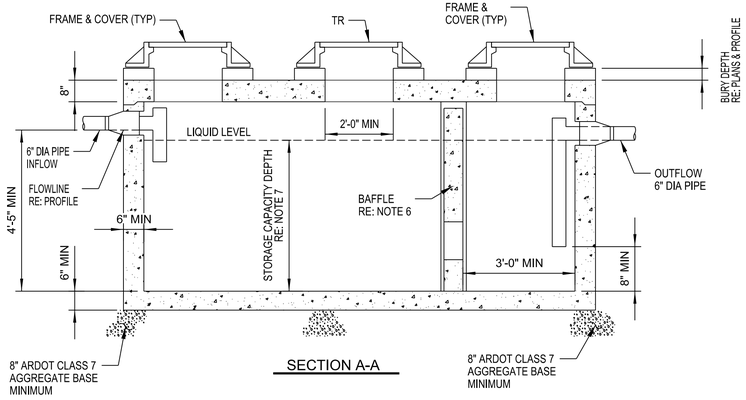
ISOMETRIC VIEW



PLAN VIEW



SECTION B-B



SECTION A-A

NOTES:

1. STRUCTURE, COVER AND FRAME MUST MEET AND BE RATED FOR AASHTO HS-20 TRAFFIC LOADING.

2. MINIMUM THICKNESSES ARE SHOWN FOR REFERENCE ONLY. PRECAST WALLS AND REINFORCING MUST CONFORM AND MEET THE LOADING REQUIREMENT NOTED IN NOTE 1, ASTM C1227 AND ACI-318.

3. MINIMUM CONCRETE STRENGTH MUST BE 5,000 PSI AT 28 DAYS UNLESS NOTED OTHERWISE.

4. REINFORCING BARS MUST BE PER ASTM A-615, GRADE 60 AND WITH MINIMUM YIELD STRENGTH OF 60,000PSI

5. ALL JOINTS SHALL BE SEALED WITH A JOINT COMPOUND OR GROUTED WITH MORTAR.

6. PIPING, ORIFICES, BAFFLE WALLS, AND PIPE CONNECTIONS MUST BE PER MANUFACTURER RECOMMENDATIONS.

7. STORAGE CAPACITY MUST BE A MINIMUM OF 1,500 GALLONS

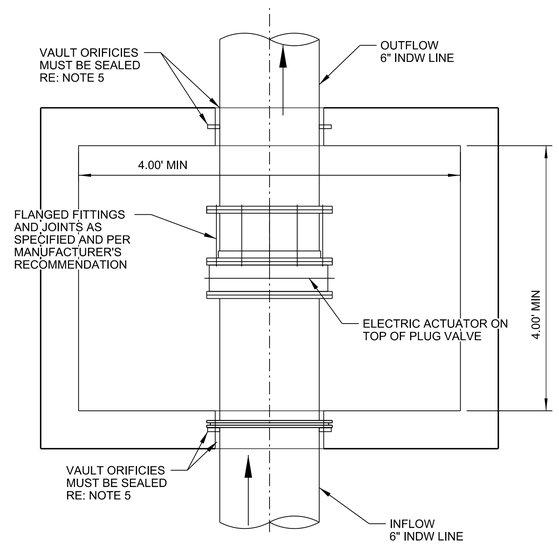
8. LIFT SYSTEMS, SUCH AS LOOPS, EYES, HOLES OR INSERTS, MUST BE SEALED OR GROUTED FLUSH WITH THE STRUCTURE, AND MADE WATERTIGHT AS REQUIRED.

9. PROVIDE MANWAYS AS REQUIRED AND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. THE MINIMUM DIAMETER SHALL BE 24" IN DIAMETER.

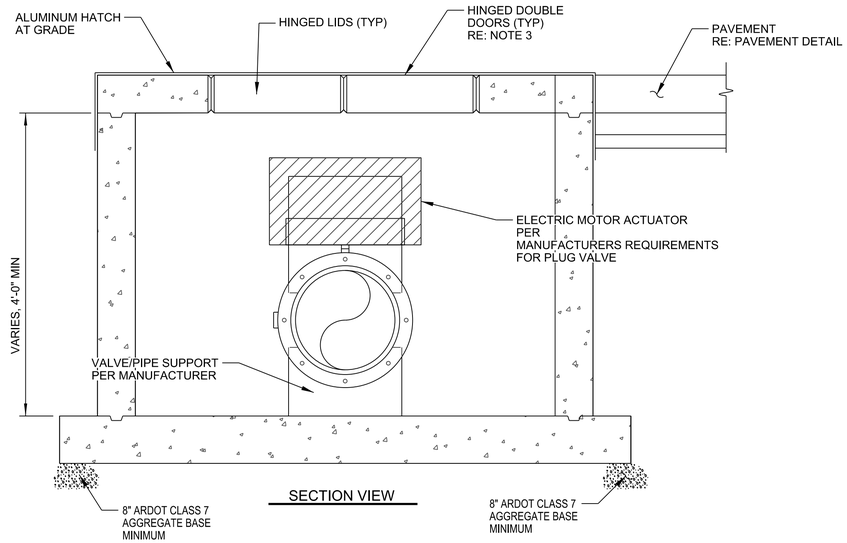
10. TOP OF RIMS (TR) MUST BE FLUSHED WITH PAVEMENT FINISHED GRADE AND WATER TIGHT.

11. SUBMIT SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS BY A LICENSED PROFESSIONAL ENGINEER FOR THE COMPLETE OIL/WATER SEPARATOR AND ASSOCIATED APPURTENANCES.

1 OIL/WATER SEPARATOR
SCALE: NTS



PLAN VIEW



SECTION VIEW

NOTES:

1. VERIFY FINAL SIZE OF STRUCTURE AND PROVIDE A VAULT STRUCTURE COMPATIBLE WITH THE SELECTED VALVE AND ACTUATOR MANUFACTURERS.

2. STRUCTURE MUST BE DESIGNED IN ACCORDANCE WITH PRECAST STRUCTURE SPECIFICATIONS AND RATED FOR AASHTO H-20 LOAD RATING

3. COORDINATE SIZE OF THE HINGED DOUBLE DOOR WITH THE ELECTRIC ACTUATOR AND DIVERSION VALVE BASED ON MANUFACTURER'S RECOMMENDATIONS. THE HINGED DOUBLE DOOR AND ASSOCIATED APPURTENANCES MUST BE RATED FOR AASHTO H-20 LOAD RATING. DOOR SIZE MUST PROVIDE SUFFICIENT OPENING FOR MAINTENANCE ACCESS.

4. PROVIDE VALVE POSITION INDICATOR ON CONTROL PANEL MOUNTED TO POST ADJACENT TO SPILL CONTAINMENT TANK PANELS. POSITION INDICATOR SHALL ALSO BE CONNECTED TO BUILDING DDC CONTROL SYSTEM COMPUTER IN MAIN OFFICE.

5. VAULT ORIFICES MUST BE SEALED WITH NON-SHRINK GROUT AND LINK SEAL IN ACCORDANCE WITH SPECIFICATIONS AND MANUFACTURER RECOMMENDATIONS.

6. SUBMIT SHOP DRAWINGS FOR VAULT WITH ALL INFORMATION ON MOTOR, ACTIVATOR AND DIVERSION VALVE AS A COMPLETE UNIT.

7. SUBMIT SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS PREPARED BY A LICENSED PROFESSIONAL ENGINEER FOR THE VAULT, AND WITH ALL THE INFORMATION ON THE MOTOR, ACTIVATOR, AND DIVERSION VALVE AS A COMPLETE UNIT.

2 PRECAST DIVERSION VALVE VAULT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEUX
DRAWN BY:	J. ALVAREZ
REVIEWED BY:	J. ALVAREZ
SUBMITTED BY:	A. RANKIN, P.E.
FILE NAME:	EANG_512203_C_3BAYH_mdl.dgn
ISSUE DATE:	5 DECEMBER 2025
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PLOT SCALE:	AS SHOWN
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ENGINEERING &
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ENGINEERING BRANCH

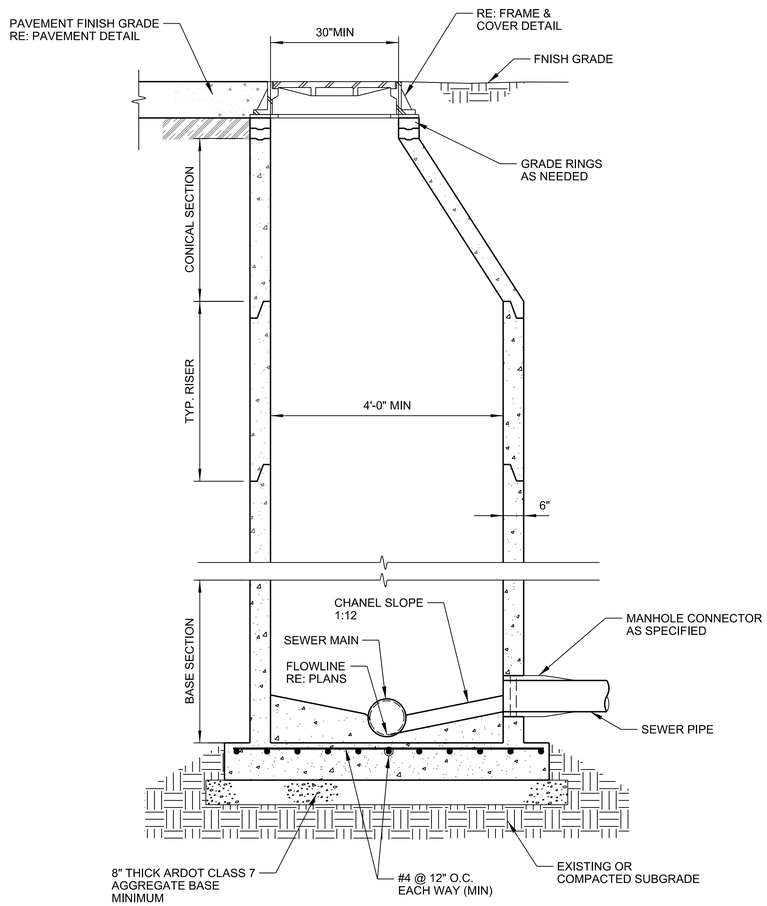
EBBING ANG, ARKANSAS
FORT SMITH ANG
FORT SMITH, AR
PN: 512203

UTILITY DETAILS - 6

SHEET ID

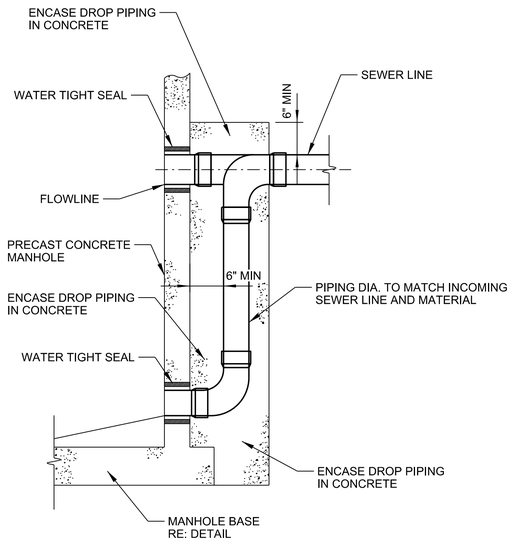
CU506

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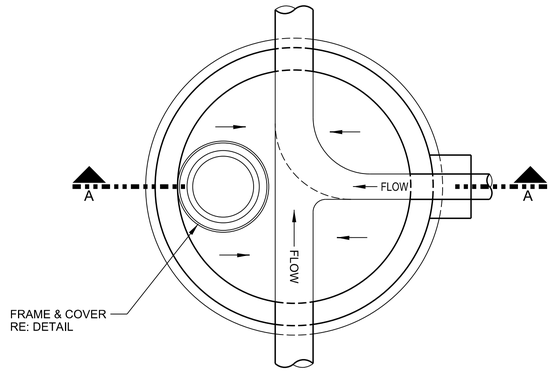


1 PRECAST CONCRETE MANHOLE FOR SANITARY SEWERS

SCALE: NTS



MANHOLE DROP CONNECTION



NOTES:

1. PROVIDE PRECAST MANHOLES PER SPECIFICATIONS SECTION 33 30 00.

2. MANHOLE STRUCTURE, COVER, AND FRAME MUST MEET OR EXCEED AASHTO HS-20 LOAD RATING.

3. MANUFACTURE AND REINFORCE THE MANHOLE IN ACCORDANCE WITH ASTM C478, MEETING THE SPECIFIED LOADING REQUIREMENTS UNLESS NOTED OTHERWISE.

4. MINIMUM CONCRETE STRENGTH: 4000 PSI AT 28 DAYS (UNLESS NOTED OTHERWISE). MINIMUM REINFORCING: ASTM A615, GRADE 60, DEFORMED BARS.

5. USE FULL-CONTACT LAP SPLICES FOR REINFORCING STEEL AS PER ACI 318-19.

6. PROVIDE ADEQUATE DEWATERING AS SPECIFIED DURING MANHOLE BASE CONSTRUCTION.

7. STAMP OR CAST OF MANHOLE COVERS AND STRUCTURES AS SPECIFIED IN 33 30 00. INCLUDE MANUFACTURER'S ORIGIN, DATE AND YEAR.

8. PROVIDE WATERTIGHT SEALING GASKETS FOR MANHOLE SECTIONS AS SPECIFIED.

9. GROUT LIFT LOOPS FLUSH AFTER INSTALLATION, IF APPLICABLE.

10. PROVIDE MANHOLE CONNECTORS FOR MANHOLE-PIPE CONNECTIONS PER SPECIFICATIONS OR ASTM C923.

11. LADDERS AND STEPS ARE NOT SHOWN FOR CLARITY, BUT MUST BE AS SPECIFIED.

12. SUBMIT SHOP DRAWINGS, DESIGN CALCULATIONS, AND WATERPROOFING METHOD, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF ARKANSAS, FOR APPROVAL ON ALL PRECAST STRUCTURES. BUOYANCY CALCULATIONS MUST ASSUME WATER LEVEL IS AT GRADE.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. ALVAREZ	ISSUE DATE: 5 DECEMBER 2025	PLOT SCALE: AS SHOWN	
DRAWN BY: J. ALVAREZ	SOLICITATION NO.: W912BV26RA004		
REVIEWED BY: J. ALVAREZ	CONTRACT NO.: -		
SUBMITTED BY: A. BLANKENSHIP, P.E.	FILE NAME: ENG_512203_C_3BAYH_mdl.dgn		
SIZE: 22"x34"			

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

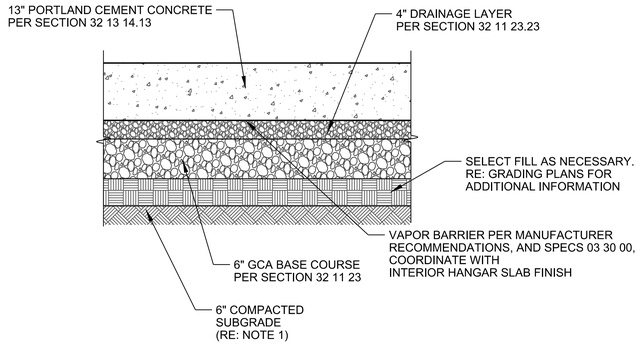
EBBING ANG, ARKANSAS
F-35 ARNG HANGAR
FORT SMITH, AR
PN: 512203

UTILITY DETAILS - 7

SHEET ID

CU507

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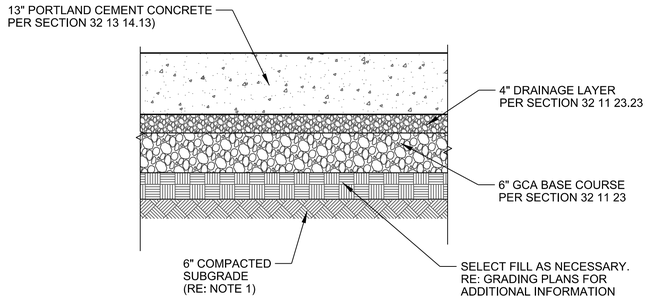
NOTES:

1. REMOVE EXISTING MATERIAL AND COMPACT PER SPECS 31 00 00 & PLANS

2. PANELS THAT ARE SHADED OR MARKED WITH "R" IN PAVING JOINT PLANS INDICATE REINFORCED PANELS.

1 INTERIOR HANGAR SLAB SECTION CONC PAVEMENT

SCALE: NTS



NOTES:

1. REMOVE EXISTING MATERIAL AND COMPACT PER SPECS 31 00 00 & PLANS

2. PANELS THAT ARE SHADED OR MARKED WITH "R" IN PAVING JOINT PLANS INDICATE REINFORCED PANELS.

2 AIRFIELD APRON CONC PAVEMENT - NEW

SCALE: NTS

NOTES:

1. REMOVE EXISTING MATERIAL AND COMPACT PER SPECS 31 00 00 & PLANS

2. PANELS THAT ARE SHADED OR MARKED WITH "R" IN PAVING JOINT PLANS INDICATE REINFORCED PANELS.
SEE CP SHEETS FOR ADDITIONAL DETAILS FOR REINFORCING.

3. SAWCUT FOR AIRFIELD PAVING MUST BE DOUBLE SAWCUT.
RE: CP SHEETS FOR ADDITIONAL INFORMATION

3 AIRFIELD APRON CONC PAVEMENT - REPAIR EXISTING APRON

SCALE: NTS

NOTES:

1. REMOVE EXISTING MATERIAL AND COMPACT PER SPECS 31 00 00 & PLANS.

2. PANELS THAT ARE SHADED OR MARKED WITH "R" IN PAVING JOINT PLANS INDICATE REINFORCED PANELS.
SEE CP SHEETS FOR ADDITIONAL DETAILS FOR REINFORCING.

3. FOR CONCRETE PAVEMENT BEYOND THE AIRFIELD SPECS DEMARCATION, REFER TO "CS" SHEETS FOR SITE PAVEMENT DETAILS

4 HEAVY DUTY CONC. PAVEMENT ADJACENT TO AIRFIELD PAVING

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. HARDEN/W. GREEN
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILENAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

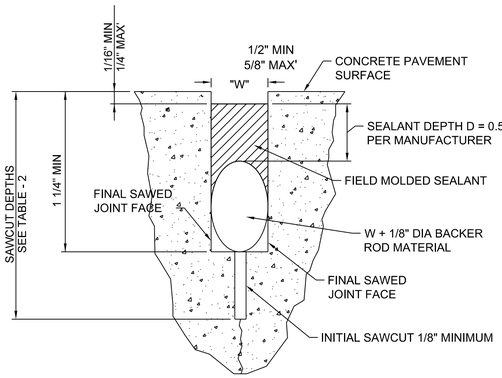
EBBING ANG, ARKANSAS
FSTS & 3-BAY HANGAR
FORT SMITH, AR
PN: 512203

AIRFIELD PAVEMENT DETAILS

SHEET ID

CP501

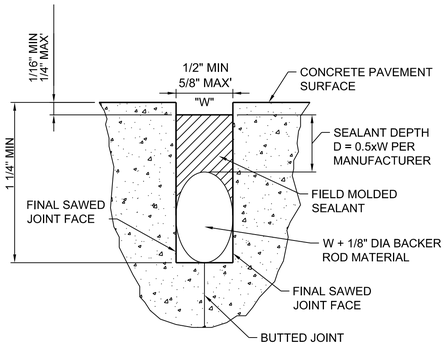
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NOTE:
1.COORDINATE SAWCUT DEPTH OF JOINT RESERVOIR WITH SEALANT MANUFACTURER'S RECOMMENDATIONS

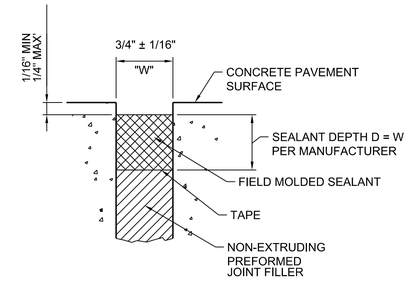
1 CONTRACTION JOINT
SCALE: NTS

SAWCUT TABLE	
PAVEMENT THICKNESS	DEPTH OF SAWCUT
LESS THAN 12"	1/4 SLAB THICKNESS
12"-18"	3"
MORE THAN 18"	1/6 SLAB THICKNESS



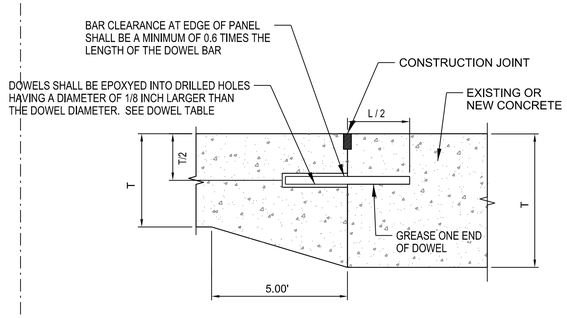
NOTE:
1.COORDINATE SAWCUT DEPTH OF JOINT RESERVOIR WITH SEALANT MANUFACTURER'S RECOMMENDATIONS

2 CONSTRUCTION JOINT
SCALE: NTS



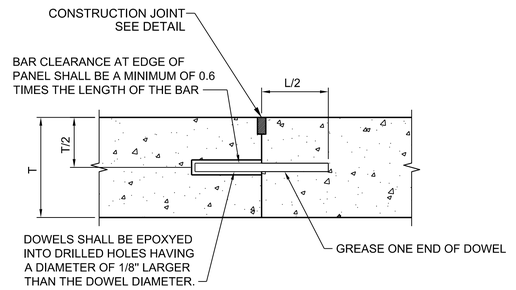
NOTE:
1.COORDINATE SAWCUT DEPTH OF JOINT RESERVOIR WITH SEALANT MANUFACTURER'S RECOMMENDATIONS

3 EXPANSION JOINT
SCALE: NTS



DO NOT DRILL CONCRETE UNTIL AT LEAST 72 HOURS AFTER PLACEMENT.

4 THICKENED EDGE DOWELED CONSTRUCTION JOINT
SCALE: NTS



NOTES:
1. CONSTRUCT A DOWELED CONSTRUCTION JOINT WHENEVER PAVING OPERATIONS ARE DELAYED OR STOPPED.

2.CONCRETE SHALL NOT BE DRILLED UNTIL AT LEAST 72 HOURS AFTER PLACEMENT.

5 DOWELED CONSTRUCTION JOINT
SCALE: NTS

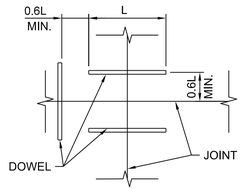


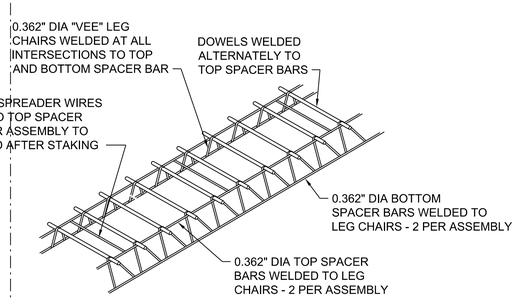
TABLE - 1			
SLAB THICKNESS (T)	DIA	LENGTH	SPACING
LESS THAN 8"	3/4"	16"	12"
8"-11.5"	1"	16"	12"
12"-15.5"	1-1/4"	20"	15"
16"-20.5"	1-1/2"	20"	18"

NOTES:

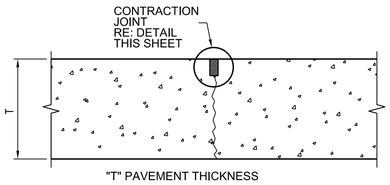
1.SEE SPECIFICATIONS FOR CONCRETE PAVEMENTS AND OTHER HEAVY DUTY PAVEMENTS FOR ADDITIONAL DOWEL BAR SPACING REQUIREMENTS.

2.WHEN DOWELED JOINTS ARE REQUIRED BETWEEN PAVEMENTS OF DIFFERING THICKNESS, THE DOWELS SHALL BE SIZED FOR THINNER SECTION, AND PLACED AT T/2 ± D/2 OF THE THINNER PAVEMENT.

DOWEL LOCATION AND SIZES



6 DOWEL BAR ASSEMBLY
SCALE: NTS



7 CONTRACTION JOINT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: CHLVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"x34"
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILE NAME: EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

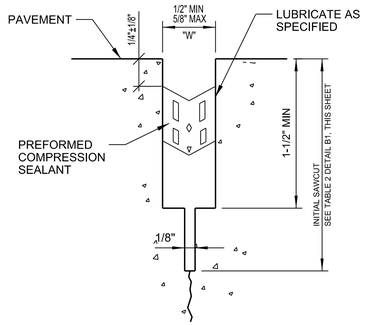
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FS-3 & 4 HANGAR
FORT SMITH, AR
PN: 512203

AIRFIELD PAVEMENT DETAILS - 2

SHEET ID
CP502

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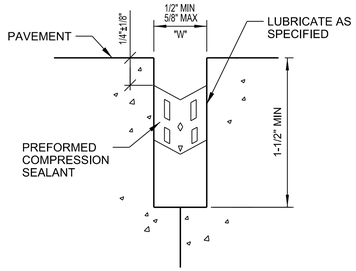
NOTES:

1. REFER TO SPECIFICATIONS FOR SAWCUT "W" WIDTH FOR DIFFERENT PAVEMENT TEMPERATURES.

2. SAWCUT DEPTH AND WIDTH OF JOINT SHALL BE COORDINATED WITH SEALANT MANUFACTURER'S RECOMMENDATIONS.

3. AIRFIELD JOINT SEALANT SHALL BE COMPRESSION SEALANT IN ACCORDANCE WITH SPECIFICATIONS 32 13 73.19

1 COMPRESSION CONTRACTION JOINT
SCALE: NTS



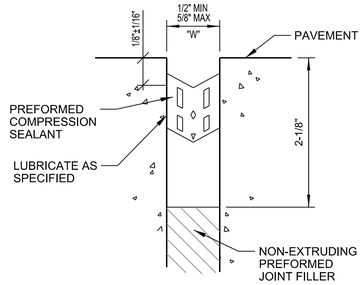
NOTES:

1. REFER TO SPECIFICATIONS FOR SAWCUT "W" WIDTH FOR DIFFERENT PAVEMENT TEMPERATURES.

2. SAWCUT DEPTH AND WIDTH OF JOINT SHALL BE COORDINATED WITH SEALANT MANUFACTURER'S RECOMMENDATIONS.

3. AIRFIELD JOINT SEALANT SHALL BE COMPRESSION SEALANT IN ACCORDANCE WITH SPECIFICATIONS 32 13 73.19

2 COMPRESSION CONSTRUCTION JOINT
SCALE: NTS



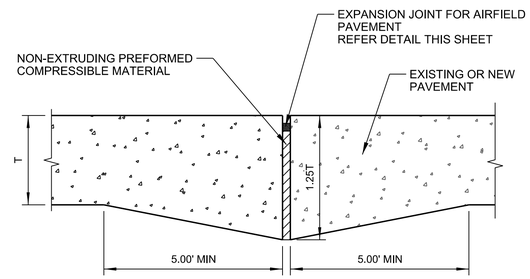
NOTES:

1. REFER TO SPECIFICATIONS FOR SAWCUT "W" WIDTH FOR DIFFERENT PAVEMENT TEMPERATURES.

2. SAWCUT DEPTH AND WIDTH OF JOINT SHALL BE COORDINATED WITH SEALANT MANUFACTURER'S RECOMMENDATIONS.

3. AIRFIELD JOINT SEALANT SHALL BE COMPRESSION SEALANT IN ACCORDANCE WITH SPECIFICATIONS 32 13 73.19

3 COMPRESSION EXPANSION JOINT
SCALE: NTS



4 THICKENED EDGE EXPANSION JOINT
SCALE: NTS

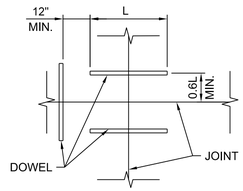


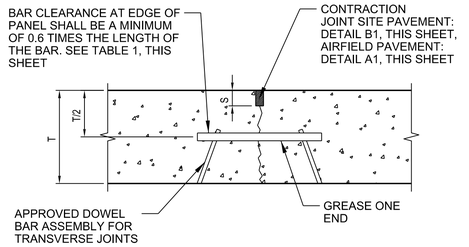
TABLE - 1			
SLAB THICKNESS (T)	DIA	LENGTH	SPACING
LESS THAN 8"	3/4"	16"	12"
8"-11.5"	1"	16"	12"
12"-15.5"	1-1/4"	20"	15"
16"-20.5"	1-1/2"	20"	18"

NOTES:

1. REFER TO AIRFIELD OR GSE RIGID PAVING SPECS FOR ADDITIONAL DOWEL SPACING REQUIREMENTS.

2. WHEN DOWELED JOINTS ARE REQUIRED BETWEEN PAVEMENTS OF DIFFERING THICKNESS, THE DOWELS SHALL BE SIZED FOR THINNER SECTION, AND PLACED AT T/2 ± D/2 OF THE THINNER PAVEMENT.

5 DOWEL BAR LOCATION AND SIZES
SCALE: NTS



T=PAVEMENT THICKNESS, REFER TO PAVEMENT SECTIONS
S=DEPTH OF SAWCUT SEE TABLE 2

6 DOWELED CONTRACTION JOINT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.: -
PLOT SCALE: AS SHOWN
FILENAME: EANG_512203_C_3BAYH_mdl.dgn

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
REVIEWED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: 22"X34"

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

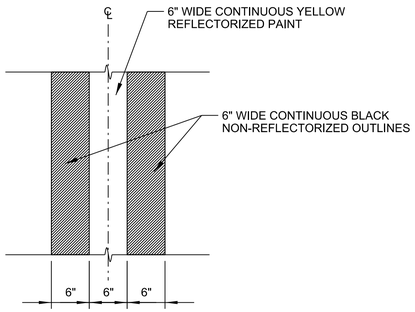
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FSSF & 3 BAY HANGAR
FORT SMITH, AR.
PN: 512203

AIRFIELD PAVEMENT DETAILS - 3

SHEET ID
CP503

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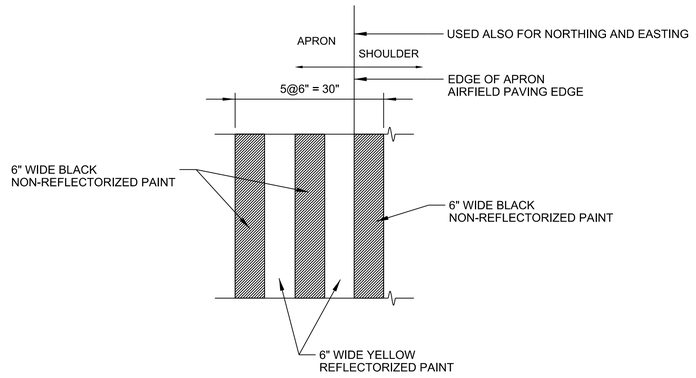


NOTES:

1. ALL AIRFIELD MARKINGS MUST BE AS SPECIFIED IN 32 17 23.19

1 TOWWAY CENTERLINE MARKING

SCALE: NTS



NOTES:
1. CONNECT APRON MARKINGS TO THE EXISTING
APRON EDGE STRIPING

2. ALL AIRFIELD MARKINGS MUST BE AS SPECIFIED IN 32 17 23.19

2 APRON EDGE MARKING

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. ALVAREZ	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
J. ALVAREZ	W912BV26RA004
REVIEWED BY:	CONTRACT NO.:
J. ALVAREZ	-
SUBMITTED BY:	PLOT SCALE:
A. BLANKENSHIP, P.E.	AS SHOWN
SIZE:	FILE NAME:
22"x34"	EANG_512203_C_3BAYH_mdl.dgn

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

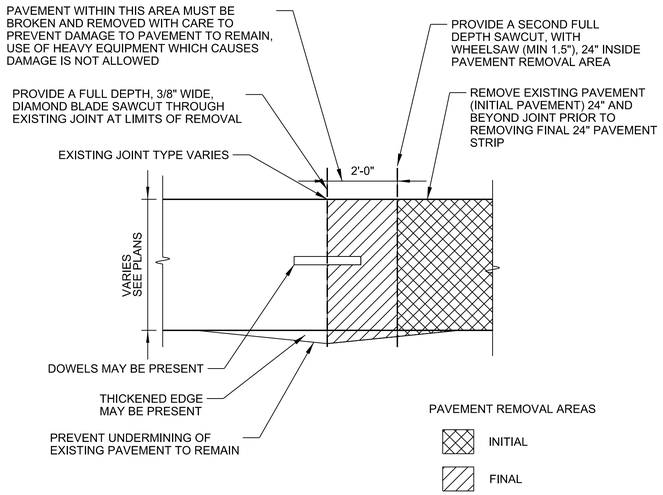
EBBING ANG, ARKANSAS
F-16 AMU HANGAR
FORT SMITH, AR
PN: 512203

AIRFIELD PAVEMENT DETAILS - 4

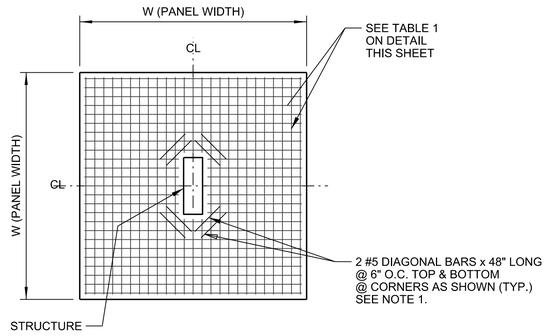
SHEET ID

CP504

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1 DOUBLE SAWCUT DETAIL
SCALE: NTS



NOTES:
1. USE FOR REINFORCED CONCRETE SLABS THAT CONTAIN STRUCTURES AND SHADED OR MARKED SLABS WITH "R" OR AS REQUIRED BY CONTRACTOR'S DESIGN. SEE DETAIL THIS SHEET FOR REINFORCEMENT FOR CONCRETE PANELS WITHOUT STRUCTURES AND TABLE 1 FOR REBAR.

2. PROVIDE 1.5" CLEAR COVER AND 3" SEPARATION BETWEEN REINFORCEMENT AND EDGE OF SLAB.

4. MAXIMUM BAR SPACING MUST NOT EXCEED 12" OR THE SLAB THICKNESS, WHICHEVER IS SMALLER.

2 AIRFIELD APRON SLAB REINFORCEMENT AROUND STRUCTURES
SCALE: NTS

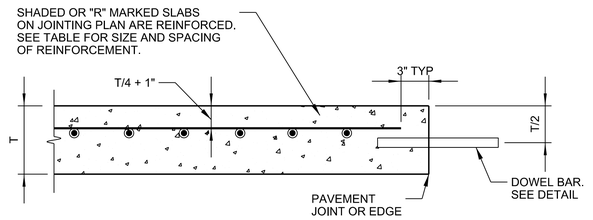
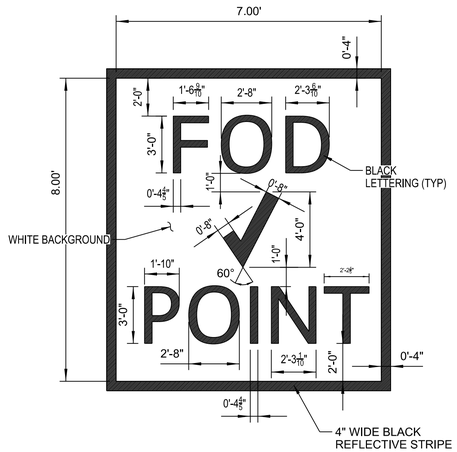


TABLE 1: CONCRETE REINFORCEMENT		
PAVEMENT THICKNESS (IN)	MINIMUM REQUIRED AREA OF STEEL (SQ. IN/FT)	MINIMUM REINFORCEMENT
6-8	0.048	#3 BARS @ 12" C.C.
9-12	0.072	#3 BARS @ 12" C.C.
12-17	0.102	#3 BARS @ 12" C.C.
18-20.5	0.123	#3 BARS @ 12" C.C.

NOTES:
1. SHADED OR "R" MARKED SLABS INDICATED ON THE JOINT LAYOUT PLAN MUST BE REINFORCED AS SHOWN.
SEE DETAIL THIS SHEET, FOR REINFORCEMENT LAYOUT AROUND STRUCTURES ON THE AIRFIELD APRON.

2. REBAR MUST BE OVERLAPPED FOR A DISTANCE EQUAL TO AT LEAST ONE SPACING.

3 CONCRETE PAVEMENT - REINFORCED
SCALE: NTS



NOTES:

1. PAINT AND COLOR PER STANDARDS AND SPECIFICATIONS SECTION 32 17 23.19

4 FOD CHECKPOINT STRIPING
SCALE: NTS

US Army Corps of Engineers®

DATE	DESCRIPTION	MARK

ISSUE DATE: 5 DECEMBER 2025
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CONTRACT NO.: -
PLOT SCALE: AS SHOWN
A. BLANKENSHIP, P.E.
FILENAME: EANG_512203_C_3BAYH_mdl.dgn

DESIGNED BY: J. ALVAREZ
DRAWN BY: J. ALVAREZ
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SUBMITTED BY:
SIZE: 22"X34"

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

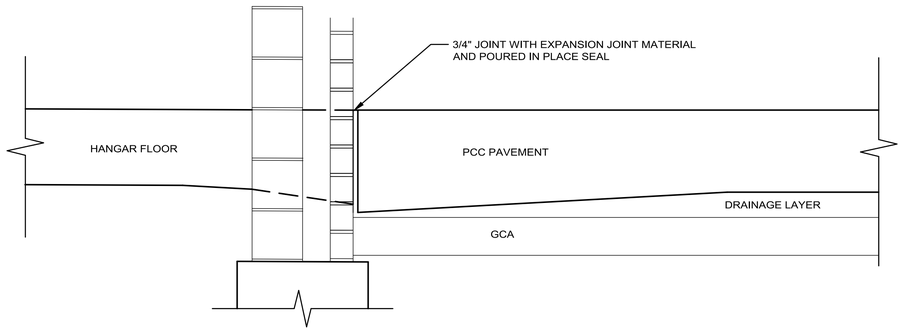
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANG, ARKANSAS
FISCAL YEAR 2026
FORT SMITH, AR.
PN: 512203

AIRFIELD PAVEMENT DETAILS - 5

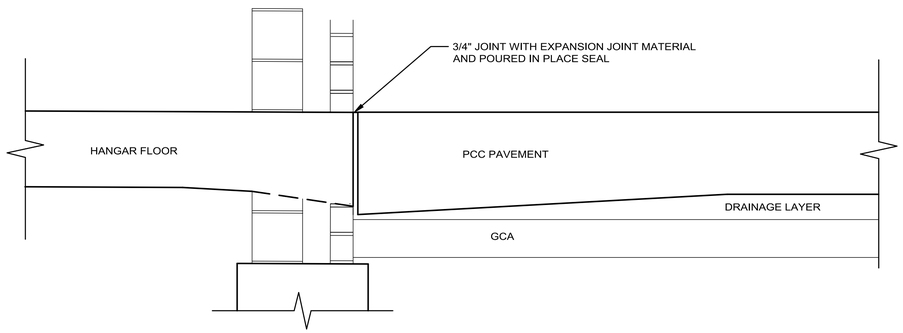
SHEET ID
CP505

100% READY TO ADVERTISE – NOT FOR CONSTRUCTION



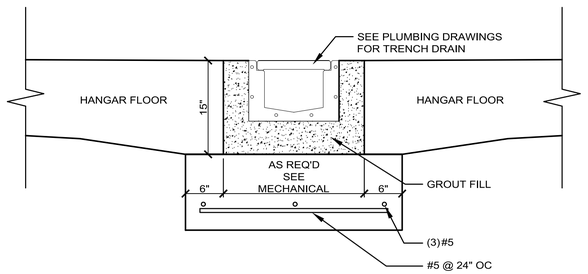
H3 HANGAR BAY PAVEMENT SECTION

SCALE: NTS



C3 HANGAR BAY PAVEMENT SECTION

SCALE: NTS



C14 HANGAR BAY PAVEMENT SECTION AT TRENCH DRAIN

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: W. GREEN
DRAWN BY: B. CASH
CHECKED BY: J. ALVAREZ
SUBMITTED BY: A. BLANKENSHIP
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3BH HANGAR
PN: 512203

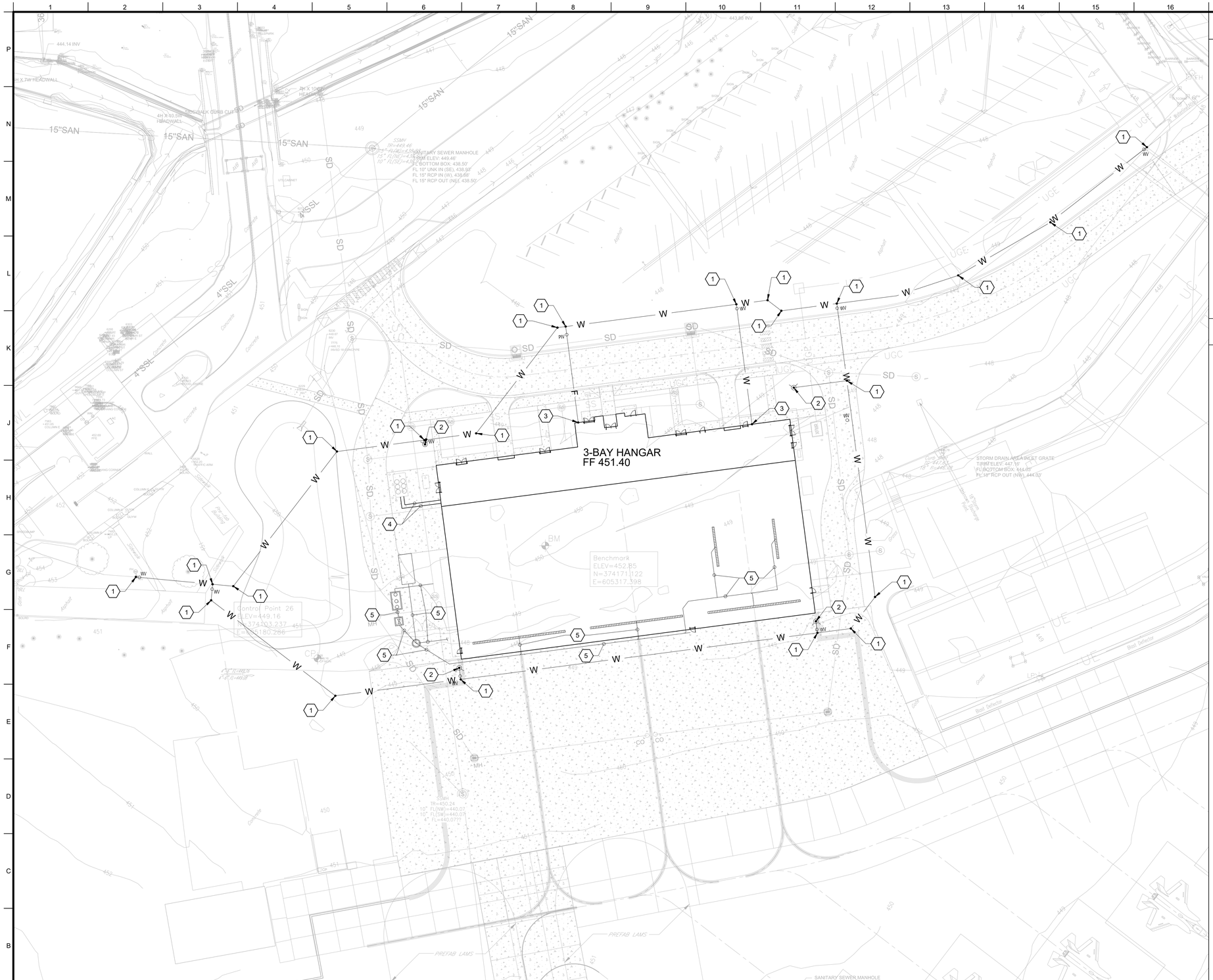
HANGAR BAY PAVING DETAILS

SHEET ID

CP521

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

Y:\DM\PROJECTS\EBBING ANGB\00_WORKING FILES\01_DISCIPLINE MODELS\CIVIL\INTERIOR HANGAR PAVEMENT\DWG\EANG_3BH SHEETS.DWG
10:06:09 AM 10/20/2025
M5ECEBGC



A1 CATHODIC PROTECTION PLAN
SCALE: 1"=30' 0 30' 60'

N

GENERAL SHEET NOTES

1. SEE SHEET EC500 FOR CATHODIC PROTECTION DETAILS.

SHEET KEYNOTES

1. PROPOSED SINGLE FITTING CATHODIC PROTECTION. SEE DETAIL H2 ON SHEET EC500.
2. PROPOSED FIRE HYDRANT CATHODIC PROTECTION. SEE DETAIL H9 ON SHEET EC500.
3. PROPOSED WATER LINE STUB-UP CATHODIC PROTECTION. SEE DETAIL H15 ON SHEET EC500.
4. PROPOSED HYDRONIC LINES CATHODIC PROTECTION. SEE DETAIL B2 ON SHEET EC500.
5. PROPOSED TRENCH DRAIN PIPING CATHODIC PROTECTION. REFER TO PLUMBING PLANS FOR LOCATION AND LENGTH OF PIPING. SEE DETAIL B15 ON SHEET EC500.

US Army Corps of Engineers®

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DESIGNED BY: J. CARTER
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CHECKED BY: J. CARTER
SUBMITTED BY: J. CARTER
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SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
SHEET NO.: EC101
SIZE: ANSI D

U.S. ARMY CORPS OF ENGINEERS
US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET, TULSA, OK 74137-4290

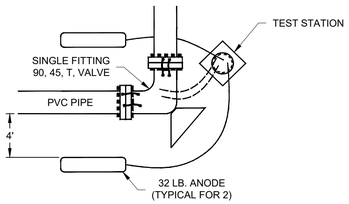
ETEGRA, INC.
12813 FLUSHING MEADOWS DR.
SUITE A, CHESTERFIELD, MO 63131
(314) 533-2200 | WWW.ETEGRA.COM

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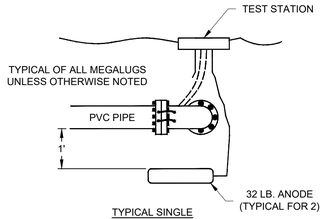
CATHODIC PROTECTION PLAN

SHEET ID
EC101

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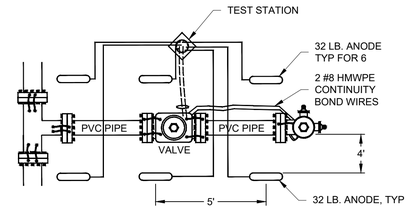
TYPICAL SINGLE FITTING
DETAIL PLAN VIEW



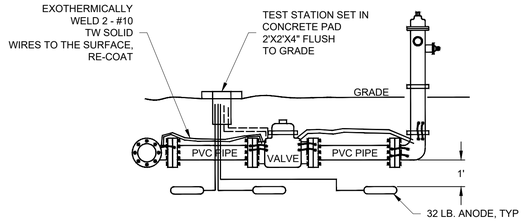
TYPICAL SINGLE
FITTING DETAIL
ELEVATION VIEW

H2 SINGLE FITTING FOR VALVES, 45 AND 90 DEGREE ELBOWS, AND TEE'S

SCALE: NTS



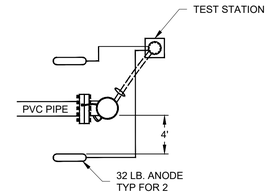
FIRE HYDRANT DETAIL PLAN VIEW



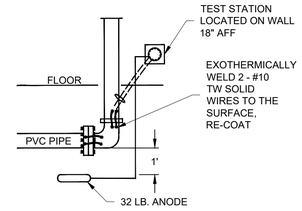
FIRE HYDRANT DETAIL
ELEVATION VIEW

H9 FIRE HYDRANT WITH VALVE AND TEE

SCALE: NTS



SERVICE RISER DETAIL PLAN VIEW

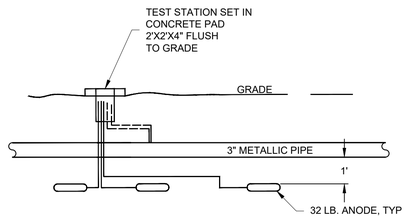


SERVICE RISER DETAIL
ELEVATION VIEW

H15 SERVICE RISER

SCALE: NTS

HYDRONIC PIPING DETAIL PLAN VIEW



HYDRONIC PIPING DETAIL
ELEVATION VIEW

B2 HYDRONIC PIPING DETAIL

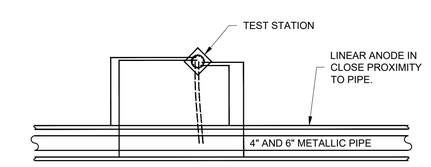
SCALE: NTS

NOTES:

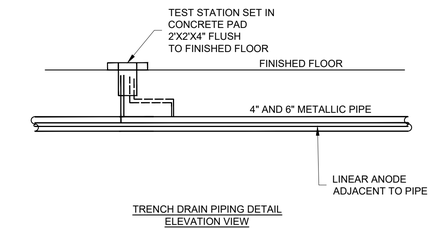
1. INSTALL TWO #8 HMWPE CONTINUITY BOND WIRES ACROSS EACH MECHANICAL/ NON-WELDED PIPE JOINT.
2. EXOTHERMICALLY WELD TWO #10 TW SOLID (WHITE) TEST LEAD WIRES AS SHOWN, COVER WELDS WITH MASTIC WELD SHIELDS.
3. ROUTE ALL TEST LEAD WIRES & ANODE LEAD WIRES UNSPLICED INTO TEST STATION.
4. ALL ANODE & TEST LEAD WIRES SHOULD EXTEND AT LEAST 12 INCHES OUT OF TEST STATION AT FINAL GRADE.
5. COIL AT LEAST 6 INCHES OF SLACK IN WIRES IN BOTTOM OF TEST STATION BODY TO ACCOUNT FOR SETTLING.
6. INSTALL TEST STATION APPROXIMATELY OVER FITTINGS AND BACKFILL AND COMPACT WITH NATIVE SOIL TO BOTTOM OF TEST STATION BODY.
7. INSTALL ANODES AS SHOWN
8. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN THE ANODES & FITTINGS SHOULD BE AT LEAST 4 FEET.
9. THE ANODES MUST BE INSTALLED TO A DEPTH AT LEAST 1 FOOT DEEPER THAN THE PIPE ITSELF.
10. INSTALL ANODES DRY & BACKFILL WITH LAYERS OF NATIVE SOIL, TAMPING EACH LAYER, UNTIL THE ANODES ARE COVERED BY APPROXIMATELY 6-12 INCHES OF SOIL.
11. AFTER ANODES ARE COVERED WITH AT LEAST 6-12 INCHES OF SOIL, POUR 5-10 GALLONS OF CLEAN WATER ON TOP OF ANODES AND ALLOW WATER TO SOAK INTO THE ANODE BEFORE CONTINUING TO BACKFILL.
12. PROTECT HORIZONTAL RUNS OR BURIED WIRE WITH PVC CONDUIT.
13. INSTALL FLANGE ISOLATION KITS ON BUILDING RISERS IN FIRST FLANGE INSIDE BUILDING.
14. BUILDING RISERS MUST PENETRATE FLOOR SLAB/BUILDING WALL IN NON-METALLIC SLEEVES.
15. IF BUILDING RISERS ARE TO BE GROUNDED, THE GROUND WIRE MUST BE ATTACHED ABOVE THE FLANGE ISOLATION KIT.
16. PROVIDE PASSIVE CATHODIC PROTECTION TO UNDERGROUND STEEL PIPE AND CONDUIT PER UFC 3-570-01.

C9 CATHODIC PROTECTION DETAILS NOTES

SCALE: NTS



TRENCH DRAIN PIPING DETAIL PLAN VIEW



TRENCH DRAIN PIPING DETAIL
ELEVATION VIEW

B15 TRENCH DRAIN PIPING DETAIL

SCALE: NTS

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CATHODIC PROTECTION DETAILS

SHEET ID

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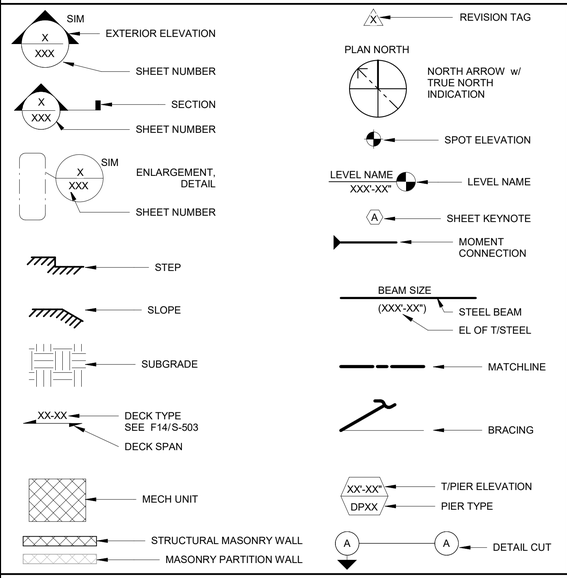
STRUCTURAL ABBREVIATIONS

ABBREVIATION	ABBREVIATION NAME
#	NUMBER
&	AND
@	AT
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURAL EXPOSED STRUCTURAL STEEL
AFF	ABOVE FINISHED FLOOR
AH, AHU	AIR HANDLING UNIT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	THE ENGINEERED WOOD ASSOCIATION
APPROX	APPROXIMATELY
ARCH	ARCHITECTURAL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASD	ALLOWABLE STRESS DESIGN
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AT/FP	ANTI-TERRORISM/ FORCE PROTECTION
AWS	AMERICAN WELDING SOCIETY
BET, BTWN	BETWEEN
BLDG	BUILDING
BM	BEAM
BOF	BOTTOM OF FOOTING
BOT	BOTTOM
BRG	BEARING
BS	BOTH SIDES
C	CHANNEL
CENT, CTRD	CENTERED
CF	CUBIC FEET
CFMF	COLD-FORMED METAL FRAMING
CFS	COLD-FORMED STEEL
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT, CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
D	DEEP, DEPTH
DEG	DEGREES
DET	DETAIL
DIA, Ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DP	DRILLED PIER
DWG(S)	DRAWINGS
DWL	DOWEL
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	SEISMIC LOAD
ELEC	ELECTRICAL
ELEV	ELEVATION
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
EXIST, (E)	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FFE	FINISH FLOOR ELEVATION
FG	FINISH GRADE
FND	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FS	FAR SIDE
FT, '	FEET, FOOT
FTG	FOOTING
Fy	YIELD STRESS
GA	GAUGE
GALV	GALVANIZE
H, HT	HEIGHT
HDG	HOT DIP GALVANIZE
HORIZ	HORIZONTAL
HP	HIGH POINT
HRWR	HIGH-RANGE WATER-REDUCING
HSA, HAS	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
I	MOMENT OF INERTIA
IBC	INTERNATIONAL BUILDING CODE
IN, "	INCH

STRUCTURAL ABBREVIATIONS

ABBREVIATION	ABBREVIATION NAME
IN/HR	IN PER HOUR
INFO	INFORMATION
INT	INTERIOR
JBE	JOIST BEARING ELEVATION
JT	JOINT
K, KIPS	THOUSAND POUNDS
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
KTR	CONTRACTOR
L	LENGTH, ANGLE
LB	POUND
LD	DEVELOPMENT LENGTH
LL	LIVE LOAD
LLH, LDH	LONG LEG (DIMENSION) HORIZONTAL
LLV, LDV	LONG LEG (DIMENSION) VERTICAL
LONG	LONGITUDINAL
LP	LOW POINT
LRFD	LOAD AND RESISTANCE FACTOR DESIGN
LTS	TENSION LAP SPLICE LENGTH
MAX	MAXIMUM
MC	MISCELLANEOUS (MC) CHANNEL
MCLEP	MECHANICAL, CEILING, LIGHTING, ELECTRICAL, AND PLUMBING
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MF	MOMENT FRAME
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MPH	MILE(S) PER HOUR
MRF, MFR	MANUFACTURER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OPPOSITE HAND
OWSJ	OPEN WEB STEEL JOIST
PAF	POWDER ACTUATED FASTENER
PCF	POUNDS PER CUBIC FOOT
PEN	PENETRATION
PL	PLATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST TENSION
R, RAD	RADIUS
REINF	REINFORCING, REINFORCED
REQ, REQ'D	REQUIRED
REV	REVISION, REVISED
RLL	ROOF LIVE LOAD
S	SECTION MODULUS
SC	SLIP CRITICAL
SCHED	SCHEDULE
SDI	STEEL DECK INSTITUTE
SF	SQUARE FEET
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
SL	SNOW LOAD
SMS	SHEET METAL SCREW
SOG	SLAB ON GRADE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SS	STAINLESS STEEL
SSL	SHORT SLOTTED
ST	SNUG TIGHT
STD	STANDARD
STIF/STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL, STRUCTURE
T&B	TOP AND BOTTOM
T/	TOP OF
TGB	TOP OF GRADE BEAM
THK	THICK, THICKNESS
THRU	THROUGH
TL	TOTAL LOAD
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UFC	UNITED FACILITIES CRITERIA
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
VIF	VERIFY IN FIELD
VS.	VERSUS
W	WIDTH, WIDE FLANGE
W/	WITH
WF	WIDE FLANGE
WL	WIND LOAD
WPS	WELDING PROCEDURE SPECIFICATION
WPT, WP	WORKING POINT
WWR	WELDED WIRE REINFORCEMENT
x	BY, TIMES

SYMBOLS LEGEND



EARTHWORK AND FOUNDATION NOTES

1) GENERAL NOTES:

1A) A SUBSURFACE INVESTIGATION AND GEOTECHNICAL REPORT WERE COMPLETED BY UNITED STATES ARMY CORPS OF ENGINEEERS, FORT WORTH DISTRICT IN NOVEMBER 2024. THE INFORMATION CONTAINED IN THE GEOTECHNICAL REPORT WAS USED TO COMPLETE THE FOUNDATION DESIGN.
1B) DO NOT PLACE FOUNDATIONS ON OR AGAINST SUBGRADE CONTAINING FREE WATER, ICE, OR FROST.
1C) CENTER FOUNDATIONS ON WALL AND COLUMN CENTERLINES UNLESS OTHERWISE INDICATED BY AN OFFSET DIMENSION ON PLAN OR BY DETAIL.
1D) PLACE BACKFILL EVENLY AND COMPACTED ON EACH SIDE OF ALL SUBGRADE STRUCTURAL ELEMENTS TO PRODUCE APPROXIMATELY EQUAL AND OPPOSITE LATERAL PRESSURES. SUBGRADE STRUCTURAL ELEMENTS SUBJECTED TO DIFFERENTIAL LATERAL SOIL PRESSURE MUST BE ADEQUATELY BRACED BY THE CONTRACTOR UNTIL THE STRUCTURAL SUPPORT WHICH PROVIDES LATERAL RESTRAINT HAS BEEN INSTALLED.

2) SITE PREPARATION:

2A) STRIP AND GRUB THE BUILDING SITE OF VEGETATION, ROOTS, DEBRIS, AND OTHER ORGANIC MATERIAL (2 TO 4 INCHES).
2B) STRUCTURAL EXCAVATION FOR THE BUILDING MUST BE IN ACCORDANCE WITH THE EATHWORK SPECIFICATION. ANY ADDITIONAL FILL REQUIRED TO ACHIEVE THE FINAL SUBGRADE ELEVATION BELOW THE FLOOR SLAB-ON-GRADE MUST BE STRUCTURAL FILL MATERIAL.
2C) PRIOR TO PLACING STRUCTURAL FILL, PROOF ROLL THE SITE IN ACCORDANCE WITH THE EARTHWORK SPECIFICATION.
2E) DO NOT MIX IN-SITU SOILS WITH STRUCTURAL FILL FOR BUILDING SUBSTRATE. CLEAN OR OPEN-GRADED CRUSHED LIMESTONE MUST NOT BE USED.
2F) STRUCTURAL FILL MUST BE IN ACCORDANCE WITH THE EARTHWORK SPECIFICATION.
2G) STRUCTURAL FILL MUST BE PLACED AND COMPACTED TO A DEPTH DIRECTLY BELOW THE CAPILLARY WATER BARRIER BENEATH THE SLAB ON GRADE.
2H) PLACE SELECT FILL IN LIFTS IN ACCORDANCE WITH THE EARTHWORK SPECIFICATION.
2I) EXCAVATED AREAS BEYOND THE LIMITS OF THE BUILDING FOOTPRINT MUST HAVE A SELECT CLAY CAP IN ACCORDANCE WITH THE EARTHWORK SPECIFICATION.

3) DRILLED PIERS (CAISSONS) AND GRADE BEAMS:

3A) PIER DESIGN CRITERIA:
- DRILLED PIERS MUST BE A MINIMUM DIAMETER OF 24 INCHES AND PLACED NO CLOSER THAN TWICE THE LARGER PIER DIAMETERS APART MEASURING FROM CENTER TO CENTER OF PIERS. DRILLED PIERS MUST BE A MINIMUM LENGTH OF 31 FEET MEASURED FROM FINISHED FLOOR.
- NET ALLOWABLE BEARING CAPACITY = 50 KSF
- ALLOWABLE UPLIFT SKIN FRICTION VALUE OF 5000 PSF FOR THE STRATUM III HARD UNWEATHERED SHALE MATERIAL. SKIN FRICTION CALCULATIONS MUST NEGATE THE TOP 3 FEET OF THE DRILLED PIER LENGTH.
- SOCKETED A MINIMUM OF 5 FEET OR 2 TIMES PIER DIAMETER, WHICHEVER IS LARGER, INTO THE COMPETENT STRATUM III SHALE MATERIAL
- BOTH THE SPECIFIED SOCKET INTO SHALE AND MINIMUM LENGTH MUST BE SATISFIED.
- MINIMUM LENGTH-TO-DIAMETER RATIO OF 2L:1D

3B) GRADE BEAM NOTES:
a. MINIMUM WIDTH MUST BE THE DIAMETER OF THE SUPPORTING PIERS OR 16 INCHES, WHICHEVER IS GREATER. MINIMUM DEPTH MUST BE 2 FEET BELOW GRADE.
b. COLLAPSIBLE (CARTON/VOID) FORMS MUST BE USED BELOW GRADE BEAMS. VOID FORMS MUST BE A MINIMUM THICKNESS OF 6 INCHES.
c. GRADE BEAMS MUST NOT BE EARTH-FORMED.
d. LOCATE ALL GRADE BEAM CONSTRUCTION JOINTS AT 1/3 POINTS OF THE SPAN UNLESS OTHERWISE NOTED.

GENERAL STRUCTURAL NOTES

1) GENERAL NOTES:

1A) ALL MATERIALS AND WORK MUST CONFORM TO THE REQUIREMENTS OF UFC 3-301-01 STRUCTURAL ENGINEERING (2 OCTOBER 2023), IBC 2021 INTERNATIONAL BUILDING CODE AND ASCE 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
1B) PROVIDE MANUFACTURER'S ICC-ES REPORTS AND A LIST OF ALL PROPOSED SUBSTITUTIONS TO THE CONTRACTING OFFICER FOR REVIEW AND APPROVAL BEFORE FABRICATION.

2) USE OF DRAWINGS:

2A) DO NOT SCALE DRAWINGS.
2B) VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK. NOTIFY THE CONTRACTING OFFICER IMMEDIATELY OF ANY DISCREPANCIES.
2C) DO NOT DEVIATE FROM THE APPROVED SET OF STRUCTURAL DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL BY THE CONTRACTING OFFICER.
2D) NOTES AND DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER THE GENERAL NOTES AND TYPICAL DETAILS IN CASE OF CONFLICT.
2E) IN CASE OF DISCREPANCY BETWEEN CONTRACT DRAWINGS, SPECIFICATIONS AND/OR APPLICABLE CODES AND CRITERIA, THE MORE STRINGENT REQUIREMENTS MUST BE APPLIED.
2F) WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS MUST BE THE SAME AS FOR SIMILAR WORK SHOWN ON THE DRAWINGS.

3) COORDINATION:

3A) COORDINATE LOCATION OF SLEEVES AND OPENINGS THROUGH THE STRUCTURE, SLAB DEPRESSIONS, FLOOR DRAINS, INSERTS, AND OTHER RELATED ITEMS. DO NOT PLACE PIPES, DUCTS, SLEEVES, CHASES, ETC. IN SLABS OR WALLS UNLESS SPECIFICALLY SHOWN OR NOTED AND DO NOT CUT STRUCTURAL MEMBER FOR PIPES, DUCTS, ETC., UNLESS SPECIFICALLY SHOWN. OBTAIN WRITTEN CONSENT FROM THE CONTRACTING OFFICER BEFORE INSTALLATION OF ANY ADDITIONAL PIPES, DUCTS, SLEEVES, CHASES, ETC.
3B) REFER TO ARCHITECTURAL PLANS FOR FLOOR DEPRESSIONS SLOPES, DRAINS, CURBS, PADS, EMBEDDED ITEMS, NON-LOAD-BEARING PARTITIONS, ETC.
3C) REFER TO MECHANICAL AND ELECTRICAL PLANS FOR SLEEVES AND HANGERS FOR PIPES, DUCTS AND EQUIPMENT.
3D) THE STRUCTURAL DRAWINGS ILLUSTRATE THE STRUCTURAL MEMBERS. REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL ITEMS WHICH REQUIRE SPECIAL PROVISIONS DURING THE CONSTRUCTION OF STRUCTURAL MEMBERS.
3E) SEE ARCHITECTURAL PLANS FOR INTERIOR PARTITIONS. CONNECT PARTITION FRAMING TO THE PRIMARY STRUCTURE IN SUCH A WAY SO AS TO ALLOW FOR VERTICAL LIVE LOAD DEFLECTIONS OF SPAN/360 OF THE FLOOR AND ROOF FRAMING. DO NOT MAKE RIGID VERTICAL AND HORIZONTAL CONNECTIONS TO THE PRIMARY STRUCTURE IN THE PLANE OF THE PARTITION.
3F) LOCATE AND PROTECT UNDERGROUND OR CONCEALED CONDUIT, PLUMBING OR OTHER UTILITIES WHERE WORK IS BEING PERFORMED.
3G) STRUCTURAL PLANS INDICATE ONLY THE APPROXIMATE LOCATION OF MECHANICAL, ELECTRICAL, AND OTHER EQUIPMENT, AS WELL AS THE RELATED AUXILIARY FRAMING NECESSARY TO SUPPORT SUCH EQUIPMENT. THE FINAL POSITIONING OF THESE ITEMS IS DEPENDENT UPON THE FINAL EQUIPMENT PROVIDED.

4) TEMPORARY CONDITIONS, CONSTRUCTION ENGINEERING, AND OSHA STANDARDS:

4A) THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION AND ONLY FOR LOADS ANTICIPATED DURING THE STRUCTURE'S SERVICE LIFE.
4B) THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE METHODS, PROCEDURES OR SEQUENCE OF CONSTRUCTION. TAKE THE NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE DURING CONSTRUCTION. DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND BRACING, CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
4C) IT IS INTENDED THAT ALL MEMBERS BE FABRICATED AND ERECTED FREE OF SHOP AND FIELD SPLICES. IF FIELD CONDITIONS NECESSITATE THE NEED FOR FIELD SPLICING OF MEMBERS SUBMIT SPLICE LOCATIONS FOR CONTRACTING OFFICER'S ACCEPTANCE. WHERE FIELD SPLICING IS ACCEPTED, SPLICES MUST BE SHOWN IN THE SHOP DRAWINGS.
4D) MATERIALS MUST BE EVENLY DISTRIBUTED IF PLACED ON FRAMED FLOORS OR ROOFS. LOADS MUST NOT EXCEED THE ALLOWABLE LOADING FOR THE SUPPORTING MEMBERS AND THEIR CONNECTIONS.
4E) CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES MUST RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.
4F) PROCEED WITH BACKFILLING OPERATIONS IN A SAFE AND UNIFORM MANNER. SEE SPECIFICATIONS FOR REQUIREMENTS. DO NOT BACKFILL FOUNDATION WALLS UNTIL THE SLABS-ON-GRADE AND UPPER SLABS ARE IN-PLACE AND REACH FULL STRENGTH UNLESS ADEQUATE BRACING IS PROVIDED. USE ONLY HAND OPERATED TOOLS FOR COMPACTION ADJACENT TO FOUNDATION WALLS AND GRADE BEAMS. BACKFILL GRADE BEAMS EVENLY ON BOTH SIDES.
4G) PROVIDE DEWATERING AS REQUIRED SO THAT EXCAVATION, CONCRETE WORK AND BACKFILLING ARE PERFORMED IN THE DRY.
4H) TEMPORARY BRACING, SHEETING AND SHORING, ETC. ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND MUST BE DESIGNED, FABRICATED, AND INSTALLED IN ACCORDANCE WITH ACCEPTED DRAWINGS AND SPECIFICATIONS.
4I) THE STRUCTURAL DRAWINGS REPRESENT FINAL CONDITIONS ONLY AND DO NOT ELIMINATE THE NEED FOR THE CONTRACTOR TO COMPLY WITH ALL OSHA REQUIREMENTS INCLUDING, BUT NOT LIMITED TO:
a. ADD ALL ERECTION FRAMING NECESSARY TO COMPLY WITH OSHA.
b. ADD ALL NECESSARY BOLTS, ANCHOR BOLTS, PLATES, STIFFENER PLATES, STABILIZER PLATES, BRIDGING, BRACING, BEARING SEATS, COLUMN SPLICES, ETC., AS WELL AS CLOSURES FOR OPENINGS. IN ADDITION, FIELD WELD ANYTHING THAT MAY BE CONSIDERED A TRIP HAZARD, SUCH AS SHEAR STUDS, AFTER PROTECTIVE DECKING IS INSTALLED.

CRANE NOTES

1) GENERAL NOTES:

1A) CRANE INSTALLATION MUST MEET THE CMAA 70 CRANE RAIL TOLERANCES.
1B) AFTER RUNWAY RAIL INSTALLATION AND PRIOR TO FACILITY ACCEPTANCE OR CRANE INSTALLATION (BASED ON WHICH EVENT IS EARLIER), A RAIL SURVEY MUST BE ACCOMPLISHED BY A LICENSED SURVEYOR. THE FILED DATA FOR THIS SURVEY MUST BE COLLECTED AT INTERVALS NOT TO EXCEED 20'-0". THE RESULT OF THE SURVEY SHOULD ANALYZE THE DATA IN ACCORDANCE WITH CMAA 70 AND ANNOTATE INSTALLATION ADJUSTMENTS OR STATE THE RAIL INSTALLATION COMPLIES WITH THE INSTALLATION REQUIREMENTS OF CMAA 70. IF RAIL INSTALLATION ADJUSTMENTS ARE REQUIRED, A SECOND SURVEY TO ANALYZE FIELD CONDITIONS IS REQUIRED.
1C) REFER TO DRAWING S-003 FOR 5-TON CRANE DESIGN LOADS.

DEFERRED SUBMITTALS

1) HANGAR OVERHEAD CRANE
2) VERTICAL LIFT FABRIC DOORS
3) OVERHEAD RIGID RAIL FALL PROTECTION SYSTEM
4) ROOF FALL PROTECTION SYSTEM
5) OPEN WEB STEEL JOISTS
6) CAST STONE ANCHORAGE
7) STRUT SYSTEMS FOR MECHANCIAL, ELECTRICAL, AND PLUMBING SUPPORTS
8) COLD-FORMED METAL FRAMING

SPECIAL INSPECTION NOTES

1) GENERAL NOTES:

1A) PERFORM SPECIAL INSPECTIONS IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS AND SCHEDULE OF SPECIAL INSPECTIONS INCLUDED AS INDICATED IN SPECIFICATION SECTION 01 45 35 SPECIAL INSPECTIONS.
1B) REQUIRED STRUCTURAL OBSERVATIONS ARE NOTED IN SPECIFICATION SECTION 01 45 35 SPECIAL INSPECTIONS.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
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US ARMY CORPS OF ENGINEERS
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GENERAL STRUCTURAL NOTES, DESIGN LOADS & ABBREVIATIONS

SHEET ID
S-001

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

CONCRETE NOTES

1) GENERAL:

1A) ALL CONCRETE WORK MUST BE IN ACCORDANCE WITH ACI 301-10, UNLESS OTHERWISE NOTED IN DRAWINGS OR PROJECT SPECIFICATIONS.
1B) DETAIL BARS IN ACCORDANCE WITH THE DRAWINGS, PROJECT SPECIFICATIONS, AND ACI PUBLICATION SP-66 (2004) (MNL-66 (20)): "ACI DETAILING MANUAL."
1C) PERMANENTLY EXPOSED CONCRETE CORNERS MUST HAVE A 3/4 INCH CHAMFER UNLESS OTHERWISE NOTED.
1D) NO POST-INSTALLED ANCHORS WILL BE ALLOWED WITHOUT APPROVAL FROM THE CONTRACTING OFFICER. DO NOT SUBSTITUTE EXPANSION ANCHORS FOR ADHESIVE ANCHORS.
1E) NO ALUMINUM OF ANY TYPE IS ALLOWED IN THE CONCRETE WORK, UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION.
1F) SIZE AND LOCATION OF BASES, SUPPORTS AND EMBEDDED ANCHORAGES FOR EQUIPMENT MUST BE COORDINATED WITH EQUIPMENT SUPPLIER AND WILL BE IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.

2) MATERIALS:

2A) CEMENT MUST CONFORM TO ASTM C150, TYPE II OR TYPE IL.
2B) COARSE AGGREGATE MUST CONFORM TO ASTM C33, CRUSHED ROCK
2C) REINFORCEMENT MUST BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60
2D) WELDED WIRE FABRIC MUST CONFORM TO ASTM A1064.
2E) PROVIDE CONCRETE MIX DESIGN REQUIREMENTS IN ACCORDANCE WITH SPECIFICATION SECTION 03 30 00.
2F) CALCIUM CHLORIDE IS NOT PERMITTED FOR USE IN CONCRETE.
2G) PROPORTION CONCRETE SUCH THAT 7-DAY STRENGTHS ARE A MINIMUM OF 70% OF THE SPECIFIED 28-DAY STRENGTH FOR ANY CONCRETE CONSTRUCTION REQUIRING SHORING, BRACING OR TO RECEIVE CONSTRUCTION LOADS.

3) REINFORCING FABRICATION:

3A) SPLICES:
- a. SPLICING OF REINFORCEMENT IS NOT PERMITTED EXCEPT AS NOTED ON DRAWINGS. MAKE BARS CONTINUOUS AROUND CORNERS WHERE DETAILS NOT PROVIDED. WHERE PERMITTED, SPLICES MAY BE MADE BY CONTACT LAPS OR MECHANICAL CONNECTORS.
- b. SEE 'LAP SPLICE SCHEDULE' ON K1/S-502 FOR LAP LENGTHS.
- c. SPLICE CONTINUOUS TOP AND BOTTOM BARS IN WALLS, BEAMS, AND GRADE BEAMS 'LTS' UNLESS NOTED OTHERWISE.
- d. SPLICE TOP BARS AT MIDSPAN AND BOTTOM BARS OVER SUPPORT UNLESS NOTED OTHERWISE.
- e. SPLICES OF WWF, AT ALL SPLICED EDGES, MUST OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRE PLUS 2 INCHES, NOR LESS THAN 8".

3B) MISCELLANEOUS REINFORCING REQUIREMENTS:
- a. PROVIDE ADDITIONAL BARS OR STIRRUPS REQUIRED TO SECURE REINFORCING IN PLACE AND PREVENT DISPLACEMENT BY CONSTRUCTION TRAFFIC OR DURING CONCRETE PLACEMENT.
- b. MAKE ALL REINFORCING BAR BENDS IN THE FABRICATOR'S SHOP UNLESS NOTED OTHERWISE. ALL FIELD BENDING OF REINFORCING MUST BE DONE COLD. HEATING OF BARS IS NOT PERMITTED.
- c. WELDING OF REINFORCING IS NOT PERMITTED UNLESS NOTED OTHERWISE ON DRAWINGS. WHERE PERMITTED, PERFORM WELDING IN ACCORDANCE WITH AWS D1.4-2018.
- d. PROVIDE ADDED REINFORCING TO TRIM ALL OPENINGS, NOTCHES, AND REENTRANT CORNERS AS NOTED IN TYPICAL DETAILS.

4) SLAB-ON-GRADE:

4A) VERIFY ALKALINITY OF CONCRETE SURFACE, SLAB VAPOR TRANSMISSION, AND SLAB FLATNESS/LEVELNESS ARE COMPATIBLE WITH FLOORING SYSTEM AND ADHESIVES PRIOR TO INSTALLING FLOORING.
4B) TAKE PRECAUTIONS TO MINIMIZE SLAB CURLING. GRIND SLAB OR USE LEVELING COMPOUND IF FLOOR FLATNESS AND LEVELNESS VALUES ARE NOT ACCEPTABLE TO THE CONTRACTING OFFICER.
4C) CONTRACTION JOINTS MUST BE LOCATED WITHIN THE SLAB AS SOON AS POSSIBLE, BUT NO LATER THAN FOUR (4) HOURS IN HOT WEATHER OR TWELVE (12) HOURS IN COLD WEATHER AFTER PLACING OF CONCRETE TO AVOID PREMATURE CRACKING IN THE FLOOR SLAB.
4D) APPLY EPOXY JOINT FILLER TO ALL EXPOSED CONTROL JOINTS.
4E) COORDINATE CONCRETE FINISHES AND SPRAY ON CURING/SEALING COMPOUNDS WITH ARCHITECTURAL FLOORING FINISHES FOR COMPATIBILITY.
4F) SLABS ON GRADE SUBJECT TO VEHICLE TRAFFIC MUST HAVE A MINIMUM FLEXURAL STRENGTH OF 550 PSI AT 90 DAYS AND MAXIMUM FLEXURAL STRENGTH OF 650 PSI AT 90 DAYS.

5) NON-SHRINK GROUT:

5A) CONFORM TO ASTM C1107.
5B) ACHIEVE 6000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

6) PLACING REINFORCEMENT:

6A) REINFORCEMENT PROTECTION:
- a. PROVIDE MINIMUM CONCRETE COVER FOR REINFORCEMENT IN ACCORDANCE WITH THE CONCRETE COVER SCHEDULE. SEE 'REBAR COVER TABLE'
- b. SEE ACI 117-10 FOR REINFORCEMENT PLACING TOLERANCES

6B) PROVIDE ACCESSORIES NECESSARY TO PROPERLY SUPPORT REINFORCING AND WELDED WIRE REINFORCEMENT IN POSITIONS SHOWN ON PLANS. ALL REINFORCING, DOWELS, BOLTS, AND EMBEDDED PLATES MUST BE SET AND TIED IN PLACE BEFORE THE CONCRETE IS POURED. "STABBING" INTO PREVIOUSLY PLACED CONCRETE IS NOT PERMITTED.
6C) DOWEL VERTICAL REINFORCEMENT TO SUPPORTING MEMBERS WITH THE SAME SIZE AND SPACING OF REINFORCEMENT AS SHOWN ON THE DRAWINGS AND IN THE GENERAL NOTES UNLESS OTHERWISE NOTED.
6D) EXTEND ALL BARS ENDING AT THE FACE OF A WALL, COLUMN OR BEAM TO WITHIN 2 INCHES OF THE FACE AND PROVIDE A 90 DEGREE ACI HOOK UNLESS OTHERWISE NOTED.
6E) TACK WELDING, WELDING, HEATING OR CUTTING OF BARS IS NOT PERMITTED UNLESS OTHERWISE NOTED.
6F) PROVIDE REINFORCEMENT SPLICE AND DEVELOPMENT LENGTHS AS NOTED ABOVE. PROVIDE MIN CLASS B (TENSION) LAP SPLICES, OR 24 INCHES, WHICHEVER IS GREATER.
6G) ANCHOR BOLTS, DOWELS AND ANY OTHER EMBEDDED ITEMS MUST BE SECURELY HELD IN PLACE PRIOR TO FOUNDATION INSPECTION BY THE SPECIAL INSPECTOR AND OBSERVATION BY THE CONTRACTING OFFICER.
6H) AT ALL INSIDE AND OUTSIDE CORNERS OF GRADE BEAMS AND WALLS PROVIDE #4 CORNER BARS 2 FEET LONG OR 48 BAR DIAMETERS IN EACH DIRECTION.

7) CONSTRUCTION/CONTROL JOINTS:

7A) SUBMIT DRAWINGS SHOWING CONSTRUCTION AND CONTROL JOINT LOCATIONS ALONG WITH THE SEQUENCE OF POURS. CONSTRUCTION JOINT LOCATIONS AND CASTING SEQUENCE MUST BE ARRANGED TO MINIMIZE THE EFFECTS OF ELASTIC AND LONG-TERM SHORTENING/SHRINKAGE.
7B) CONSTRUCTION JOINTS IN SLABS-ON-DECK, SLABS-ON-GRADE, AND STRUCTURAL SLABS MUST BE LOCATED TO ACCOMMODATE THE MAXIMUM LENGTH AND AREA THE CONTRACTOR CAN REASONABLY POUR, FINISH, AND JOINT IN THE SAME DAY, BUT MUST NOT EXCEED 150 FEET WITH A MAXIMUM AREA OF 15,000 SQUARE FEET UNLESS APPROVED BY THE ENGINEER.
7C) CLEAN CONCRETE CONSTRUCTION JOINT SURFACE AND ALL LAITANCE AND LOOSE MATERIAL REMOVED PRIOR TO SECOND CONCRETE PLACEMENT.
7D) ALL BEAM AND SLAB CONSTRUCTION, INCLUDING UPSET BEAMS, MUST BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS. MAXIMUM LENGTH OF POUR FOR FOUNDATIONS WALLS MUST NOT EXCEED 50 FEET.
7E) PROVIDE VERTICAL CONSTRUCTION JOINTS IN EXPOSED CONCRETE WALLS AT A MAXIMUM OF 30'-0" INTERVALS. COORDINATE JOINT LOCATIONS WITH ARCHITECTURAL DRAWINGS AT EXPOSED CONCRETE WALLS. PROVIDE VERTICAL CONSTRUCTION JOINTS AT A MAXIMUM OF 60'-0" IN WALLS UNEXPOSED TO VIEW. AT EXPOSED CONCRETE PROVIDE WATERSTOPS IN ACCORDANCE WITH SPECIFICATIONS.
7F) ALL KEYS FOR CONSTRUCTION JOINTS MUST BE 2"x4" (NOMINAL) UNLESS OTHERWISE SHOWN OR NOTED ON THE DRAWINGS. WHERE KEYS ARE NOT SHOWN AT CONSTRUCTION JOINTS, PROVIDE ROUGHENED SURFACES OF 1/4" AMPLITUDE, FREE OF LAITANCE.

8) MODIFICATIONS TO HARDENED OR EXISTING CONCRETE:

8A) UNLESS NOTED ON THE STRUCTURAL DOCUMENTS MODIFICATIONS AS LISTED BELOW MUST NOT BE MADE TO HARDENED OR EXISTING CONCRETE WITHOUT APPROVAL OF THE ENGINEER OF RECORD:
- a. SAW CUTTING
- b. CORING
- c. CHIPPING

8B) DO NOT CUT OR DAMAGE ANY REINFORCING WITHOUT APPROVAL OF THE ENGINEER OF RECORD.

CONCRETE NOTES CONT

9) SLEEVES, OPENINGS, AND EMBEDED PIPE/CONDUITS:

9A) GENERAL:
- a. REFER TO TYPICAL DETAILS FOR REQUIREMENTS FOR CONDUIT AND PIPE EMBEDDED IN WALLS AND SLABS.
- b. REFER TO TYPICAL DETAILS FOR SPACING AND LAYOUT LIMITATIONS FOR SLEEVES AND OPENINGS.
- c. FORM OPENINGS AND PROVIDE SLEEVES BEFORE PLACING CONCRETE. CORING OF CONCRETE IS NOT PERMITTED.
- d. AT COMPOSITE SLABS DO NOT CUT DECK FOR AT LEAST 7 DAYS AFTER CONCRETE PLACEMENT.
- e. DO NOT PLACE ELECTRICAL CONDUIT ABOVE THE WELDED WIRE FABRIC IN SLABS ON GRADE OR CONCRETE PLACED ONTO COMPOSITE METAL DECK. MAXIMUM SIZE OF CONDUIT MUST BE 1/3 THE SLAB THICKNESS (ABOVE DECK ON COMPOSITE SLAB) INCLUDING CROSSOVERS. CONDUIT MUST NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTER.

9B) REINFORCING:
- a. REFER TO TYPICAL DETAILS FOR REINFORCEMENT REQUIREMENTS AT SLEEVES, OPENINGS OR CONDUIT.
- b. DO NOT CUT REINFORCING WHICH MAY CONFLICT WITH SLEEVES, OPENINGS OR EMBEDDED PIPES WITHOUT EOR/COR APPROVAL.

REBAR COVER TABLE

CASE	COVER (IN)
CONCRETE PLACED AGAINST EARTH	3
CONCRETE PLACED IN FORMS, EXPOSED TO WEATHER OR EARTH	2
SLABS OR WALLS NOT EXPOSED TO EARTH OR WEATHER	1

REINFORCING MATERIAL TABLE

REINF ELEMENT	ASTM	Fy (KSI)	Fu (KSI)
TYP REINFORCING	A615	60	90
WELDED & FIELD BENT REINF	A706	60	80

POST-INSTALLED ANCHOR NOTES

1. GENERAL:

1A) ALL POST-INSTALLED ANCHOR WORK INSTALLED IN CONCRETE SHALL ONLY BE USED WHERE SPECIFIED AND MUST BE IN ACCORDANCE WITH ACI 318-19 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE. ALL POST-INSTALLED ANCHOR WORK INSTALLED IN MASONRY SHALL ONLY BE USED WHERE SPECIFIED AND MUST BE IN ACCORDANCE WITH TMS 402/602-16 BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
1B) ALL CONCRETE EXPANSION ANCHORS MUST BE GALVANIZED OR ZINC PLATED. GROUT ALL CMU CELLS FULL WITHIN A 12" RADIUS WHEN CONCRETE ANCHORS ARE PLACED INTO CMU WALLS.
1C) DESIGN ALL ANCHORS FOR THE LOADS AND CONDITIONS AS INDICATED IN THE PLANS AND SPECIFICATIONS.
1D) INSTALL ANCHORS IN ACCORDANCE WITH THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.
1E) THE CONTRACTOR MUST ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR SPECIFIED ANCHORING PRODUCTS. THE CONTRACTING OFFICER MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
1F) ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF MATERIAL. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON DRAWINGS AND IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
1G) EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR MUST REVIEW THE EXISTING STRUCTURAL DRAWINGS AND MUST UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AT THE LOCATIONS OF THE CONCRETE ANCHORS.

MASONRY NOTES

1) DEFINITIONS:

1A) STRUCTURAL MASONRY IS DEFINED AS BEING EITHER LOAD BEARING AND/OR SERVING AS PART OF THE LATERAL LOAD RESISTING SYSTEM. STRUCTURAL MASONRY IS SHOWN ON THE STRUCTURAL PLANS AND DEFINED IN SCHEDULES AND DETAILS ON THE STRUCTURAL DRAWINGS.
1B) SEE ARCHITECTURAL DRAWINGS FOR LOCATION, THICKNESS AND EXTENT OF MASONRY PARTITIONS. SEE DETAILS ON THE STRUCTURAL DRAWINGS FOR GENERAL MASONRY PARTITION REQUIREMENTS.
1C) SEE ARCHITECTURAL DRAWINGS FOR ALL MASONRY VENEER REQUIREMENTS. SEE DETAILS ON THE STRUCTURAL DRAWINGS FOR MASONRY VENEER LOOSE LINTELS.

2) DESIGN STRENGTH:

2A) DEVELOP 2000 PSI COMPRESSIVE STRENGTH (f'm) IN 28 DAYS.
2B) STEEL REINFORCING:
- **a.** PRIMARY REINFORCING: ASTM A615, 60 KSI
- **b.** HORIZONTAL JOINT REINFORCING: ASTM A951, PREFABRICATED, LADDER TYPE

3) SPLICES:

3A) SEE MASONRY LAP SPLICE SCHEDULE ON G10/S-508 FOR LAP LENGTHS.

4) INSTALLATION REQUIREMENTS:

4A) GROUT SOLID ALL CELLS CONTAINING REINFORCING, EMBEDDED ITEMS, AND ALL OTHER CELLS NOTED ON THE CONTRACT DOCUMENTS.
4B) ALL MASONRY WALLS SHALL BE SHORED AND BRACED IN ACCORDANCE WITH EM 385-1-1 AND MCAA STANDARD PRACTICE OF BRACING MASONRY WALLS UNDER CONSTRUCTION. THE MOST STRINGENT SHALL APPLY.

STEEL NOTES

1) GENERAL:

1A) ALL STRUCTURAL STEEL WORK MUST BE IN ACCORDANCE WITH AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS AND THE FIFTEENTH EDITION OF THE AISC STEEL CONSTRUCTION MANUAL.
1B) ALL STEEL BUILDING FRAMES, UNLESS OTHERWISE NOTED, ARE NON-SELF-SUPPORTING STEEL FRAMES AS DEFINED IN THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303-16), SECTION 7.10.3. THE STRUCTURE MUST NOT BE CONSIDERED STABLE DURING CONSTRUCTION UNTIL ALL ELEMENTS (INCLUDING METAL DECKING, CONCRETE FLOOR SLABS, BRACED FRAMES ETC.) ARE IN PLACE AND ACHIEVED THEIR FULL DESIGN STRENGTH. PROVIDE TEMPORARY BRACING AS REQUIRED DURING THE ERECTION OF THE STRUCTURAL FRAMES. TEMPORARY SUPPORTS AND BRACING MUST NOT BE REMOVED OR MODIFIED AND MUST BE FULLY EFFECTIVE UNTIL ROOF AND FLOOR DEAD LOADS ARE IN PLACE AND ALL ELEMENTS ARE IN PLACE, CONNECTED AND HAVE ACHIEVED THEIR FULL DESIGN STRENGTH.
1C) FLOOR AND ROOF FRAMING ARE EQUALLY SPACED UNLESS OTHERWISE NOTED.
1D) ALL WIDE FLANGE BEAMS MUST HAVE 1/2 INCH STIFFENER PLATES ON EACH SIDE OF THE WEB AT LOCATIONS WHERE BEAMS REST ON COLUMNS. EACH PLATE MUST BE FILLET WELDED TO THE BEAM TOP FLANGE, BEAM BOTTOM FLANGE AND WEB UNLESS OTHERWISE NOTED.
1E) SEE MASONRY NOTES AND ARCHITECTURAL DRAWINGS FOR COORDINATION AND REQUIREMENTS OF STEEL LINTELS IN MASONRY WALLS.
1F) ALL STRUCTURAL STEEL MEMBERS EXPOSED TO WEATHER MUST BE GALVANIZED UNLESS OTHERWISE NOTED.

2) MATERIALS:

2A) STRUCTURAL MATERIALS MUST CONFORM TO THE FOLLOWING MATERIAL REQUIREMENTS:
- a. ALL "W" AND "WT" SHAPES MUST BE ASTM A992, GRADE 50.
- b. ALL CHANNELS, ANGLES, PLATES AND BARS MUST BE ASTM A36.
- c. ALL TUBING MUST BE ASTM A500, GRADE C.
- d. ALL PIPES MUST BE ASTM A53, TYPE E OR S, GRADE B.
- e. ANCHOR RODS MUST BE ASTM F1554, GRADE 55.
- f. ALL HIGH STRENGTH BOLTS MUST BE ASTM F3125, GRADE F1852.
- g. ALL NUTS MUST BE ASTM A563, HEAVY HEX, GRADE C.

3) CONNECTIONS:

3A) PROVIDE CONNECTIONS AS SHOWN IN THE 'STEEL BEAM CONNECTION SCHEDULES' AND DETAILS HEREIN. REFER TO SPECIFICATION FOR ALTERNATIVES AND CONNECTIONS NOT SHOWN.
3B) SHEAR CONNECTIONS NOT DETAILED OR OTHERWISE NOTED ON THE STRUCTURAL DRAWINGS MUST BE STANDARD AISC WELDED OR AISC BOLTED CONNECTIONS, DETAILED IN ACCORDANCE WITH THE CONNECTION TABLES IN THE AISC MANUAL OF STEEL CONSTRUCTION, DESIGNED BY A PROFESSIONAL ENGINEER AND SUBMITTED FOR APPROVAL PRIOR TO FABRICATION.
3C) SHEAR CONNECTIONS NOT DEFINED IN THE AISC MANUAL OF STEEL CONSTRUCTION CONNECTION TABLES MUST BE DESIGNED BY A PROFESSIONAL ENGINEER AND SUBMITTED FOR APPROVAL PRIOR TO FABRICATION. PROVIDE A MINIMUM OF (2) BOLTS PER CONNECTION.
3D) UNLESS OTHERWISE SHOWN OR NOTED, CONNECTIONS FOR BEAMS OR GIRDERS MUST BE PROPORTIONED TO DELIVER THEIR END REACTIONS TO THE CENTER OF GRAVITY OF THE MEMBERS TO WHICH THEY FRAME. CONNECTIONS FOR BEAMS AND GIRDERS FRAMING TO THE FLANGES OF COLUMNS MUST BE PROPORTIONED TO DELIVER THEIR END REACTIONS TO THE FACE OF THE COLUMN FLANGE TO WHICH THEY FRAME.
3E) REINFORCING IS TO BE PROVIDED TO BEAMS AT CONNECTIONS WHERE CUTS AND COPES HAVE REDUCED THE SHEAR OR MOMENT CAPACITY BELOW THAT REQUIRED TO SUSTAIN THE REACTION. FLANGES AND WEBS ARE TO BE REINFORCED WHERE THE LOCAL CAPACITY TO SUSTAIN LOAD IS INADEQUATE.
3F) A HARDENED WASHER CONFORMING TO ASTM F436 MUST BE INSTALLED ADJACENT TO THE BEARING FACE OF THE TURNED ELEMENT OF EACH ASTM F3125 BOLT ASSEMBLY.

4) WELDING REQUIREMENTS:

4A) WELDING MUST CONFORM TO AWS D1.1 STRUCTURAL WELDING CODE.
4B) THE CONTRACTOR MUST SUBMIT A WELDING PROCEDURE SPECIFICATION (WPS), DEVELOPED BY THE FABRICATOR/ERECTOR, IN CONFORMANCE WITH AWS D1.1 FOR REVIEW BY THE CONTRACTING OFFICER. ALL WELDS MUST BE PRE-QUALIFIED PER AWS D1.1. THE WPS MUST INCLUDE THE WELDING PARAMETERS RECOMMENDED BY THE ELECTRODE MANUFACTURER.
4C) ON SHOP DRAWINGS, WELDS AND NONDESTRUCTIVE TESTS MUST BE INDICATED BY USING THE SYMBOLS CONFORMING TO AWS A2.4, "STANDARD SYMBOLS FOR WELDING, BRAZING, AND NONDESTRUCTIVE EXAMINATION". WHERE NECESSARY FOR CLARITY, INDICATE WELDING PROCEDURE DESIGNATION OR OTHER DATA IN THE TAIL OF THE WELDING SYMBOL.
4D) WELDERS MUST BE QUALIFIED FOR THE WORK PERFORMED IN ACCORDANCE WITH AWS D1.1 AND MUST HAVE IN POSSESSION CURRENT EVIDENCE OF PASSING THE APPROPRIATE AWS QUALIFICATION TESTS.
4E) UNLESS OTHERWISE SHOWN OR NOTED ON THE DRAWINGS, ALL WELDED CONNECTIONS MUST BE MADE WITH E70-XX ELECTRODES. SHIELDED METAL ARC WELDING PROCESS MUST USE LOW HYDROGEN ELECTRODES. FILLER MATERIAL FOR WELDING PROCESS MUST HAVE A YIELD STRENGTH OF 70 KSI.
4F) MINIMUM WELDS: AISC SPECIFICATION, NOT LESS THAN 3/16" FILLET, CONTINUOUS UNLESS OTHERWISE NOTED.
4G) PROVIDE WELD SIZES AS SHOWN UNLESS A GREATER SIZE IS REQUIRED BY ANSI/AISC 360-16 TABLES J2.3 AND J2.4. WELD SIZES AND LENGTHS CALLED FOR ON THE DRAWINGS ARE THE NET EFFECTIVE REQUIRED. INCREASE WELD SIZE IF GAPS EXIST AT THE FAYING SURFACE.
4H) ALL GROOVE AND BUTT WELDS MUST BE COMPLETE PENETRATION, UNLESS OTHERWISE NOTED.
4I) FIELD WELDING SYMBOLS INDICATE SEQUENCE CONSIDERED DURING DESIGN. THE CONTRACTOR MUST REQUEST APPROVAL FROM THE CONTRACTING OFFICER TO MODIFY WELD INSTALLATION LOCATION INDICATED ON THE DOCUMENTS:
- a. FROM SHOP TO FIELD.
- b. FROM FIELD TO SHOP.

4J) DEFORMED ANCHOR STUDS (DAS) MUST BE SHOP OR FIELD WELDED AT CONTRACTOR'S OPTION UNLESS NOTED OTHERWISE.

5) CAMBER:

5A) CAMBER WHERE REQUIRED IS INDICATED BY "C" IN PLANS, FOLLOWED BY THE ORDINATE IN INCHES.
5B) FABRICATE BEAMS SUCH THAT ROLLING OR FABRICATION INDUCED CAMBER IS UP AFTER ERECTION.

6) STRUCTURAL STEEL INSTALLATION:

6A) UNLESS INDICATED OTHERWISE, SNUG TIGHTEN ALL JOINTS AS DEFINED BY AISC.
6B) CONNECTIONS AS INDICATED BELOW MUST BE PRETENSIONED PER TABLE J3.1 OF ANSI/AISC 360-16:
- a. WHERE NOTED ON THE DRAWINGS AS "PT".

6C) CONNECTIONS NOTED ON THE DRAWINGS AS "SC" MUST MEET THE FOLLOWING REQUIREMENTS:
- b. BOLTS MUST BE PRETENSIONED PER TABLE J3.1 OF ANSI/AISC 360-16.

6D) ANCHOR BOLTS AND BASE PLATES MUST BE LOCATED AND BUILT INTO CONNECTING WORK, PRESET BY TEMPLATES OR SIMILAR METHODS. DO NOT GROUT BASE PLATES UNTIL BEAMS AND GIRDERS ARE PERMANENTLY ATTACHED TO COLUMNS. STRUCTURAL MEMBERS MUST BE PERMANENTLY ATTACHED AND MADE RIGID ONLY AFTER ALL ELEMENTS TO BE ATTACHED HAVE BEEN BROUGHT WITHIN THE SPECIFIED TOLERANCES.
6E) GROUT BELOW ALL COLUMN BASE PLATES AND BEARING PLATES MUST BE NON-SHRINK, NON-METALLIC GROUT UNLESS OTHERWISE SHOWN OR NOTED. GROUT MUST ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 7 DAYS.

7) STEEL JOISTS:

7A) STEEL JOISTS SHOWN ON THE DRAWINGS HAVE BEEN SELECTED FROM THE STEEL JOIST INSTITUTE (SJI) STANDARD SPECIFICATION, LOAD TABLES, AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS, 44TH EDITION (SJI 100 - 2020). THE DESIGN, FABRICATION AND ERECTION OF STEEL JOISTS MUST COMPLY WITH THE SJI STANDARD SPECIFICATIONS.
- a. REFER TO PROJECT SPECIFICATIONS FOR SUBMITTAL INFORMATION FOR ALL JOISTS SUBJECTED TO NON-UNIFORM LOAD OR CONCENTRATED LOADS INDICATED.
- b. WHERE APPROPRIATE, JOIST SIZES HAVE BEEN SELECTED WITH INCREASED DEAD LOAD DUE TO SLOPE.

7B) UNLESS OTHERWISE SHOWN OR NOTED, OPEN WEB STEEL JOISTS MUST BE K-SERIES JOISTS AS DEFINED BY THE SJI STANDARD SPECIFICATIONS.
7C) REFER TO PLANS, DETAILS, AND SPECIAL JOIST LOADING DIAGRAMS FOR ADDITIONAL JOIST DESIGN REQUIREMENTS INCLUDING UNBALANCED, CONCENTRATED, AXIAL, AND UPLIFT LOADS.
7D) DESIGN JOISTS AND BRIDGING FOR NET UPLIFT FORCES INDICATED IN DESIGN CRITERIA.
7E) WHERE END SUPPORTS FOR K-SERIES JOISTS ARE NOT SHOWN OR NOTED, PROVIDE THE FOLLOWING MINIMUM BEARING LENGTHS PARALLEL TO THE LENGTH OF THE JOIST IN ACCORDANCE WITH THE SJI STANDARD SPECIFICATION:
- a. BEARING ON STEEL SHAPE OR BEARING PLATE 2 1/2"
- b. BEARING ON CONCRETE OR MASONRY 4"

7F) WHERE END ANCHORAGES FOR K-SERIES JOISTS ARE NOT SHOWN OR NOTED, PROVIDE THE FOLLOWING MINIMUM ANCHORAGES:
- a. FOR STEEL SUPPORTS, PROVIDE TWO 1/8" FILLETS x 1" LONG (OR (2) - 1/2" DIAMETER MACHINE BOLTS).
- b. FOR CONCRETE OR MASONRY SUPPORTS, PROVIDE (2) 3/8" DIAMETER x 6" LONG HEADED STUD ANCHORS WELDED TO STEEL BEARING PLATE AND FULLY EMBEDDED IN CONCRETE OR SOLID MASONRY UNIT. (ANCHORAGE OF JOIST TO BEARING PLATE MUST BE AS PROVIDED FOR STEEL SUPPORTS).

7G) HORIZONTAL BRIDGING FOR K-SERIES JOISTS MUST BE LOCATED IN ACCORDANCE WITH SJI SPECIFICATIONS. APPROXIMATE BRIDGING LOCATIONS SHOWN ON FRAMING PLANS. BRIDGING MEMBERS MUST MEET THE MINIMUM SLENDERNESS RATIO REQUIREMENTS OF THE SJI SPECIFICATION AND MUST CONSIST OF TWO CONTINUOUS MEMBERS, ONE ATTACHED TO THE BOTTOM CHORD AND ONE ATTACHED TO THE TOP CHORD. ATTACHMENT MUST BE BY WELDING OR OTHER MECHANICAL MEANS. THE BRIDGING AND ITS CONNECTIONS MUST BE CAPABLE OF TRANSFERRING A HORIZONTAL FORCE OF NOT LESS THAN 700 POUNDS.

7) STEEL JOISTS (CONT):

7H) DIAGONAL BRIDGING FOR K-SERIES JOISTS MUST BE LOCATED IN ACCORDANCE WITH SJI SPECIFICATIONS. BRIDGING SHOWN ON PLANS IS SCHEMATIC. BRIDGING MEMBERS MUST MEET THE MINIMUM SLENDERNESS RATIO REQUIREMENTS OF THE SJI SPECIFICATION. THE CONNECTION OF BRIDGING TO JOIST CHORDS MUST BE MADE BY WELDING OR OTHER MECHANICAL MEANS. BRIDGING BETWEEN A MASONRY WALL AND AN ADJACENT PARALLEL JOIST MUST BE HORIZONTAL AND THE CONNECTIONS MUST BE DETAILED TO ALLOW THE JOIST TO DEFLECT 1/360 OF ITS SPAN UNDER LIVE LOAD.
7I) EXTEND BOTTOM CHORD OF JOISTS LOCATED ON COLUMN CENTERLINES AND PROVIDE ANCHORAGE TO THE COLUMN FOR TEMPORARY LATERAL STABILITY OF THE STRUCTURAL FRAME SYSTEM.
7J) PROVIDE BOTTOM CHORD CEILING EXTENSIONS WHERE REQUIRED BY ARCHITECTURAL DETAIL ONLY.
7K) DESIGN ALL JOISTS FOR A 300 LBS CONCENTRATED DEAD LOAD LOCATED AT ANY ONE PANEL POINT ALONG THE JOIST.
7L) HANGERS AND OTHER SUPPORTS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL, OR PLUMBING SYSTEMS MUST BE LOCATED AT A JOIST PANEL POINT UNLESS THE REQUIREMENTS OF DETAIL K16/S-507 HAVE BEEN MET. CONCENTRATED LOADS IN EXCESS OF 300 LBS MUST BE APPROVED BY THE CONTRACTING OFFICER AND VERIFIED BY THE JOIST MANUFACTURER PRIOR TO INSTALLATION.

8) METAL DECK:

8A) ALL METAL DECK WORK MUST BE IN ACCORDANCE WITH THE ANSI/SDI STANDARD FOR NON-COMPOSITE STEEL FLOOR DECK (SDI NC-2017), STANDARD FOR STEEL ROOF DECK (SDI RD-2017), AND STANDARD FOR COMPOSITE STEEL FLOOR DECK-SLABS (SDI C-2017).
8B) SEE 'METAL DECK SCHEDULE' FOR MATERIALS, PROFILE, AND CONNECTIONS TO STRUCTURE. PROVIDE DECK ATTACHMENTS AS NOTED ON DRAWINGS. METAL DECKS MUST BE COMPLETE WITH SUMP PANS, METAL CLOSURE STRIPS, POUR STOPS AND ALL REQUIRED STEEL AND LIGHT GAUGE METAL ACCESSORIES.
8C) DECK DESIGN IS IN ACCORDANCE WITH STEEL DECK INSTITUTE (SDI) FLOOR DECK DESIGN MANUAL, 2ND EDITION (2020), SDI ROOF DECK DESIGN MANUAL, 2ND EDITION (2020), AND SDI DIAPHRAGM DESIGN MANUAL, 4TH EDITION (2015).
8D) UNLESS OTHERWISE NOTED, ALL METAL DECKING MUST CONFORM TO ASTM A653. ROOF DECKING AND CLOSURE PLATES/ANGLES MUST BE GRADE 33 AND G90 GALVANIZED. NON-COMPOSITE/COMPOSITE FLOOR DECKING MUST BE GRADE 50 AND G60 GALVANIZED.
8E) SUBMIT COMPLETE SHOP DRAWINGS TO THE CONTRACTING OFFICER FOR REVIEW. SHOP DRAWINGS MUST INDICATE ICC-ES REPORT NUMBER, IF APPLICABLE.
8F) SEE ARCHITECTURAL DRAWINGS FOR FINISHES AND TREATMENTS. ROOF DECK TO BE SPRAYED WITH FIREPROOFING MUST BE PAINTED ONE SIDE ONLY.
8G) REINFORCE OPENINGS IN METAL ROOF DECK IN ACCORDANCE WITH TYPICAL DECK OPENING DETAILS.
8H) BEAR DECKING 2 INCHES MINIMUM AT SUPPORTS. LAP DECKING AT ENDS AT LEAST 2 INCHES AND CENTER LAPS OVER SUPPORTS.
8I) METAL DECK ACTING AS A CONCRETE FORM MUST BE TIGHT TO PREVENT LEAKAGE OF CONCRETE, PRODUCE TRUE LINES, ACCURATE ELEVATIONS AND CORRECT ALIGNMENTS.
8J) DO NOT SUSPEND MECHANICAL DUCTWORK, PLUMBING OR SPRINKLER PIPING GREATER THAN 2" DIAMETER FROM THE METAL FLOOR DECK. DO NOT SUSPEND MECHANICAL DUCTWORK, PLUMBING PIPING, SPRINKLER PIPING, SUSPENDED CEILINGS, OR ARCHITECTURAL SOFFITS FROM THE METAL ROOF DECK.
8K) INSTALL DECK O



WALL ELEVATION

J1 WALL C/C WIND PRESSURE DIAGRAM

NTS

HANGAR WALL COMPONENTS AND CLADDING WIND LOADS

EFFECTIVE WIND AREA	ZONE (PSF)	
	4	5
10 SF	42.3	42.3
	-44.9	-52.8
50 SF	39.1	39.1
	-41.7	-46.3
200 SF	36.3	36.3
	-38.9	-40.8
500 SF	34.4	34.4
	-37.1	-37.1
700 SF	34.4	34.4
	-37.1	-37.1

SUPPORT AREA WALL COMPONENTS AND CLADDING WIND LOADS

EFFECTIVE WIND AREA	ZONE (PSF)	
	4	5
10 SF	26.7	26.7
	-28.9	-35.5
50 SF	23.9	23.9
	-26.1	-30.1
200 SF	21.6	21.6
	-23.8	-25.3

COMPONENTS AND CLADDING WIND LOAD DIMENSIONS

HANGAR - 'a'	SUPPORT AREA - 'a'
9'-4"	4'-0"
OVERHANG DIM - SEE PLANS AND DETAILS	OVERHANG DIM - SEE PLANS AND DETAILS

GRAVITY LOADS TABLE

DESCRIPTION	SUPERIMPOSED DEAD LOADS (PSF)					ROOF LIVE LOAD (PSF)	LIVE LOAD (PSF)	LIVE LOAD REDUCTION	COMMENTS
	TOTAL	MCLEP	FLOORING	ROOFING/ INSULATION	MISC				
FIRST FLOOR CORRIDORS		-	-	-	-		100		NOTE 4
OFFICES		-	-	-	-		65		NOTES 2 , 4
CATWALKS	8	-	6	-	2		40		NOTE 3
TOOL CRIB / STORAGE		-	-	-	-		150		
TOILET/ WASHROOM		-	-	-	-		75		
TYPICAL ROOF	16	8	-	6	2	20		NO	NOTE 1

NOTES:

1. MCLEP AND MISC DEAD LOAD NOT TO BE USED TO RESIST UPLIFT
2. INCLUDES 15 PSF PARTITION LOAD.
3. 300 LB CONCENTRATED.
4. 2000 LB CONCENTRATED.

DESIGN CRITERIA

1. SEISMIC LOADS:
- SEISMIC DESIGN CATEGORY = B
- RISK CATEGORY = III
- EARTHQUAKE IMPORTANCE FACTOR, Ie = 1.25
- SHORT PERIOD SPECTRAL ACCELERATION, S_S = 0.159g
- ONE-SECOND SPECTRAL ACCELERATION, S_1 = 0.087g
- SHORT PERIOD DESIGN SPECTRAL ACCELERATION, S_{DS} = 0.138g
- ONE SECOND DESIGN SPECTRAL ACCELERATION, S_{D1} = 0.087g
- SOIL SITE CLASS = C
- **HANGAR**
- STRUCTURAL SEISMIC LATERAL SYSTEM: STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
- SEISMIC RESPONSE MODIFICATION FACTOR, R = 3
- SYSTEM OVERSTRENGTH FACTOR, Ω = 3
- SEISMIC RESPONSE COEFFICIENT, Cs = 0.057
- DESIGN BASE SHEAR = 80k
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
- **SUPPORT AREA**
- STRUCTURAL SEISMIC LATERAL SYSTEM: INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
- SEISMIC RESPONSE MODIFICATION FACTOR, R = 3.5
- SYSTEM OVERSTRENGTH FACTOR, Ω = 2.5
- SEISMIC RESPONSE COEFFICIENT, Cs = 0.050
- DESIGN BASE SHEAR = 36k
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

2. WIND LOADS:
- RISK CATEGORY = III
- BASIC DESIGN WIND SPEED, V = 114 mph
- ALLOWABLE STRESS DESIGN WIND SPEED, Vasd = 88 mph
- EXPOSURE CATEGORY = C
- INTERNAL PRESSURE COEFFICIENT, GCpi = +/- 0.55 (HANGAR)
- INTERNAL PRESSURE COEFFICIENT, GCpi = +/- 0.18 (SUPPORT AREA)
- DIRECTIONALITY FACTOR, Kd = 0.85
- TOPOGRAPHIC FACTOR, Kzt = 1
- GROUND ELEVATION FACTOR, Ke = 1

3. GRAVITY LOADS:
- SEE GRAVITY LOADS TABLE FOR SUPERIMPOSED DEAD LOAD AND LIVE LOADS USED IN DESIGN

4. SNOW LOADS:
- GROUND SNOW LOAD, Pg = 10 psf
- FLAT-ROOF SNOW LOAD, Pf = 7.623 psf
- SNOW EXPOSURE FACTOR, Ce = 0.9
- SNOW LOAD IMPORTANCE FACTOR, Is = 1.10
- THERMAL FACTOR, Ct = 1.1
- SLOPE FACTOR, Cs = 1.0
- SEE DRIFT ROOF PLAN FOR DRIFT SURCHARGE LOADS

5. RAIN LOADS:
- DESIGN RAIN INTENSITY, i = 3.4 in/hr (60 MIN DURATION)

6. FOUNDATION CRITERIA :
- ALLOWABLE NET END BEARING = 50,000 psf
- MINIMUM PIER DIAMETER = 24"
- FROST DEPTH = 24"
- MINIMUM PIER SOCKET INTO BEDROCK = LARGER OF: MINIMUM OF 5'-0" OR 2*PIER DIAMETER
- VOID FORM = 6"

7. 5-TON CRANE LOAD (HOIST BAY ONLY):
- MAXIMUM WHEEL LOADING = 16,200 LBS (PAIR OF WHEELS W/ IMPACT)
- MAXIMUM BRIDGE WEIGHT = 4,724 LBS
- TROLLEY WEIGHT = 3,828 LBS
- MAXIMUM HANGER LOAD = 22,300 LBS
- BRIDGE WHEEL SPACING = REF MANUFACTURER
- MAXIMUM IMPACT LOAD = MAXIMUM WHEEL LOAD X 1.25= 20,250 LBS
- CRANE LATERAL FORCE = 2,766 LBS LIVE LOAD
- CRANE LONGITUDINAL FORCE = 1,620 LBS (PER PAIR OF WHEELS W/ IMPACT)

8. VERTICAL LIFT FABRIC DOORS
- MAXIMUM EXPECTED DEFLECTION OF THE HEADER = 0.600 IN (DOWNWARD)
  = 0.106 IN (UPWARD)
- ALLOWABLE DEFLECTION = 60'-0" / 600 = 1.20 IN

9. OVERHEAD FALL PROTECTION LOADS (WASH BAY ONLY)
-REFER TO SPECIFICATION SECTION 11 81 29 FACILITY FALL PROTECTION FOR OVERHEAD RIGID RAIL REQUIREMENTS

10. ROOF FALL PROTECTION / HORIZONTAL LIFE LINE ANCHORAGE
- REFER TO SPECIFICATION SECTION 11 81 29 FACILITY FALL PROTECTION FOR ROOF FALL PROTECTION REQUIREMENTS
- HORIZONTAL LIFE LINE- MAXIMUM TENSION FROM PER PERSON LOAD

DEFLECTION LIMITS

	VERTICAL	LIMIT
DEFLECTION LIMITS	ROOF MEMBERS, DEAD + LIVE OR SNOW OR WIND, TOTAL LOAD (TL) DEFLECTION	L / 240, WHERE (L IS SPAN LENGTH IN INCHES)
	ROOF, LIVE OR SNOW OR WIND LOAD (RLL)	L / 360
	OVERHEAD CRANE SUPPORTING MEMBERS (NOT INCLUDING IMPACT)	L / 600
	HORIZONTAL	**LIMIT AND FOOTNOTE**
	MEMBERS SUPPORTING BRITTLE FINISHES	L / 240 (1)
	MEMBERS SUPPORTING FLEXIBLE FINISHES	L / 180 (1) @ INTERIOR L / 240 (1) @ EXTERIOR
	MEMBERS SUPPORTING MASONRY AND/OR BRICK VENEER	L / 600 @ 0.7 X CLADDING WIND OR 0.7E (1)
	OVERHEAD CRANE SUPPORTING MEMBERS	L / 400
	SEISMIC INTERSTORY DRIFT (HANGAR)	0.015 X STORY HEIGHT
	SEISMIC INTERSTORY DRIFT (SUPPORT AREA)	0.007 X STORY HEIGHT
	WIND INTERSTORY DRIFT	H / 480 (10-YEAR WIND)

(1) WIND LOAD IS REDUCIBLE TO 0.42 TIMES THE COMPONENT AND CLADDING LOADS PER IBC 2021 TABLE 1604.3 FOOTNOTE F.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

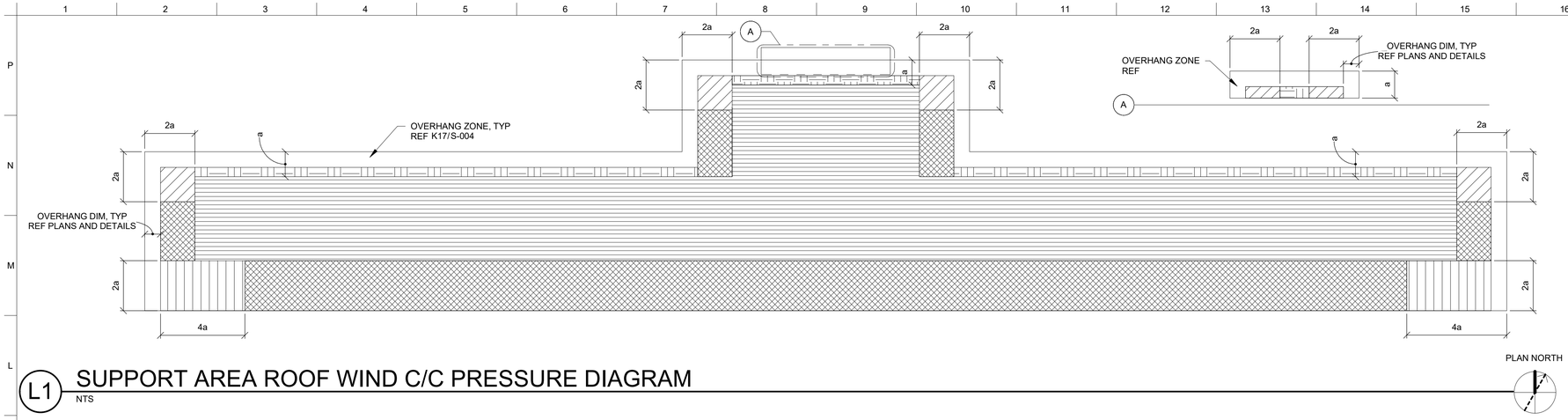
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F-35: 3 BAY HANGAR
PN: 512203

DESIGN CRITERIA AND WIND PRESSURE DIAGRAMS

SHEET ID
S-003

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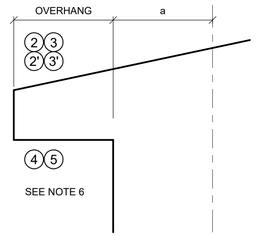
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L1 SUPPORT AREA ROOF WIND C/C PRESSURE DIAGRAM
NTS

WIND PRESSURE NOTES

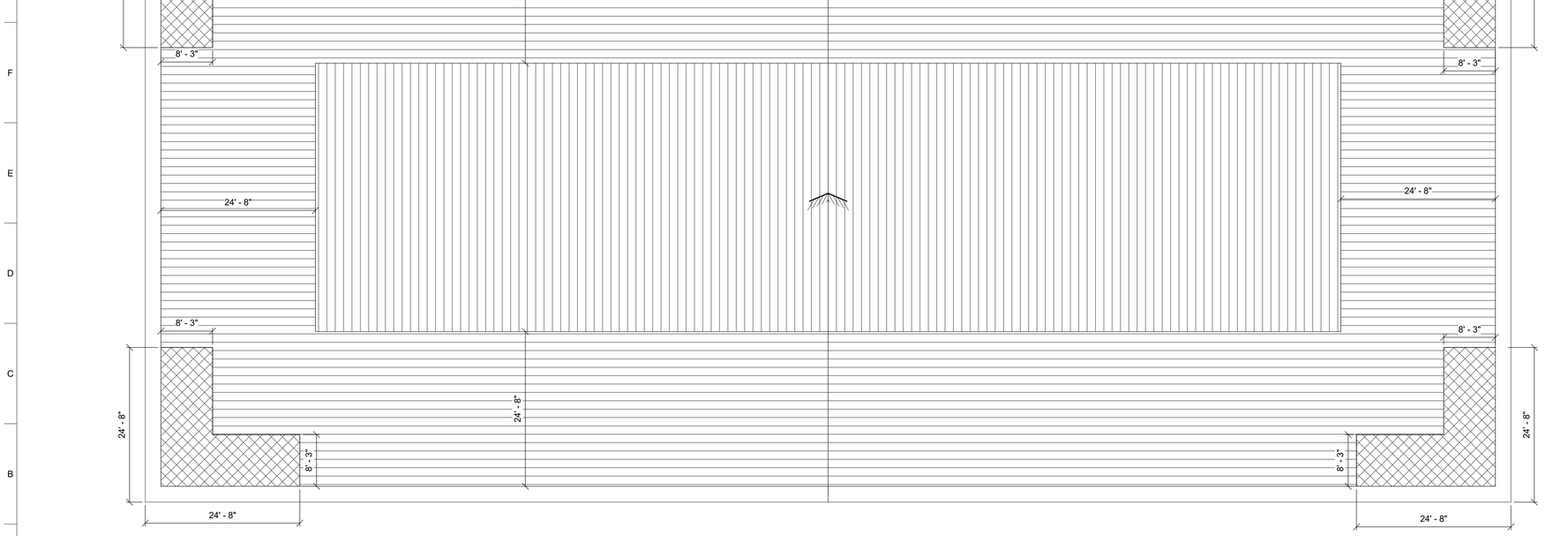
1. SEE SHEET S-003 FOR WIND LOAD DESIGN CRITERIA.
2. WIND PRESSURES ARE AT STRENGTH LEVEL (1.0W PER ASCE/SEI 7) AND APPLIED NORMAL TO MEMBER SURFACE. WIND PRESSURES ARE GIVEN AS GROSS PRESSURES.
3. PLUS AND MINUS (+/-) SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACE RESPECTIVELY.
4. DESIGN EACH COMPONENT FOR MAXIMUM POSITIVE AND NEGATIVE PRESSURES.
5. INTERPOLATION IS PERMITTED FOR WIND PRESSURES NOT LISTED BETWEEN 10 FT^2 AND 100 FT^2.
6. COMBINE NEGATIVE WALL PRESSURE WITH CORRESPONDING POSITIVE ROOF PRESSURE FOR MAXIMUM POSITIVE PRESSURE AT OVERHANG. COMBINE POSITIVE WALL PRESSURE WITH CORRESPONDING NEGATIVE ROOF PRESSURE FOR MAXIMUM NEGATIVE PRESSURE AT OVERHANG. SEE SHEET S-003 FOR WALL PRESSURES.
7. MINIMUM DEAD LOAD = 10 PSF FOR USE IN CALCULATING NET UPLIFT. GROSS UPLIFT IS PROVIDED BASED ON ULTIMATE WIND SPEEDS AS SHOWN IN TABLES.



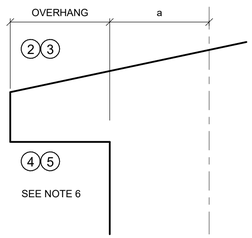
K17 SUPPORT AREA WIND OVERHANG
NTS

SUPPORT AREA MONOSLOPE COMPONENTS AND CLADDING WIND LOADS

EFFECTIVE WIND AREA	ZONE (PSF)				
	1	2	2'	3	3'
LEGEND					
10 SF	16.0	16.0	16.0	16.0	16.0
	-31.6	-36.5	-43.9	-48.9	-68.6
50 SF	16.0	16.0	16.0	16.0	16.0
	-31.6	-34.8	-42.2	-38.5	-51.4
100 SF	16.0	16.0	16.0	16.0	16.0
	-31.6	-34.1	-41.5	-34.1	-43.9



A1 HANGAR ROOF WIND C/C PRESSURES DIAGRAM
NTS



D17 HANGAR WIND OVERHANG
NTS

HANGAR COMPONENTS AND CLADDING WIND LOADS

EFFECTIVE WIND AREA	ZONE (PSF)		
	1	2	3
LEGEND			
10 SF	24.8	24.8	24.8
	-65.7	-83.2	-109.5
50 SF	22.8	22.8	22.8
	-57.3	-72.4	-87.8
100 SF	21.9	21.9	21.9
	-53.6	-67.7	-78.5

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

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2488 EAST 81ST ST
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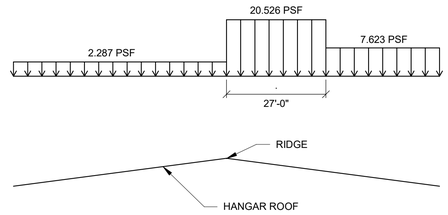
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PN: 512203

WIND PRESSURE DIAGRAMS

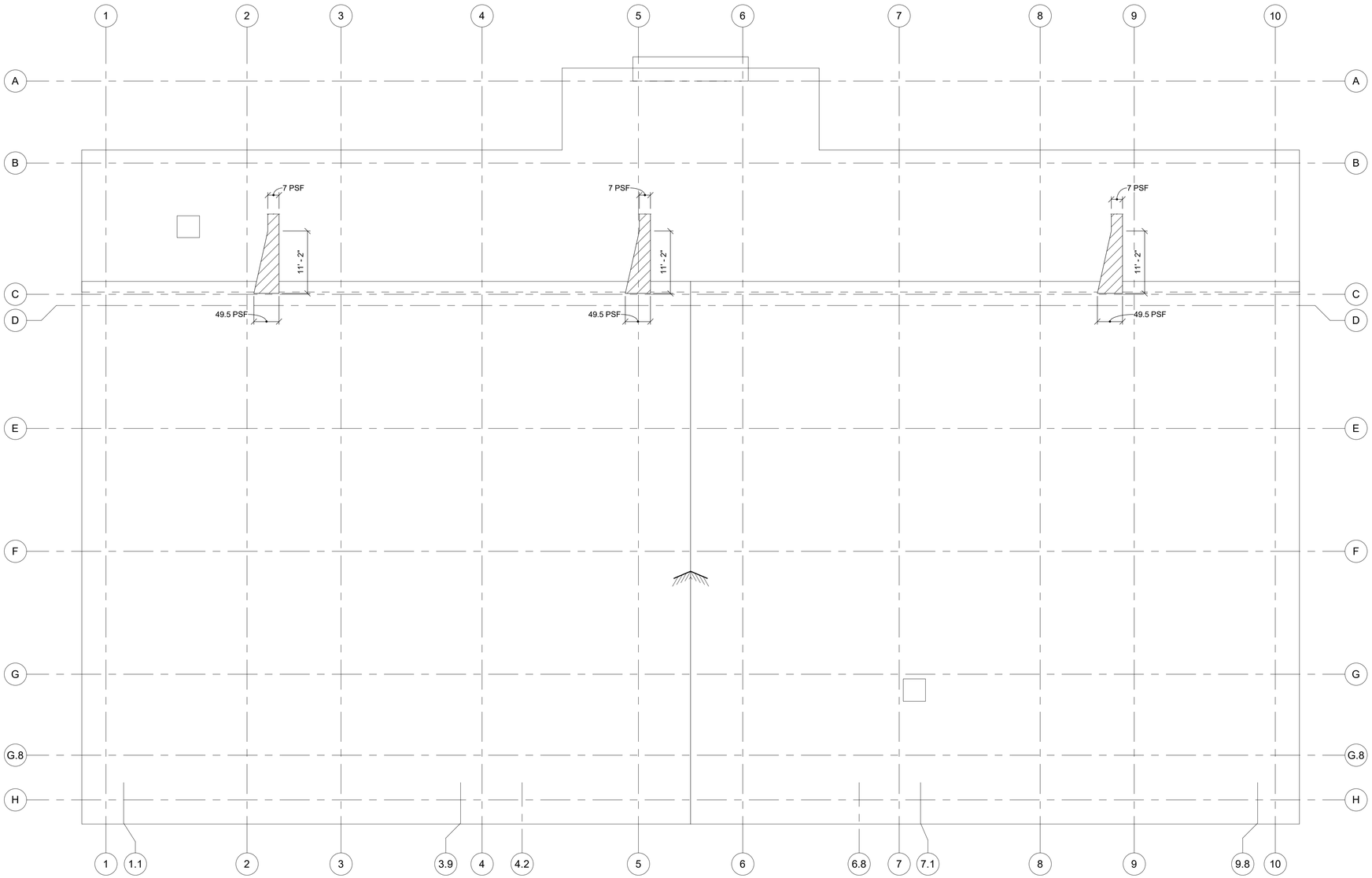
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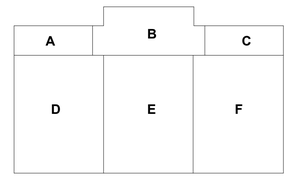
M1 UNBALANCED ROOF SNOW LOAD CASE 1

NTS



A2 SNOW DRIFT PLAN

NTS



KEY PLAN

SNOW DRIFT NOTES

1. SEE SHEET S-003 FOR SNOW LOAD DESIGN CRITERIA.
2. MAXIMUM DRIFT LOADS INDICATED ARE INCLUDE THE FLAT ROOF SNOW LOAD.

US Army Corps of Engineers ®

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SNOW DRIFT DIAGRAMS

SHEET ID

S-005

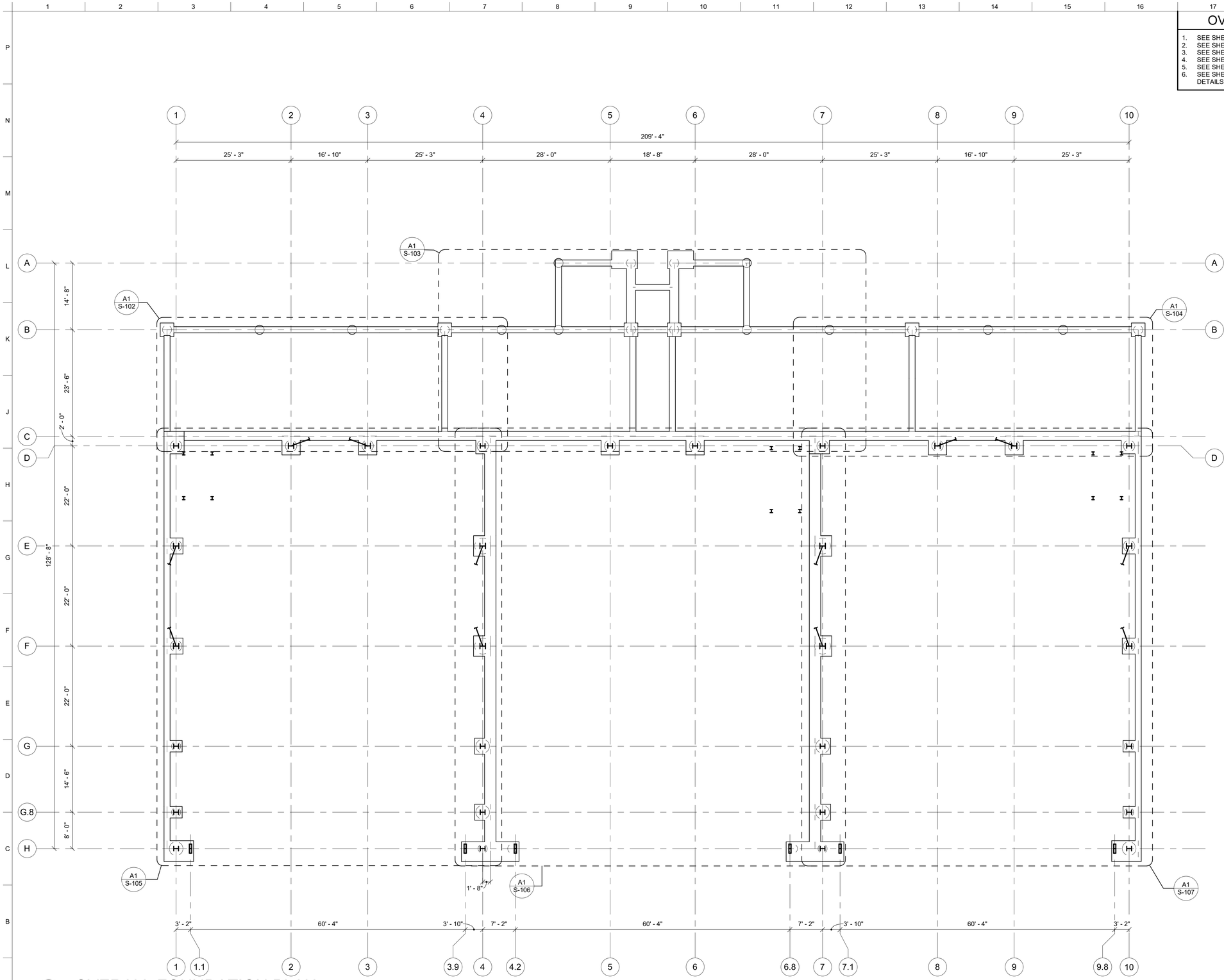
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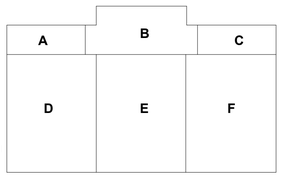
OVERALL FOUNDATION PLAN NOTES

1. SEE SHEET S-001 AND S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEETS S-102 THROUGH S-107 FOR FOUNDATION AREA PLANS.
3. SEE SHEET S-501 THROUGH S-502 FOR TYPICAL DETAILS.
4. SEE SHEET S-601 FOR CONCRETE GRADE BEAM AND DRILLED PIER SCHEDULES.
5. SEE SHEET S-512 FOR DRILLED PIER CAP DETAILS.
6. SEE SHEET S-601 FOR COLUMN SCHEDULE AND SHEET S-505 FOR BASE PLATE DETAILS.



A1 OVERALL FOUNDATION PLAN
3/32" = 1'-0"

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

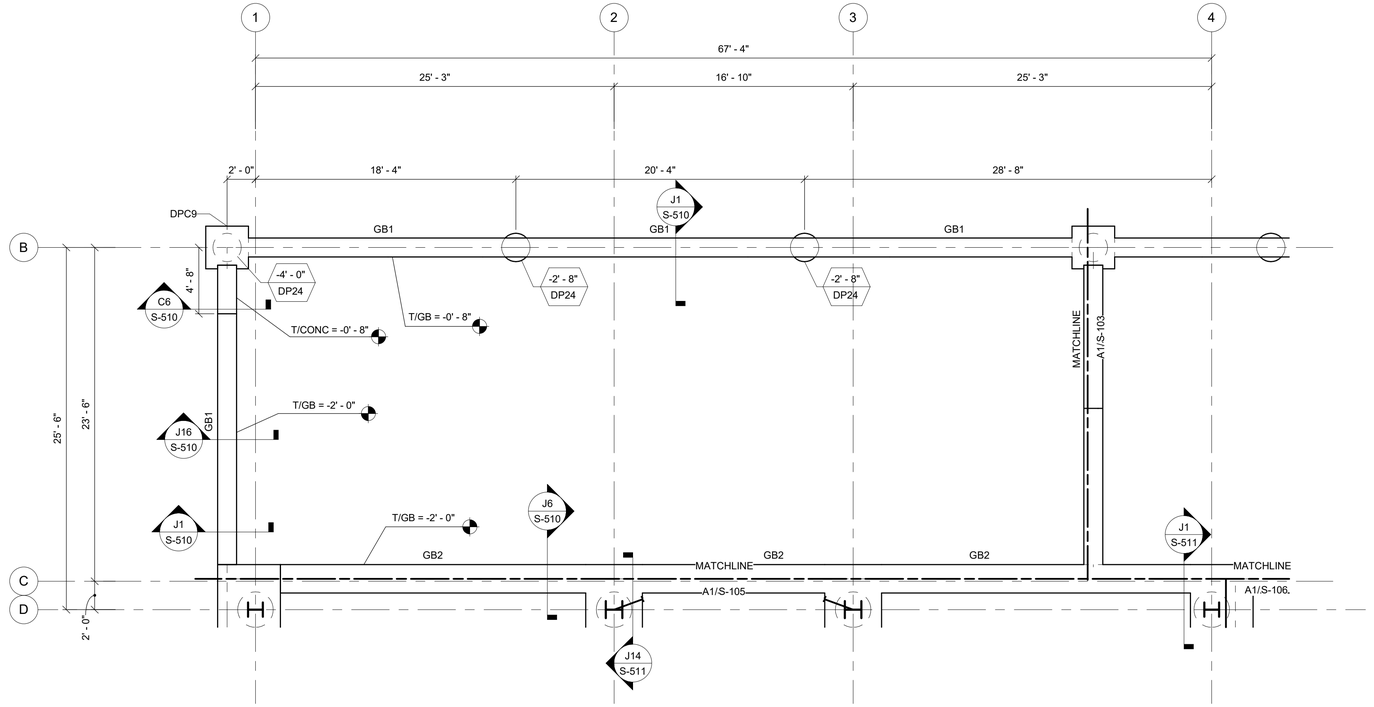
OVERALL FOUNDATION PLAN

SHEET ID
S-101

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

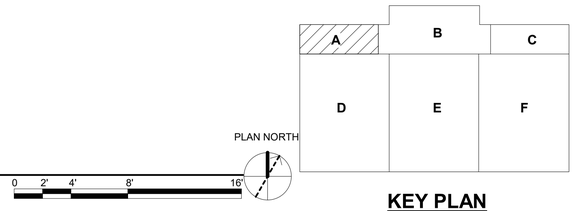
FOUNDATION PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR GRADE BEAM DETAILS, SEE SHEET S-501.
4. FOR THE GRADE BEAM SCHEDULE SEE SHEET S-601.
5. FOR DRILLED PIER DETAILS, SEE SHEET S-502.
6. FOR DRILLED PIER CAP DETAILS, SEE SHEET S-512.
7. GRADE BEAMS, COLUMNS, AND DRILLED PIERS ARE CENTERED ON COLUMN GRIDS UNLESS OTHERWISE NOTED.
8. DATUM ELEVATION (0'-0") CORRESPONDS TO THE FINISH FLOOR ELEVATION INDICATED ON THE CIVIL SHEETS.
9. TOP OF EXTERIOR GRADE BEAM = -2'-0" UNLESS OTHERWISE NOTED.
10. TOP OF INTERIOR GRADE BEAM = -0'-8" UNLESS OTHERWISE NOTED.
11. TOP OF DRILLED PIER CAP ELEVATION EQUALS TOP OF GRADE BEAM UNLESS OTHERWISE NOTED.



A1 AREA A FOUNDATION PLAN

3/16" = 1'-0"



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\mSinclair\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECRAR.rvt

10/20/2025 12:04:20 PM

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
SIZE: ANSI D

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA A FOUNDATION PLAN

SHEET ID

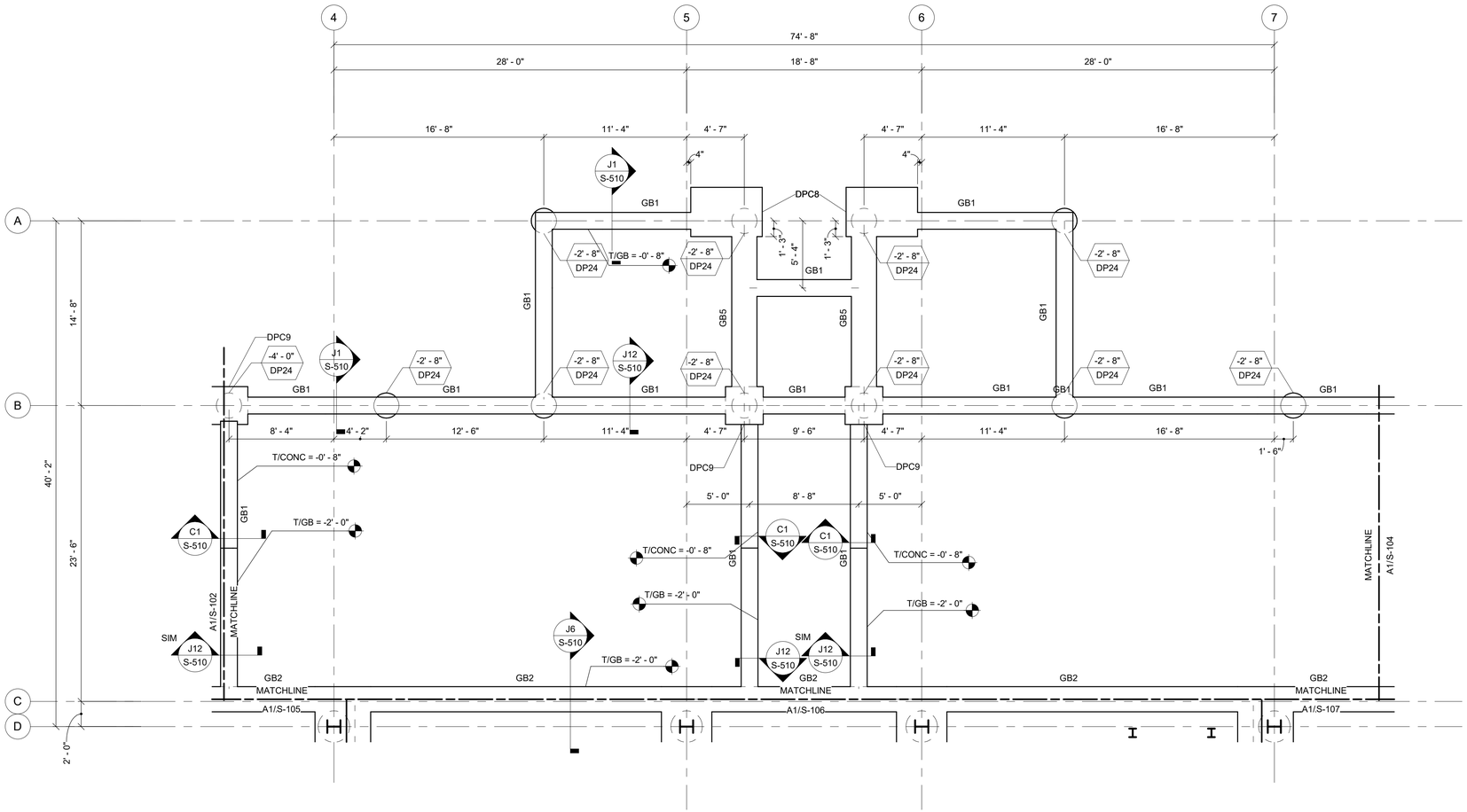
S-102

Plot Date: 10/20/2025

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

FOUNDATION PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR GRADE BEAM DETAILS, SEE SHEET S-501.
4. FOR THE GRADE BEAM SCHEDULE SEE SHEET S-601.
5. FOR DRILLED PIER DETAILS, SEE SHEET S-502.
6. FOR DRILLED PIER CAP DETAILS, SEE SHEET S-512.
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10. TOP OF INTERIOR GRADE BEAM = -0'-8" UNLESS OTHERWISE NOTED.
11. TOP OF DRILLED PIER CAP ELEVATION EQUALS TOP OF GRADE BEAM UNLESS OTHERWISE NOTED.

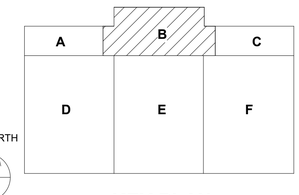


A1 AREA B FOUNDATION PLAN

3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 16'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

File Path: C:\Users\mSeclair\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECREAR.rvt

Plot Date: 10/20/2025 12:04:21 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERRIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA B FOUNDATION PLAN

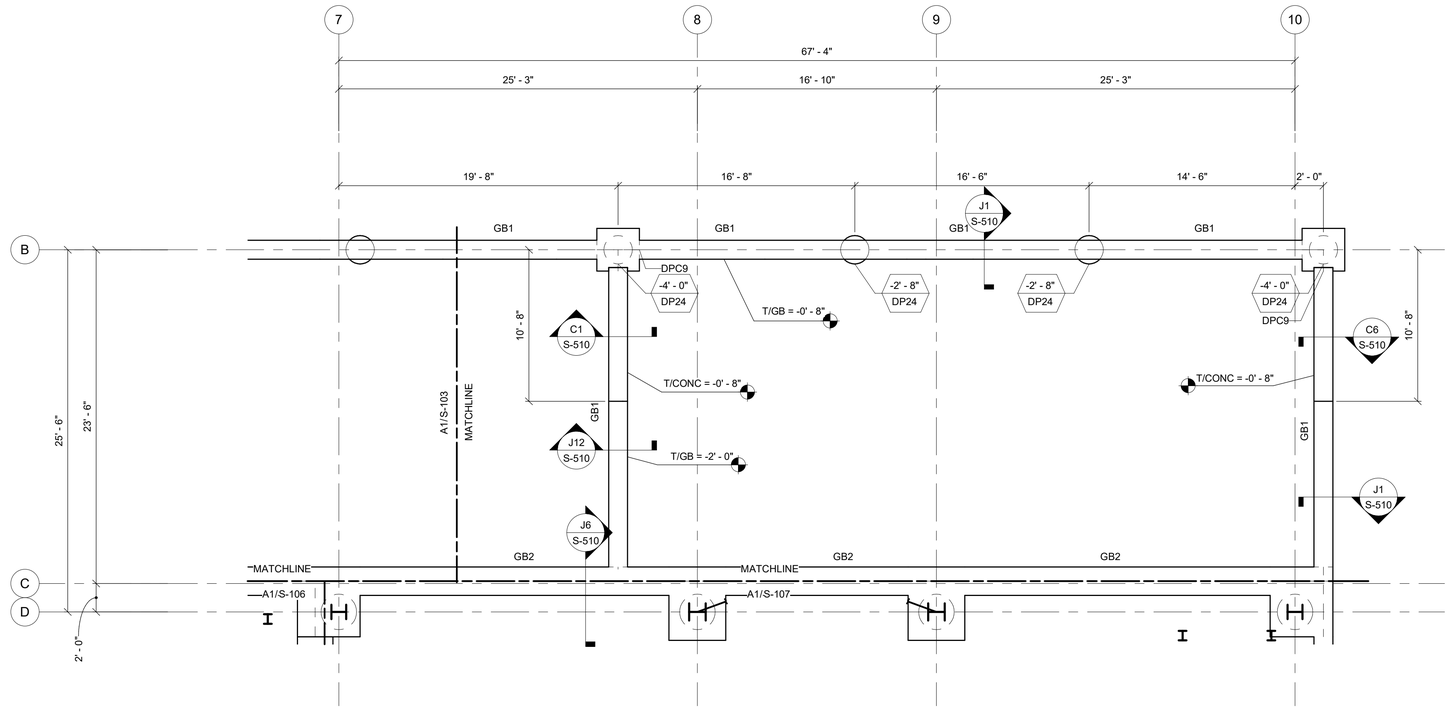
SHEET ID

S-103

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

FOUNDATION PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR GRADE BEAM DETAILS, SEE SHEET S-501.
4. FOR THE GRADE BEAM SCHEDULE SEE SHEET S-601.
5. FOR DRILLED PIER DETAILS, SEE SHEET S-502.
6. FOR DRILLED PIER CAP DETAILS, SEE SHEET S-512.
7. GRADE BEAMS, COLUMNS, AND DRILLED PIERS ARE CENTERED ON COLUMN GRIDS UNLESS OTHERWISE NOTED.
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10. TOP OF INTERIOR GRADE BEAM = -0'-8" UNLESS OTHERWISE NOTED.
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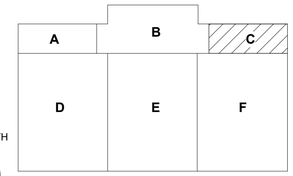


A1 AREA C FOUNDATION PLAN

3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 16'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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File Path: 10/20/2025 12:04:22 PM

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D

Plot Date: 10/20/2025

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERRIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA C FOUNDATION PLAN

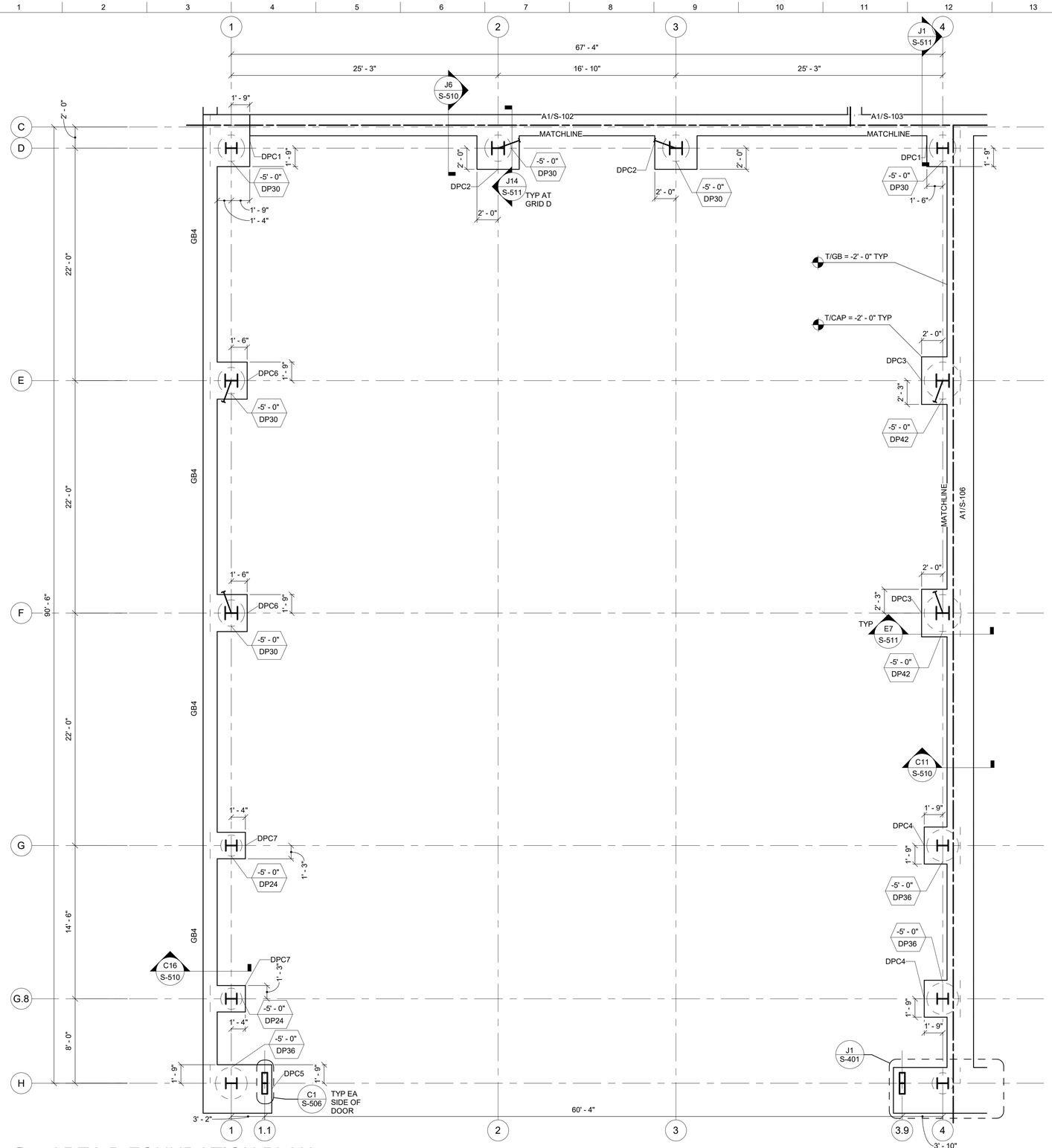
SHEET ID

S-104

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

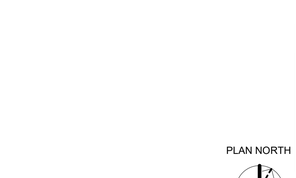
FOUNDATION PLAN NOTES

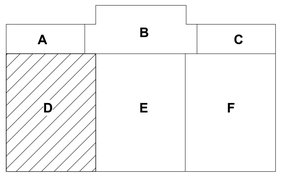
1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR GRADE BEAM DETAILS, SEE SHEET S-501.
4. FOR THE GRADE BEAM SCHEDULE SEE SHEET S-601.
5. FOR DRILLED PIER DETAILS, SEE SHEET S-502.
6. FOR DRILLED PIER CAP DETAILS, SEE SHEET S-512.
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10. TOP OF INTERIOR GRADE BEAM = -0'-8" UNLESS OTHERWISE NOTED.
11. TOP OF DRILLED PIER CAP ELEVATION EQUALS TOP OF GRADE BEAM UNLESS OTHERWISE NOTED.



A1 AREA D FOUNDATION PLAN

3/16" = 1'-0"





KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:04:23 PM File Path: C:\Users\mbostar\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_S_3BAYH_RVT22_MBECDR4R.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

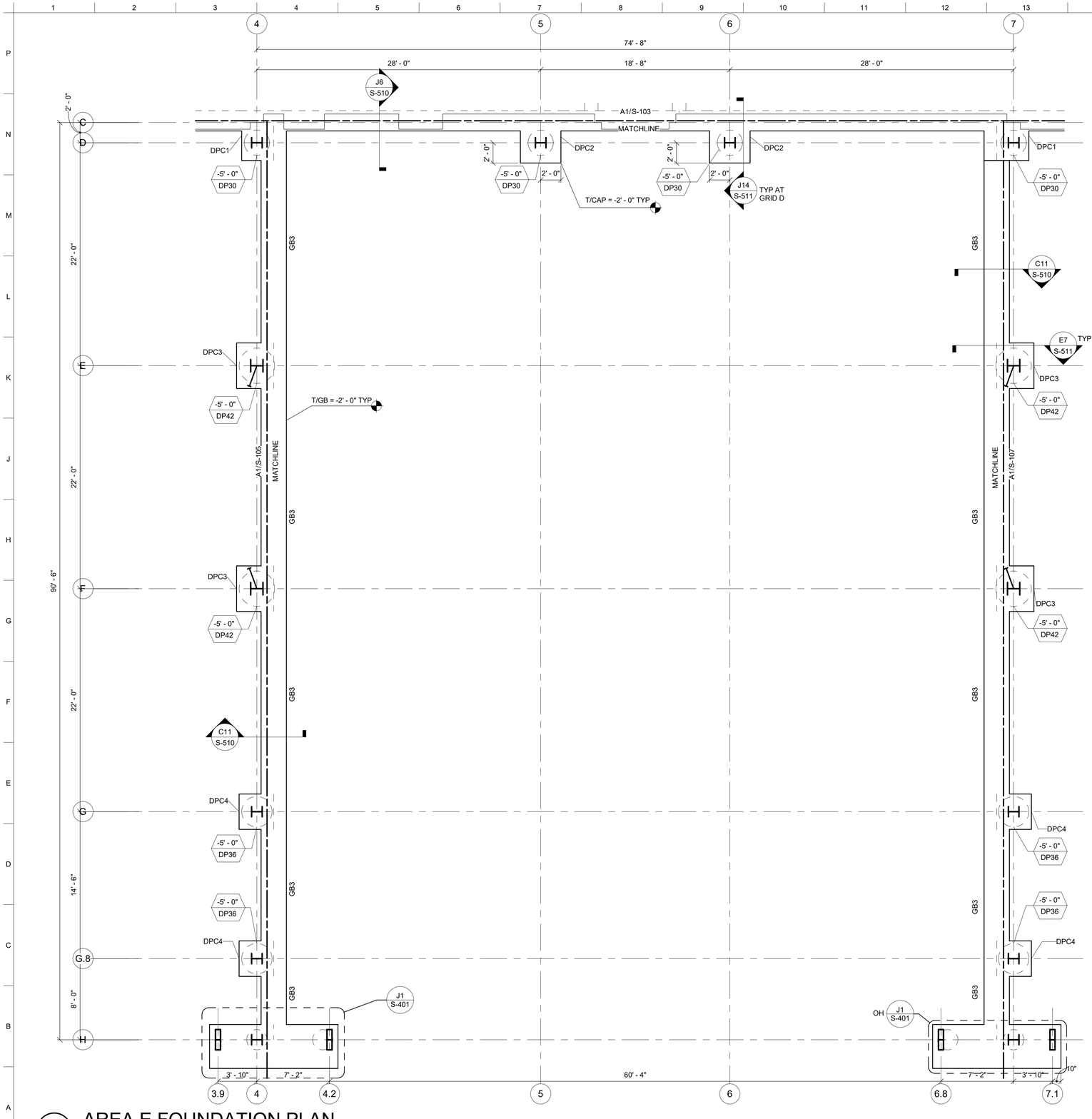
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA D FOUNDATION PLAN

SHEET ID

S-105

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A1 AREA E FOUNDATION PLAN

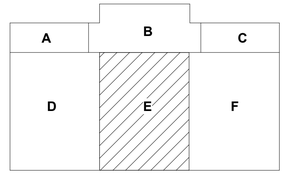
3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 16'

FOUNDATION PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR GRADE BEAM DETAILS, SEE SHEET S-501.
4. FOR THE GRADE BEAM SCHEDULE SEE SHEET S-601.
5. FOR DRILLED PIER DETAILS, SEE SHEET S-502.
6. FOR DRILLED PIER CAP DETAILS, SEE SHEET S-512.
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11. TOP OF DRILLED PIER CAP ELEVATION EQUALS TOP OF GRADE BEAM UNLESS OTHERWISE NOTED.



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

SIZE: ANSI D
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA E FOUNDATION PLAN

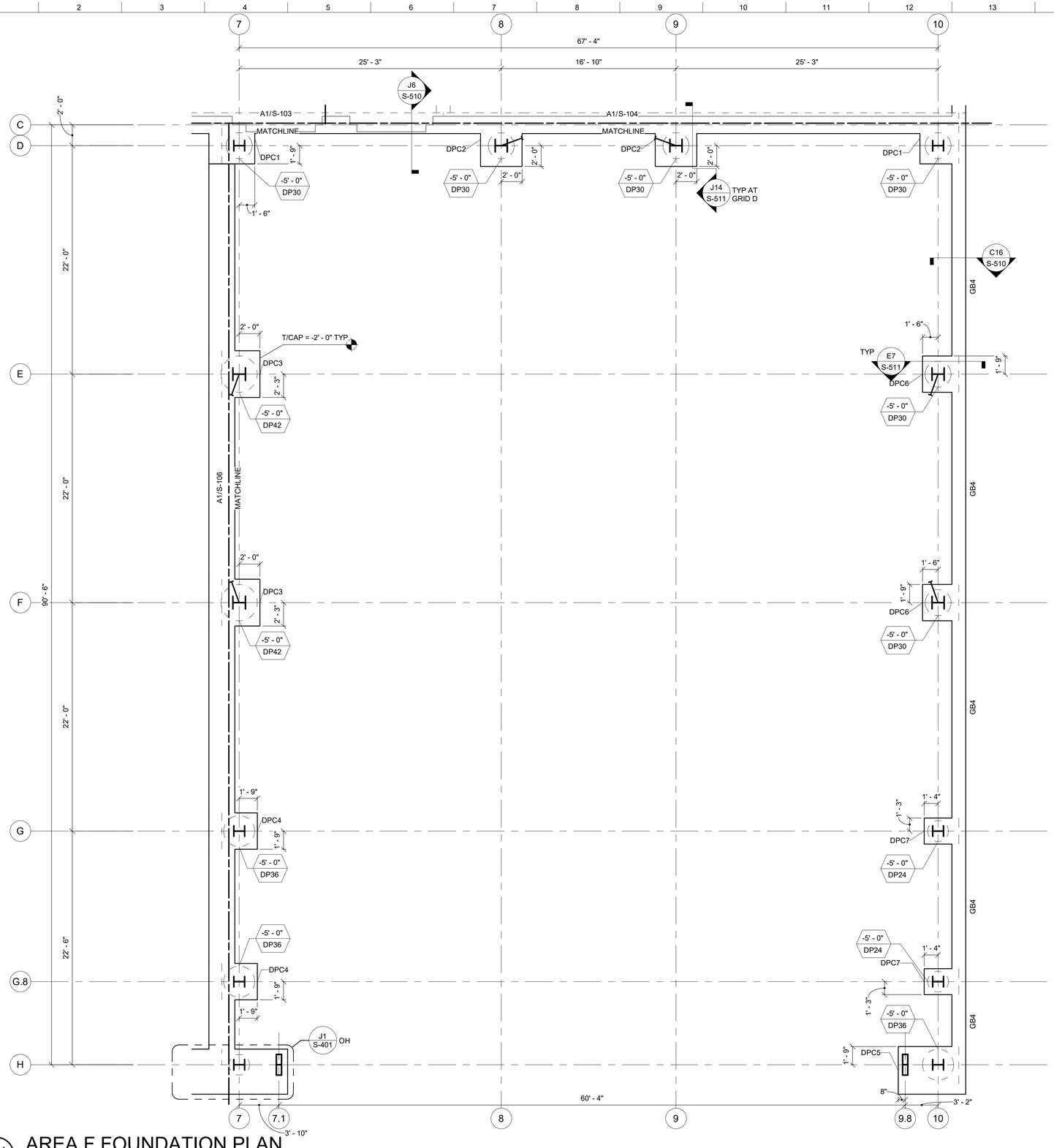
SHEET ID

S-106

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

FOUNDATION PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR GRADE BEAM DETAILS, SEE SHEET S-501.
4. FOR THE GRADE BEAM SCHEDULE SEE SHEET S-601.
5. FOR DRILLED PIER DETAILS, SEE SHEET S-502.
6. FOR DRILLED PIER CAP DETAILS, SEE SHEET S-512.
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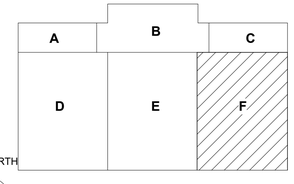


A1 AREA F FOUNDATION PLAN

3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 16'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

File Path: C:\Users\mfoedar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSECORAR.rvt

Plot Date: 10/20/2025 12:04:25 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA F FOUNDATION PLAN

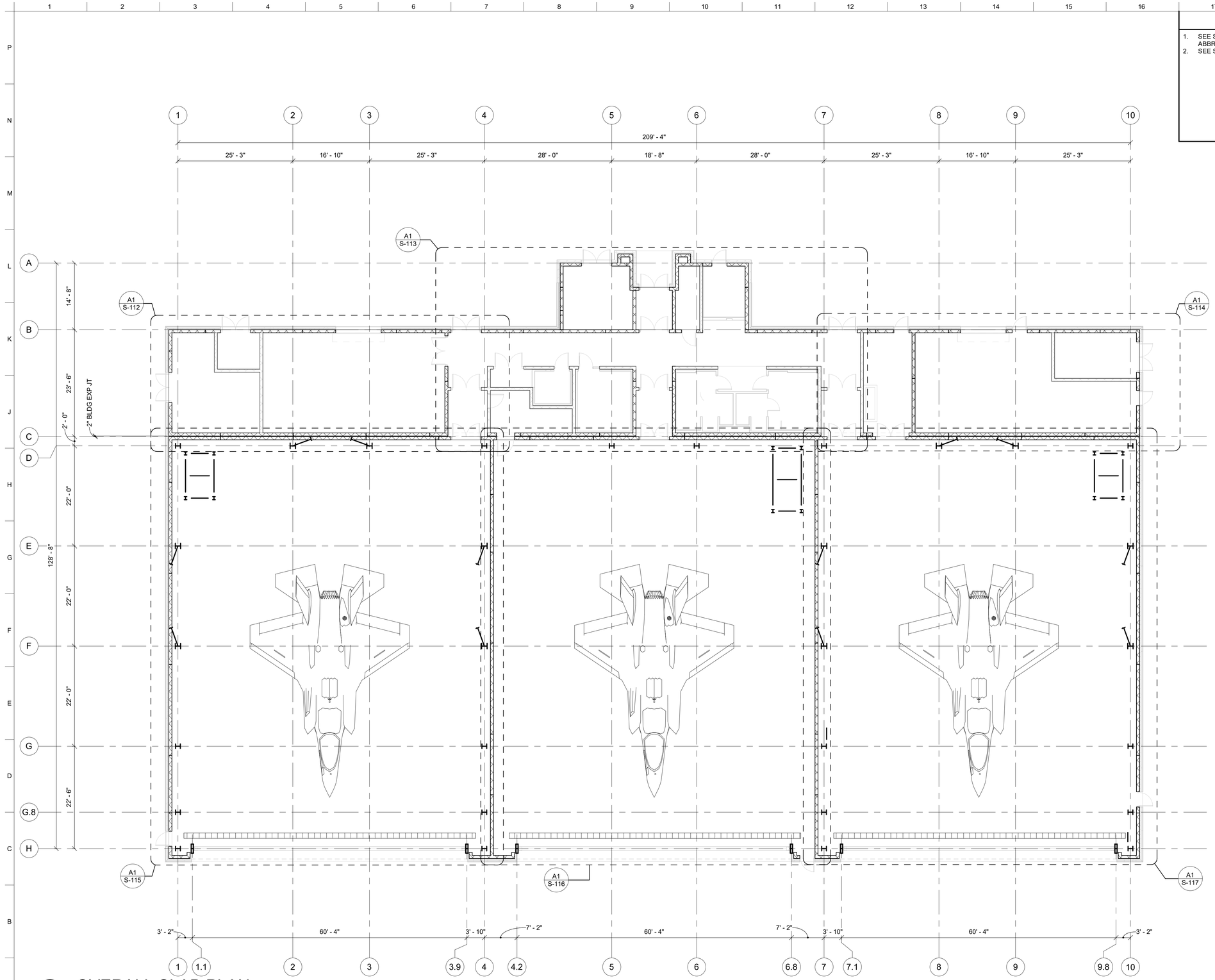
SHEET ID

S-107

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

OVERALL SLAB PLAN NOTES

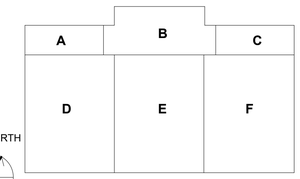
1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEETS S-112 THROUGH S-117 FOR SLAB AREA PLANS.



A1 OVERALL SLAB PLAN
3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

OVERALL SLAB PLAN

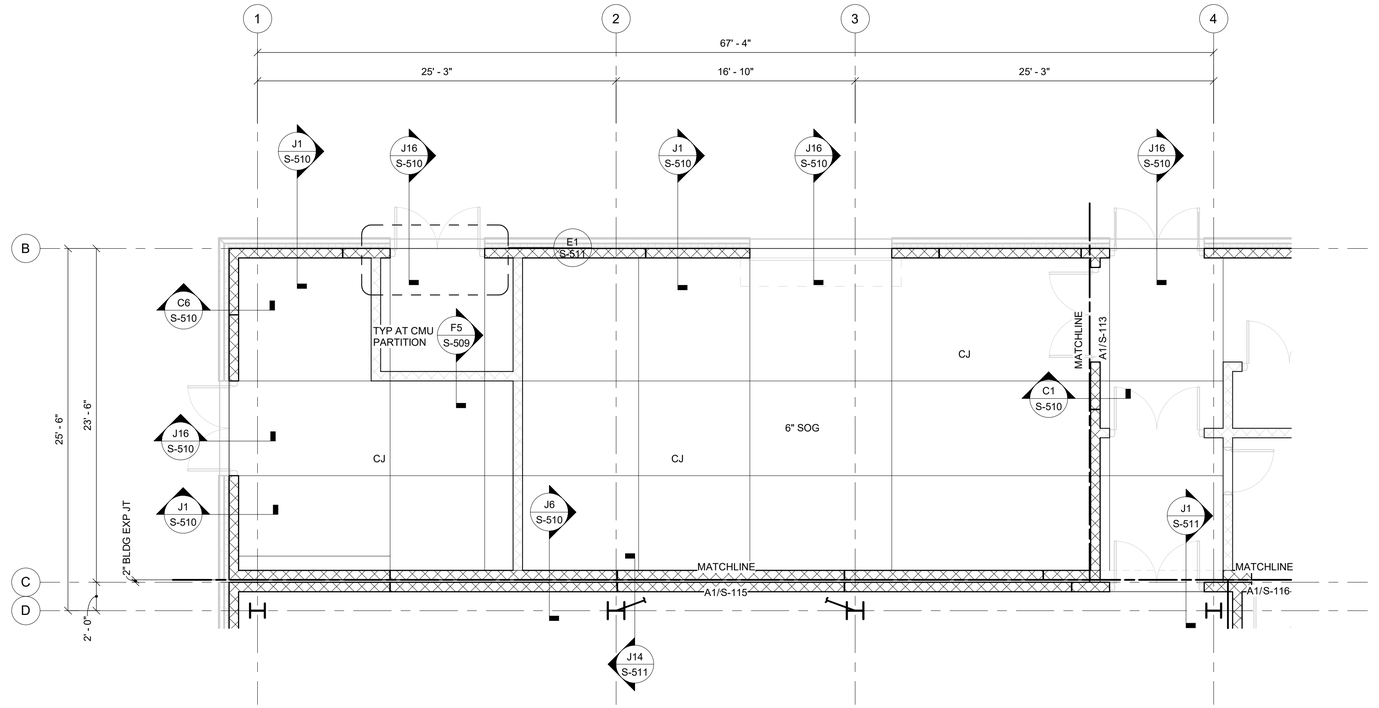
SHEET ID
S-111

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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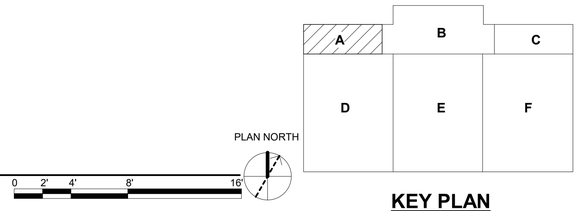
SLAB PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR TYPICAL CMU DETAILS, SEE SHEET S-507.
4. ALL STRUCTURAL CMU WALLS ARE MW1 UNO.
5. REFER TO SHEET S-508 FOR CMU PARTITION WALL DETAILS.
6. REFER TO SHEET CP120 FOR HANGAR AIRFIELD PAVEMENT SLAB JOINTING AND ELEVATION INFO. REFER TO SHEET CP501 FOR TYPICAL HANGAR AIRFIELD PAVEMENT SLAB DETAILS.
7. 6" SOG INDICATES 6-INCH CONCRETE SLAB-ON-GRADE W/ #4 @ 12" OC EW, ON 15 MIL VAPOR RETARDER.
8. TOP OF SLAB-ON-GRADE = 0'-0" UNLESS OTHERWISE NOTED. DATUM ELEVATION (0'-0") CORRESPONDS TO THE FINISH FLOOR ELEVATION INDICATED ON THE CIVIL SHEETS.
9. CJ DENOTES CONTROL JOINT OR CONSTRUCTION JOINT IN SLAB-ON-GRADE. SEE SHEET S-501 FOR TYPICAL DETAIL.
10. * -INDICATES DIMENSION TO BE COORDINATED WITH SELECTED MECHANICAL, ELECTRICAL EQUIPMENT OR PLUMBING FIXTURE.
11. FOR HANGAR PAVEMENT REQUIREMENTS, JOINTING, AND SLOPE SEE CIVIL.
12. FOR TRENCH DRAINS IN HANGAR BAYS REFER TO CIVIL AND PLUMBING DRAWINGS.



A1 AREA A SLAB PLAN

3/16" = 1'-0"



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\mfiedler\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MECDRAFT.rvt

10/20/2025 12:04:27 PM

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
SIZE: ANSI D

Plot Date: 10/20/2025

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA A SLAB PLAN

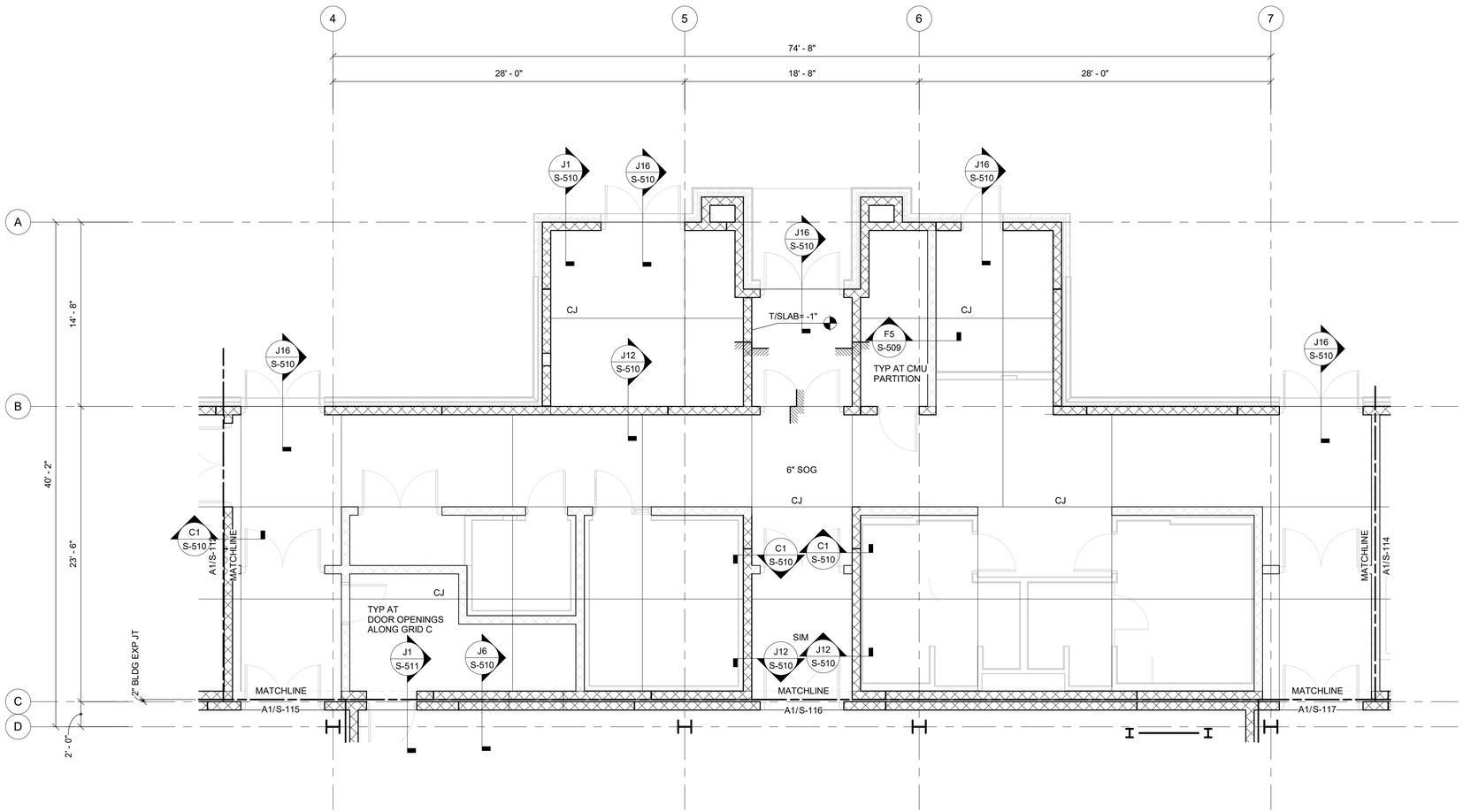
SHEET ID

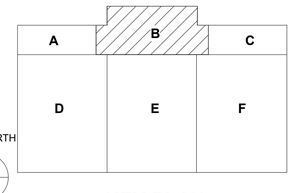
S-112

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SLAB PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR TYPICAL CMU DETAILS, SEE SHEET S-507.
4. ALL STRUCTURAL CMU WALLS ARE MW1 UNO.
5. REFER TO SHEET S-508 FOR CMU PARTITION WALL DETAILS.
6. REFER TO SHEET CP120 FOR HANGAR AIRFIELD PAVEMENT SLAB JOINTING AND ELEVATION INFO. REFER TO SHEET CP501 FOR TYPICAL HANGAR AIRFIELD PAVEMENT SLAB DETAILS.
7. 6" SOG INDICATES 6-INCH CONCRETE SLAB-ON-GRADE W/ #4 @ 12" OC EW, ON 15 MIL VAPOR RETARDER.
8. TOP OF SLAB-ON-GRADE = 0'-0" UNLESS OTHERWISE NOTED. DATUM ELEVATION (0'-0") CORRESPONDS TO THE FINISH FLOOR ELEVATION INDICATED ON THE CIVIL SHEETS.
9. CJ DENOTES CONTROL JOINT OR CONSTRUCTION JOINT IN SLAB-ON-GRADE. SEE SHEET S-501 FOR TYPICAL DETAIL.
10. * -INDICATES DIMENSION TO BE COORDINATED WITH SELECTED MECHANICAL, ELECTRICAL EQUIPMENT OR PLUMBING FIXTURE.
11. FOR HANGAR PAVEMENT REQUIREMENTS, JOINTING, AND SLOPE SEE CIVIL.
12. FOR TRENCH DRAINS IN HANGAR BAYS REFER TO CIVIL AND PLUMBING DRAWINGS.





KEY PLAN

0 2' 4' 8' 16'

A1 AREA B SLAB PLAN

3/16" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\mfiedler\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECREAR.rvt

Plot Date: 10/20/2025 12:04:28 PM

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERRIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA B SLAB PLAN

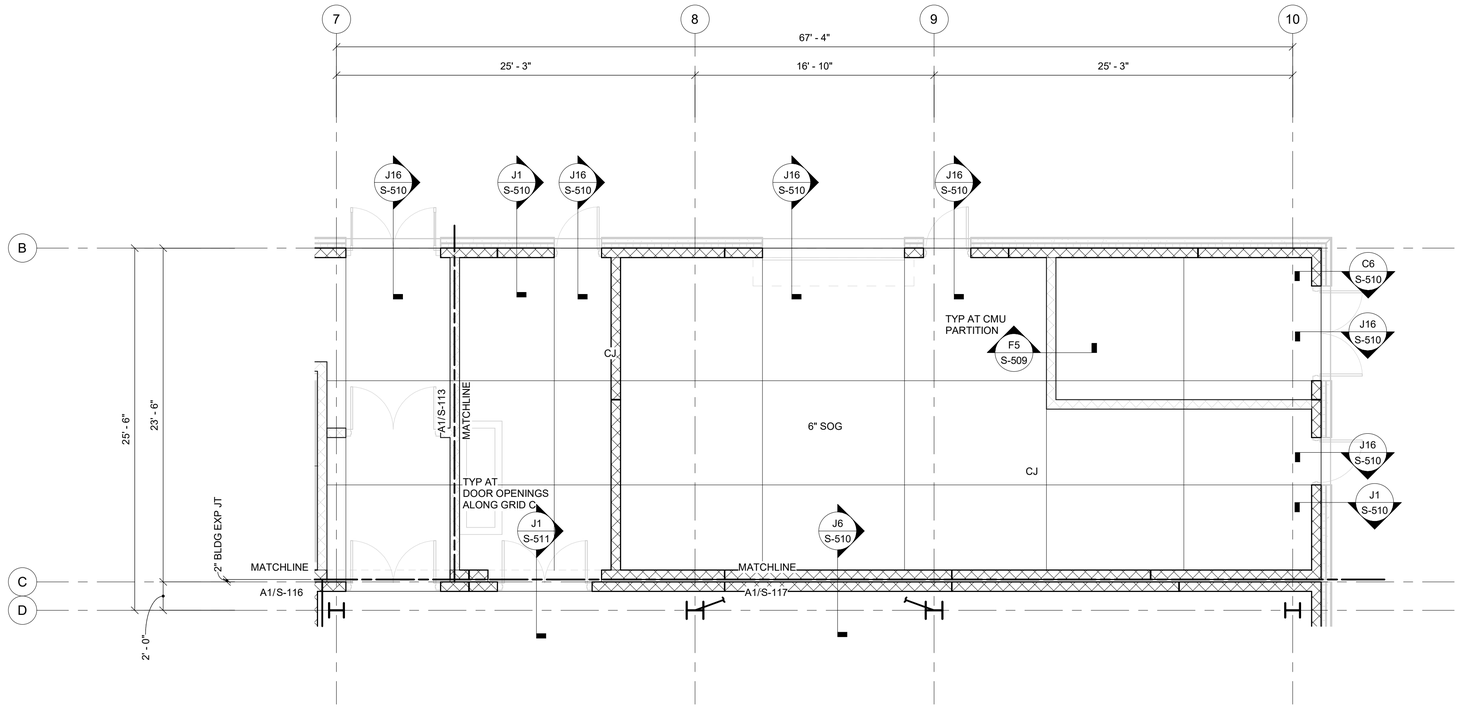
SHEET ID

S-113

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

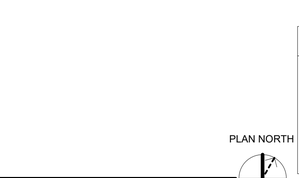
SLAB PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR TYPICAL CMU DETAILS, SEE SHEET S-507.
4. ALL STRUCTURAL CMU WALLS ARE MW1 UNO.
5. REFER TO SHEET S-508 FOR CMU PARTITION WALL DETAILS.
6. REFER TO SHEET CP120 FOR HANGAR AIRFIELD PAVEMENT SLAB JOINTING AND ELEVATION INFO. REFER TO SHEET CP501 FOR TYPICAL HANGAR AIRFIELD PAVEMENT SLAB DETAILS.
7. 6" SOG INDICATES 6-INCH CONCRETE SLAB-ON-GRADE W/ #4 @ 12" OC EW, ON 15 MIL VAPOR RETARDER.
8. TOP OF SLAB-ON-GRADE = 0'-0" UNLESS OTHERWISE NOTED. DATUM ELEVATION (0'-0") CORRESPONDS TO THE FINISH FLOOR ELEVATION INDICATED ON THE CIVIL SHEETS.
9. CJ DENOTES CONTROL JOINT OR CONSTRUCTION JOINT IN SLAB-ON-GRADE. SEE SHEET S-501 FOR TYPICAL DETAIL.
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12. FOR TRENCH DRAINS IN HANGAR BAYS REFER TO CIVIL AND PLUMBING DRAWINGS.



A1 AREA C SLAB PLAN

3/16" = 1'-0"



KEY PLAN

PLAN NORTH

0 2' 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\mfiedler\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MECDRAFT.rvt

Plot Date: 10/20/2025 12:04:29 PM

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

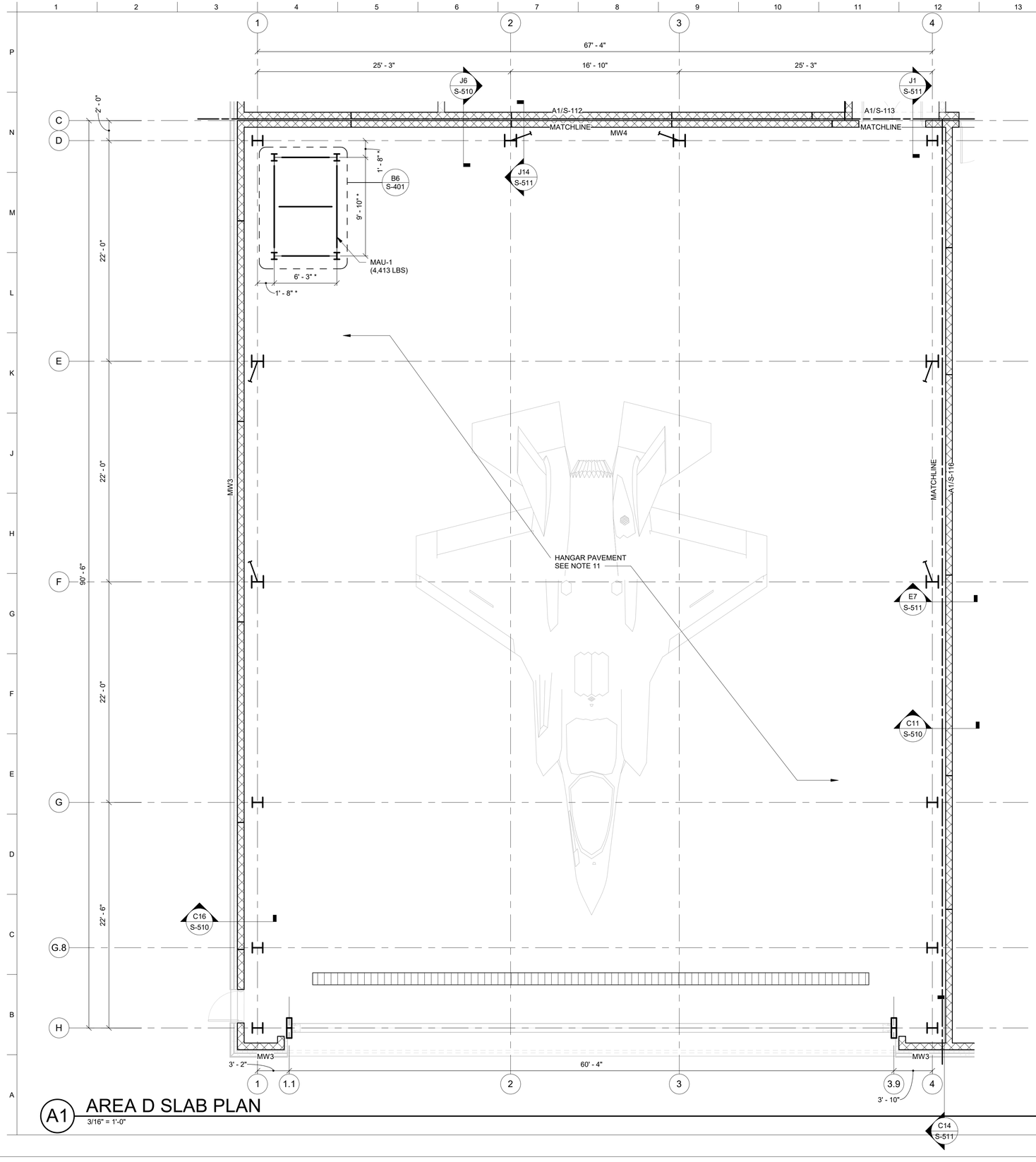
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA C SLAB PLAN

SHEET ID

S-114

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

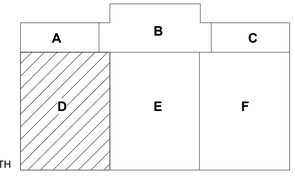


A1 AREA D SLAB PLAN

3/16" = 1'-0"

SLAB PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR TYPICAL CMU DETAILS, SEE SHEET S-507.
4. ALL STRUCTURAL CMU WALLS ARE MW1 UNO.
5. REFER TO SHEET S-508 FOR CMU PARTITION WALL DETAILS.
6. REFER TO SHEET CP120 FOR HANGAR AIRFIELD PAVEMENT SLAB JOINTING AND ELEVATION INFO. REFER TO SHEET CP501 FOR TYPICAL HANGAR AIRFIELD PAVEMENT SLAB DETAILS.
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9. CJ DENOTES CONTROL JOINT OR CONSTRUCTION JOINT IN SLAB-ON-GRADE. SEE SHEET S-501 FOR TYPICAL DETAIL.
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12. FOR TRENCH DRAINS IN HANGAR BAYS REFER TO CIVIL AND PLUMBING DRAWINGS.



KEY PLAN

0 2' 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:04:30 PM File Path: C:\Users\mSedar\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_S_3BAYH_RVT22_MEECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA D SLAB PLAN

SHEET ID

S-115

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SLAB PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR TYPICAL CMU DETAILS, SEE SHEET S-507.
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12. FOR TRENCH DRAINS IN HANGAR BAYS REFER TO CIVIL AND PLUMBING DRAWINGS.

74' - 8"
28' - 0"
18' - 8"
28' - 0"
J6 S-510
J1 S-511
TYP AT DOOR OPENINGS ALONG GRID C
A1/S-113
MATCHLINE
MW4
2' - 0"
B11 S-401
6"
13' - 10" *
MAU-2 (6,429 LBS)
C11 S-510
16' - 9" *
6' - 3" *
22' - 0"
A1/S-115
MATCHLINE
MW3
MATCHLINE
A1/S-117
MW3
HANGAR PAVEMENT SEE NOTE 11
90' - 6"
E7 S-511
C11 S-510
22' - 0"
22' - 6"
MW3
7' - 2"
C14 4S-511
60' - 4"
MW3
7' - 2"
4.2
5
6
6.8
7

A1 AREA E SLAB PLAN
3/16" = 1'-0"

PLAN NORTH
0 2' 4' 8' 16'

KEY PLAN

A	B	C
D	E	F

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt

File Path: C:\Users\mSedar\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_S_3BAYH_RVT22_MEECRAR.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

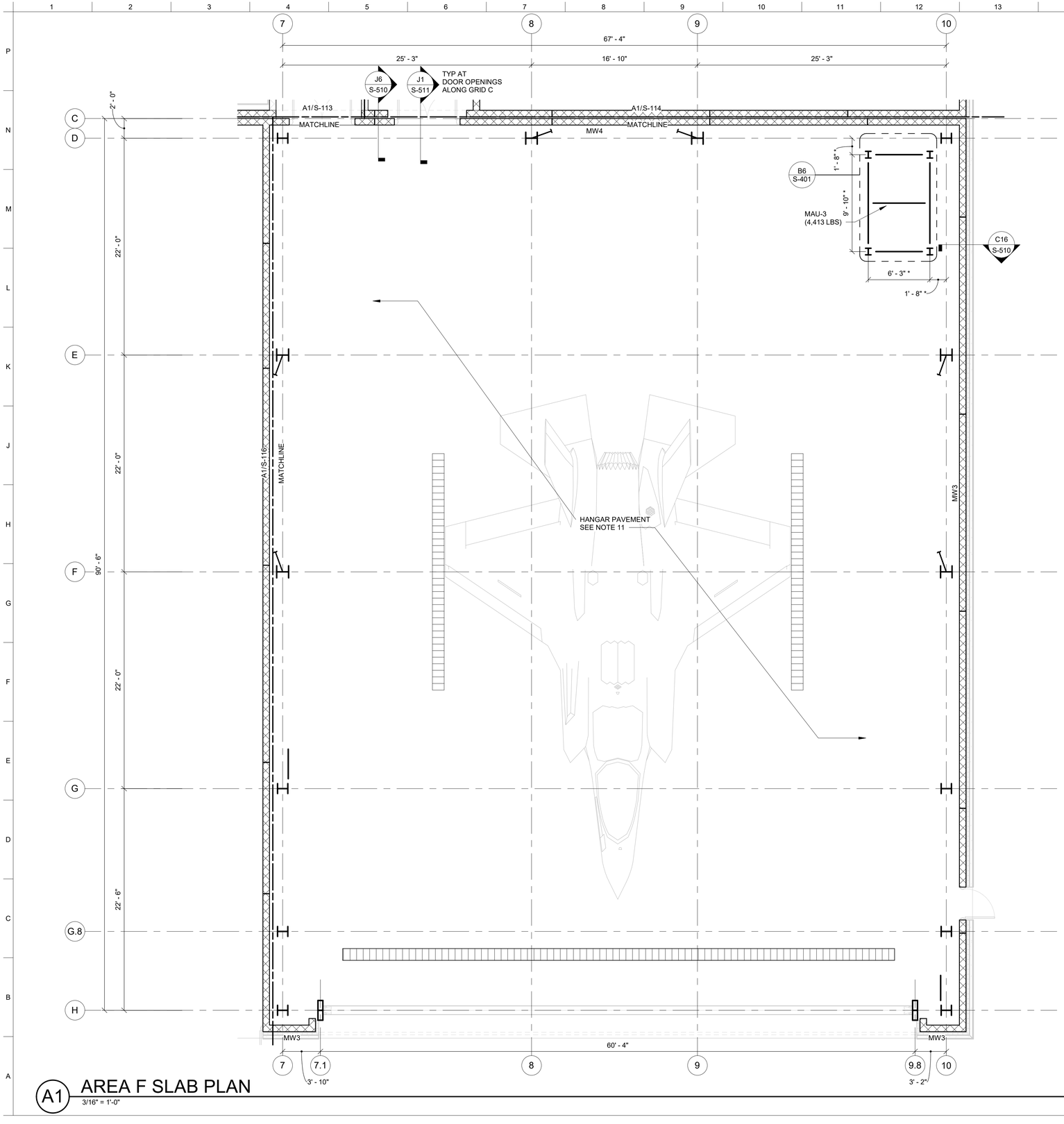
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA E SLAB PLAN

SHEET ID
S-116

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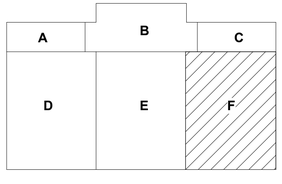
SLAB PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL CONCRETE DETAILS, SEE SHEET S-501 THROUGH S-502.
3. FOR TYPICAL CMU DETAILS, SEE SHEET S-507.
4. ALL STRUCTURAL CMU WALLS ARE MW1 UNO.
5. REFER TO SHEET S-508 FOR CMU PARTITION WALL DETAILS.
6. REFER TO SHEET CP120 FOR HANGAR AIRFIELD PAVEMENT SLAB JOINTING AND ELEVATION INFO. REFER TO SHEET CP501 FOR TYPICAL HANGAR AIRFIELD PAVEMENT SLAB DETAILS.
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9. CJ DENOTES CONTROL JOINT OR CONSTRUCTION JOINT IN SLAB-ON-GRADE. SEE SHEET S-501 FOR TYPICAL DETAIL.
10. * -INDICATES DIMENSION TO BE COORDINATED WITH SELECTED MECHANICAL, ELECTRICAL EQUIPMENT OR PLUMBING FIXTURE.
11. FOR HANGAR PAVEMENT REQUIREMENTS, JOINTING, AND SLOPE SEE CIVIL.
12. FOR TRENCH DRAINS IN HANGAR BAYS REFER TO CIVIL AND PLUMBING DRAWINGS.

A1 AREA F SLAB PLAN
3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 16'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:04:32 PM
File Path: C:\Users\mSedar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

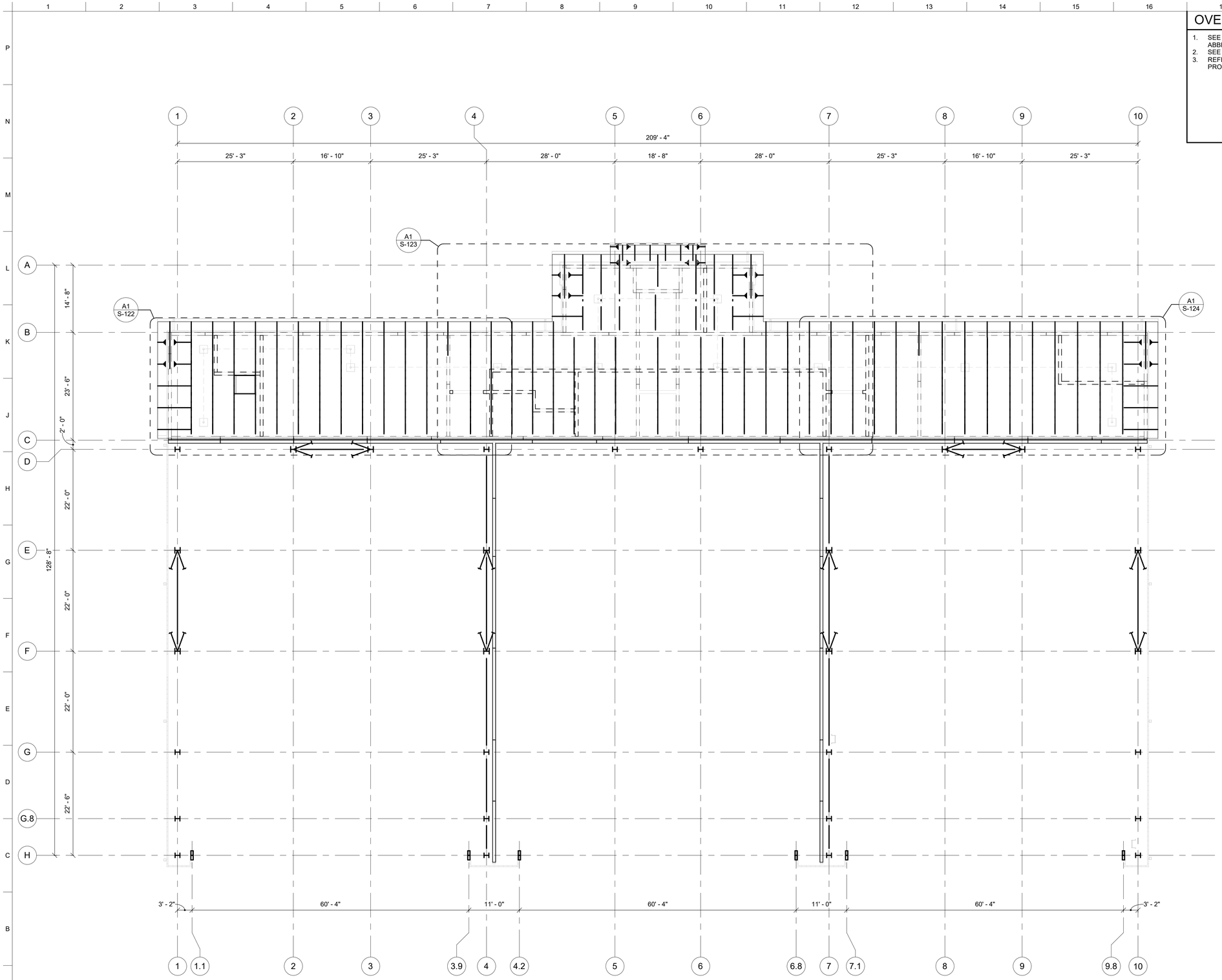
AREA F SLAB PLAN

SHEET ID
S-117

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

OVERALL LOW ROOF FRAMING PLAN NOTES

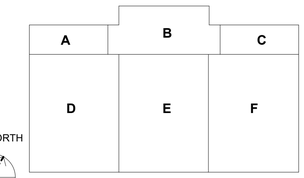
1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEETS S-122 THROUGH S-124 FOR LOW ROOF FRAMING AREA PLANS.
3. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ROOF FALL PROTECTION.



A1 OVERALL LOW ROOF FRAMING PLAN
3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

OVERALL LOW ROOF FRAMING PLAN

SHEET ID
S-121

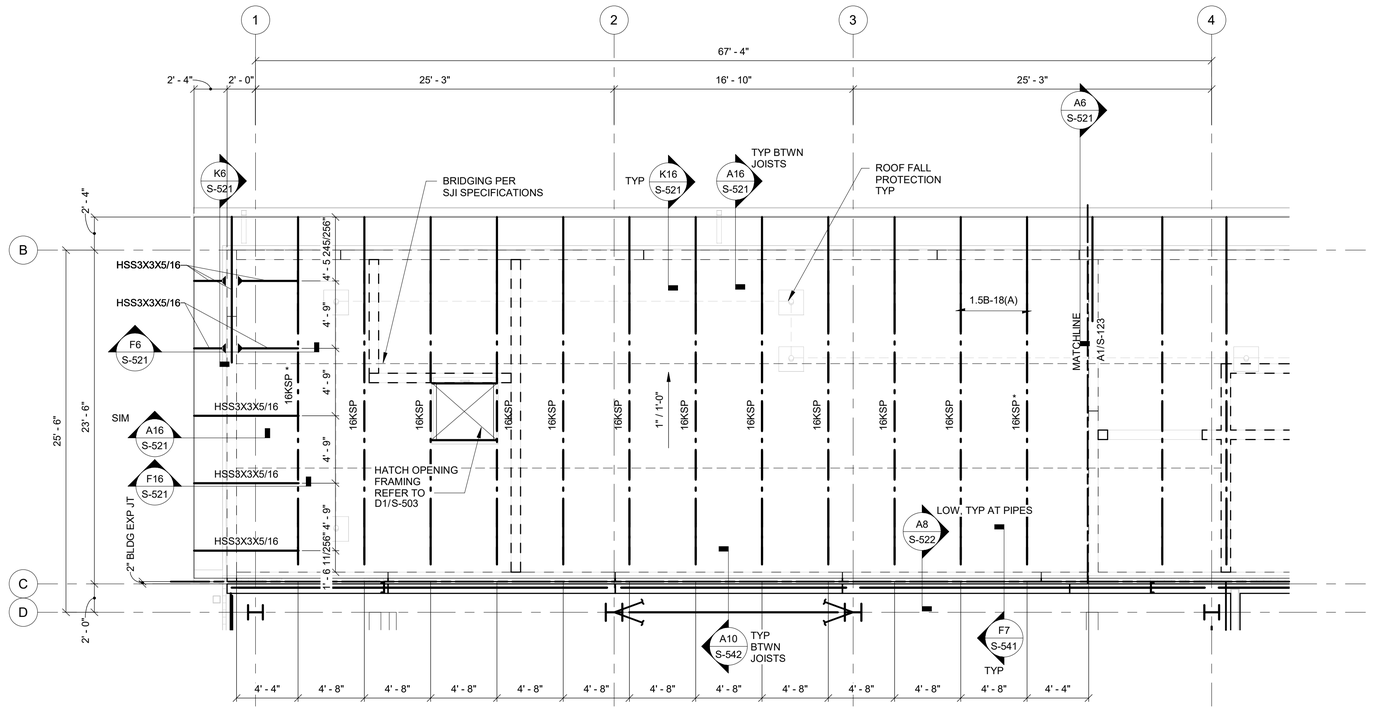
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Plot Date: 10/20/2025 12:04:33 PM

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LOW ROOF FRAMING PLAN NOTES

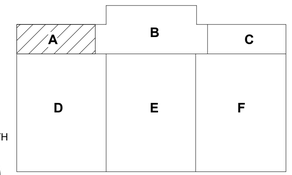
1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-503 THROUGH S-507.
3. FOR TYPICAL CMU DETAILS, SEE SHEET S-508 THROUGH S-509.
4. TOP OF BEAM, JOIST, OR TRUSS ELEVATION = BOTTOM OF DECK ELEVATION UNLESS NOTED OTHERWISE.
5. SLOPE BEAMS AND JOISTS BETWEEN SUPPORTS AS REQUIRED.
6. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ROOF FALL PROTECTION. JOIST SUPPLIER TO COORDINATE WITH ROOF FALL PROTECTION SYSTEM.
7. PROVIDE 1/2 OF STANDARD CAMBER FOR JOISTS MARKED *.
8. JOIST TOP CHORD EXTENSIONS ARE TYPE 1 UNLESS NOTED OTHERWISE.



A1 AREA A LOW ROOF FRAMING PLAN PLAN
3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 16'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA A LOW ROOF FRAMING PLAN

SHEET ID
S-122

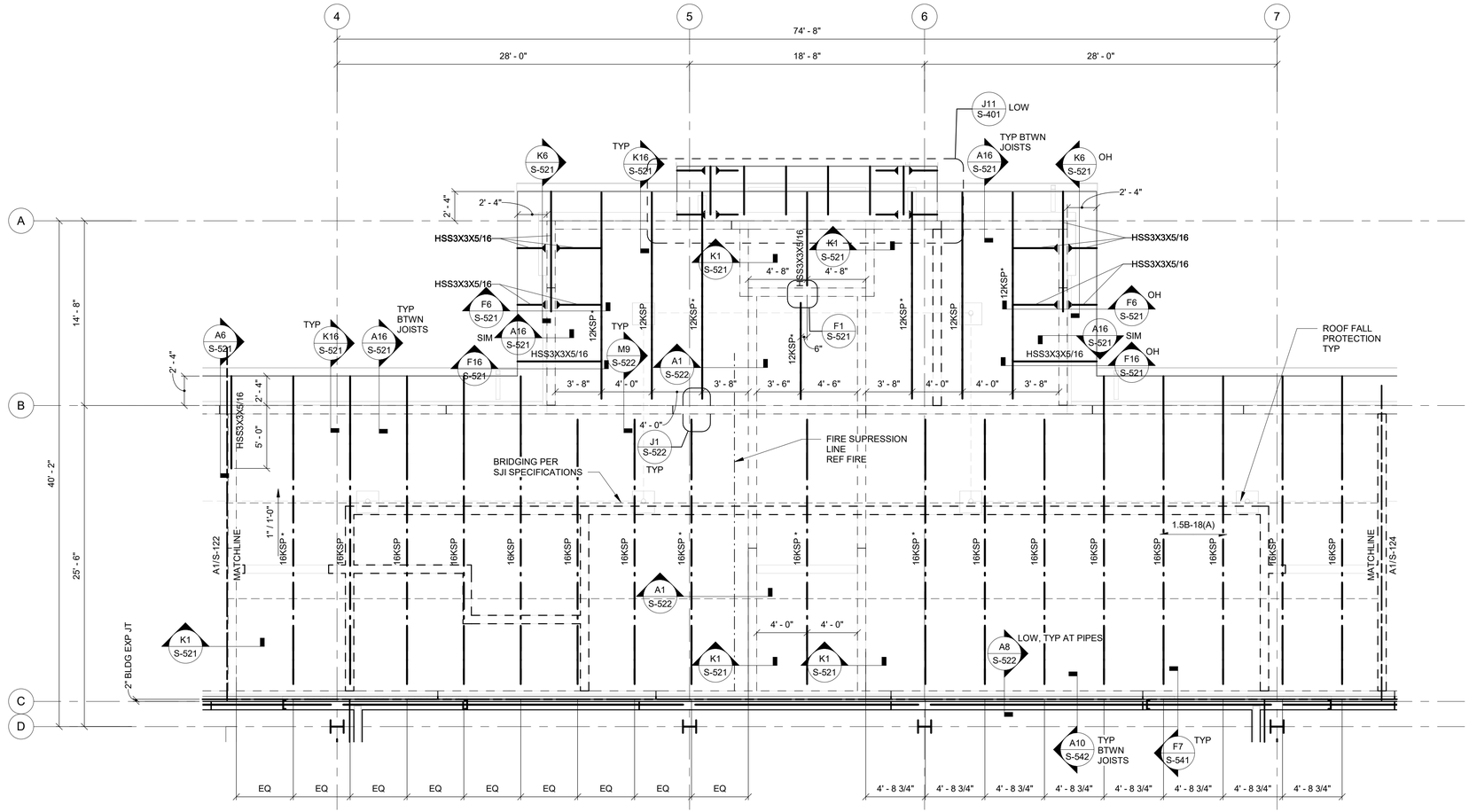
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Plot Date: 10/20/2025 12:04:34 PM

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LOW ROOF FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-503 THROUGH S-507.
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7. PROVIDE 1/2 OF STANDARD CAMBER FOR JOISTS MARKED *.
8. JOIST TOP CHORD EXTENSIONS ARE TYPE 1 UNLESS NOTED OTHERWISE.

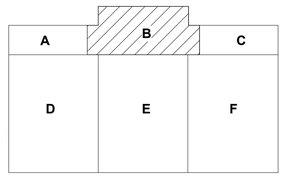


A1 AREA B LOW ROOF FRAMING PLAN

3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 16'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
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Plot Date: 10/20/2025 12:04:35 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA B LOW ROOF FRAMING PLAN

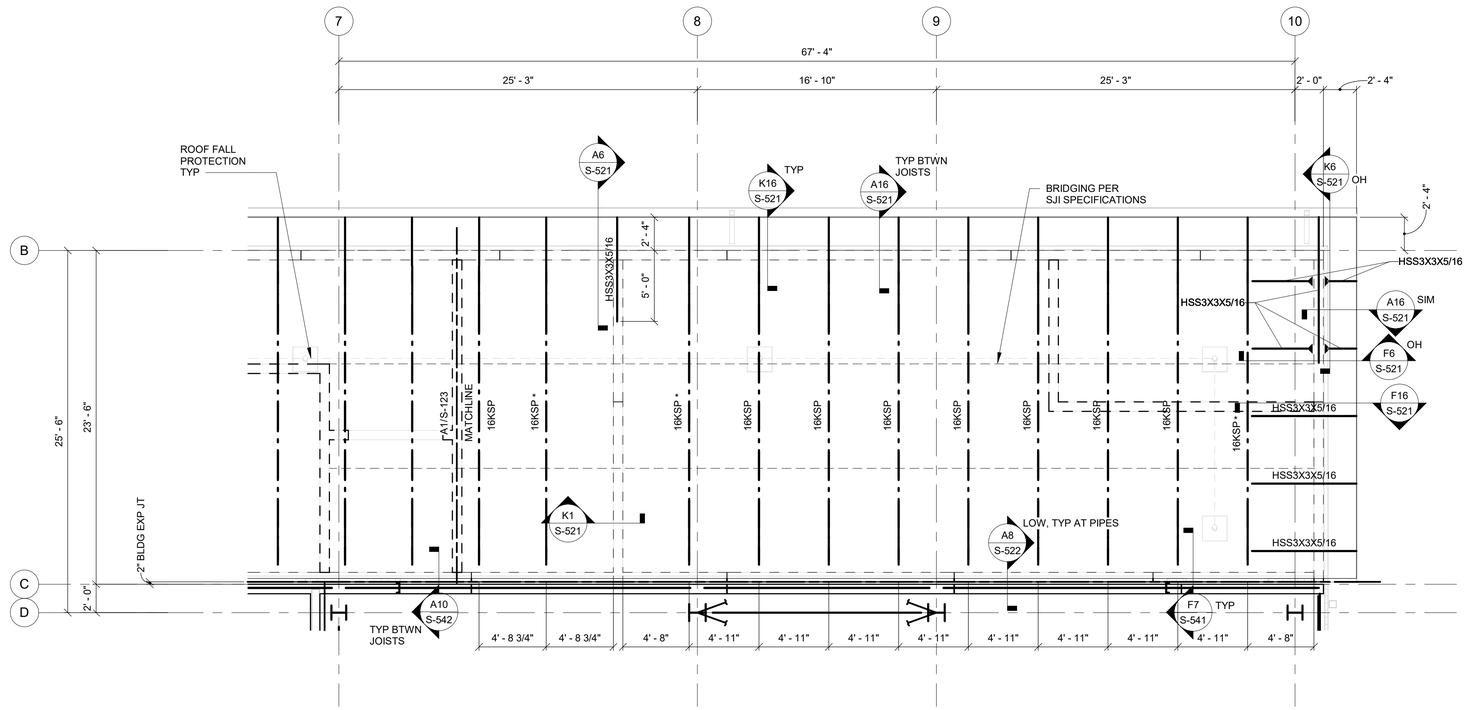
SHEET ID

S-123

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LOW ROOF FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-503 THROUGH S-507.
3. FOR TYPICAL CMU DETAILS, SEE SHEET S-508 THROUGH S-509.
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7. PROVIDE 1/2 OF STANDARD CAMBER FOR JOISTS MARKED *.
8. JOIST TOP CHORD EXTENSIONS ARE TYPE 1 UNLESS NOTED OTHERWISE.

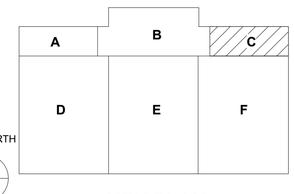


A1 AREA C SLAB PLAN

3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 16'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

C:\Users\mSinclair\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECRAR.rvt

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

File Path:

10/20/2025 12:04:36 PM

Plot Date:

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA C LOW ROOF FRAMING PLAN

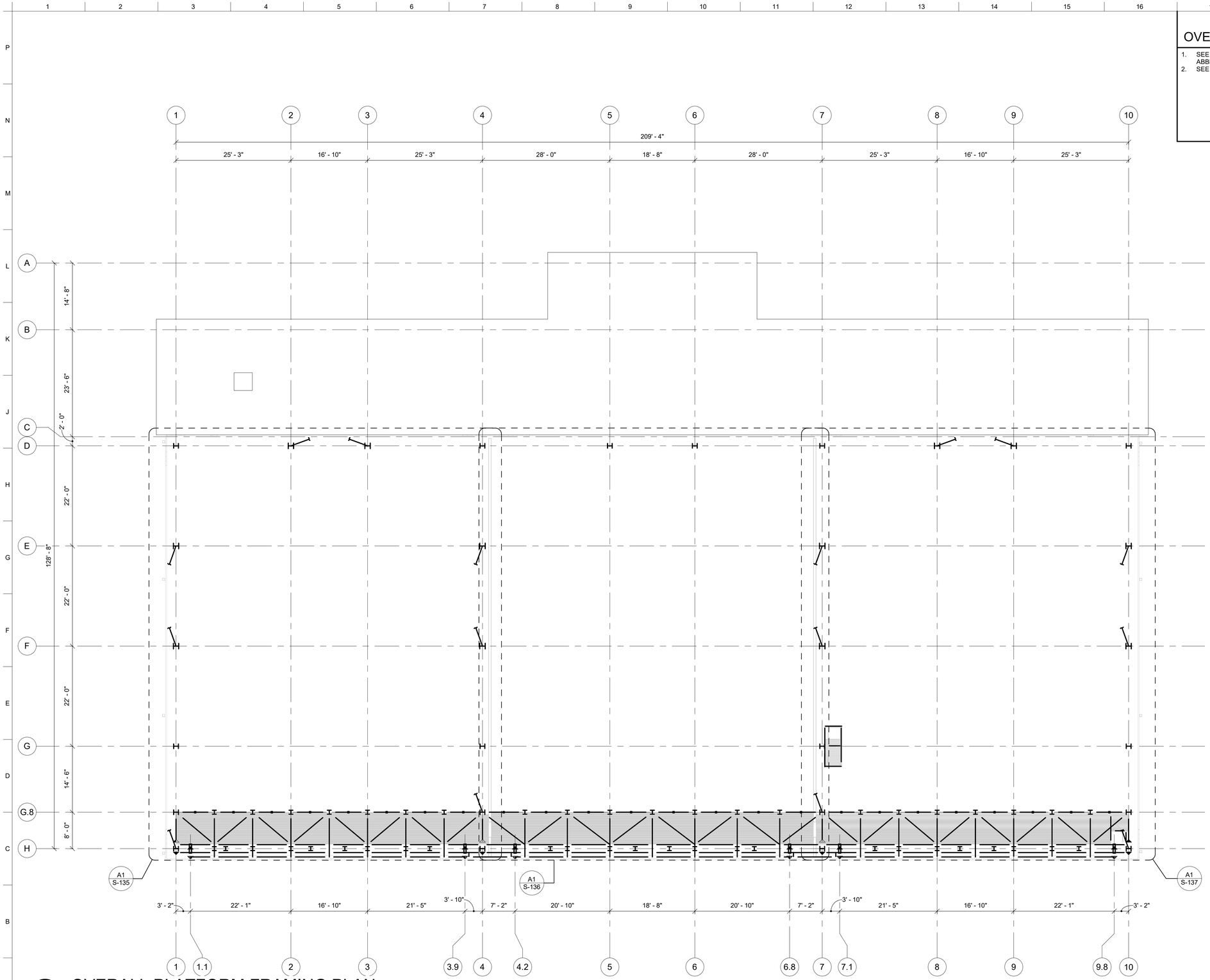
SHEET ID

S-124

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OVERALL PLATFORM FRAMING PLAN NOTES

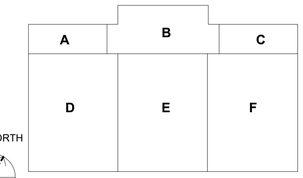
1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEETS S-135 THROUGH S-137 FOR PLATFORM FRAMING AREA PLANS.



A1 OVERALL PLATFORM FRAMING PLAN
3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENNG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

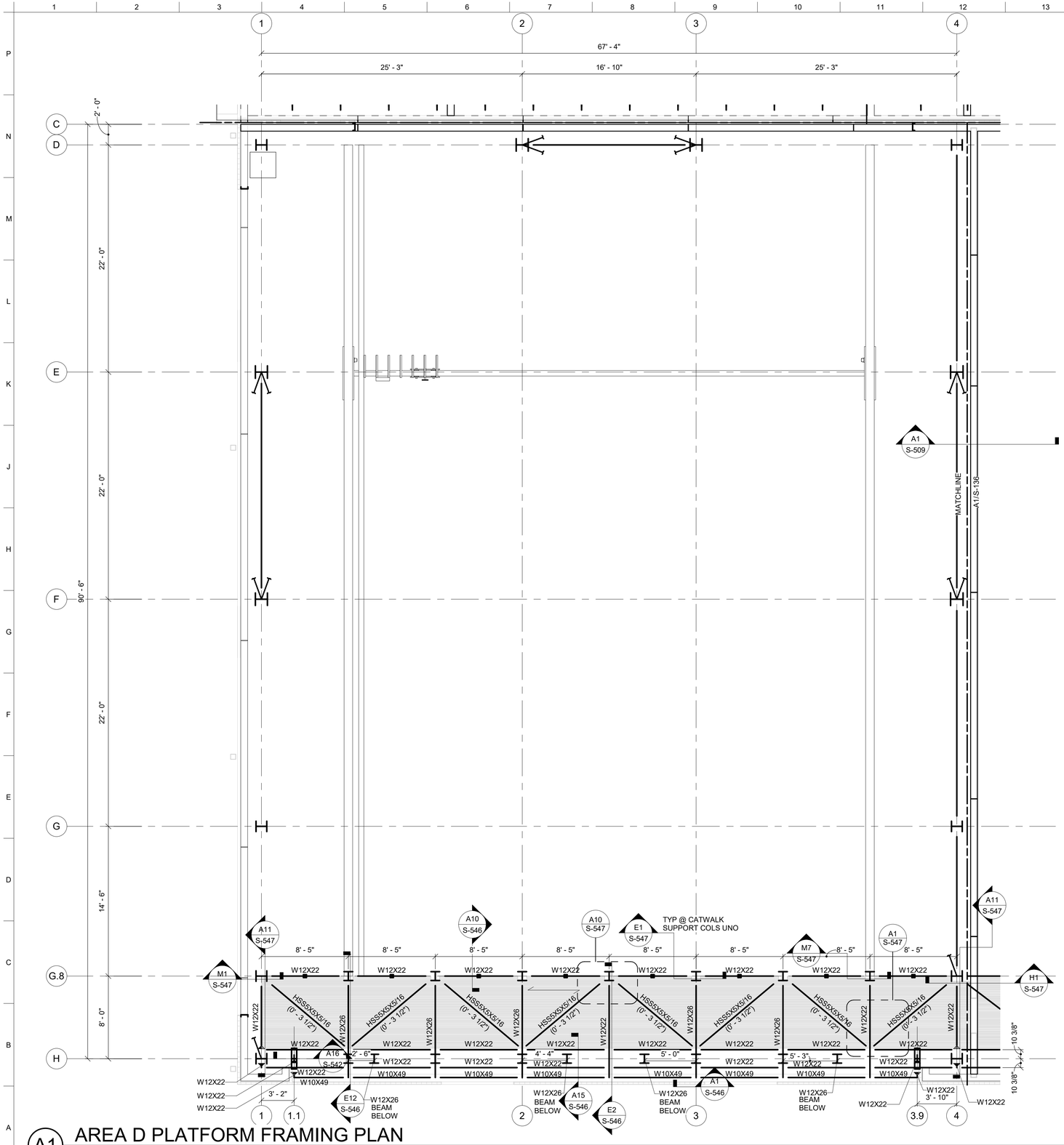
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

OVERALL PLATFORM FRAMING PLAN

SHEET ID
S-131

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

Plot Date: 10/20/2025 12:04:37 PM File Path: C:\Users\mSeidner\OneDrive - US Army Corps of Engineers\Documents\ENNG_512203_S_3BAYH_RVT22_MSEIDNER.rvt

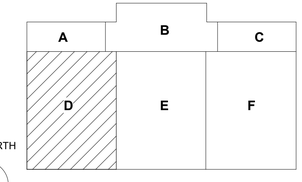


A1 AREA D PLATFORM FRAMING PLAN

3/16" = 1'-0"

PLATFORM FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-503 THROUGH S-506.
3. REFERENCE ELEVATION FOR BOTTOM OF STEEL FOR ACCESS PLATFORM IS 26'-1 1/4" ABOVE REFERENCED DATUM (0'-0") INDICATED ON CIVIL DRAWINGS.
4. BOTTOM OF STEEL BEAMS SHALL BE AT REFERENCE ELEVATION UNLESS OTHERWISE NOTED THUS (+/-X.X").
5. SEE SHEETS S-201 THROUGH S-203 FOR FRAMING ELEVATIONS.



KEY PLAN

PLAN NORTH

0 2' 4' 8' 12'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

Plot Date: 10/20/2025 12:04:39 PM File Path: C:\Users\mSecstar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSECDRAR.rvt

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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35; 3 BAY HANGAR
PN: 512203

AREA D PLATFORM FRAMING PLAN

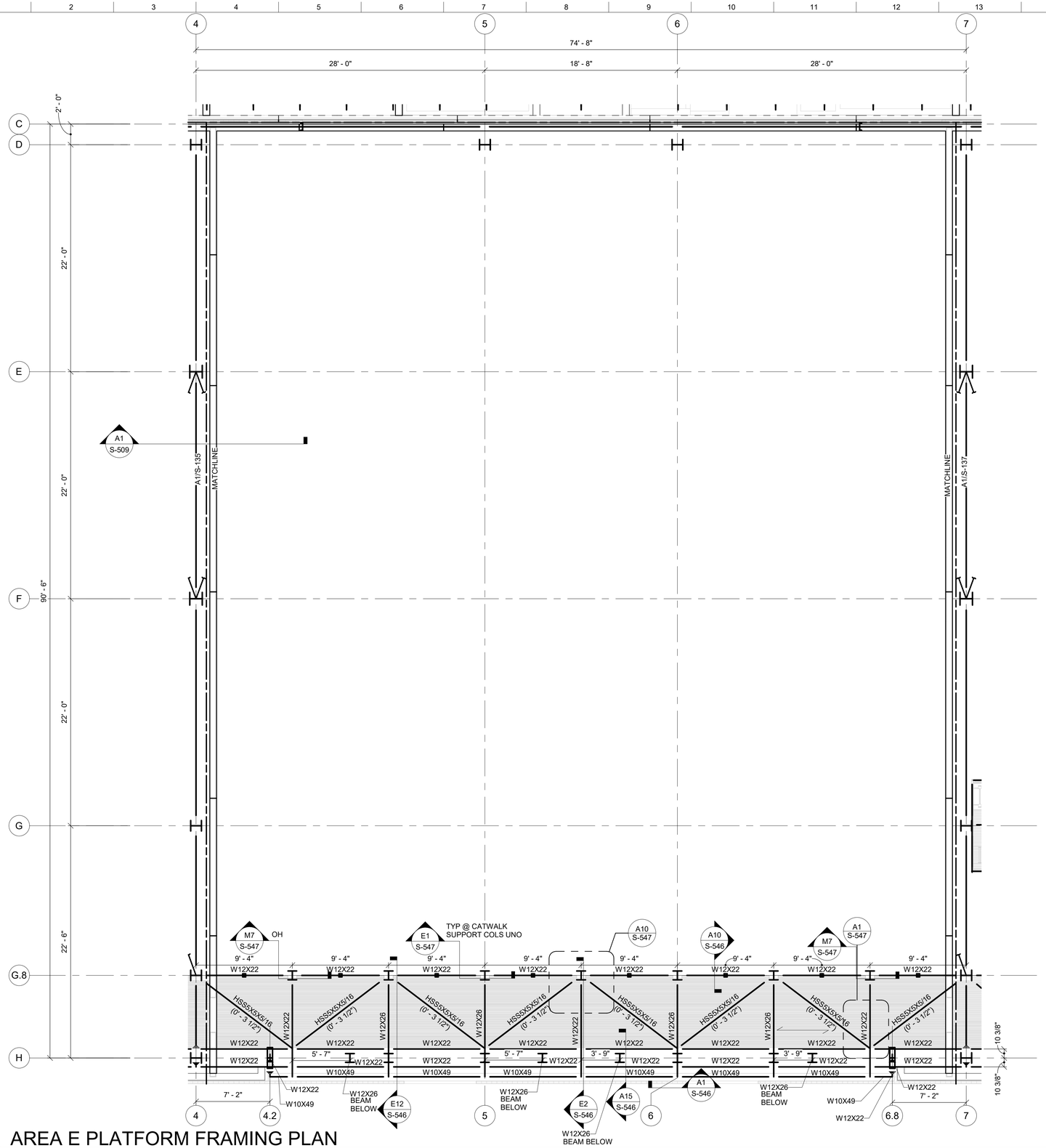
SHEET ID

S-135

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PLATFORM FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-503 THROUGH S-506.
3. REFERENCE ELEVATION FOR BOTTOM OF STEEL FOR ACCESS PLATFORM IS 26'-1 1/4" ABOVE REFERENCED DATUM (0'-0") INDICATED ON CIVIL DRAWINGS.
4. BOTTOM OF STEEL BEAMS SHALL BE AT REFERENCE ELEVATION UNLESS OTHERWISE NOTED THUS: (+/-X'-X").
5. SEE SHEETS S-201 THROUGH S-203 FOR FRAMING ELEVATIONS.

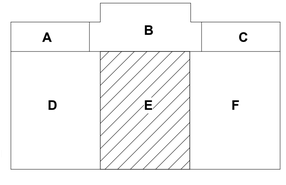


A1 AREA E PLATFORM FRAMING PLAN

3/16" = 1'-0"

0 2' 4' 8' 12'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:04:41 PM File Path: C:\Users\mSeaba\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECENAX.rvt

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TULSA DISTRICT
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ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA E PLATFORM FRAMING PLAN

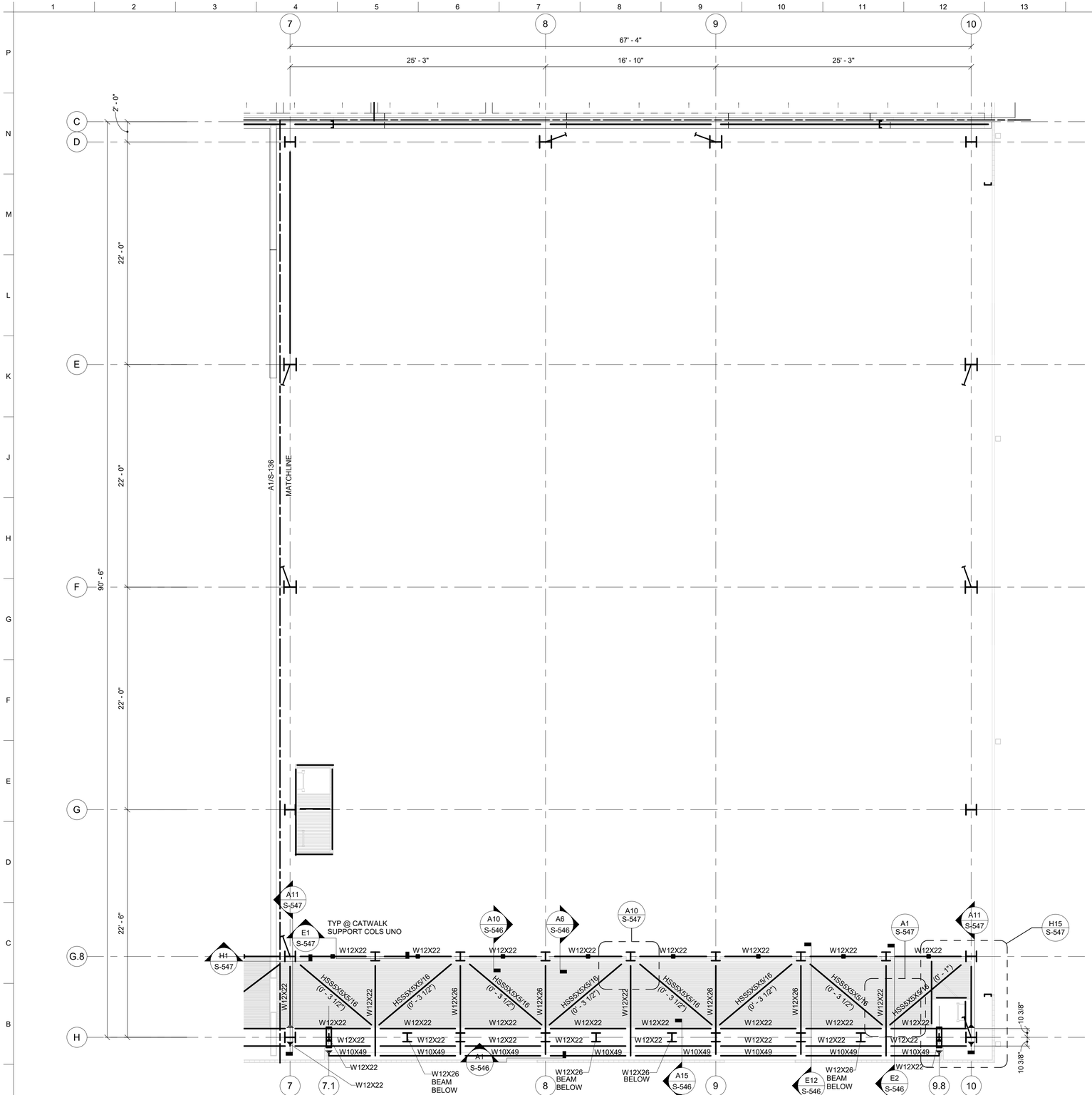
SHEET ID

S-136

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

PLATFORM FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-503 THROUGH S-506.
3. REFERENCE ELEVATION FOR BOTTOM OF STEEL FOR ACCESS PLATFORM IS 26'-1 1/4" ABOVE REFERENCED DATUM (0'-0") INDICATED ON CIVIL DRAWINGS.
4. BOTTOM OF STEEL BEAMS SHALL BE AT REFERENCE ELEVATION UNLESS OTHERWISE NOTED THUS: (+/-X'-X").
5. SEE SHEETS S-201 THROUGH S-203 FOR FRAMING ELEVATIONS.

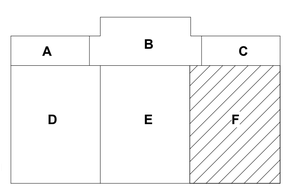


A1 AREA F PLATFORM FRAMING PLAN

3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 12'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

Plot Date: 10/20/2025 12:04:43 PM File Path: C:\Users\mSecstar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSECDRAR.rvt

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2488 EAST 81ST ST
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA F PLATFORM FRAMING PLAN

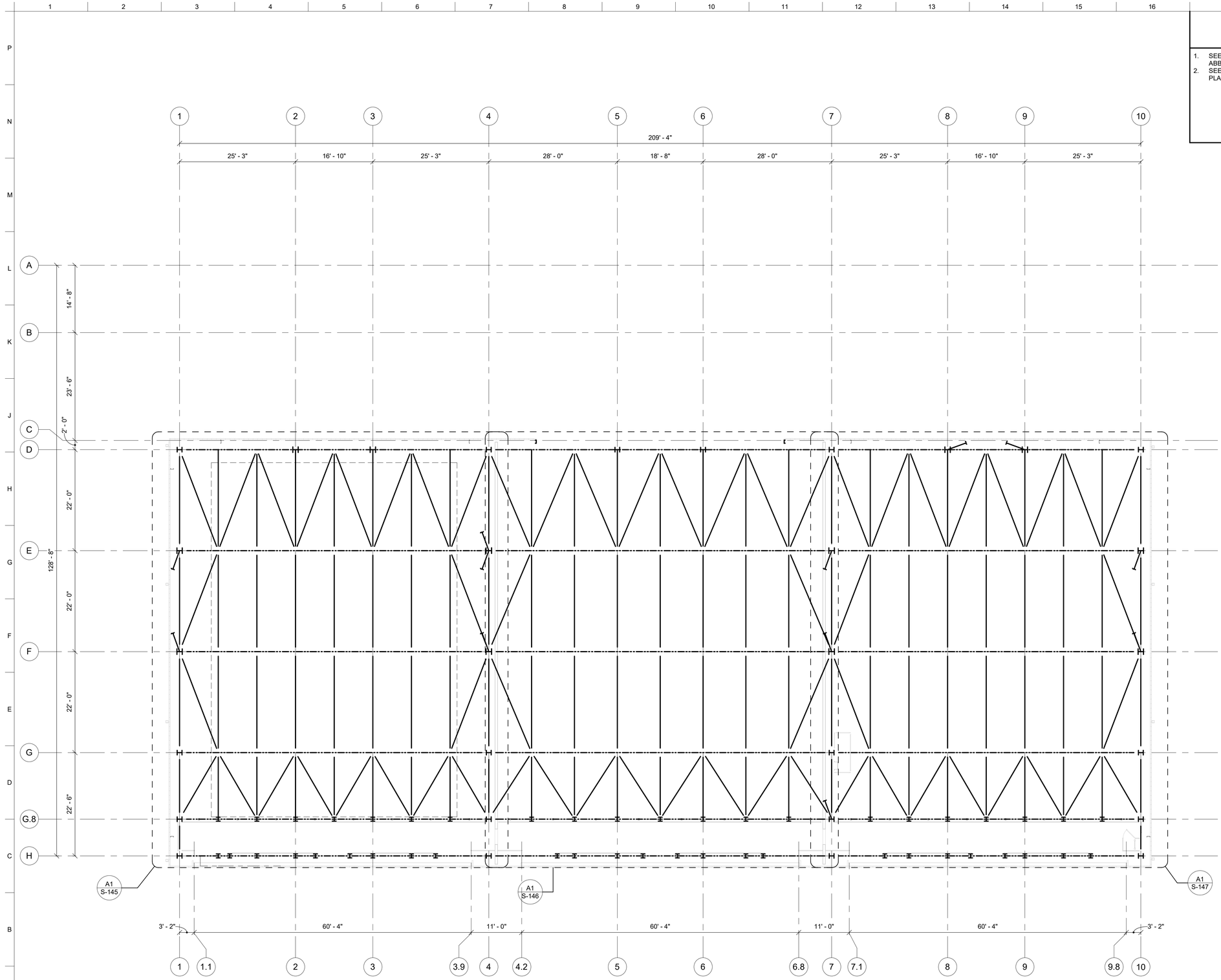
SHEET ID

S-137

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

OVERALL TRUSS BOTTOM CHORD FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEETS S-145 THROUGH S-147 FOR TRUSS BOTTOM CHORD FRAMING AREA PLANS.

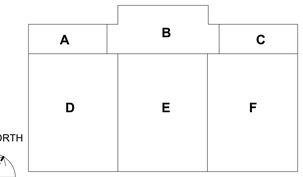


A1 OVERALL TRUSS BOTTOM CHORD FRAMING PLAN

3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
SIZE: ANSI D

Plot Date: 10/20/2025 12:04:44 PM

File Path: C:\Users\mSedan\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECDRAFT.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

OVERALL TRUSS BOTTOM CHORD FRAMING PLAN

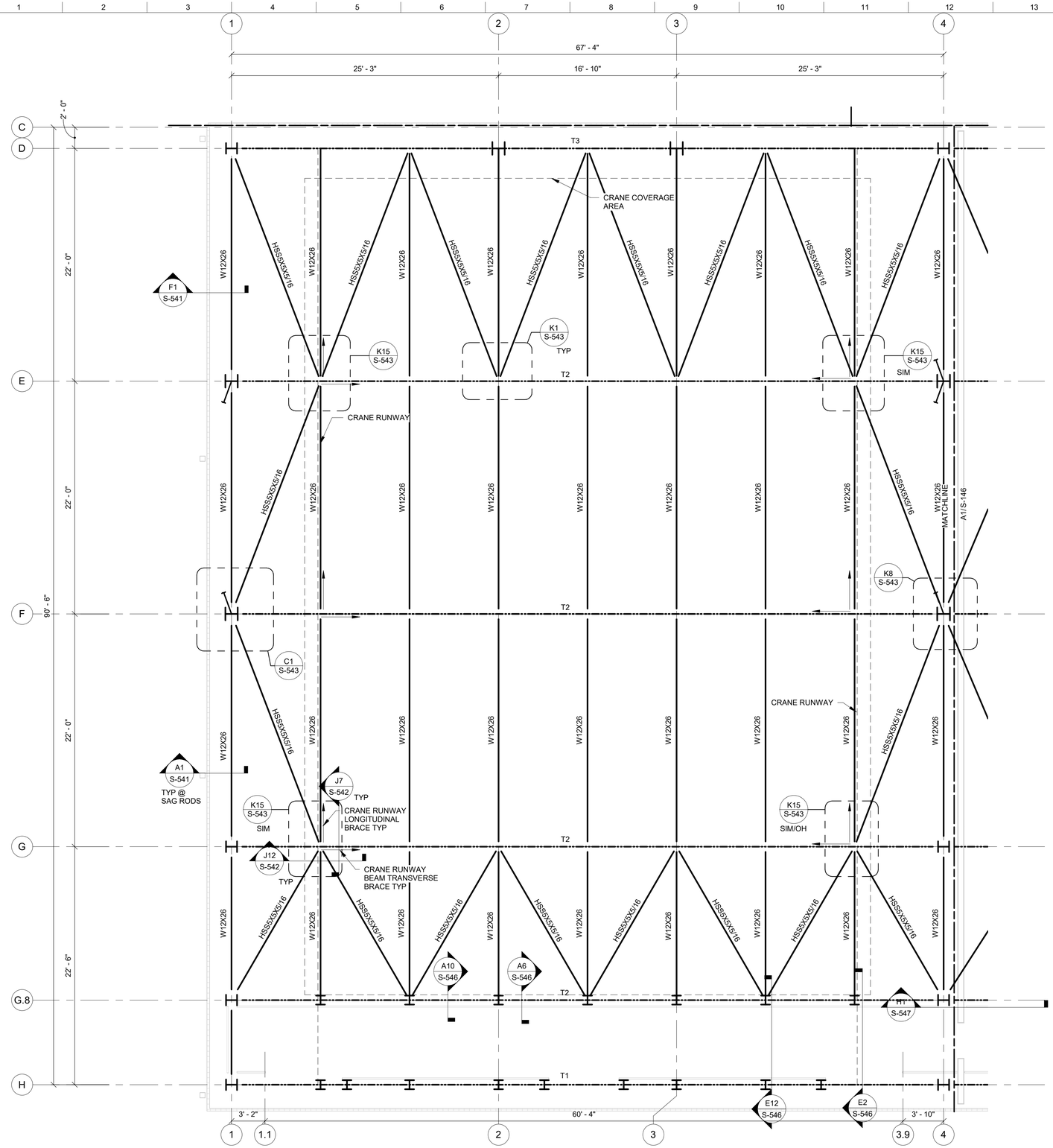
SHEET ID

S-141

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

TRUSS BOTTOM CHORD FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-503 THROUGH S-506.
3. * INDICATES DIMENSION TO BE VERIFIED WITH OVERHEAD FALL PROTECTION MANUFACTURER. APPLIES TO AREA F ONLY.
4. T# INDICATES STEEL TRUSS TYPE. SEE SHEET S-231 FOR STEEL TRUSS ELEVATIONS.
5. REFERENCE ELEVATION FOR BOTTOM OF STEEL FOR TRUSS BOTTOM CHORD FRAMING IS 30'-0" ABOVE REFERENCED DATUM (0'-0") INDICATED ON CIVIL DRAWINGS.
6. REFER TO HANGAR FRAMING DETAILS FOR ELEVATIONS OF HORIZONTAL BRACING.

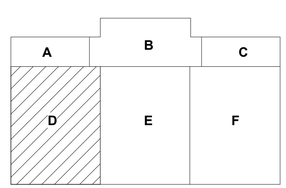


A1 AREA D TRUSS BOTTOM CHORD FRAMING PLAN

3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 16'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

Plot Date: 10/20/2025 12:04:46 PM File Path: C:\Users\mSecstarOneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSECDRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA D TRUSS BOTTOM CHORD FRAMING PLAN

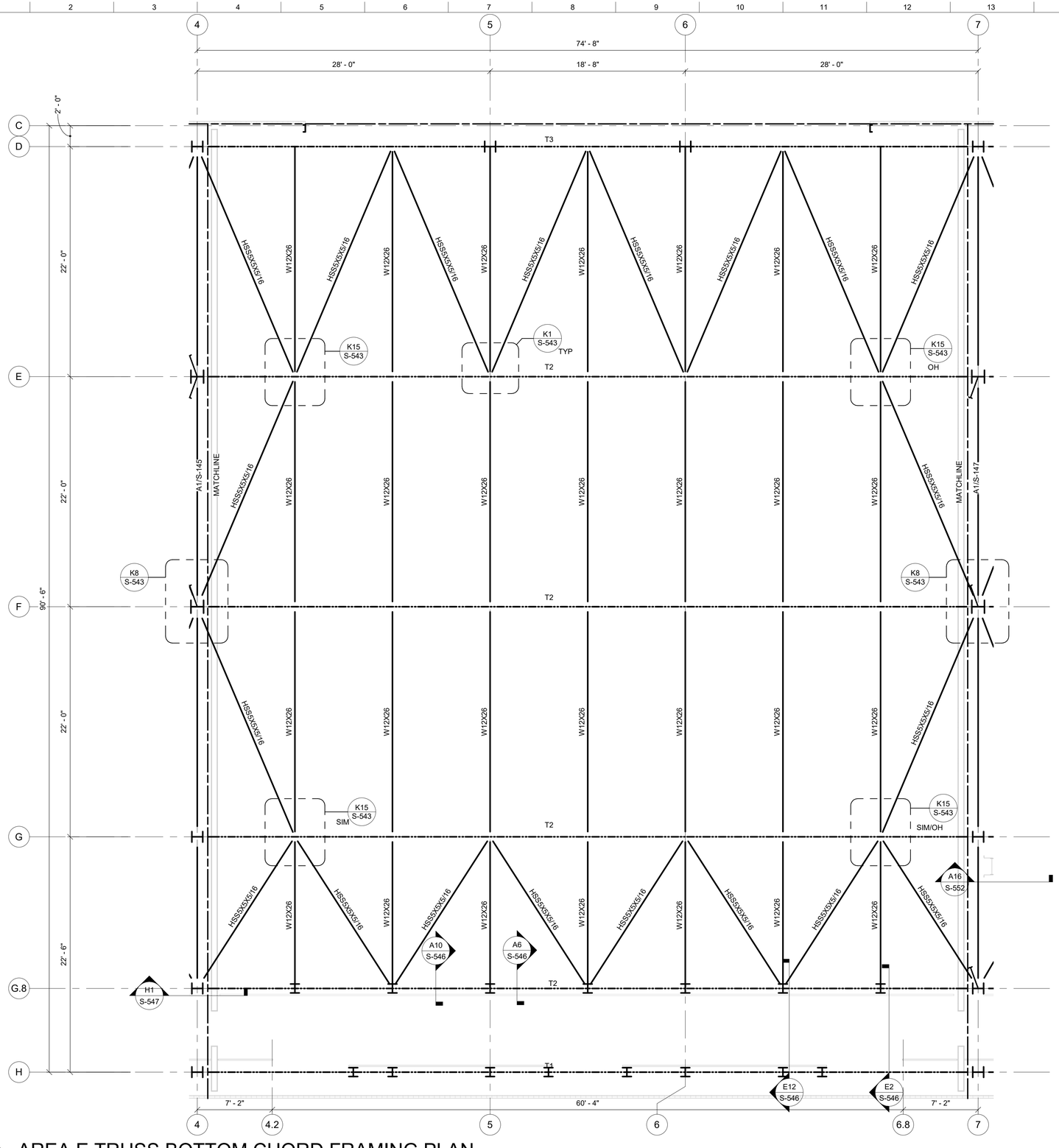
SHEET ID

S-145

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

TRUSS BOTTOM CHORD FRAMING PLAN NOTES

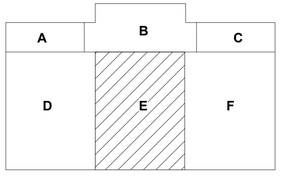
1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-503 THROUGH S-506.
3. * INDICATES DIMENSION TO BE VERIFIED WITH OVERHEAD FALL PROTECTION MANUFACTURER. APPLIES TO AREA F ONLY.
4. T# INDICATES STEEL TRUSS TYPE. SEE SHEET S-231 FOR STEEL TRUSS ELEVATIONS.
5. REFERENCE ELEVATION FOR BOTTOM OF STEEL FOR TRUSS BOTTOM CHORD FRAMING IS 30'-0" ABOVE REFERENCED DATUM (0'-0") INDICATED ON CIVIL DRAWINGS.
6. REFER TO HANGAR FRAMING DETAILS FOR ELEVATIONS OF HORIZONTAL BRACING.



A1 AREA E TRUSS BOTTOM CHORD FRAMING PLAN
3/16" = 1'-0"

PLAN NORTH

0 2' 4' 8' 16'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt

File Path: C:\Users\mSedar\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_S_3BAYH_RVT22_MEECRAR.rvt

Plot Date: 10/20/2025 12:04:47 PM

US ARMY CORPS OF ENGINEERS
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2488 EAST 81ST ST
TULSA, OK 74137

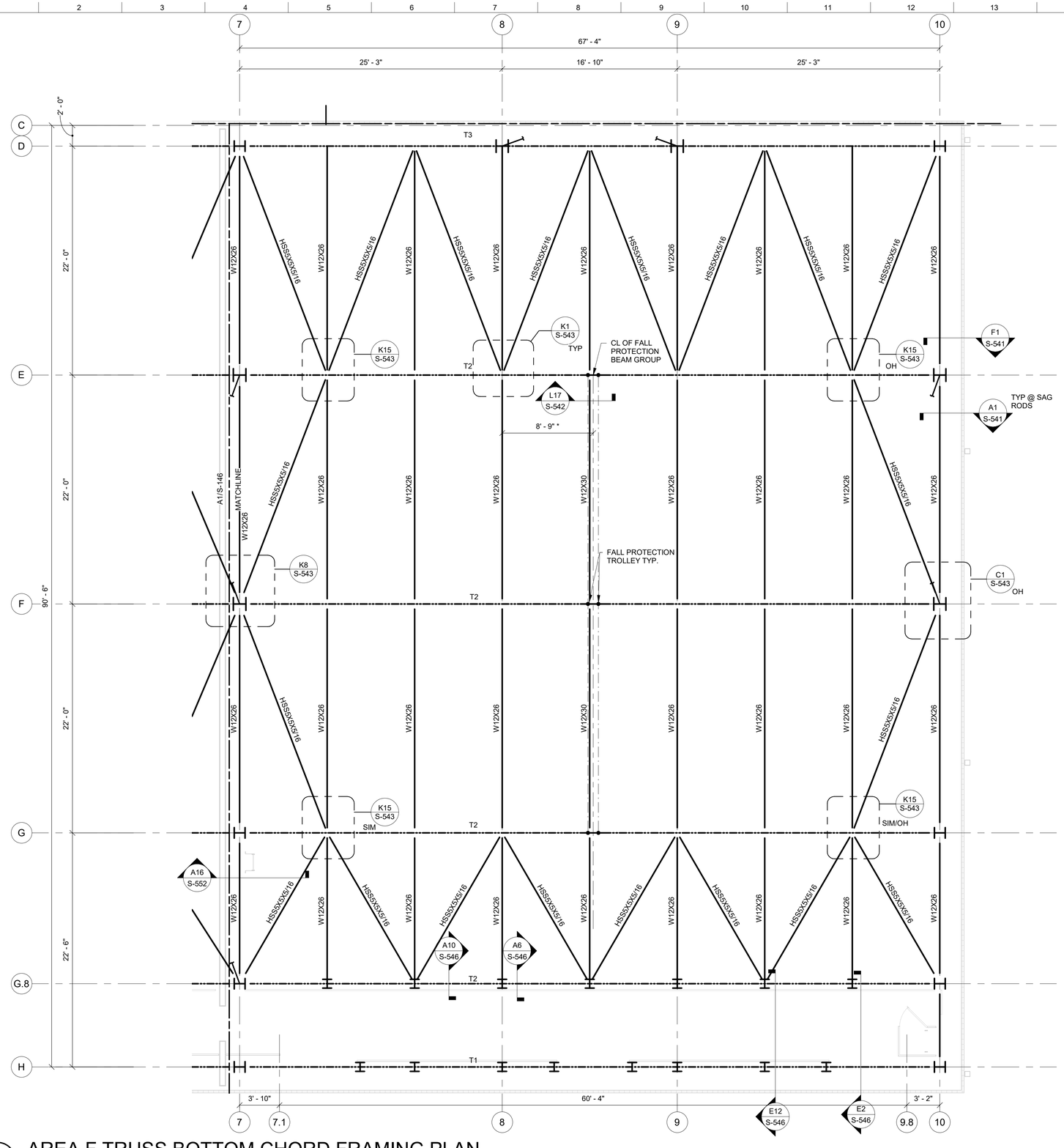
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA E TRUSS BOTTOM CHORD FRAMING PLAN

SHEET ID
S-146

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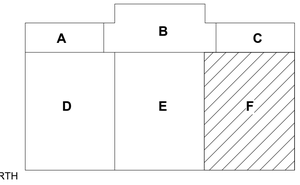


A1 AREA F TRUSS BOTTOM CHORD FRAMING PLAN

3/16" = 1'-0"

TRUSS BOTTOM CHORD FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-503 THROUGH S-506.
3. * INDICATES DIMENSION TO BE VERIFIED WITH OVERHEAD FALL PROTECTION MANUFACTURER. APPLIES TO AREA F ONLY.
4. T# INDICATES STEEL TRUSS TYPE. SEE SHEET S-231 FOR STEEL TRUSS ELEVATIONS.
5. REFERENCE ELEVATION FOR BOTTOM OF STEEL FOR TRUSS BOTTOM CHORD FRAMING IS 30'-0" ABOVE REFERENCED DATUM (0'-0") INDICATED ON CIVIL DRAWINGS.
6. REFER TO HANGAR FRAMING DETAILS FOR ELEVATIONS OF HORIZONTAL BRACING.



KEY PLAN

PLAN NORTH

0 2' 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

Plot Date: 10/20/2025 12:04:48 PM File Path: C:\Users\mScobas\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSECDRAX.rvt

US ARMY CORPS OF ENGINEERS
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2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA F TRUSS BOTTOM CHORD FRAMING PLAN

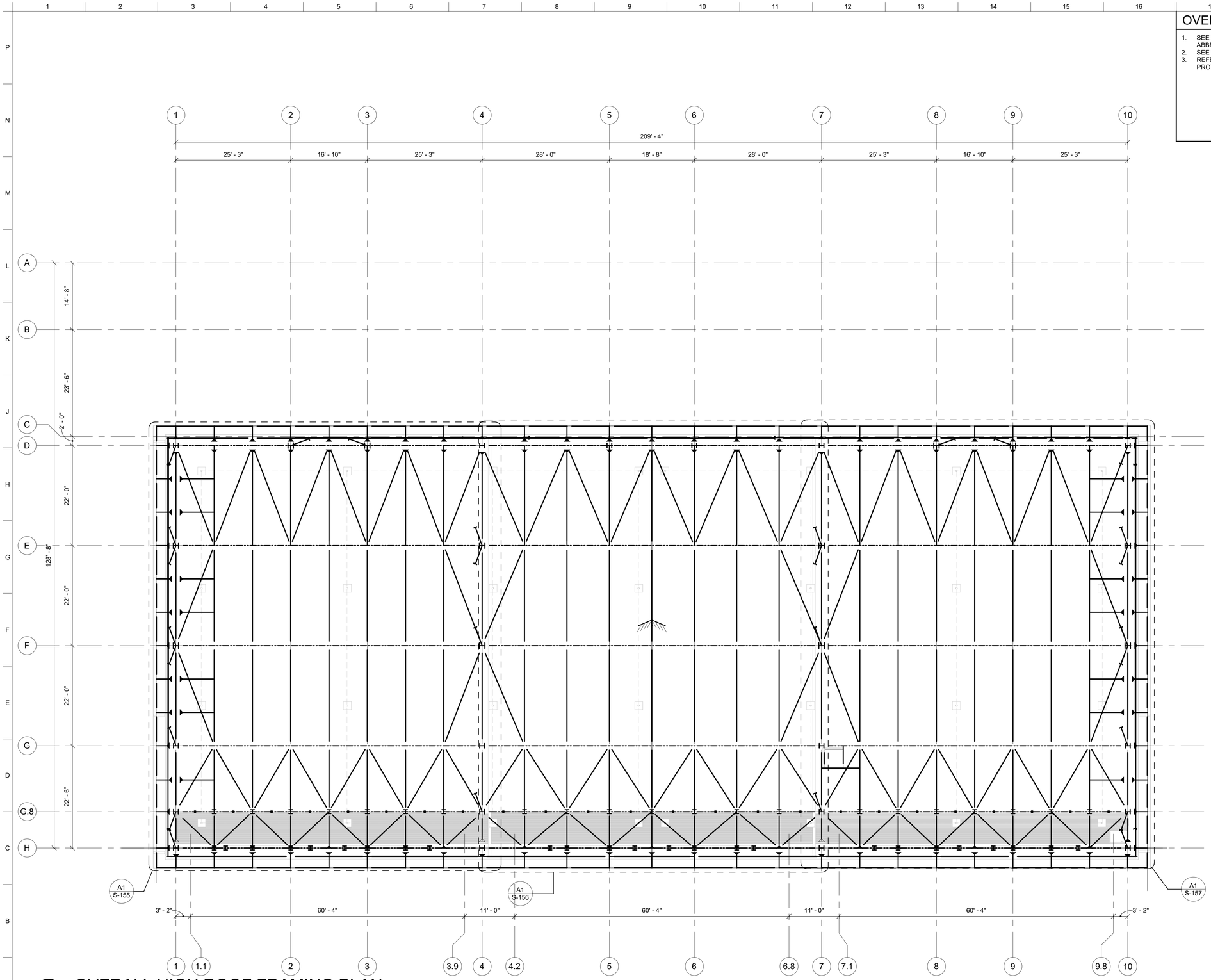
SHEET ID

S-147

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OVERALL HIGH ROOF FRAMING PLAN NOTES

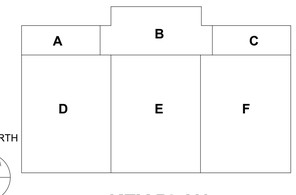
1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEETS S-155 THROUGH S-157 FOR HIGH ROOF FRAMING AREA PLANS.
3. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ROOF FALL PROTECTION.



A1 OVERALL HIGH ROOF FRAMING PLAN
3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

File Path: C:\Users\mStecher\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECDRAR.rvt

Plot Date: 10/20/2025 12:04:49 PM

US ARMY CORPS OF ENGINEERS
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2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

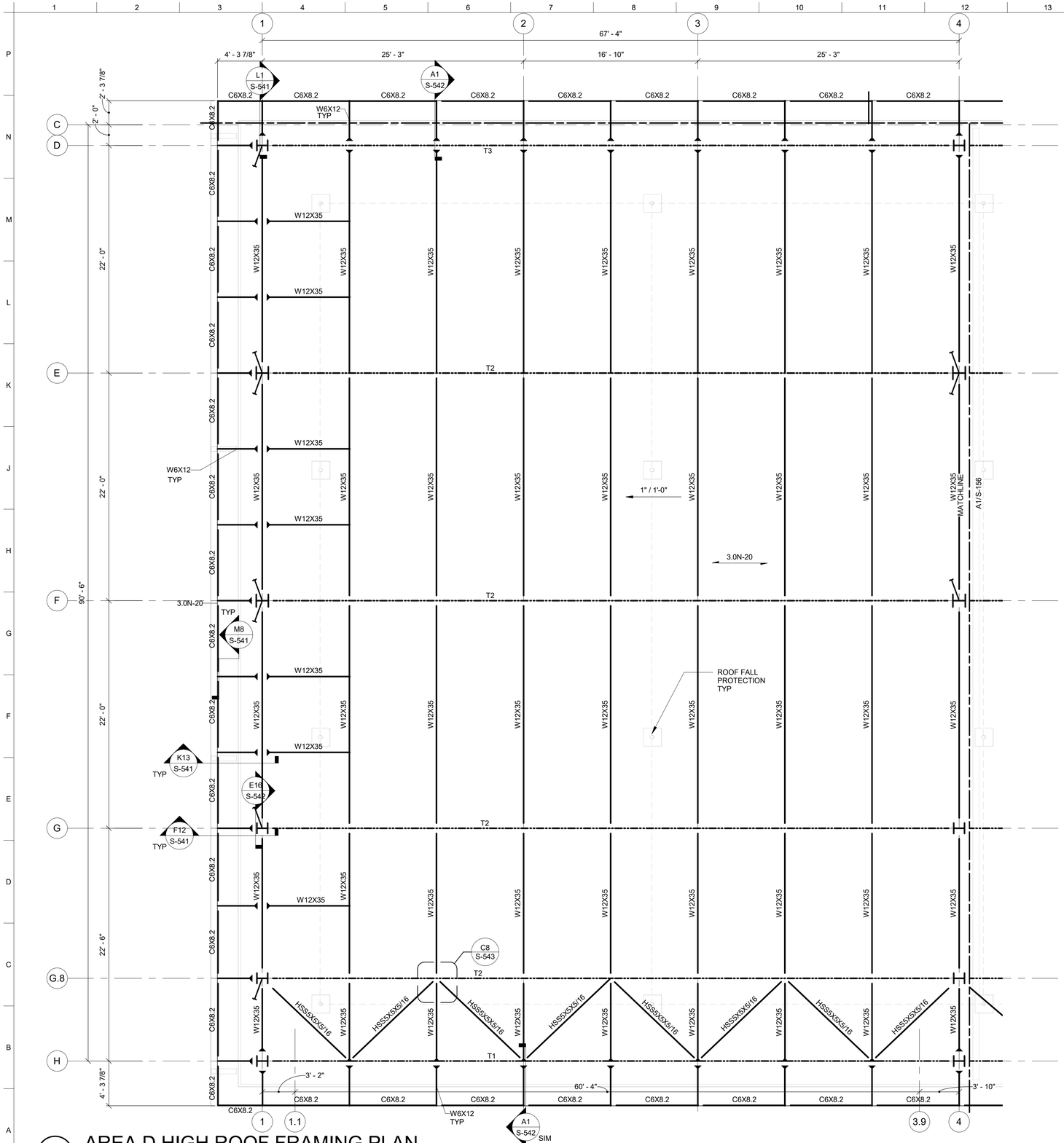
OVERALL HIGH ROOF FRAMING PLAN

SHEET ID
S-151

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

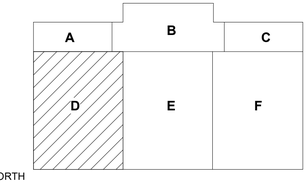
HIGH ROOF FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-504 THROUGH S-506.
3. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ROOF FALL PROTECTION.



A1 AREA D HIGH ROOF FRAMING PLAN

3/16" = 1'-0"



KEY PLAN

PLAN NORTH

0 2' 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

SIZE: ANSI D
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt

File Path: C:\Users\mSostak\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_S_3BAYH_RVT22_MEECBRAH.rvt

Plot Date: 10/20/2025 12:04:51 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

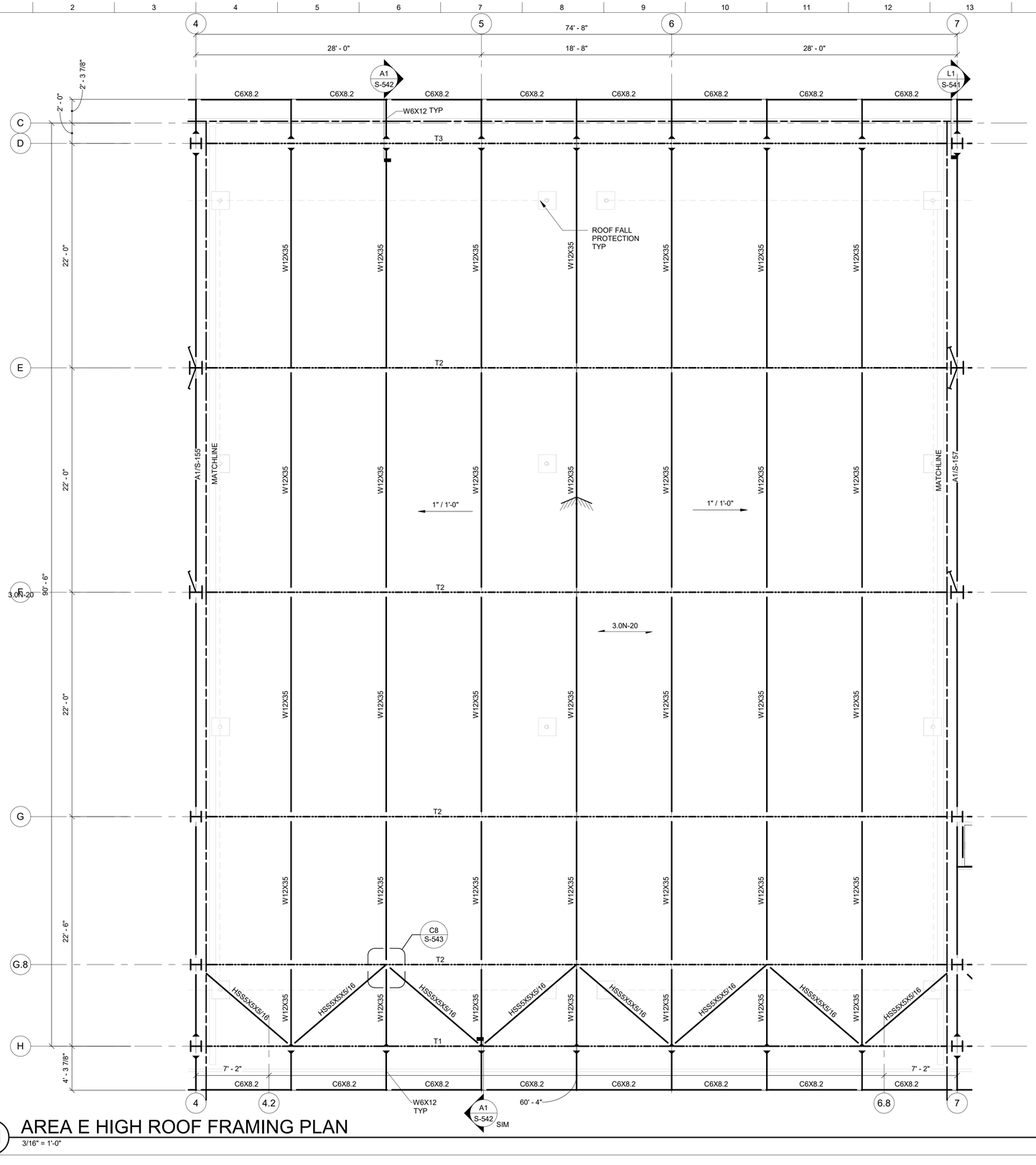
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA D HIGH ROOF FRAMING PLAN

SHEET ID

S-155

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

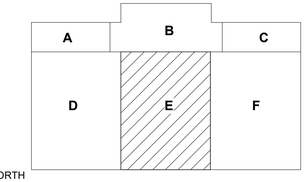


A1 AREA E HIGH ROOF FRAMING PLAN

3/16" = 1'-0"

HIGH ROOF FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-504 THROUGH S-506.
3. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ROOF FALL PROTECTION.



KEY PLAN

PLAN NORTH

0 2' 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

Plot Date: 10/20/2025 12:04:52 PM File Path: C:\Users\mSodaar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECDRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA E HIGH ROOF FRAMING PLAN

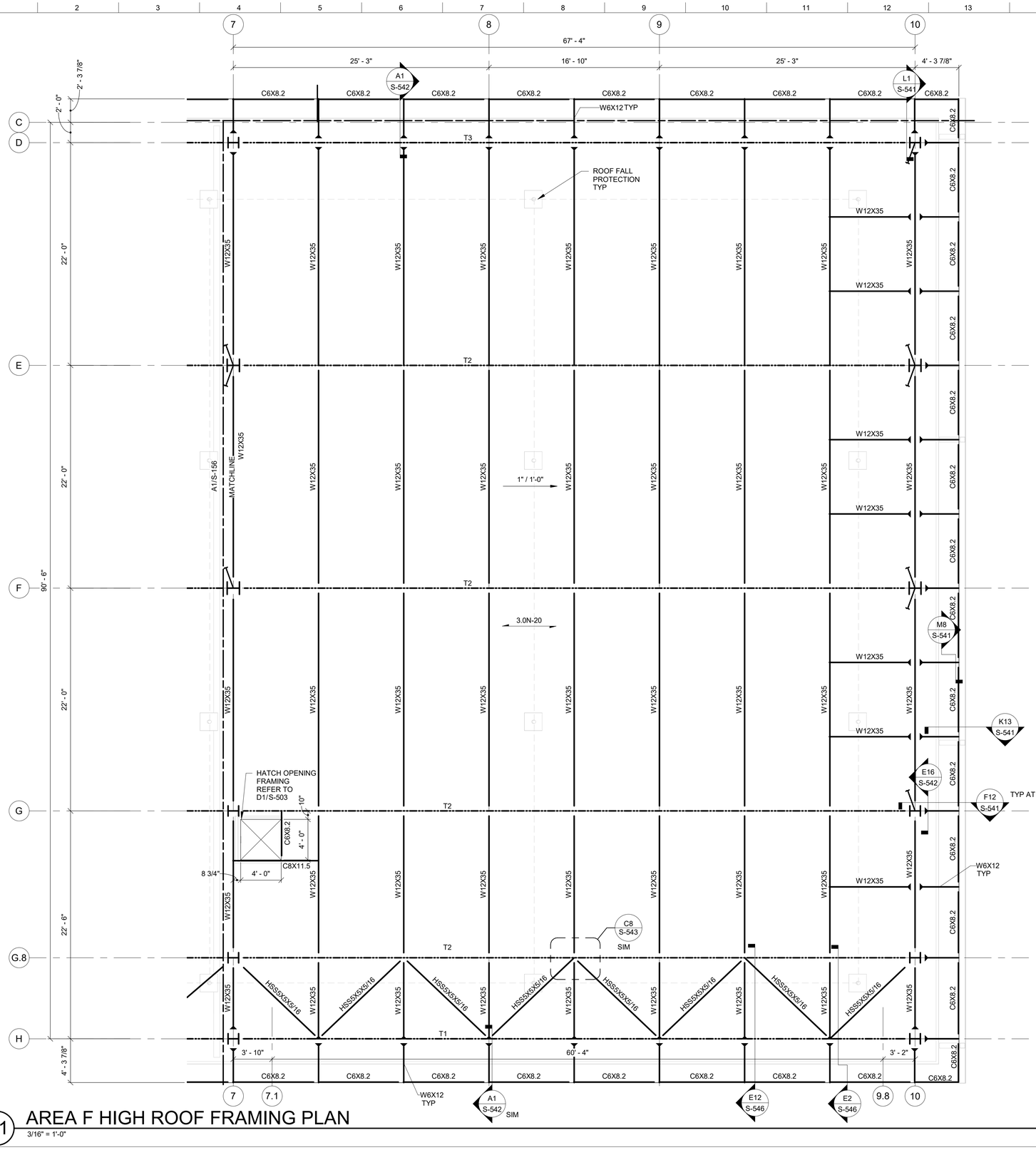
SHEET ID

S-156

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

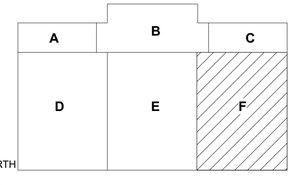
HIGH ROOF FRAMING PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. FOR TYPICAL STEEL DETAILS, SEE SHEET S-504 THROUGH S-506.
3. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ROOF FALL PROTECTION.



A1 AREA F HIGH ROOF FRAMING PLAN

3/16" = 1'-0"



KEY PLAN

0 2' 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: B. SUDBRINK, PE, SE	SOLICITATION NO.: W912BV26RA004
CHECKED BY: A. STUART, PE, SE	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:04:54 PM File Path: C:\Users\mSeckar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSECKAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

AREA F HIGH ROOF FRAMING PLAN

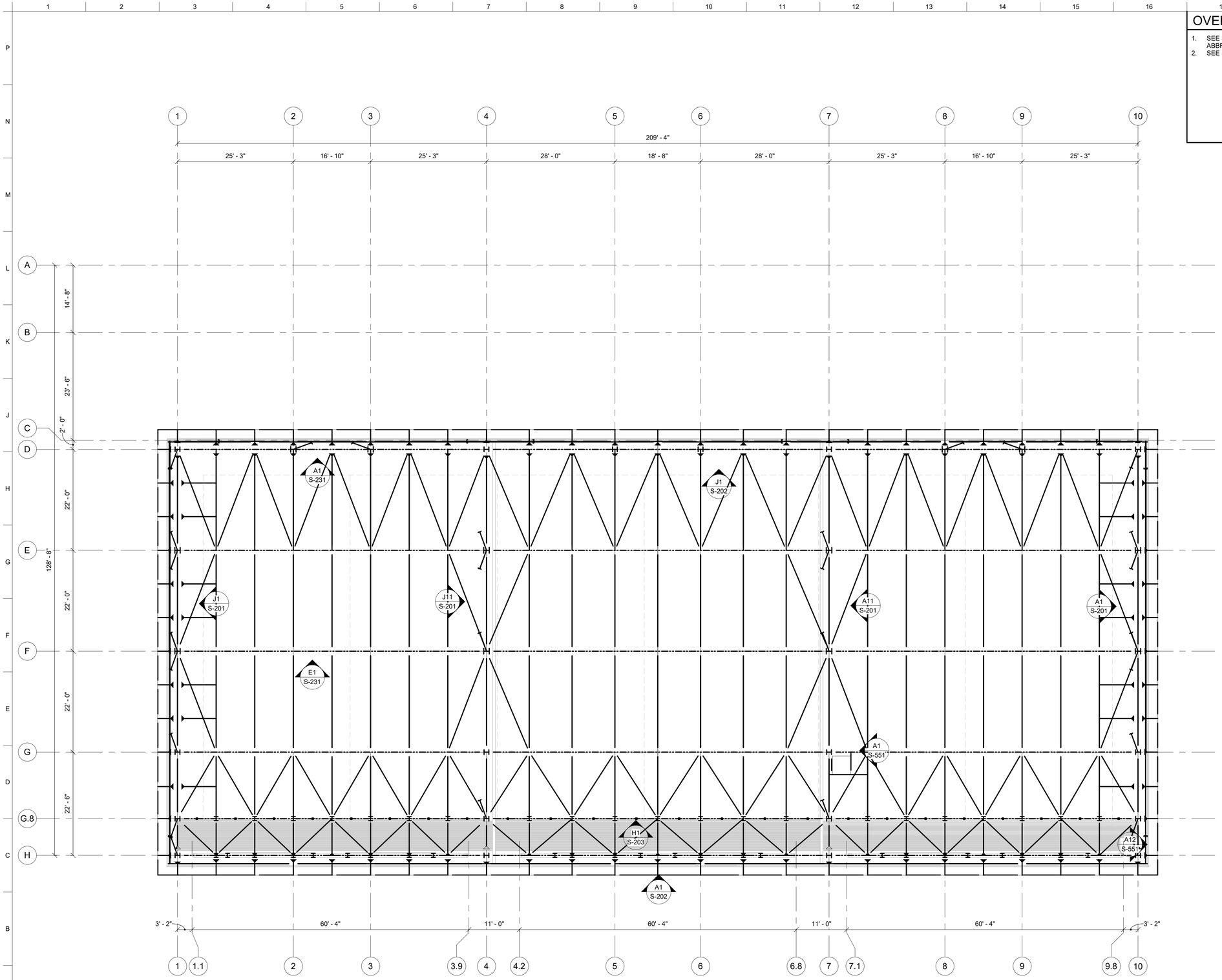
SHEET ID

S-157

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

OVERALL FRAMING ELEVATION PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEETS S-201 THROUGH S-203 FOR FRAMING ELEVATIONS.

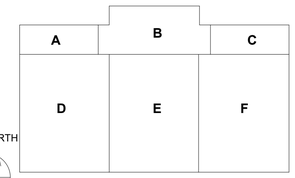


A1 OVERALL FRAMING ELEVATIONS PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:04:55 PM
File Path: C:\Users\mStecher\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECDRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

OVERALL FRAMING ELEVATIONS PLAN

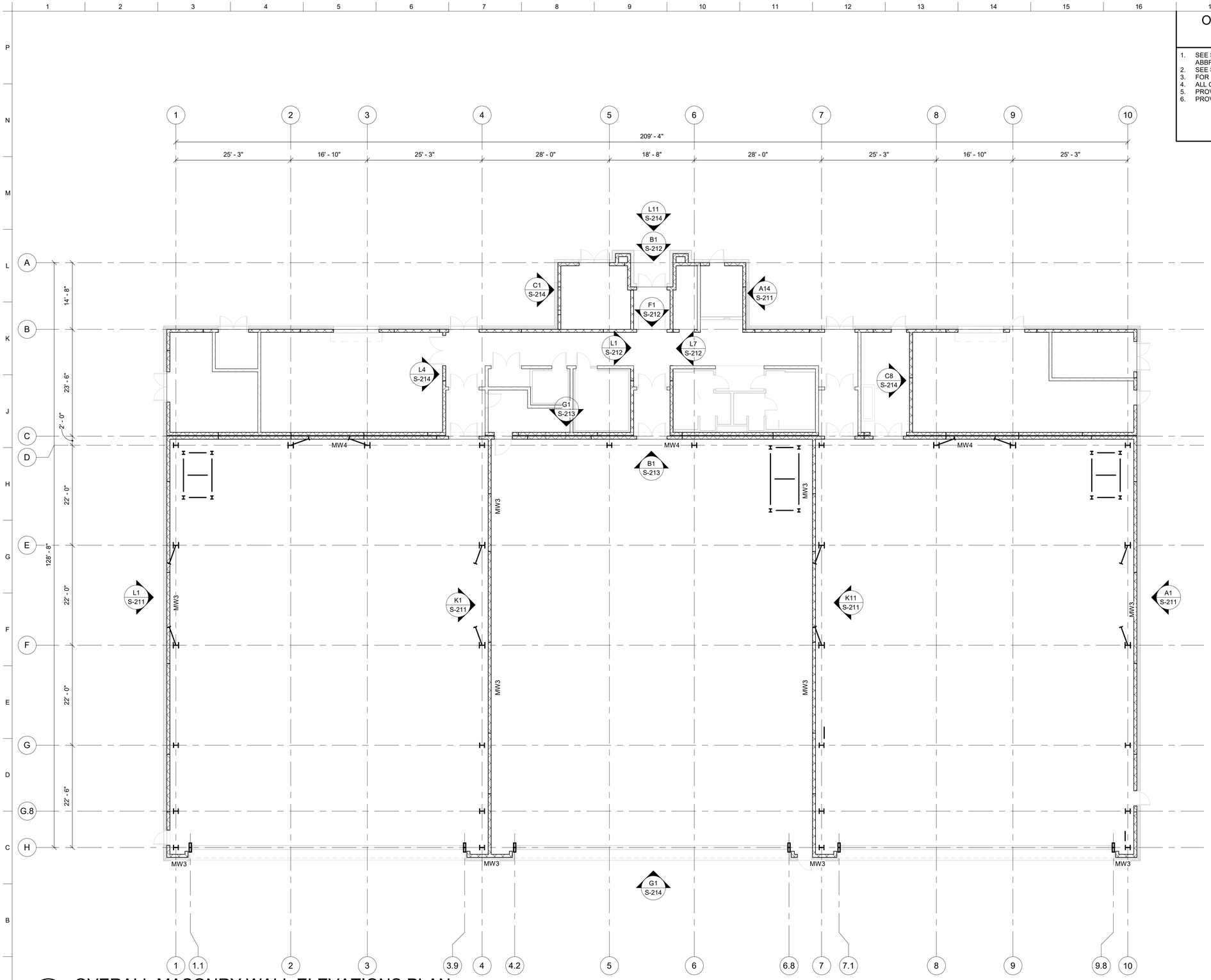
SHEET ID

S-191

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

OVERALL MASONRY WALL ELEVATION PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEETS S-211 THROUGH S-213 FOR MASONRY WALL ELEVATIONS.
3. FOR CMU DETAILS, SEE SHEETS S-508 AND S-509.
4. ALL CMU WALLS ARE MW1 UNO.
5. PROVIDE ML1 ABOVE ALL OPENINGS UNO, SEE DETAIL D1/S-508
6. PROVIDE MJ1 ON BOTH SIDES OF ALL OPENINGS UNO, SEE DETAIL H1/S-508

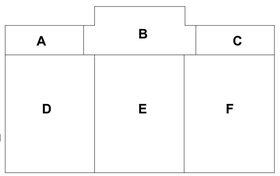


A1 OVERALL MASONRY WALL ELEVATIONS PLAN

3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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File Path:

Plot Date: 10/20/2025 12:04:57 PM

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

OVERALL MASONRY WALL ELEVATIONS PLAN

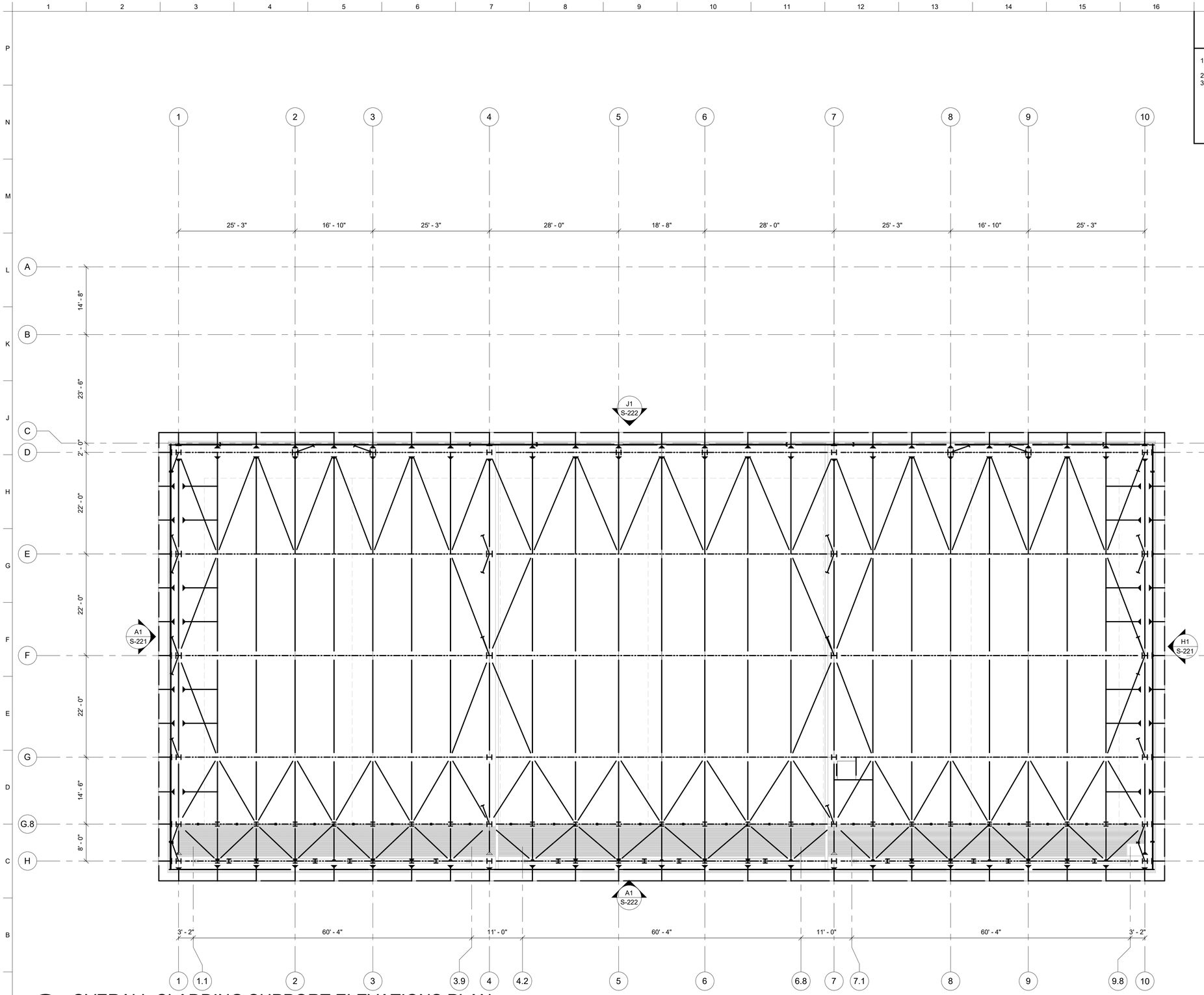
SHEET ID

S-192

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

OVERALL CLADDING SUPPORT ELEVATIONS PLAN NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEETS S-221 THROUGH S-222 FOR CLADDING SUPPORT ELEVATIONS.
3. FOR HANGAR FRAMING DETAILS, SEE SHEET S-541 AND SHEET S-542.

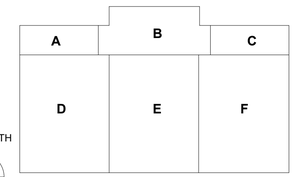


A1 OVERALL CLADDING SUPPORT ELEVATIONS PLAN

3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

File Path: C:\Users\mSeidner\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECDRAR.rvt

Plot Date: 10/20/2025 12:04:58 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

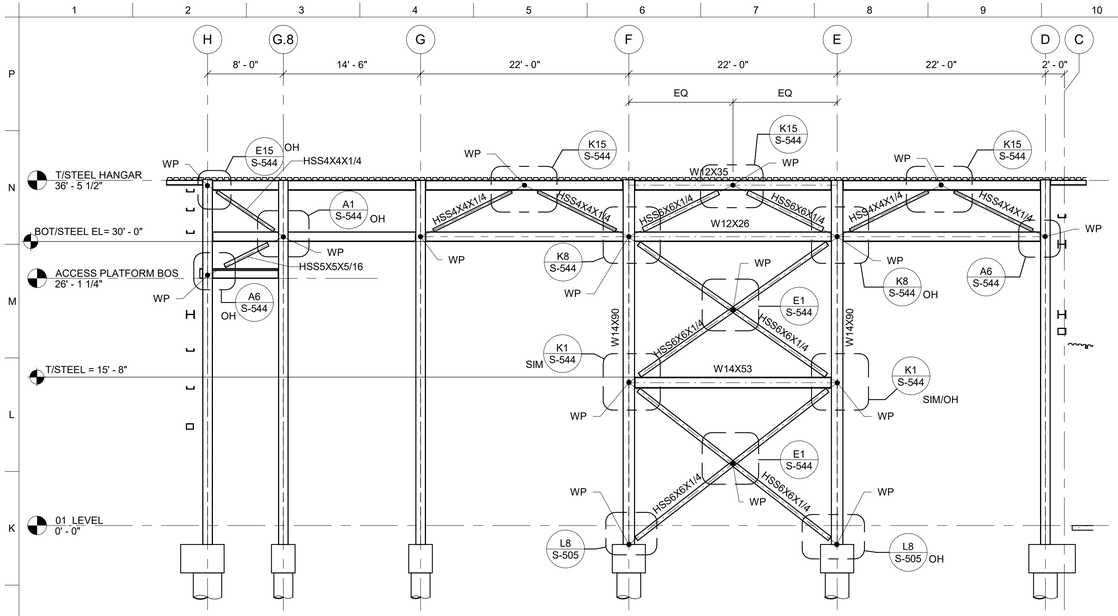
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

OVERALL CLADDING SUPPORT ELEVATIONS PLAN

SHEET ID

S-193

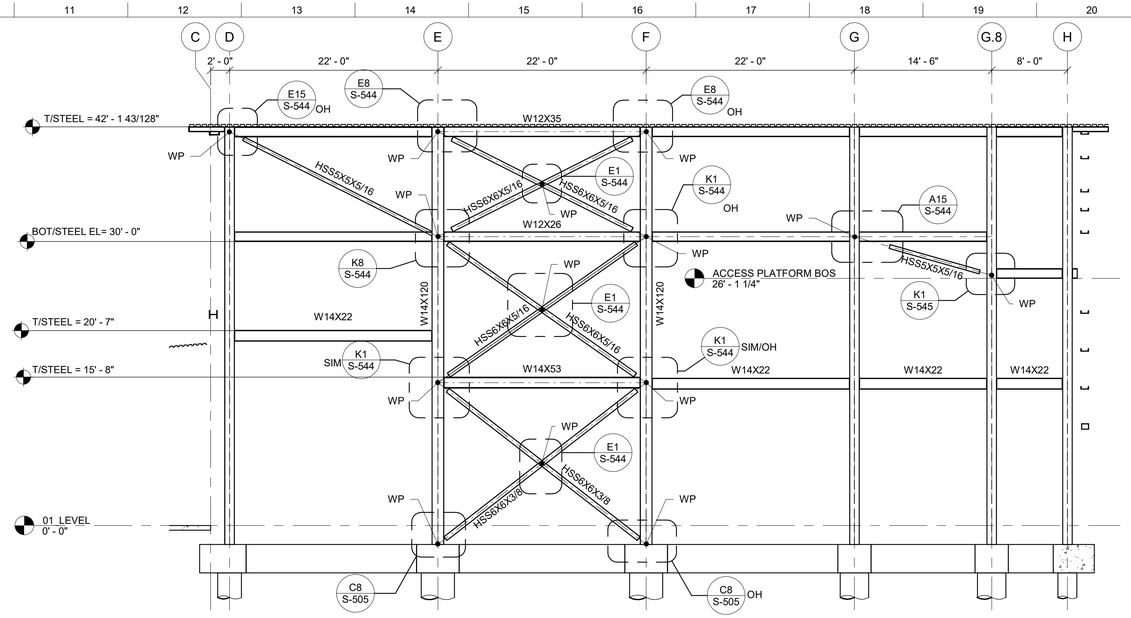
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



J1 GRID 1 FRAMING ELEVATION

1/8" = 1'-0"

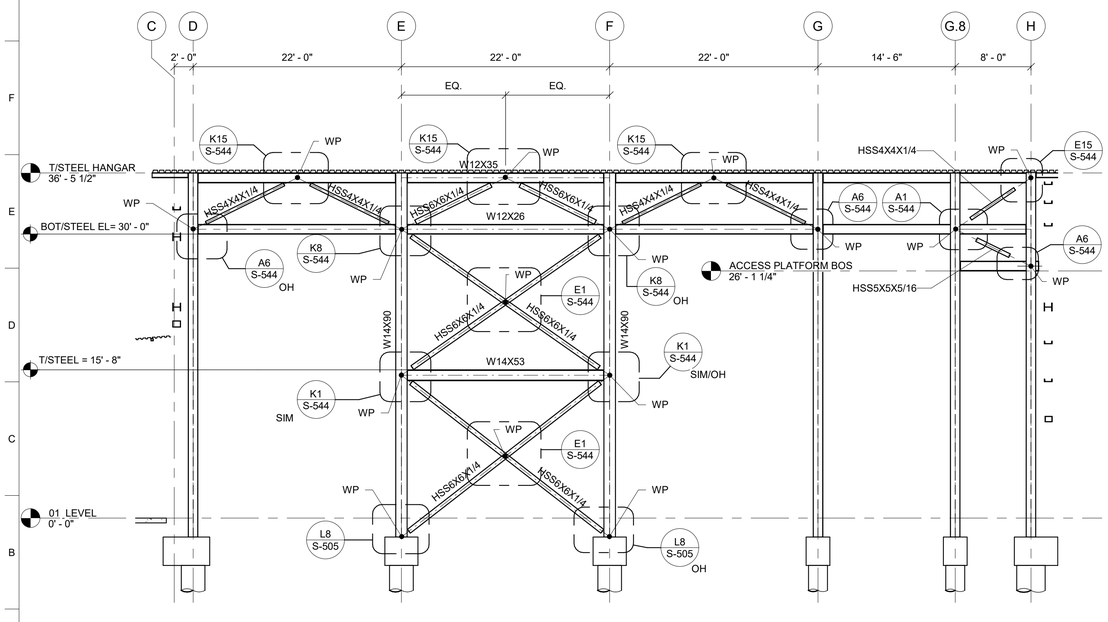
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J11 GRID 4 FRAMING ELEVATION

1/8" = 1'-0"

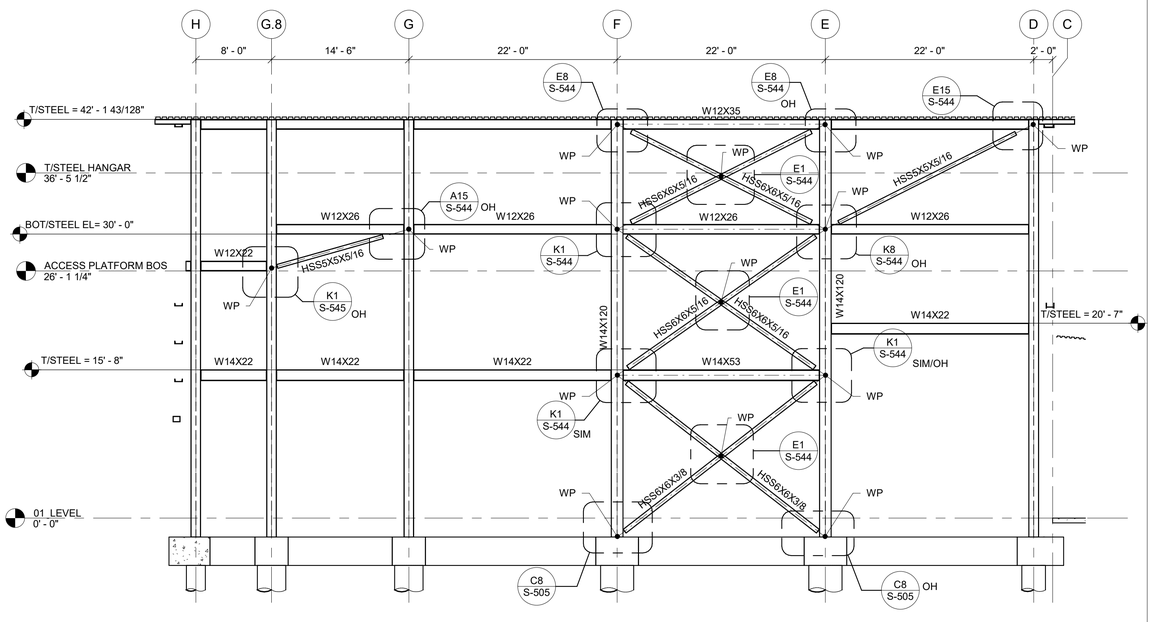
0 4' 8' 16'



A1 GRID 10 FRAMING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



A11 GRID 7 FRAMING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSECOR4R.rvt

File Path:

DESIGNED BY: C. KENNEDY, PE, SE	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: B. SUDBRINK, PE, SE	SOLICITATION NO.: W912BV26RA004
CHECKED BY: A. STUART, PE, SE	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:05:01 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

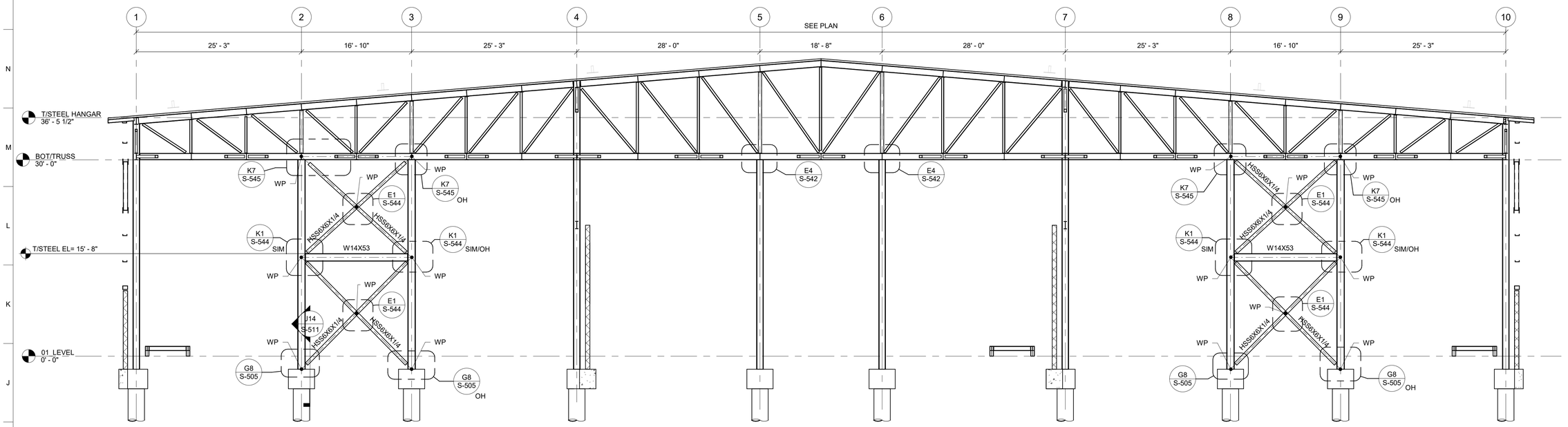
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

STEEL FRAMING ELEVATIONS

SHEET ID

S-201

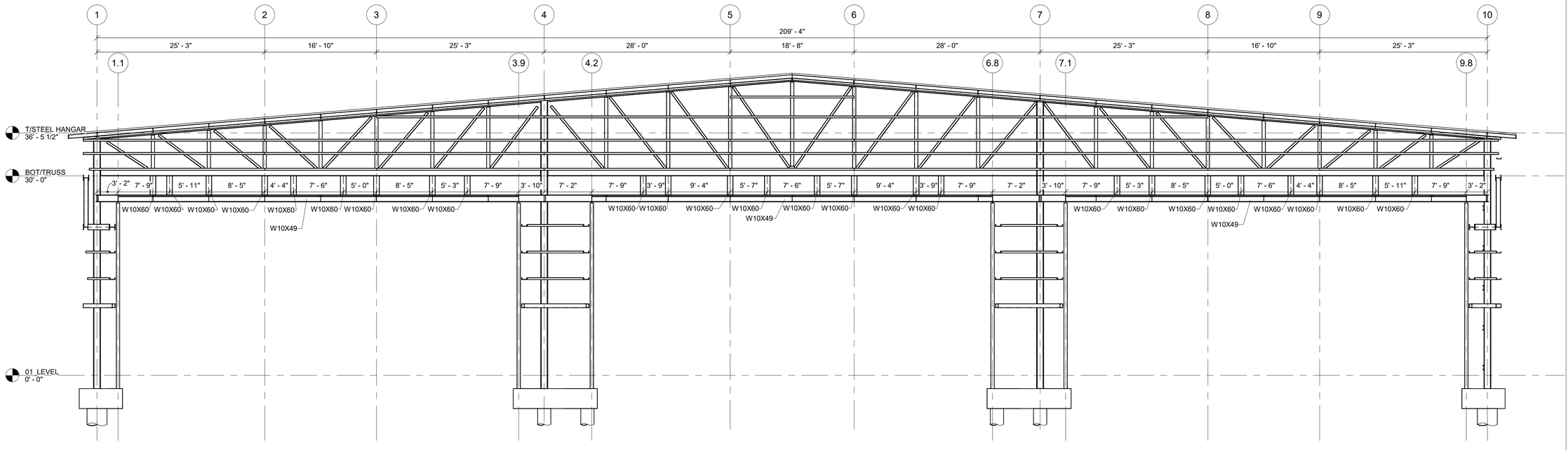
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J1 GRID D FRAMING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



A1 GRID H FRAMING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: Designer	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: Author	SOLICITATION NO.: W912BV26RA004
CHECKED BY: Checker	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

File Path: C:\Users\mfoedar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSECORAR.rvt

Plot Date: 10/20/2025 12:05:06 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

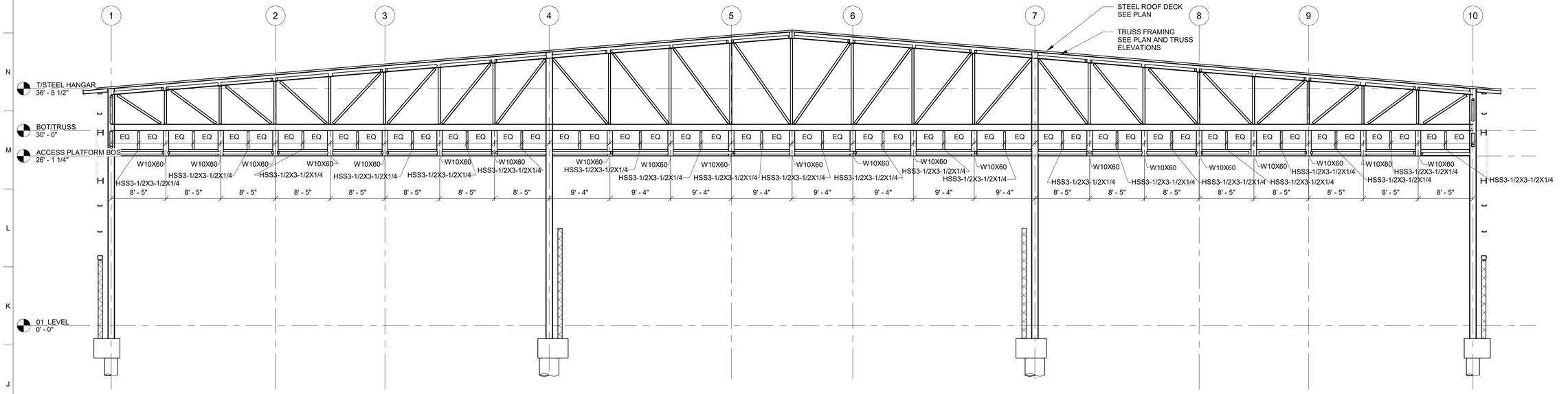
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

STEEL FRAMING ELEVATIONS

SHEET ID

S-202

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H1 GRID G.8 FRAMING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\mScatar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MECCRAH.rvt

Plot Date: 10/20/2025 12:05:07 PM

DESIGNED BY: C. KENNEDY, PE, SE	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: B. SUDBRINK, PE, SE	SOLICITATION NO.: W912BV26RA004
CHECKED BY: A. STUART, PE, SE	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

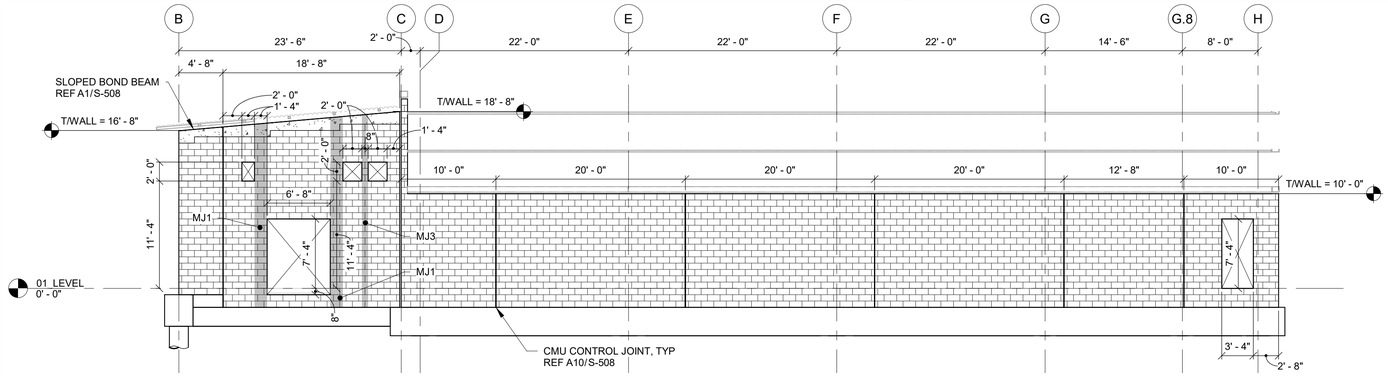
STEEL FRAMING ELEVATIONS

SHEET ID

S-203

MASONRY WALL ELEVATION NOTES

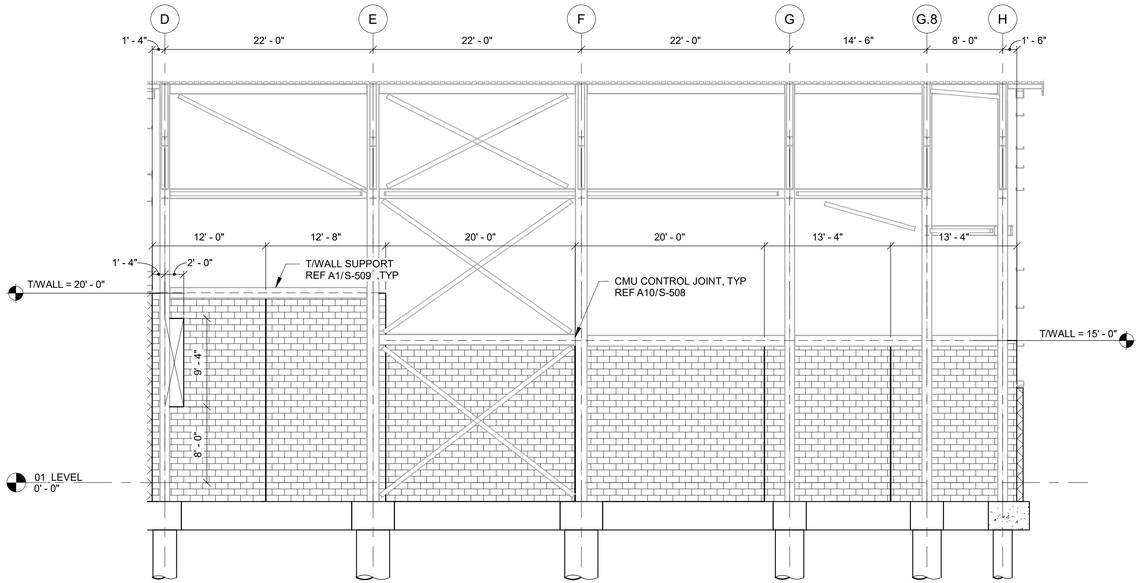
1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEET S-192 FOR OVERALL MASONRY WALL ELEVATION PLAN.
3. FOR CMU DETAILS, SEE SHEETS S-508 AND S-509.
4. ALL CMU WALLS ARE MW1 UNO ON PLAN.
5. PROVIDE ML1 ABOVE ALL OPENINGS UNO, SEE DETAIL D1/S-508
6. PROVIDE MJ1 ON BOTH SIDES OF ALL OPENINGS UNO, SEE DETAIL H1/S-508



L1 GRID 1 CMU WALL ELEVATION

1/8" = 1'-0"

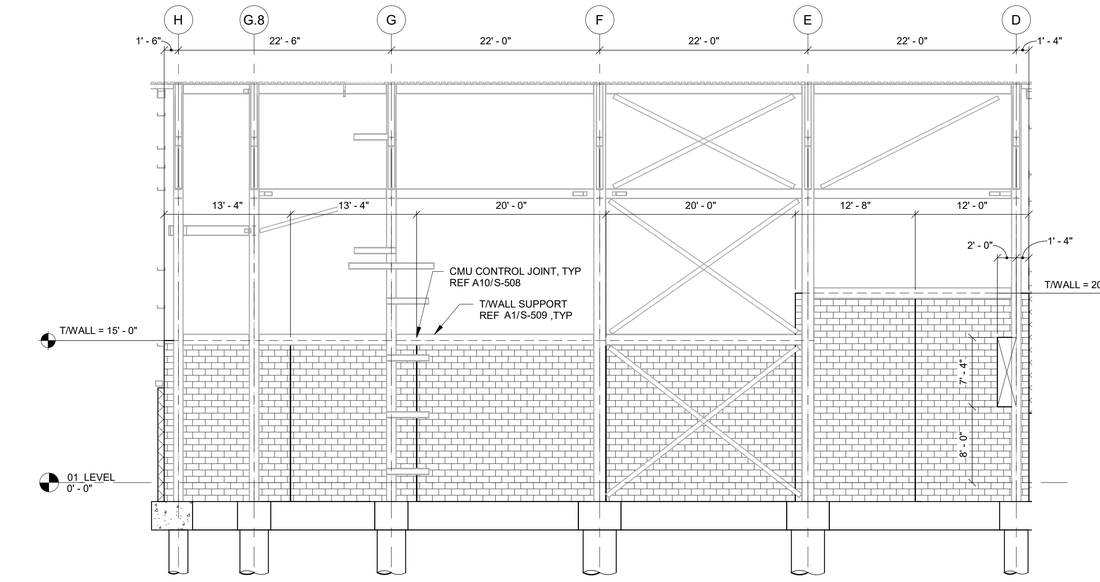
0 4' 8' 16'



K1 GRID 4 CMU WALL ELEVATION, GRIDS D-H

1/8" = 1'-0"

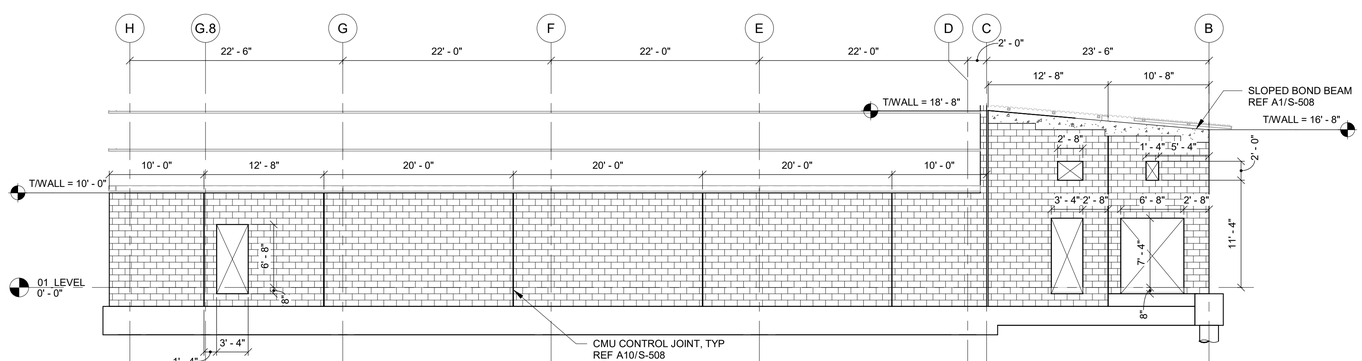
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K11 GRID 7 CMU WALL ELEVATION, GRIDS D-H

1/8" = 1'-0"

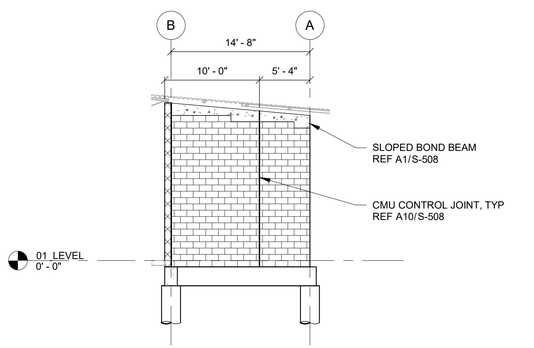
0 4' 8' 16'



A1 GRID 10 CMU WALL ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



A14 BETWEEN GRID 6 AND 7 CMU WALL ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt
File Path: C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_S_3BAYH_RVT22_MEECDR4R.rvt
Plot Date: 10/20/2025 12:05:11 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

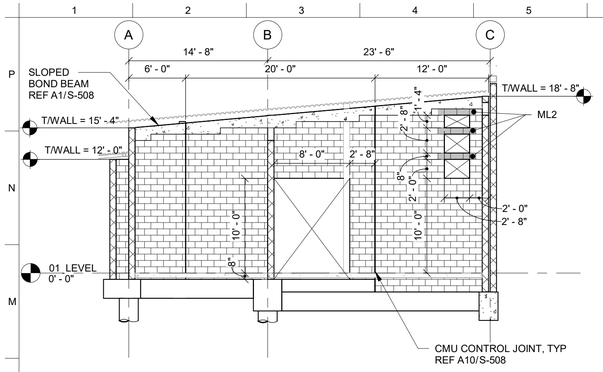
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MASONRY WALL ELEVATIONS

SHEET ID

S-211

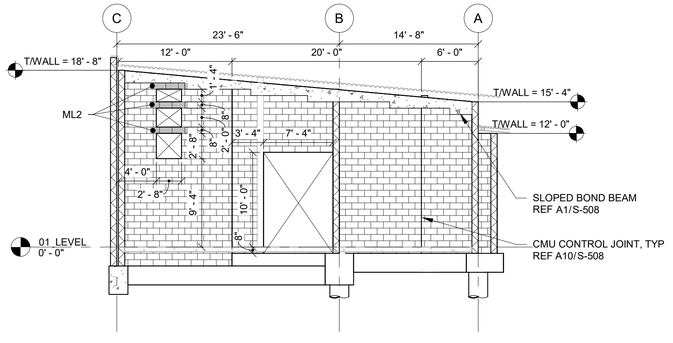
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L1 N/S CORRIDOR CMU WALL, WEST END

1/8" = 1'-0"

0 4' 8' 16'



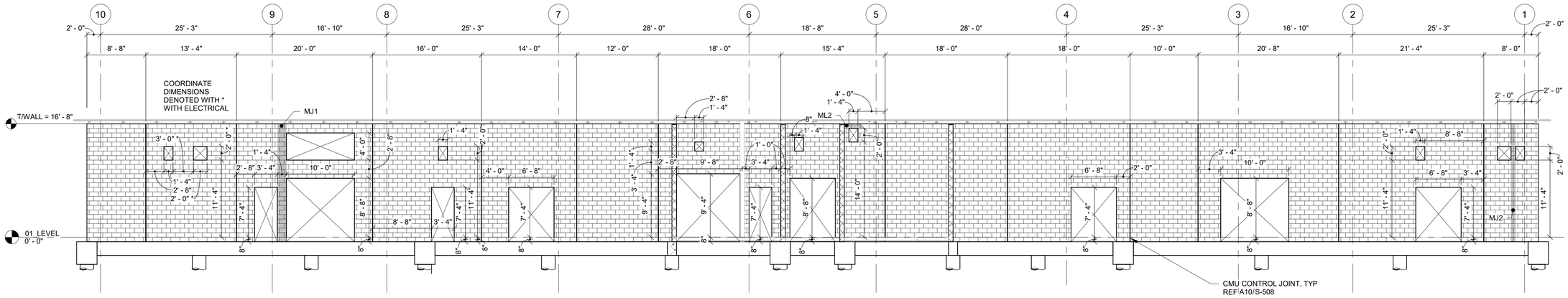
L7 N/S CORRIDOR CMU WALL, EAST END

1/8" = 1'-0"

0 4' 8' 16'

MASONRY WALL ELEVATION NOTES

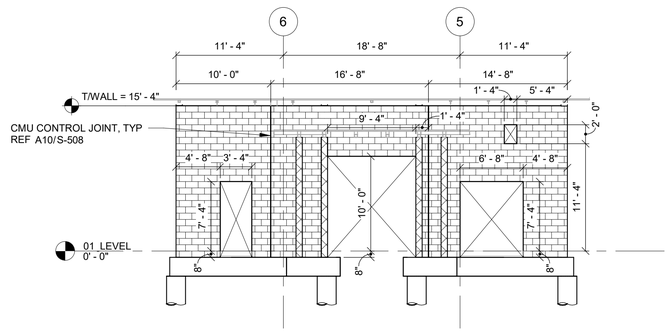
1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEET S-192 FOR OVERALL MASONRY WALL ELEVATION PLAN.
3. FOR CMU DETAILS, SEE SHEETS S-508 AND S-509.
4. ALL CMU WALLS ARE MW1 UNO ON PLAN.
5. PROVIDE ML1 ABOVE ALL OPENINGS UNO, SEE DETAIL D1/S-508
6. PROVIDE MJ1 ON BOTH SIDES OF ALL OPENINGS UNO, SEE DETAIL H1/S-508



F1 GRID B CMU WALL ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



B1 GRID A CMU WALL ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

SIZE: ANSI D
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

File Path: C:\Users\mSeidel\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECRAR.rvt

Plot Date: 10/20/2025 12:05:13 PM

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MASONRY WALL ELEVATIONS

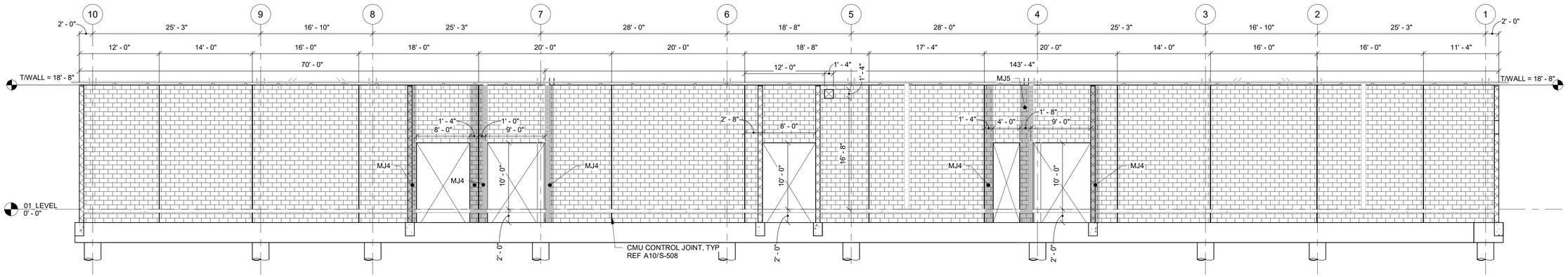
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S-212

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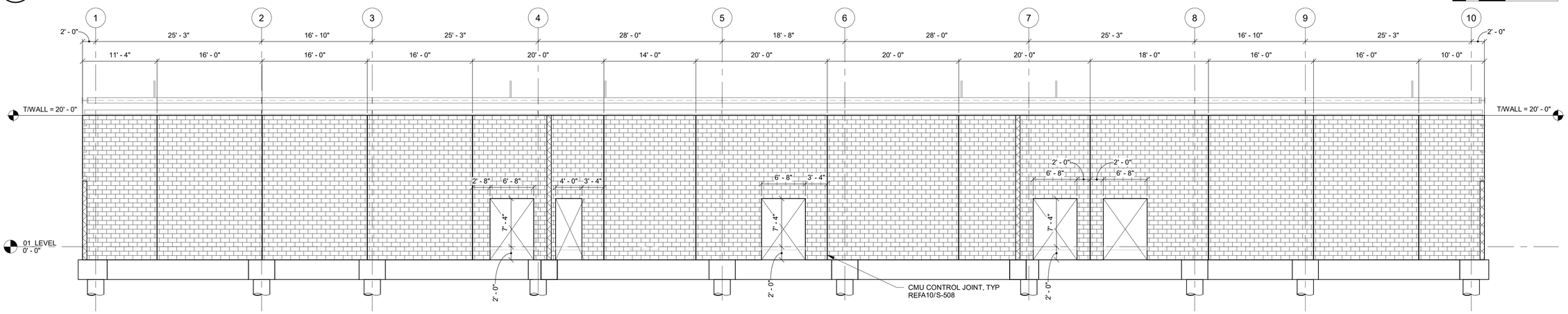
MASONRY WALL ELEVATION NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEET S-192 FOR OVERALL MASONRY WALL ELEVATION PLAN.
3. FOR CMU DETAILS, SEE SHEETS S-508 AND S-509.
4. ALL CMU WALLS ARE MW1 UNO ON PLAN.
5. PROVIDE ML1 ABOVE ALL OPENINGS UNO, SEE DETAIL D1/S-508
6. PROVIDE MJ1 ON BOTH SIDES OF ALL OPENINGS UNO, SEE DETAIL H1/S-508



G1 GRID C CMU WALL ELEVATION - SUPPORT AREA SIDE

1/8" = 1'-0"



B1 GRID C CMU ELEVATION - HANGAR SIDE

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MASONRY WALL ELEVATIONS

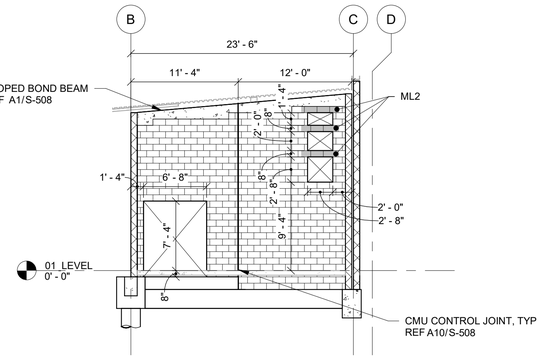
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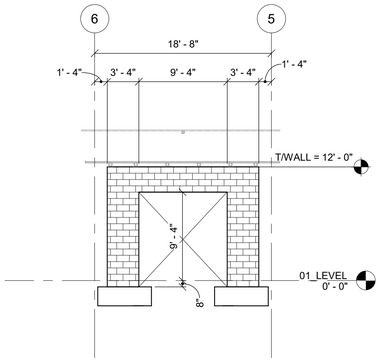
MASONRY WALL ELEVATION NOTES

1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEET S-192 FOR OVERALL MASONRY WALL ELEVATION PLAN.
3. FOR CMU DETAILS, SEE SHEETS S-508 AND S-509.
4. ALL CMU WALLS ARE MW1 UNO ON PLAN.
5. PROVIDE ML1 ABOVE ALL OPENINGS UNO, SEE DETAIL D1/S-508
6. PROVIDE MJ1 ON BOTH SIDES OF ALL OPENINGS UNO, SEE DETAIL H1/S-508



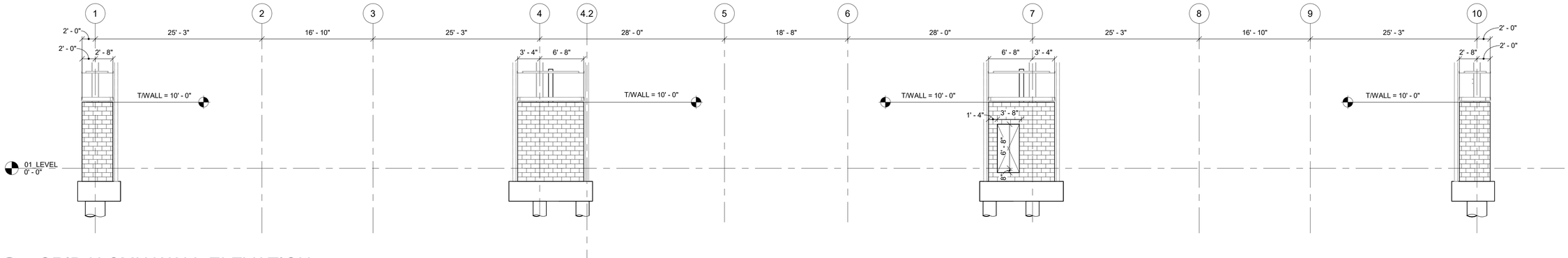
L4 NEAR GRID 4 CMU WALL ELEVATION

1/8" = 1'-0"



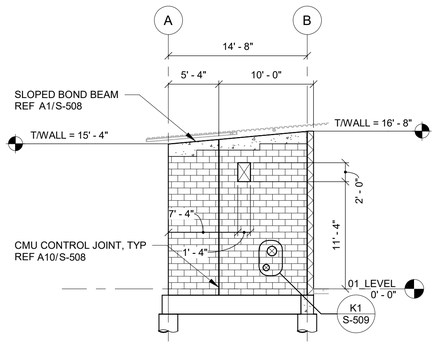
L11 GRID A CMU WALL ELEVATION AT ENTRY

1/8" = 1'-0"



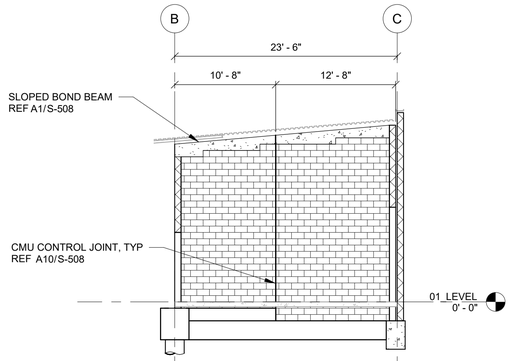
G1 GRID H CMU WALL ELEVATION

1/8" = 1'-0"



C1 BETWEEN GRID 4 AND 5 CMU WALL ELEVATION

1/8" = 1'-0"



C8 BETWEEN GRID 7 AND 8 CMU WALL ELEVATION

1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENNG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:05:16 PM
File Path: C:\Users\mSeaber\OneDrive - US Army Corps of Engineers\Documents\ENNG_512203_S_3BAYH_RVT22_MECCRAM.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

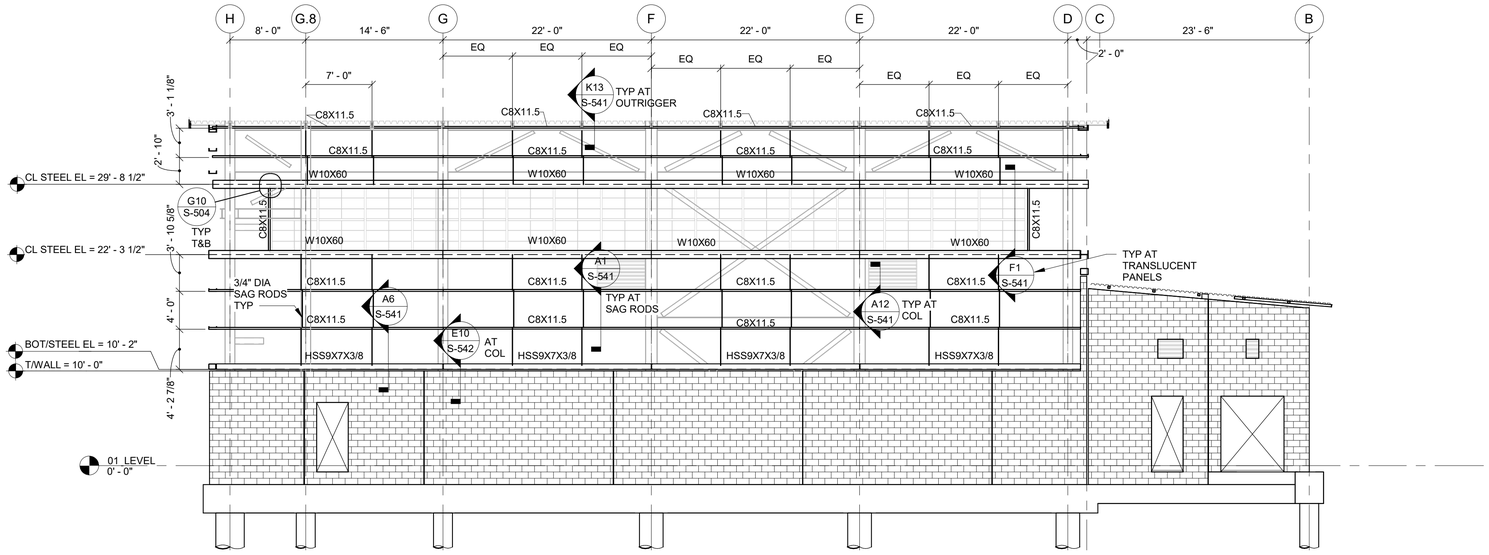
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MASONRY WALL ELEVATIONS

SHEET ID

S-214

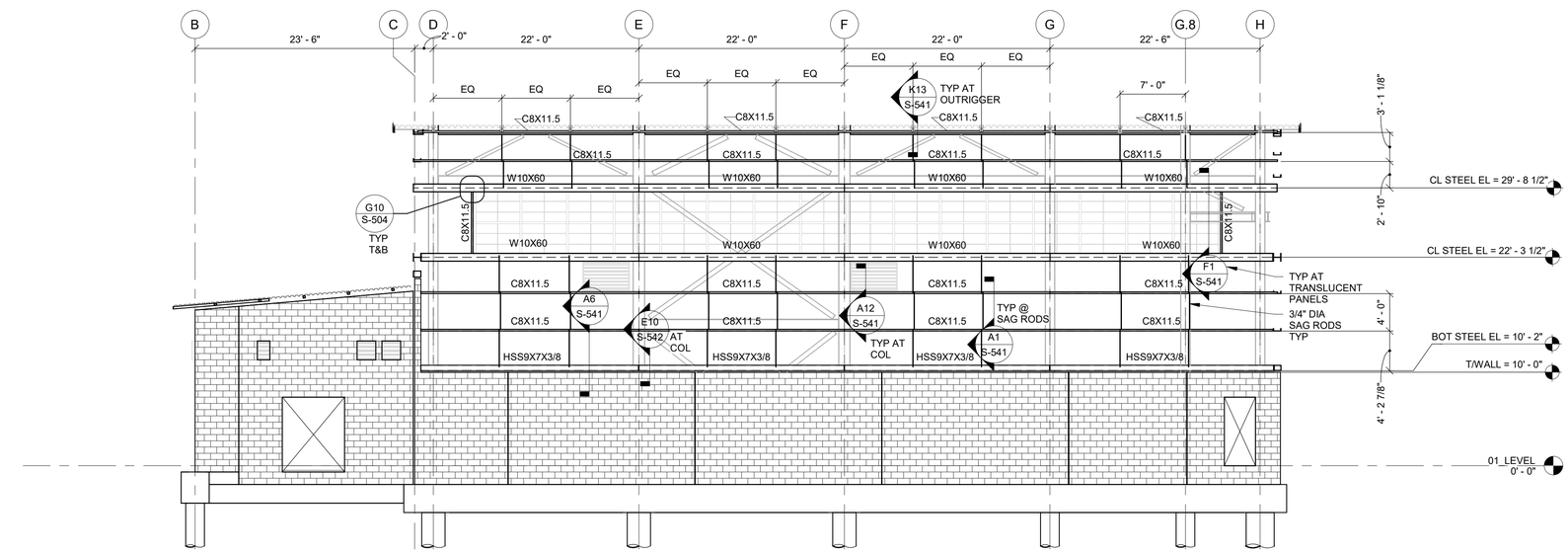
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H1 EAST ELEVATION ALONG GRID 10

1/8" = 1'-0"

0 4' 8' 16'



A1 WEST ELEVATION ALONG GRID 1

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

CLADDING SUPPORT ELEVATIONS

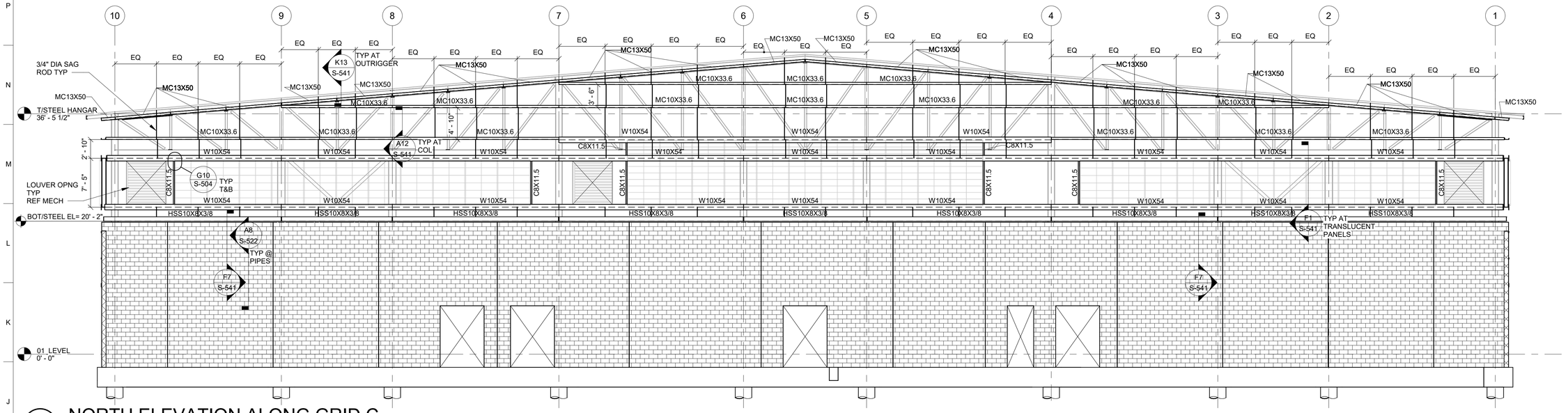
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S-221

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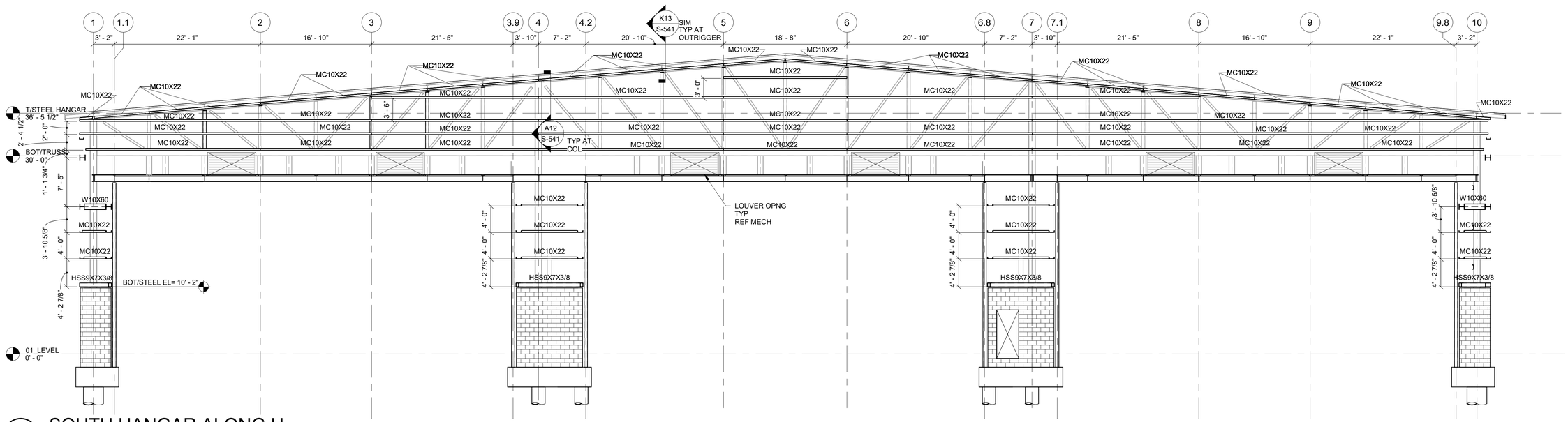
Plot Date: 10/20/2025 12:05:18 PM



J1 NORTH ELEVATION ALONG GRID C

1/8" = 1'-0"

0 4' 8' 16'



A1 SOUTH HANGAR ALONG H

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECDRAFT.rvt

File Path:

DESIGNED BY: C. KENNEDY, PE, SE	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: B. SUDBRINK, PE, SE	SOLICITATION NO.: W912BV26RA004
CHECKED BY: A. STUART, PE, SE	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:05:21 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

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F-35: 3 BAY HANGAR
PN: 512203

CLADDING SUPPORT ELEVATIONS

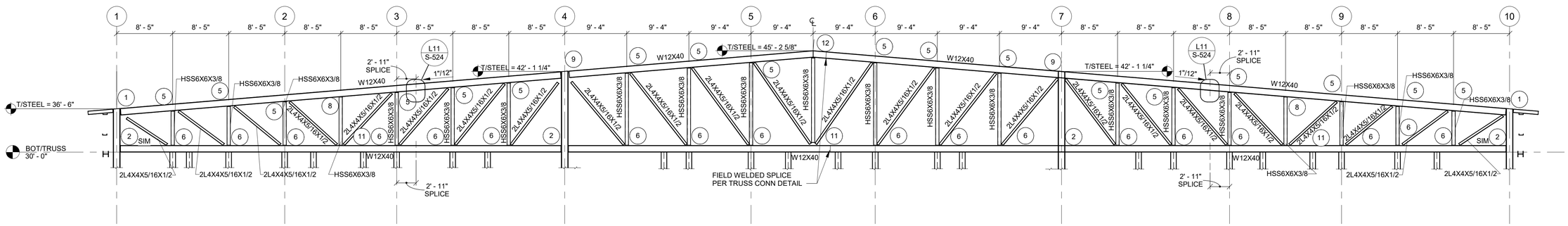
SHEET ID

S-222

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STEEL TRUSS ELEVATION NOTES

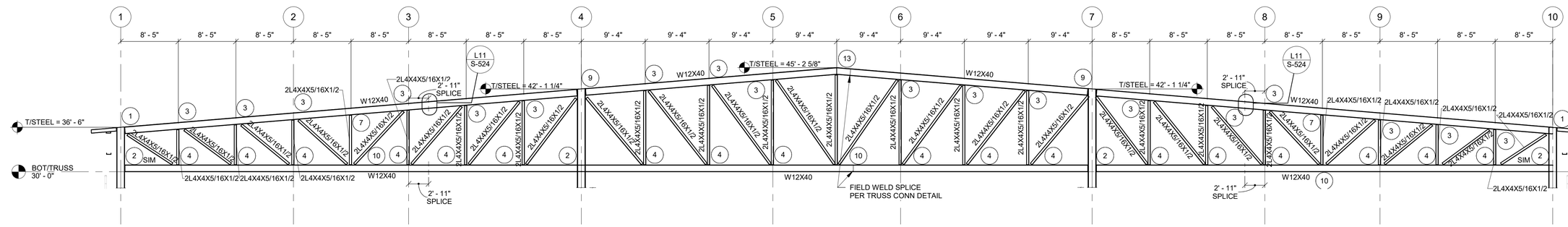
1. SEE SHEETS S-001 THROUGH S-002 FOR GENERAL NOTES, SYMBOL, AND ABBREVIATIONS.
2. SEE SHEET S-002 AND SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
3. SEE SHEET S-523 AND S-524 FOR TRUSS CONNECTION DETAILS.
4. ALL TRUSS CONNECTION BOLTS TO BE ASTM F3125, GRADE F1852 UNLESS NOTED OTHERWISE.
5. UT INDICATES ULTRASONIC WELD TESTING.



J1 TRUSS T1 ELEVATION

1/8" = 1'-0"

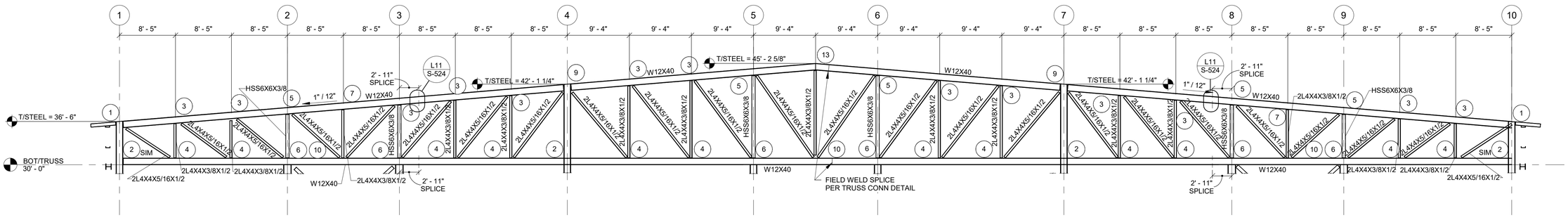
0 4' 8' 16'



E1 TRUSS T2 ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



A1 TRUSS T3 ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECREAR.rvt

DESIGNED BY:	C. KENNEDY, PE, SE
DRAWN BY:	C. RUNDELL, PE
CHECKED BY:	A. STUART, PE, SE
SUBMITTED BY:	
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:05:25 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
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ENGINEERIGN BRANCH

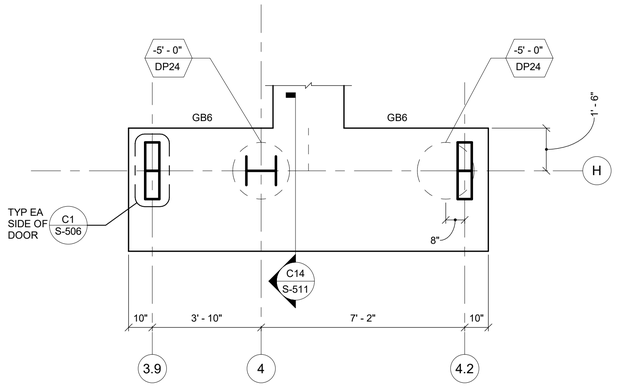
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

STEEL TRUSS ELEVATIONS

SHEET ID

S-231

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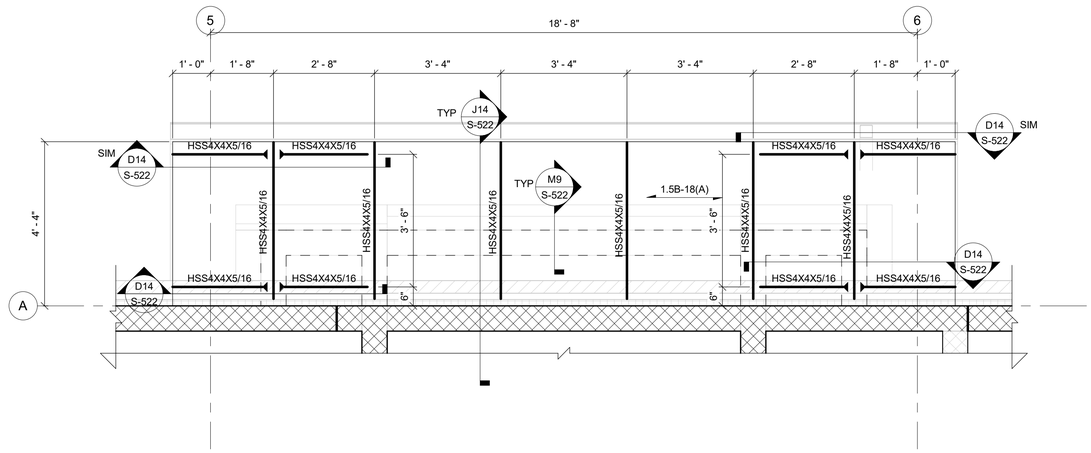


J1 FOUNDATION PLAN AT HANGAR DOOR JAMBS

3/8" = 1'-0"

PLAN NORTH

0 1' 2' 4' 8'

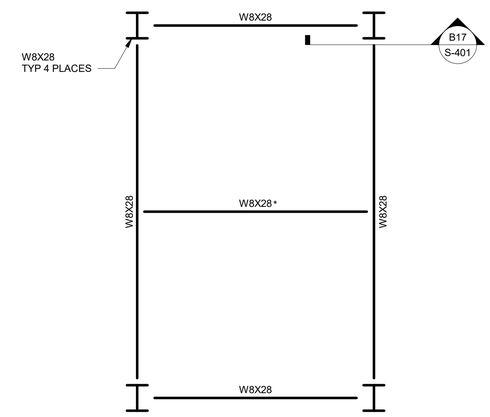


J11 ENTRY LOW ROOF PLAN

1/2" = 1'-0"

PLAN NORTH

0 1' 2' 4'



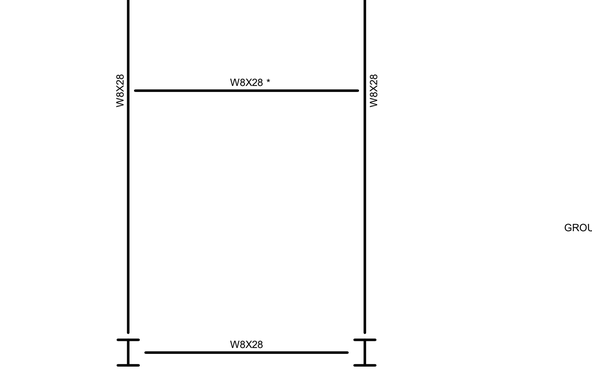
*- CONFIRM WITH MFR IF REQUIRED DUE TO UNIT CONFIGURATION

B6 EQUIPMENT PLATFORM PLAN

1/2" = 1'-0"

PLAN NORTH

0 1' 2' 4'



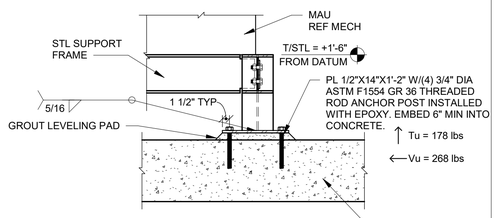
* -CONFIRM WITH MFR IF REQUIRED DUE TO UNIT CONFIGURATION

B11 EQUIPMENT PLATFORM PLAN AREA E

1/2" = 1'-0"

PLAN NORTH

0 0.5' 1' 2' 3'



B17 EQUIPMENT PLATFORM

3/4" = 1'-0"

0 0.5' 1' 2' 3'

US Army Corps of Engineers ®

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DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

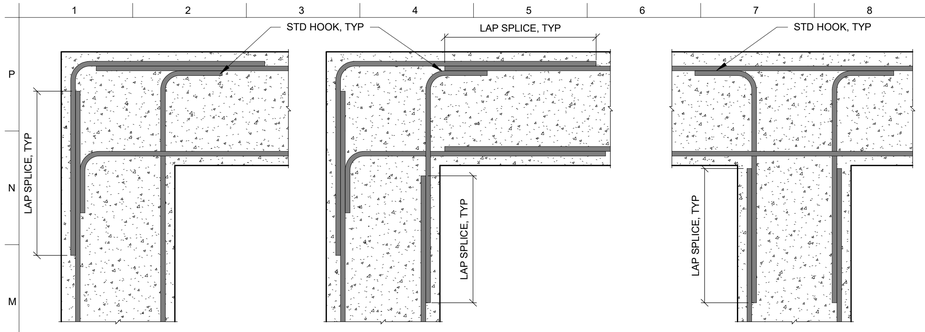
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

ENLARGED PLANS

SHEET ID

S-401

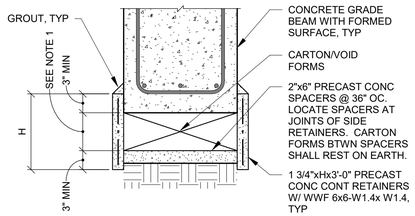
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

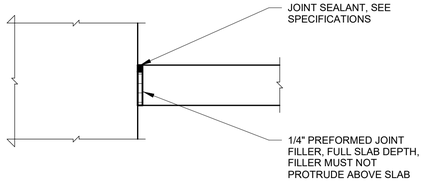


CORNER OPTION #1 **CORNER OPTION #2** **INTERSECTION**

NOTES:
1. REINFORCING SHOWN APPLIES TO TOP, BOTTOM, AND INTERMEDIATE BARS.
2. UNLESS OTHERWISE INDICATED, THE CONTRACTOR HAS THE OPTION OF REINFORCING CORNERS IN ACCORDANCE WITH OPTION #1 OR OPTION #2.

K1 TYPICAL CORNER AND INTERSECTION REINFORCING
NTS

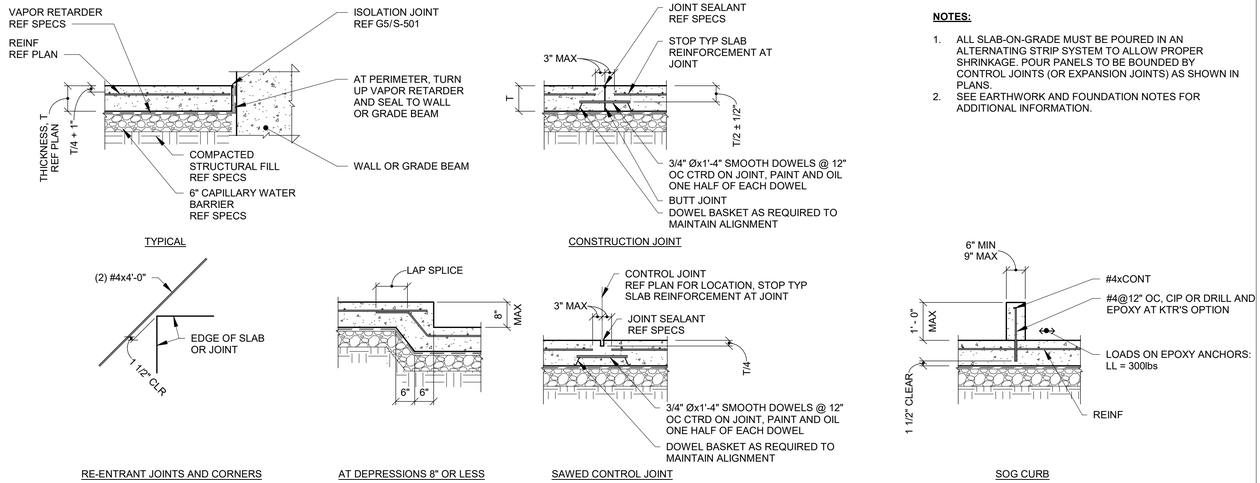




NOTES:
1. CARTON/VOID FORM THICKNESS, SEE EARTHWORK AND FOUNDATION NOTES.
2. VOID SPACE MUST REMAIN CLEAR OF ANY OBSTRUCTIONS INCLUDING PIPES AND CONDUIT.

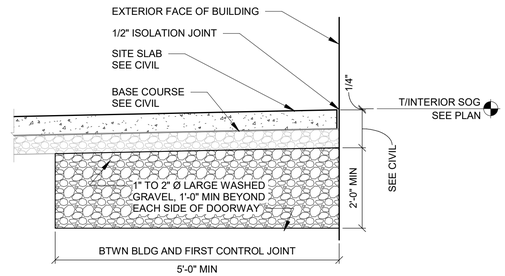
G1 GRADE BEAM RETAINERS
NTS

G5 TYP SOG ISOLATION JOINT
NTS

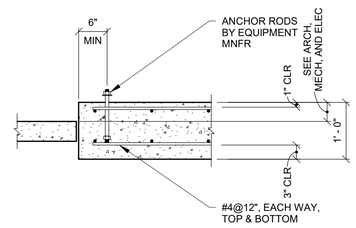


NOTES:
1. ALL SLAB-ON-GRADE MUST BE POURED IN AN ALTERNATING STRIP SYSTEM TO ALLOW PROPER SHRINKAGE. POUR PANELS TO BE BOUNDED BY CONTROL JOINTS (OR EXPANSION JOINTS) AS SHOWN IN PLANS.
2. SEE EARTHWORK AND FOUNDATION NOTES FOR ADDITIONAL INFORMATION.

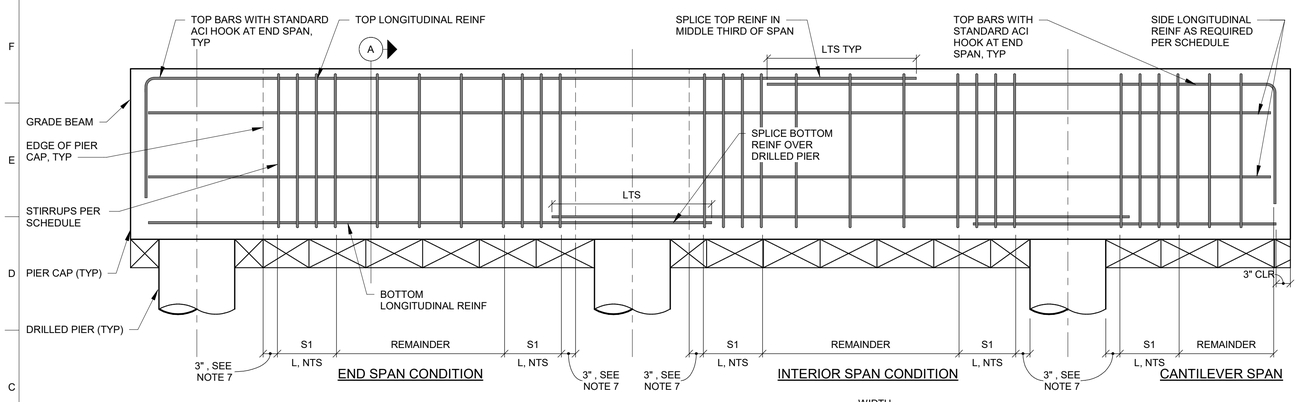
K10 TYPICAL SLAB-ON-GRADE DETAIL
NTS



G10 TYP SITE SLAB AT EXT DOOR
NTS

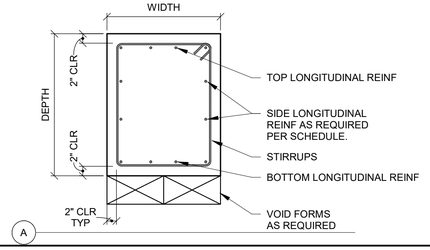


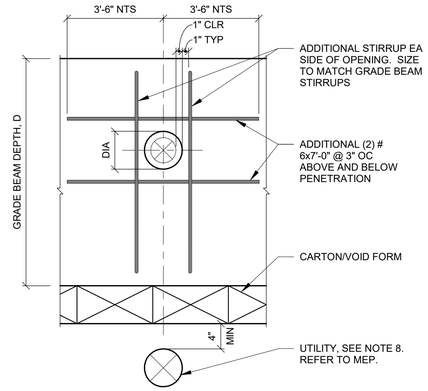
G16 TYPICAL INTERIOR EQUIPMENT PAD ISOLOLATED FROM SOG
NTS



NOTES:
1. REFER TO GRADE BEAM SCHEDULE ON S-601 FOR BEAM SIZE AND REINFORCING.
2. SEE DETAIL K1/S-502 FOR REINFORCEMENT LAP SPLICE REQUIREMENTS.
3. PIER CAP REINF NOT SHOWN FOR CLARITY.
4. PROVIDE DOWELS FROM DRILLED PIER INTO GRADE BEAM, UNO. REFER TO A7/S-502 FOR TYPICAL DRILLED PIER DETAIL.
5. SINGLE-SPAN GRADE BEAMS SHALL HAVE TOP BARS HOOKED AT EACH END.
6. SEE DETAIL K1/S-501 FOR CORNER AND INTERSECTION REINFORCING.
7. THE FIRST STIRRUP IN THE GRADE BEAM IS DIMENSIONED FROM THE FACE OF THE PIER CAP AND FROM THE FACE OF THE DRILLED PIER WHEN THERE IS NOT A PIER CAP PRESENT.

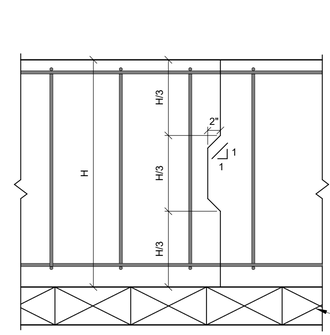
A1 TYPICAL GRADE BEAM ELEVATION
NTS





NOTES:
1. LOCATE PENETRATION WITHIN MIDDLE ONE THIRD OF GRADE BEAM DEPTH.
2. DO NOT LOCATE PENETRATIONS WITHIN 5'-0" OF DRILLED PIERS.
3. PENETRATION DIAMETER MUST NOT EXCEED 4 1/2" FOR 24" DEEP GRADE BEAMS AND 6 3/4" FOR 36" DEEP GRADE BEAMS.
4. SPACE MULTIPLE PENETRATIONS AT 3xDIA OC MIN.
5. REINFORCING SHOWN IN THIS DETAIL IS IN ADDITION TO TYPICAL HORZONTAL AND VERTICAL GRADE BEAM REINFORCING.
6. GRADE BEAM HORIZONTAL AND VERTICAL REINFORCING NOT SHOWN.
7. DO NOT CORE PENETRATIONS.
8. PROVIDE CLEARANCE INDICATED BELOW VOID FORM IF UTILITY ITEM CANNOT PENETRATE THE GRADE BEAM PER THE REQUIREMENTS LISTED ABOVE.

A12 GRADE BEAM PENETRATION
NTS



NOTES:
1. LOCATE CONSTRUCTION JOINTS IN THE MIDDLE THIRD OF THE GRADE BEAM SPAN.
2. ALL REINFORCING IS CONTINUOUS ACROSS THE CONSTRUCTION JOINT.
3. TREAT HARDENED CONCRETE WITH BONDING AGENT.
4. SURFACES OF SET CONCRETE AT JOINTS SHALL BE ROUGHENED AND CLEANED OF LAITANCE, COATINGS, LOOSE PARTICLES, AND FOREIGN MATTER. ROUGHEN SURFACES IN A MANNER THAT EXPOSES THE AGGREGATE UNIFORMLY AND DOES NOT LEAVE LAITANCE, LOOSED PARTICLES OF AGGREGATE, NOR DAMAGED CONCRETE AT THE SURFACE. ROUGHENED AND CLEANED SURFACES OF SET CONCRETE SHALL BE DAMPENED, BUT NOT SATURATED, AND COVERED WITH A CEMENT GROUT COATING IMMEDIATELY PRIOR TO PLACEMENT OF FRESH CONCRETE.

A17 GRADE BEAM CONSTRUCTION JOINT
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
File Path: C:\Users\mSeidner\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECDRAR.rvt
Plot Date: 10/20/2025 12:05:28 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

TYPICAL CONCRETE DETAILS

SHEET ID
S-501

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

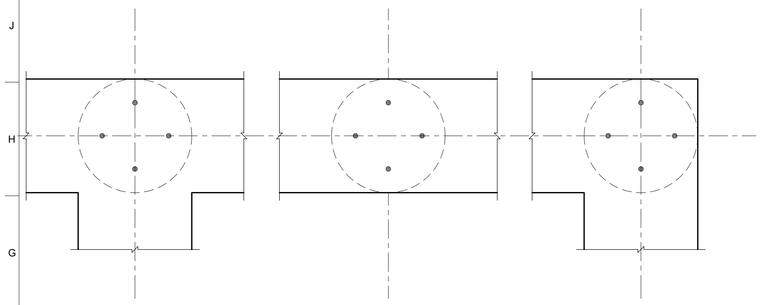
LAP SPLICE AND DEVELOPMENT LENGTHS (INCHES) (F'c=4,500 PSI)				
BAR SIZE	DEVELOPMENT LENGTH		LAP SPLICE LENGTH	
	TOP BAR	OTHER BARS	TOP BAR	OTHER BARS
#3	18	14	23	18
#4	24	18	31	24
#5	30	23	38	30
#6	35	27	46	35
#7	51	40	67	51
#8	59	45	76	59

NOTES:

1. THIS TABLE REPRESENTS TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS IN ACCORDANCE WITH ACI 318.
2. 'TOP BARS' ARE HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE CAST BELOW THE BAR.
3. ALL SPLICES SHALL BE WIRED IN CONTACT.

K1 LAP SPLICE AND DEVELOPMENT LENGTH TABLE

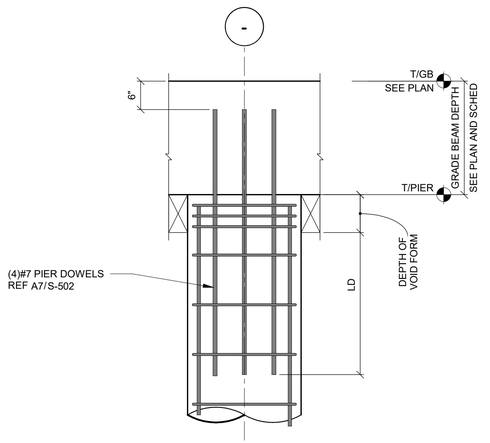
NTS



AT INTERSECTING GRADE BEAM OVER PIER

AT GRADE BEAM OVER PIER

AT GRADE BEAM OVER CORNER PIER



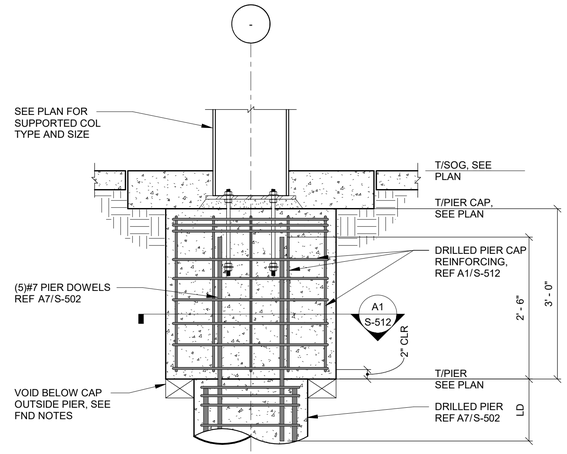
NOTES:

1. TYPICAL GRADE BEAM REINFORCEMENT NOT SHOWN FOR CLARITY

PIER/GB INTERFACE WITH VOID FORM

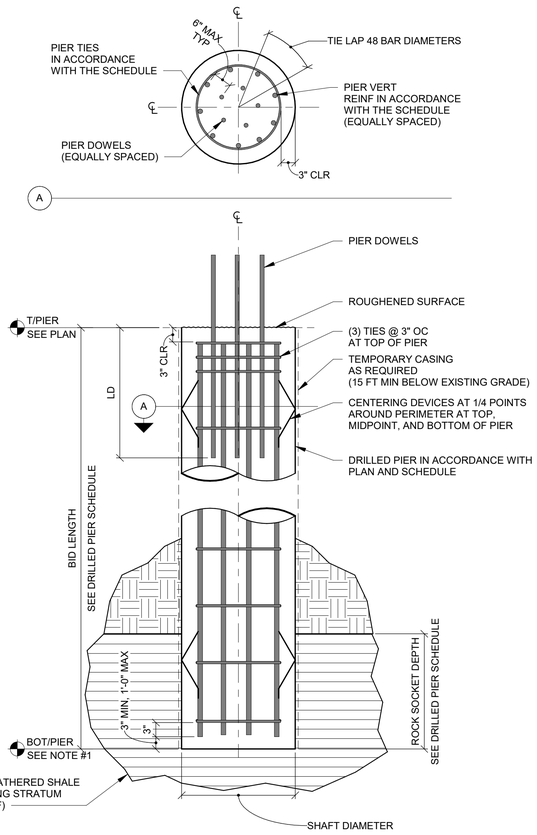
A1 TYPICAL DRILLED PIER AT GRADE BEAM

3/4" = 1'-0"



K7 TYPICAL DRILLED PIER CAP

NTS

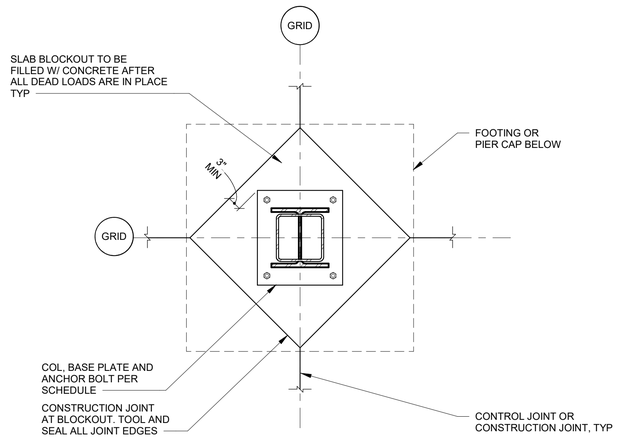


NOTES:

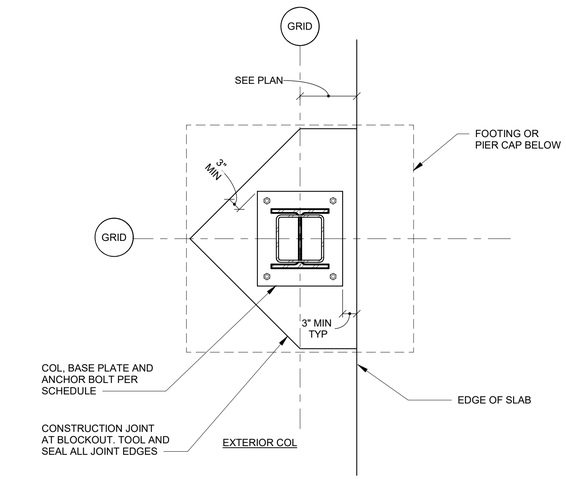
1. PIER BID LENGTH INCLUDES EMBEDMENT INTO BEARING STRATUM. REFER TO DRILLED PIER SCHEDULE FOR ROCK SOCKET DEPTH.
2. REFER TO SOIL BORING LOGS FOR FURTHER INFO.
3. DRILLED PIERS TO BE CENTERED ON GRID LINES UNO.
4. VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
5. SEE S-001 FOR FURTHER DRILLED PIER INFORMATION.
6. SEE S-601 FOR DRILLED PIER SCHEDULE.

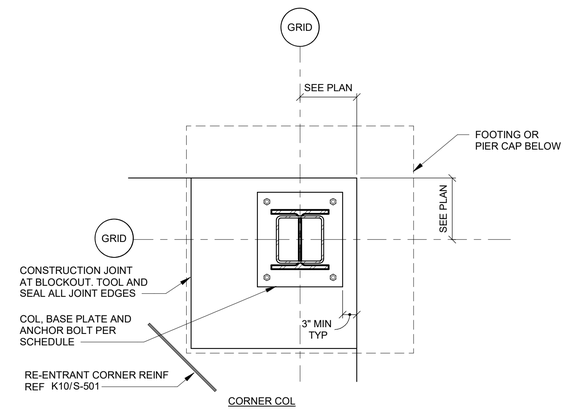
A7 TYPICAL DRILLED PIER DETAIL

NTS



INTERIOR COL





A14 TYPICAL COLUMN BLOCKOUT

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: B. SUDBRINK, PE, SE	SOLICITATION NO.: W912BV26RA004
CHECKED BY: A. STUART, PE, SE	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

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ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

TYPICAL CONCRETE DETAILS

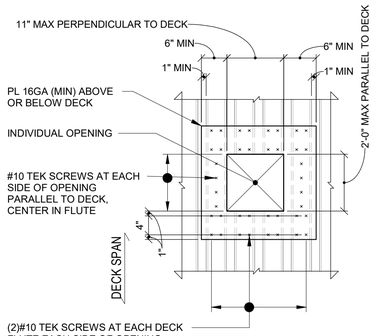
SHEET ID

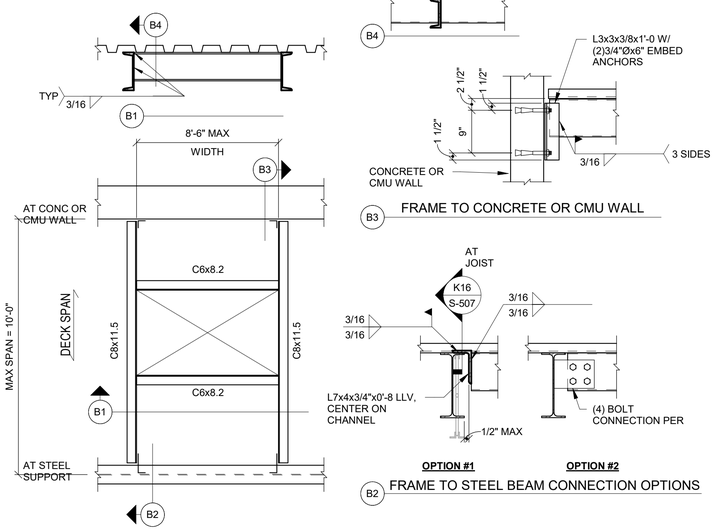
S-502

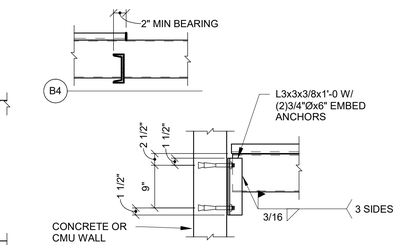
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

File Path: C:\Users\mSeidner\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECDRAR.rvt

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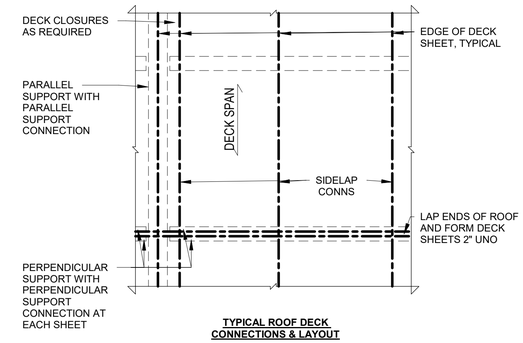




B3 FRAME TO CONCRETE OR CMU WALL

OPTION #1 **OPTION #2**

B2 FRAME TO STEEL BEAM CONNECTION OPTIONS



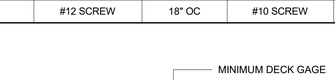
TYPICAL ROOF DECK CONNECTIONS & LAYOUT

ROOF DECK SCHEDULE

MARK	DECK TYPE		DECK DEPTH	DECK Fy	I POS	I NEG	S POS	S NEG	MINIMUM DECK BEARING (IN)	
	TYPE	GAUGE	(IN)	(KSI)	(IN^4/FT)	(IN^4/FT)	(IN^3/FT)	(IN^3/FT)	EXTERIOR	INTERIOR
1.5B-18	TYPE B	18	1 1/2	50	0.275	0.281	0.301	0.312	1 1/2	3
3.0N-20	TYPE N	20	3	50	0.869	1.076	0.465	0.528	1 1/2	3

ROOF DECK CONNECTION SCHEDULE

TYPE	PERPENDICULAR SUPPORT MEMBERS		PARALLEL SUPPORT MEMBERS		SIDELAPS	
	CONNECTION	PATTERN	CONNECTION	PATTERN	CONNECTION	PATTERN
A	#12 SCREW	36/4	#12 SCREW	18" OC	#10 SCREW	3'-0" OC
B	#12 SCREW	24/4	#12 SCREW	18" OC	#10 SCREW	3'-0" OC

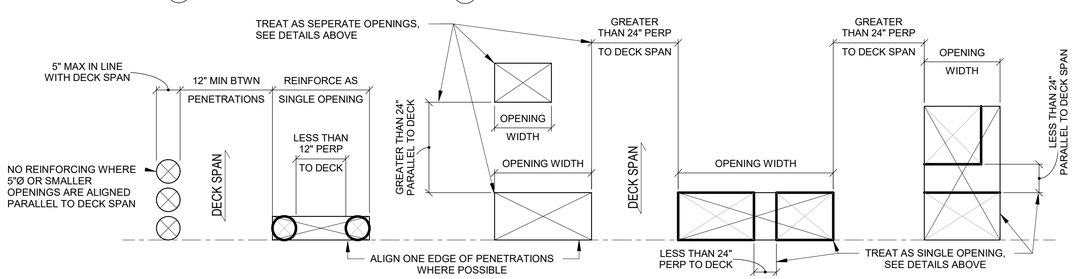


NOTES:
1. DECK TYPE INDICATED ON PLAN THUS:
2. SEE SCHEDULES ABOVE FOR ADDITIONAL INFORMATION, MINIMUM PROPERTIES AND CONNECTION REQUIREMENTS.
3. INSTALL DECK OVER 4 SUPPORTS (3) SPAN CONTINUOUS WHERE POSSIBLE.
4. HANGERS WITH A 50 POUND MAXIMUM LOAD MAY BE PLACED AT 4'-0" MINIMUM SPACING EACH WAY

F14 ROOF DECK SCHEDULE, LAYOUT & CONNECTIONS
NTS

A **AT OPENINGS 5" TO 11"**

B **AT OPENING WIDTHS 11" TO 8'-6"**

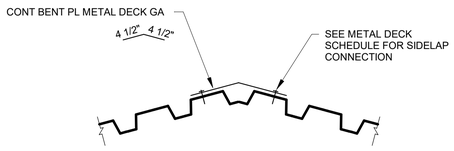


AT OPENINGS 5" OR LESS **OPENING CONFIGURATIONS AT OPENINGS LARGER THAN 5"**

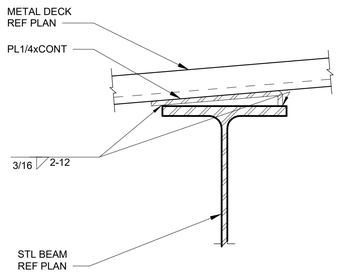
NOTES:
1. WHERE POSSIBLE ALIGN PENETRATIONS PARALLEL & PERPENDICULAR TO DECK SUCH THAT ONE EDGE OF PENETRATION ALIGNS IN EACH DIRECTION
2. AT OPENINGS LARGER THAN 5"Ø, TREAT ADJACENT OPENINGS AS A SINGLE LARGE OPENING IF EITHER:
   A. OPENINGS ARE ALIGNED PARALLEL TO DECK SPAN WITH LESS THAN 24" CLEAR OR
   B. OPENINGS ARE ALIGNED PERPENDICULAR TO DECK SPAN WITH LESS THAN 24" CLEAR

NOTES:
3. NO PENETRATION REINFORCING IS REQUIRED AT:
   A. INDIVIDUAL ISOLATED PENETRATIONS 5"Ø OR SMALLER
   B. PENETRATIONS 5"Ø OR SMALLER ALIGNED PARALLEL TO DECK SPAN
   C. PENETRATIONS 5"Ø OR SMALLER IF SPACED GREATER THAN 24" PERPENDICULAR TO DECK SPAN; IF SPACING BETWEEN OPENINGS PERPENDICULAR TO DECK SPAN DOES NOT EXCEED 24", REINFORCE AS A SINGLE OPENING

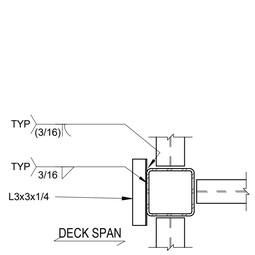
D1 TYPICAL SUPPORT AT ROOF DECK PENETRATIONS
NTS



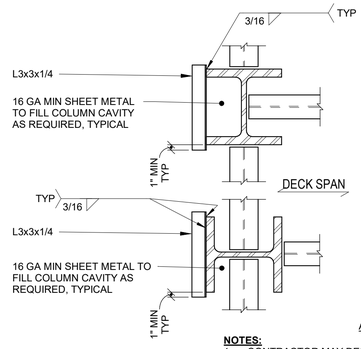
A1 TYP ROOF DECK AT RIDGE
NTS



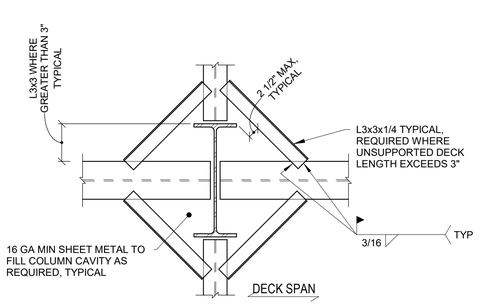
A6 TYP MTL DECK SUPPORT AT SLOPE
NTS



AT HSS COLUMN



AT WF COLUMN



NOTES:
1. CONTRACTOR MAY DESIGN ALTERNATE METHODS OF DECK SUPPORT. DECK SUPPORTS SHALL BE ABLE TO SUPPORT THE DECK AS A FORM WITH THE WET WEIGHT OF THE CONCRETE AND ALL CONSTRUCTION LOADS

A11 TYPICAL METAL DECK SUPPORT AT INTERIOR COLUMN
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

Plot Date: 10/20/2025 12:05:31 PM File Path: C:\Users\mdecker\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_S_3BAYH_RVT22_MECDRAR.rvt

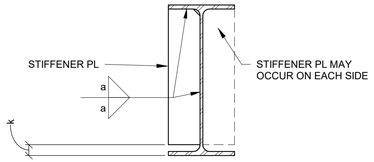
EBBING ANGB - ARKANSAS
F-35; 3 BAY HANGAR
PN: 512203

TYPICAL METAL DECK DETAILS

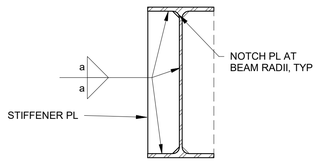
SHEET ID
S-503

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

PLATE WELD SCHEDULE	
STIFFENER PL THK	WELD SIZE a (UNO)
3/16"	3/16"
1/4"	3/16"
5/16"	1/4"
3/8"	1/4"
1/2"	5/16"
5/8"	7/16"
3/4"	1/2"
1"	5/8"
1 1/4"	7/8"



FULL DEPTH STIFFENER

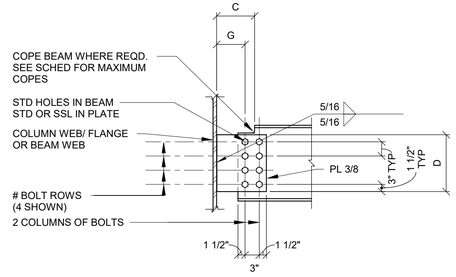


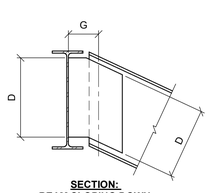
FITTED STIFFENER

NOTES:
1. ACTUAL STIFFENER GEOMETRY VARIES, SEE DETAILS
2. STIFFENER SURFACES THAT CONTACT BEAM FLANGES SHALL BE FINISHED FOR BEARING

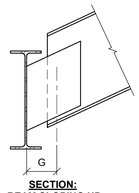
H1 TYPICAL WIDE FLANGE BEAM STIFFENER
NTS

EXTENDED SINGLE PL CONNECTIONS			
BEAM SIZES	# BOLT ROWS	G ≤ 6" C MAX TOP	G ≤ 6" C MAX T & B
C8	2	6"	6"
W8	2	6"	6"
W10	2	6"	6"
W12	3	6"	6"
W14	4	6"	6"
W16	4	6"	6"
W18	4	6"	6"
W21	4	6"	6"





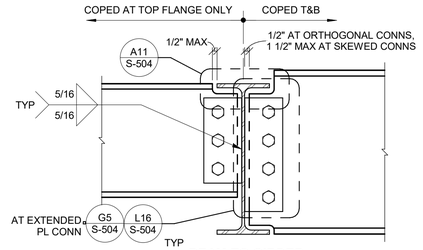
SECTION: BEAM SLOPING DOWN



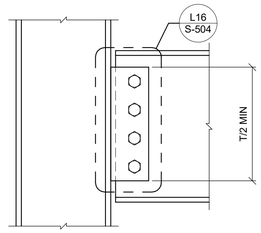
SECTION: BEAM SLOPING UP

G5 TYP BEAM EXTENDED SINGLE PL CON
NTS

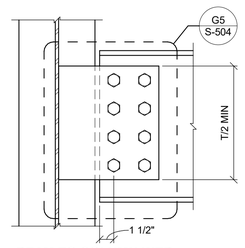
STEEL CONNECTION SCHEDULE	
BEAM SIZE	# OF ROWS OF BOLTS
C8	2
W8	2
W10	2
W12	3
W14	3
W16	4
W18	4
W21	4
W24	5



BEAM TO GIRDER

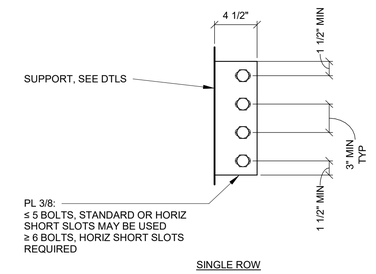


BEAM TO COLUMN FLANGE



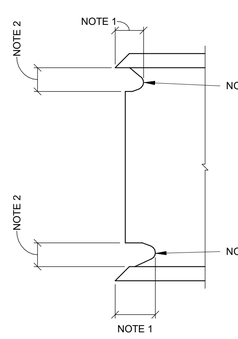
BEAM TO COLUMN WEB

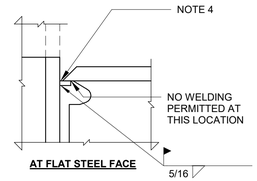
G10 TYP BEAM SINGLE PLATE CONNECTION SCHEDULE
NTS



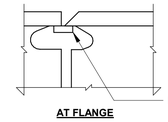
SINGLE ROW

L16 TYP BEAM SINGLE PLATE
NTS



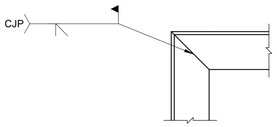


AT FLAT STEEL FACE

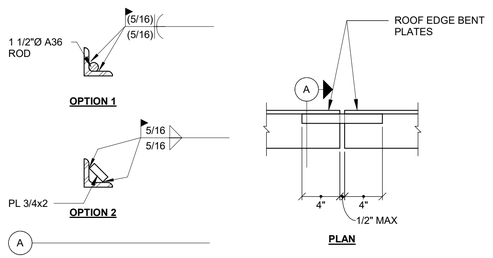


AT FLANGE

NOTES:
1. GREATER OF 1.5 x WEB THICKNESS OR 1 1/2"
2. GREATER OF 1.0 x WEB THICKNESS OR 3/4", SHALL NOT EXCEED 2"
3. MIN RADIUS = 3/8"
4. BACKING AT CONTRACTOR'S OPTION, BACKING MAY REMAIN IN PLACE UNO

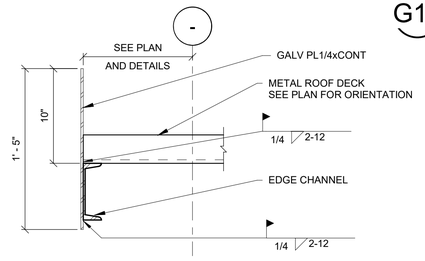


E1 TYPICAL ROOF EDGE ANGLE CORNER
NTS

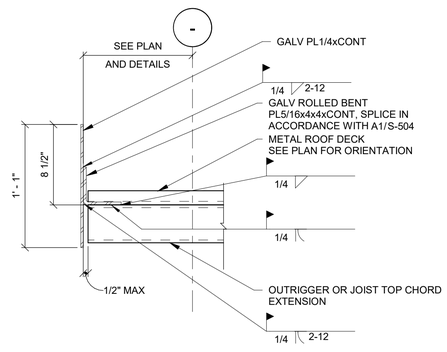


NOTES:
1. DETAIL APPLIES AT ALL NON-COMPOSITE METAL DECK EDGES UNLESS NOTED OTHERWISE
2. SPLICE ANGLE AT SUPPORTS.

A1 TYPICAL EDGE ANGLE SPLICE
NTS

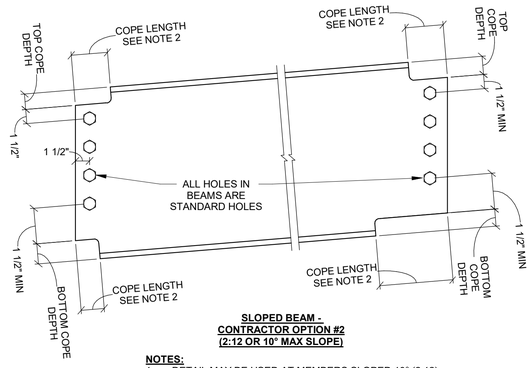


AT HANAGR ROOF



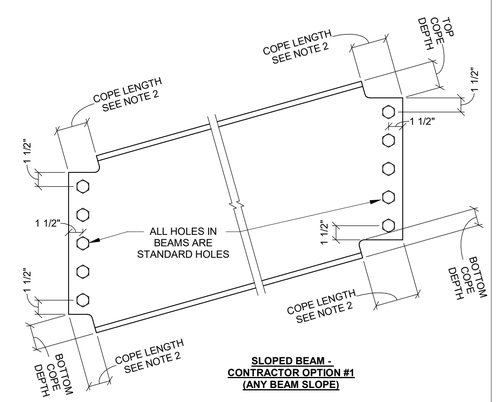
AT LOW ROOF

A7 TYPICAL ROOF EDGE
NTS



SLOPED BEAM - CONTRACTOR OPTION #2 (2:12 OR 10° MAX SLOPE)

NOTES:
1. DETAIL MAY BE USED AT MEMBERS SLOPED 10° (2:12) OR LESS AT CONTRACTOR'S OPTION
2. COPE BEAM AS REQUIRED. SEE DETAIL G10/S-504 FOR ADDITIONAL INFORMATION.



SLOPED BEAM - CONTRACTOR OPTION #1 (ANY BEAM SLOPE)

NOTES:
1. DETAIL MAY BE USED AT MEMBERS SLOPED AT ANY PITCH AT CONTRACTOR'S OPTION
2. COPE BEAM AS REQUIRED. SEE DETAIL G10/S-504 FOR ADDITIONAL INFORMATION.

A11 TYP BEAM COPE GEOMETRY
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: C. RUNDELL, PE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: E4NG_512203_S_3BAYH_RVT22.rvt

File Path: C:\Users\mStecher\OneDrive - US Army Corps of Engineers\Documents\E4NG_512203_S_3BAYH_RVT22_MEECDRAR.rvt
Plot Date: 10/20/2025 12:05:34 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

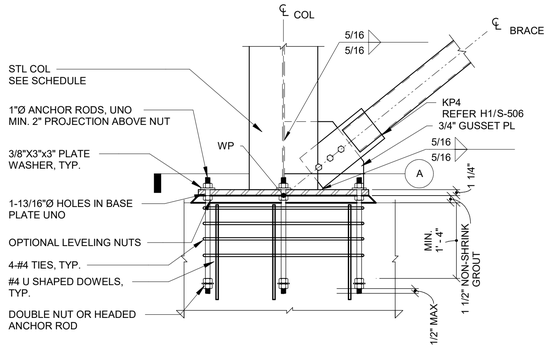
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

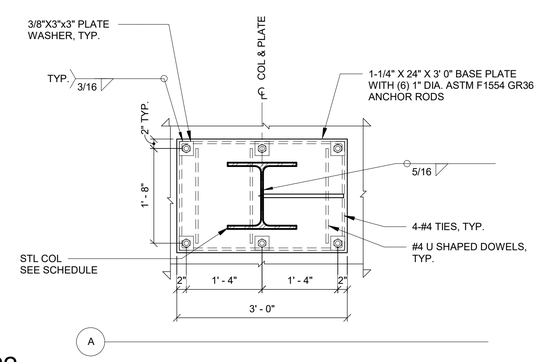
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

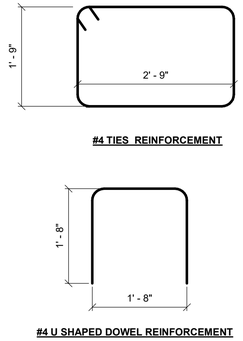
TYPICAL STEEL DETAILS

SHEET ID
S-504

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

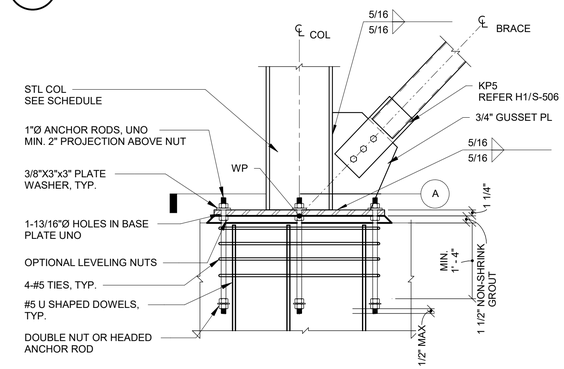


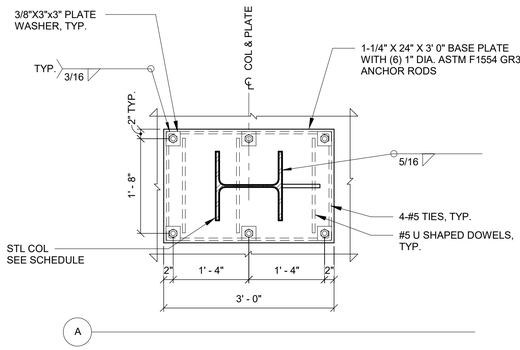


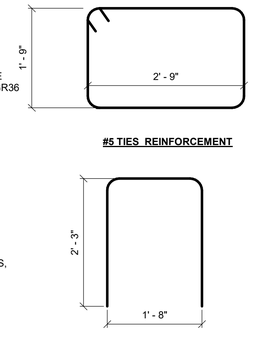


L8 BRACED FRAME COLUMN BASE PLATE - BP2

NTS

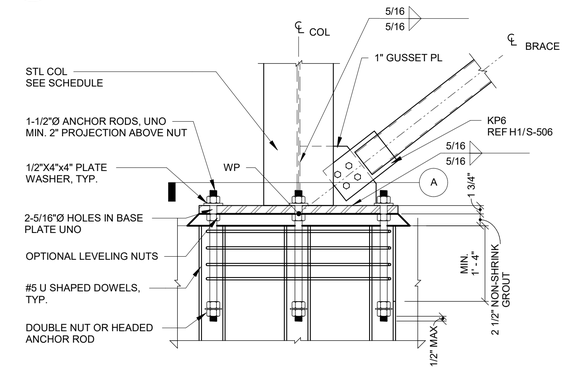


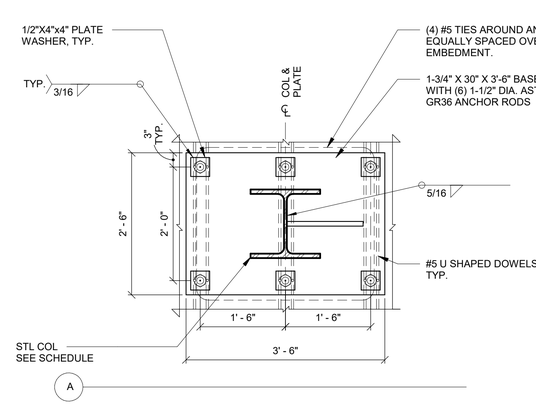


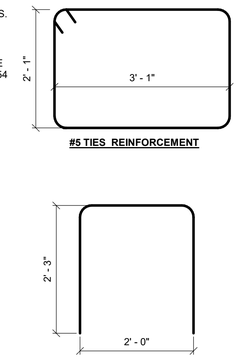


G8 BRACED FRAME COLUMN BASE PLATE - BP3

NTS

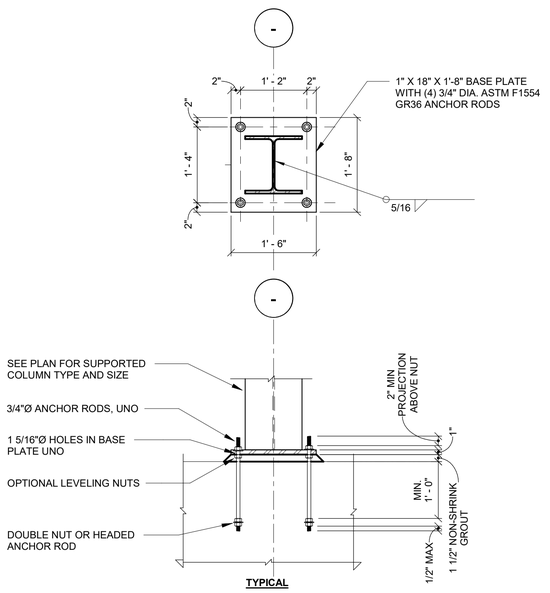






C8 BRACED FRAME COLUMN BASE PLATE - BP4

NTS



TYPICAL

NOTES:

1. 2"Ø MAXIMUM GROUT HOLE AT CONTRACTOR'S OPTION. ONE OR TWO GROUT HOLES RECOMMENDED FOR BASE PLATES LARGER THAN 24" IN WIDTH.

A1 TYPICAL GRAVITY COLUMN BASE PLATE- BP1

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: C. RUNDELL, PE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

File Path: C:\Users\mStecker\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_S_3BAYH_RVT22_MECCDRAFT.rvt
Plot Date: 10/20/2025 12:05:36 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

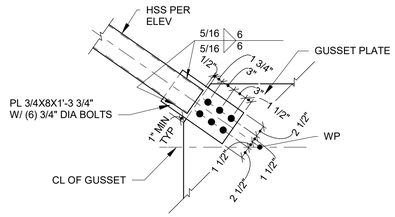
ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

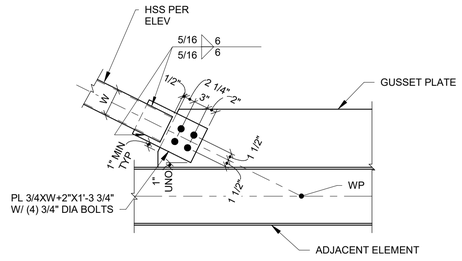
TYPICAL STEEL DETAILS

SHEET ID
S-505

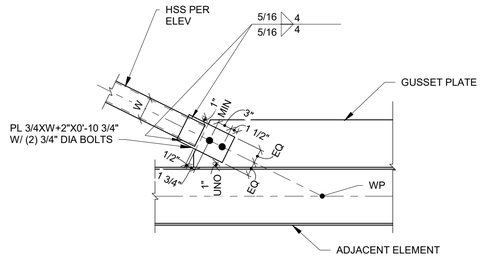
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



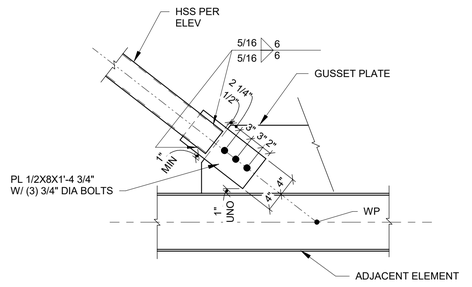
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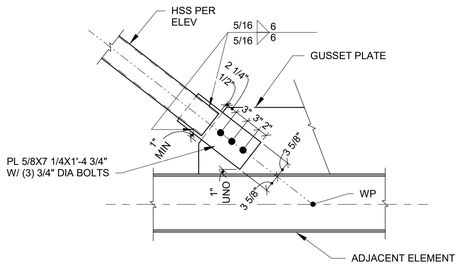
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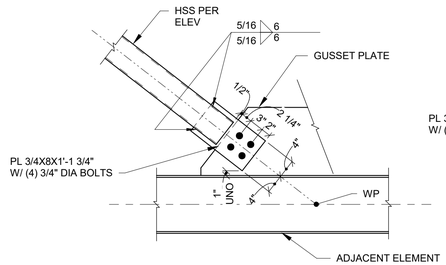
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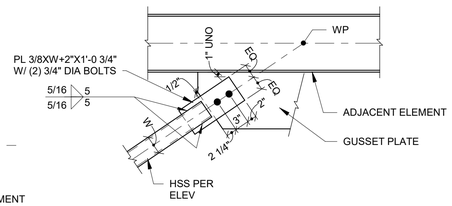
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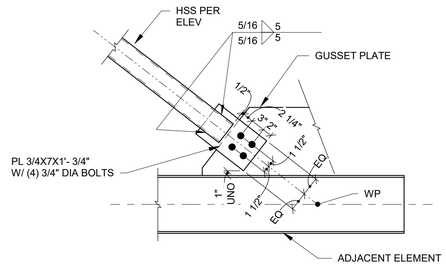
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KP6



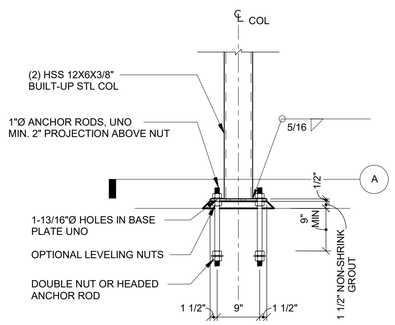
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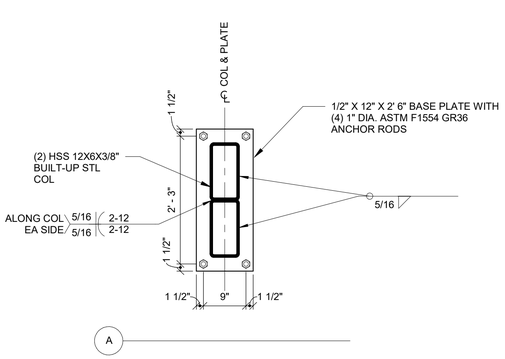


KP8

H1 KNIFE PLATE TYPES

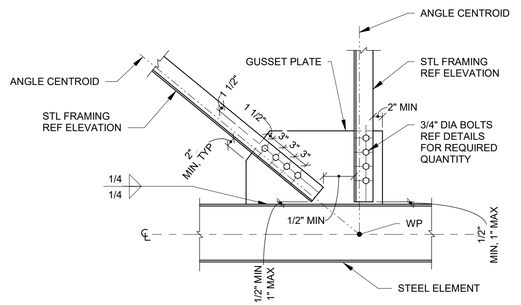
NTS





C1 BASE PLATE - DOOR JAMB

NTS



C11 TYPICAL CONNECTION CONTROL DIMENSIONS

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: C. RUNDELL, PE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

TYPICAL STEEL DETAILS

SHEET ID
S-506

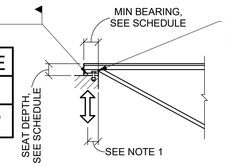
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

File Path: C:\Users\mfiedler\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_S_3BAYH_RVT22_MEECHAM.rvt

Plot Date: 10/20/2025 12:05:37 PM

TYP JOIST BEARING AND WELD SCHEDULE				
JOIST SERIES	SEAT DEPTH	MIN BEARING	TYP WELD	
K, KCS	3 1/2" (MIN) 4" (MAX)	2 1/2"	d = 1/8"	L = 2 1/2"

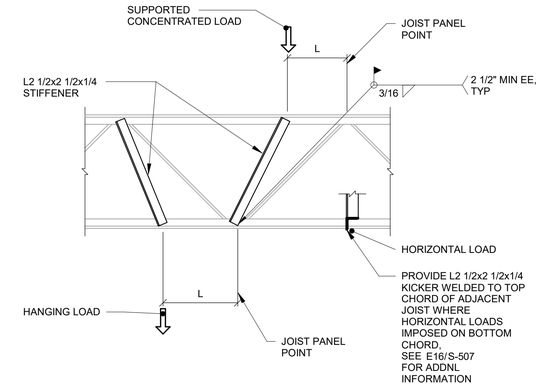
NOTES:
A. SEE G11/S-507 FOR SEAT DEPTH AT JOISTS SLOPING MORE THAN 1/4"/FT



TYP JOIST BEARING ON STEEL SUPPORT

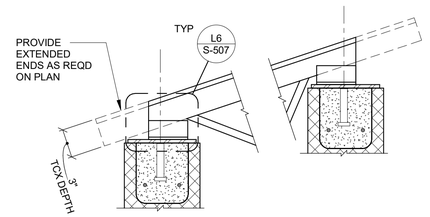
NOTES:
1. FACE OF SUPPORT TO ASSUMED CENTERLINE OF JOIST BEARING:
   A. K JOISTS - CL OF REACTION IS 2" FROM FACE OF SUPPORT

L6 TYP JOIST BEARING ON STEEL CONNECTION
NTS

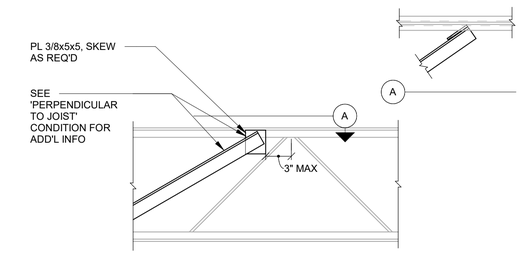


NOTES:
1. STIFFENER REQUIRED FOR ALL CONCENTRATED LOADS EXCEEDING 100 LBS WHERE L EXCEEDS 3"

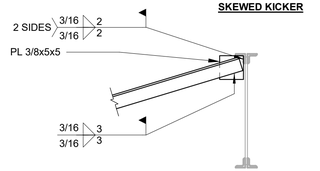
K16 TYP JOIST CHORD SUPPORT
NTS



G11 TYP SLOPED JOIST BRG
NTS

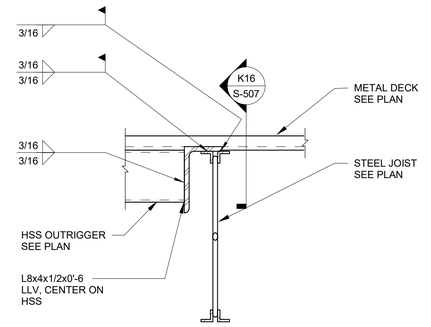


SKEWED KICKER



PERPENDICULAR TO JOIST

E16 TYP ANGLE BRACE TO JOIST
NTS



A16 HSS OR CHANNEL TO JOIST CONNECTION
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

File Path: C:\Users\mSeaber\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MEECRAR.rvt
Plot Date: 10/20/2025 12:05:38 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

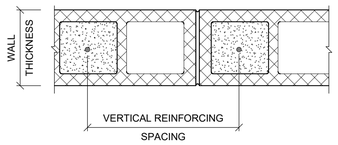
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

TYPICAL STEEL JOIST DETAILS

SHEET ID
S-507

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

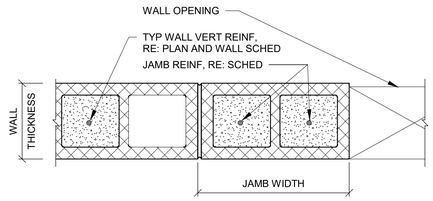


NOTES:
1. ALL VERTICAL REINFORCEMENT SHALL BE CENTERED UON IN GROUTED CELLS.
2. PROVIDE 'LADDER' TYPE HORIZONTAL JOINT REINFORCEMENT, SEE SPECIFICATIONS
3. PARTIAL GROUT IS GROUTED CELLS FOR VERTICAL AND/OR HORIZONTAL REINFORCEMENT, BELOW GRADE, AND WALLS DESIGNATED AS FIRE WALLS. SOLID GROUTED IS ALL CELLS GROUTED.

STRUCTURAL MASONRY WALL SCHEDULE

MARK	WALL THK	REINFORCING		GROUT SOLID
		JOINT	VERT	
MW1	8"	NOTE 2	#5@24"	NO
MW2	8"	NOTE 2	#5@16"	NO
MW3	8"	NOTE 2	#5@48"	NO
MW4	8"	NOTE 2	#5@8"	YES

L1 MASONRY WALL SCHEDULE
NTS

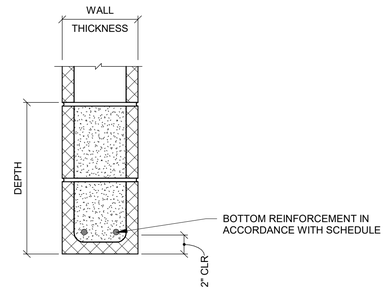


NOTES:
1. JAMB REINFORCEMENT IS FULL HEIGHT AND CENTERED IN GROUTED CELLS.
2. WALL THICKNESS IN ACCORDANCE WITH MASONRY WALL SCHEDULE.

MASONRY JAMB SCHEDULE

MARK	NOMINAL WIDTH	REINFORCEMENT
MJ1	16"	(2) #5
MJ2	8"	(1) #5
MJ3	8"	(1) #6
MJ4	16"	(2)#6
MJ5	24"	(3)#6

H1 MASONRY JAMB SCHEDULE
NTS

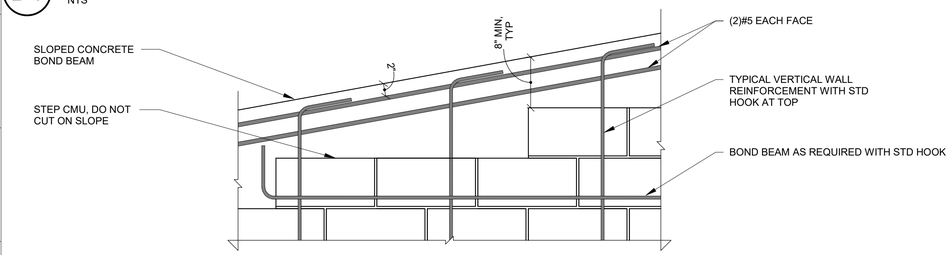


NOTES:
1. LINTEL MUST BEAR A MINIMUM OF 8 INCHES ON EACH SIDE OF OPENING.
2. TYPICAL WALL VERTICAL AND HORIZONTAL REINFORCEMENT NOT SHOWN.
3. WALL THICKNESS IN ACCORDANCE WITH MASONRY WALL SCHEDULE.

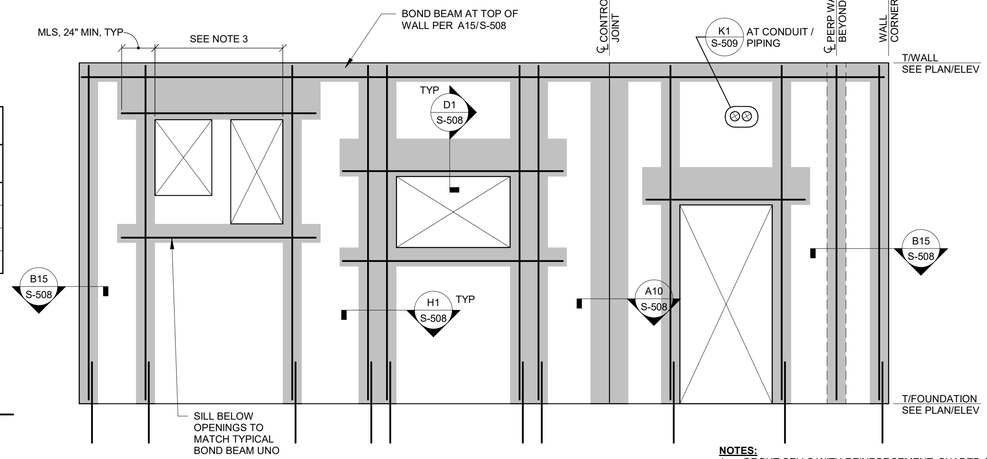
MASONRY LINTEL SCHEDULE

MARK	NOMINAL DEPTH (IN)	REINFORCEMENT
ML1	16"	(2)#5
ML2	8"	(2)#5
ML3	24"	(2)#5

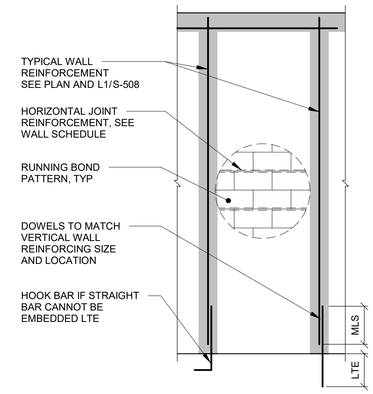
D1 MASONRY LINTEL SCHEDULE
NTS



A1 SLOPED MASONRY BOND BEAM
NTS



WALL ENDS, CONTROL JOINTS, INTERSECTIONS, AND CORNERS



TYPICAL WALL

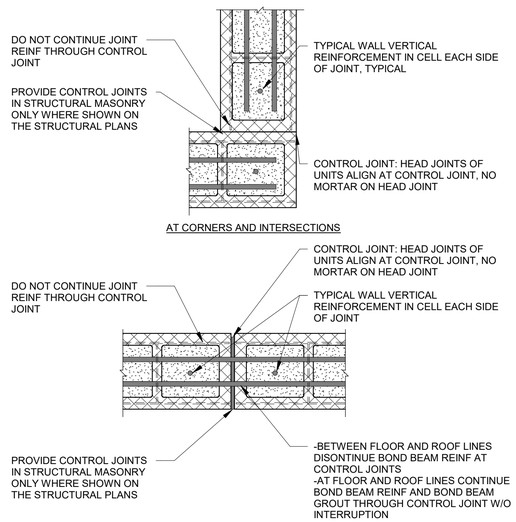
NOTES:
1. GROUT CELLS WITH REINFORCEMENT. SHADED AREA INDICATES GROUTED CELLS.
2. OPENING, WALL END, CONTROL JOINT, INTERSECTION, AND CORNER REINFORCEMENT IS IN ADDITION TO TYPICAL WALL REINFORCEMENT.
3. SINGLE LINTEL SPAN OVER A SERIES OF OPENINGS AS INDICATED ON WALL ELEVATIONS.

K9 CMU WALL ELEVATION
NTS

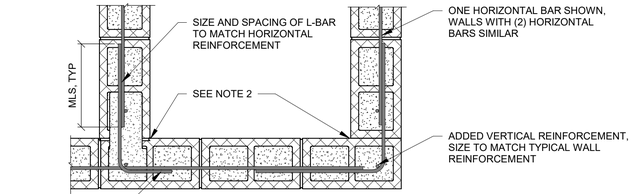
MASONRY LAP SPLICE SCHEDULE

BAR SIZE	REINFORCEMENT CENTERED	REINFORCEMENT AT FACE AND BOND BEAMS
#3	15"	15"
#4	20"	22"
#5	25"	35"
#6	38"	54"

G10 MASONRY LAP SPLICE SCHEDULE
NTS

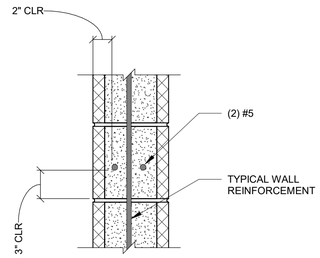


A10 MASONRY WALL CONTROL JOINT
NTS



NOTES:
1. TYPICAL WALL REINFORCEMENT IS NOT SHOWN FOR CLARITY.
2. IF HEAD JOINT ALIGNS OVER THE FULL WALL HEIGHT, BREAK OPEN FACE SHELLS AND GROUT WALLS TOGETHER FULL HEIGHT, TYP ALL CORNERS AND INTERSECTIONS.
3. LAP JOINT REINFORCEMENT 6" MIN AND INSTALL PREFABRICATED SHAPES AT WALL CORNERS AND INTERSECTIONS.

B15 CORNER WALL REINFORCEMENT
NTS



A15 TYPICAL MASONRY BOND BEAM
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

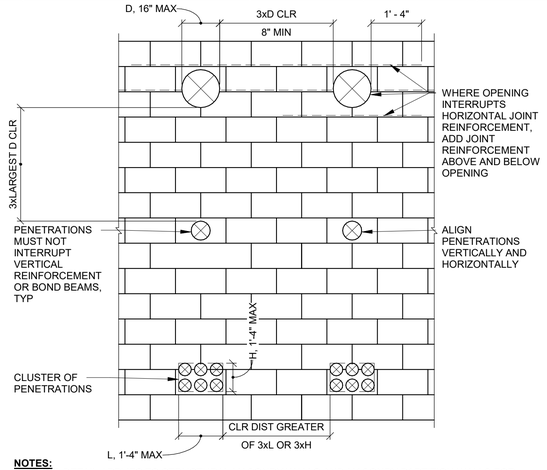
DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: C. RUNDELL, PE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt
File Path: C:\Users\mScezar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSCCREAR.rvt
Plot Date: 10/20/2025 12:05:40 PM

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

TYPICAL MASONRY DETAILS

SHEET ID
S-508

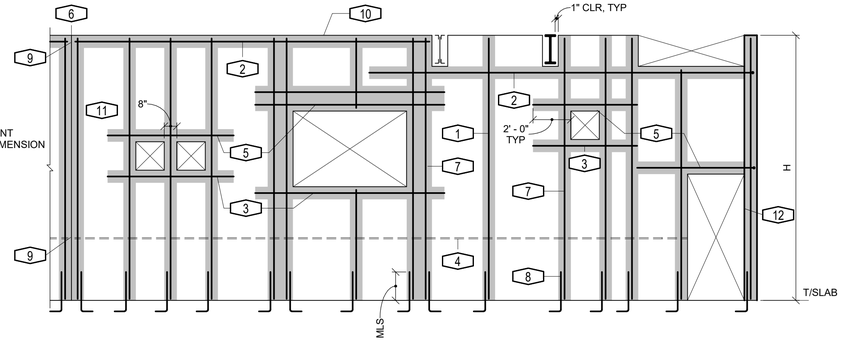
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



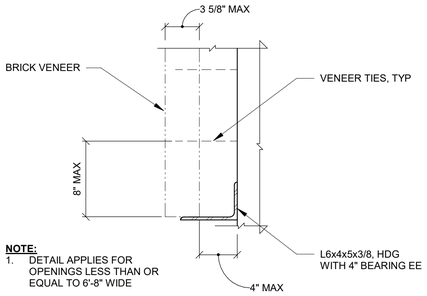
NOTES:
1. THIS DETAIL APPLIES TO STRUCTURAL MASONRY WALLS AND MASONRY PARTITION WALLS FOR RECTANGULAR OPENINGS 1'-4"x1'-4" AND CIRCULAR OPENINGS WITH A DIAMETER OF 1'-4" NOT SHOWN ON THE MASONRY WALL ELEVATIONS. LARGER OPENINGS REQUIRE COR APPROVAL.

K1 MASONRY CONDUIT/PIPING PENETRATIONS
NTS

KEYNOTES:
1. TYPICAL WALL VERTICAL REINFORCING: #4@48" OC
2. BOND BEAM W/ (1) #5 AT T/WALL
3. BOND BEAM W/ (1) #5 AT BOT OF ALL OPENINGS
4. HORIZ JOINT REINF: "LADDER" TYPE JOINT REINF W/ (2) W1.7 WIRES @ 16" OC
5. LINTEL, ML1
6. CONTROL JOINTS @ 20'-0" OC MAX AND EACH END OF WALL
7. JAMB REINFORCEMENT EACH SIDE OF OPENING, MJ1
8. DOWELS TO MATCH SIZE AND LOCATION OF VERTICAL BARS
9. TERMINATE ALL HORIZONTAL REINFORCEMNET AT CONTROL JOINTS
10. T/WALL SUPPORT, SEE DETAILS THIS PAGE. SPACE AS FOLLOWS:
    1. AT 48" OC WITH TWO (2) SUPPORTS MINIMUM BETWEEN CONTROL JOINTS
    2. LOCATE T/WALL SUPPORTS NO FURTHER THAN 5 FT FROM EACH SIDE OF EACH CONTROL JOINT
    3. INTEGRALLY CONSTRUCTED RETURN WALLS (CORNERS OR INTERSECTIONS) WITH A PLAN DIMENSION OF AT LEAST THE WALL HEIGHT / 3 (H/3) QUALIFY AS A SUPPORT.
11. AT SERIES OF TWO OR MORE OPENINGS, MASONRY LINTEL REINFORCEMNET SHALL BE CONTINUOUS. IF SPACE BETWEEN OPENINGS IS LESS THAN 1'-4", USE OVERALL WIDTH OF SERIES OF OPENINGS TO DETERMINE LINTEL SIZE AND JAMB REINF
12. WHERE EDGE OF OPENING IS FLUSH WITH PERPENDICULAR WALL, OR REQUIRED JAMB SIZE IS LARGER THAN AVAILABLE, A CONTROL JOINT IS NOT PERMITTED AT THIS INTERSECTION

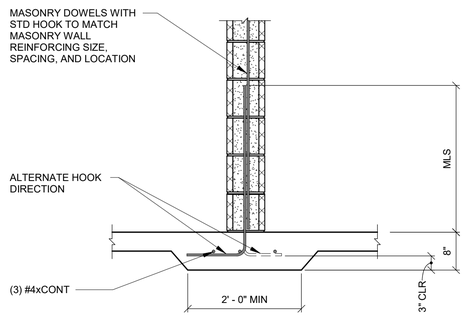


K8 TYPICAL MASONRY PARTITION ELEVATION
NTS

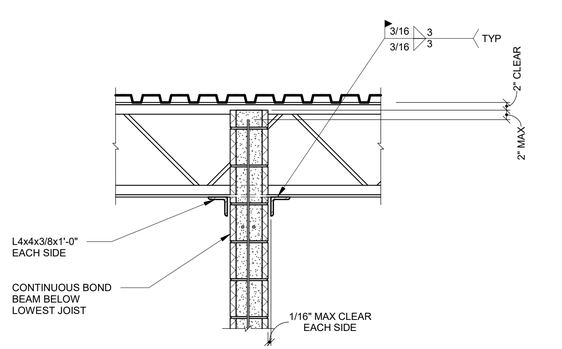


NOTE:
1. DETAIL APPLIES FOR OPENINGS LESS THAN OR EQUAL TO 6'-8" WIDE

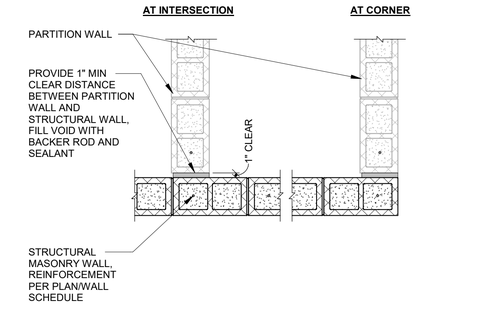
F1 TYP BRICK VENEER LOOSE LINTEL
NTS



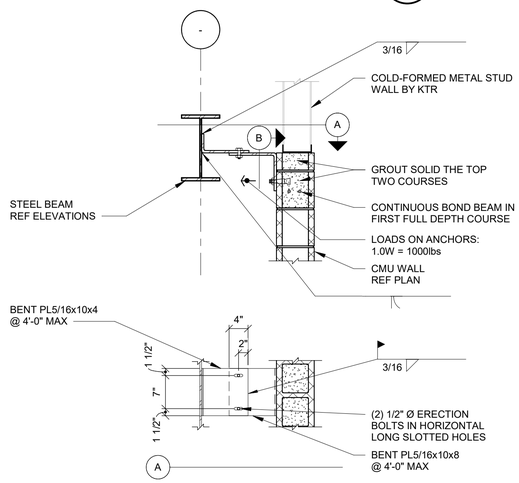
F5 SOG BELOW MASONRY PARTITION - BRACED AT TOP
NTS



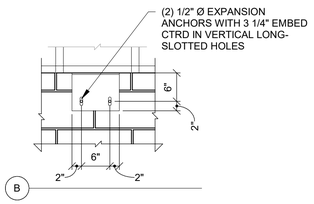
F10 MASONRY PARTITION SUPPORT - PERPENDICULAR TO JOISTS
NTS

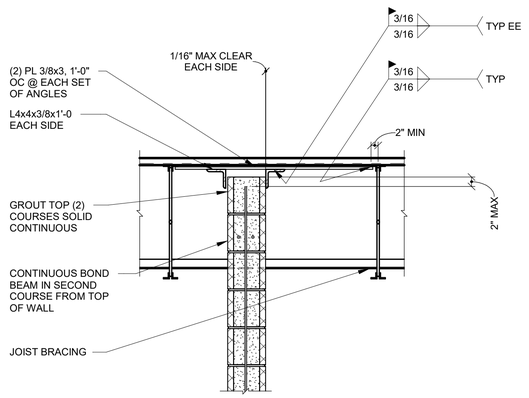


F16 MASONRY WALL INTERSECTION - PARTITION TO STRUCTURAL WALL
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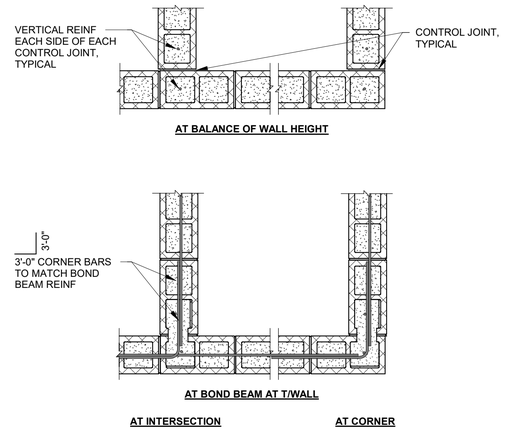


A1 HANGAR CMU WALL TOP OF WALL SUPPORT
NTS





A10 MASONRY PARTITION SUPPORT - PARALLEL TO JOISTS
NTS



A16 MASONRY PARTITION TO PARTITION WALL DETAIL
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: C. RUNDELL, PE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENNG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

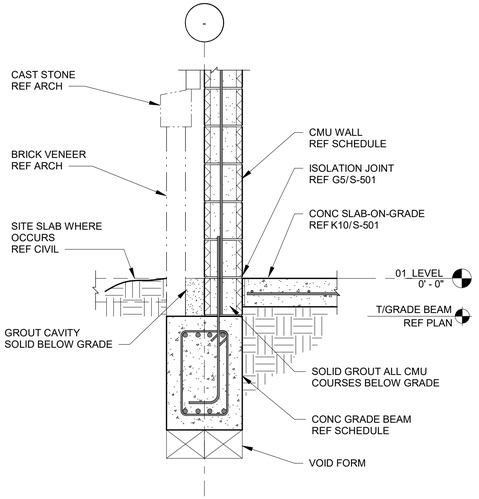
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

TYPICAL MASONRY DETAILS

SHEET ID
S-509

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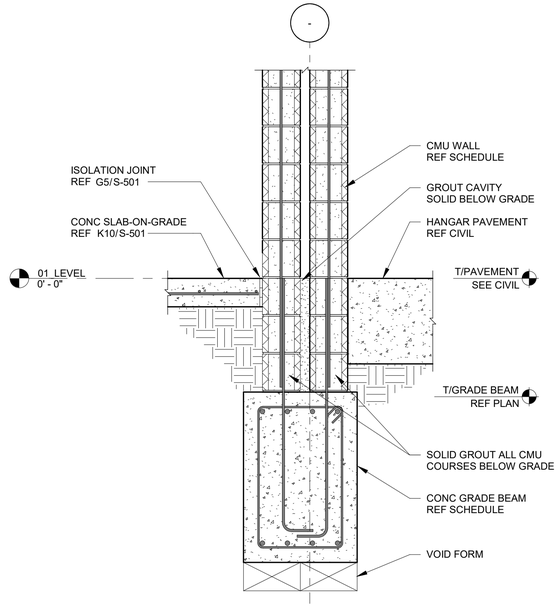
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J1 TYPICAL EXTERIOR GRADE BEAM

3/4" = 1'-0"

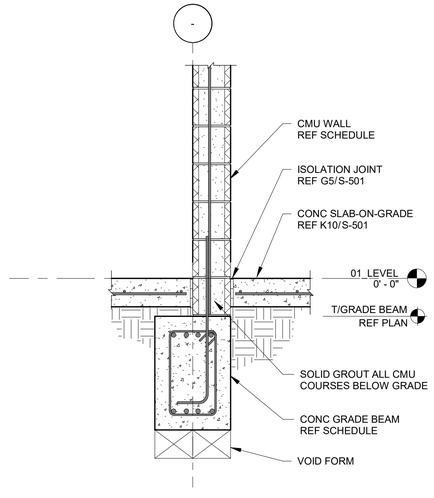
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J6 GRADE BEAM AT SUPPORT AREA/HANGAR

3/4" = 1'-0"

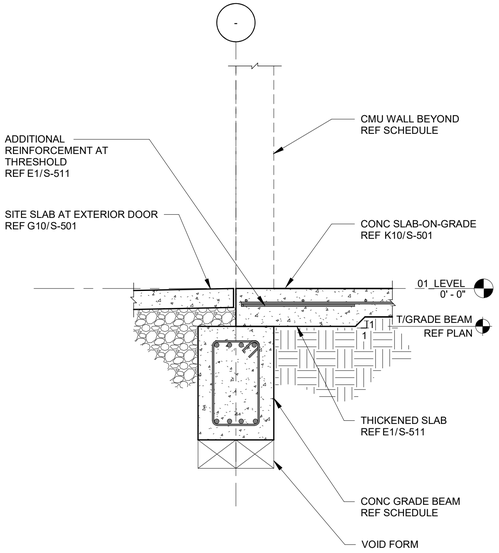
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J12 TYPICAL INTERIOR GRADE BEAM

3/4" = 1'-0"

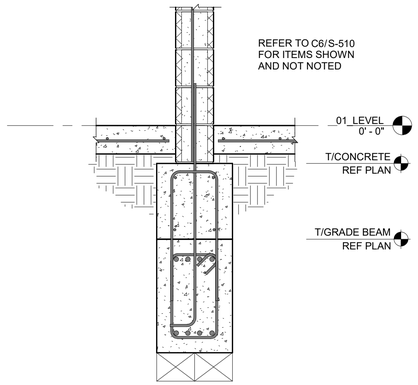
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J16 SOG AT THRESHOLD

3/4" = 1'-0"

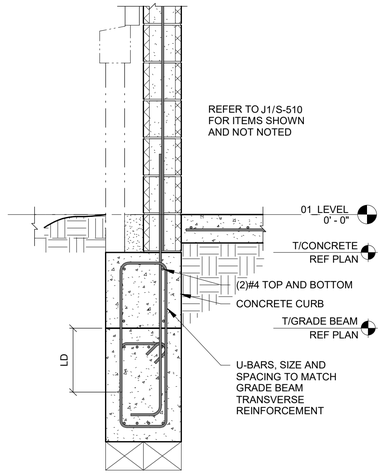
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C1 INTERIOR GRADE BEAM WITH CURB

3/4" = 1'-0"

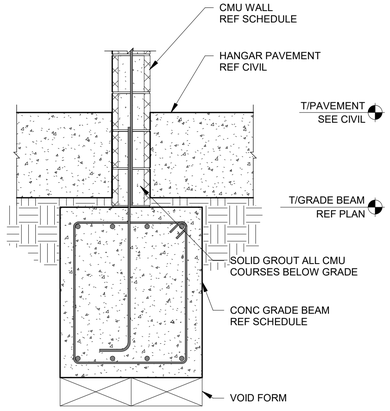
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C6 EXTERIOR GRADE BEAM WITH CURB

3/4" = 1'-0"

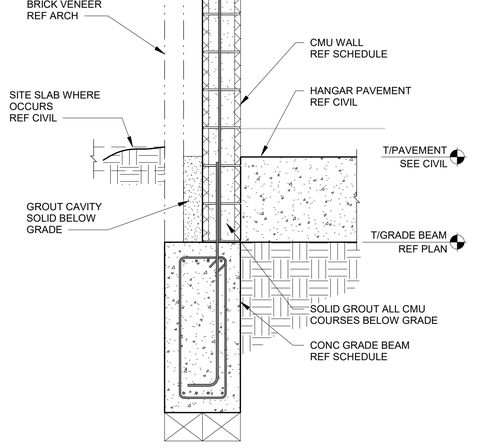
0 0.5' 1' 2' 3'



C11 INTERIOR HANGAR GRADE BEAM

3/4" = 1'-0"

0 0.5' 1' 2' 3'



C16 EXTERIOR HANGAR GRADE BEAM

3/4" = 1'-0"

0 0.5' 1' 2' 3'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: C. KENNEDY, PE, SE	ISSUE DATE: 5 DECEMBER 2025
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CHECKED BY: A. STUART, PE, SE	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:05:48 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

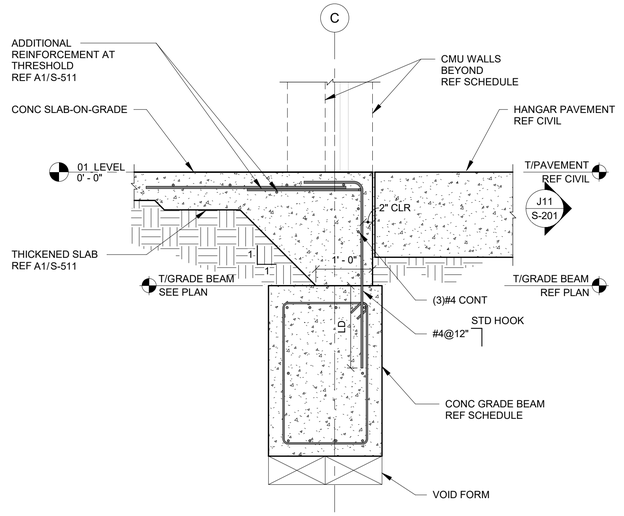
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

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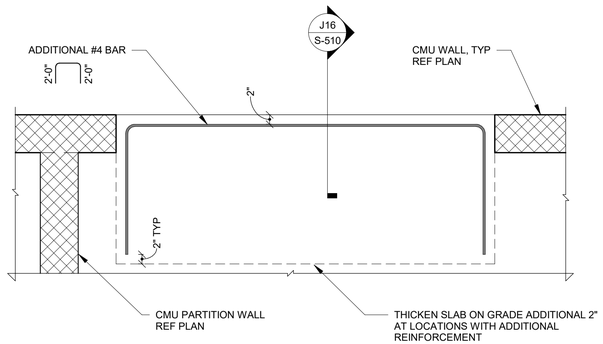
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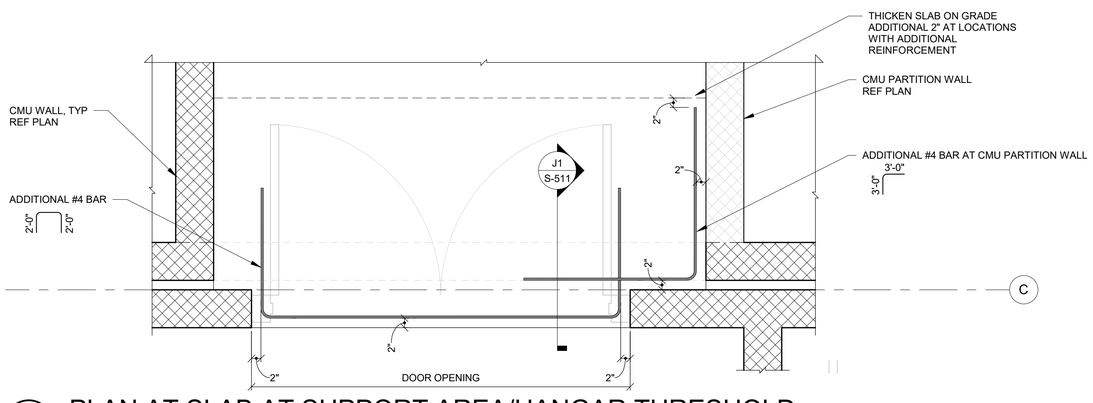
TYPICAL SLAB AT SUPPORT AREA/HANGAR OPENING

J1 — 3/4" = 1'-0"



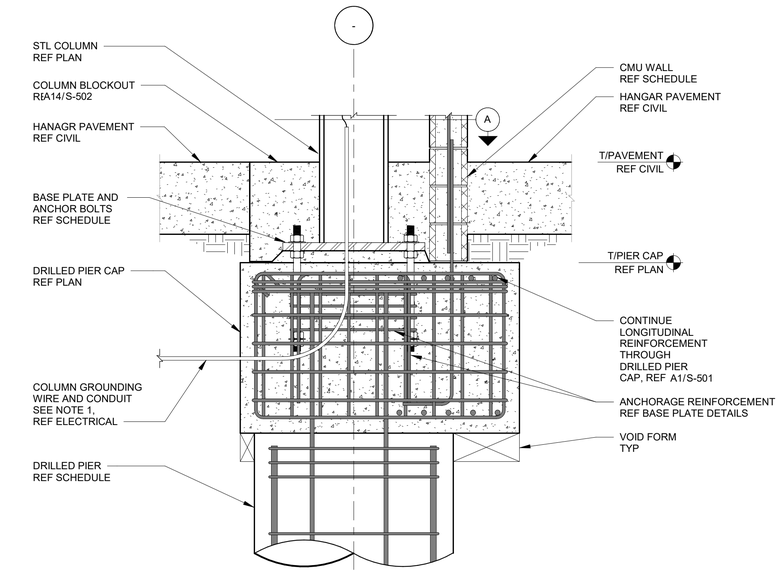
TYPICAL SLAB AT THRESHOLD

E1 — 3/4" = 1'-0"



PLAN AT SLAB AT SUPPORT AREA/HANGAR THRESHOLD

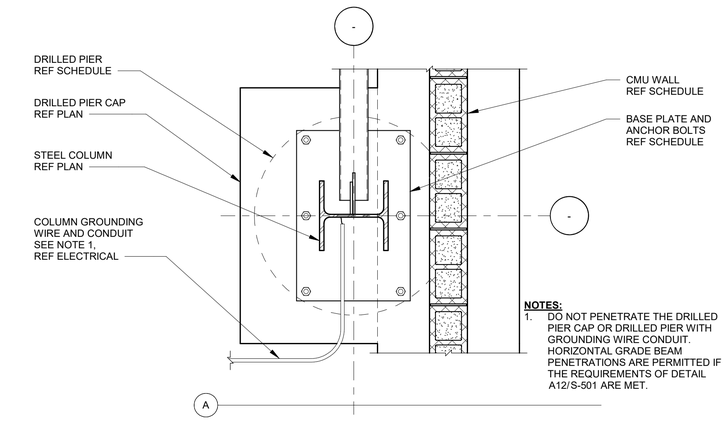
A1 — 3/4" = 1'-0"



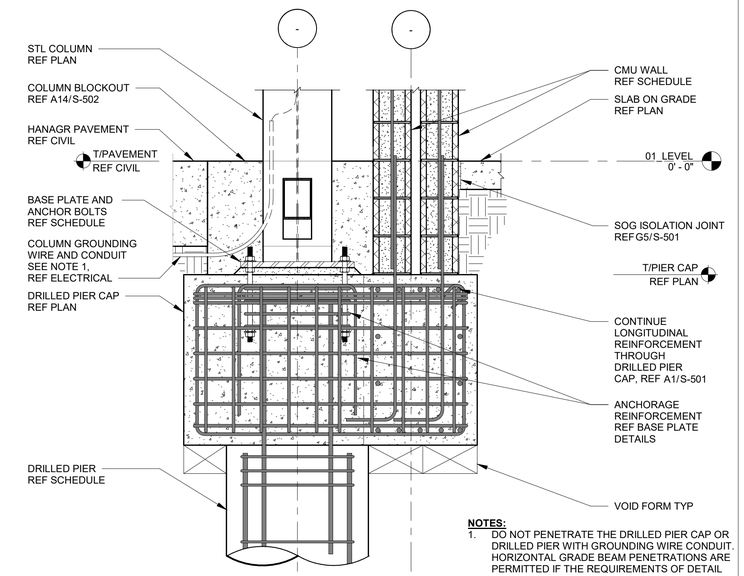
NOTES:
1. DO NOT PENETRATE THE DRILLED PIER CAP OR DRILLED PIER WITH GROUNDING WIRE CONDUIT. HORIZONTAL GRADE BEAM PENETRATIONS ARE PERMITTED IF THE REQUIREMENTS OF DETAIL A12/S-501 ARE MET.

DRILLED PIER CAP AT GRADE BEAM

E7 — 3/4" = 1'-0"



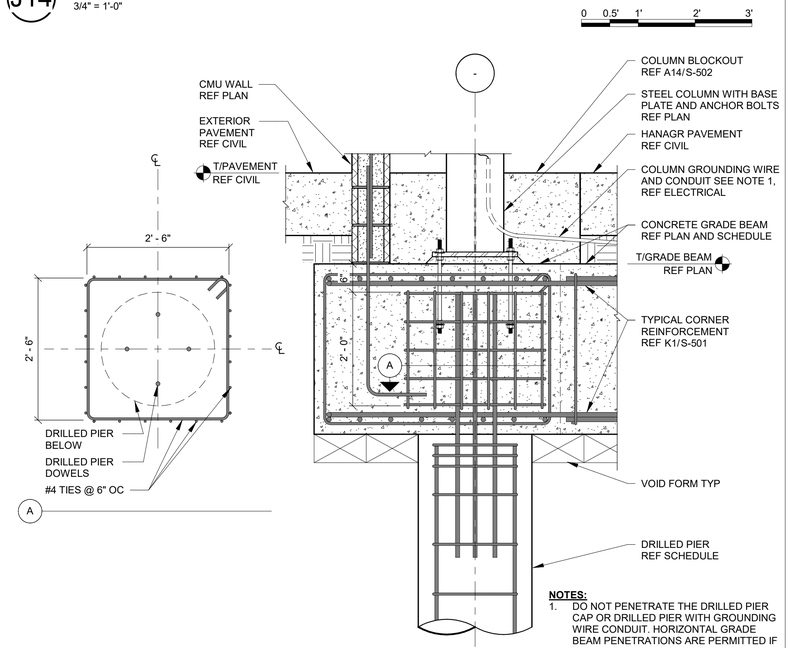
NOTES:
1. DO NOT PENETRATE THE DRILLED PIER CAP OR DRILLED PIER WITH GROUNDING WIRE CONDUIT. HORIZONTAL GRADE BEAM PENETRATIONS ARE PERMITTED IF THE REQUIREMENTS OF DETAIL A12/S-501 ARE MET.



NOTES:
1. DO NOT PENETRATE THE DRILLED PIER CAP OR DRILLED PIER WITH GROUNDING WIRE CONDUIT. HORIZONTAL GRADE BEAM PENETRATIONS ARE PERMITTED IF THE REQUIREMENTS OF DETAIL A12/S-501 ARE MET.

DRILLED PIER CAP AT GRADE BEAM GRID D

J14 — 3/4" = 1'-0"



NOTES:
1. DO NOT PENETRATE THE DRILLED PIER CAP OR DRILLED PIER WITH GROUNDING WIRE CONDUIT. HORIZONTAL GRADE BEAM PENETRATIONS ARE PERMITTED IF THE REQUIREMENTS OF DETAIL A12/S-501 ARE MET.

COLUMN AT GRADE BEAM

C14 — 3/4" = 1'-0"

0 0.5' 1' 2' 3'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	C. KENNEDY, PE, SE
DRAWN BY:	C. RUNDELL, PE
CHECKED BY:	A. STUART, PE, SE
SUBMITTED BY:	
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

FOUNDATION DETAILS

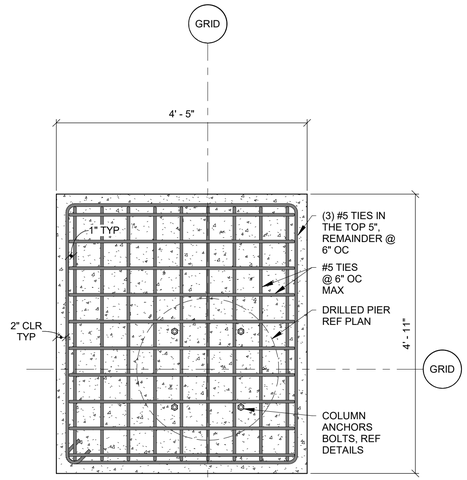
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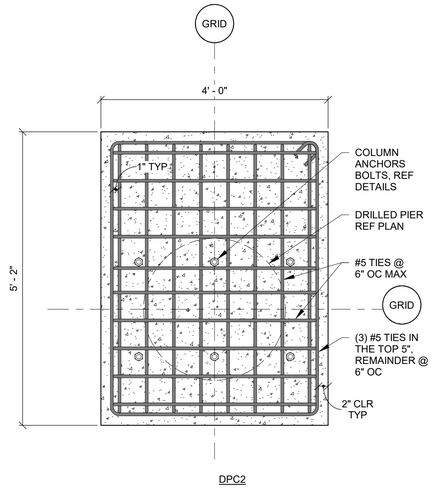
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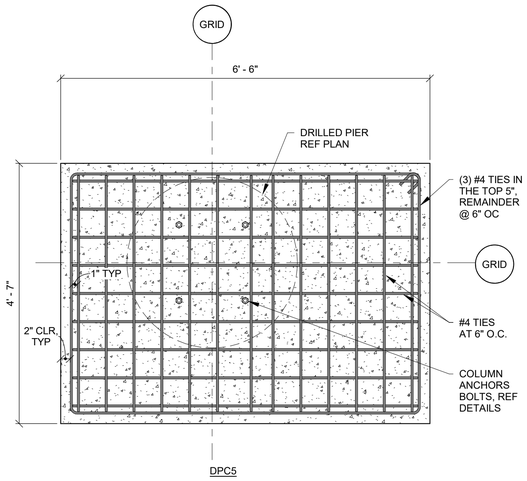
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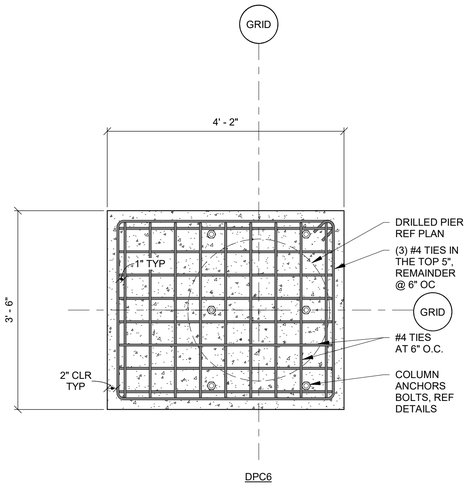
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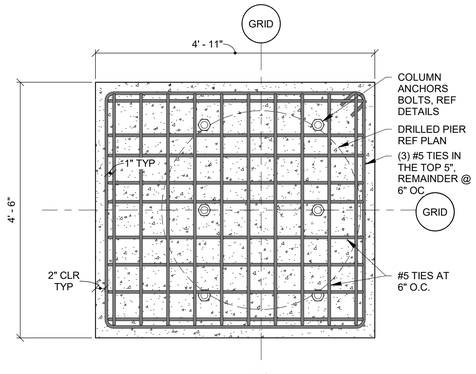
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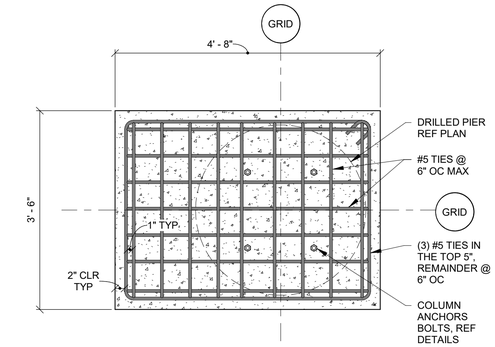
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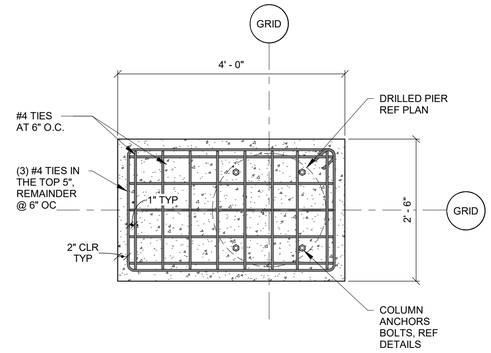
DPC6



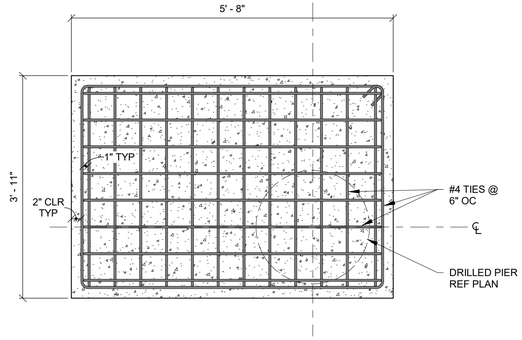
DPC3



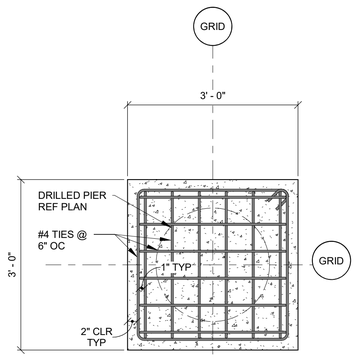
DPC4



DPC7



DPC8



DPC9

NOTES:
1. SEE DETAIL K7/S-502 FOR TYPICAL DRILLED PIER CAP SECTION.
2. SEE PLAN FOR LOCATION OF DRILLED PIER CAPS.

A1 DRILLED PIER CAP DETAILS

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

File Path:
Plot Date: 10/20/2025 12:05:53 PM

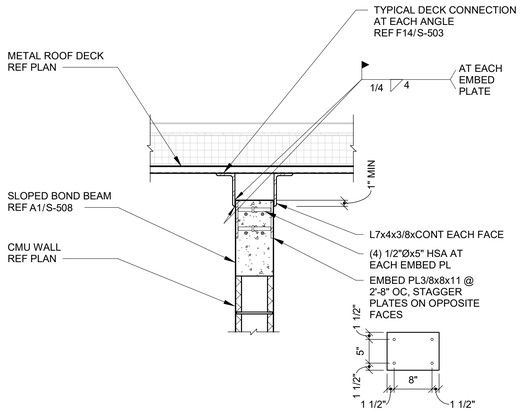
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

FOUNDATION DETAILS

SHEET ID

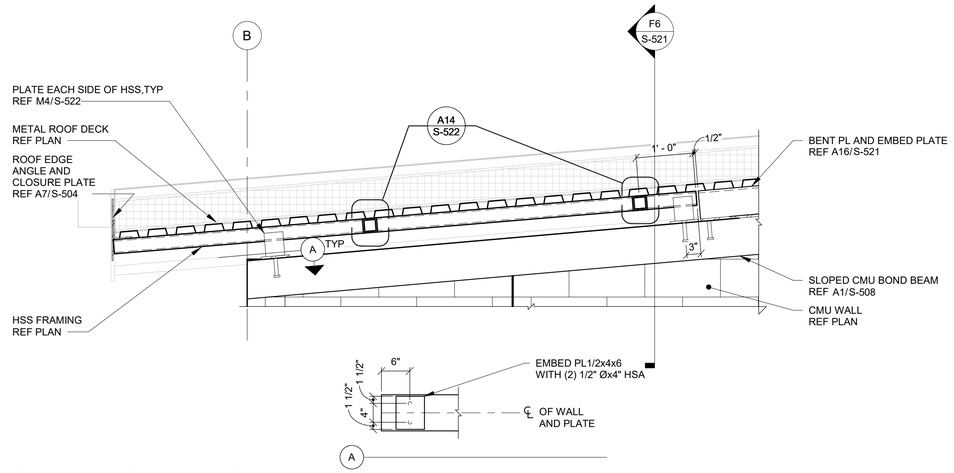
S-512

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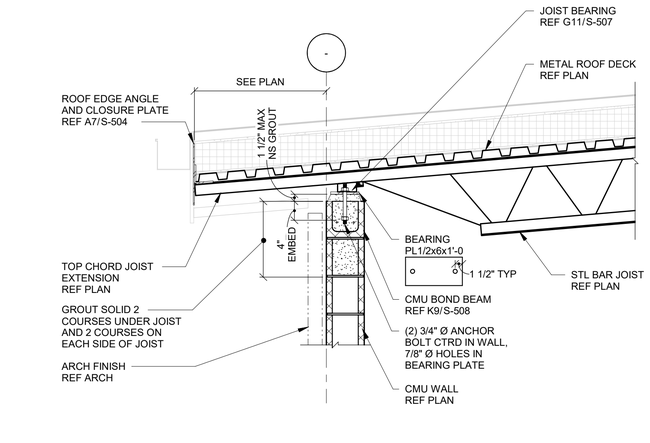
K1 MASONRY WALL SUPPORTING SLOPED DECK

3/4" = 1'-0"



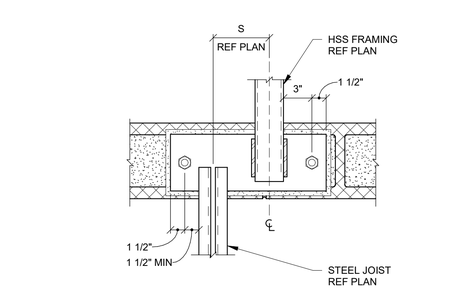
K6 HSS OUTRIGGER AT CORNER

3/4" = 1'-0"



K16 TYPICAL JOIST BEARING AT LOW END

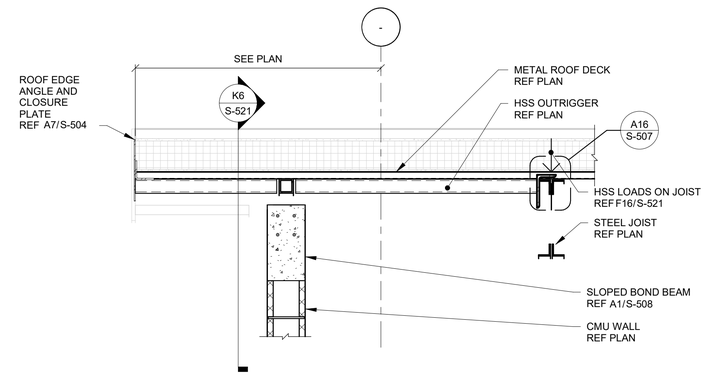
3/4" = 1'-0"



NOTE:
FOR ITEMS NOT NOTED REF J1/S-522

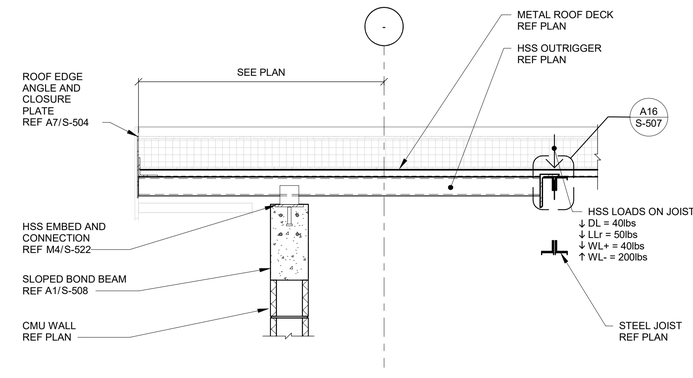
F1 HSS AND JOIST BEARING PLATE

1 1/2" = 1'-0"



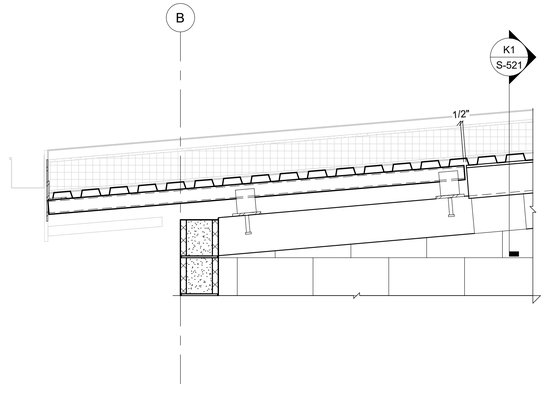
F6 HSS OUTRIGGER

3/4" = 1'-0"



F16 TYPICAL OUTRIGGER

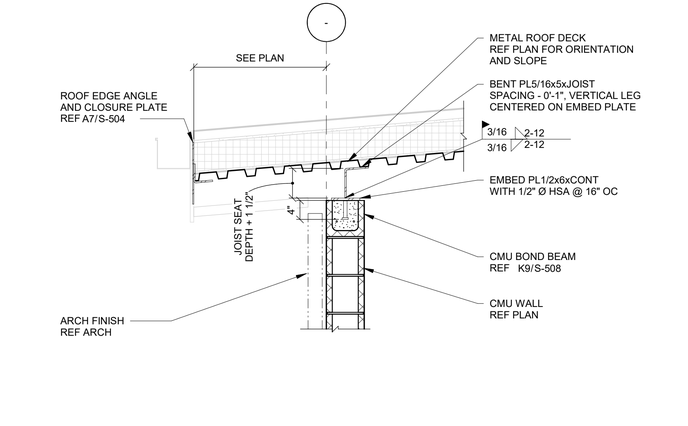
3/4" = 1'-0"



NOTE:
FOR ITEMS NOT NOTED REF K6/S-521

A6 HSS OUTRIGGER AT CMU WALL

3/4" = 1'-0"



A16 METAL DECK SUPPORT AT CMU WALL

3/4" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KEININEDY, PE, SE	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: C. RUNDELL, PE	SOLICITATION NO.: W912BV26RA004
CHECKED BY: A. STUART, PE, SE	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG 512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

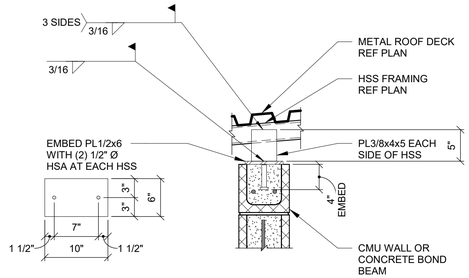
ROOF FRAMING DETAILS

SHEET ID
S-521

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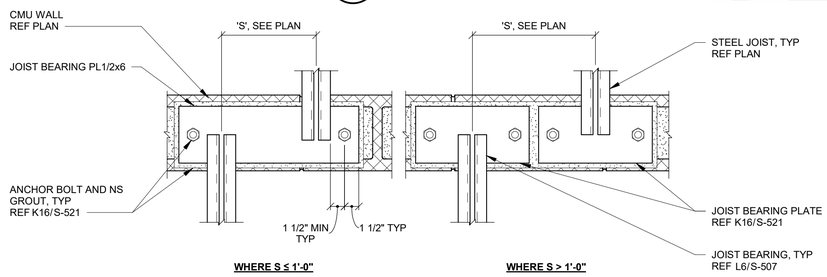
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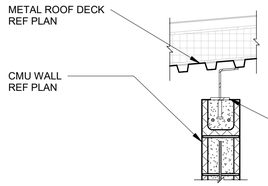
M4 HSS EMBED PLATE

1" = 1'-0"



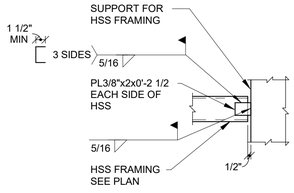
J1 JOIST BEARING ON EACH SIDEOF CMU WALL

1 1/2" = 1'-0"



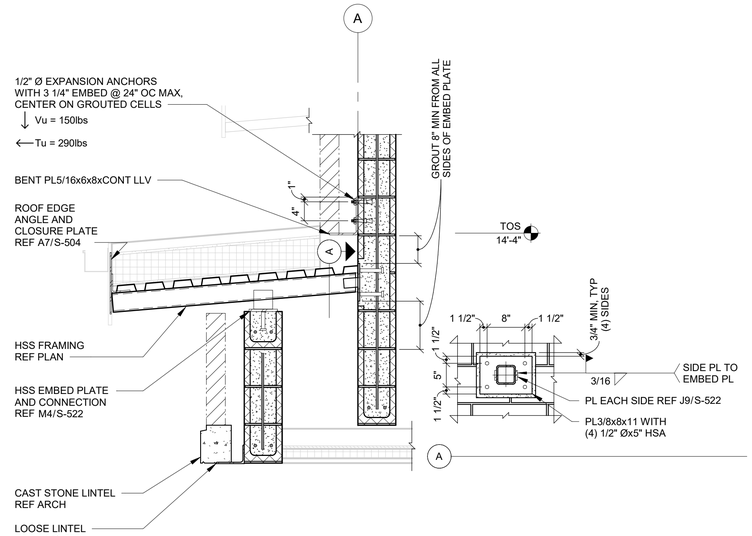
M9 BETWEEN FRAMING

3/4" = 1'-0"



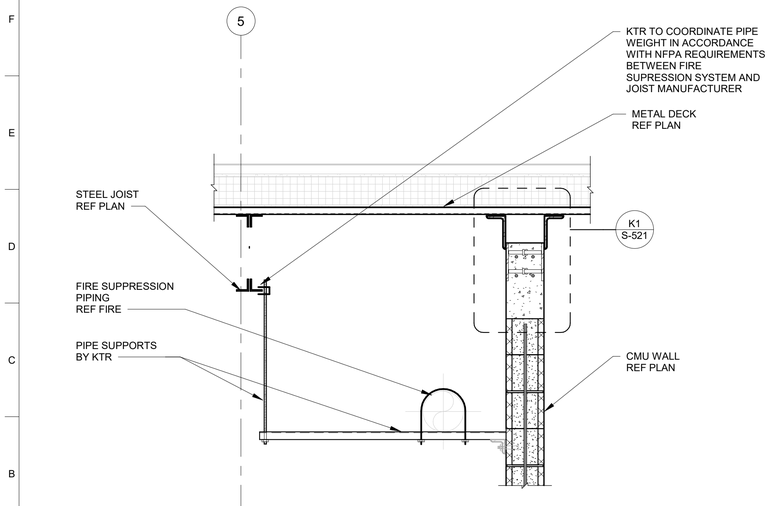
J9 HSS SHEAR CONNECTION

1" = 1'-0"



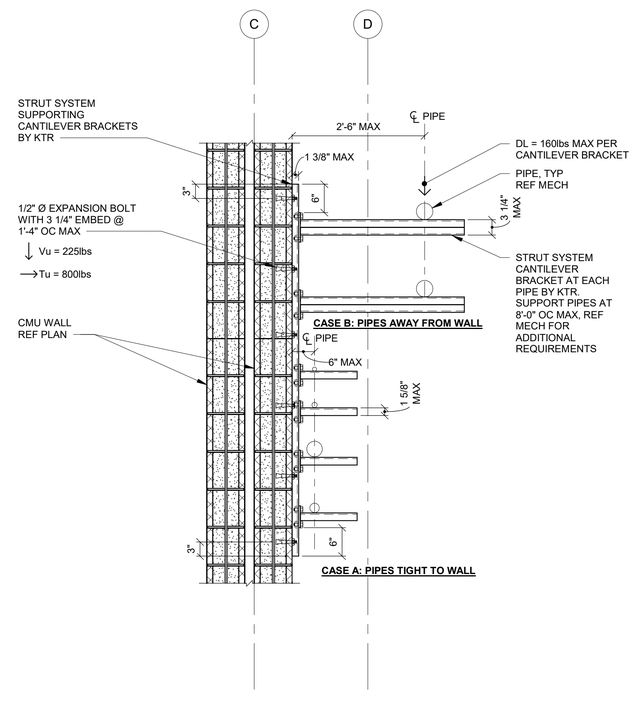
J14 HSS FRAMING AT ENTRY - PERPENDICULAR TO DECK

3/4" = 1'-0"



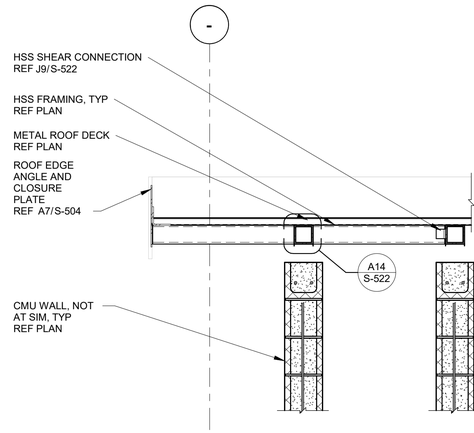
A1 FIRE SUPRESSION SUPPORTS

3/4" = 1'-0"



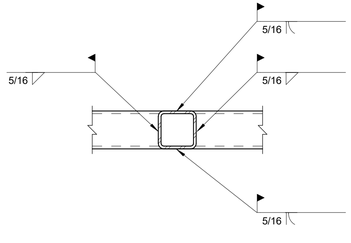
A8 PIPE SUPPORTS AT CMU WALL

3/4" = 1'-0"



D14 HSS FRAMING AT ENTRY - PARALLEL TO DECK

3/4" = 1'-0"



A14 HSS MOMENT CONNECTION

1 1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: C. RUNDELL, PE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt
File Path: C:\Users\mdoctor\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_S_3BAYH_RVT22_M5ECDRAR.rvt
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TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

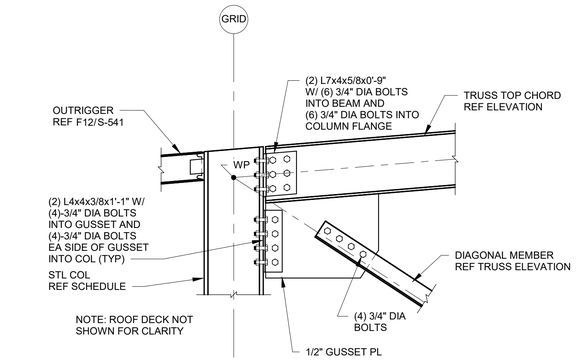
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

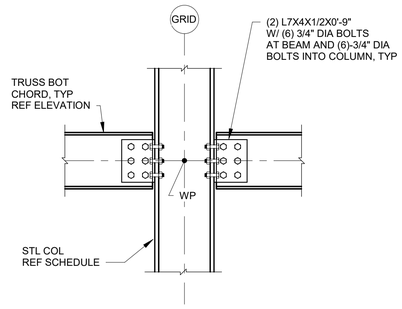
ROOF FRAMING DETAILS

SHEET ID
S-522

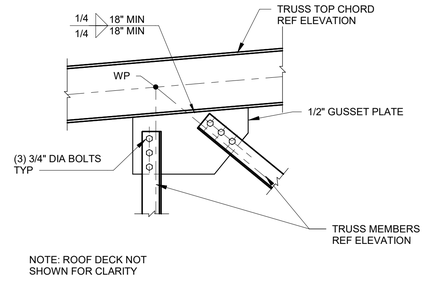
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



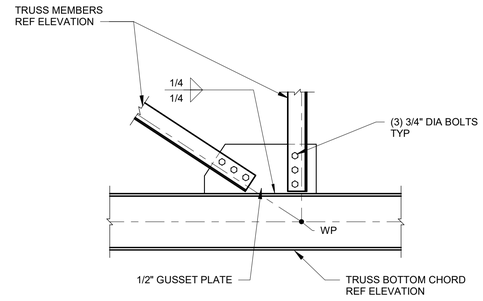
L1 TRUSS T1/T2/T3 CONNECTION (1)
3/4" = 1'-0"
0 0.5' 1' 2' 3'



L6 TRUSS T1/T2/T3 CONNECTION (2)
3/4" = 1'-0"
0 0.5' 1' 2' 3'



L11 TRUSS T2/T3 CONNECTION (3)
3/4" = 1'-0"
0 0.5' 1' 2' 3'



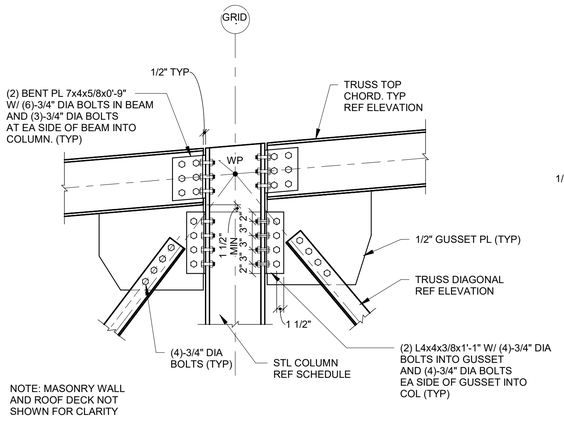
L16 TRUSS T2/T3 CONNECTION (4)
3/4" = 1'-0"
0 0.5' 1' 2' 3'

F1 TRUSS T1/T3 CONNECTION (5)
3/4" = 1'-0"
0 0.5' 1' 2' 3'

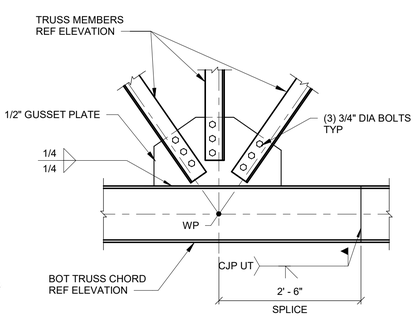
F6 TRUSS T1/T3 CONNECTION (6)
3/4" = 1'-0"
0 0.5' 1' 2' 3'

F11 TRUSS T2/T3 CONNECTION (7)
3/4" = 1'-0"
0 0.5' 1' 2' 3'

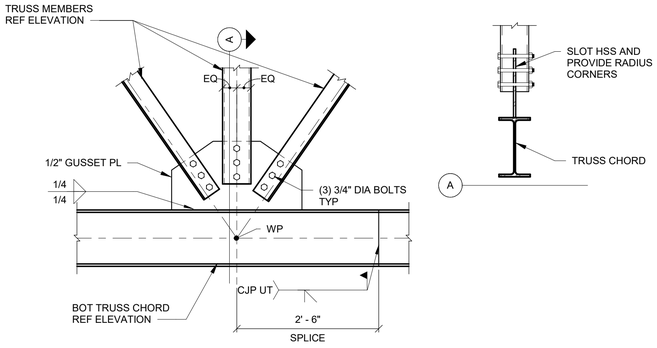
F16 TRUSS T1 CONNECTION (8)
3/4" = 1'-0"
0 0.5' 1' 2' 3'



A1 TRUSS T1/T2/T3 CONNECTION (9)
3/4" = 1'-0"
0 0.5' 1' 2' 3'



A6 TRUSS T2/T3 CONNECTION (10)
3/4" = 1'-0"
0 0.5' 1' 2' 3'



A11 TRUSS T1 CONNECTION (11)
3/4" = 1'-0"

1. SEE SHEET S-506 FOR TYPICAL CONTROL DIMENSION DETAIL.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENNG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

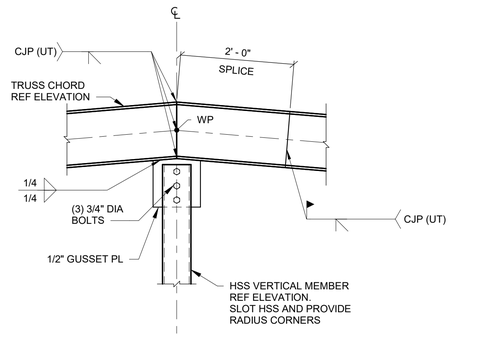
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

STEEL TRUSS FRAMING DETAILS

SHEET ID
S-523

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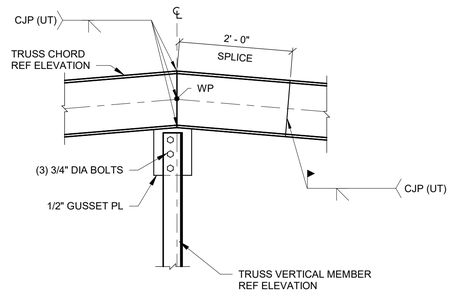
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L1 TRUSS T1 CONNECTION (12)

3/4" = 1'-0"

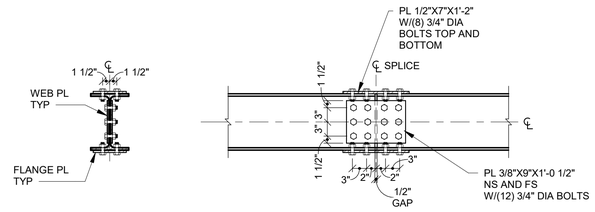
0 0.5' 1' 2' 3'



L6 TRUSS T2/T3 CONNECTION (13)

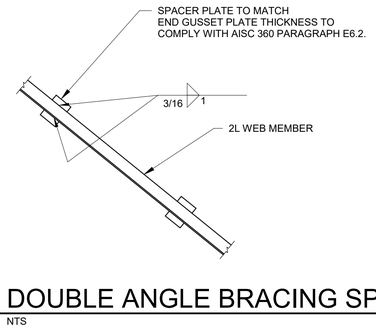
3/4" = 1'-0"

0 0.5' 1' 2' 3'



L11 TRUSS T1/T2/T3 CHORD SPLICE

3/4" = 1'-0"



G1 DOUBLE ANGLE BRACING SPACERS

NTS

1. SEE SHEET S-506 FOR TYPICAL CONTROL DIMENSION DETAIL.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

STEEL TRUSS FRAMING DETAILS

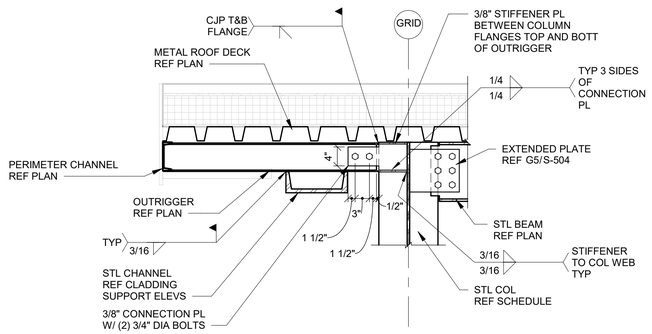
SHEET ID

S-524

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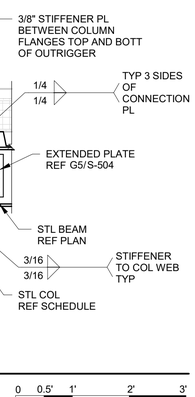
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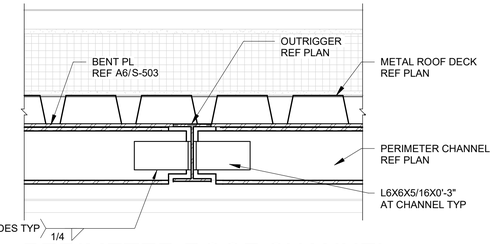
L1 OUTRIGGER TO COLUMN WEB

3/4" = 1'-0"



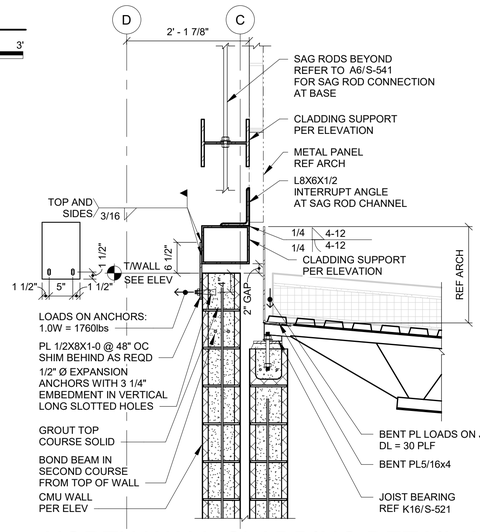
F1 CLADDING AT TRANSLUCENT PANEL

3/4" = 1'-0"



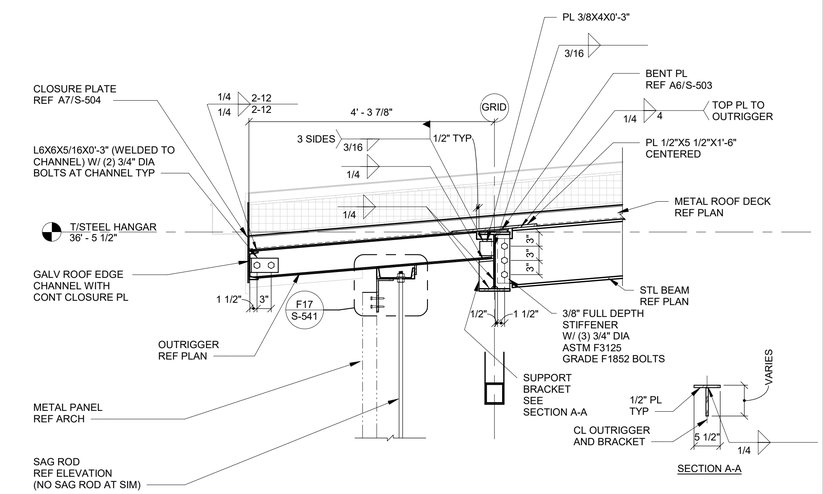
M8 PERIMETER ROOF CHANNEL CONNECTION

1 1/2" = 1'-0"



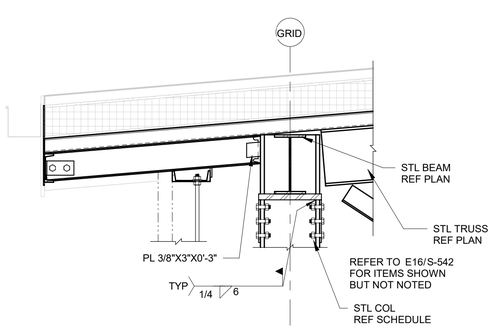
F7 NORTH WALL CLADDING DETAIL AT MASONRY WALL

3/4" = 1'-0"



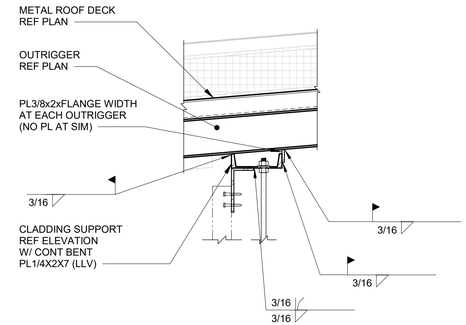
K13 DETAIL AT OUTRIGGER

3/4" = 1'-0"



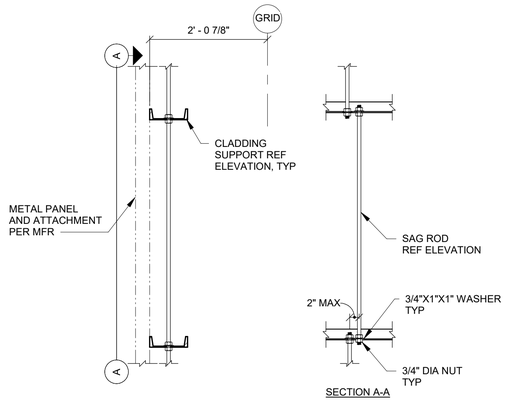
F12 OUTRIGGER TO COLUMN FLANGE

3/4" = 1'-0"



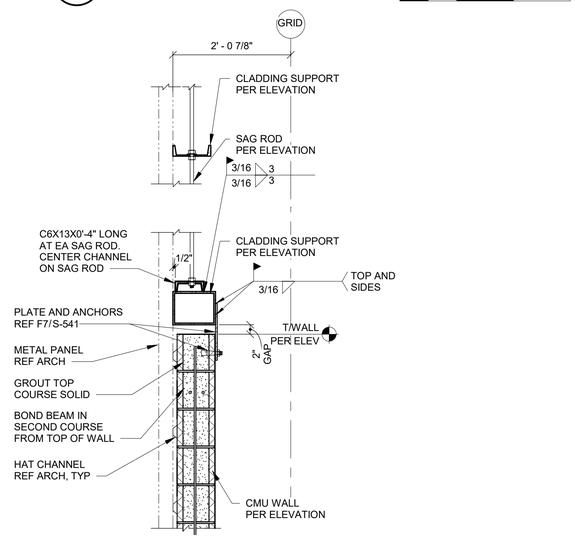
F17 CLADDING SUPPORT AT OUTRIGGER

1" = 1'-0"



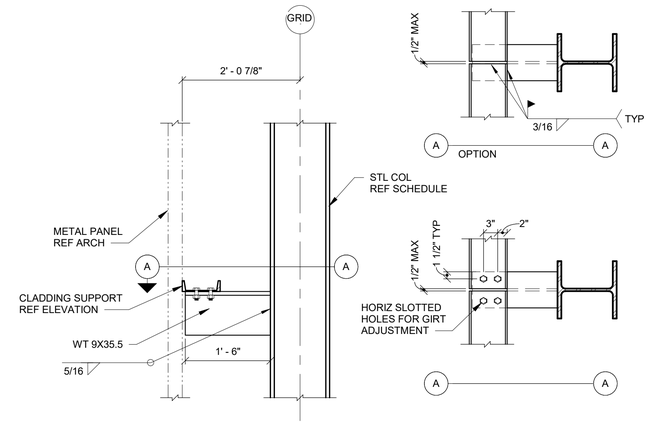
A1 SAG ROD DETAIL

3/4" = 1'-0"



A6 CLADDING SUPPORT AT MASONRY WALL

3/4" = 1'-0"



A12 CLADDING SUPPORT AT COLUMN

3/4" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

C:\Users\decatar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSECRAR.rvt

File Path:

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:06:11 PM

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

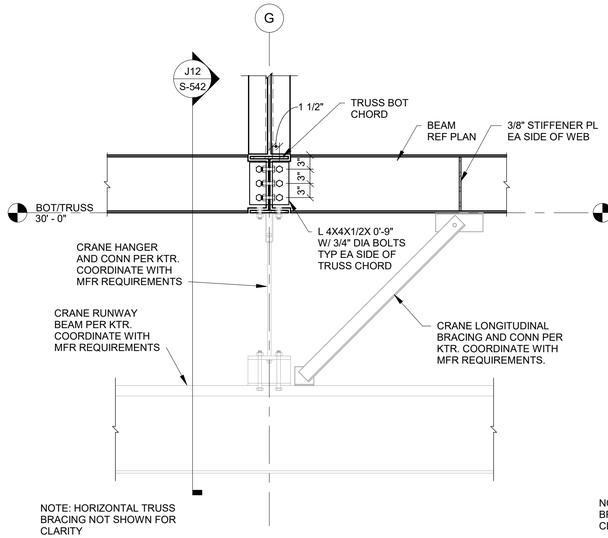
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

HANGAR FRAMING DETAILS

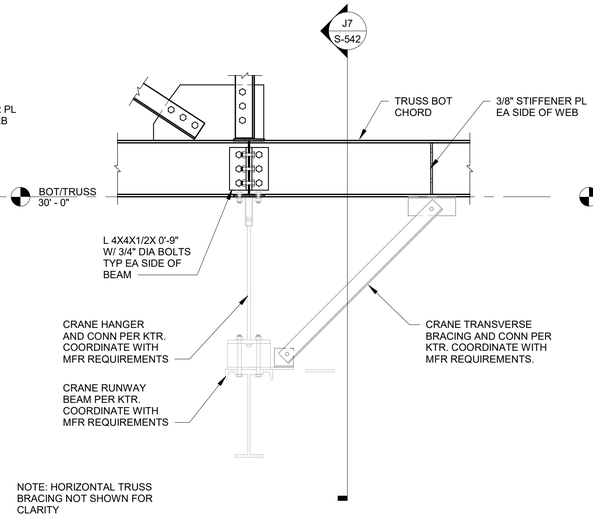
SHEET ID
S-541

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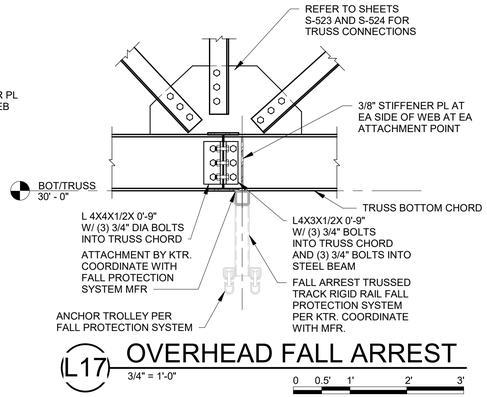
J7 TYPICAL CRANE HANGER

3/4" = 1'-0"



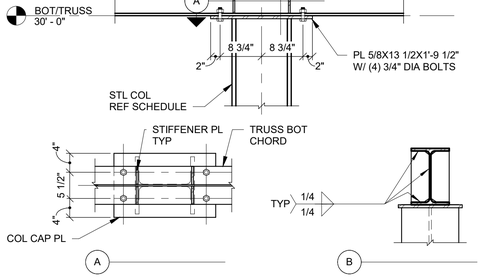
J12 CRANE TRANSVERSE BRACE

3/4" = 1'-0"



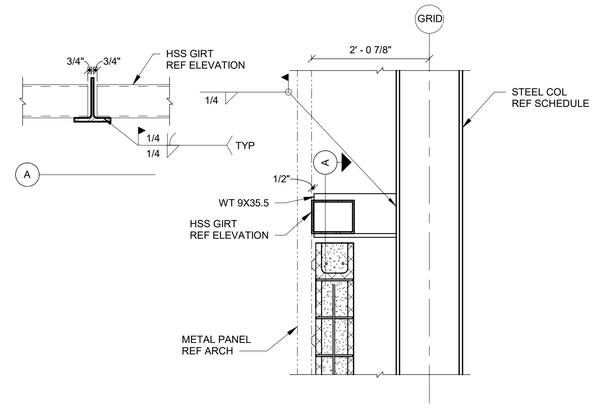
L17 OVERHEAD FALL ARREST

3/4" = 1'-0"



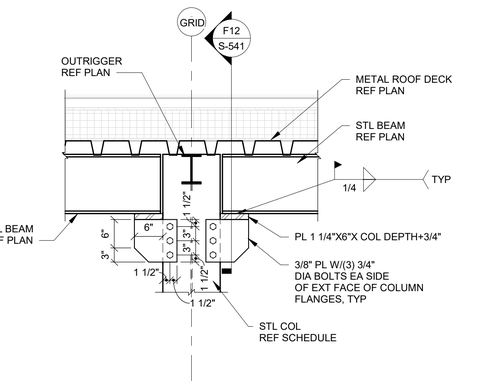
E4 COLUMN CONN AT TRUSS

3/4" = 1'-0"



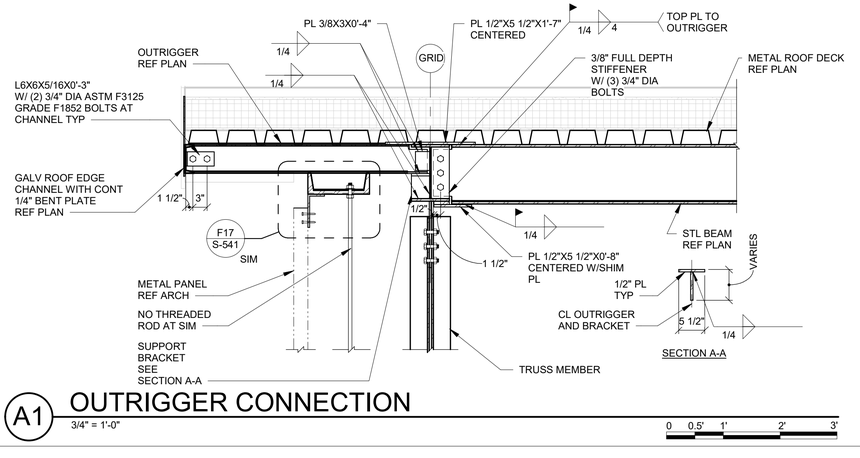
E10 BOTTOM GIRT CONNECTION AT COLUMN

3/4" = 1'-0"



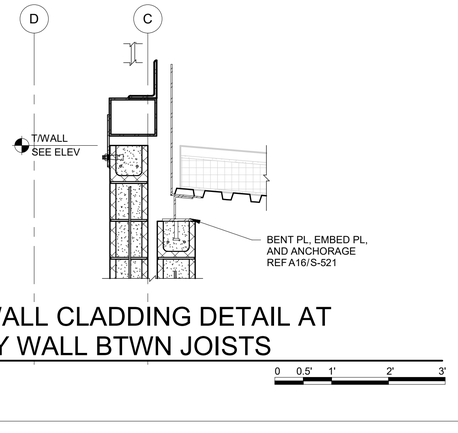
E16 PERIMETER ROOF BEAM CONNECTION

3/4" = 1'-0"



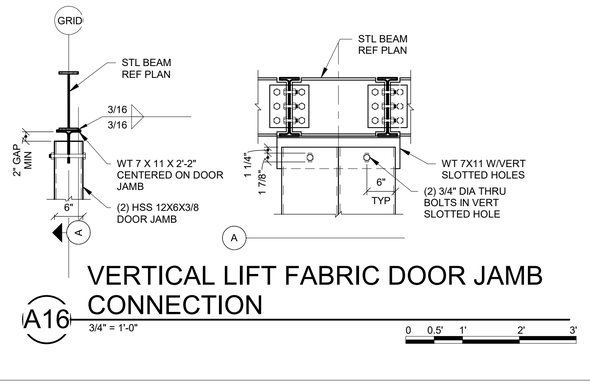
A1 OUTRIGGER CONNECTION

3/4" = 1'-0"



A10 NORTH WALL CLADDING DETAIL AT MASONRY WALL BTWN JOISTS

3/4" = 1'-0"



A16 VERTICAL LIFT FABRIC DOOR JAMB CONNECTION

3/4" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_S_3BAYH_RV722.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
File Path: C:\Users\mSeidner\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_MSEIDNAR.rvt
Plot Date: 10/20/2025 12:06:15 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

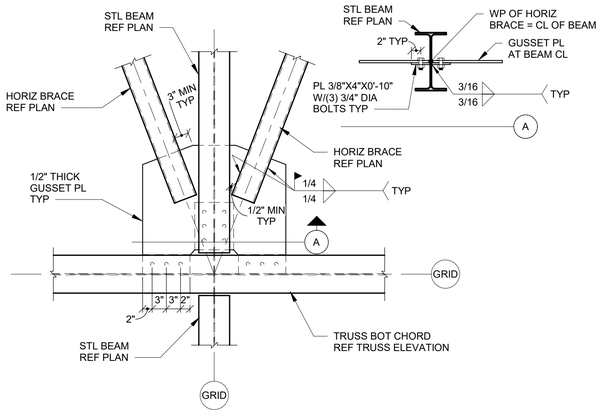
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

HANGAR FRAMING DETAILS

SHEET ID
S-542

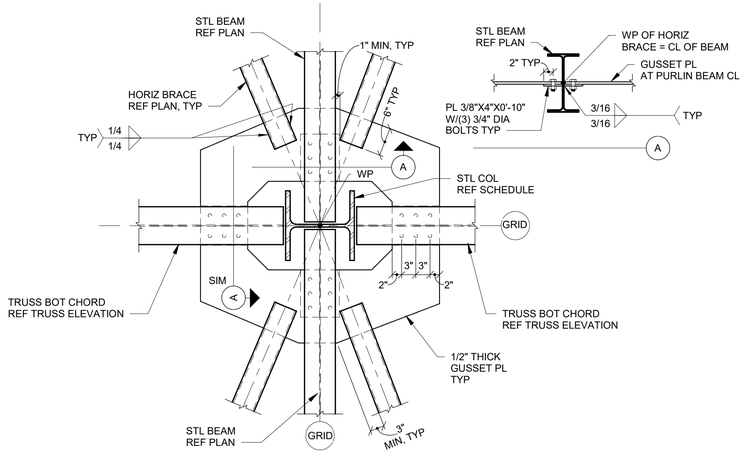
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



K1 BOTTOM CHORD HORIZONTAL BRACING CONNECTION

3/4" = 1'-0"

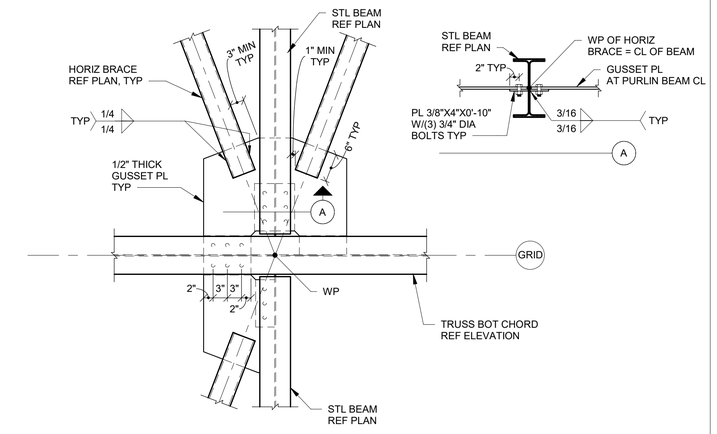
0 0.5' 1' 2' 3'



K8 BOTTOM CHORD HORIZONTAL BRACING CONNECTION

3/4" = 1'-0"

0 0.5' 1' 2' 3'



K15 BOTTOM CHORD HORIZONTAL BRACING CONNECTION

3/4" = 1'-0"

0 0.5' 1' 2' 3'

C1 BOTTOM CHORD HORIZONTAL BRACING CONNECTION

3/4" = 1'-0"

0 0.5' 1' 2' 3'

C8 TOP CHORD HORIZONTAL BRACING CONNECTION

3/4" = 1'-0"

0 0.5' 1' 2' 3'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_S_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

HANGAR FRAMING DETAILS

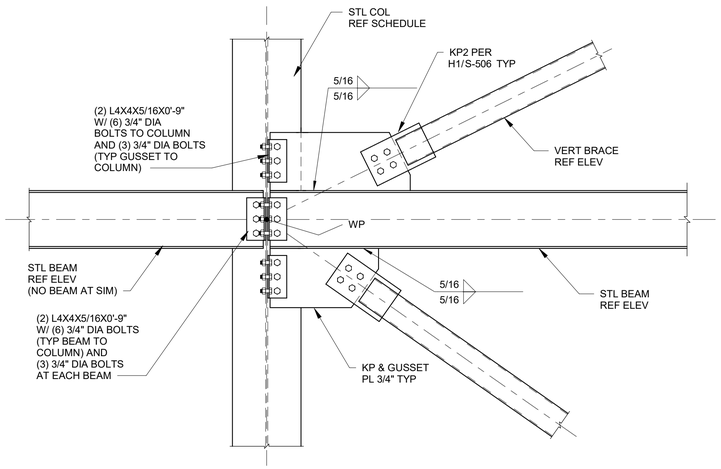
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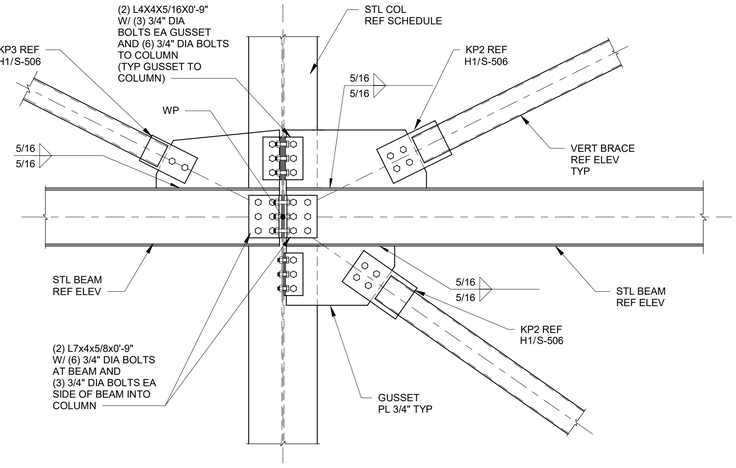
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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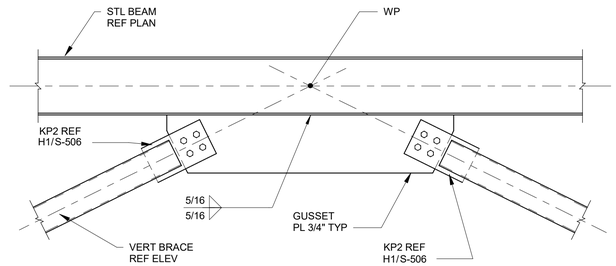
Plot Date: 10/20/2025 12:06:17 PM



K1 VERTICAL BRACING CONNECTION
3/4" = 1'-0"
0 0.5' 1' 2' 3'



K8 VERTICAL BRACING CONNECTION
3/4" = 1'-0"
0 0.5' 1' 2' 3'

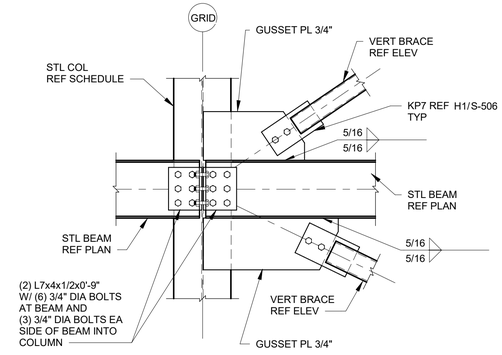


K15 VERTICAL BRACING CONNECTION
3/4" = 1'-0"
0 0.5' 1' 2' 3'

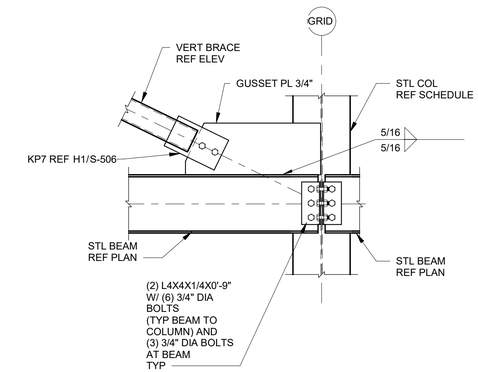
E1 VERTICAL BRACING CONNECTION
3/4" = 1'-0"
0 0.5' 1' 2' 3'

E8 VERTICAL BRACING CONNECTION
3/4" = 1'-0"
0 0.5' 1' 2' 3'

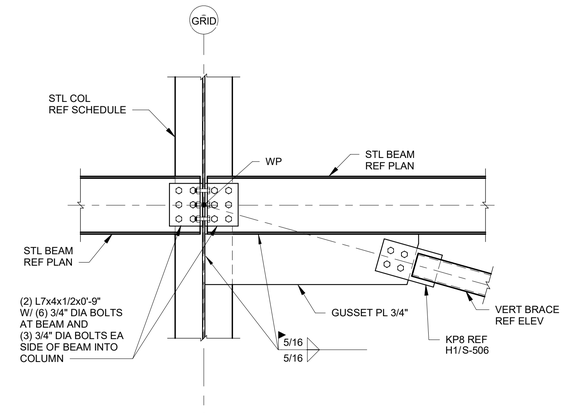
E15 VERTICAL BRACING CONNECTION
3/4" = 1'-0"
0 0.5' 1' 2' 3'



A1 VERTICAL BRACING CONNECTION
3/4" = 1'-0"
0 0.5' 1' 2' 3'



A6 VERTICAL BRACING CONNECTION
3/4" = 1'-0"
0 0.5' 1' 2' 3'



A15 VERTICAL BRACING CONNECTION
3/4" = 1'-0"
0 0.5' 1' 2' 3'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

C:\Users\mbostar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_S_3BAYH_RVT22_M5ECDRAR.rvt

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

File Path:
Plot Date: 10/20/2025 12:06:21 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

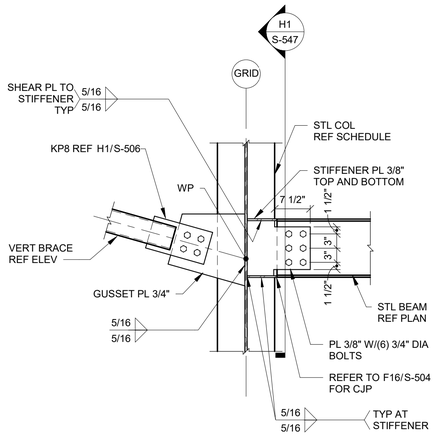
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

VERTICAL BRACING DETAILS

SHEET ID
S-544

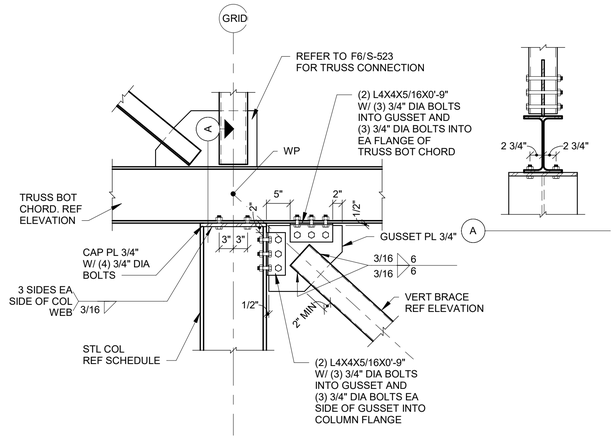
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K1 VERTICAL BRACING CONNECTION

3/4" = 1'-0"

0 0.5' 1' 2' 3'



K7 VERTICAL BRACING CONNECTION

3/4" = 1'-0"

0 0.5' 1' 2' 3'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:06:22 PM File Path:

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

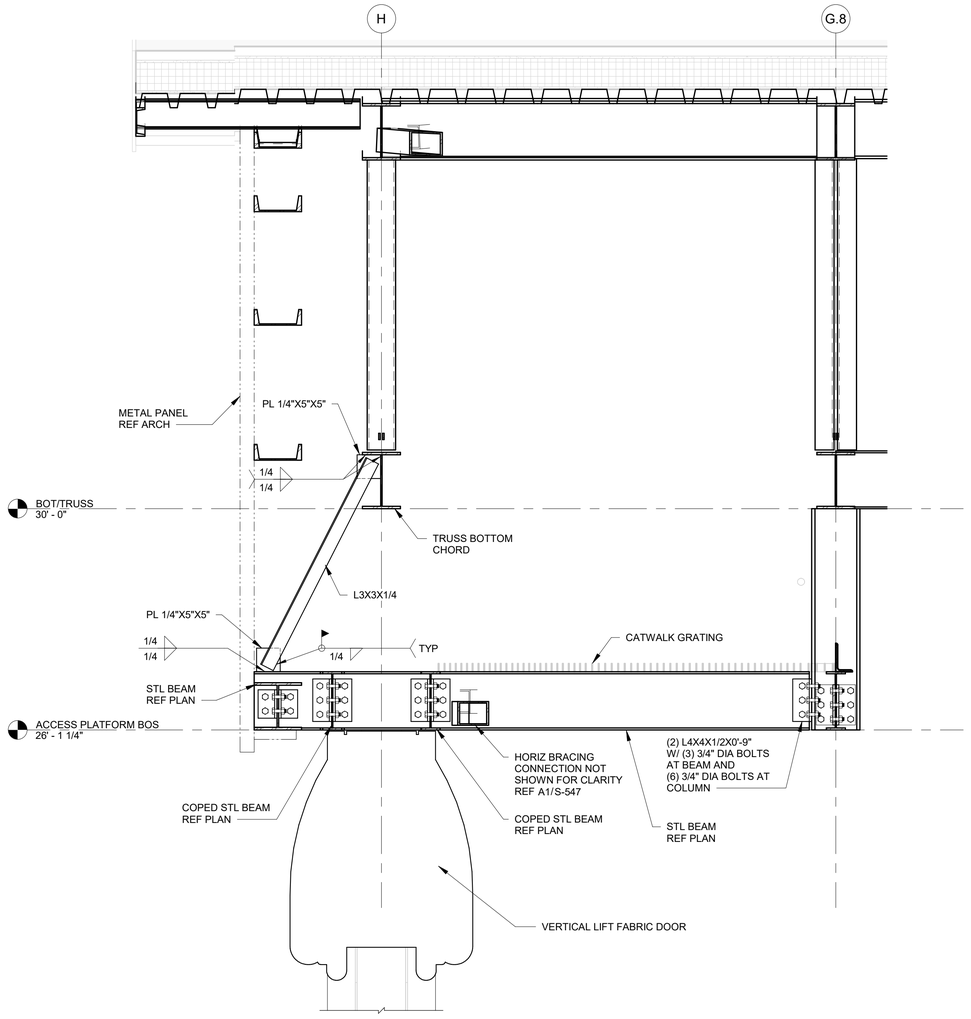
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

VERTICAL BRACING DETAILS

SHEET ID

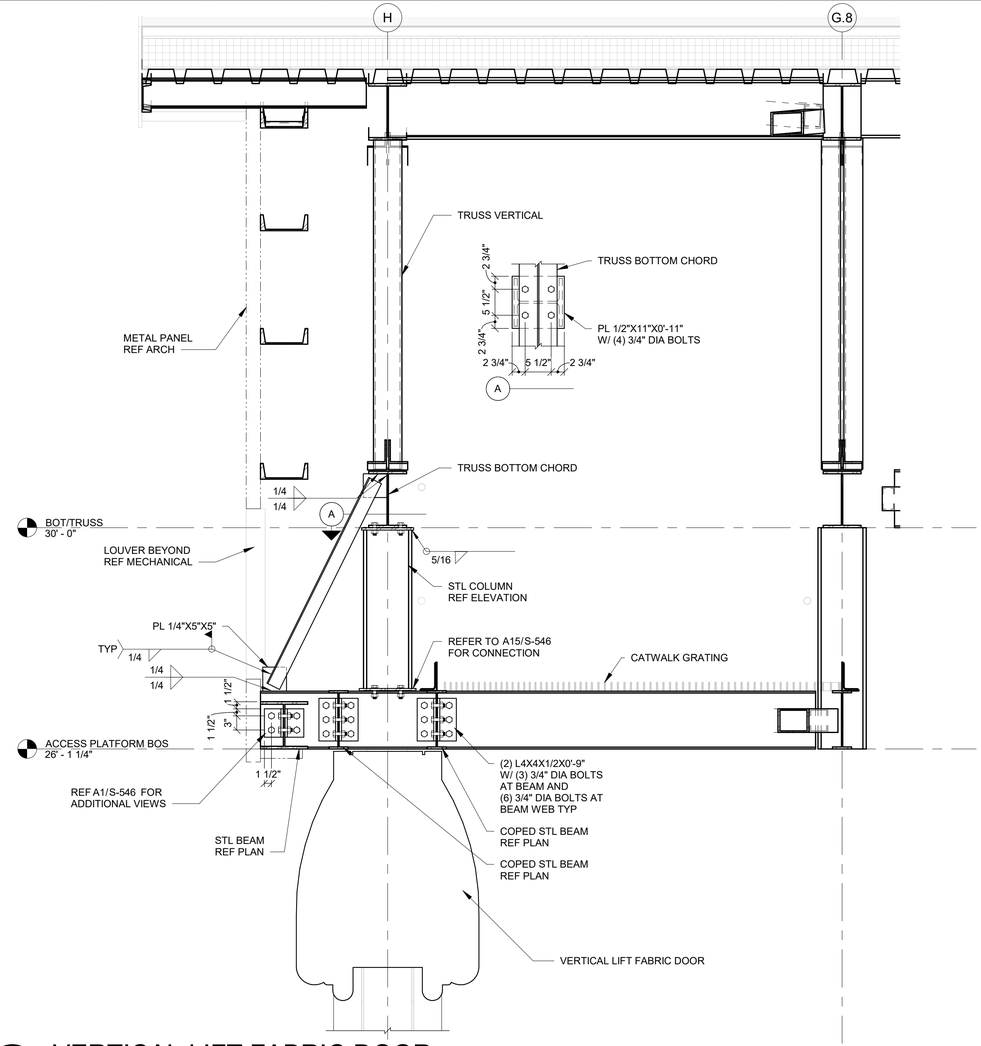
S-545

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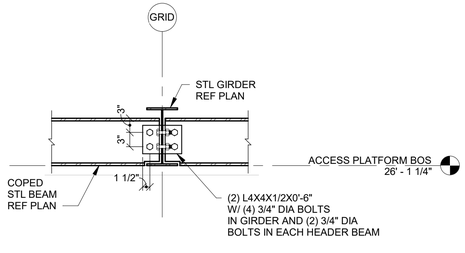
E2 VERTICAL LIFT FABRIC DOOR

3/4" = 1'-0"



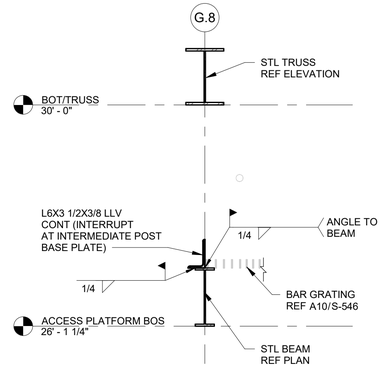
E12 VERTICAL LIFT FABRIC DOOR

3/4" = 1'-0"



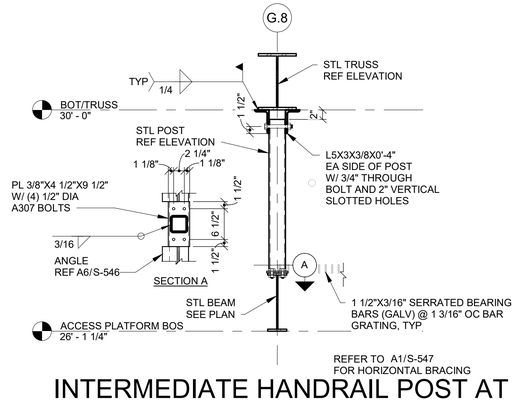
A1 HEADER CONN AT LIFT DOOR

3/4" = 1'-0"



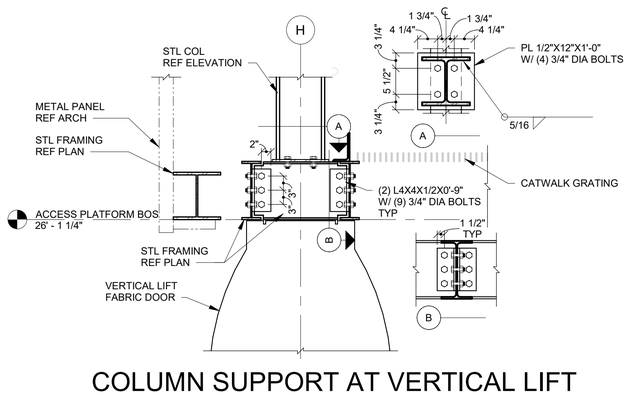
A6 PLATFORM GRATING SUPPORT

3/4" = 1'-0"



A10 INTERMEDIATE HANDRAIL POST AT PLATFORM

3/4" = 1'-0"



A15 COLUMN SUPPORT AT VERTICAL LIFT FABRIC DOOR

3/4" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: C. RUNDELL, PE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
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Plot Date: 10/20/2025 12:06:27 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

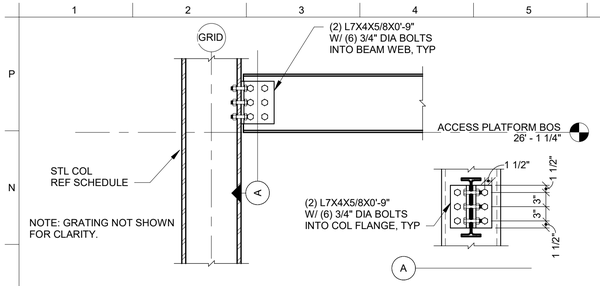
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

ACCESS PLATFORM DETAILS

SHEET ID

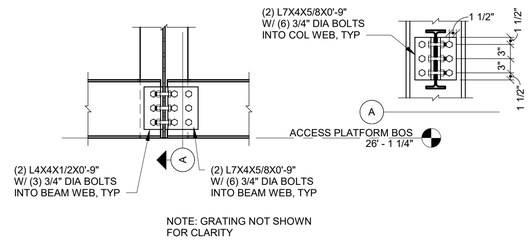
S-546

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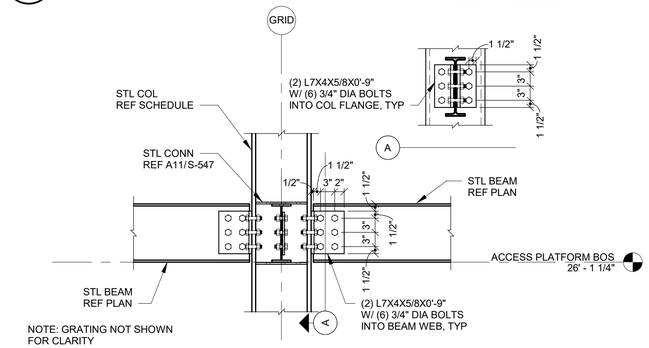
M1 PLATFORM CONNECTION

3/4" = 1'-0"



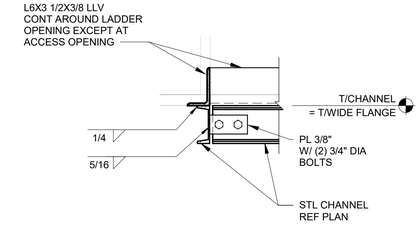
M7 PLATFORM CONNECTION

3/4" = 1'-0"



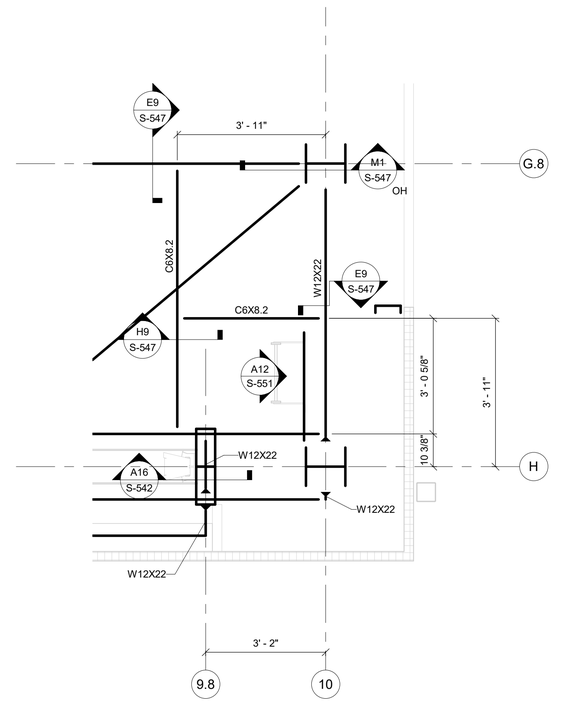
H1 PLATFORM CONNECTION

3/4" = 1'-0"



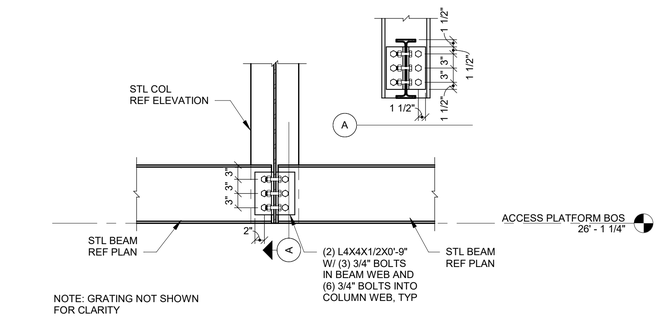
H9 OPENING AT CATWALK LADDER ACCESS

1" = 1'-0"



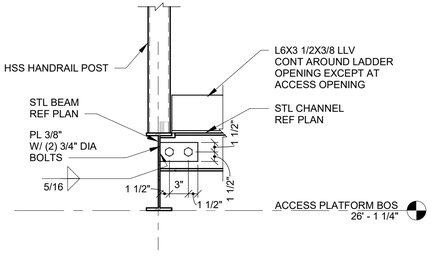
H15 PLATFORM FRAMING AT LADDER

1/2" = 1'-0"



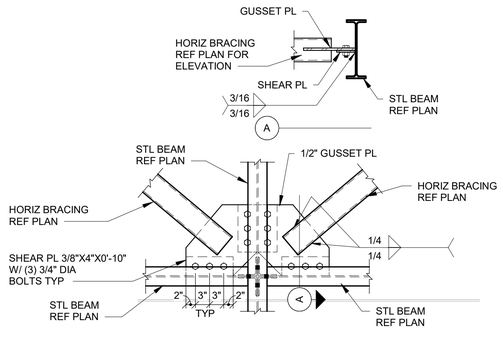
E1 PLATFORM CONNECTION

3/4" = 1'-0"



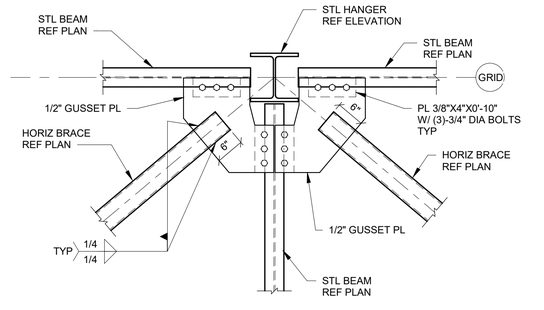
E9 OPENING FRAMING AT CATWALK ACCESS

1" = 1'-0"



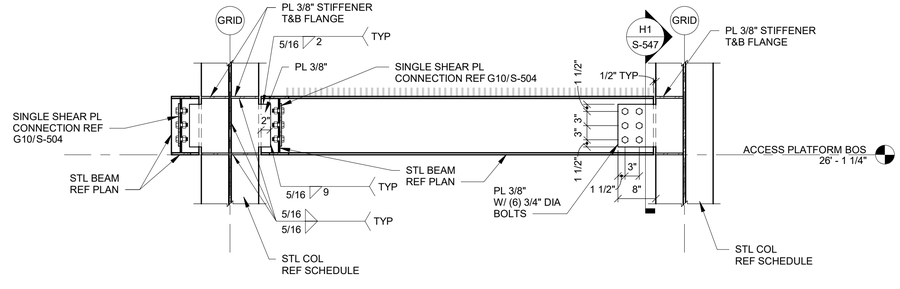
A1 CATWALK HORIZONTAL BRACING

3/4" = 1'-0"



A10 HORIZONTAL BRACE CONNECTION

3/4" = 1'-0"



A11 PLATFORM STEEL CONNECTION

3/4" = 1'-0"

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MARK	DESCRIPTION	DATE

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Plot Date: 10/20/2025

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: C. RUNDELL, PE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

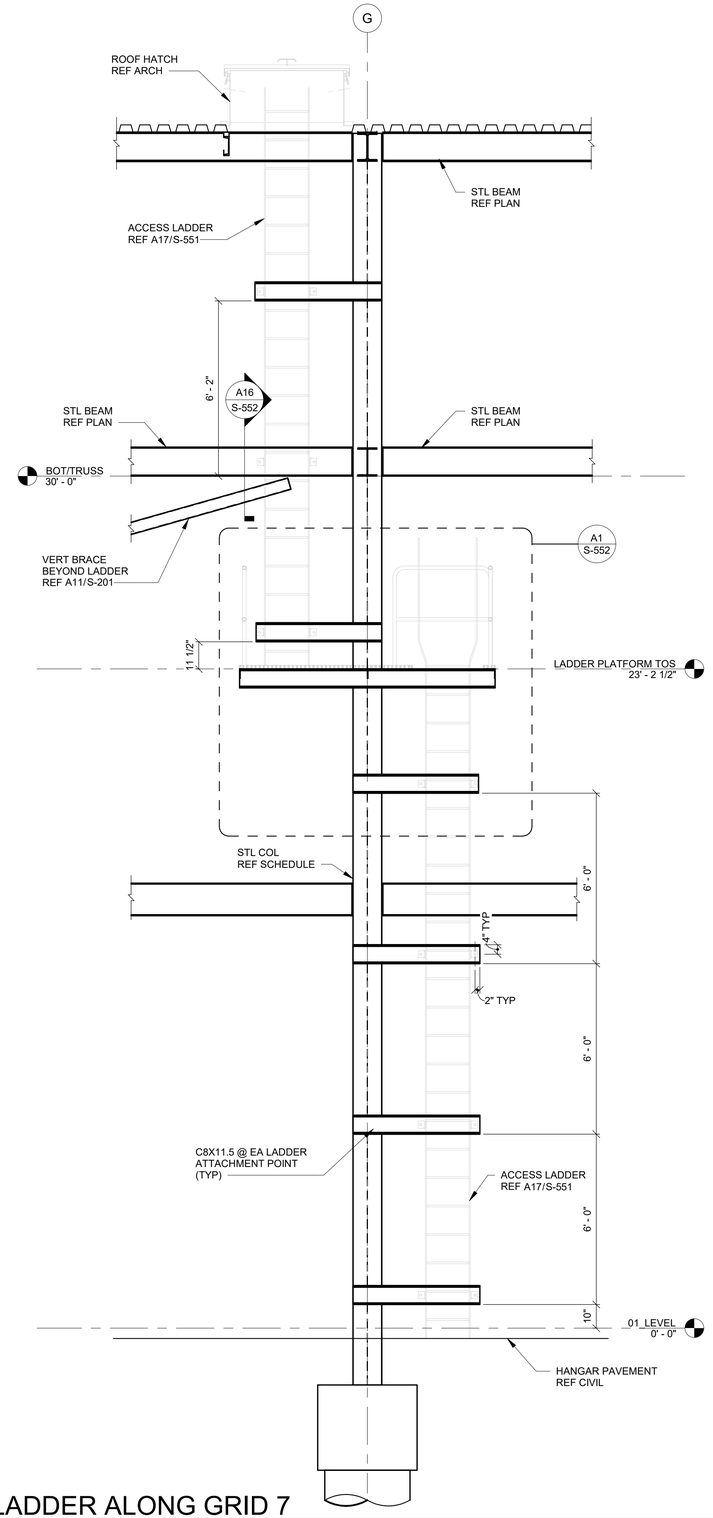
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

ACCESS PLATFORM DETAILS

SHEET ID

S-547

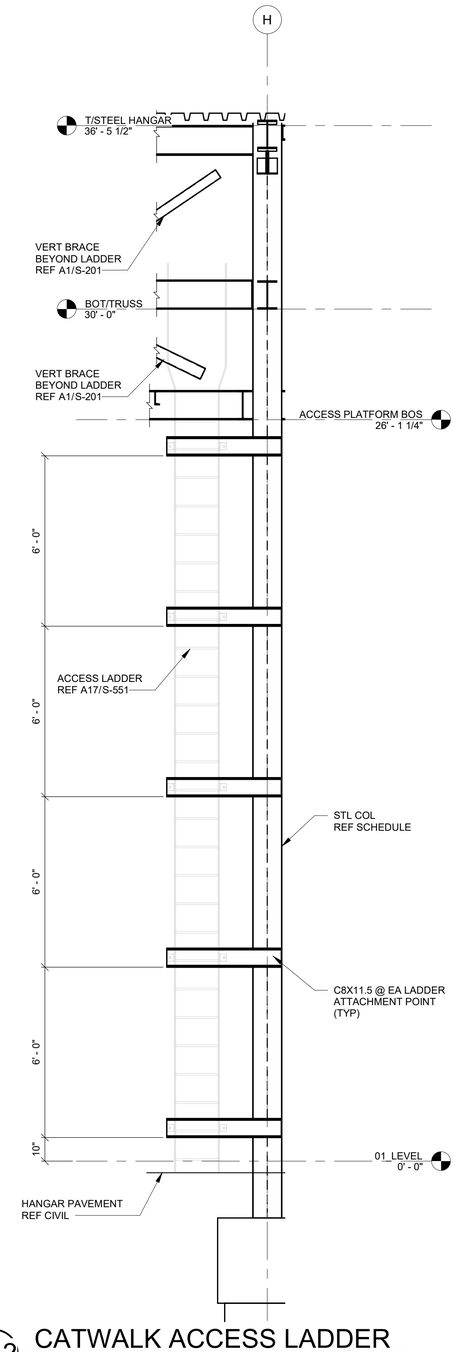
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A1 ACCESS LADDER ALONG GRID 7

3/8" = 1'-0"

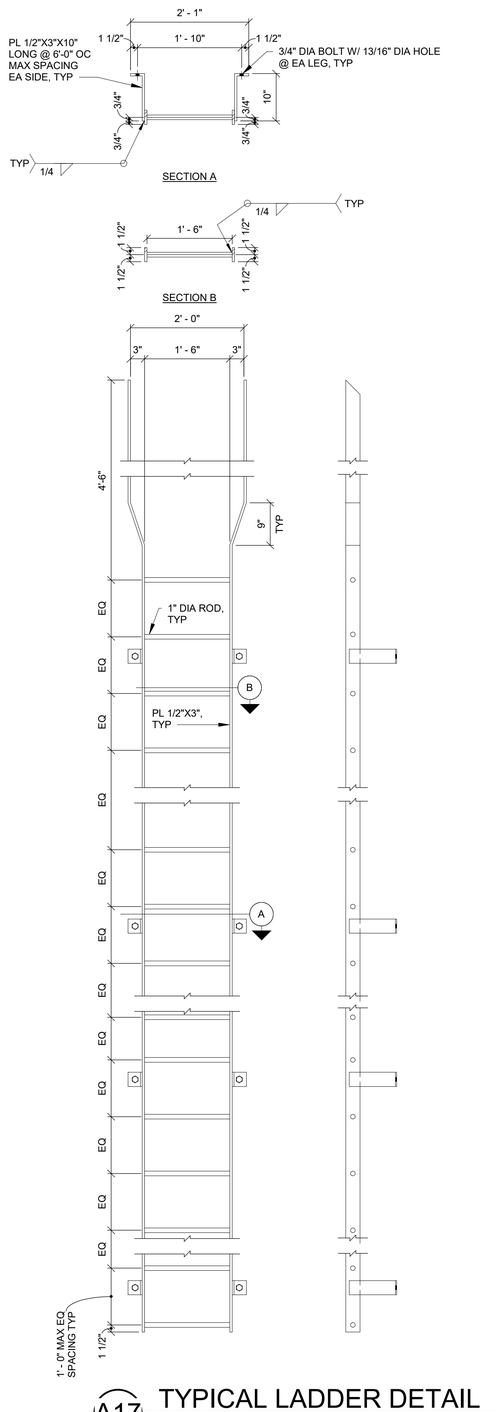
0 1' 2' 4' 6'



A12 CATWALK ACCESS LADDER

3/8" = 1'-0"

0 1' 2' 4' 6'



A17 TYPICAL LADDER DETAIL

3/4" = 1'-0"

0 0.5' 1' 2' 3'

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MARK	DESCRIPTION	DATE

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENNG_512203_S_3BAYH_RVT22.rvt

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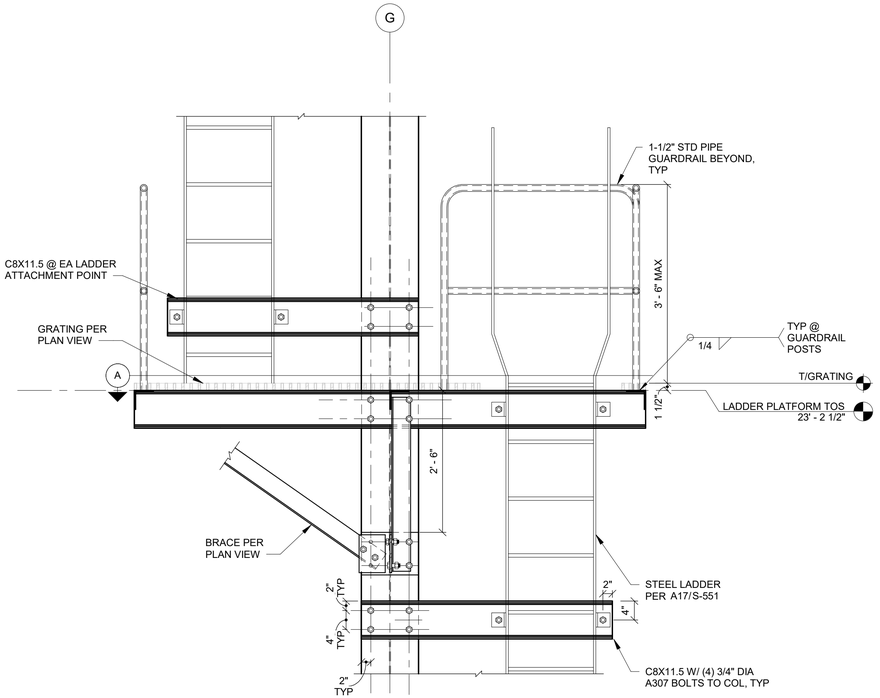
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

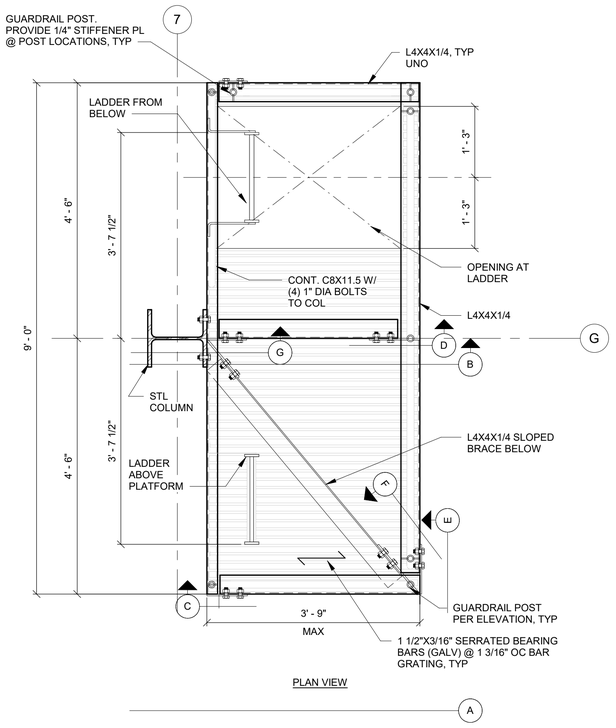
ACCESS LADDER DETAILS

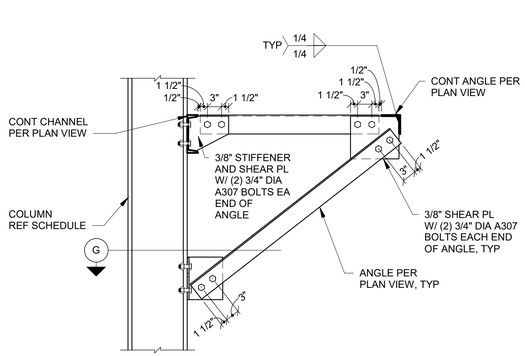
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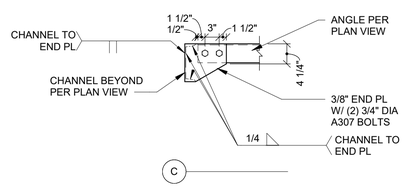
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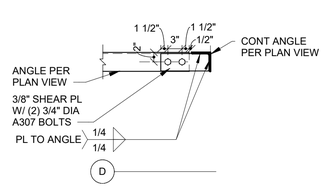
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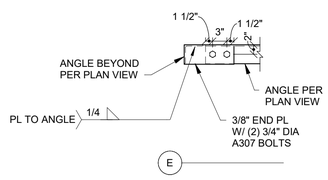


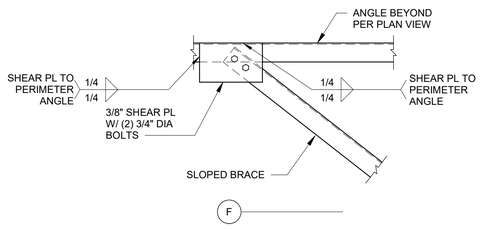


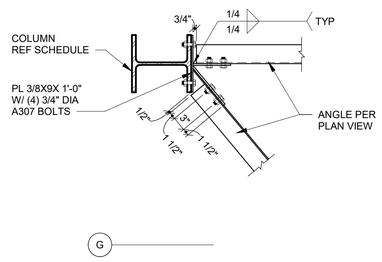


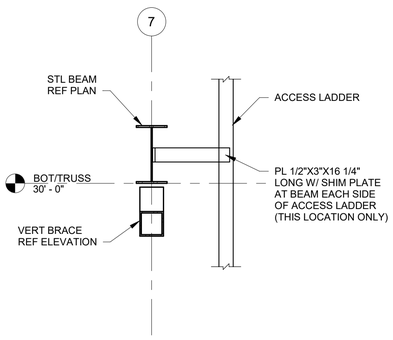












A1 ROOF ACCESS LADDER PLATFORM

3/4" = 1'-0"

0 0.5' 1' 2' 3'

A16 LADDER CONNECTION AT BEAM

3/4" = 1'-0"

0 0.5' 1' 2' 3'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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File Path:

DESIGNED BY: C. KENNEDY, PE, SE	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: B. SUDBRINK, PE, SE	SOLICITATION NO.: W912BV26RA004
CHECKED BY: A. STUART, PE, SE	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

ACCESS LADDER DETAILS

SHEET ID

S-552

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DRILLED PIER SCHEDULE

TYPE	SHAFT DIA	REINFORCEMENT			MINIMUM ROCK SOCKET DEPTH	BID LENGTH	REMARKS
		VERTICAL	TIES AT TOP	TIES BALANCE			
DP24	24"	(7)#8	(3)#4 @3" OC	#4@16" OC	5'-0"	40'-0"	-
DP30	30"	(9)#8	(3)#4@3" OC	#4@16" OC	5'-0"	39'-0"	-
DP36	36"	(11)#9	(3)#4@3" OC	#4@16" OC	6'-0"	40'-0"	-
DP42	42"	(11)#10	(3)#4@3" OC	#4@16" OC	7'-0"	40'-0"	-

GRADE BEAM REINFORCEMENT SCHEDULE

MARK	WIDTH (IN)	DEPTH (IN)	LONGITUDINAL REINFORCEMENT			S1 STIRRUPS		REMAINDER STIRRUPS
			TOP	BOTTOM	SIDE	BAR SIZE AND SPACING	EXTENT L	
GB1	16"	24"	(3)#8	(3)#8	N/A	#4@10" OC	FULL LENGTH	N/A
GB2	24"	36"	(5)#8	(5)#8	(2)#5	#4@10" OC	FULL LENGTH	N/A
GB3	30"	36"	(5)#9	(5)#9	N/A	#4@12" OC	FULL LENGTH	N/A
GB4	16"	36"	(3)#8	(3)#8	(1)#8 EF	#4@12" OC	FULL LENGTH	N/A
GB5	24"	24"	(4)#8	(4)#8	N/A	#4@10" OC	FULL LENGTH	N/A
GB6	52"	36"						N/A

COLUMN SCHEDULE

COLUMN GRID LOCATION	COLUMN SIZE	BASE PLATE TYPE	COMMENTS
D-1	W12X87	BP1	
D-2	W14X90	BP3	
D-3	W14X90	BP3	
D-4	W12X87	BP1	
D-5	W12X87	BP1	
D-6	W12X87	BP1	
D-7	W12X87	BP1	
D-8	W14X90	BP3	
D-9	W14X90	BP3	
D-10	W12X87	BP1	
E-1	W14X90	BP2	
E-4	W14X120	BP4	
E-7	W14X120	BP4	
E-10	W14X90	BP2	
F-1	W14X90	BP2	
F-4	W14X120	BP4	
F-7	W14X120	BP4	
F-10	W14X90	BP2	
G-1	W12X87	BP1	
G-4	W12X87	BP1	
G-7	W12X87	BP1	
G-10	W12X87	BP1	
G.8-1	W12X87	BP1	
G.8-4	W12X87	BP1	
G.8-7	W12X87	BP1	
G.8-10	W12X87	BP1	
H-1	W12X87	BP1	
H-4	W12X87	BP1	
H-7	W12X87	BP1	
H-10	W12X87	BP1	

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 12:06:36 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

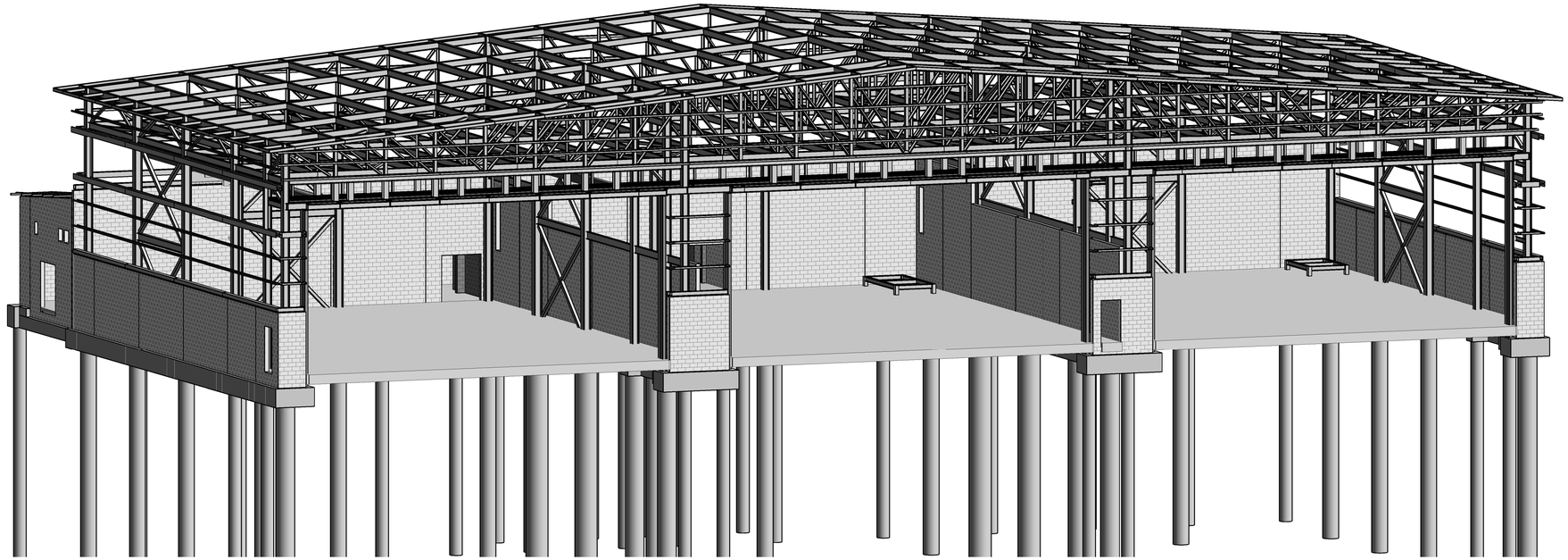
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

SCHEDULES

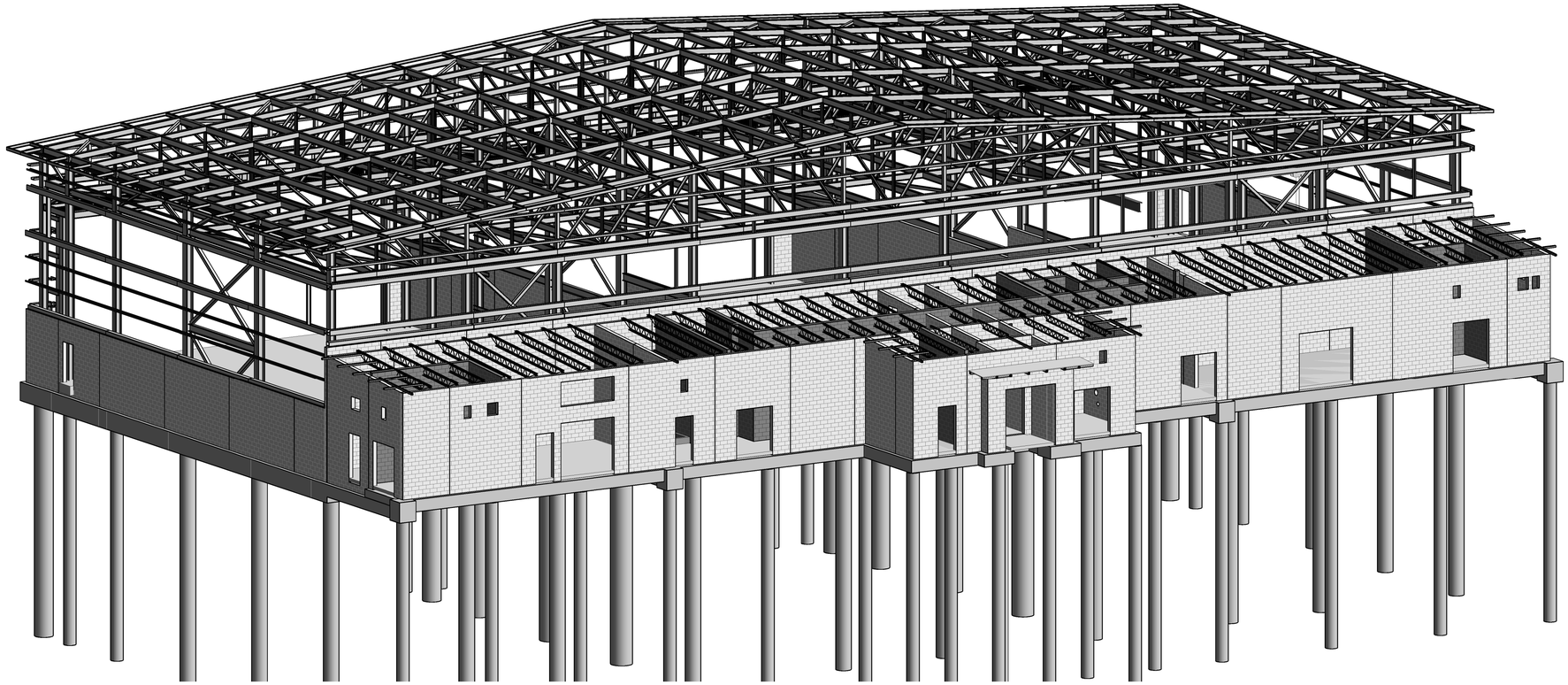
SHEET ID

S-601

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H1 3D FRAMING ISOMETRIC HANGAR
NTS



A1 3D FRAMING ISOMETRIC SUPPORT AREA
NTS

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MARK	DESCRIPTION	DATE

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CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_S_3BAYH_RVT22.rvt

DESIGNED BY: C. KENNEDY, PE, SE
DRAWN BY: B. SUDBRINK, PE, SE
CHECKED BY: A. STUART, PE, SE
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERIGN BRANCH

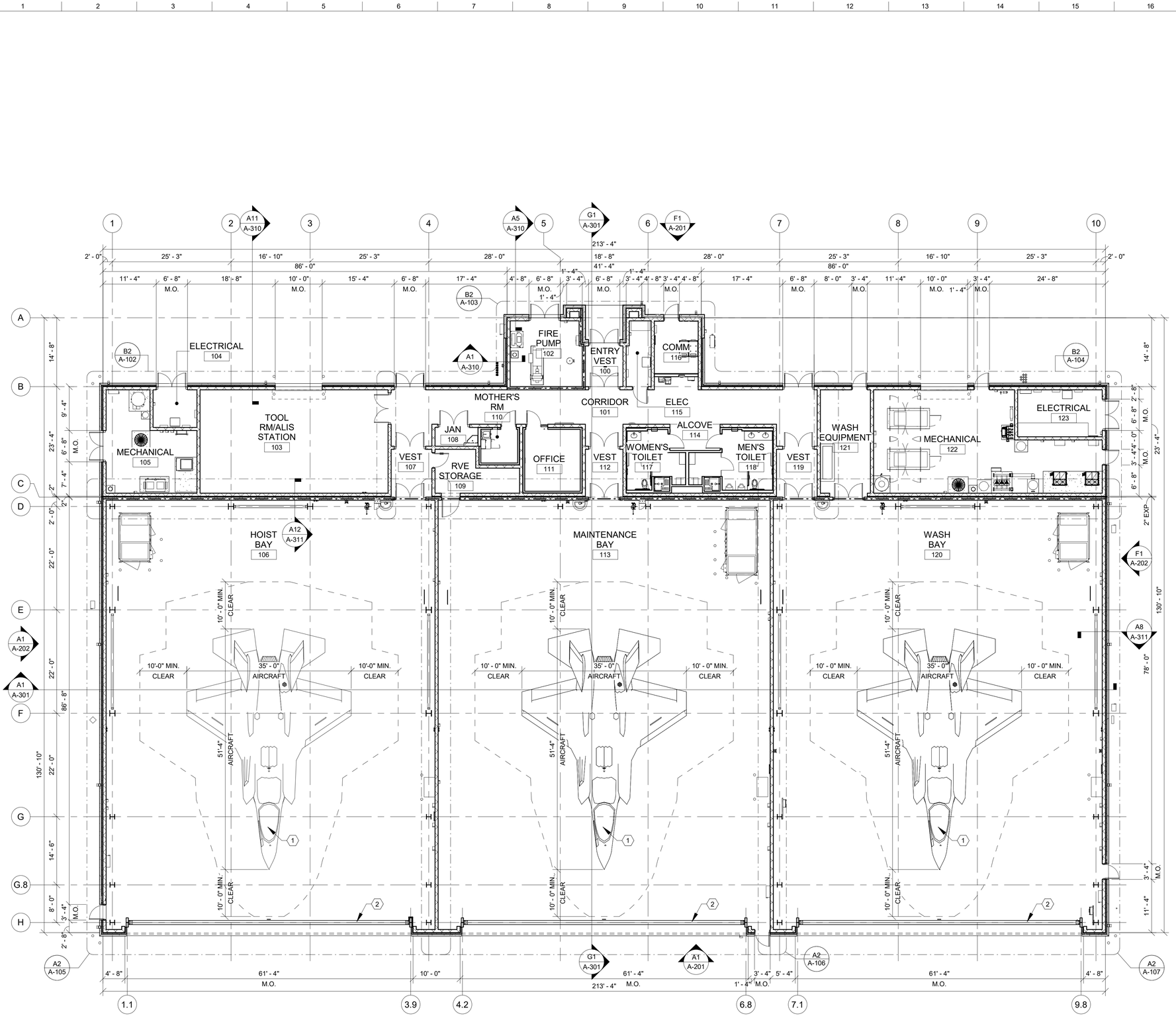
Plot Date: 10/20/2025

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

3D REPRESENTATIONS

SHEET ID
S-901

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A1 OVERALL FLOOR PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

GENERAL NOTES

1. FOR ARCHITECTURAL GENERAL NOTES, MATERIAL LEGEND, AND ABBREVIATIONS, REFER TO SHEET G-004.
2. REFERENCE LIFE SAFETY DRAWINGS FOR FIRE-RATED WALL LOCATIONS. ALL FIRE-RATED WALLS AND SMOKE PARTITIONS ARE CONTINUOUS ACROSS ALL DOOR OPENINGS.
3. REFER TO PARTITION TYPES SHEETS FOR PARTITION CONSTRUCTION.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS BEFORE BEGINNING WORK AND FABRICATION. THE CONTRACT OFFICER SHALL BE NOTIFIED IN WRITING IMMEDIATELY OF ANY DISCREPANCIES OR INCONSISTENCIES. IN NO CASE SHALL DIMENSIONS BE SCALED OFF PLANS, SECTIONS, OR DETAILS FROM THESE DRAWINGS.
5. FOR DIMENSIONS OR ADDITIONAL INFORMATION NOT ILLUSTRATED, REFER TO ENLARGED DRAWINGS.
6. DOOR LOCATIONS NOT DIMENSIONED ARE 4 INCHES FROM FACE OF GYPSUM BOARD OR 8" FOR CMU FINISH WALL TO DOOR JAMB. VERIFY THERE IS A PULL SIDE MINIMUM 18 INCHES CLEAR FROM DOOR STRIKE TO INTERSECTING WALL FOR ABA COMPLIANCE. NOTIFY CONTRACT OFFICER FOR NON-COMPLIANCE BEFORE SETTING DOOR FRAME AND WALL LOCATIONS.
7. CONTRACTOR SHALL COORDINATE AND PROVIDE ALL MILLWORK TRIM AND INFILL PANELS AT ALL UNDERCOUNTER/CABINET LOCATIONS.
8. REFER TO FINISH SCHEDULE AND FINISH PLANS FOR ADDITIONAL FINISH INFORMATION. ALL FLOOR FINISHES TO BE CONTINUOUS UNDER MILLWORK AND EQUIPMENT UNLESS NOTED OTHERWISE.
9. PROVIDE 18GA METAL PLATE AND FIRE-RETARDANT TREATED WOOD BLOCKING IN WALL FOR TOILET FIXTURES, ACCESSORIES, EQUIPMENT, TOILET PARTITIONS, AND COUNTERTOP MOUNTING SUPPORTS. REFER TO FURNITURE PLANS TO LOCATE BLOCKING FOR WALL ACCESSORIES AND VISUAL DISPLAY EQUIPMENT.
10. REFER TO SPECIFICATIONS FOR LOCATIONS OF GYPSUM BOARD CONTROL JOINTS.
11. REFERENCE CIVIL DRAWINGS FOR EXTERIOR BOLLARD DETAILS.
12. REFERENCE STRUCTURAL DRAWINGS FOR ROUGH OPENING DIMENSIONS IN CMU WALLS.
13. FOR CMU CONTROL JOINT LOCATIONS, REFER TO STRUCTURAL. FOR BRICK EXPANSION JOINT LOCATIONS, REFER TO EXTERIOR ELEVATIONS. FOR BRICK EXPANSION JOINT DETAIL, REFER TO DETAIL L16 / A-502.
14. REFERENCE THE ROOM FINISH SCHEDULE AND MATERIAL LEGEND FOR ROOM FINISH INFORMATION.
15. REFERENCE THE REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
16. ALL DIMENSIONS FROM: COLUMN GRID LINE TO COLUMN GRID LINE. COLUMN GRID LINE TO FACE OF CMU WALL. FACE OF CMU WALL TO FACE OF CMU WALL. FINISH FACE OF METAL STUD WALL TO FINISH FACE OF METAL STUD WALL. UNLESS NOTED OTHERWISE.
17. THE FIRST FLOOR FINISHED FLOOR ELEVATION IS 0'-0" UNLESS NOTED OTHERWISE.
18. PROVIDE GYPSUM BOARD HEADER ABOVE ALL CASED OPENINGS, REFERENCE REFLECTED CEILING PLANS.
19. SEE CIVIL DRAWINGS FOR HANGAR FLOOR SLAB.
20. REFER TO SHEET A-510 FOR WALL PENETRATION DETAILS.

KEYNOTES

1	F-35 LIGHTNING II AIRCRAFT - TAIL IN POSITION
2	BI-FOLD VERTICAL LIFT HANGAR DOOR

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt
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TULSA, OK 74137

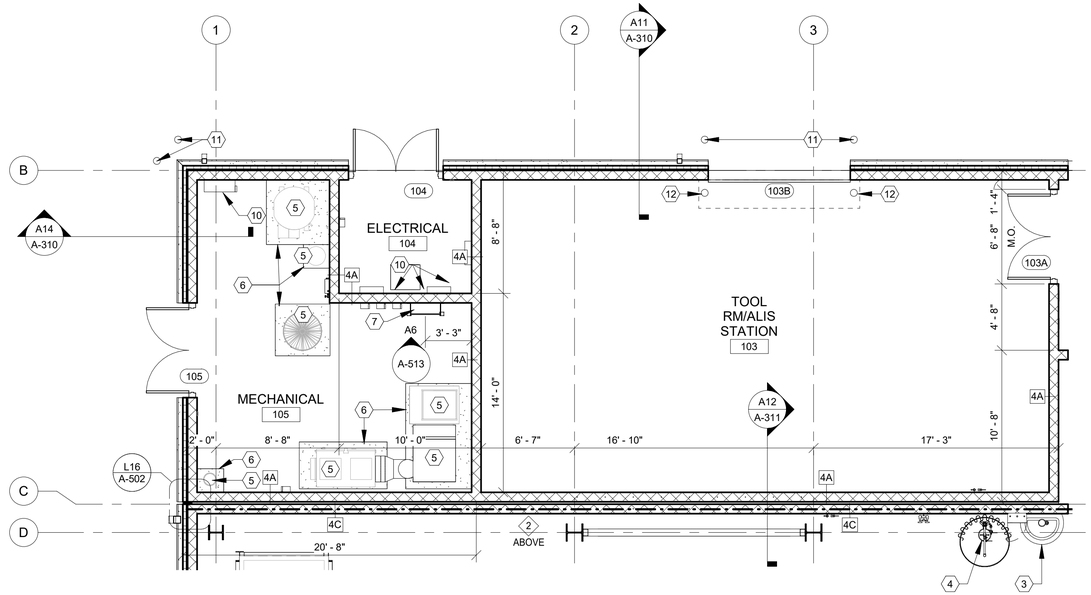
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

OVERALL FLOOR PLAN

SHEET ID
A-101

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B2 ENLARGED FLOOR PLAN - AREA A

3/16" = 1'-0"

0 2' 4' 8' 16'

LEGEND

- 1-HOUR FIRE BARRIER
- 8" CMU WALL - REFER TO WALL TYPES AND STRUCTURAL DWGS
- 101 — INDICATES DOOR NUMBER - PER DOOR SCHEDULE A-601
- W1 — INDICATES WINDOW TYPE - PER WINDOW SCHEDULE A-620
- A1 — INDICATES WALL TYPE - REFER TO WALL TYPES

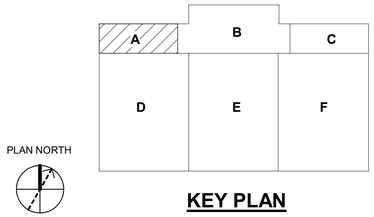
GENERAL NOTES

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3. REFER TO PARTITION TYPES SHEETS FOR PARTITION CONSTRUCTION.
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7. CONTRACTOR SHALL COORDINATE AND PROVIDE ALL MILLWORK TRIM AND INFILL PANELS AT ALL UNDERCOUNTER/CABINET LOCATIONS.
8. REFER TO FINISH SCHEDULE AND FINISH PLANS FOR ADDITIONAL FINISH INFORMATION. ALL FLOOR FINISHES TO BE CONTINUOUS UNDER MILLWORK AND EQUIPMENT UNLESS NOTED OTHERWISE.
9. PROVIDE 18GA METAL PLATE AND FIRE-RETARDANT TREATED BLOCKING IN WALL FOR TOILET FIXTURES, ACCESSORIES, EQUIPMENT, TOILET PARTITIONS, AND COUNTERTOP MOUNTING SUPPORTS. REFER TO FURNITURE PLANS TO LOCATE BLOCKING FOR WALL ACCESSORIES AND VISUAL DISPLAY EQUIPMENT.
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14. REFERENCE THE ROOM FINISH SCHEDULE AND MATERIAL LEGEND FOR ROOM FINISH INFORMATION.
15. REFERENCE THE REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
16. REFER TO A-101 FOR ALL EXTERIOR BUILDING DIMENSIONS, INCLUDING BUT NOT LIMITED TO: BUILDING OPENINGS, MAJOR BUILDING PROJECTIONS, AND GRID DIMENSIONS. ALL DIMENSIONS FROM: COLUMN GRID LINE TO COLUMN GRID LINE. COLUMN GRID LINE TO FACE OF CMU WALL. FACE OF CMU WALL TO FACE OF CMU WALL. FINISH FACE OF METAL STUD WALL TO FINISH FACE OF METAL STUD WALL. UNLESS NOTED OTHERWISE.
17. THE FIRST FLOOR FINISHED FLOOR ELEVATION IS 0'-0" UNLESS NOTED OTHERWISE.
18. PROVIDE GYPSUM BOARD HEADER ABOVE ALL CASED OPENINGS, REFERENCE REFLECTED CEILING PLANS.
19. SEE CIVIL DRAWINGS FOR HANGAR FLOOR SLAB.
20. REFER TO SHEET A-510 FOR PENETRATION DETAILS.

KEYNOTES

ALL KEYNOTES MAY NOT BE USED ON SHEET.

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5	MECHANICAL EQUIPMENT, REF MECHANICAL
6	HOUSEKEEPING PAD, REF MECHANICAL AND STRUCTURAL
7	ROOF ACCESS LADDER, REF SHEET A-513
8	EXPANSION JOINT, REF H16 / A-502
9	TRENCH OR FLOOR DRAIN, REF PLUMBING
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11	EXTERIOR BOLLARDS, REF CIVIL
12	INTERIOR SURFACE MOUNTED BOLLARDS, REF A1 / A-540
13	(2) 4' X 8' HORIZONTAL SHEETS OF 3/4" FIRE RATED PLYWOOD STACKED VERTICALLY, PAINTED. BEGIN INSTALLATION WITH BOTTOM OF LOWER SHEET ABOVE RUBBER WALL BASE. REF SPEC SECTION 27 10 00 FOR ADDITIONAL INFO
14	CATWALK ACCESS LADDER, REF SHEET A-516 AND A-517
15	KNOX BOX. FIRE DEPARTMENT TO DETERMINE FINAL LOCATION



PLAN NORTH

KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 5122203

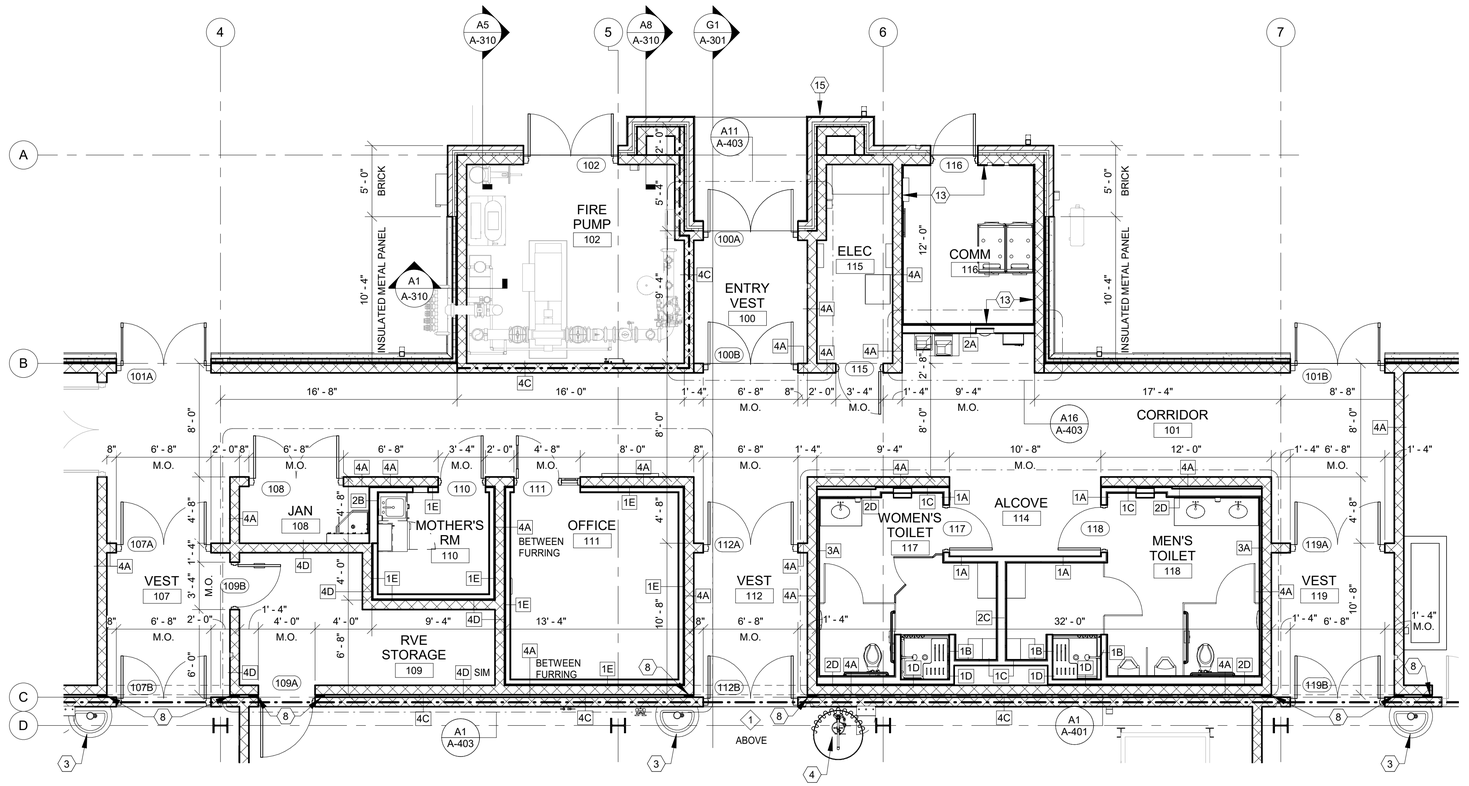
FLOOR PLAN - AREA A

SHEET ID

A-102

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100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



B2 ENLARGED FLOOR PLAN - AREA B

3/16" = 1'-0"

0 2' 4' 8' 16'

LEGEND

- 1-HOUR FIRE BARRIER
- 8" CMU WALL - REFER TO WALL TYPES AND STRUCTURAL DWGS
- 101 — INDICATES DOOR NUMBER - PER DOOR SCHEDULE A-601
- W1 — INDICATES WINDOW TYPE - PER WINDOW SCHEDULE A-620
- A1 — INDICATES WALL TYPE - REFER TO WALL TYPES

GENERAL NOTES

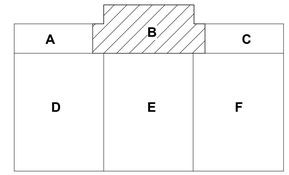
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KEYNOTES

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PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:19:55 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECCRAH.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

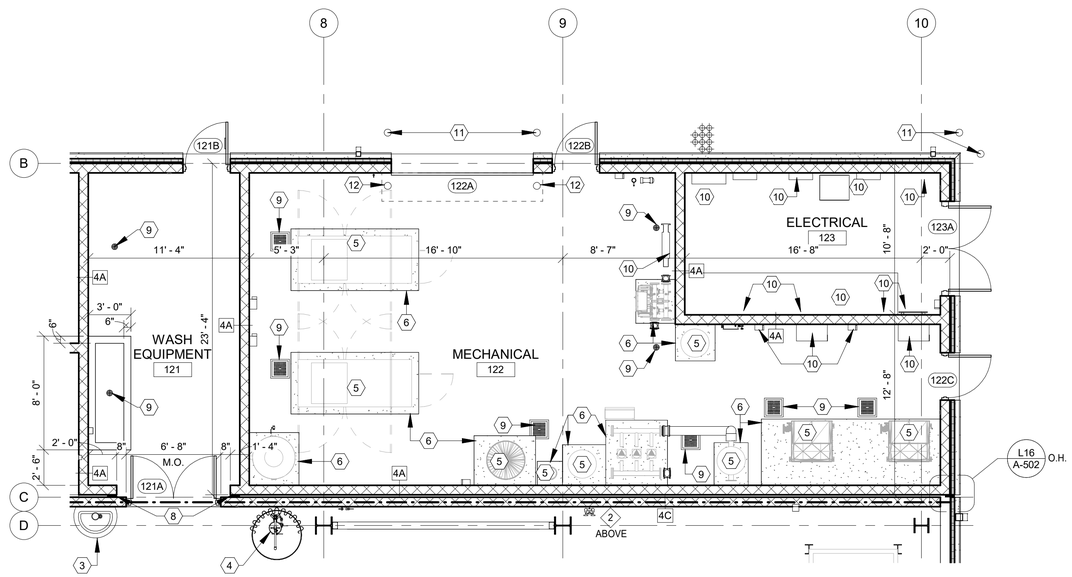
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

FLOOR PLAN - AREA B

SHEET ID
A-103

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



B2 ENLARGED FLOOR PLAN - AREA C

3/16" = 1'-0"

0 2' 4' 8' 16'

LEGEND

- 1-HOUR FIRE BARRIER
- 8" CMU WALL - REFER TO WALL TYPES AND STRUCTURAL DWGS
- (101) INDICATES DOOR NUMBER - PER DOOR SCHEDULE A-601
- (W1) INDICATES WINDOW TYPE - PER WINDOW SCHEDULE A-620
- (A1) INDICATES WALL TYPE - REFER TO WALL TYPES

GENERAL NOTES

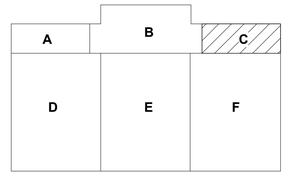
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18. PROVIDE GYPSUM BOARD HEADER ABOVE ALL CASED OPENINGS, REFERENCE REFLECTED CEILING PLANS.
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KEYNOTES

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7	ROOF ACCESS LADDER, REF SHEET A-513
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PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RV722.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 5122203

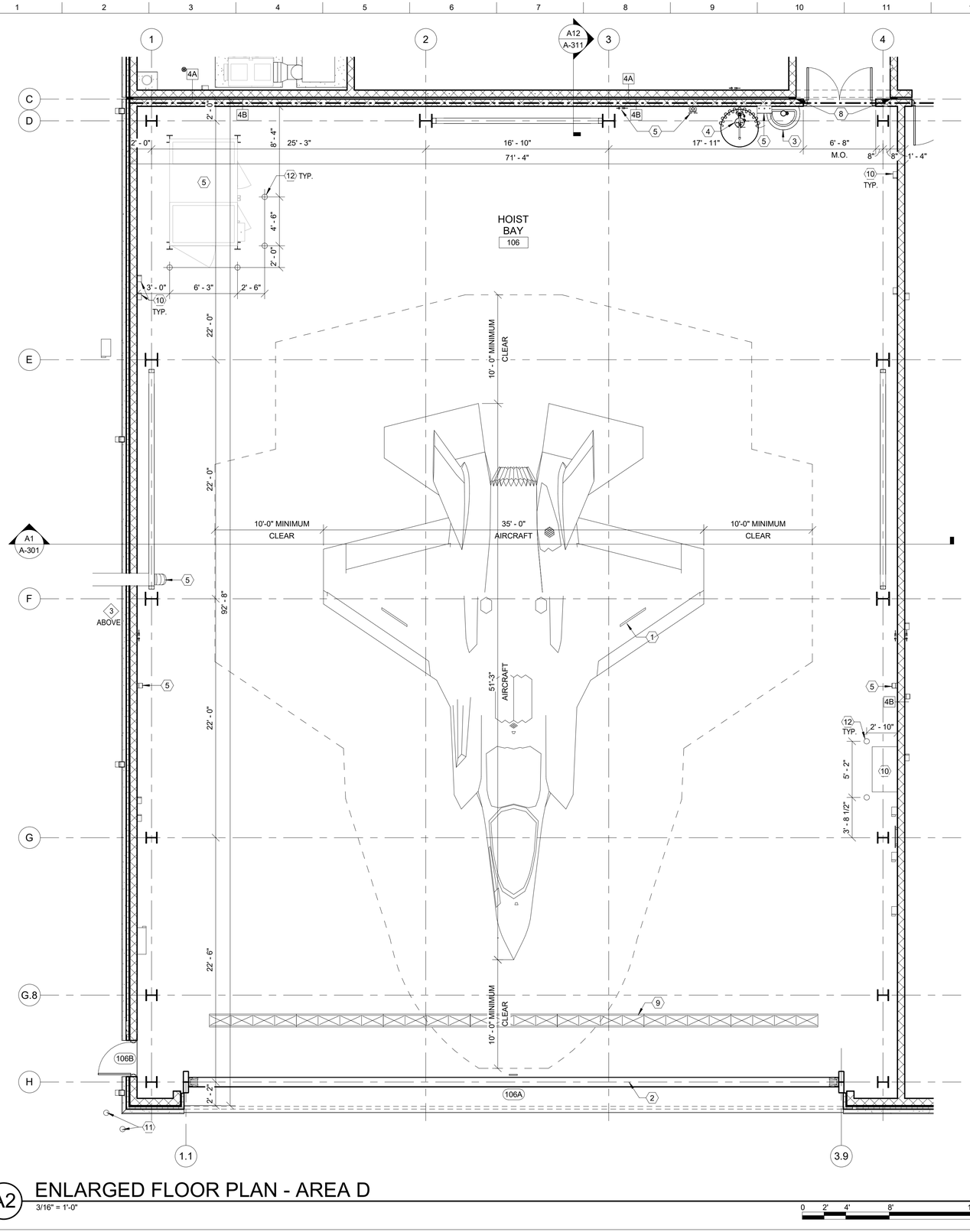
FLOOR PLAN - AREA C

SHEET ID

A-104

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100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 ENLARGED FLOOR PLAN - AREA D

3/16" = 1'-0"

0 2' 4' 8' 16'

LEGEND

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- 8" CMU WALL - REFER TO WALL TYPES AND STRUCTURAL DWGS
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GENERAL NOTES

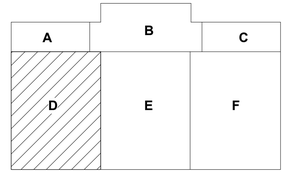
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PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
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SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV25RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

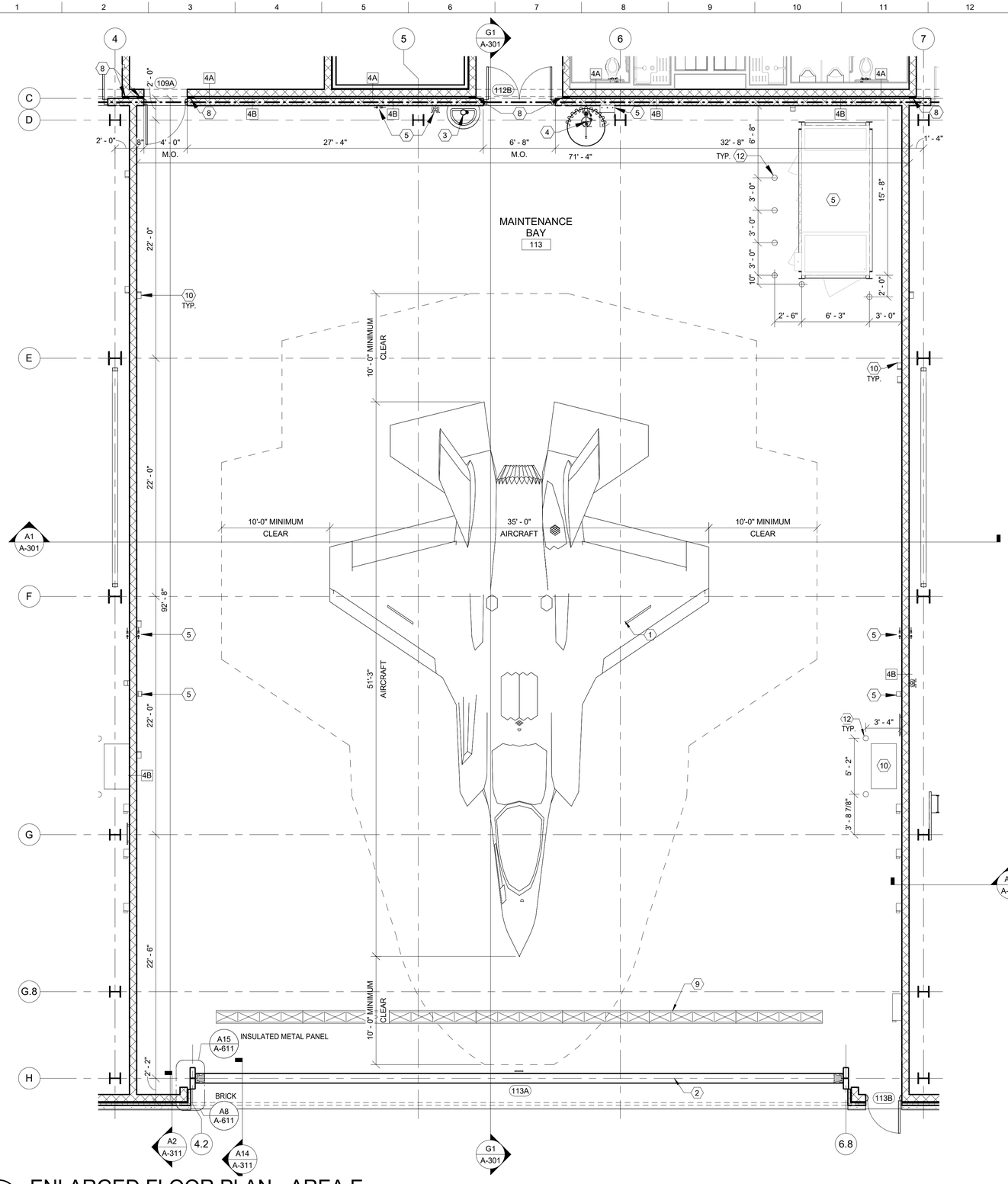
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

FLOOR PLAN - AREA D

SHEET ID
A-105

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 ENLARGED FLOOR PLAN - AREA E

3/16" = 1'-0"

0 2' 4' 8' 16'

LEGEND

- 1-HOUR FIRE BARRIER
- 8" CMU WALL - REFER TO WALL TYPES AND STRUCTURAL DWGS
- 101 — INDICATES DOOR NUMBER - PER DOOR SCHEDULE A-601
- W1 — INDICATES WINDOW TYPE - PER WINDOW SCHEDULE A-620
- A1 — INDICATES WALL TYPE - REFER TO WALL TYPES

GENERAL NOTES

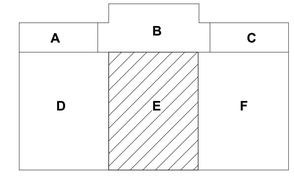
1. FOR ARCHITECTURAL GENERAL NOTES, MATERIAL LEGEND, AND ABBREVIATIONS, REFER TO SHEET G-004.
2. REFERENCE LIFE SAFETY DRAWINGS FOR FIRE-RATED WALL LOCATIONS. ALL FIRE-RATED WALLS AND SMOKE PARTITIONS ARE CONTINUOUS ACROSS ALL DOOR OPENINGS.
3. REFER TO PARTITION TYPES SHEETS FOR PARTITION CONSTRUCTION.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS BEFORE BEGINNING WORK AND FABRICATION. THE CONTRACT OFFICER SHALL BE NOTIFIED IN WRITING IMMEDIATELY OF ANY DISCREPANCIES OR INCONSISTENCIES. IN NO CASE SHALL DIMENSIONS BE SCALED OFF PLANS, SECTIONS, OR DETAILS FROM THESE DRAWINGS.
5. FOR DIMENSIONS OR ADDITIONAL INFORMATION NOT ILLUSTRATED, REFER TO ENLARGED DRAWINGS.
6. DOOR LOCATIONS NOT DIMENSIONED ARE 4 INCHES FROM FACE OF GYPSUM BOARD OR CMU FINISH WALL TO DOOR JAMB. VERIFY THERE IS A PULL SIDE MINIMUM 18 INCHES CLEAR FROM DOOR STRIKE TO INTERSECTING WALL FOR ABA COMPLIANCE. NOTIFY CONTRACT OFFICER FOR NON-COMPLIANCE BEFORE SETTING DOOR FRAME AND WALL LOCATIONS.
7. CONTRACTOR SHALL COORDINATE AND PROVIDE ALL MILLWORK TRIM AND INFILL PANELS AT ALL UNDERCOUNTER/CABINET LOCATIONS.
8. REFER TO FINISH SCHEDULE AND FINISH PLANS FOR ADDITIONAL FINISH INFORMATION. ALL FLOOR FINISHES TO BE CONTINUOUS UNDER MILLWORK AND EQUIPMENT UNLESS NOTED OTHERWISE.
9. PROVIDE 18GA METAL PLATE AND FIRE-RETARDANT TREATED BLOCKING IN WALL FOR TOILET FIXTURES, ACCESSORIES, EQUIPMENT, TOILET PARTITIONS, AND COUNTERTOP MOUNTING SUPPORTS. REFER TO FURNITURE PLANS TO LOCATE BLOCKING FOR WALL ACCESSORIES AND VISUAL DISPLAY EQUIPMENT.
10. REFER TO SPECIFICATIONS FOR LOCATIONS OF GYPSUM BOARD CONTROL JOINTS.
11. REFERENCE CIVIL DRAWINGS FOR EXTERIOR BOLLARD DETAILS.
12. REFERENCE STRUCTURAL DRAWINGS FOR ROUGH OPENING DIMENSIONS IN CMU WALLS.
13. FOR CMU CONTROL JOINT LOCATIONS, REFER TO STRUCTURAL. FOR BRICK EXPANSION JOINT LOCATIONS, REFER TO EXTERIOR ELEVATIONS. FOR BRICK EXPANSION JOINT DETAILS, REFER TO DTL L16 / A-502.
14. REFERENCE THE ROOM FINISH SCHEDULE AND MATERIAL LEGEND FOR ROOM FINISH INFORMATION.
15. REFERENCE THE REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
16. REFER TO A-101 FOR ALL EXTERIOR BUILDING DIMENSIONS, INCLUDING BUT NOT LIMITED TO: BUILDING OPENINGS, MAJOR BUILDING PROJECTIONS, AND GRID DIMENSIONS. ALL DIMENSIONS FROM: COLUMN GRID LINE TO COLUMN GRID LINE. COLUMN GRID LINE TO FACE OF CMU WALL. FACE OF CMU WALL TO FACE OF CMU WALL. FINISH FACE OF METAL STUD WALL TO FINISH FACE OF METAL STUD WALL. UNLESS NOTED OTHERWISE.
17. THE FIRST FLOOR FINISHED FLOOR ELEVATION IS 0'-0" UNLESS NOTED OTHERWISE.
18. PROVIDE GYPSUM BOARD HEADER ABOVE ALL CASED OPENINGS, REFERENCE REFLECTED CEILING PLANS.
19. SEE CIVIL DRAWINGS FOR HANGAR FLOOR SLAB.
20. REFER TO SHEET A-510 FOR PENETRATION DETAILS.

KEYNOTES

ALL KEYNOTES MAY NOT BE USED ON SHEET.

1	F-35 LIGHTNING II AIRCRAFT - TAIL IN POSITION
2	VERTICAL LIFT FABRIC HANGAR DOOR
3	HANDWASH STATION, REF MECHANICAL
4	EYEWASH STATION, REF MECHANICAL
5	MECHANICAL EQUIPMENT, REF MECHANICAL
6	HOUSEKEEPING PAD, REF MECHANICAL AND STRUCTURAL
7	ROOF ACCESS LADDER, REF SHEET A-513
8	EXPANSION JOINT, REF H16 / A-502
9	TRENCH OR FLOOR DRAIN, REF PLUMBING
10	ELECTRICAL EQUIPMENT, REF ELECTRICAL
11	EXTERIOR BOLLARDS, REF CIVIL
12	INTERIOR SURFACE MOUNTED BOLLARDS, REF A1 / A-540
13	(2) 4' X 8' HORIZONTAL SHEETS OF 3/4" FIRE RATED PLYWOOD STACKED VERTICALLY, PAINTED. BEGIN INSTALLATION WITH BOTTOM OF LOWER SHEET ABOVE RUBBER WALL BASE. REF SPEC SECTION 27 10 00 FOR ADDITIONAL INFO
14	CATWALK ACCESS LADDER, REF SHEET A-516 AND A-517
15	KNOX BOX. FIRE DEPARTMENT TO DETERMINE FINAL LOCATION

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV25RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt
Plot Date: 10/20/2025 1:20:10 PM
File Path: C:\Users\mbeckam\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MBECKAM.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

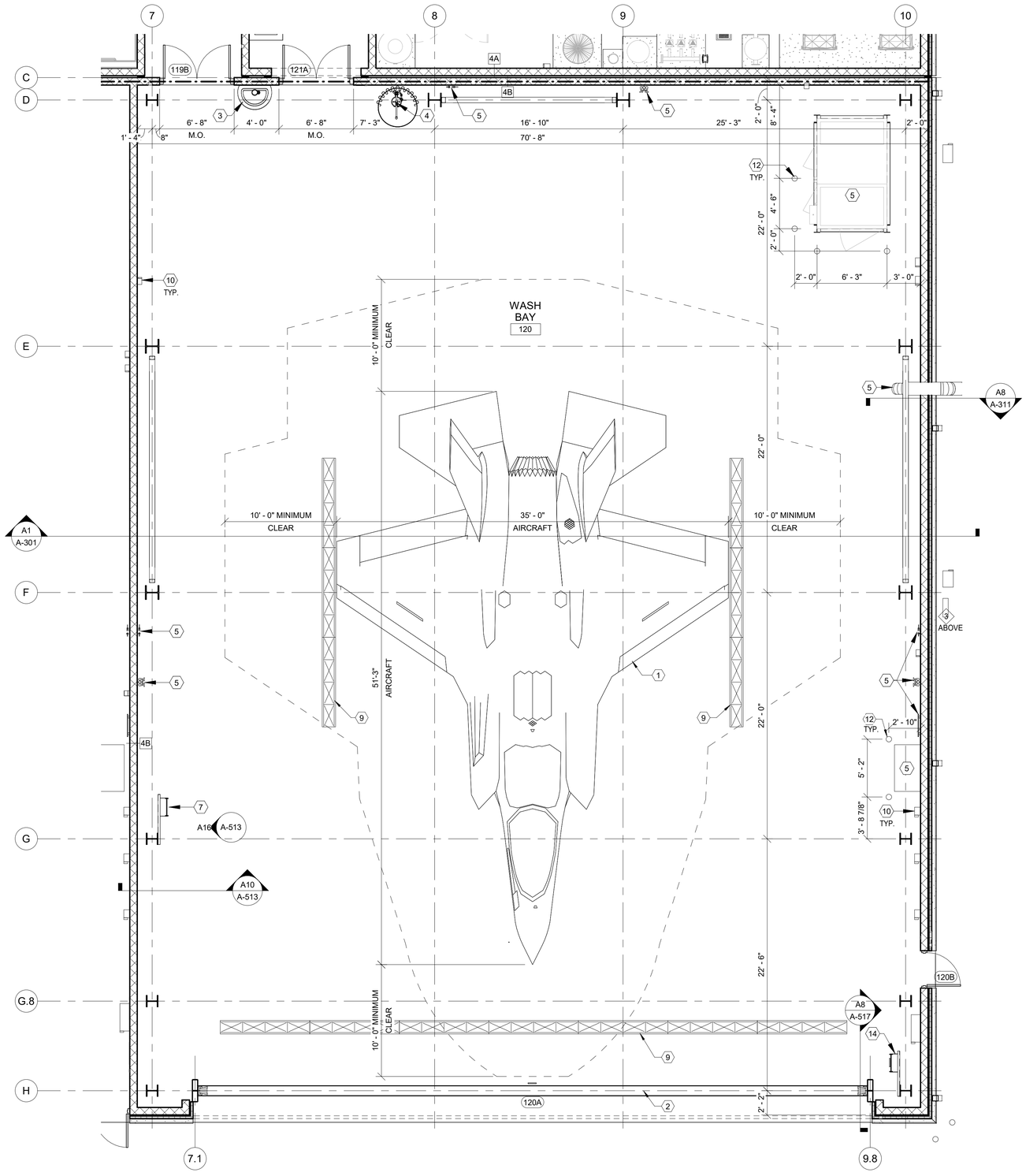
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB, ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

FLOOR PLAN - AREA E

SHEET ID
A-106

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 ENLARGED FLOOR PLAN - AREA F

3/16" = 1'-0"

0 2' 4' 8' 16'

LEGEND

- 1-HOUR FIRE BARRIER
- 8" CMU WALL - REFER TO WALL TYPES AND STRUCTURAL DWGS
- 101 — INDICATES DOOR NUMBER - PER DOOR SCHEDULE A-601
- W1 — INDICATES WINDOW TYPE - PER WINDOW SCHEDULE A-620
- A1 — INDICATES WALL TYPE - REFER TO WALL TYPES

GENERAL NOTES

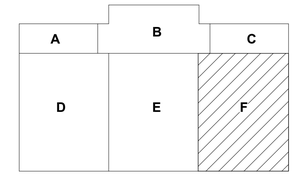
1. FOR ARCHITECTURAL GENERAL NOTES, MATERIAL LEGEND, AND ABBREVIATIONS, REFER TO SHEET G-004.
2. REFERENCE LIFE SAFETY DRAWINGS FOR FIRE-RATED WALL LOCATIONS. ALL FIRE-RATED WALLS AND SMOKE PARTITIONS ARE CONTINUOUS ACROSS ALL DOOR OPENINGS.
3. REFER TO PARTITION TYPES SHEETS FOR PARTITION CONSTRUCTION.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS BEFORE BEGINNING WORK AND FABRICATION. THE CONTRACT OFFICER SHALL BE NOTIFIED IN WRITING IMMEDIATELY OF ANY DISCREPANCIES OR INCONSISTENCIES. IN NO CASE SHALL DIMENSIONS BE SCALED OFF PLANS, SECTIONS, OR DETAILS FROM THESE DRAWINGS.
5. FOR DIMENSIONS OR ADDITIONAL INFORMATION NOT ILLUSTRATED, REFER TO ENLARGED DRAWINGS.
6. DOOR LOCATIONS NOT DIMENSIONED ARE 4 INCHES FROM FACE OF GYPSUM BOARD OR CMU FINISH WALL TO DOOR JAMB. VERIFY THERE IS A PULL SIDE MINIMUM 18 INCHES CLEAR FROM DOOR STRIKE TO INTERSECTING WALL FOR ABA COMPLIANCE. NOTIFY CONTRACT OFFICER FOR NON-COMPLIANCE BEFORE SETTING DOOR FRAME AND WALL LOCATIONS.
7. CONTRACTOR SHALL COORDINATE AND PROVIDE ALL MILLWORK TRIM AND INFILL PANELS AT ALL UNDERCOUNTER/CABINET LOCATIONS.
8. REFER TO FINISH SCHEDULE AND FINISH PLANS FOR ADDITIONAL FINISH INFORMATION. ALL FLOOR FINISHES TO BE CONTINUOUS UNDER MILLWORK AND EQUIPMENT UNLESS NOTED OTHERWISE.
9. PROVIDE 18GA METAL PLATE AND FIRE-RETARDANT TREATED BLOCKING IN WALL FOR TOILET FIXTURES, ACCESSORIES, EQUIPMENT, TOILET PARTITIONS, AND COUNTERTOP MOUNTING SUPPORTS. REFER TO FURNITURE PLANS TO LOCATE BLOCKING FOR WALL ACCESSORIES AND VISUAL DISPLAY EQUIPMENT.
10. REFER TO SPECIFICATIONS FOR LOCATIONS OF GYPSUM BOARD CONTROL JOINTS.
11. REFERENCE CIVIL DRAWINGS FOR EXTERIOR BOLLARD DETAILS.
12. REFERENCE STRUCTURAL DRAWINGS FOR ROUGH OPENING DIMENSIONS IN CMU WALLS.
13. FOR CMU CONTROL JOINT LOCATIONS, REFER TO STRUCTURAL. FOR BRICK EXPANSION JOINT LOCATIONS, REFER TO EXTERIOR ELEVATIONS. FOR BRICK EXPANSION JOINT DETAILS, REFER TO DTL L16 / A-502.
14. REFERENCE THE ROOM FINISH SCHEDULE AND MATERIAL LEGEND FOR ROOM FINISH INFORMATION.
15. REFERENCE THE REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
16. REFER TO A-101 FOR ALL EXTERIOR BUILDING DIMENSIONS, INCLUDING BUT NOT LIMITED TO: BUILDING OPENINGS, MAJOR BUILDING PROJECTIONS, AND GRID DIMENSIONS. ALL DIMENSIONS FROM: COLUMN GRID LINE TO COLUMN GRID LINE. COLUMN GRID LINE TO FACE OF CMU WALL. FACE OF CMU WALL TO FACE OF CMU WALL. FINISH FACE OF METAL STUD WALL TO FINISH FACE OF METAL STUD WALL. UNLESS NOTED OTHERWISE.
17. THE FIRST FLOOR FINISHED FLOOR ELEVATION IS 0'-0" UNLESS NOTED OTHERWISE.
18. PROVIDE GYPSUM BOARD HEADER ABOVE ALL CASED OPENINGS, REFERENCE REFLECTED CEILING PLANS.
19. SEE CIVIL DRAWINGS FOR HANGAR FLOOR SLAB.
20. REFER TO SHEET A-510 FOR PENETRATION DETAILS.

KEYNOTES

ALL KEYNOTES MAY NOT BE USED ON SHEET.

1	F-35 LIGHTNING II AIRCRAFT - TAIL IN POSITION
2	VERTICAL LIFT FABRIC HANGAR DOOR
3	HANDWASH STATION, REF MECHANICAL
4	EYEWASH STATION, REF MECHANICAL
5	MECHANICAL EQUIPMENT, REF MECHANICAL
6	HOUSEKEEPING PAD, REF MECHANICAL AND STRUCTURAL
7	ROOF ACCESS LADDER, REF SHEET A-513
8	EXPANSION JOINT, REF H16 / A-502
9	TRENCH OR FLOOR DRAIN, REF PLUMBING
10	ELECTRICAL EQUIPMENT, REF ELECTRICAL
11	EXTERIOR BOLLARDS, REF CIVIL
12	INTERIOR SURFACE MOUNTED BOLLARDS, REF A1 / A-540
13	(2) 4' X 8' HORIZONTAL SHEETS OF 3/4" FIRE RATED PLYWOOD STACKED VERTICALLY, PAINTED. BEGIN INSTALLATION WITH BOTTOM OF LOWER SHEET ABOVE RUBBER WALL BASE. REF SPEC SECTION 27 10 00 FOR ADDITIONAL INFO
14	CATWALK ACCESS LADDER, REF SHEET A-516 AND A-517
15	KNOX BOX. FIRE DEPARTMENT TO DETERMINE FINAL LOCATION

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:20:15 PM
File Path: C:\Users\mbostrom\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MBECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

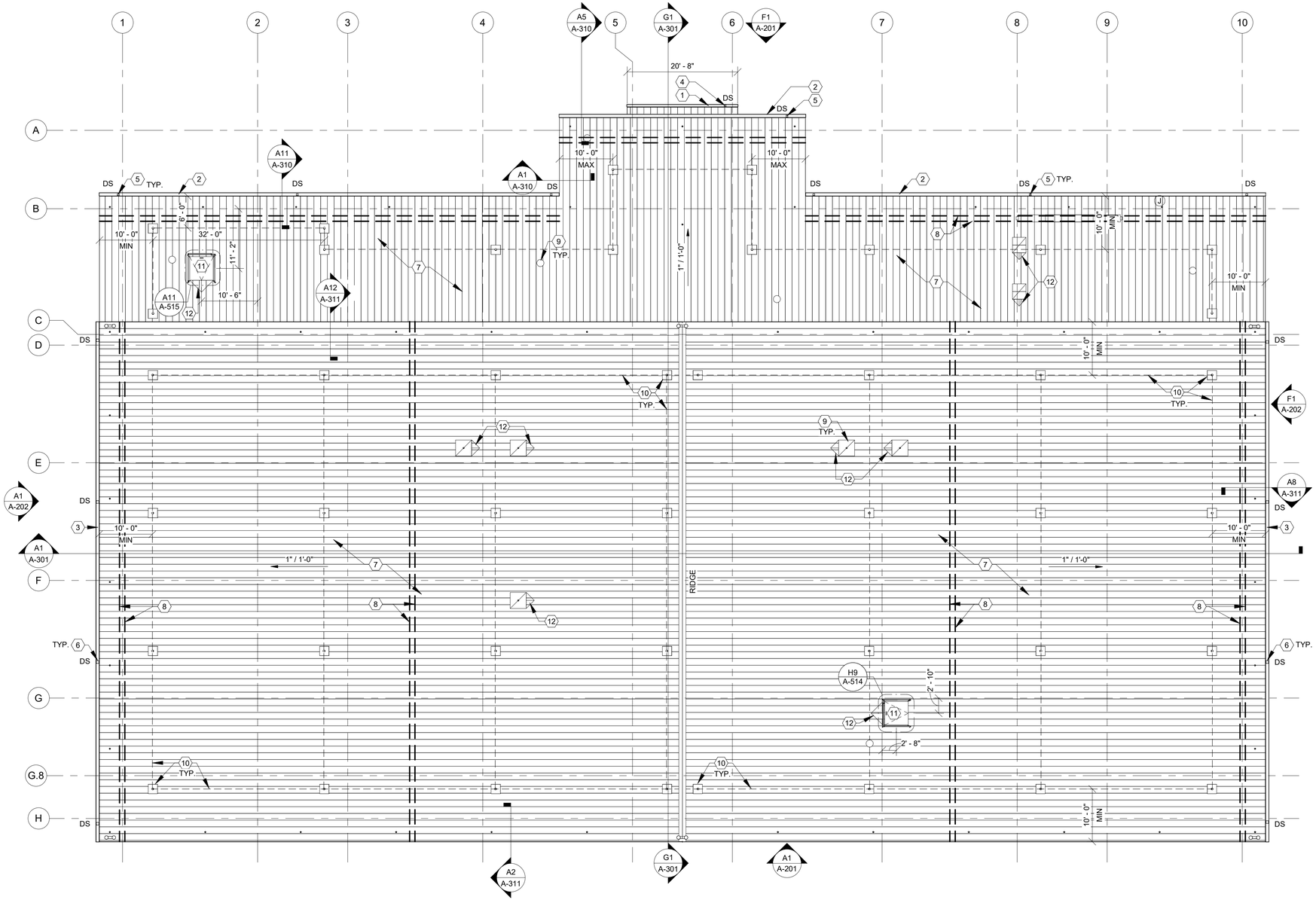
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

FLOOR PLAN - AREA F

SHEET ID
A-107

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A1 ROOF PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

GENERAL SHEET NOTES

1. SEE MECHANICAL DWGS FOR PIPING PENETRATION LOCATIONS AND SIZES.
2. INSTALL STANDING SEAM METAL ROOFING PER MANUFACTURER'S REQUIREMENTS.
3. COORDINATE LIGHTNING PROTECTION LOCATION WITH ELECTRICAL DWGS.
4. DOWNSPOUTS ARE CONNECTED TO UNDERGROUND STORM WATER PIPES. SEE CIVIL PLANS FOR DOWNSPOUT BOOT DETAIL.
5. GUTTERS, GUTTER BRACKETS, GUTTER STRAPS, AND DOWNSPOUTS SHALL BE DESIGNED TO MEET SMACNA - ARCHITECTURALSHEET METAL MANUAL REQUIREMENTS. REFER TO DETAILS ON A-512.
6. COORDINATE ALL ROOF PENETRATIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS AS REQUIRED.
7. PROVIDE SNOW GUARDS AT ALL METAL ROOF LOCATIONS.
8. REFER SHEET A-511 FOR ROOF FALL PROTECTION ATTACHMENT DETAILS.
9. REFER SHEET A-512 FOR ROOF CURB DETAILS.

SHEET LEGEND

	STANDING SEAM METAL ROOF
DS	DOWNSPOUT CONNECT TO STORM DRAIN
1"/1'-0"	INDICATED ROOF SLOPE
	SNOW GUARD BAR-TYPE MECHANICALLY FASTENED TO STANDING SEAM RIBS

KEYNOTES

1	CONTINUOUS PRE-FINISHED METAL GUTTERS 2.5" X 2".
2	CONTINUOUS PRE-FINISHED METAL GUTTERS 7" X 5.5".
3	CONTINUOUS PRE-FINISHED METAL GUTTERS 9" X 7".
4	PRE-FINISHED METAL DOWNSPOUTS (DS) 1.75" X 2.25".
5	PRE-FINISHED METAL DOWNSPOUTS (DS) 3" X 4".
6	PRE-FINISHED METAL DOWNSPOUTS (DS) 4" X 6".
7	STANDING SEAM METAL ROOF PANELS OVER MTL ROOF UNDERLAYMENT OVER 2 LAYERS OF 3" (R-30) RIGID BOARD INSULATION OVER FLUID-APPLIED WEATHER BARRIER 5/8" GLASS MAT GYPSUM COVER BOARD OVER STRUCTURAL DECK.
8	2 ROWS OF CONTINUOUS SNOW GUARDS EVERY 50' OF HORIZONTAL DISTANCE (PARALLEL TO ROOF PLANE). SEE SPECIFICATIONS.
9	ROOF PENETRATION. REF MECHANICAL AND PLUMBING PLANS. COLOR TO MATCH ROOF. REFER DETAILS ON SHEET A-511.
10	ROOF FALL RESTRAINT SYSTEM, REFER SPECIFICATION SECTION 11 81 29.
11	ROOF HATCH. REFER ENLARGED FLOOR PLANS FOR LOCATIONS; REFER STRUCTURAL DWGS FOR STRUCTURAL OPENINGS AND COORDINATE LADDER/FRAMING FOR PROPER ALIGNMENTS.
12	METAL ROOFING CRICKET

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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PROJECT NO: 512203
FILE NAME: ENG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:20:19 PM File Path: C:\Users\mbostar\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_A_3BAYH_RVT22_MBECKHAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

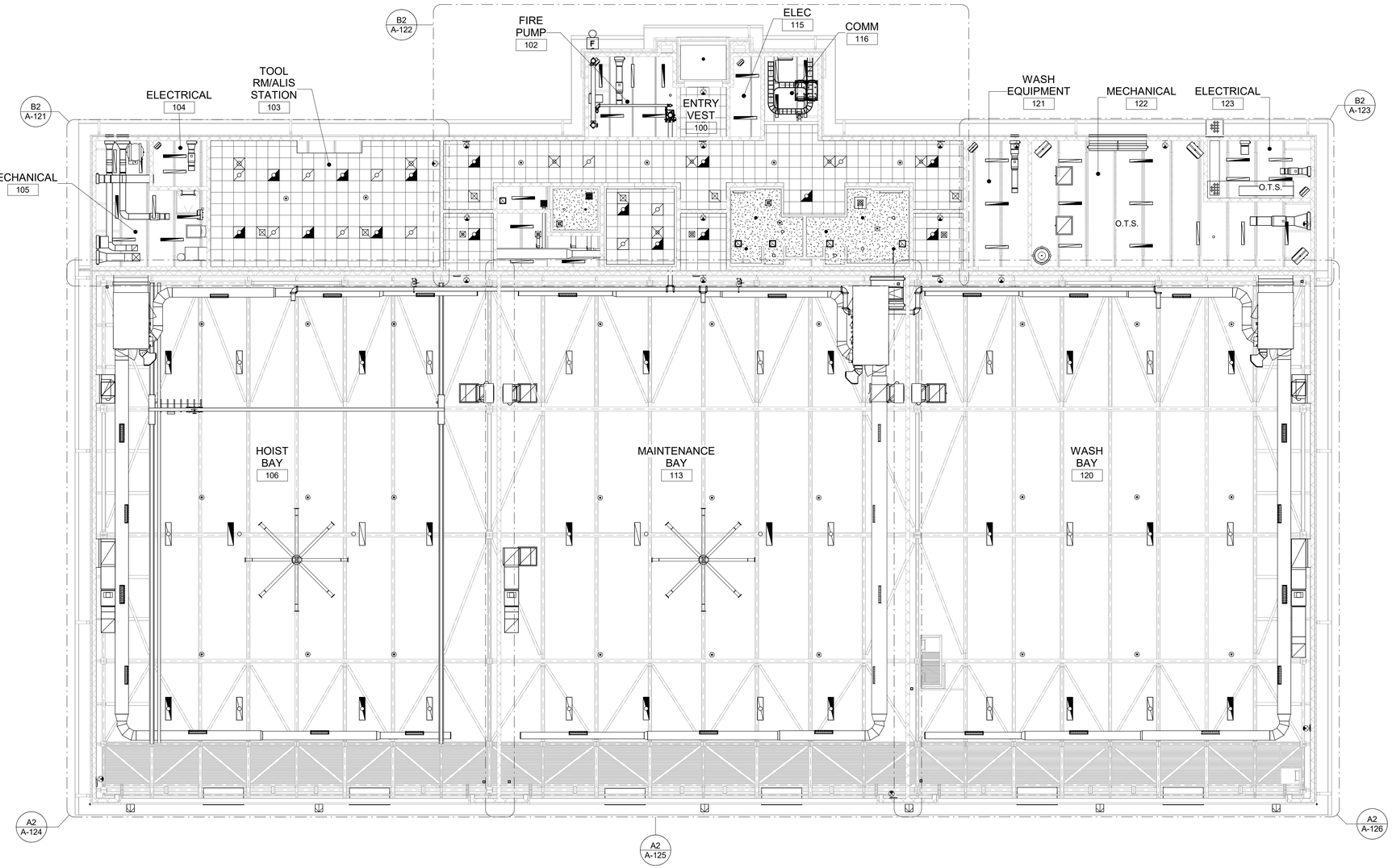
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

ROOF PLAN

SHEET ID

A-110

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A1 OVERALL REFLECTED CEILING PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

GENERAL RCP NOTES

1. SEE ELECTRICAL DRAWINGS. FOR LIGHT FIXTURE SCHEDULE AND REQUIREMENTS.
2. SEE INTERIOR DESIGN DRAWINGS FOR FINISHES.
3. COORDINATE CEILING ACCESS PANEL LOCATIONS WITH MECHANICAL AND PLUMBING PLANS.
4. SEE FIRE PROTECTION PLANS FOR LIFE SAFETY REQUIREMENTS.
5. CEILING GRIDS TO BE CENTERED IN ROOM UNLESS SPECIFICALLY OTHERWISE DIMENSIONED.
6. REFER TO SPECIFICATION SECTION 09 51 00 ACOUSTICAL CEILINGS, FOR HOLD DOWN CLIP REQUIREMENTS IN VESTIBULES.

RCP LEGEND

ARCHITECTURAL	
	GYPSUM BOARD CEILING
	SUSPENDED ACOUSTICAL CEILING TILE & FRAME 2 FT X 2 FT.
	OPEN TO STRUCTURE (O.T.S.)
	PREFINISHED METAL SOFFIT
X'-X"	CEILING HEIGHT AS NOTED
ELECTRICAL	
	LINEAR LED STRIP LIGHT
	EXTERIOR LIGHT - WALL PACK
	HIGH BAY LIGHT
	EMERGENCY LIGHT, TYP. ALL TYPES
	RECESSED LIGHT FIXTURE
	WALL MOUNTED LIGHT FIXTURE
	CEILING MOUNTED EXIT LIGHT
	WALL MOUNTED EXIT LIGHT
	OCCUPANCY SENSOR
MECHANICAL	
	SUPPLY AIR DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE
	OCCUPANCY SENSOR
	CIRCULATION FAN
	IR HEATING SYSTEM
	UNIT HEATER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\mbostar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MBECKRAR.rvt

Plot Date: 10/20/2025 1:20:25 PM

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

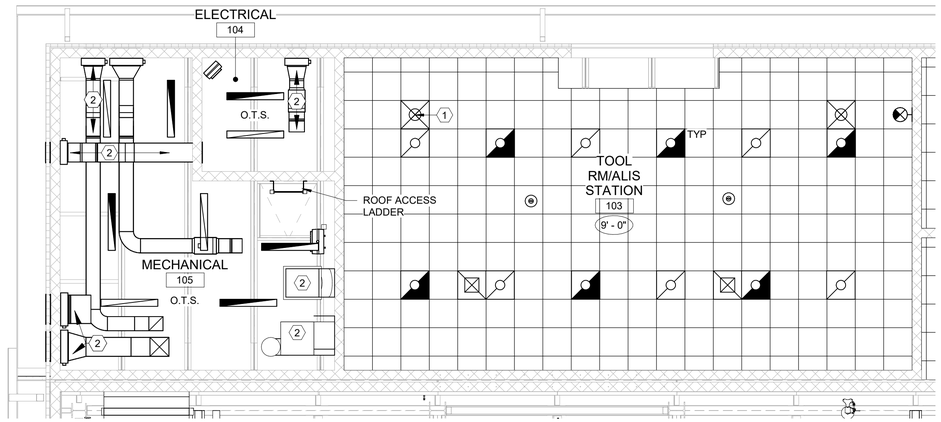
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

OVERALL REFLECTED CEILING PLAN

SHEET ID

A-120

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



B2 REFLECTED CEILING PLAN - AREA A

3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL RCP NOTES

1. SEE ELECTRICAL DRAWINGS. FOR LIGHT FIXTURE SCHEDULE AND REQUIREMENTS.
2. SEE INTERIOR DESIGN DRAWINGS FOR FINISHES.
3. COORDINATE CEILING ACCESS PANEL LOCATIONS WITH MECHANICAL AND PLUMBING PLANS.
4. SEE FIRE PROTECTION PLANS FOR LIFE SAFETY REQUIREMENTS.
5. CEILING GRIDS TO BE CENTERED IN ROOM UNLESS SPECIFICALLY OTHERWISE DIMENSIONED.
6. REFER TO SPECIFICATION SECTION 09 51 00 ACOUSTICAL CEILINGS, FOR HOLD DOWN CLIP REQUIREMENTS IN VESTIBULES.

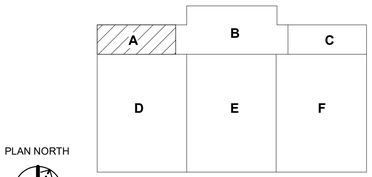
RCP LEGEND

ARCHITECTURAL	
	GYPSUM BOARD CEILING
	SUSPENDED ACOUSTICAL CEILING TILE & FRAME 2 FT X 2 FT.
	OPEN TO STRUCTURE (O.T.S.)
	PREFINISHED METAL SOFFIT
X'-X"	CEILING HEIGHT AS NOTED
ELECTRICAL	
	LINEAR LED STRIP LIGHT
	EXTERIOR LIGHT - WALL PACK
	HIGH BAY LIGHT
	EMERGENCY LIGHT, TYP. ALL TYPES
	RECESSED LIGHT FIXTURE
	WALL MOUNTED LIGHT FIXTURE
	CEILING MOUNTED EXIT LIGHT
	WALL MOUNTED EXIT LIGHT
	OCCUPANCY SENSOR
MECHANICAL	
	SUPPLY AIR DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE
	OCCUPANCY SENSOR
	CIRCULATION FAN
	IR HEATING SYSTEM
	UNIT HEATER

KEYNOTES

	ALL KEYNOTES MAY NOT BE USED ON SHEET.
1	MECHANICAL EQUIPMENT, REFER MECHANICAL
2	MECHANICAL DUCTWORK, REFER MECHANICAL
3	ELECTRICAL EQUIPMENT, REFER ELECTRICAL
4	FIRE PROTECTION EQUIPMENT, REFER FIRE PROTECTION
5	EQUIPMENT ACCESS CATWALK, REFER STRUCTURAL
6	CEILING EXPANSION JOINT ASSEMBLY. REFER DETAIL F1/A-530.
7	CONTINUOUS BACKER ROD AND SEALANT AT PERIMETER OF METAL SOFFIT PANEL

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

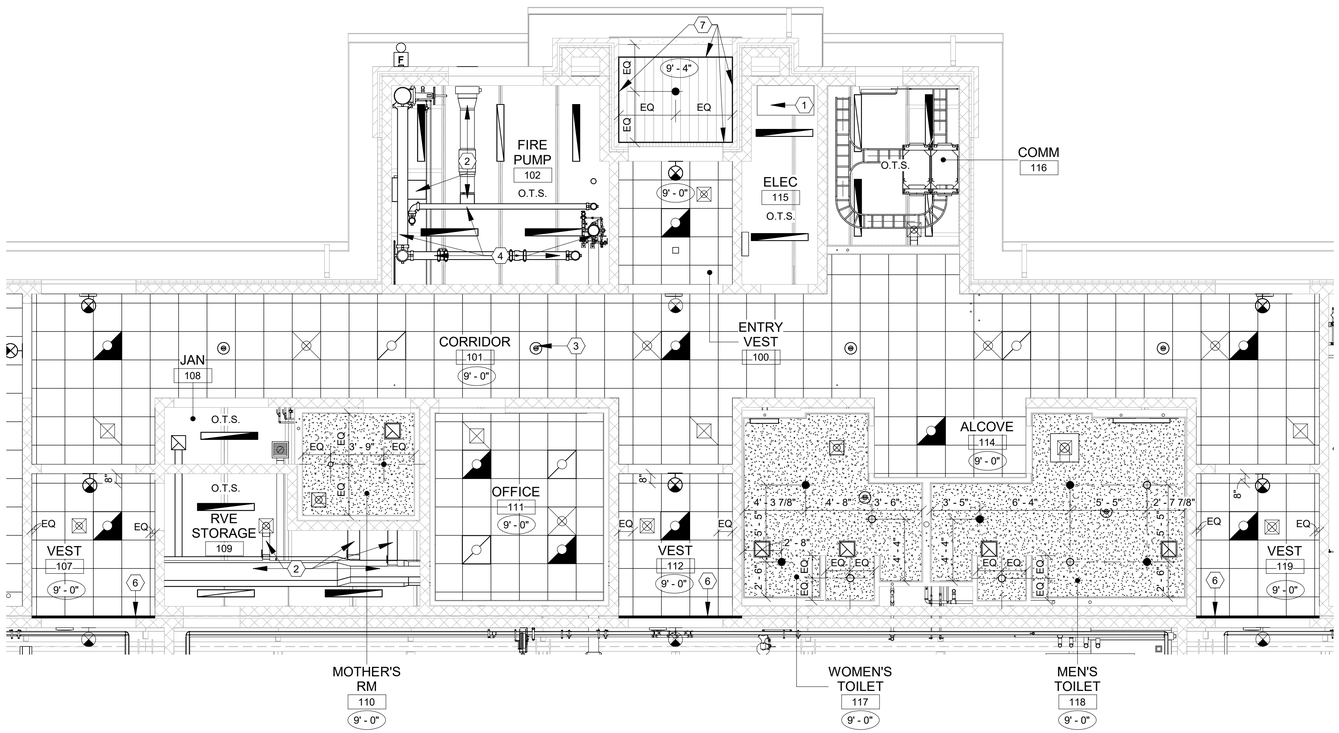
REFLECTED CEILING PLAN - AREA A

SHEET ID

A-121

Plot Date: 10/20/2025 1:20:27 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECCRKAR.rvt

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



B2 REFLECTED CEILING PLAN - AREA B

3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL RCP NOTES

1. SEE ELECTRICAL DRAWINGS. FOR LIGHT FIXTURE SCHEDULE AND REQUIREMENTS.
2. SEE INTERIOR DESIGN DRAWINGS FOR FINISHES.
3. COORDINATE CEILING ACCESS PANEL LOCATIONS WITH MECHANICAL AND PLUMBING PLANS.
4. SEE FIRE PROTECTION PLANS FOR LIFE SAFETY REQUIREMENTS.
5. CEILING GRIDS TO BE CENTERED IN ROOM UNLESS SPECIFICALLY OTHERWISE DIMENSIONED.
6. REFER TO SPECIFICATION SECTION 09 51 00 ACOUSTICAL CEILINGS, FOR HOLD DOWN CLIP REQUIREMENTS IN VESTIBULES.

RCP LEGEND

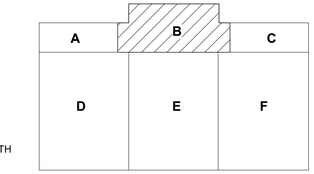
ARCHITECTURAL	
	GYPSUM BOARD CEILING
	SUSPENDED ACOUSTICAL CEILING TILE & FRAME 2 FT X 2 FT.
	OPEN TO STRUCTURE (O.T.S.)
	PREFINISHED METAL SOFFIT
X'-X"	CEILING HEIGHT AS NOTED
ELECTRICAL	
	LINEAR LED STRIP LIGHT
	EXTERIOR LIGHT - WALL PACK
	HIGH BAY LIGHT
	EMERGENCY LIGHT, TYP. ALL TYPES
	RECESSED LIGHT FIXTURE
	WALL MOUNTED LIGHT FIXTURE
	CEILING MOUNTED EXIT LIGHT
	WALL MOUNTED EXIT LIGHT
	OCCUPANCY SENSOR
MECHANICAL	
	SUPPLY AIR DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE
+OS-	OCCUPANCY SENSOR
	CIRCULATION FAN
	IR HEATING SYSTEM
	UNIT HEATER

KEYNOTES

ALL KEYNOTES MAY NOT BE USED ON SHEET.

1	MECHANICAL EQUIPMENT, REFER MECHANICAL
2	MECHANICAL DUCTWORK, REFER MECHANICAL
3	ELECTRICAL EQUIPMENT, REFER ELECTRICAL
4	FIRE PROTECTION EQUIPMENT, REFER FIRE PROTECTION
5	EQUIPMENT ACCESS CATWALK, REFER STRUCTURAL
6	CEILING EXPANSION JOINT ASSEMBLY. REFER DETAIL F1/A-530.
7	CONTINUOUS BACKER ROD AND SEALANT AT PERIMETER OF METAL SOFFIT PANEL

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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File Path:

10/20/2025 1:20:31 PM

Plot Date:

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOPER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

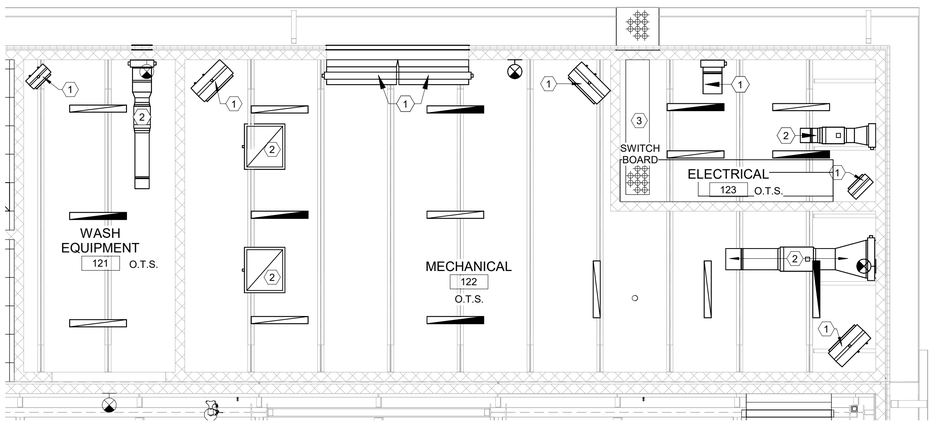
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

REFLECTED CEILING PLAN - AREA B

SHEET ID

A-122

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



B2 REFLECTED CEILING PLAN - AREA C

3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL RCP NOTES

1. SEE ELECTRICAL DRAWINGS. FOR LIGHT FIXTURE SCHEDULE AND REQUIREMENTS.
2. SEE INTERIOR DESIGN DRAWINGS FOR FINISHES.
3. COORDINATE CEILING ACCESS PANEL LOCATIONS WITH MECHANICAL AND PLUMBING PLANS.
4. SEE FIRE PROTECTION PLANS FOR LIFE SAFETY REQUIREMENTS.
5. CEILING GRIDS TO BE CENTERED IN ROOM UNLESS SPECIFICALLY OTHERWISE DIMENSIONED.
6. REFER TO SPECIFICATION SECTION 09 51 00 ACOUSTICAL CEILINGS, FOR HOLD DOWN CLIP REQUIREMENTS IN VESTIBULES.

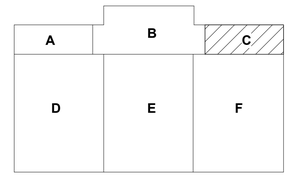
RCP LEGEND

ARCHITECTURAL	
	GYPSUM BOARD CEILING
	SUSPENDED ACOUSTICAL CEILING TILE & FRAME 2 FT X 2 FT.
	OPEN TO STRUCTURE (O.T.S.)
	PREFINISHED METAL SOFFIT
X'-X"	CEILING HEIGHT AS NOTED
ELECTRICAL	
	LINEAR LED STRIP LIGHT
	EXTERIOR LIGHT - WALL PACK
	HIGH BAY LIGHT
	EMERGENCY LIGHT, TYP. ALL TYPES
	RECESSED LIGHT FIXTURE
	WALL MOUNTED LIGHT FIXTURE
	CEILING MOUNTED EXIT LIGHT
	WALL MOUNTED EXIT LIGHT
	OCCUPANCY SENSOR
MECHANICAL	
	SUPPLY AIR DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE
	OCCUPANCY SENSOR
	CIRCULATION FAN
	IR HEATING SYSTEM
	UNIT HEATER

KEYNOTES

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3	ELECTRICAL EQUIPMENT, REFER ELECTRICAL
4	FIRE PROTECTION EQUIPMENT, REFER FIRE PROTECTION
5	EQUIPMENT ACCESS CATWALK, REFER STRUCTURAL
6	CEILING EXPANSION JOINT ASSEMBLY. REFER DETAIL F1/A-530.
7	CONTINUOUS BACKER ROD AND SEALANT AT PERIMETER OF METAL SOFFIT PANEL

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RV722.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

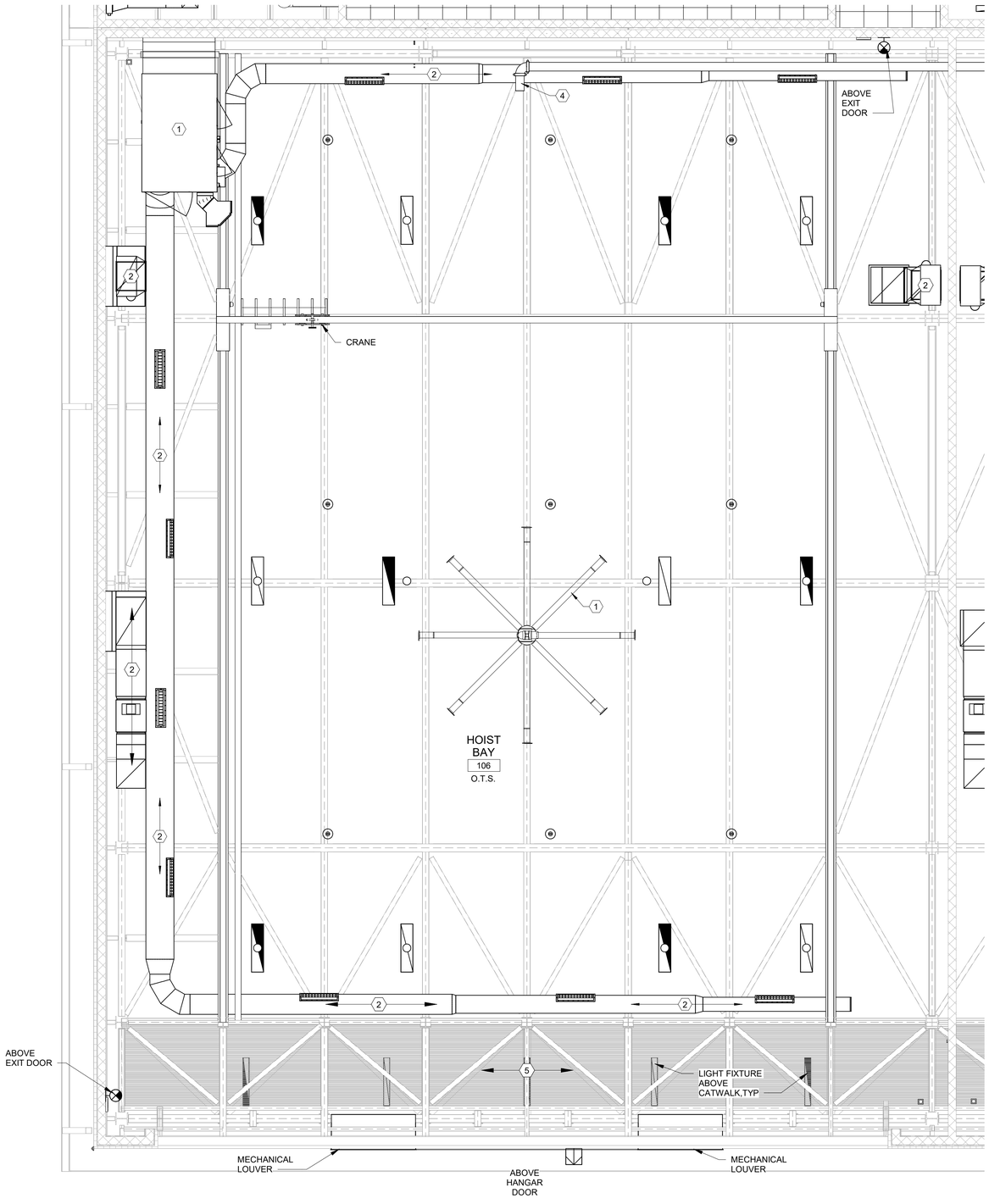
REFLECTED CEILING PLAN - AREA C

SHEET ID

A-123

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100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 REFLECTED CEILING PLAN - AREA D

3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL RCP NOTES

1. SEE ELECTRICAL DRAWINGS. FOR LIGHT FIXTURE SCHEDULE AND REQUIREMENTS.
2. SEE INTERIOR DESIGN DRAWINGS FOR FINISHES.
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4. SEE FIRE PROTECTION PLANS FOR LIFE SAFETY REQUIREMENTS.
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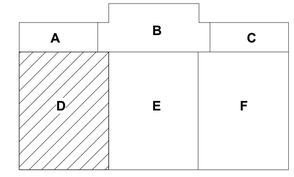
RCP LEGEND

ARCHITECTURAL	
	GYPSUM BOARD CEILING
	SUSPENDED ACOUSTICAL CEILING TILE & FRAME 2 FT X 2 FT.
	OPEN TO STRUCTURE (O.T.S.)
	PREFINISHED METAL SOFFIT
X'-X"	CEILING HEIGHT AS NOTED
ELECTRICAL	
	LINEAR LED STRIP LIGHT
	EXTERIOR LIGHT - WALL PACK
	HIGH BAY LIGHT
	EMERGENCY LIGHT, TYP. ALL TYPES
	RECESSED LIGHT FIXTURE
	WALL MOUNTED LIGHT FIXTURE
	CEILING MOUNTED EXIT LIGHT
	WALL MOUNTED EXIT LIGHT
	OCCUPANCY SENSOR
MECHANICAL	
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	RETURN GRILLE
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KEYNOTES

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7	CONTINUOUS BACKER ROD AND SEALANT AT PERIMETER OF METAL SOFFIT PANEL

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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Plot Date: 10/20/2025 1:20:37 PM

DESIGNED BY:	ISSUE DATE:
C. LONGACRE	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
R. READER	W912BV26RA004
CHECKED BY:	CONTRACT NO.:
M. HOOVER, R.A.	
SUBMITTED BY:	PROJECT NO:
A. BLANKENSHIP, P.E.	512203
SIZE:	FILE NAME:
ANSI D	EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

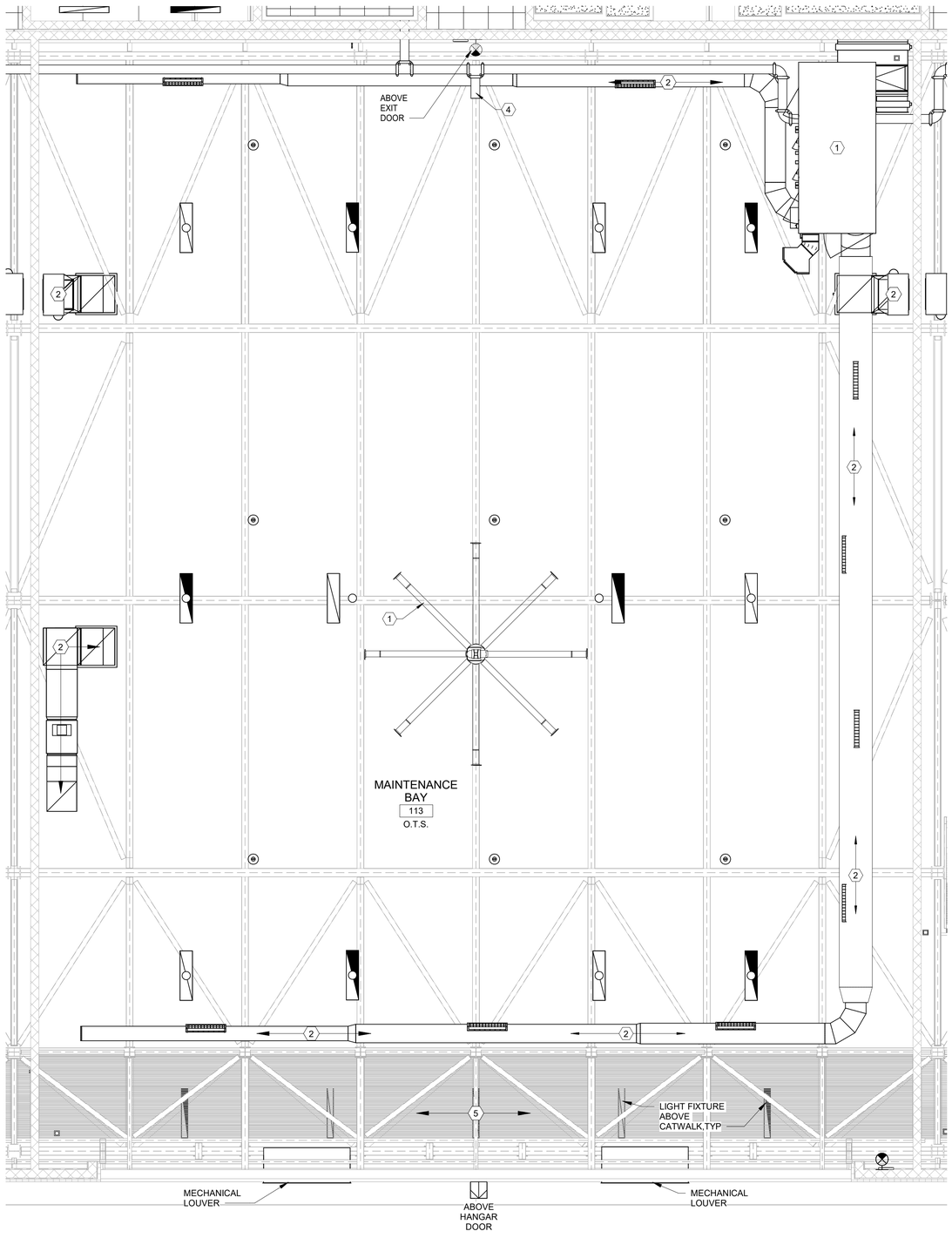
EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

REFLECTED CEILING PLAN - AREA D

SHEET ID

A-124

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 REFLECTED CEILING PLAN - AREA E

3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL RCP NOTES

1. SEE ELECTRICAL DRAWINGS. FOR LIGHT FIXTURE SCHEDULE AND REQUIREMENTS.
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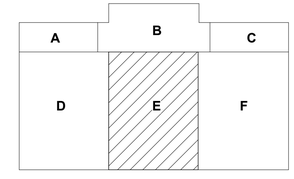
RCP LEGEND

ARCHITECTURAL	
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	SUSPENDED ACOUSTICAL CEILING TILE & FRAME 2 FT X 2 FT.
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	LINEAR LED STRIP LIGHT
	EXTERIOR LIGHT - WALL PACK
	HIGH BAY LIGHT
	EMERGENCY LIGHT, TYP. ALL TYPES
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7	CONTINUOUS BACKER ROD AND SEALANT AT PERIMETER OF METAL SOFFIT PANEL

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:20:40 PM
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

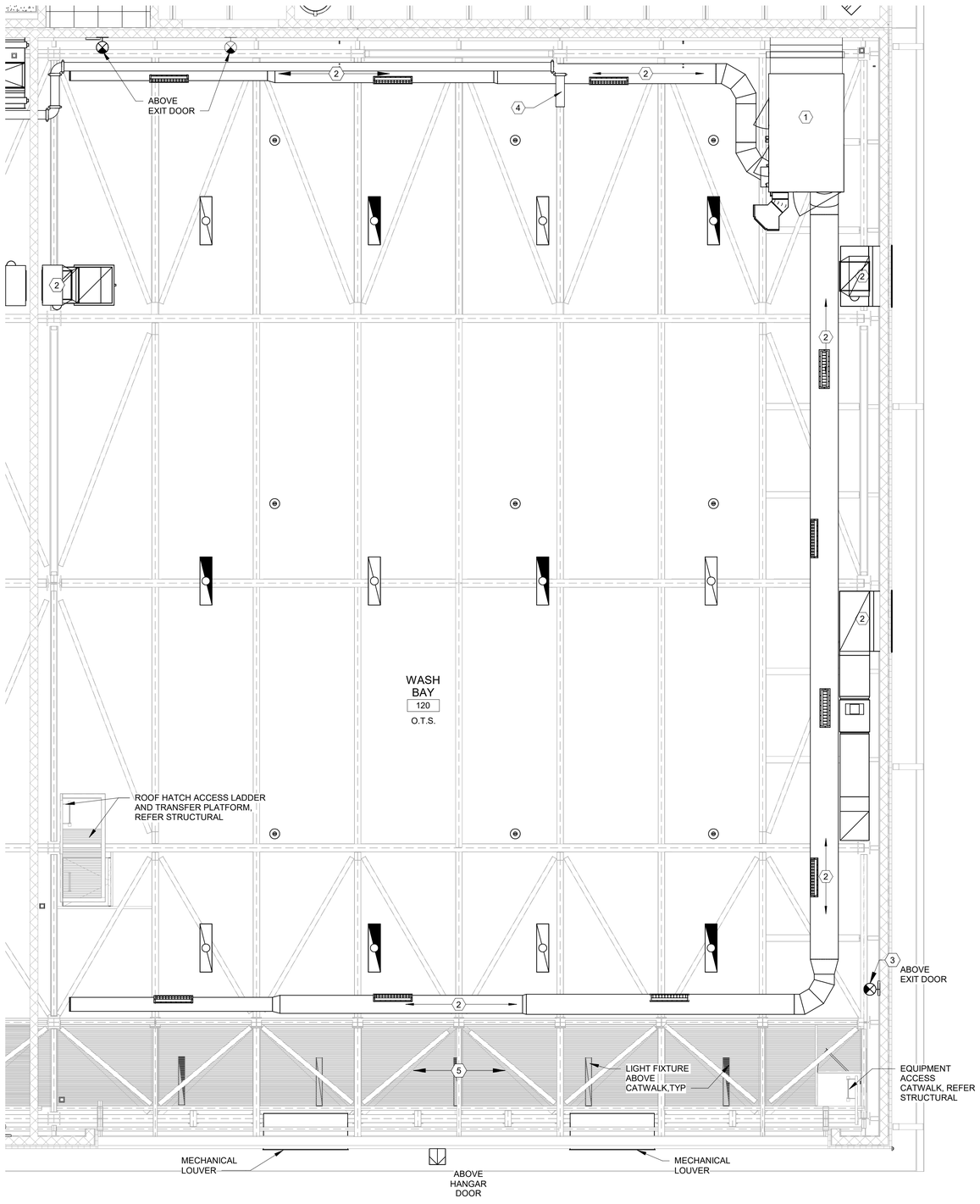
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

REFLECTED CEILING PLAN - AREA E

SHEET ID
A-125

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 REFLECTED CEILING PLAN - AREA F

3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL RCP NOTES

1. SEE ELECTRICAL DRAWINGS. FOR LIGHT FIXTURE SCHEDULE AND REQUIREMENTS.
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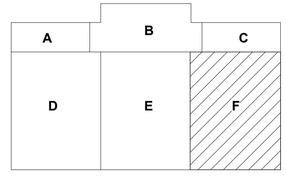
RCP LEGEND

ARCHITECTURAL	
	GYPSUM BOARD CEILING
	SUSPENDED ACOUSTICAL CEILING TILE & FRAME 2 FT X 2 FT.
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X'-X"	CEILING HEIGHT AS NOTED
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MECHANICAL	
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KEYNOTES

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PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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Plot Date: 10/20/2025 1:20:43 PM
File Path: C:\Users\mbeckstar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MBECKMAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

REFLECTED CEILING PLAN - AREA F

SHEET ID
A-126

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

EXTERIOR FINISH LEGEND

GENERAL CONTRACTOR MUST PROVIDE SAMPLE PRODUCTS AND SAMPLE COLORS FOR APPROVAL PER SPECIFICATIONS SUBMITTAL REQUIREMENTS

P	1	PRE-FINISHED STANDING SEAM METAL ROOF PANEL, AND PENETRATIONS COLOR: FED-STD-595C 30040: DARK BRONZE - HEX# 534842 OR EQUAL	9	EXTERIOR ALUMINUM DOORS AND FRAMES COLOR: ANODIZED ALUMINUM, CLEAR
	2	PRE-FINISHED INSULATED METAL WALL PANEL, AND PENETRATIONS COLOR: DOVE TAIL BY METL SPAN OR EQUAL	10a 10b	EXTERIOR HOLLOW METAL DOORS AND FRAMES; (10a) MATCH DOVE TAIL 8a (10b) MATCH DARK BRONZE - HEX# 534842 8b
	3	EXTERIOR BRICK VENEER (PRIMARY FACADE) COLOR: FLYING RAZORBACK BLEND BY ACME BRICK OR EQUAL	11	OVERHEAD COILING DOORS AND FRAMES COLOR: MATCH DOVE TAIL BY METL SPAN OR EQUAL
N	4	EXTERIOR BRICK VENEER, SOLDIER COURSE (ACCENT) COLOR: FLYING RAZORBACK BLEND BY ACME BRICK OR EQUAL	12	EXTERIOR CONCRETE FILLED BOLLARDS. REF CIVIL PLANS COLOR: OSHA YELLOW WITH 2 STRIPS OF 2" WIDE WITH REFLECTIVE TAPE, 2" FROM TOP AND 2" BETWEEN THEM
	5	CAST STONE COLOR: DARK BUFF BY DFW CAST STONE OR EQUAL	13	ROOF ACCESS LADDER COLOR: OSHA YELLOW
	6	TRANSLUCENT FIBERGLASS SANDWICH PANEL ASSEMBLIES COLOR: ANODIZED ALUMINUM W/ EXT .070 CRYSTAL SW AND INTERIOR .045 CRYSTAL S-171	14	VERTICAL LIFT FABRIC DOOR COLOR: WHITE
M	7a 7b	METAL DOWNSPOUTS AND LOUVERS (7a) MATCH DOVE TAIL 4a (7b) MATCH DARK BRONZE - HEX# 534842 4b	15	ROOF ELEMENTS COLOR: FINISH TO MATCH ROOF, DARK BRONZE - HEX# 534842 OR EQUAL
	8	METAL COPING, FASCIA, AND GUTTERS COLOR: MATCH ROOF, DARK BRONZE - HEX# 534842 OR EQUAL		

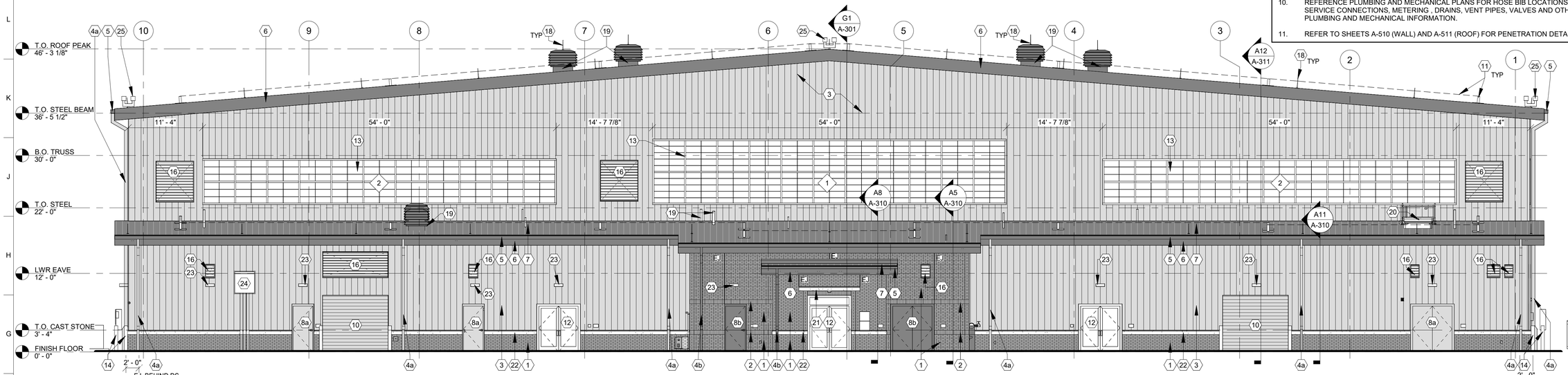
KEYNOTES

ALL KEYNOTES MAY NOT BE USED ON SHEET.

1	MODULAR BRICK 3	15	MECHANICAL EQUIPMENT, REF. MECHANICAL
2	MODULAR BRICK SOLDIER COURSE 4	16	MECHANICAL LOUVER, REF. MECHANICAL FOR LOUVER SCHEDULES 7a 7b
3	METAL WALL PANELS, INSULATED 2	17	WALL EXPANSION JOINT, REF. DETAIL F15 / A-502
4a 4b	PRE-FINISHED METAL DOWNSPOUTS (DS), REF. ROOF PLAN FOR SIZES 7a 7b	18	LIGHTNING PROTECTION, REF. ELECTRICAL
5	CONTINUOUS PRE-FINISHED METAL GUTTERS, REF. ROOF PLAN FOR SIZES 8	19	MECHANICAL ROOF VENT, REF. MECHANICAL 15
6	PRE-FINISHED METAL FASCIA AND SOFFITS, REF. DETAILS FOR SIZES 8	20	ROOF ACCESS HATCH 15
7	STANDING SEAM METAL ROOF PANELS 1	21	CAST STONE LINTEL 5
8a 8b	HOLLOW METAL DOOR, REF. DOOR SCHEDULE 10a 10b	22	CAST STONE WATER TABLE 5
9	VERTICAL LIFT BIFOLD DOOR, REF. DOOR SCHEDULE 14	23	WALL PACK LIGHTING, REF. ELECTRICAL
10	INSULATED OVERHEAD COILING DOOR 11	24	ELECTRICAL EQUIPMENT, REF. ELECTRICAL
11	ROOF FALL PROTECTION, FOR LOCATIONS REF. SHEET A-110	25	OBSTRUCTION LIGHTING, REF. ELECTRICAL
12	INSULATED ALUMINUM STOREFRONT ASSEMBLY 9		
13	TRANSLUCENT FIBERGLASS SANDWICH PANEL ASSEMBLIES, REF. SHEET A-620 6		
14	6" CONCRETE FILLED STEEL BOLLARD, REF. CIVIL DETAILS 12		

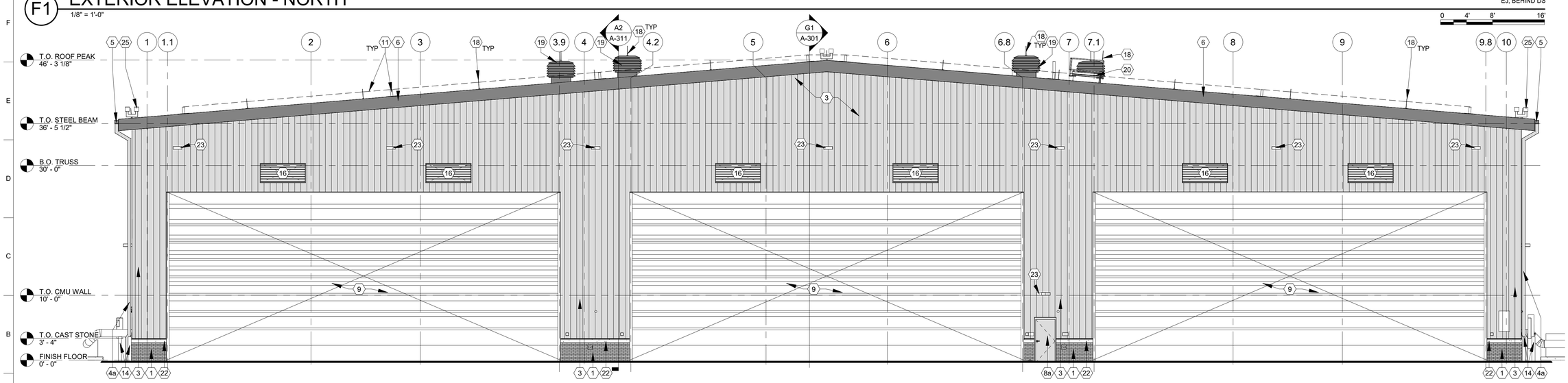
GENERAL NOTES

1. ALL ROOFING MATERIALS AND ACCESSORIES AND TRIM ARE TO BE PRE-FINISHED METAL.
2. ALL EXTERIOR LOUVERS SHALL BE PRE-FINISHED, COLOR WITH INSECT SCREEN, SEE LOUVER SCHEDULE ON MECHANICAL DWGS.
3. ALL EXTERIOR STEEL (UNDERSIDE OF EVES, GATES. HANDRAILS, ETC.) TO BE SHOP PRIMED AND FIELD PAINTED TO MATCH EXTERIOR COLOR.
4. PROVIDE EXPANSION JOINTS IN BRICK VENEER AT 24'-0" O.C. MAX., DENOTED BY 'EJ'. SEE ARCHITECTURAL ELEVATIONS FOR LOCATIONS. REF L16 / A-502
5. METAL DOWNSPOUTS AT METAL PANEL WALLS SHALL BE PRE-FINISHED. COLOR TO MATCH METAL WALL PANEL.
6. INSTALL STANDING SEAM METAL ROOFING PER MANUFACTURER'S SPECIFICATIONS.
7. SEE CIVIL PLANS FOR SITE COMPONENTS.
8. REFERENCE FIRE PROTECTION PLANS FOR ALL WORK ASSOCIATED TO FIRE PROTECTION SYSTEM DESIGN, INCLUDING THE REQUIRED EQUIPMENT TO BE INSTALLED ON THE EXTERIOR ELEVATIONS. COORDINATE WITH PLUMBING DRAWINGS ACCORDINGLY.
9. REFERENCE ELECTRICAL PLANS FOR ALL EXTERIOR LIGHT FIXTURES, OUTLETS, AND ELECTRICAL EQUIPMENT.
10. REFERENCE PLUMBING AND MECHANICAL PLANS FOR HOSE BIB LOCATIONS, SERVICE CONNECTIONS, METERING , DRAINS, VENT PIPES, VALVES AND OTHER PLUMBING AND MECHANICAL INFORMATION.
11. REFER TO SHEETS A-510 (WALL) AND A-511 (ROOF) FOR PENETRATION DETAILS.



F1 EXTERIOR ELEVATION - NORTH

1/8" = 1'-0"



A1 EXTERIOR ELEVATION - SOUTH

1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

Plot Date: 10/20/2025 1:20:54 PM
File Path: C:\Users\mbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MBECBRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

EXTERIOR ELEVATIONS

SHEET ID

A-201

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EXTERIOR FINISH LEGEND

GENERAL CONTRACTOR MUST PROVIDE SAMPLE PRODUCTS AND SAMPLE COLORS FOR APPROVAL PER SPECIFICATIONS SUBMITTAL REQUIREMENTS

1	PRE-FINISHED STANDING SEAM METAL ROOF PANEL, AND PENETRATIONS COLOR: FED-STD-595C 30040: DARK BRONZE - HEX# 534842 OR EQUAL	9	EXTERIOR ALUMINUM DOORS AND FRAMES COLOR: ANODIZED ALUMINUM, CLEAR
2	PRE-FINISHED INSULATED METAL WALL PANEL, AND PENETRATIONS COLOR: DOVE TAIL BY METL SPAN OR EQUAL	10a 10b	EXTERIOR HOLLOW METAL DOORS AND FRAMES; (10a) MATCH DOVE TAIL (8a) (10b) MATCH DARK BRONZE - HEX# 534842 (8b)
3	EXTERIOR BRICK VENEER (PRIMARY FACADE) COLOR: FLYING RAZORBACK BLEND BY ACME BRICK OR EQUAL	11	OVERHEAD COILING DOORS AND FRAMES COLOR: MATCH DOVE TAIL BY METL SPAN OR EQUAL
4	EXTERIOR BRICK VENEER, SOLDIER COURSE (ACCENT) COLOR: FLYING RAZORBACK BLEND BY ACME BRICK OR EQUAL	12	EXTERIOR CONCRETE FILLED BOLLARDS. REF CIVIL PLANS COLOR: OSHA YELLOW WITH 2 STRIPS OF 2" WIDE WITH REFLECTIVE TAPE, 2" FROM TOP AND 2" BETWEEN THEM
5	CAST STONE COLOR: DARK BUFF BY DFW CAST STONE OR EQUAL	13	ROOF ACCESS LADDER COLOR: OSHA YELLOW
6	TRANSLUCENT FIBERGLASS SANDWICH PANEL ASSEMBLIES COLOR: ANODIZED ALUMINUM W/ EXT .070 CRYSTAL SW AND INTERIOR .045 CRYSTAL S-171	14	VERTICAL LIFT FABRIC DOOR COLOR: WHITE
7a 7b	METAL DOWNSPOUTS AND LOUVERS (7a) MATCH DOVE TAIL (4a) (7b) MATCH DARK BRONZE - HEX# 534842 (4b)	15	ROOF ELEMENTS COLOR: FINISH TO MATCH ROOF, DARK BRONZE - HEX# 534842 OR EQUAL
8	METAL COPING, FASCIA, AND GUTTERS COLOR: MATCH ROOF, DARK BRONZE - HEX# 534842 OR EQUAL		

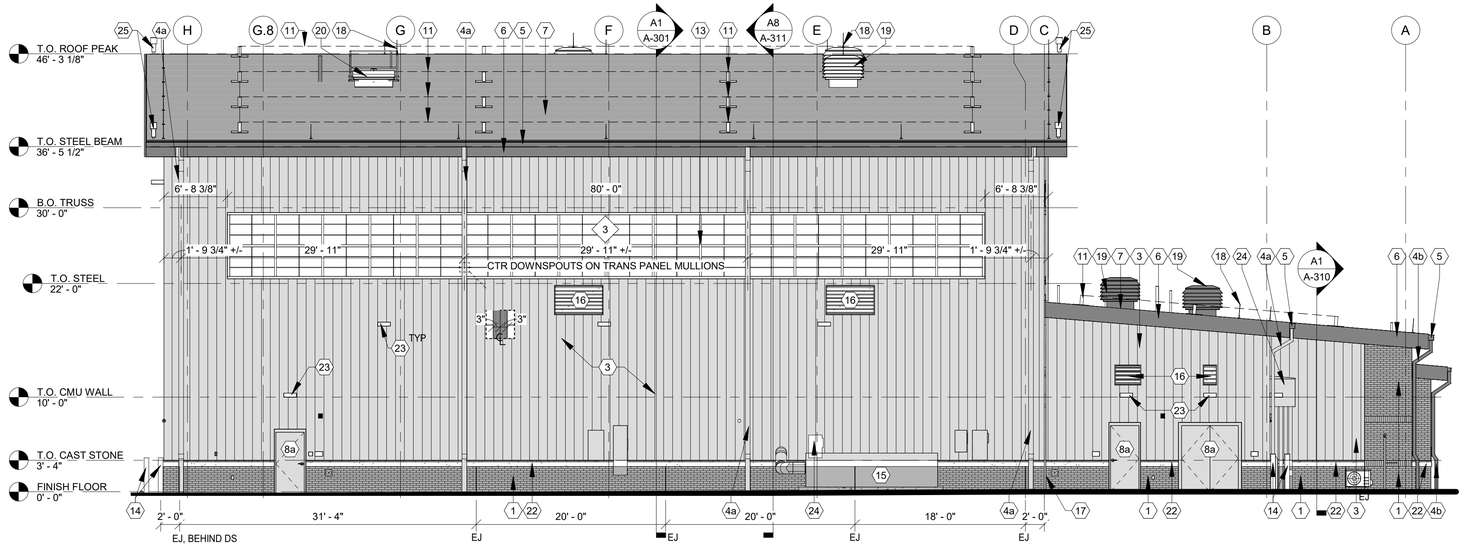
KEYNOTES

ALL KEYNOTES MAY NOT BE USED ON SHEET.

1	MODULAR BRICK 3	15	MECHANICAL EQUIPMENT, REF. MECHANICAL
2	MODULAR BRICK SOLDIER COURSE 4	16	MECHANICAL LOUVER, REF. MECHANICAL FOR LOUVER SCHEDULES 7a 7b
3	METAL WALL PANELS, INSULATED 2	17	WALL EXPANSION JOINT, REF. DETAIL F15 / A-502
4a 4b	PRE-FINISHED METAL DOWNSPOUTS (DS), REF. ROOF PLAN FOR SIZES 7a 7b	18	LIGHTNING PROTECTION, REF. ELECTRICAL
5	CONTINUOUS PRE-FINISHED METAL GUTTERS, REF. ROOF PLAN FOR SIZES 8	19	MECHANICAL ROOF VENT, REF. MECHANICAL 15
6	PRE-FINISHED METAL FASCIA AND SOFFITS, REF. DETAILS FOR SIZES 8	20	ROOF ACCESS HATCH 15
7	STANDING SEAM METAL ROOF PANELS 1	21	CAST STONE LINTEL 5
8a 8b	HOLLOW METAL DOOR, REF. DOOR SCHEDULE 10a 10b	22	CAST STONE WATER TABLE 5
9	VERTICAL LIFT BIFOLD DOOR, REF. DOOR SCHEDULE 14	23	WALL PACK LIGHTING, REF. ELECTRICAL
10	INSULATED OVERHEAD COILING DOOR 11	24	ELECTRICAL EQUIPMENT, REF. ELECTRICAL
11	ROOF FALL PROTECTION, FOR LOCATIONS REF. SHEET A-110	25	OBSTRUCTION LIGHTING, REF. ELECTRICAL
12	INSULATED ALUMINUM STOREFRONT ASSEMBLY 9		
13	TRANSLUCENT FIBERGLASS SANDWICH PANEL ASSEMBLIES, REF. SHEET A-620 6		
14	6" CONCRETE FILLED STEEL BOLLARD, REF. CIVIL DETAILS 12		

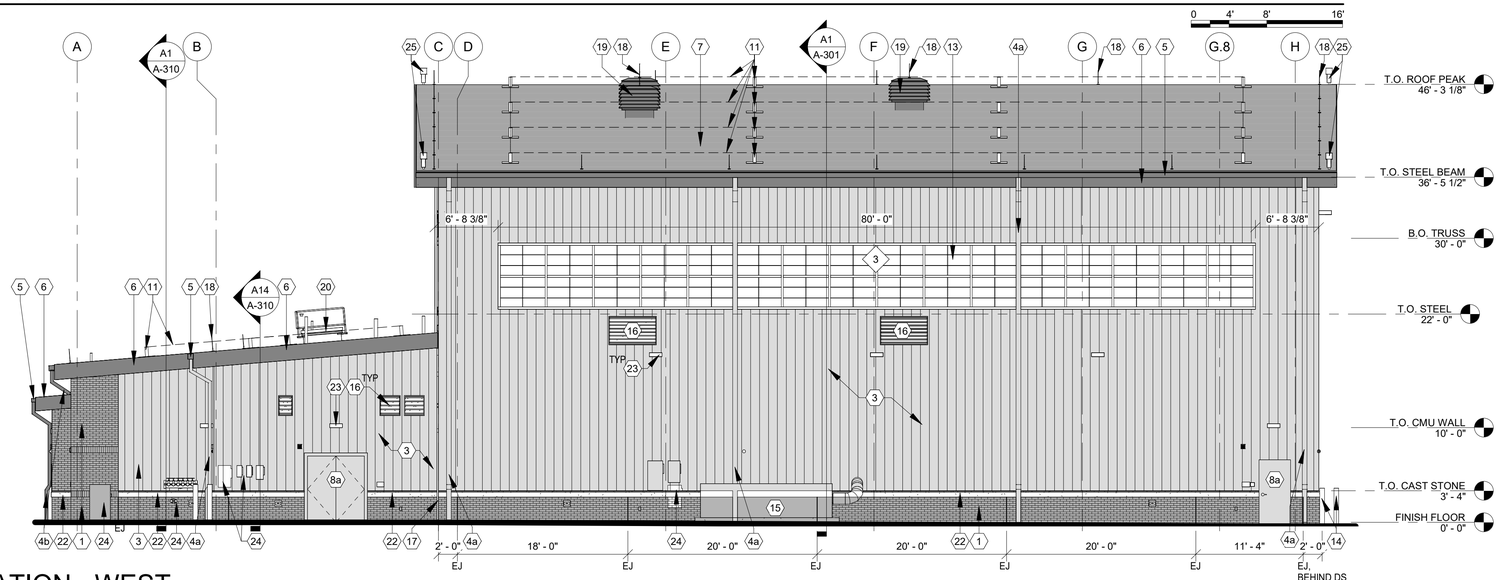
GENERAL NOTES

1. ALL ROOFING MATERIALS AND ACCESSORIES AND TRIM ARE TO BE PRE-FINISHED METAL.
2. ALL EXTERIOR LOUVERS SHALL BE PRE-FINISHED, COLOR WITH INSECT SCREEN, SEE LOUVER SCHEDULE ON MECHANICAL DWGS.
3. ALL EXTERIOR STEEL (UNDERSIDE OF EVES, GATES. HANDRAILS, ETC.) TO BE SHOP PRIMED AND FIELD PAINTED TO MATCH EXTERIOR COLOR.
4. PROVIDE EXPANSION JOINTS IN BRICK VENEER AT 24'-0" O.C. MAX., DENOTED BY 'EJ'. SEE ARCHITECTURAL ELEVATIONS FOR LOCATIONS. REF L16 / A-502
5. METAL DOWNSPOUTS AT METAL PANEL WALLS SHALL BE PRE-FINISHED. COLOR TO MATCH METAL WALL PANEL.
6. INSTALL STANDING SEAM METAL ROOFING PER MANUFACTURER'S SPECIFICATIONS.
7. SEE CIVIL PLANS FOR SITE COMPONENTS.
8. REFERENCE FIRE PROTECTION PLANS FOR ALL WORK ASSOCIATED TO FIRE PROTECTION SYSTEM DESIGN, INCLUDING THE REQUIRED EQUIPMENT TO BE INSTALLED ON THE EXTERIOR ELEVATIONS. COORDINATE WITH PLUMBING DRAWINGS ACCORDINGLY.
9. REFERENCE ELECTRICAL PLANS FOR ALL EXTERIOR LIGHT FIXTURES, OUTLETS, AND ELECTRICAL EQUIPMENT.
10. REFERENCE PLUMBING AND MECHANICAL PLANS FOR HOSE BIB LOCATIONS, SERVICE CONNECTIONS, METERING , DRAINS, VENT PIPES, VALVES AND OTHER PLUMBING AND MECHANICAL INFORMATION.
11. REFER TO SHEETS A-510 (WALL) AND A-511 (ROOF) FOR PENETRATION DETAILS.



F1 EXTERIOR ELEVATION - EAST

1/8" = 1'-0"



A1 EXTERIOR ELEVATION - WEST

1/8" = 1'-0"

US Army Corps of Engineers ®

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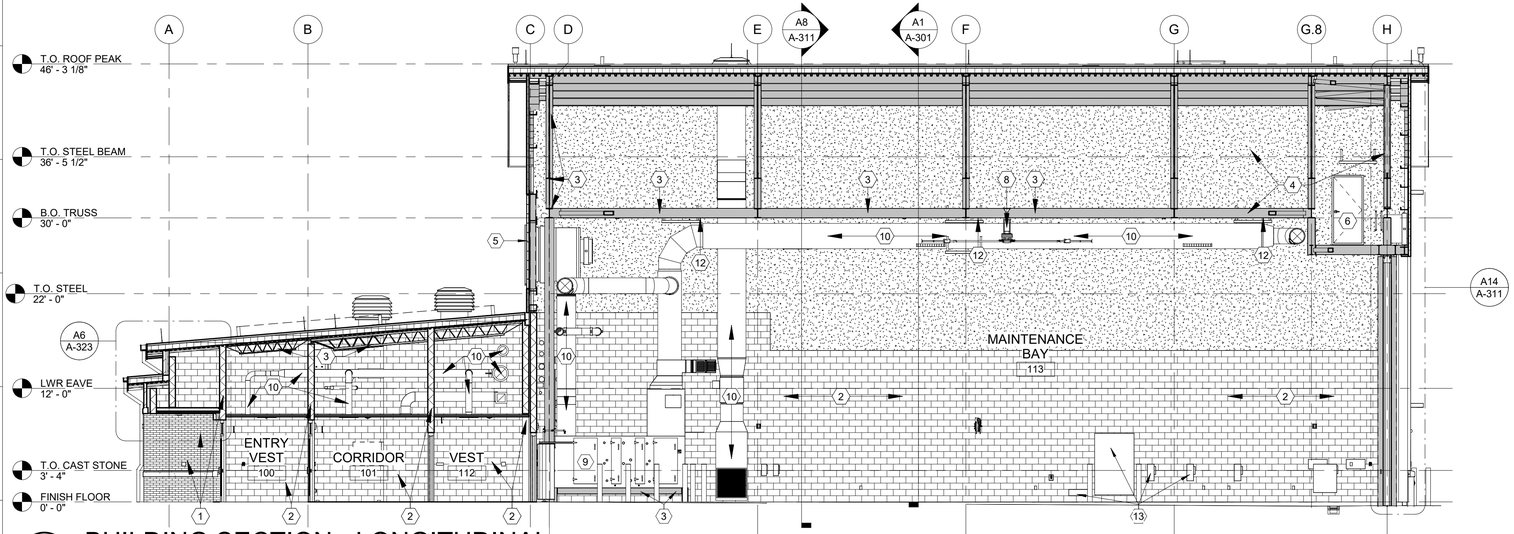
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

EXTERIOR ELEVATIONS

SHEET ID

A-202

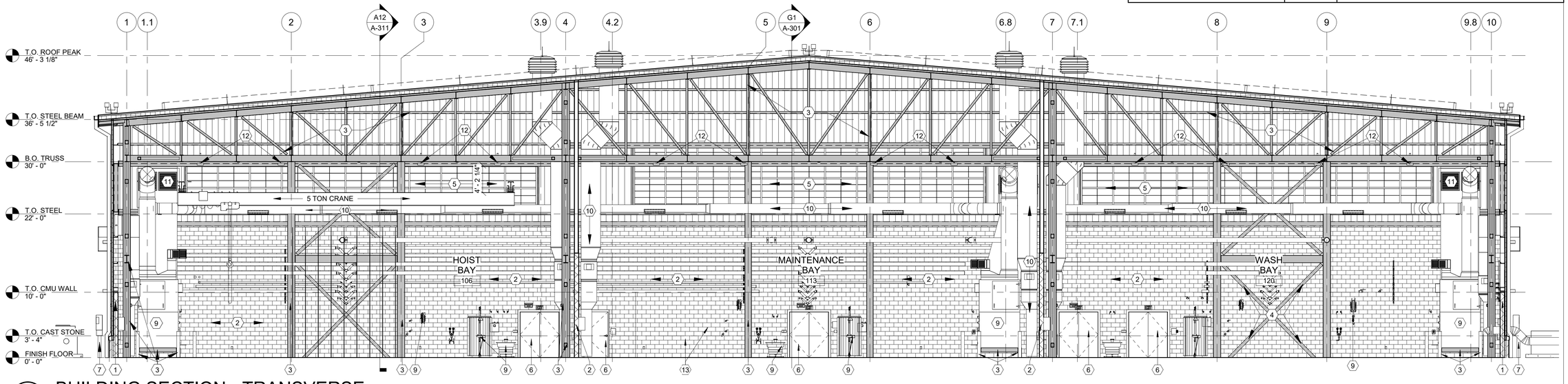
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G1 BUILDING SECTION - LONGITUDINAL

1/8" = 1'-0"

0 4' 8' 16'



A1 BUILDING SECTION - TRANSVERSE

1/8" = 1'-0"

0 4' 8' 16'

GENERAL SECTION NOTES

1. SEE STRUCTURAL DRAWINGS FOR STRUCTURAL REQUIREMENTS.
2. SEE INTERIOR DESIGN DRAWINGS FOR FINISHES AND COLORS.
3. SEE INTERIOR DESIGN DRAWINGS FOR FURNITURE.
4. SEE EXTERIOR ELEVATION FOR EXTERIOR FINISHES AND COLORS.
5. SEE REFLECTED CEILING PLANS FOR CEILING HEIGHTS AND CEILING MOUNTED EQUIPMENT.
6. SEE CIVIL PLANS FOR SITE ELEMENTS.
7. SEE M.E.P. DRAWINGS FOR EQUIPMENT INFORMATION.
8. COORDINATE WITH M.E.P. DRAWINGS TO ENSURE NO CONFLICTS WITH CRANE INSTALLATION.

KEYNOTES

1	EXTERIOR WALL SYSTEM. REFER FLOOR PLANS AND WALL SECTIONS A-310 AND A-311
2	INTERIOR WALL SYSTEM. REFER ENLARGED FLOOR PLANS
3	STEEL STRUCTURE, REFER STRUCTURAL
4	STRUCTURAL BRACING, REFER STRUCTURAL
5	TRANSLUCENT FIBERGLASS PANEL ASSEMBLIES, REFER A-620
6	HOLLOW METAL DOOR. REFER DOOR SCHEDULES
7	6" CONCRETE FILLED STEEL BOLLARD. REFER A8/A-503.
8	CIRCULATION FAN, REFER MECH. DWGS. COORDINATE WITH STRUCTURAL. DWGS.
9	MECHANICAL/PLUMBING EQUIPMENT REFER MECHANICAL AND PLUMBING
10	MECHANICAL DUCTS. REFER MECHANICAL
11	MECHANICAL LOUVER. REFER MECHANICAL PLANS FOR LOUVER SCHEDULES.
12	HIGH BAY LIGHT FIXTURES. REFER ELECTRICAL PLANS AND RCP
13	ELECTRICAL EQUIPMENT. REFER ELECTRICAL DWGS.
14	FIRE EXTINGUISHER CABINET, REFER A1/A-503 AND SPEC SECTION 10 44 16 COORDINATE LOCATION WITH FIRE PROTECTION PLANS REQUIREMENTS.
15	FIRE EXTINGUISHER (NIC) COORDINATE LOCATION WITH FIRE PROTECTION PLANS REQUIREMENTS.

THERMAL INSULATION SCHEDULE

1. BUILDING ENVELOPE AND THERMAL INSULATION REQUIREMENTS ARE BASED ON THE MININUM REQUIREMENTS OF ASHRAE 90.1-2019, TABLE 5.5-2 FOR CLIMATE ZONE 3A, NON-RESIDENTIAL
2. MINIMUM BOARD INSULATION THICKNESSES REQUIRED MUST BE BASED ON R-VALUE PER INCH DATA FROM SELECTED MANUFACTURER

LOCATION	MINIMUM R-VALUE REQUIRED	INSULATION TYPE
ROOF	R-25 C.I.	2 LAYERS POLYISOCYANURATE INSULATION BOARD, STAGGERED (R-30 PROVIDED)
CMU/BRICK WALLS (MASS)	R-7.6 C.I.	1 LAYER POLYISOCYANURATE INSULATION BOARD, (R-10 PROVIDED)
CMU/INS METAL PANEL WALLS (MASS)	R-7.6 C.I.	INSULATED METAL PANELS (R-15.2 PROVIDED)
INS METAL PANEL WALLS/STEEL STRUCT	R-9.8 C.I.	INSULATED METAL PANELS (R-15.2 PROVIDED)
SLAB-ON-GRADE FLOOR (UNHEATED)	NOT REQ'D	NONE PROVIDED

US Army Corps of Engineers ®

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R. READER	W912BV25RA004
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BUILDING SECTIONS

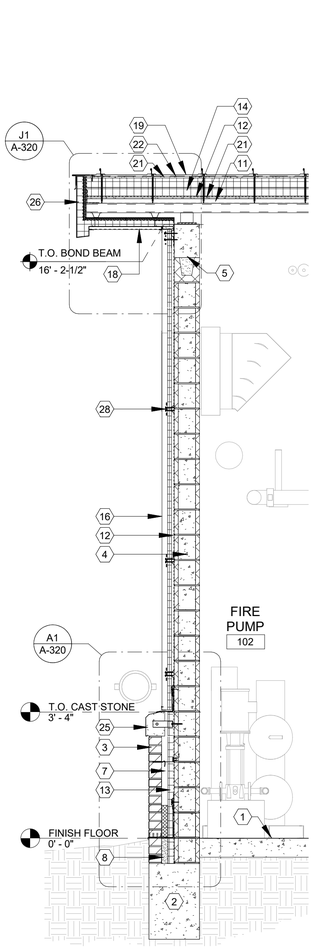
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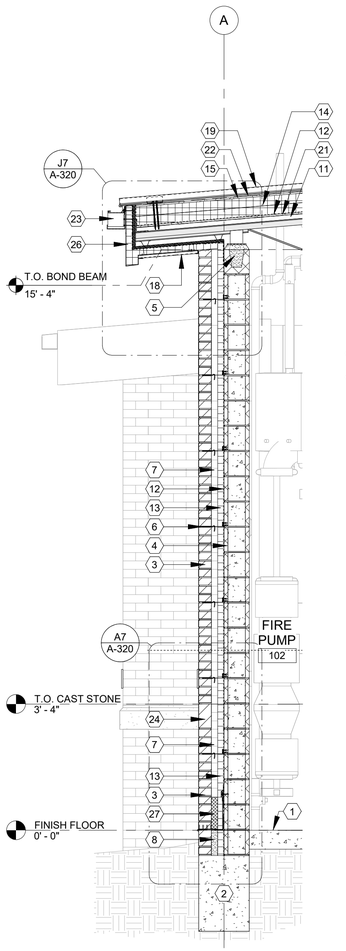
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KEYNOTES

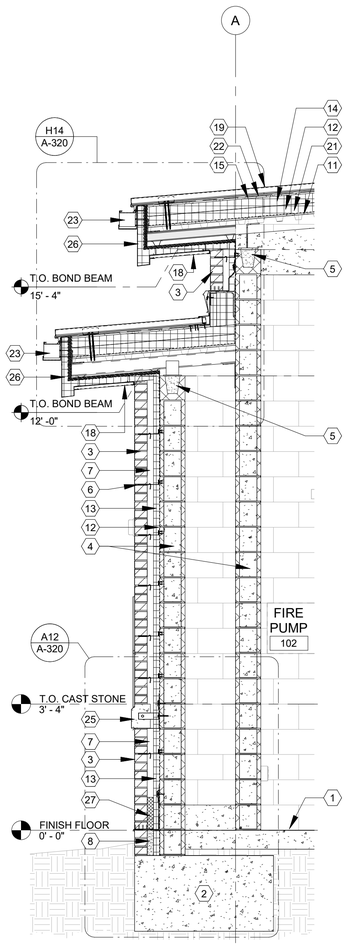
1	CONCRETE SLAB, REFER STRUCTURAL
2	CONCRETE FOUNDATION, REFER STRUCTURAL
3	MODULAR BRICK
4	CONCRETE MASONRY UNIT (CMU), REFER STRUCTURAL
5	CMU BOND BEAM, REFER STRUCTURAL
6	MASONRY ANCHOR
7	AIR SPACE
8	GROUT SOLID
9	STEEL BEAM, REFER STRUCTURAL
10	STEEL COLUMN, REFER STRUCTURAL
11	METAL DECK, REFER STRUCTURAL
12	FLUID-APPLIED AIR BARRIER
13	2" POLYISOCYNATURATE INSULATION
14	POLYISOCYNATURATE INSULATION (R-30). INSTALL IN TWO LAYERS, STAGGERED
15	1/2" GLASS MAT GYPSUM ROOF COVER BOARD
16	METAL WALL PANELS, INSULATED
17	DOWNSPOUT, SEE ROOF PLAN FOR SIZES
18	PREFINISHED METAL SOFFIT PANELS
19	STANDING SEAM METAL ROOF PANELS
20	STEEL BRACING, REFER STRUCTURAL
21	1/2" UNDERLAYMENT BOARD
22	SELF-ADHERED ICE AND WATER SHIELD ROOF UNDERLAYMENT
23	GUTTER, SEE ROOF PLAN FOR SIZES
24	MODULAR BRICK SOLDIER COURSE
25	CAST STONE WATER TABLE
26	PREFINISHED METAL FASCIA
27	MORTAR NET
28	METAL WALL PANEL ATTACHMENT PER MANUFACTURER'S RECOMMENDATION



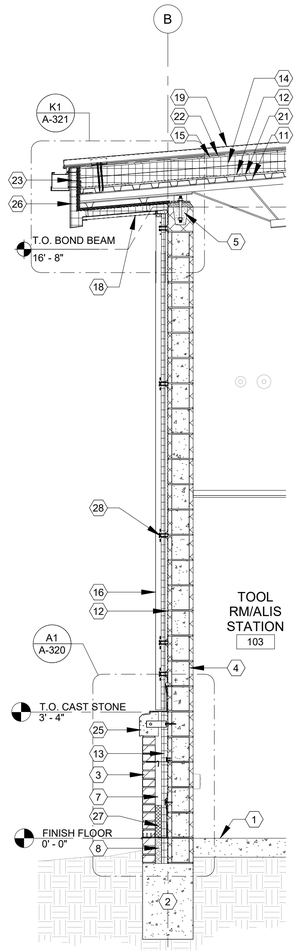
A1 WALL SECTION
1/2" = 1'-0"



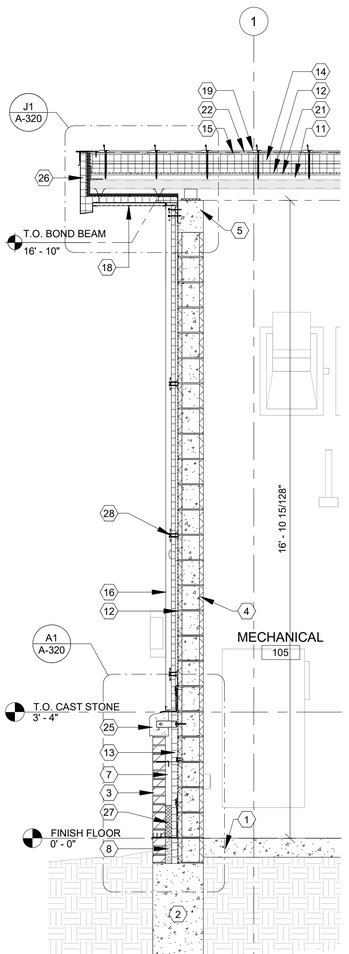
A5 WALL SECTION
1/2" = 1'-0"



A8 WALL SECTION
1/2" = 1'-0"



A11 WALL SECTION
1/2" = 1'-0"



A14 WALL SECTION
1/2" = 1'-0"

US Army Corps of Engineers ®

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ENGINEERING &
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ENGINEERING BRANCH

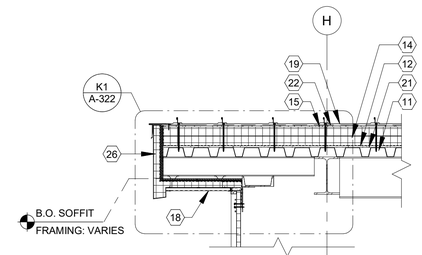
EBBING ANGB - ARKANSAS
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WALL SECTIONS

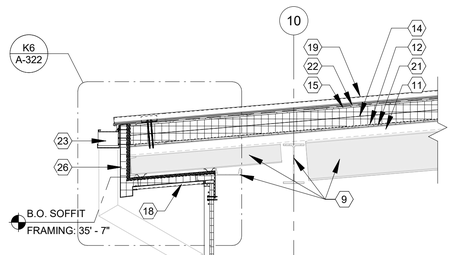
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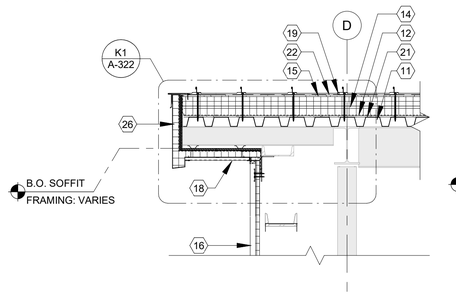
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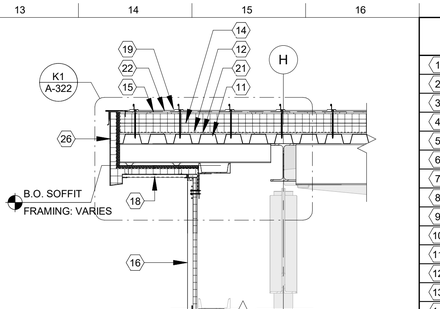
A2 WALL SECTION
1/2" = 1'-0"



A8 WALL SECTION
1/2" = 1'-0"



A12 WALL SECTION
1/2" = 1'-0"



A14 WALL SECTION
1/2" = 1'-0"

KEYNOTES

1	CONCRETE SLAB, REFER STRUCTURAL
2	CONCRETE FOUNDATION, REFER STRUCTURAL
3	MODULAR BRICK
4	CONCRETE MASONRY UNIT (CMU), REFER STRUCTURAL
5	CMU BOND BEAM, REFER STRUCTURAL
6	MASONRY ANCHOR
7	AIR SPACE
8	GROUT SOLID
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27	MORTAR NET
28	METAL WALL PANEL ATTACHMENT PER MANUFACTURER'S RECOMMENDATION
29	TRANSLUCENT PANEL SYSTEM
30	VERTICAL LIFT FABRIC DOOR
31	CATWALK ACCESS FOR VERTICAL LIFT DOOR. REFER SHEET A-517
32	MECHANICAL EQUIPMENT, REFER MECHANICAL
33	INSTALL SPRAY FOAM INSULATION TO SEAL THE GAP BETWEEN THE TOP OF CMU/ LIQUID APPLIED AIR BARRIER AND THE INSULATED METAL WALL PANELS THE ENTIRE PERIMETER OF THE HANGAR TO ENSURE AIR BARRIER CONTINUITY. SEPARATE INTERIOR FACE OF SPRAY FOAM FROM HANGAR WITH AN INTUMESCENT COATING

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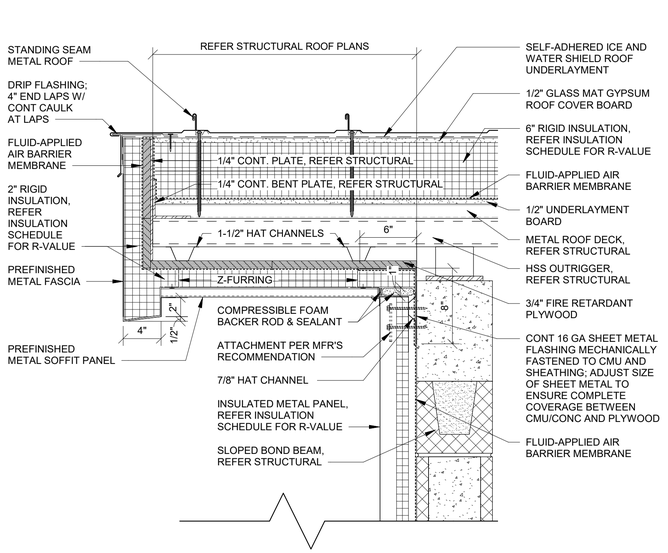
EBBING ANGB - ARKANSAS
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WALL SECTIONS

SHEET ID

A-311

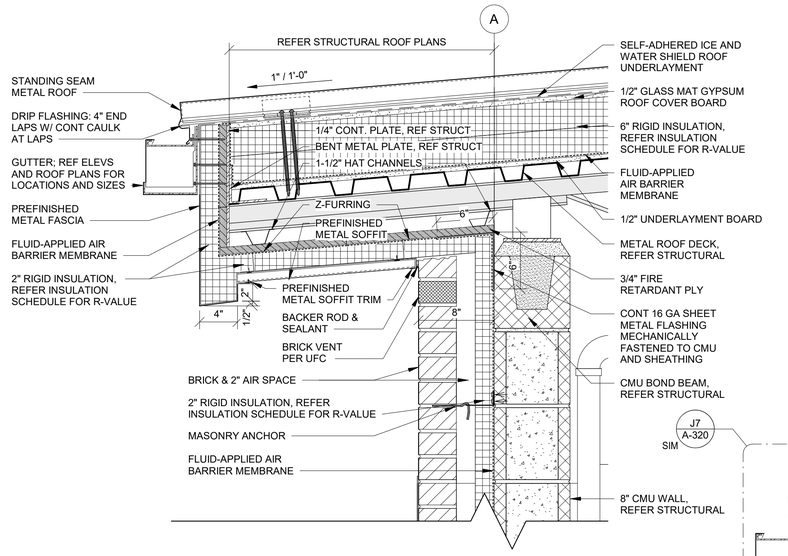
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J1 RAKE DETAIL (ADMIN)

1 1/2" = 1'-0"

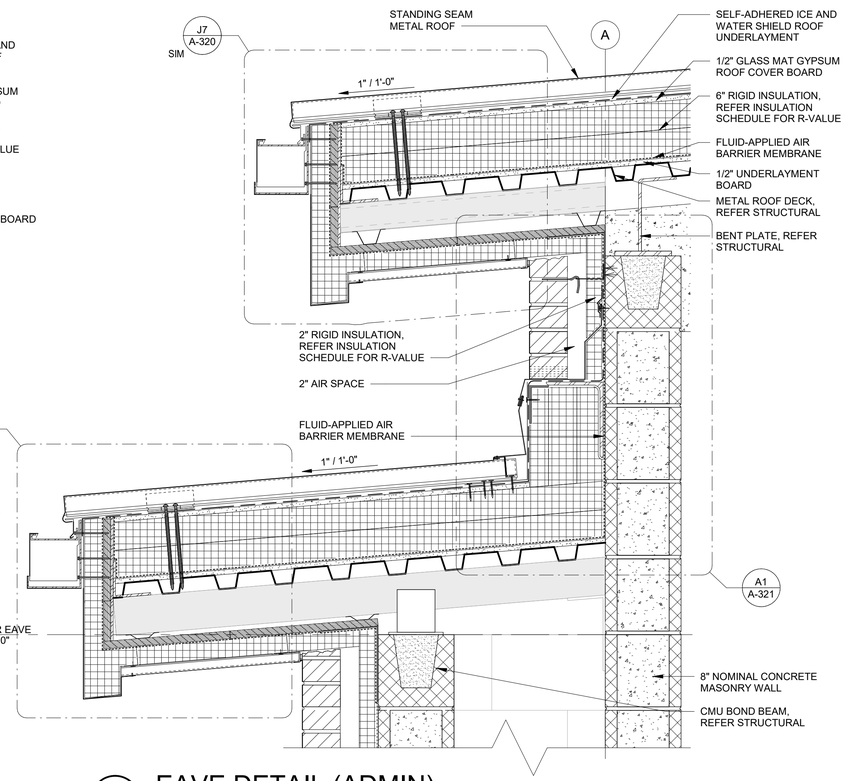
0 0.25' 0.5' 1' 1.5'



J7 EAVE DETAIL (ADMIN)

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

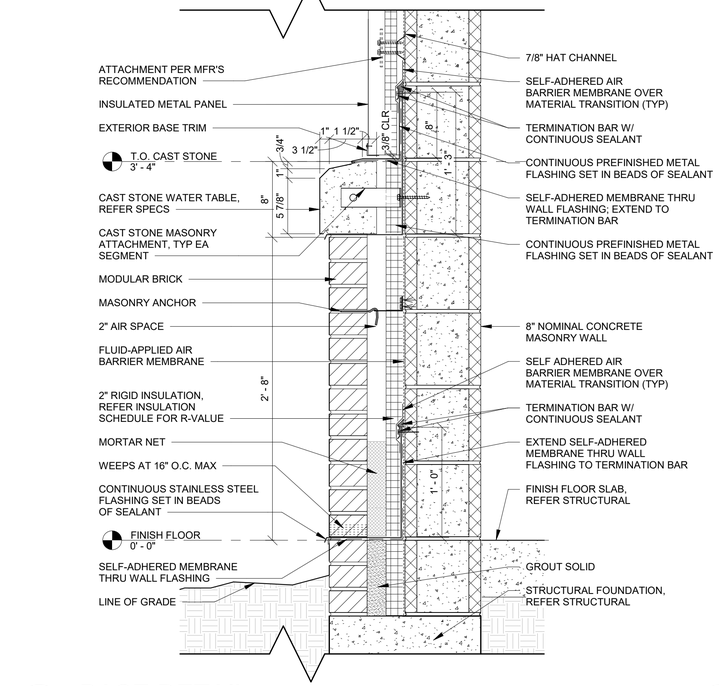


LWR EAVE
12' - 0"

H14 EAVE DETAIL (ADMIN)

1 1/2" = 1'-0"

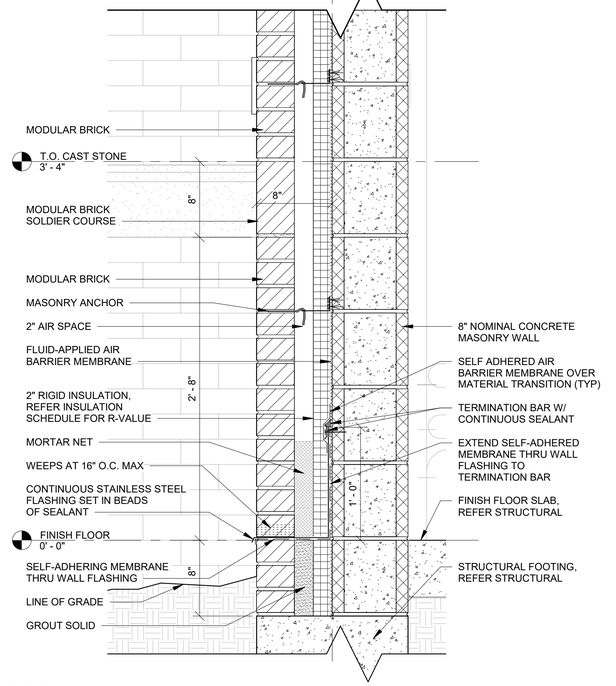
0 0.25' 0.5' 1' 1.5'



A1 BASE DETAIL

1 1/2" = 1'-0"

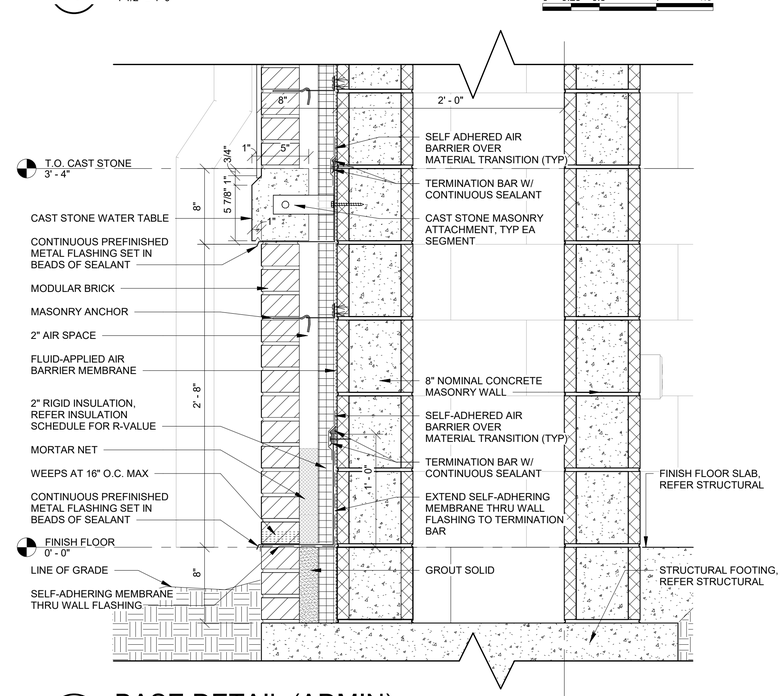
0 0.25' 0.5' 1' 1.5'



A7 BASE DETAIL

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A12 BASE DETAIL (ADMIN)

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\mbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MBECRAR.rvt

Plot Date: 10/20/2025 1:21:52 PM

DESIGNED BY:	C. LONGACRE
DRAWN BY:	R. READER
CHECKED BY:	M. HOOPER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

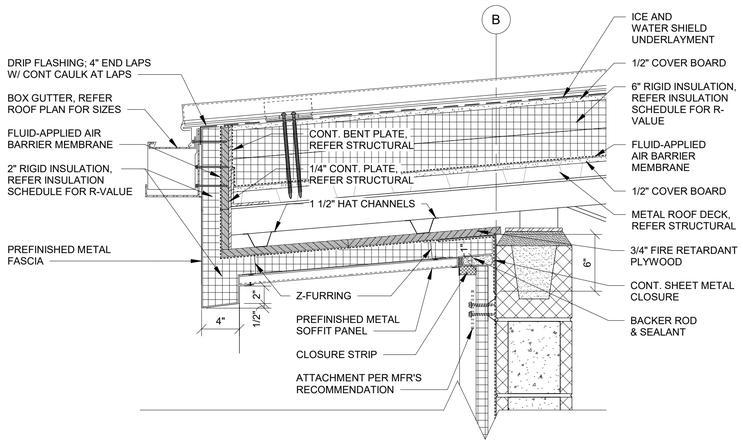
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 5122203

SECTION DETAILS

SHEET ID

A-320

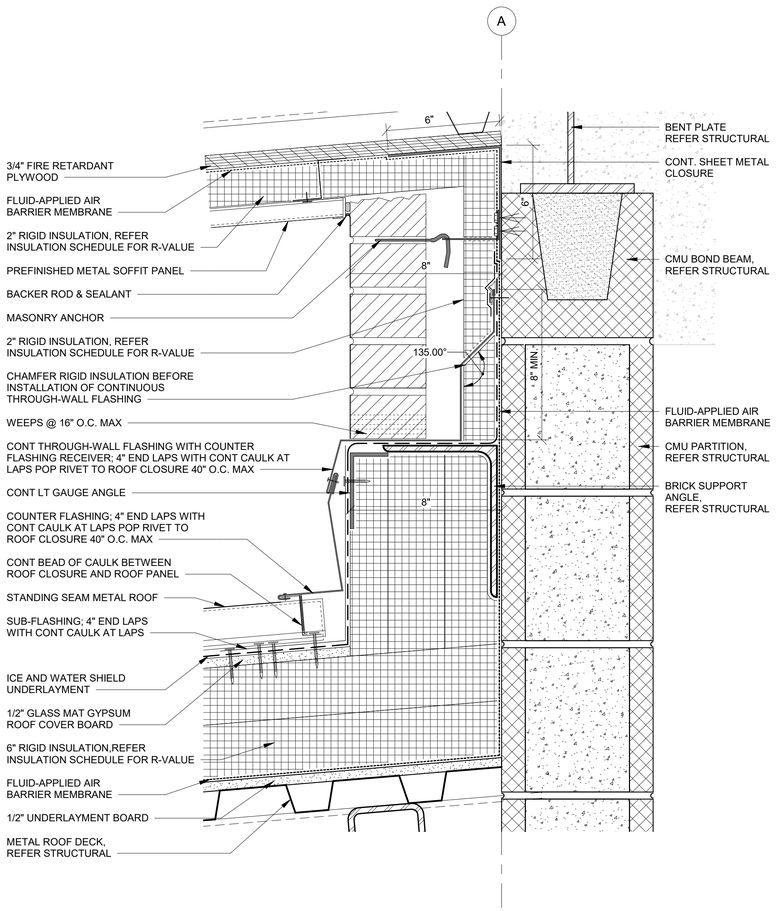
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



K1 EAVE DETAIL

1 1/2" = 1'-0"

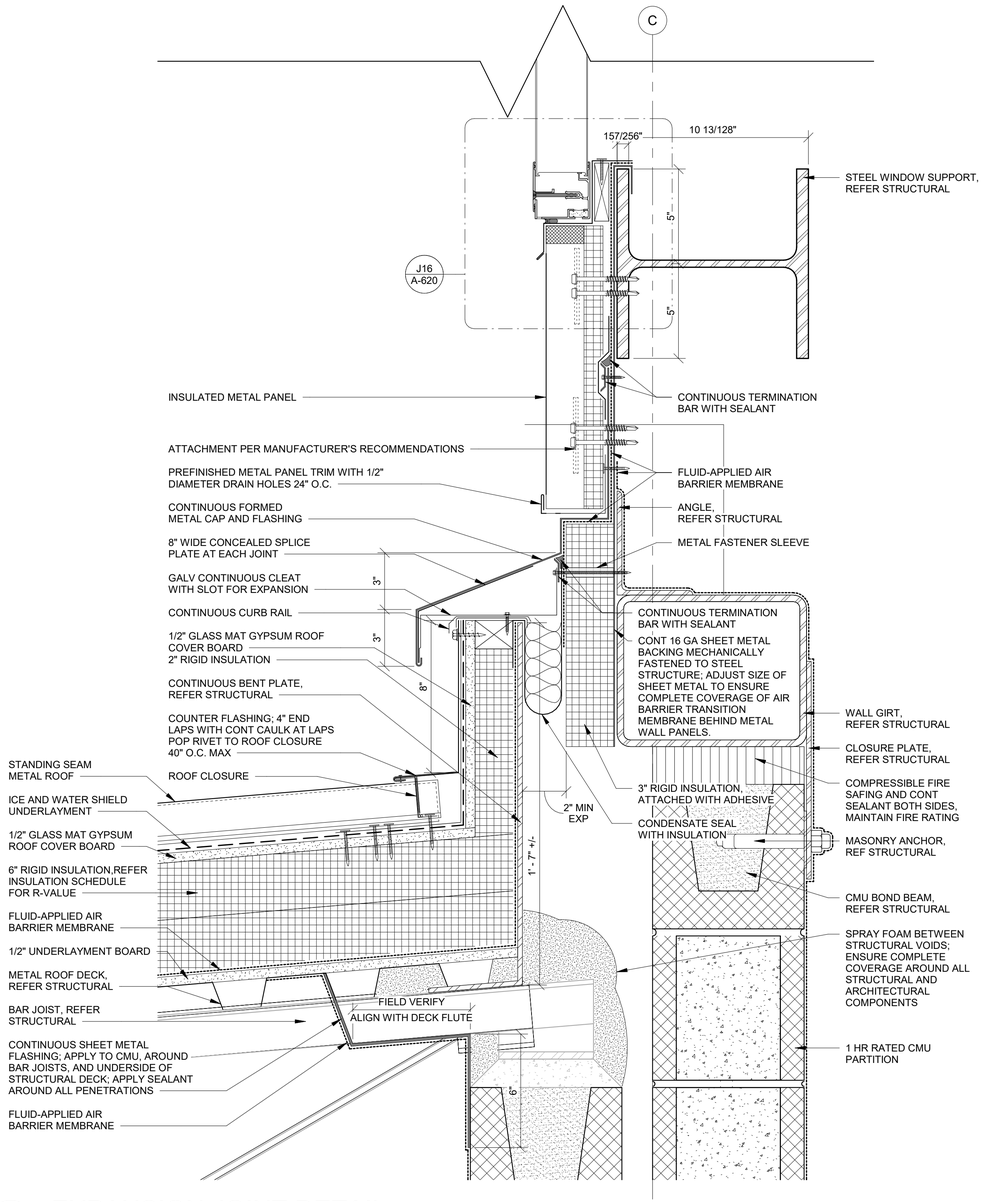
0 0.25' 0.5' 1' 1.5'



A1 ROOF TO BRICK TRANSITION DETAIL

3" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A8 EXPANSION JOINT DETAIL

3" = 1'-0"

0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

SECTION DETAILS

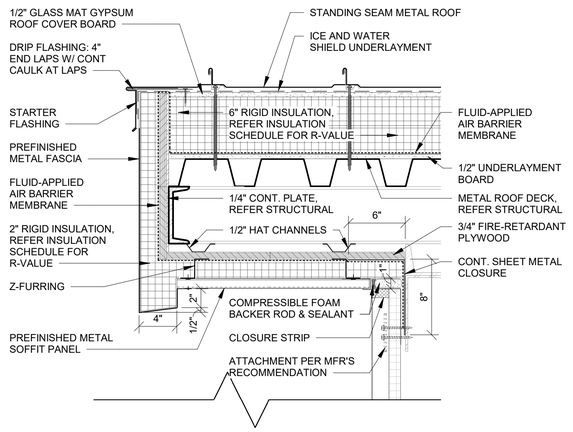
SHEET ID

A-321

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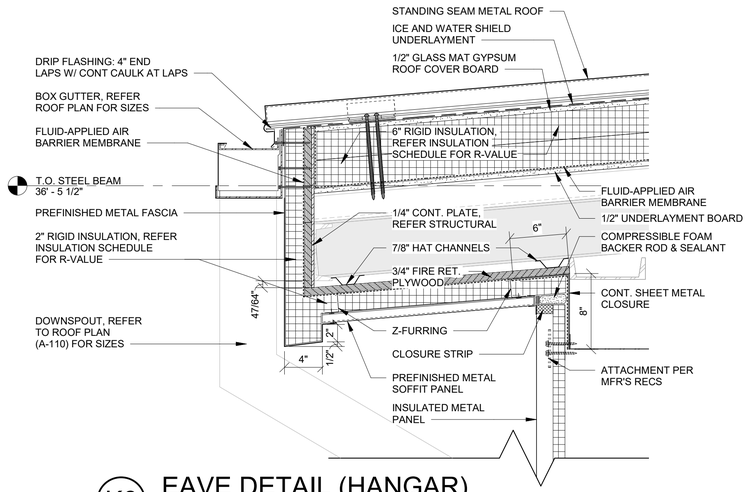
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



K1 EAVE DETAIL (HANGAR)

1 1/2" = 1'-0"

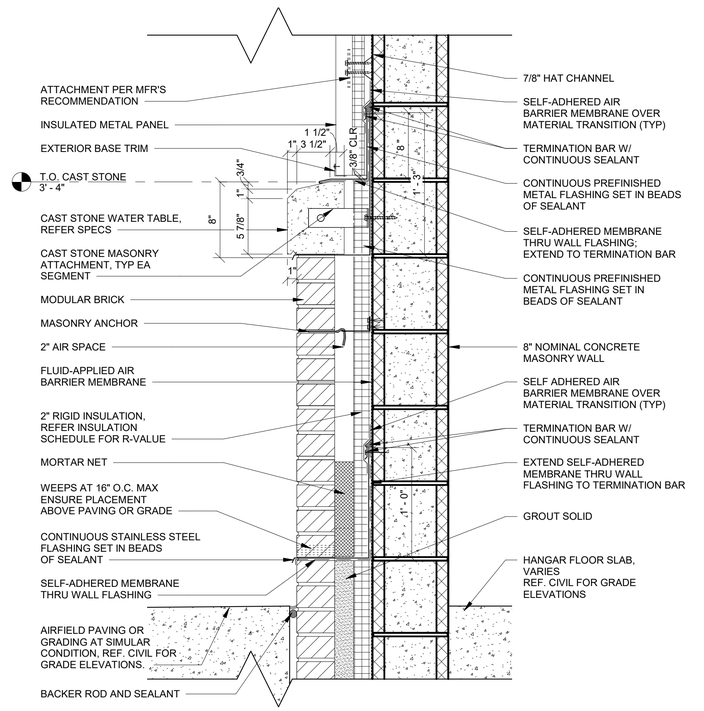
0 0.25' 0.5' 1' 1.5'



K6 EAVE DETAIL (HANGAR)

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A1 BASE DETAIL (HANGAR)

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOPER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

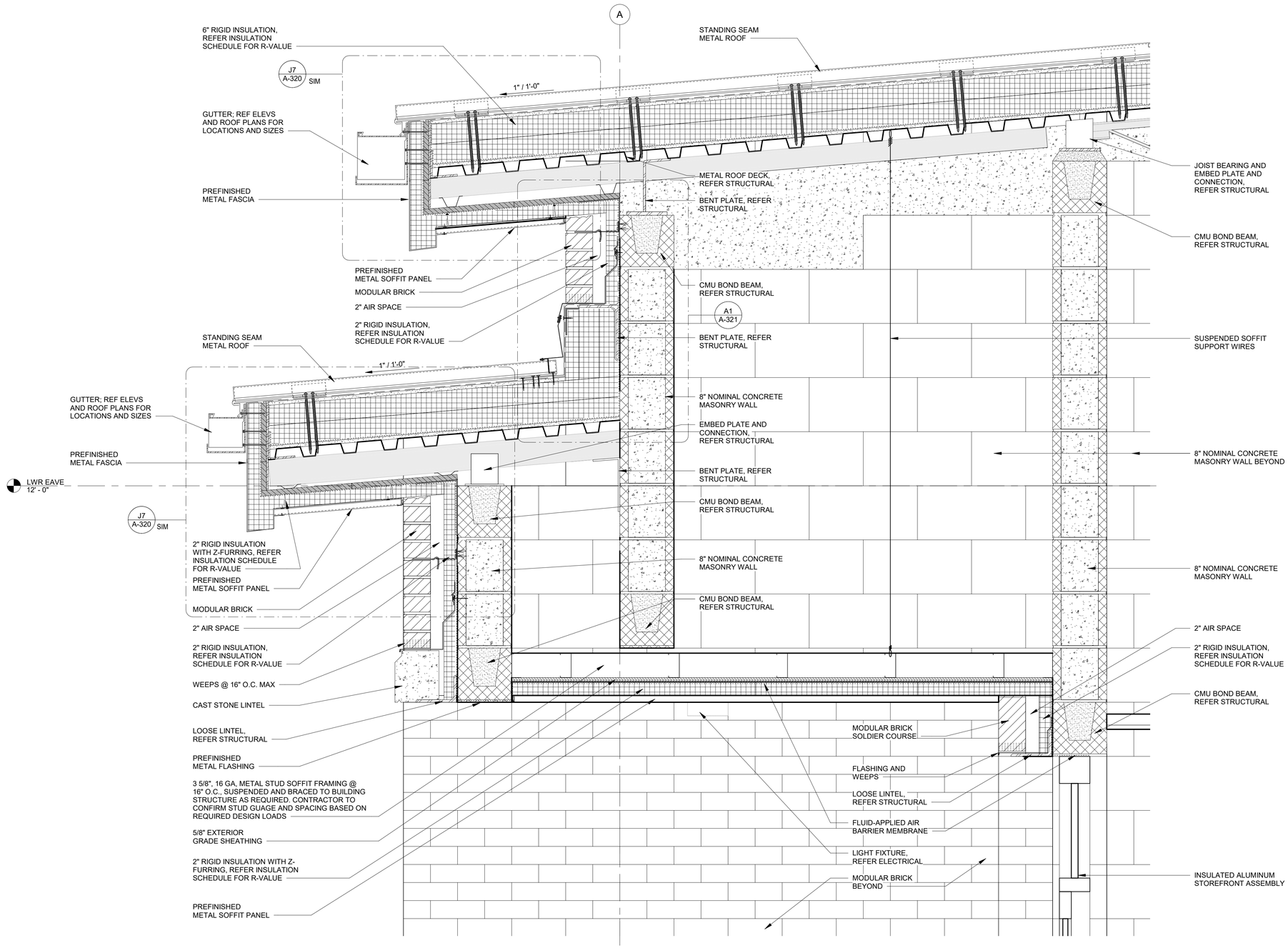
SECTION DETAILS

SHEET ID

A-322

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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A6 SECTION AT ADMIN ENTRY

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	C. LONGACRE
DRAWN BY:	R. READER
CHECKED BY:	M. HOOSER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

SECTION DETAILS

SHEET ID

A-323

Plot Date: 10/20/2025 1:22:03 PM File Path: C:\Users\hbcarr\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MKECRAR.rvt

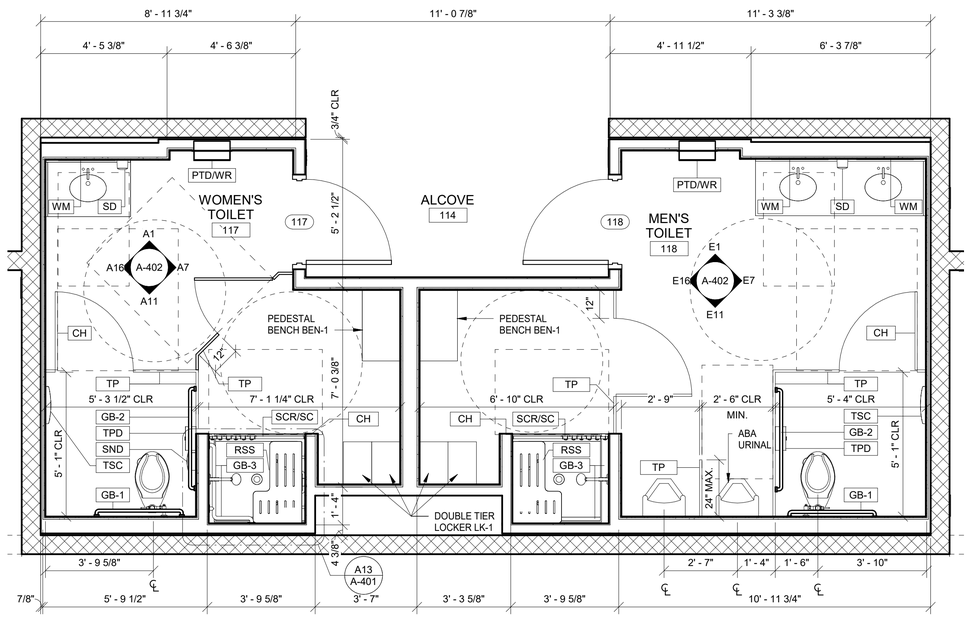
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL RESTROOM NOTES

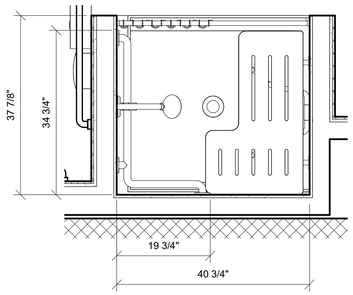
1. ALL DIMENSIONS ARE TO FACE OF FINISH, UNLESS NOTED OTHERWISE.
2. ALL DOORS ARE 4" FROM ADJACENT WALL ON THE HINGE SIDE UNLESS NOTED OTHERWISE.
3. CONTRACTOR RESPONSIBLE FOR ENSURING THAT ALL FINISHED DIMENSIONS ARE ABA COMPLIANT.
4. WALL MOUNTED DISPENSERS SHALL PROTRUDE MAXIMUM 4" FROM WALL TO COMPLY WITH ABA REQUIREMENTS.

TOILET ACCESSORIES LEGEND

ITEM CODE	ITEM DESCRIPTION
CH	COAT/TOWEL HOOK
GB-1	ABA GRAB BAR - 36"
GB-2	ABA GRAB BAR - 42"
GB-3	ABA SHOWER GRAB BAR
PTD	PAPER TOWEL DISPENSER
PTD/WR	PAPER TOWEL DISPENSER / WASTE RECEPTACLE (RECESSED)
RSS	ABA REVERSIBLE SOLID PHENOLIC FOLDING SHOWER SEAT
SCR/SC	SHOWER CURTAIN, ROD AND RINGS
SD	SOAP DISPENSER - WALL MOUNT
SND	SANITARY NAPKIN DISPOSAL
TP	TOILET PARTITION
TSC	TOILET SEAT COVER
TSCD	TOILET SEAT COVER DISPENSER
TTD	TOILET TISSUE DISPENSER - MULTI-ROLL
WM	WALL MIRROR - RECTANGLE 24" X 36"



A1 ENLARGED RESTROOM PLAN
3/8" = 1'-0"



A13 ENLARGED SHOWER PLAN
3/4" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

ENLARGED RESTROOM PLAN

SHEET ID
A-401

Plot Date: 10/20/2025 1:22:06 PM File Path: C:\Users\rbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECCRAR1.rvt

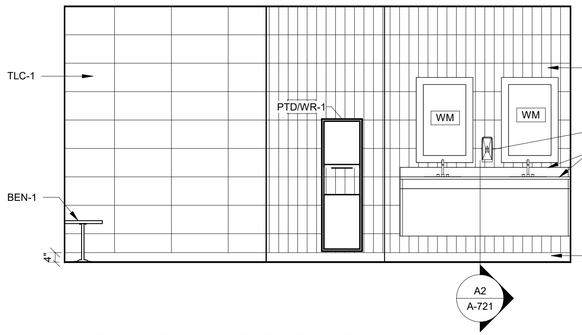
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL SHEET NOTES

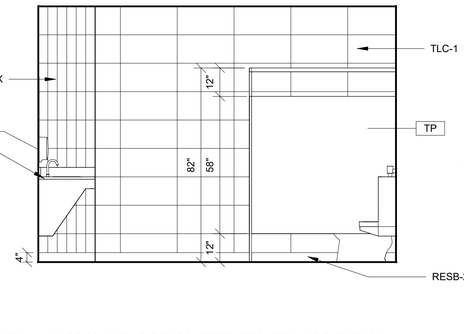
1. UNLESS NOTED OTHERWISE, VERTICAL DIMENSIONS ARE TAKEN FROM FINISH FLOOR.
2. REFERENCE SHEET G-005 FOR MOUNTING HEIGHTS.
3. REFERENCE PLUMBING FOR SHOWER HEADS, SHOWER HANDLES, FAUCETS AND PLUMBING FIXTURES.
4. REFERENCE SHEET A-711 FOR WALL FINISHES.
5. COORDINATE LOCATION OF ALL ACCESS PANEL WITH MECHANICAL & PLUMBING DRAWINGS.

ACCESSORIES LEGEND

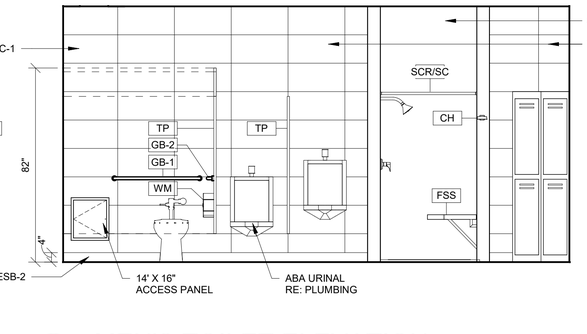
ITEM CODE	ITEM DESCRIPTION
CH	COAT HOOK/TOWEL HOOK
FSS	REVERSIBLE SOLID PHENOLIC FOLDING SHOWER SEAT
GB-1	GRAB BAR - 36"
GB-2	GRAB BAR - 42"
GB-3	GRAB BAR - 2 WALLS IN SHOWER
LK	SINGLE TIER LOCKER
PTD	PAPER TOWEL DISPENSER
PTD/WR	PAPER TOWEL DISPENSER / WASTE RECEPTACLE
SCR/SC	SHOWER CURTAIN ROD / SHOWER CURTAIN
SD	SOAP DISPENSER - WALL MOUNT
SND	SANITARY NAPKIN DISPOSAL
TP	TOILET PARTITION / URINAL SCREEN
TTD	TOILET TISSUE DISPENSER
WM	WALL MIRROR



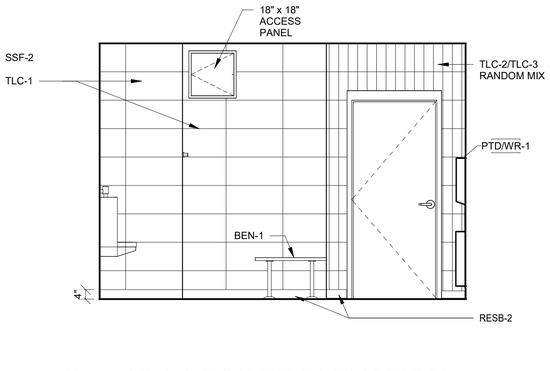
E1 MEN'S TOILET ELEVATION
3/8" = 1'-0"



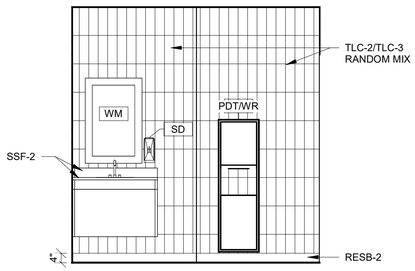
E7 MEN'S TOILET ELEVATION
3/8" = 1'-0"



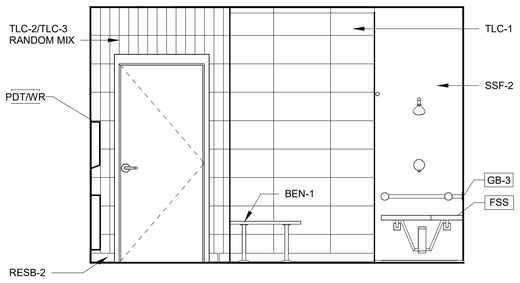
E11 MEN'S TOILET ELEVATION
3/8" = 1'-0"



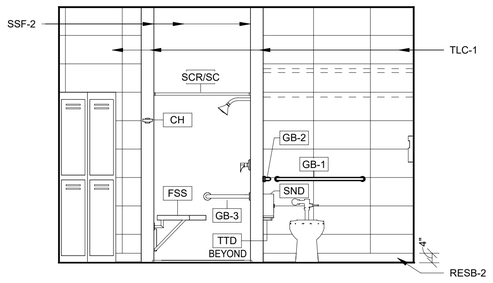
E16 MEN'S TOILET ELEVATION
3/8" = 1'-0"



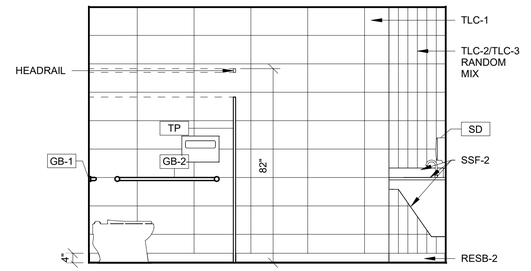
A1 WOMEN'S TOILET ELEVATION
3/8" = 1'-0"



A7 WOMEN'S TOILET ELEVATION
3/8" = 1'-0"



A11 WOMEN'S TOILET ELEVATION
3/8" = 1'-0"



A16 WOMEN'S TOILET ELEVATION
3/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
DESIGNED BY: T. MANN
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
FILE NAME: EANG_512203_A_3BAYH_RV722.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

RESTROOM INTERIOR ELEVATIONS

SHEET ID
A-402

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

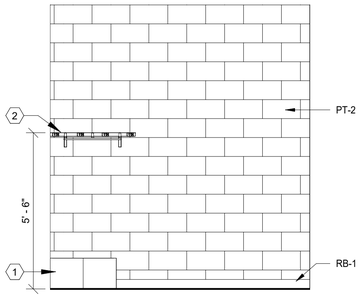
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GENERAL OFFICE/ADMIN NOTES

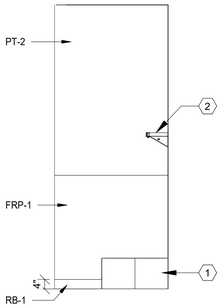
1. ALL DOORS ARE 4" FROM ADJACENT WALL ON THE HINGE SIDE UNLESS NOTED OTHERWISE.
2. CONTRACTOR RESPONSIBLE FOR ENSURING THAT ALL FINISHED DIMENSIONS ARE ABA COMPLIANT IN OFFICE AND MOTHER'S ROOM.
3. REFERENCE SHEET A-711 FOR WALL FINISHES.

KEYNOTES

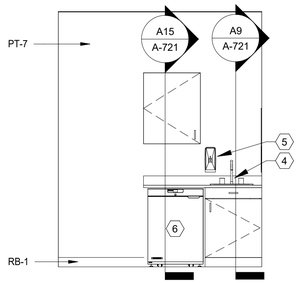
1	MOP SINK; REF PLUMBING
2	MOP RACK WITH SHELF MR-S
3	RECESSED PAPER TOWEL DISPENSER PTD
4	SINK; REF PLUMBING
5	SOAP DISPENSER SD
6	UNDER COUNTER REFRIGERATOR
7	DRINKING FOUNTAINS: 1 STANDARD AND 1 ABA COMPLIANT WITH BOTTLE FILLER; REF PLUMBING
8	FIRE EXTINGUISHER CABINET (FIRE EXTINGUISHER NIC): REF A7/ A-540
9	AUTOMATED EXTERNAL DIFIBRILLATOR (AED)
10	INTERIOR WALL EXPANSION JOINT ASSEMBLY. REF DETAIL A15 / A-502.



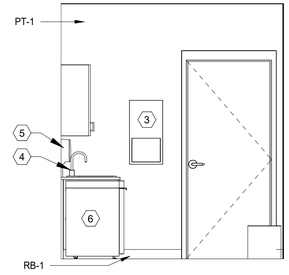
J1 JANITOR ELEVATION
3/8" = 1'-0"



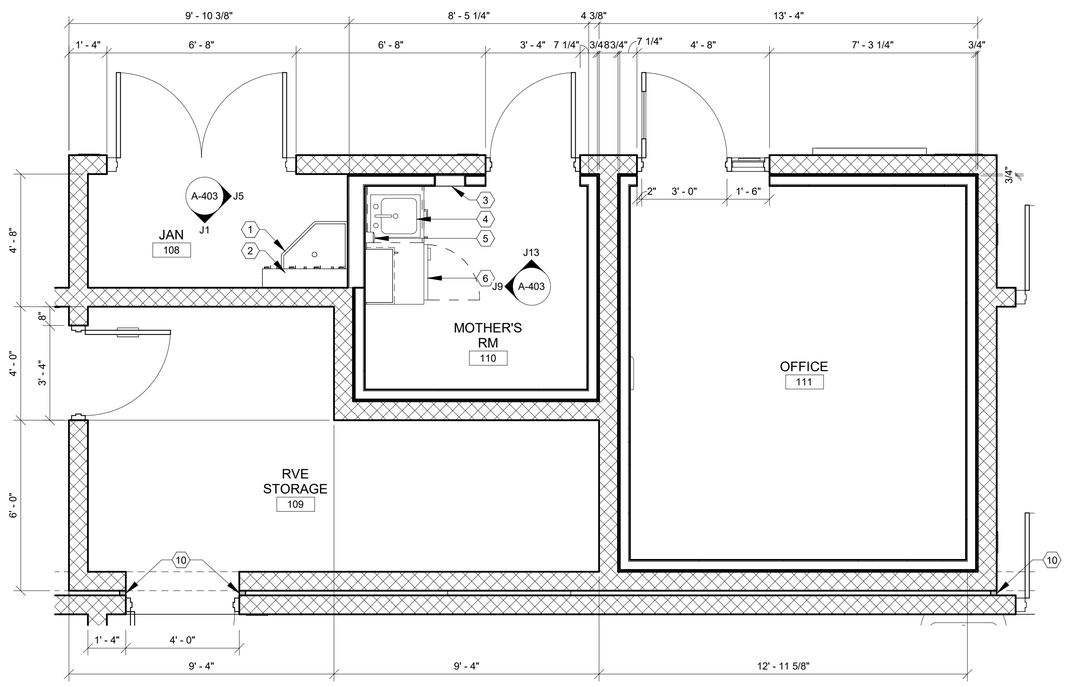
J5 JANITOR ELEVATION
3/8" = 1'-0"



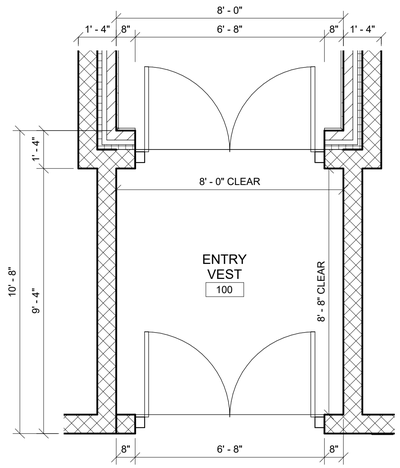
J9 MOTHER'S ROOM ELEVATION
3/8" = 1'-0"



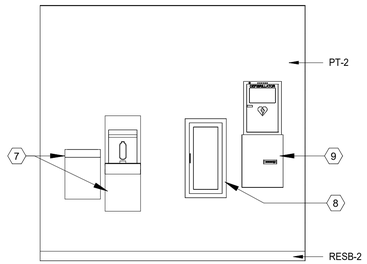
J13 MOTHER'S ROOM ELEVATION
3/8" = 1'-0"



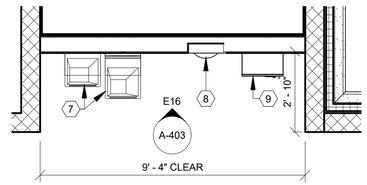
A1 ENLARGED OFFICE CORE PLAN
3/8" = 1'-0"



A11 ENLARGED VESTIBULE PLAN
3/8" = 1'-0"



E16 CORRIDOR ELEVATION
3/8" = 1'-0"



A16 ENLARGED CORRIDOR PLAN
3/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\rbcarr\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MEECRAR.rvt

Plot Date: 10/20/2025 1:22:15 PM

DESIGNED BY: T. MANN
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

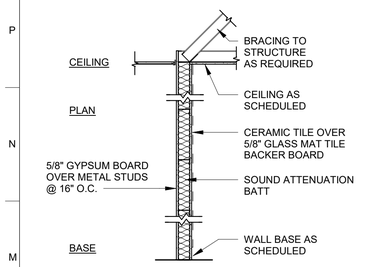
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

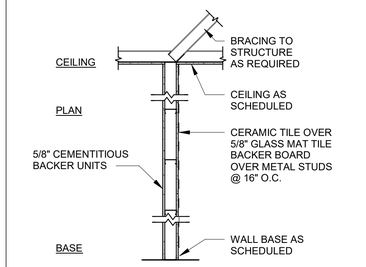
ENLARGED FLOOR PLANS AND INTERIOR ELEVATIONS

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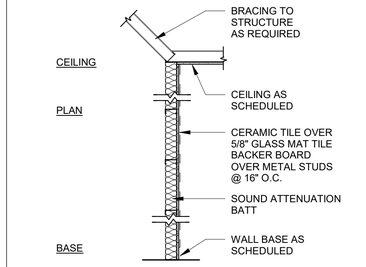
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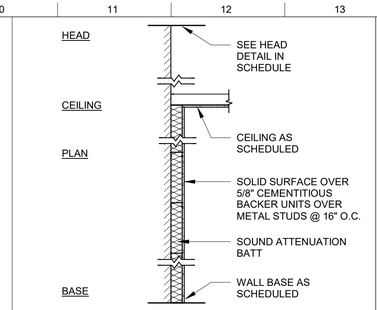
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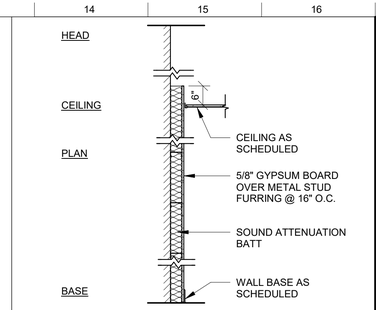
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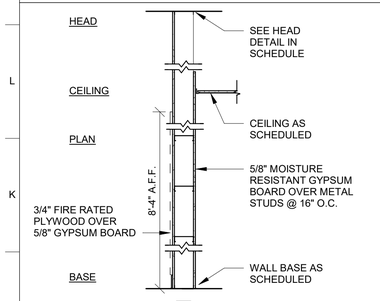
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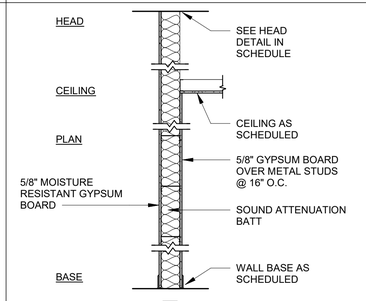
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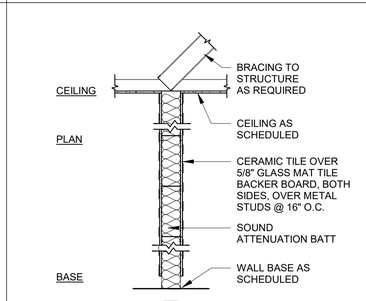
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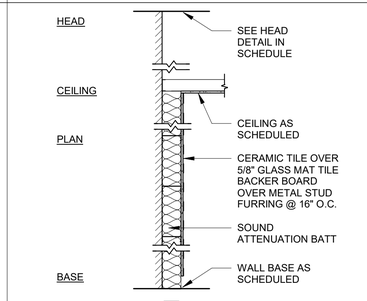
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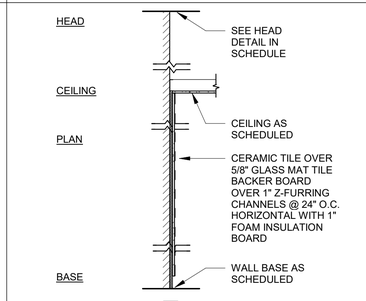
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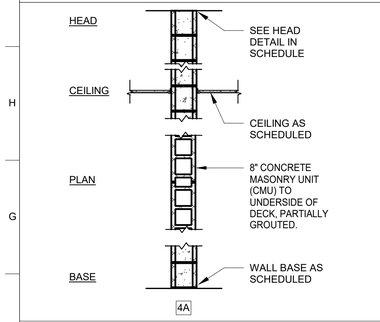
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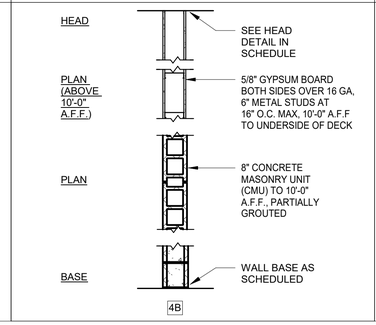
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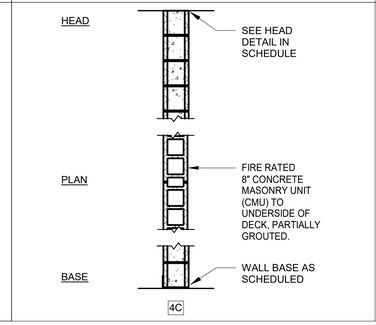
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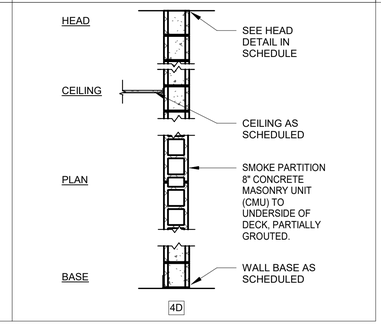
4A



4B



4C



4D

GENERAL PARTITION TYPE NOTES

1. PORVIDE FIRE-RATED SEALANT ON BOTH SIDES OF FIRE-RATED WALL AS REQUIRED BY UL DESIGN REQUIREMENT. CONSTRUCT ALL RATED WALLS TO COMPLY WITH THE UL DESIGN REQUIREMENTS. PAINT CONTINUOUS 4" TALL, STENCILED LETTERS, ABOVE CEILING, ON BOTH SIDES OF ALL FIRE AND SMOKE WALLS DESIGNATING THE PARTITION RATING INDICATED ON LHE LIFE SAFETY PLAN. PROVIDE FIRE STOPPING CONSISTENT WITH WALL RATING.
2. EXTEND FIRE-RATED WALL CONSTRUCTION BEHIND RECESSED OR BUILT-IN EQUIPMENT SUCH AS FIRE EXTINGUISHER CABINETS (FEC), ELECTRICAL WATER COOLERS, (EWC), AND ELECTRICAL PANELS, ETC.,U.N.O.
3. PROVIDE ACOUSTIC (SOUND) SEALANT AT BOTH SIDES OF NON-RATED WALLS AND UNDER TOP AND BOTTOM OF TRACKS. ACOUSTICAL WALLS SHALL BE CONSTRUCTED WITH CONTINUOUS NON-HARDENING PERIMETER ACOUSTIC SEALANT. OFFSET WALL PENETRATIONS (SUCH AS OUTLETS, SWITCH BOXES, ETC.) AT LEAST 24" HORIZONTALLY. SEAL ALL PENETRATIONS WITH ACOUSTIC SEALANT. FILL ALL VOIDS @ METAL DECK WITH SOUND ATTENUATION BATT INSULATION. PROVIDE ACCOUSTICAL INSULATION AND GWB TO MEET THE STC RATING INDICATED.
4. SOUND ATTENUATION BATTS SHALL BE FIBERGLASS COMPLYING WITH ASTM C665 TYPE 1 WITH A MAX. FLAME SPREAD/SMOKE DEVELOPED RATING OF 10/10. THICKNESS SHALL APPROXIMATE WIDTH OF WALL CAVITY IN WHICH IT'S INSTALLED.
5. REFER TO INTERIORS FINISH SCHEDULE FOR WALL FINISHES, WALL BASE TYPE, ETC.
6. USE MOISTURE/MOLD RESISTANT GYPSUM BOARD AT ALL WET AREAS AND INTERIOR FACE OF ALL EXT. WALLS. USE ABUSE RESISTANT GYPSUM BOARD AT CORRIDOR WALLS AND INTERIOR STAIRWELL WALLS.
7. ALL SUSPENDED WALLS AND PARTITIONS SHALL HAVE GWB WHICH EXTENDS A MINIMUM OF 4" ABOVE THE SUSPENDED CEILING UNLESS SHOWN AND/OR NOTED OTHERWISE.
8. REFER TO STRUCTURAL DRAWINGS FOR ALL LOAD BEARING WALL CONDITIONS IN REGARDS TO STRUCTURAL REQUIREMENTS.
9. "ALIGN" MEANS SIMILAR COMPONENTS OF CONSTRUCTION, E.G. WALLS, JAMBS, ETC. SHALL ALIGN ACCROSS VOIDS AND JOINTS.
10. PARTITIONS SHALL BE CONTINUOUS OVER DOORS AND WINDOWS, AND OF THE SAME TYPE AS ADJACENT WALLS (UNLESS NOTED OTHERWISE) WHERE DRYWALL CONTINUES ABOVE CEILING AND ABOVE THE CEILING LEVEL UP TO THE STRUCTURE ABOVE. ALL GYPSUM BOARD RETURNS SHALL HAVE CORNER BEADS MINIMUM FLOOR TO CEILING.
11. PROVIDE AND INSTALL ALL STIFFENERS, BLOCKING, BRACING, BACK-UP PLATES, AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK AND ALL FLOOR MOUNTED OR CEILING SUSPENDED MECHANICAL, ELECTRICAL, OR AUDIO VISUAL EQUIPMENT. COORDINATE WITH INTERIOR DESIGN MILLWORK DRAWINGS. ALL WOOD BLOCKING IS TO BE FIRE RETARDANT TREATED.
12. WHERE HVAC OR OTHER MECHANICAL, ELECTRICAL, AND PLUMBING ITEMS PENETRATE PARTITIONS: STUDS SHALL BE BRACED AND FRAMED TO STRUCTURE AS REQUIRED TO PROVIDE ADEQUATE SUPPORT. ALL PENETRATIONS THROUGH FIRE-RATED WALLS SHALL BE SEALED TO PROVIDE FIRE, SMOKE, AND/OR ACOUSTICAL ISOLATION OF SPACES WITH APPROPRIATE FIRESTOP MATERIAL. SEAL AROUND ALL AIR BARRIER AND ENVELOPE OPENINGS.

PARTITION TYPES

INTERIOR PARTITION SCHEDULE

TYPE	DESCRIPTION	SOUND BATT REQ'D	SOUND TRANSMISSION CLASS... RATING	SOUND TRANSMISSION CLASS... STC TEST	FIRE RESISTANCE RATING	FIRE RESISTANCE UL DESIGN NO	HEAD DETAIL	BASE DETAIL	REMARKS
1A	3 5/8" METAL STUDS @ 16" O.C., 5/8" GWB - GLASS MAT TILE BACKER WITH TILE ON ONE SIDE, TO UNDERSIDE OF GYP. BOARD CEILING, 5/8" GWB ON ONE SIDE, TO 6" ABOVE ACT CEILING	YES	45	NRC TL-93-324	-	-	-	A1/A-502	
1B	3 5/8" METAL STUDS @ 16" O.C., 5/8" GWB - GLASS MAT TILE BACKER WITH TILE ON ONE SIDE, 5/8" CEMENTITIOUS BACKER BOARD WITH SOLID SURFACE ON ONE SIDE, TO UNDERSIDE OF GYP. BOARD CEILING	NO	-	-	-	-	-	A16/A-502	
1C	3 5/8" METAL STUDS @ 16" O.C., 5/8" GWB - GLASS MAT TILE BACKER WITH TILE ON ONE SIDE, TO UNDERSIDE OF GYP. BOARD CEILING	YES	45	NRC TL-93-324	-	-	-	D1/A-502	
1D	3 5/8" METAL STUDS @ 16" O.C., 5/8" CEMENTITIOUS BACKER BOARD WITH SOLID SURFACE ON ONE SIDE, TO UNDERSIDE OF GYP. BOARD CEILING	NO	-	-	-	-	L1/A-502	D6/A-502	
1E	3 5/8" METAL STUDS @ 16" O.C., 5/8" GWB ON ONE SIDE, TO 6" ABOVE ACT CEILING	YES	45	NRC TL-93-324	-	-	L1/A-502	D11/A-502	
2A	6" METAL STUDS @ 16" O.C., 5/8" GWB MOISTURE RESISTANT ON ONE SIDE TO 6" ABOVE ACT CEILING, 3/4" FIRE RATED PLYWOOD TO 8'-4" A.F.F. OVER 5/8" GWB TO UNDERSIDE OF DECK	NO	-	-	-	-	L8/A-502 SIM	A6/A-502	
2B	6" METAL STUDS @ 16" O.C., 5/8" GWB MOISTURE RESISTANT ON ONE SIDE TO UNDERSIDE OF DECK, 5/8" GWB TO UNDERSIDE OF GYP. BOARD CEILING	YES	45	NRC TL-93-324	-	-	L8/A-502 SIM	A1/A-502	
2C	6" METAL STUDS @ 16" O.C., 5/8" GWB - GLASS MAT TILE BACKER WITH TILE BOTH SIDES, TO UNDERSIDE OF GYP. BOARD CEILING	NO	-	-	-	-	-	D16/A-502	
2D	6" METAL STUDS @ 16" O.C., 5/8" GWB - GLASS MAT TILE BACKER WITH TILE ONE SIDE, TO UNDERSIDE OF GYP. BOARD CEILING	YES	45	NRC TL-93-324	-	-	L1/A-502	D1/A-502	
3A	7/8" HAT CHANNEL @ 16" O.C., 5/8" GWB - GLASS MAT TILE BACKER WITH TILE ONE SIDE TO UNDERSIDE OF GYP. BOARD CEILING	YES	45	NRC TL-93-324	-	-	L1/A-502	D1/A-502	
4A	8" CONCRETE MASONRY UNITS, TO UNDERSIDE OF DECK	NO	-	-	-	-	L1/A-502	H1/A-502	2
4B	8" CONCRETE MASONRY UNITS TO 10'-0" A.F.F., 6" METAL STUDS @ 16" O.C., 5/8" GYP. BOARD EACH SIDE, TO UNDERSIDE OF DECK	NO	-	-	-	-	L8/A-502	H1/A-502	
4C	FIRE RATED 8" CONCRETE MASONRY UNITS, TO UNDERSIDE OF DECK	NO	-	-	1 HR	U905	L1/A-502	H1/A-502	
4D	SMOKE PARTITION 8" CONCRETE MASONRY UNITS, TO UNDERSIDE OF DECK	NO	-	-	-	-	L1/A-502	H1/A-502	

REMARKS:
1. REFER TO FINISH SCHEDULE FOR FINISHES, CEILING AND BASE CONDITIONS.
2. NO CEILING OR BASE AT PARTITIONS BETWEEN FURRING WALLS.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DRAWN BY: R. READER
CHECKED BY: M. FECARA
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

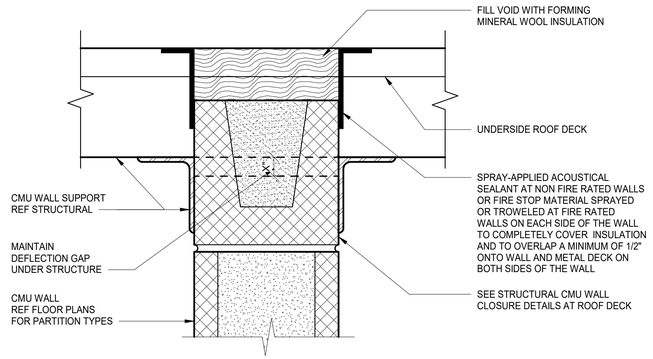
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

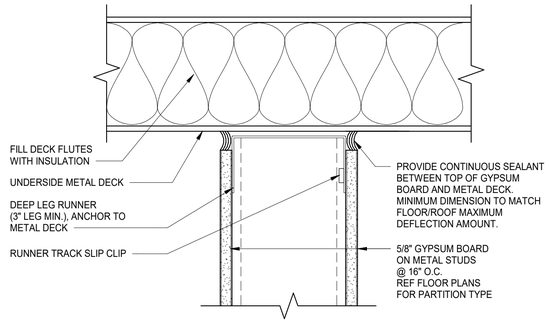
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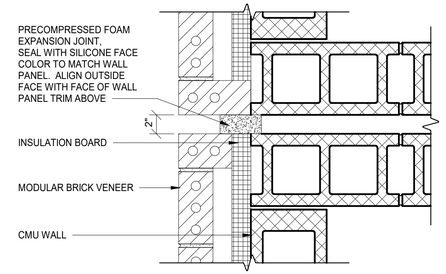
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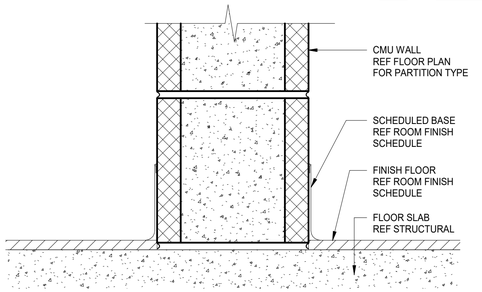
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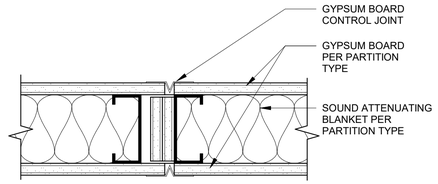
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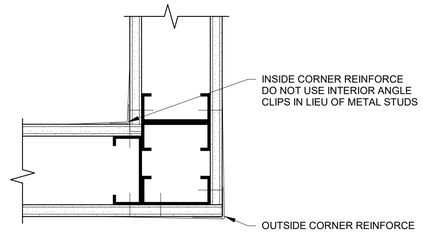
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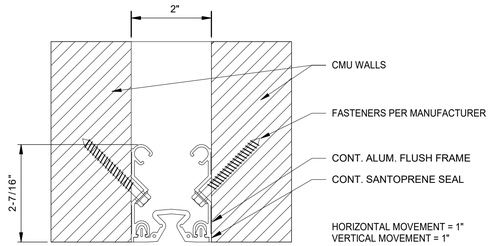
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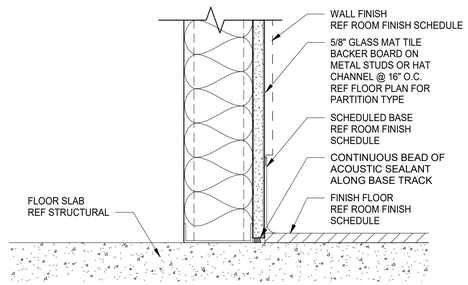
H6 CONTROL JOINT (TYP)
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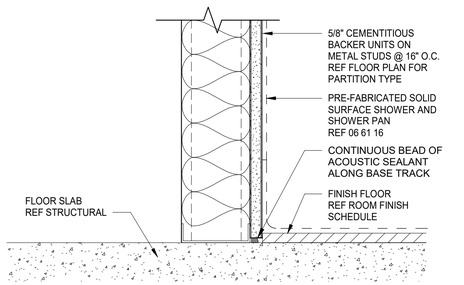
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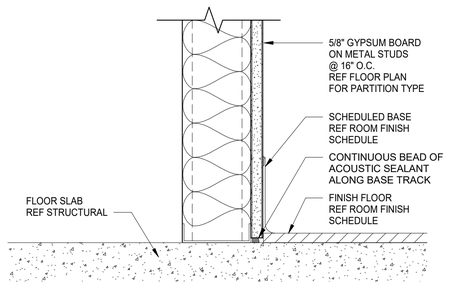
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NTS



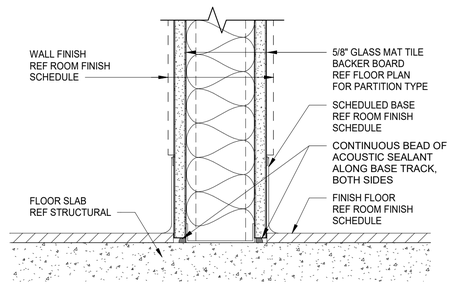
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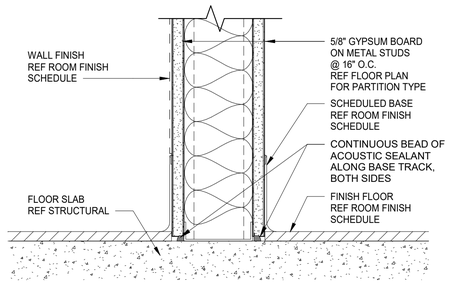
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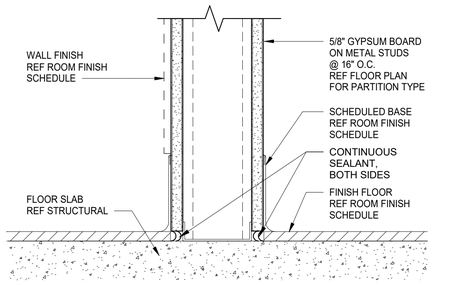
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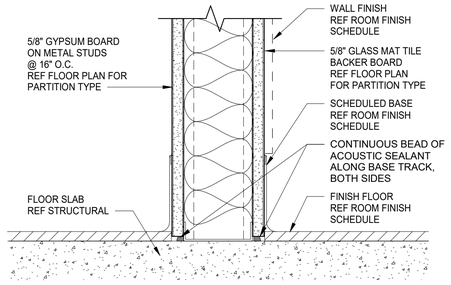
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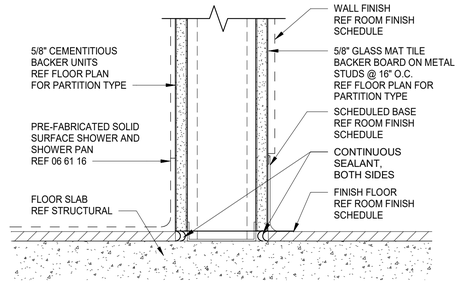
A1 INTERIOR PARTITION DETAIL
3" = 1'-0"



A6 INTERIOR PARTITION DETAIL
3" = 1'-0"



A11 INTERIOR PARTITION DETAIL
3" = 1'-0"



A16 INTERIOR PARTITION DETAIL
3" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
T. MANN	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
R. READER	W912BV26RA004
CHECKED BY:	CONTRACT NO.:
M. HOOVER, R.A.	
SUBMITTED BY:	PROJECT NO:
A. BLANKENSHIP, P.E.	512203
SIZE: FILE NAME:	
ANSI D EANG_512203_A_3BAYH_RV722.rvt	

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

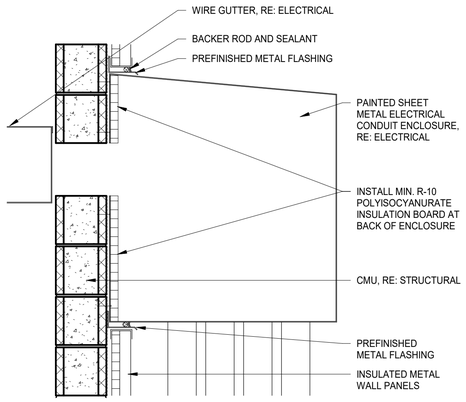
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F-35 3 BAY HANGAR
PN: 5122203

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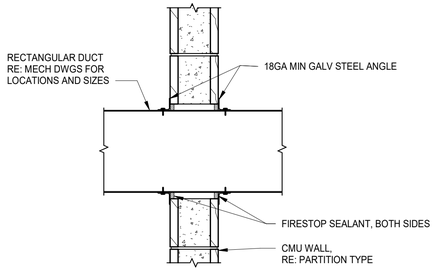
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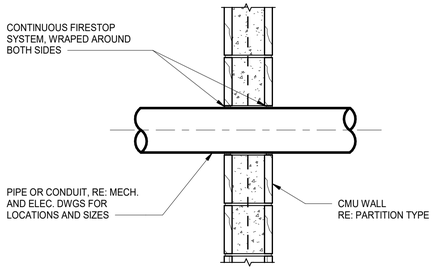


K1 WALL PENETRATION AT ELECTRICAL ROOM
NTS



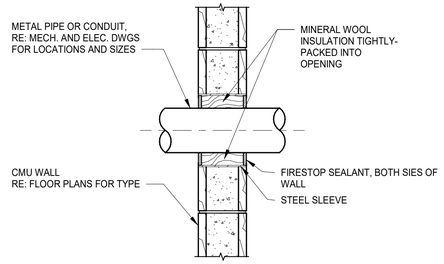
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K5 RECTANGULAR DUCT THRU CMU
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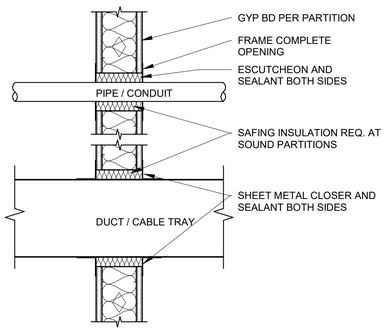
EQUAL TO UL SYSTEM NUMBER :
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C-AJ-1572 METALLIC PIPE OR CONDUIT PENETRATING CMU WALL

K11 NON-METALIC PIPE THRU CMU
NTS

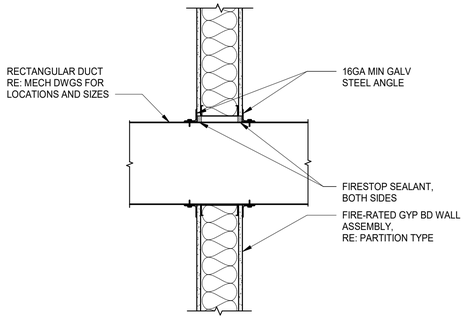


EQUAL TO UL SYSTEM NUMBER C-AJ-1498 PIPE OR CONDUIT THROUGH CMU WALL w/ STEEL SLEEVE

K16 PIPE THRU CMU WALL WITH SLEEVE
NTS

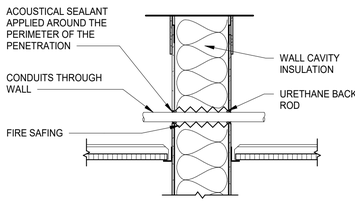


F1 WALL PENETRATIONS (TYP)
NTS



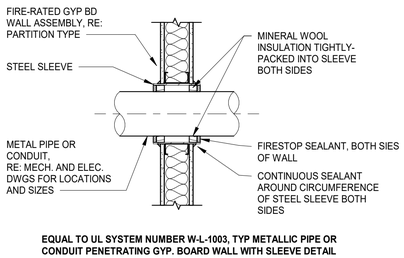
EQUAL TO UL SYSTEM NUMBER W-L-7155 TYP RECTANGULAR DUCT PENETRATING GYP. BOARD WALL

F5 RECTANGULAR DUCT THRU METAL STUD
NTS



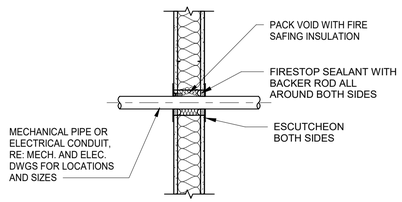
THIS DETAIL SHALL NOT PRECLUDE ANY REQUIREMENTS SHOWN ON THE ARCHITECTURAL DETAIL SHEETS FOR SOUND RATED OR FIRE RATED ASSEMBLIES. SUCH DETAILS SHALL OVERRIDE THIS DETAIL WHEN APPLICABLE.

F11 CONDUIT PENETRATION
NTS



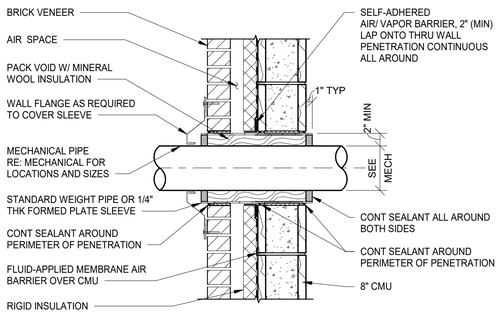
EQUAL TO UL SYSTEM NUMBER W-L-1003, TYP METALLIC PIPE OR CONDUIT PENETRATING GYP. BOARD WALL WITH SLEEVE DETAIL

F16 PIPE THRU METAL STUD WITH SLEEVE
NTS

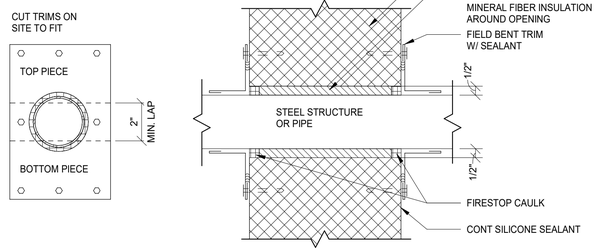


EQUAL TO UL SYSTEM NUMBER W-L-1001, TYP PIPE OR CONDUIT PENETRATING GYP. BOARD WALL WITHOUT SLEEVE

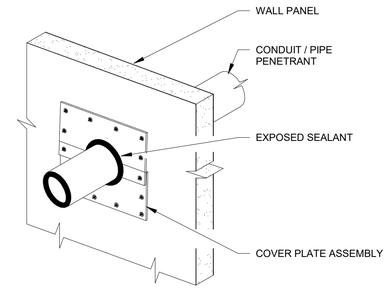
A1 PIPE THRU METAL STUD
NTS



A5 SLEEVED PENETRATION DETAIL AT BRICK VENEER
NTS



A10 PENETRATION DETAIL AT METAL PANEL
NTS



A16 PENETRATION DETAIL 2
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:22:23 PM File Path: C:\Users\mbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MBECBRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

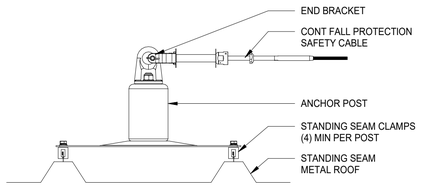
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

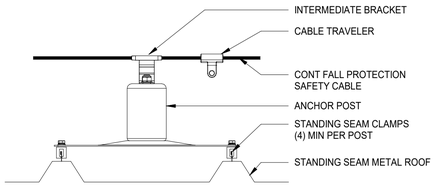
PENETRATION DETAILS

SHEET ID
A-510

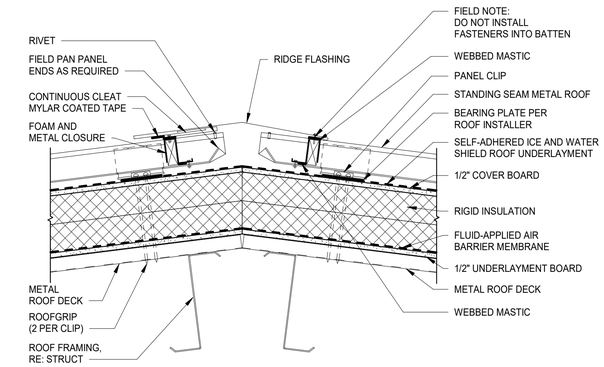
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



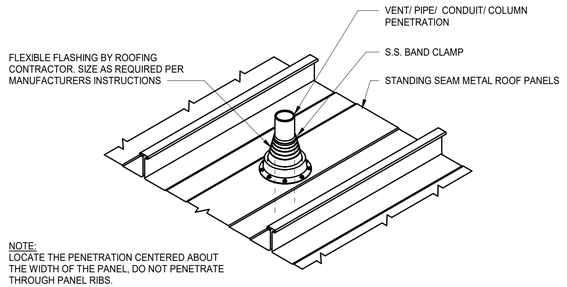
M1 FALL PROTECTION - END
NTS



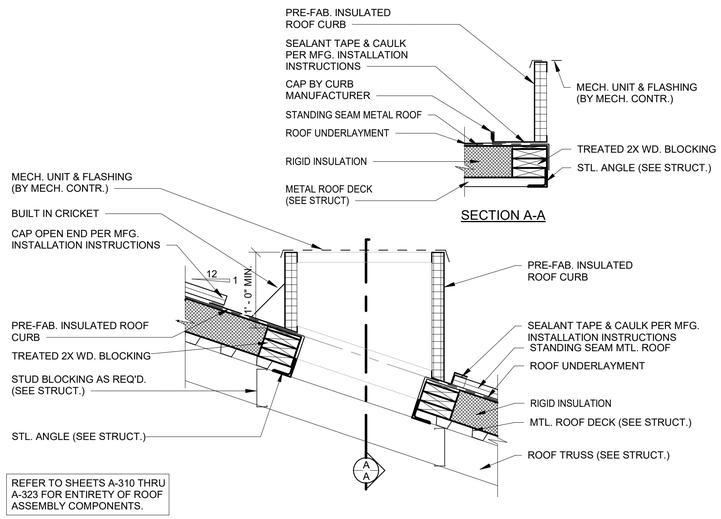
M8 FALL PROTECTION - INTERMEDIATE
NTS



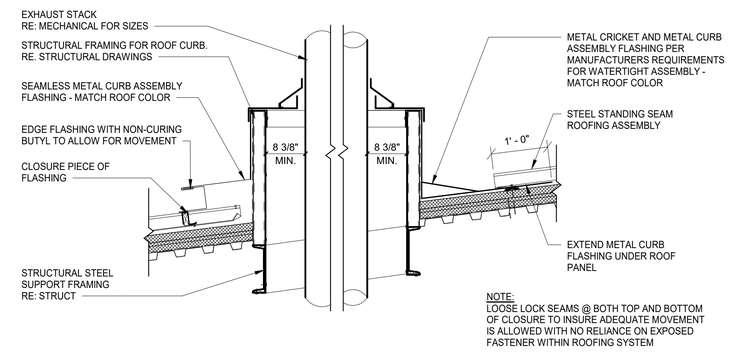
G1 STANDING SEAM METAL ROOF RIDGE
NTS



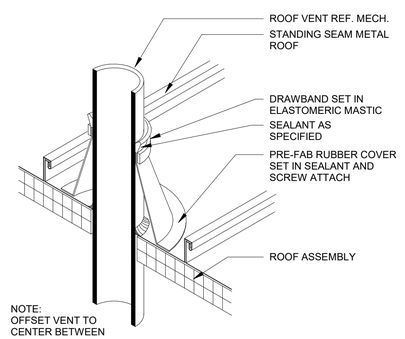
G8 STANDING SEAM ROOF PENETRATION
NTS



A1 STANDING SEAM METAL ROOF CURB
NTS



A8 EXHAUST STACK SECTION
NTS



A16 VTR DETAIL
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	C. LONGACRE
DRAWN BY:	R. READER
CHECKED BY:	M. HOOPER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_A_3BAYH_RV722.rvt

Plot Date: 10/20/2025 1:22:27 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RV722_MECCRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

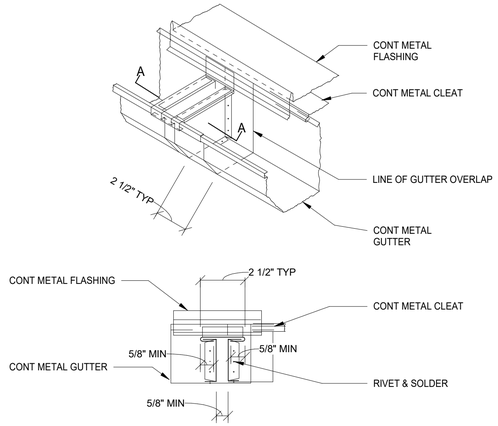
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 5122203

PENETRATION AND ROOF DETAILS

SHEET ID

A-511

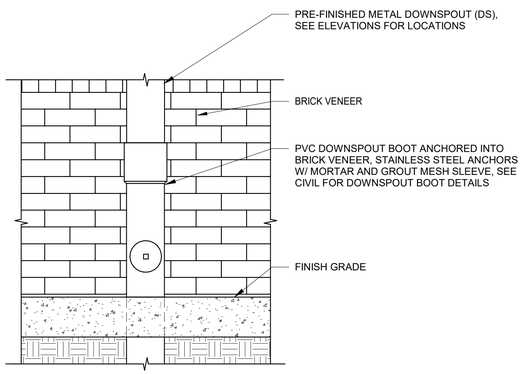
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



SECTION A-A

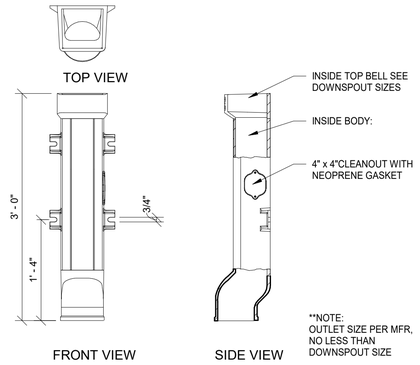
TYPICAL METAL GUTTER EXPANSION JOINT DETAIL

F16 NTS



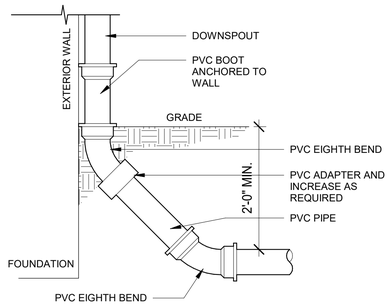
DOWNSPOUT BOOT DETAIL

A1 NTS



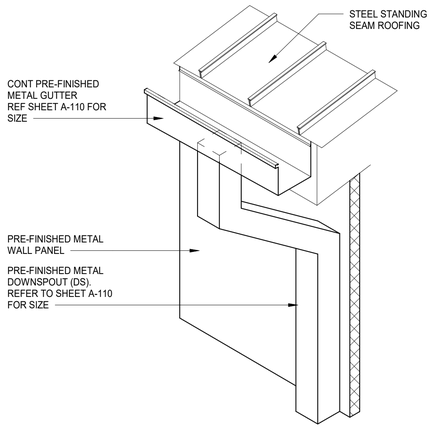
DOWNSPOUT BOOT DETAIL

A6 NTS



DOWNSPOUT CONNECTION

A11 NTS



DOWNSPOUT DETAIL

A16 NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RV722.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

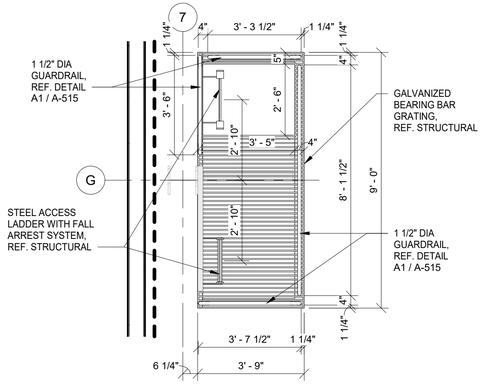
EBBING ANGB , ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

GUTTER AND DOWNSPOUT DETAILS

SHEET ID
A-512

Plot Date: 10/20/2025 1:22:28 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RV722_MEECRAR.rvt

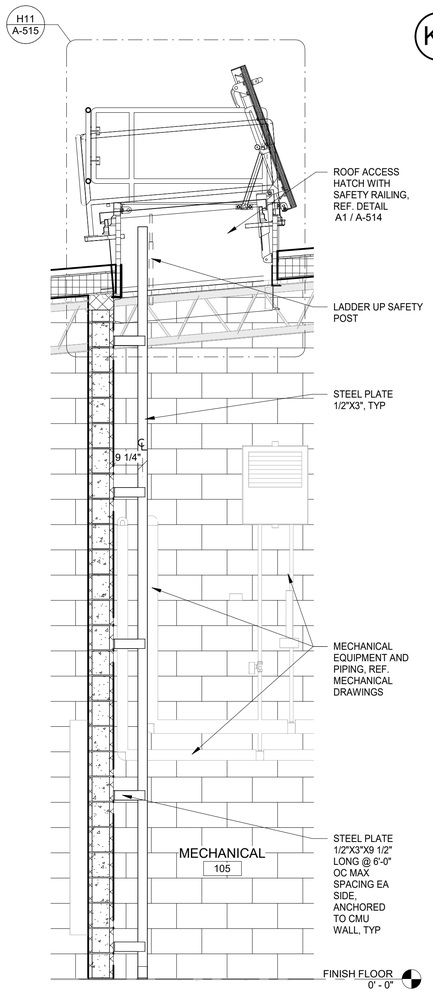
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



K5 ROOF ACCESS LADDER PLATFORM PLAN

3/8" = 1'-0"

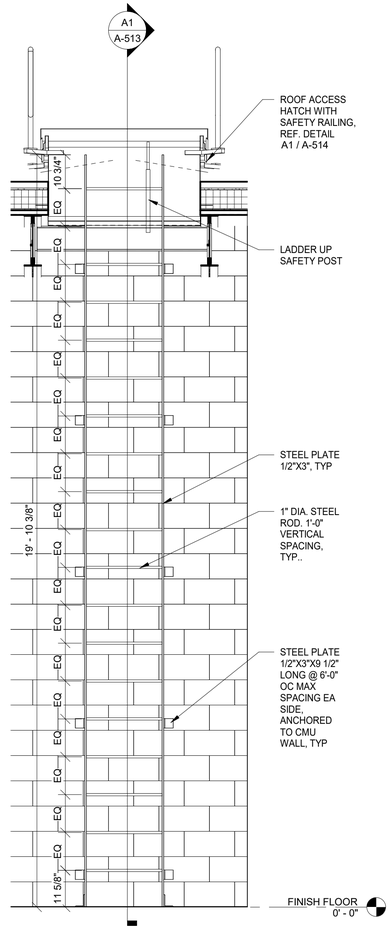
0 1' 2' 4' 8'



A1 ROOF LADDER SECTION - ADMIN

1/2" = 1'-0"

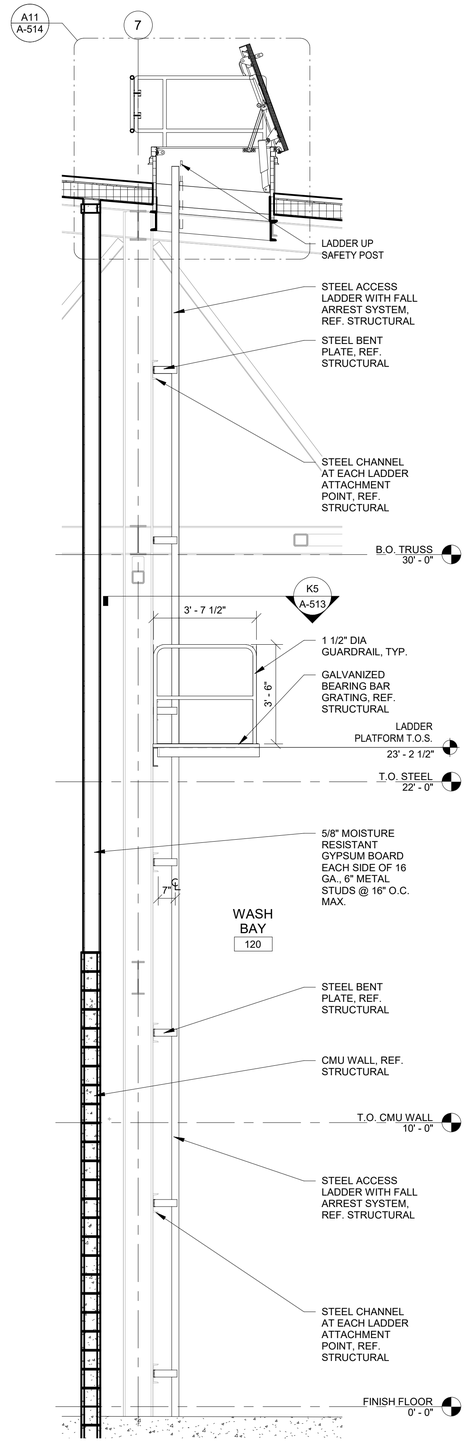
0 1' 2' 4' 8'



A6 ROOF LADER ELEVATION - ADMIN

1/2" = 1'-0"

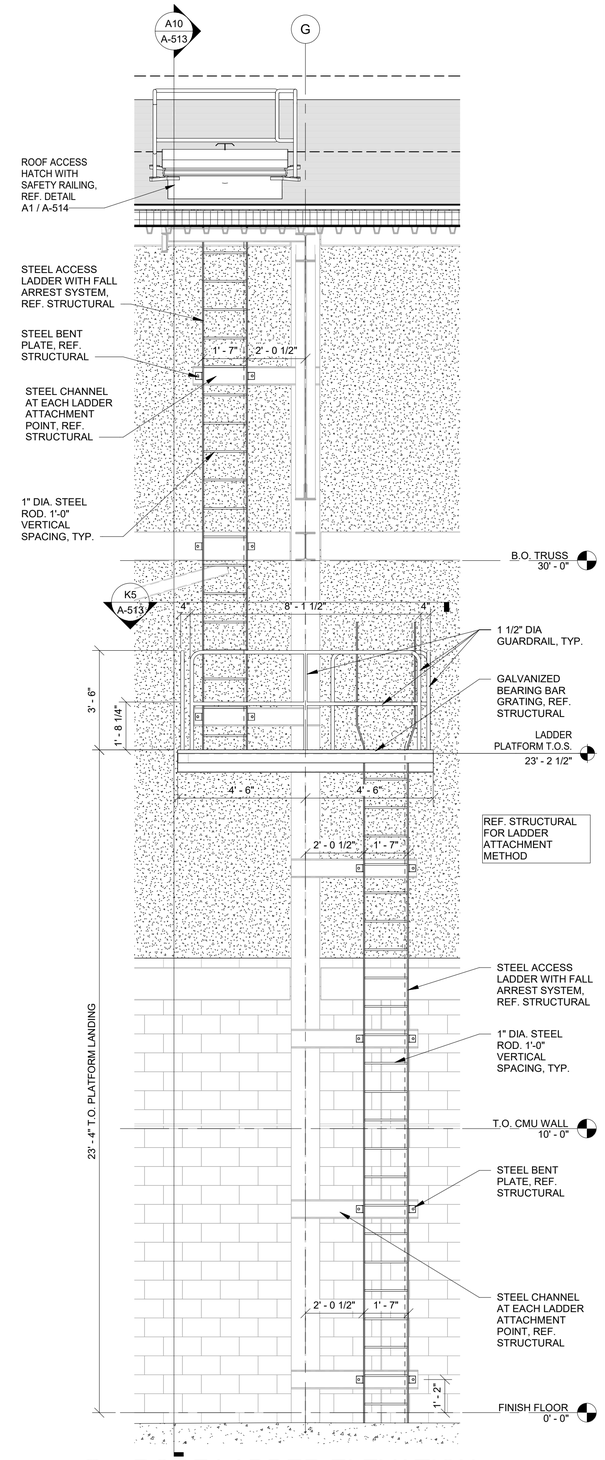
0 1' 2' 4' 8'



A10 ROOF LADDER SECTION

3/8" = 1'-0"

0 1' 2' 4' 8'



A16 ROOF LADDER ELEVATION

3/8" = 1'-0"

0 1' 2' 4' 8'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	C. LONGACRE
DRAWN BY:	R. READER
CHECKED BY:	M. HOOVER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
FILE NAME:	EANG_512203_A_3BAYH_RVT22.rvt
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

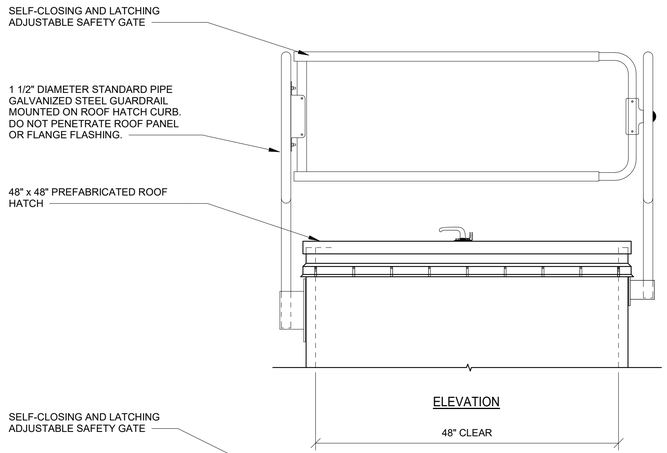
ROOF HATCH AND LADDER DETAILS

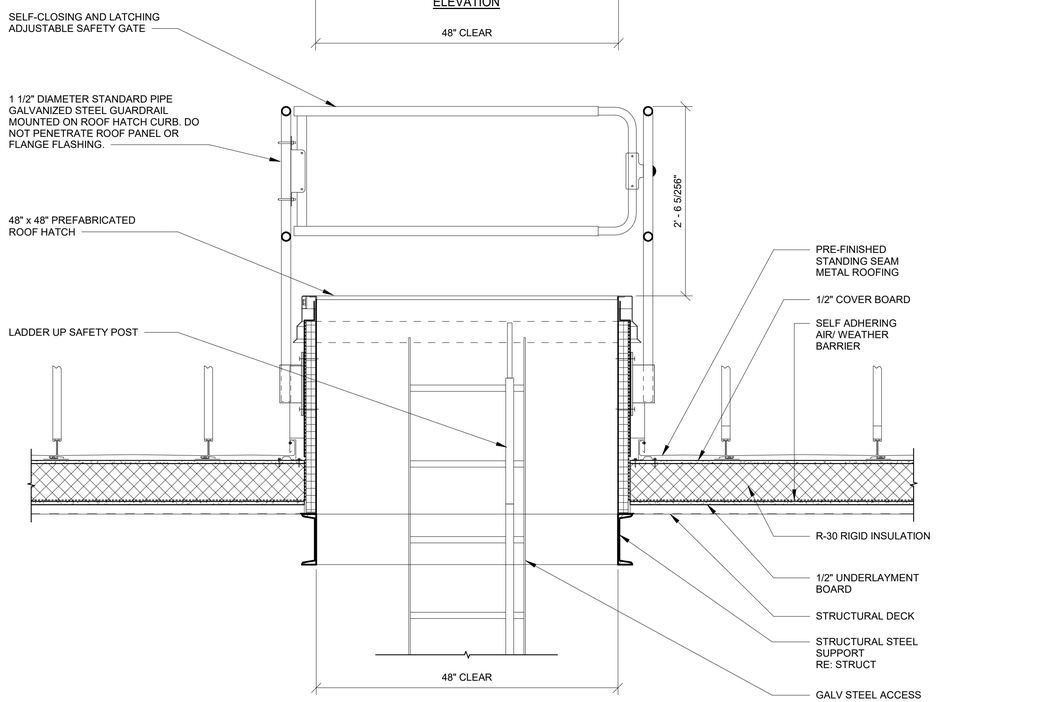
SHEET ID

A-513

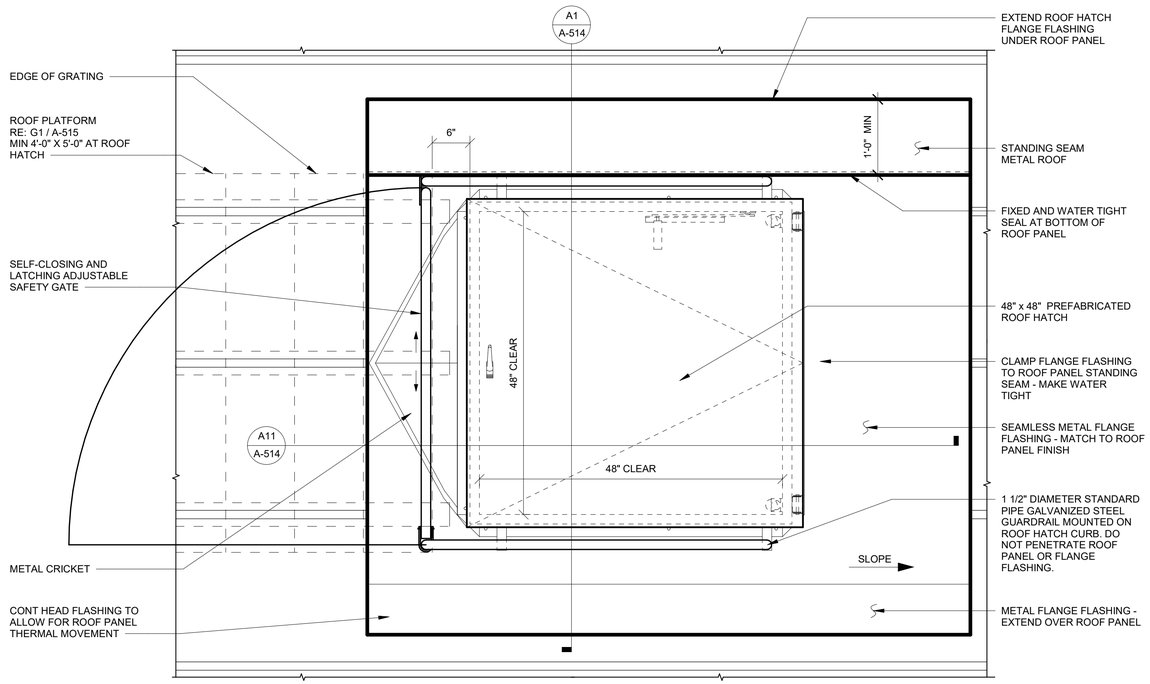
Plot Date: 10/20/2025 1:22:33 PM File Path: C:\Users\rbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MKECRAR.rvt

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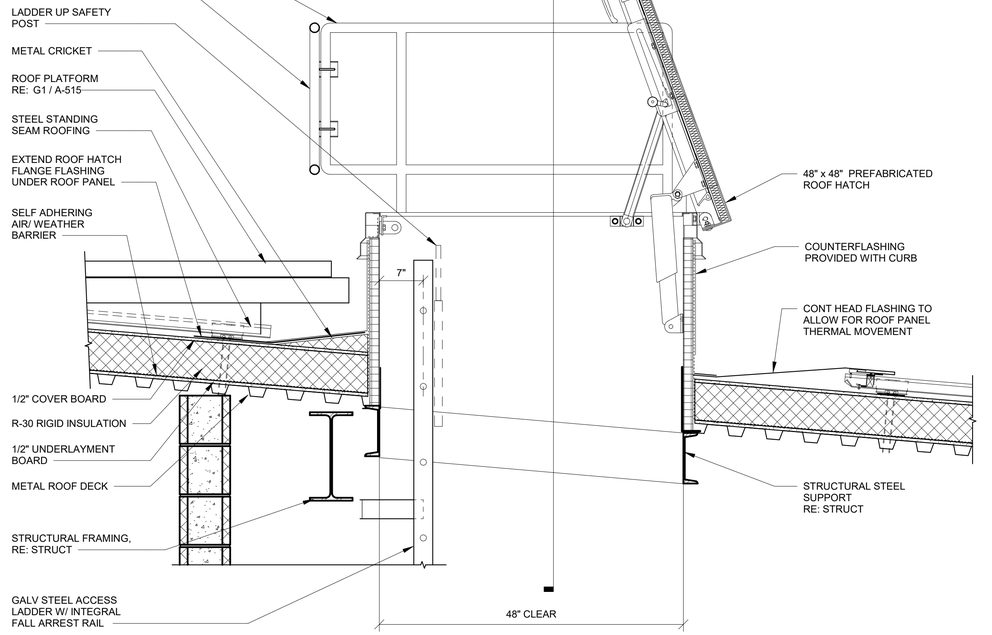




A1 ROOF HATCH SECTION
1" = 1'-0"
0 0.5' 1' 2'



H9 ROOF HATCH PLAN DETAIL
1" = 1'-0"
0 0.5' 1' 2'



A11 ROOF HATCH SECTION
1" = 1'-0"
0 0.5' 1' 2'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	C. LONGACRE
DRAWN BY:	R. READER
CHECKED BY:	M. HOOVER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_A_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

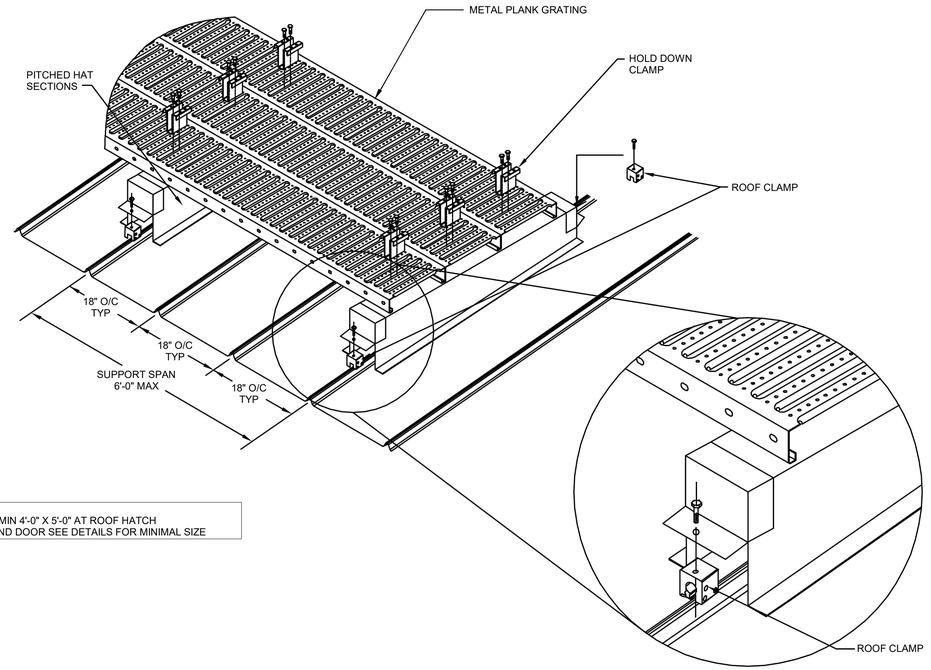
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

ROOF HATCH AND LADDER DETAILS

SHEET ID
A-514

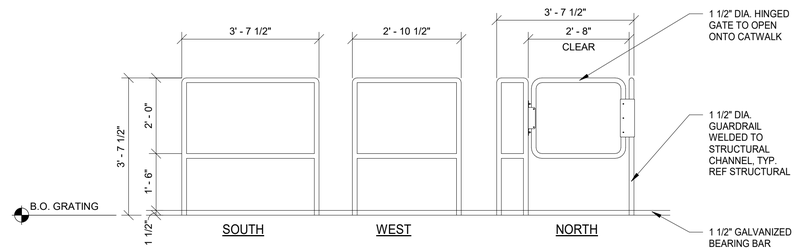
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



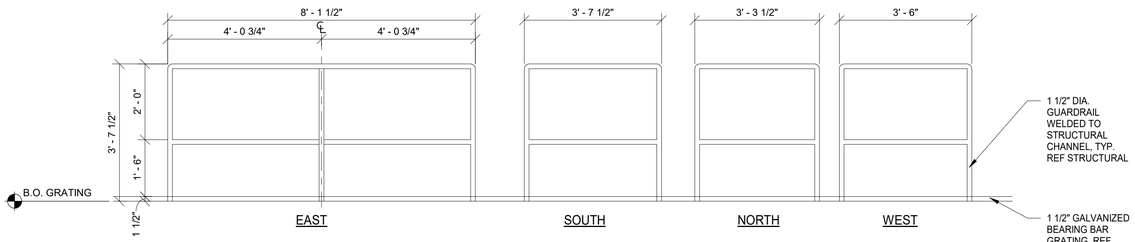
NOTE:
ROOF PLATFORM: MIN 4'-0" X 5'-0" AT ROOF HATCH
ACCESS LADDER AND DOOR SEE DETAILS FOR MINIMAL SIZE

G1 ROOF PLATFORM AXON

NTS



CATWALK ACCESS GUARDRAIL

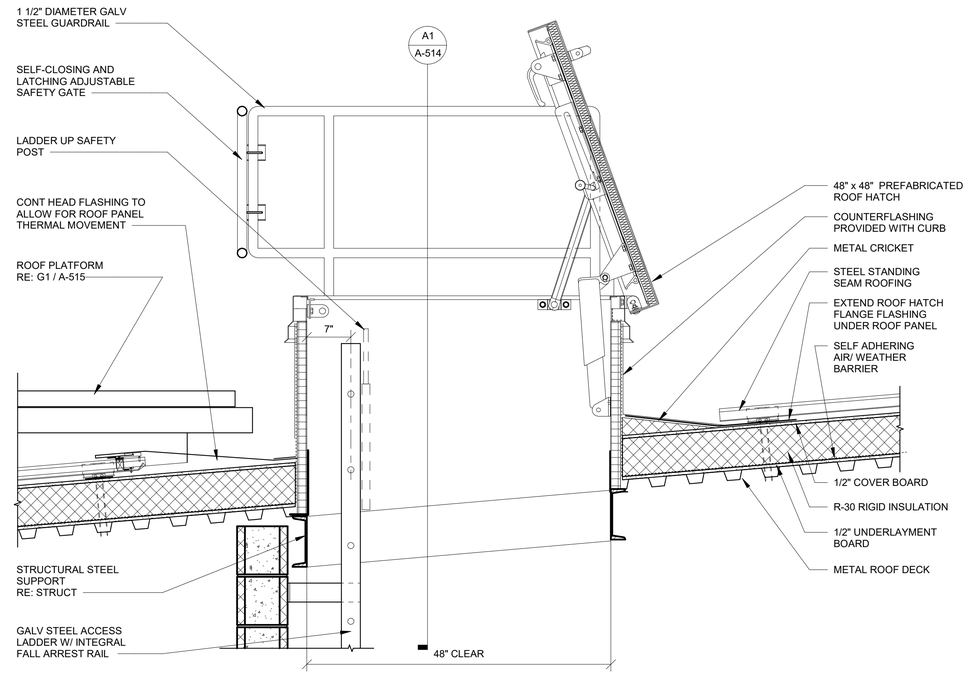


ROOF ACCESS TRANSFER PLATFORM GUARDRAIL

A1 PLATFORM GUARDRAIL ELEVATIONS

1/2" = 1'-0"

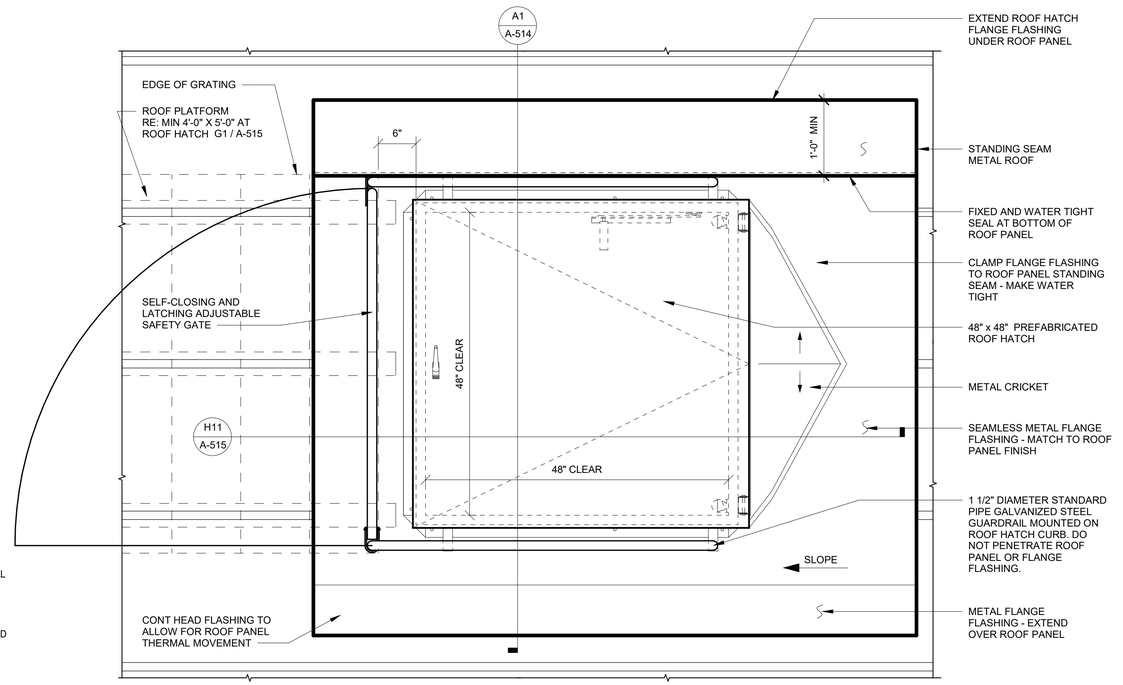
0 1' 2' 4'



H11 ROOF HATCH SECTION - ADMIN

1" = 1'-0"

0 0.5' 1' 2'



A11 ROOF HATCH PLAN DETAIL_ADMIN

1" = 1'-0"

0 0.5' 1' 2'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
C. LONGACRE	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
R. READER	W912BV26RA004
CHECKED BY:	CONTRACT NO.:
M. HOOVER, R.A.	
SUBMITTED BY:	PROJECT NO:
A. BLANKENSHIP, P.E.	512203
SIZE:	FILE NAME:
ANSI D	EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:22:37 PM File Path: C:\Users\hbcarr\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MKECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

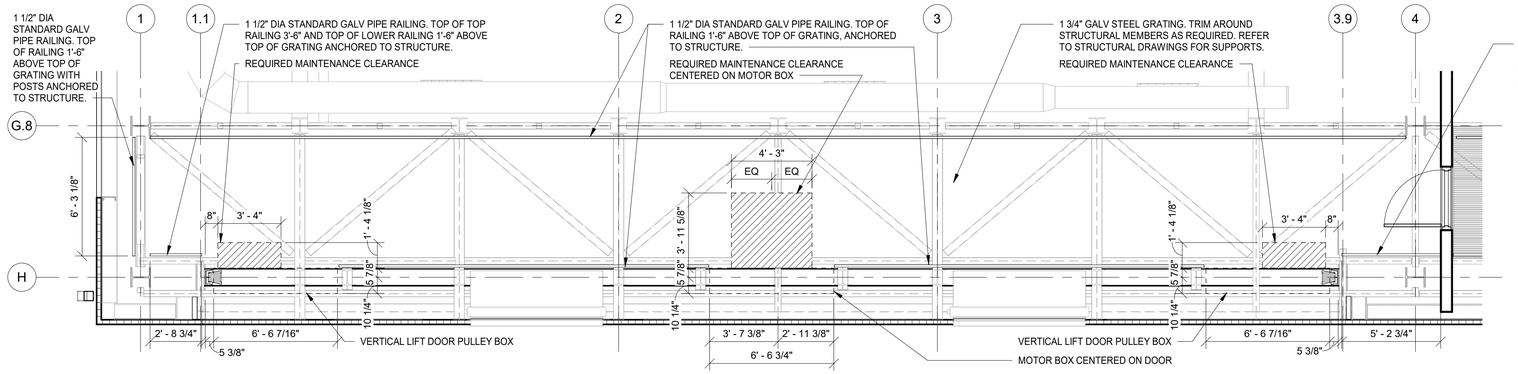
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

ROOF HATCH AND LADDER DETAILS

SHEET ID

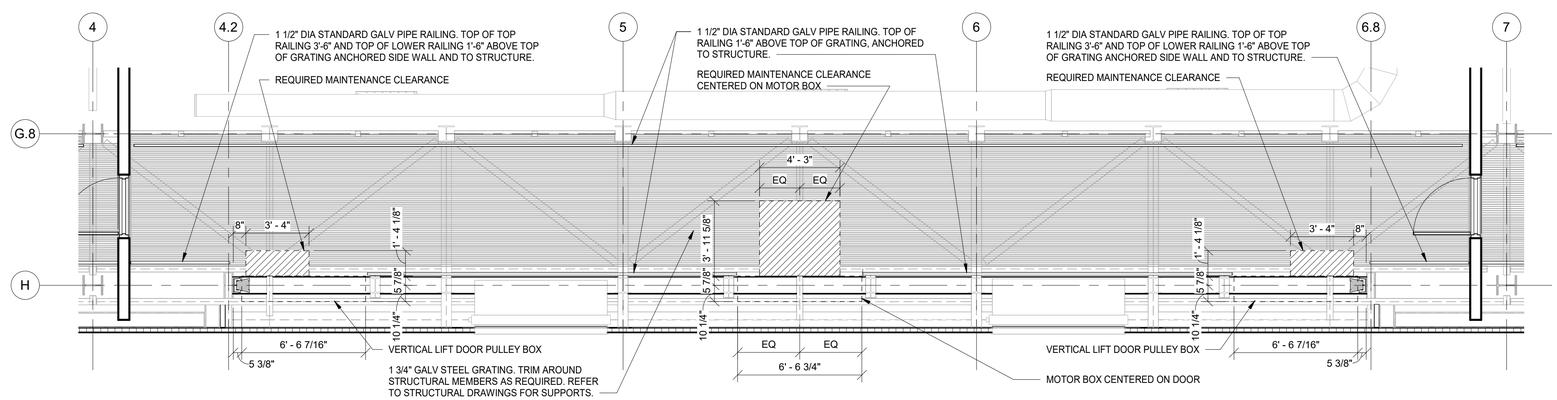
A-515

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



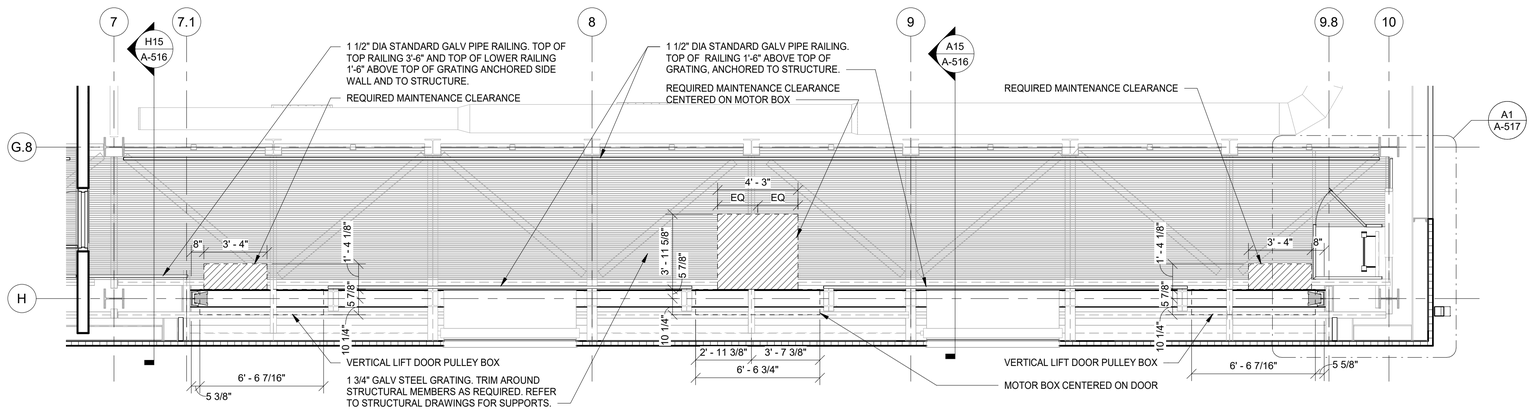
L1 ENLARGED ACCESS CATWALK FLOOR PLAN - AREA D

1/4" = 1'-0"



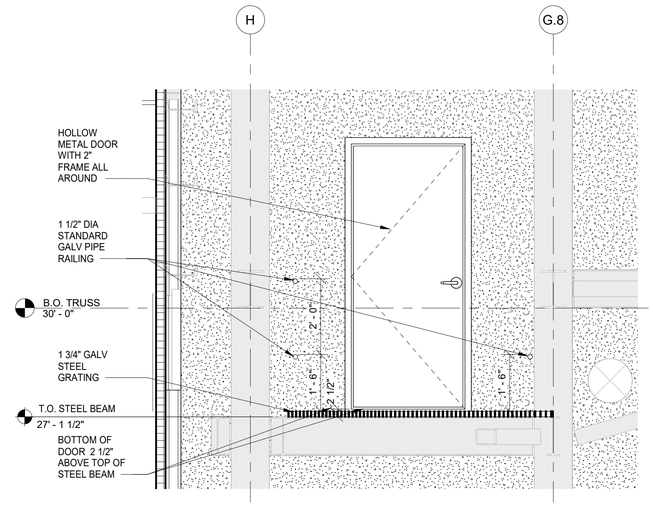
F1 ENLARGED ACCESS CATWALK FLOOR PLAN - AREA E

1/4" = 1'-0"



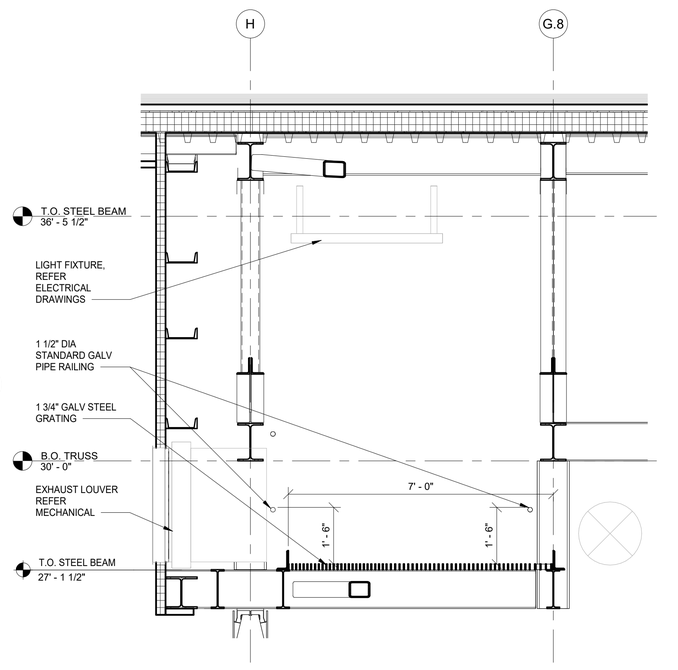
A1 ENLARGED ACCESS CATWALK FLOOR PLAN - AREA F

1/4" = 1'-0"



H15 CATWALK SECTION AT DOOR

1/2" = 1'-0"



A15 CATWALK SECTION

1/2" = 1'-0"

PLAN NORTH

GENERAL CATWALK NOTES

1. CONTRACTOR MUST VERIFY SELECTED VERTICAL LIFT DOOR MANUFACTURER'S MACHINERY AND MAINTENANCE REQUIREMENTS AND ADJUST DIMENSIONS ACCORDINGLY.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	C. LONGACRE
DRAWN BY:	R. READER
CHECKED BY:	M. HOOVER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
FILE NAME:	EANG_512203_A_3BAYH_RVT22.rvt
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203

File Path: C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECDRAR.rvt

Plot Date: 10/20/2025 1:22:46 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

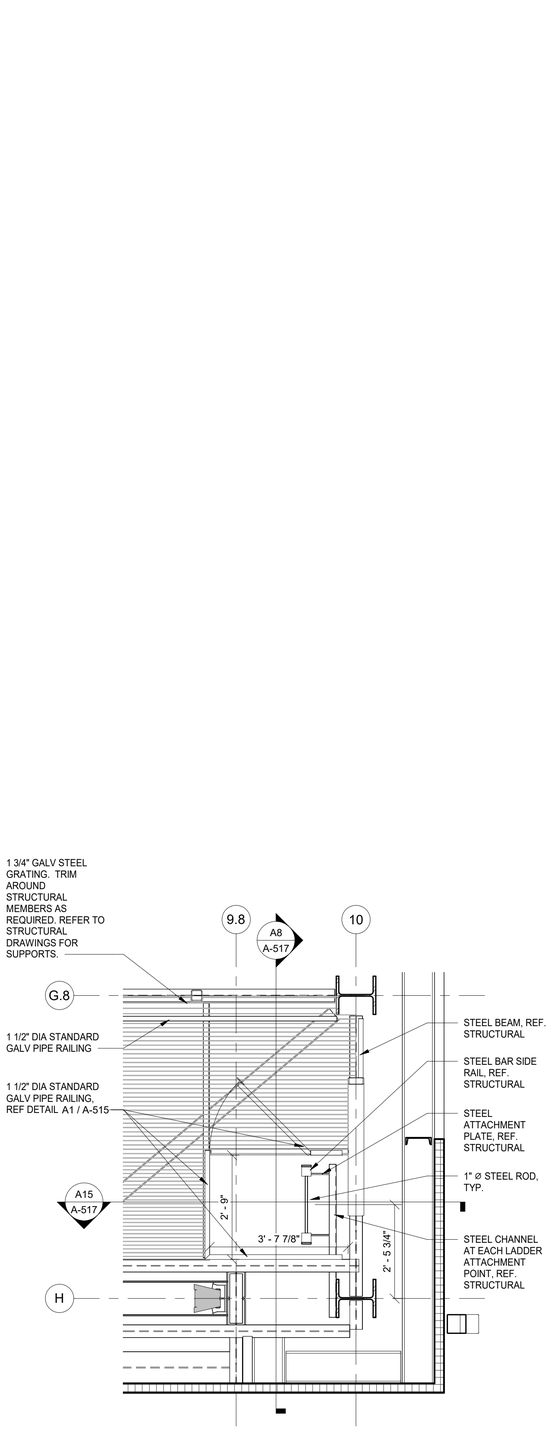
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

ACCESS CATWALK PLAN AND DETAILS

SHEET ID

A-516

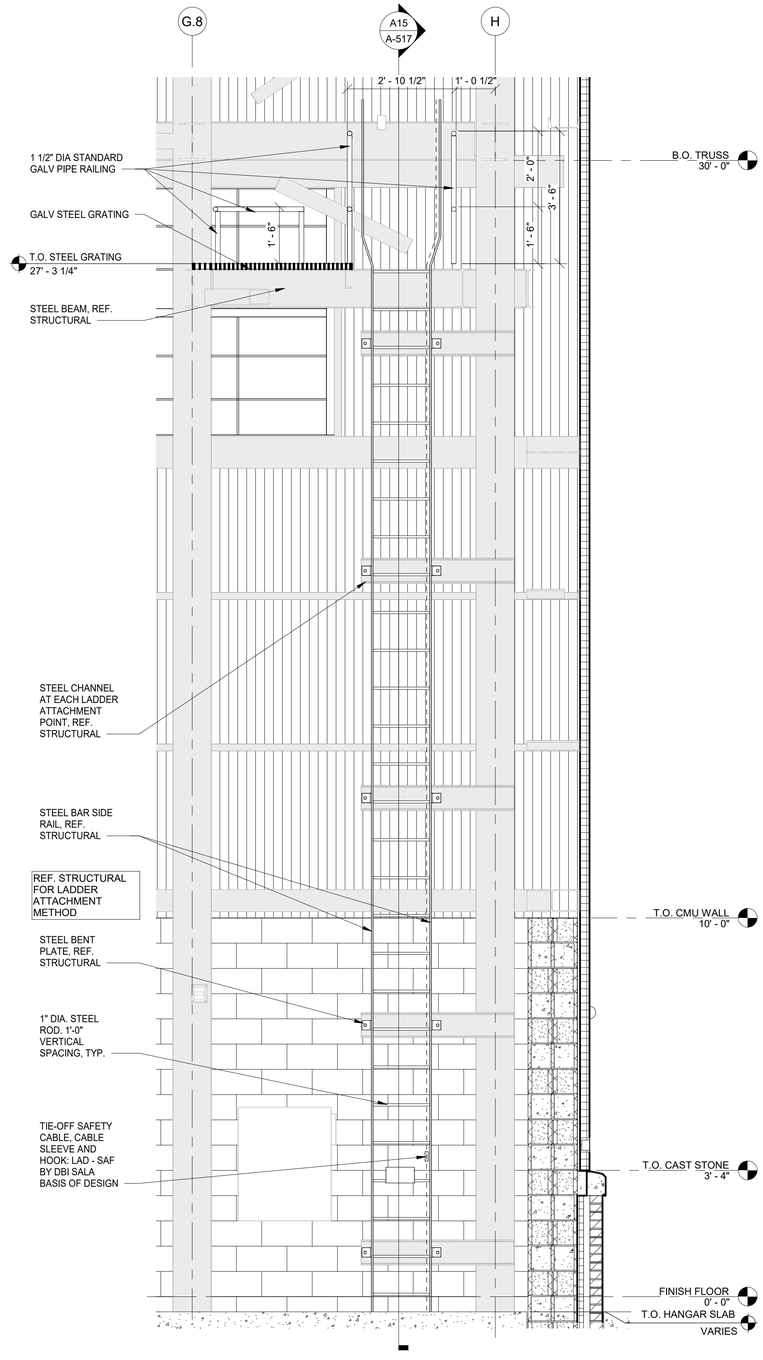
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A1 ENLARGED ACCESS CATWALK FLOOR PLAN

1/2" = 1'-0"

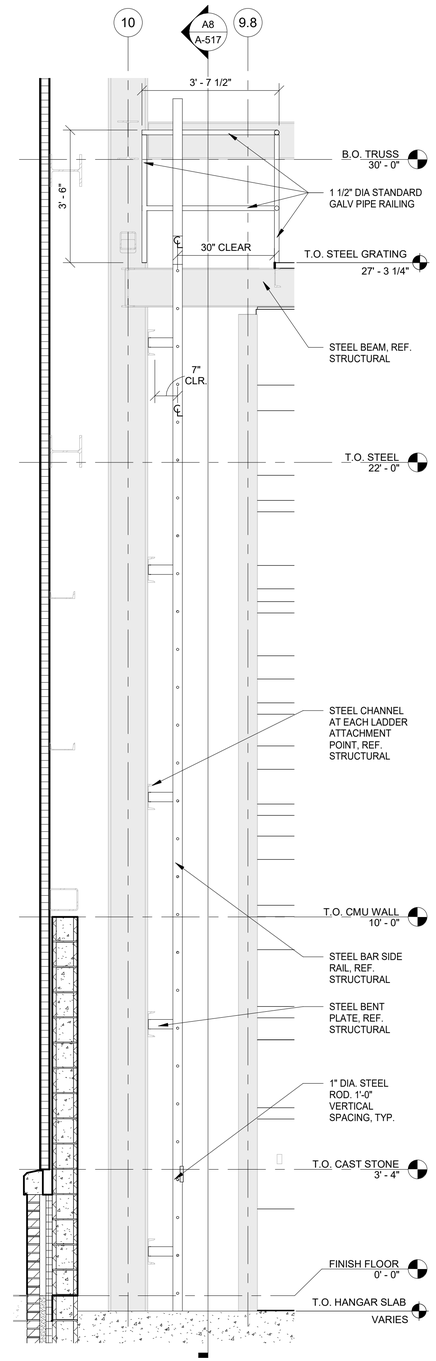
0 1' 2' 4'



A8 ACCESS LADDER AT CATWALK SECTION

1/2" = 1'-0"

0 1' 2' 4'



A15 ACCESS LADDER AT CATWALK SECTION

1/2" = 1'-0"

0 1' 2' 4'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: R. READER	SOLICITATION NO.: W912BV26RA004
CHECKED BY: M. HOOVER, R.A.	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:22:50 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECERKART.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

ACCESS CATWALK PLAN AND DETAILS

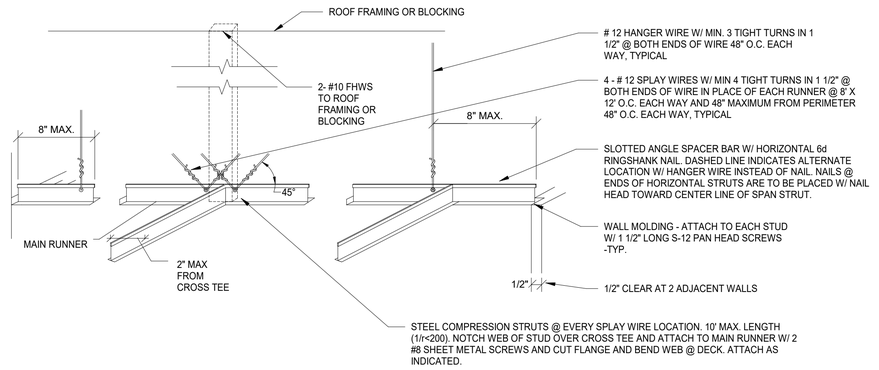
SHEET ID

A-517

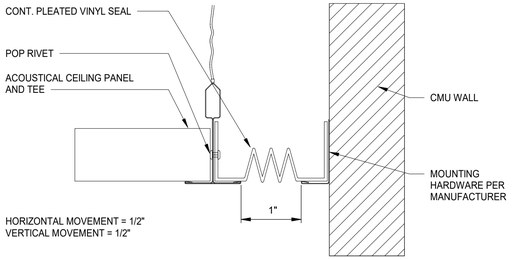
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SUSPENDED ACOUSTIC CEILING NOTES

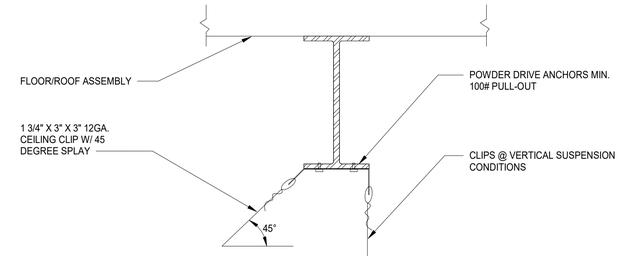
1. METAL SUSPENSION SYSTEMS FOR ACOUSTICAL TILE AND FOR LAY IN PANEL CEILINGS MUST BE INSTALLED IN ACCORDANCE WITH ASTM C 635 AND ASTM C 636.
2. HANGERS MUST BE SADDLE TIED AROUND MAIN RUNNERS TO DEVELOP THE FULL STRENGTH OF THE HANGERS. LOWER ENDS OF FLAT HANGERS MUST BE BOLTED TO RUNNER CHANNELS OR BENT TIGHTLY AROUND RUNNERS AND BOLTED TO THE MAIN PART OF THE HANGER.
3. SPLICES AND INTERSECTIONS OF RUNNERS MUST BE ATTACHED WITH MECHANICAL INTERLOCKING CONNECTORS SUCH AS PO RIVETS, SCREWS, PINS, PLATES WITH BENT TABS OR OTHER APPROVED CONNECTORS FOR 2 TIMES THE DESIGN LOAD OR ULTIMATE AXIAL TENSION OR COMPRESSION. (MIN. 60 LBS.)
4. CROSS FURRING MUST BE SECURELY ATTACHED TO THE MAIN RUNNER BY SADDLE TYING WITH NOT LESS THAN ONE STRAND OF #16 OR 2 STRANDS OF #18 U.S. GAUGE THE WIRE OR APPROVED EQUIVALENT ATTACHMENTS.
5. ALL LIGHT FIXTURES MUST BE INDEPENDENTLY SUPPORTED BY NOT LESS THAN 4 TAUNT 12 GA. WIRES ATTACHED TO THE STRUCTURE ABOVE. WIRES MAY BE ATTACHED TO STRUCTURAL FLOOR SYSTEM OR STRUCTURAL STEEL, NOT MECHANICAL EQUIPMENT OR DUCTWORK.



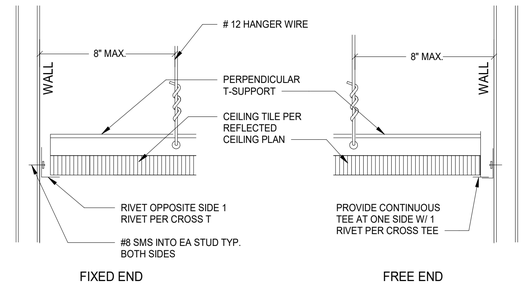
K8 SUSPENDED ACOUSTIC TILE CLG DETAILS
NTS



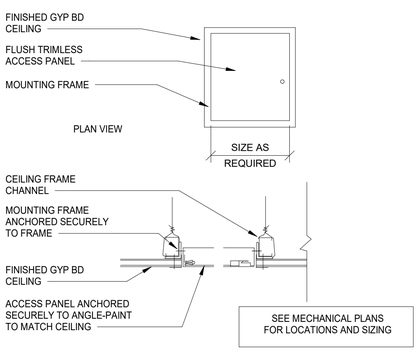
F1 CEILING EXPANSION JOINT
NTS



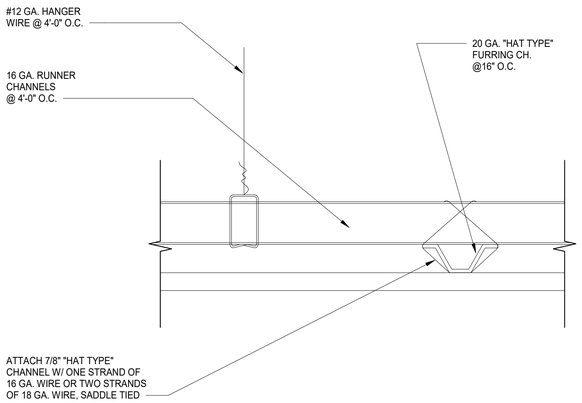
F8 TYPICAL SUSPENDED WIRE FASTENER
NTS



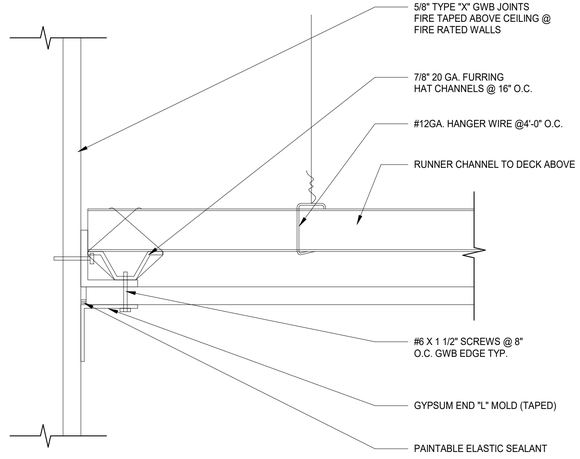
F15 SUSPENDED CEILING DETAILS AT WALL
NTS



A1 CEILING ACCESS PANEL DETAIL
NTS



A8 TYPICAL GWB SUSPENDED CEILING
NTS



A15 TYPICAL GWB WALL & CEILING JOINT
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RV722.rvt

US ARMY CORPS OF ENGINEERS TULSA DISTRICT 2488 EAST 81ST ST TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION ENGINEERING BRANCH

EBBING ANGB - ARKANSAS F-35, 3 BAY HANGAR PN: 512203

INTERIOR AND CEILING DETAILS

SHEET ID
A-530

Plot Date: 10/20/2025 1:22:52 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MKECRAR.rvt

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NOTES:

REF SPECIFICATION SECTION 05 50 13

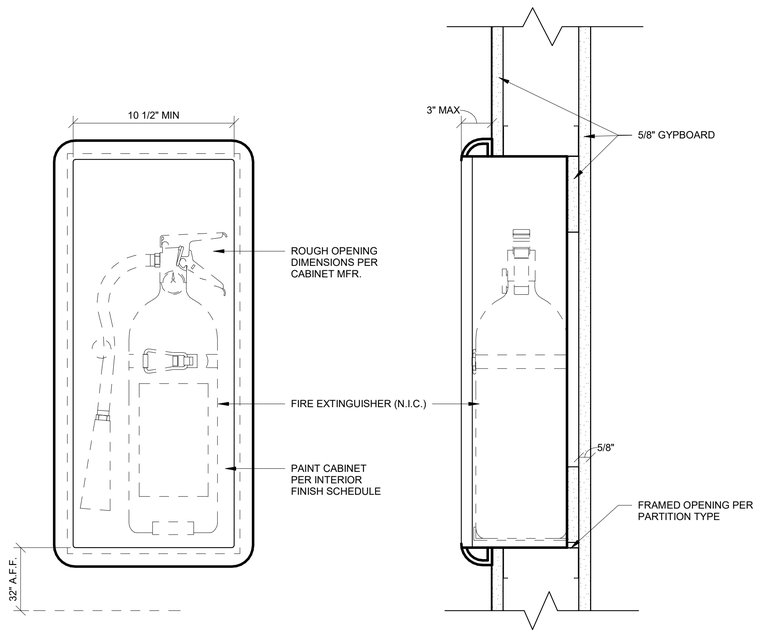
PAINT PER OSHA REQUIREMENT

REF FLOOR PLANS FOR LOCATION

A1 INTERIOR BOLLARD (TYP.)

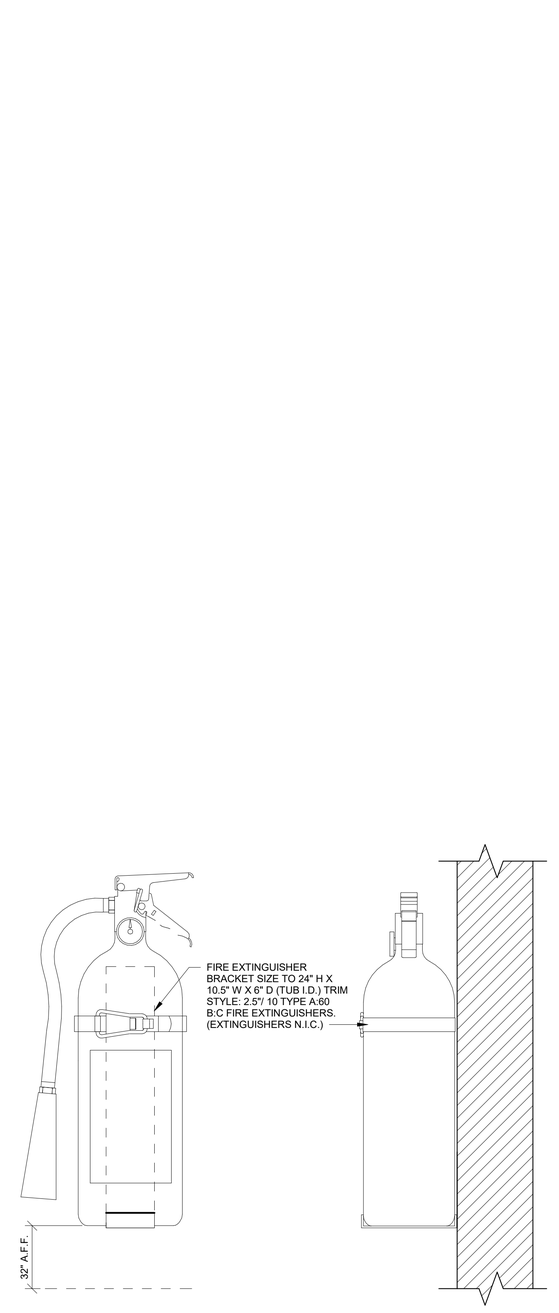
1 1/2" = 1'-0"

0 0.5' 1' 2' 3'



A7 FEC (SEMI-RECESSED)

NTS



A14 FIRE EXTINGUISHER BRACKET (FEB)

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: T. MANN
DRAWN BY: Author
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RV722.rvt

Plot Date: 10/20/2025 1:22:53 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RV722_MISCDRAFT.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MISCELLANEOUS DETAILS

SHEET ID

A-540

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

DOOR SCHEDULE

DOOR NUMBER	DOOR LOCATION	DOOR SIZE			DOOR TYPE	DOOR MATERIAL		FRAME TYPE	FRAME MATERIAL		FRAME THICKNESS	GLASS TYPE	DETAILS			HARDWARE SET	RATING		REMARKS
		WIDTH	HEIGHT	THICKNESS		DOOR MATERIAL	DOOR FINISH		FRAME MATERIAL	FRAME FINISH			HEAD	JAMB	SILL		STC/MISC.	FIRE - MIN.	
100A	ENTRY VEST - 100	PR 3'-0"	7'-0"	1 3/4"	1	AL	ANZ	F	AL	ANZ	4"	4	K1/A-602	E1/A-602	A1/A-602	1			2
100B	ENTRY VEST - 100	PR 3'-0"	7'-0"	1 3/4"	1	AL	ANZ	F	AL	ANZ	4"	4	J16/A604	E16/A-604	A1/A-602 SIM	10			
101A	CORRIDOR - 101	PR 3'-0"	7'-0"	1 3/4"	1	AL	ANZ	E	AL	ANZ	4"	4	K8/A602	E1/A602 & E8/A-602	A8/A-602	2			
101B	CORRIDOR - 101	PR 3'-0"	7'-0"	1 3/4"	1	AL	ANZ	E	AL	ANZ	4"	4	K8/A602	E1/A602 & E8/A-602	A7/A-602	2			
102	FIRE PUMP - 102	PR 3'-0"	7'-0"	1 3/4"	3	HM	PTD	C	HM	PTD	4"	-	K14/A602	E14/A602	A14/A-602	7			
103A	TOOL RM/ALIS STATION - 103	PR 3'-0"	7'-0"	1 3/4"	6	HM	PTD	C	HM	PTD	4"	1	E11/A604	A16/A604	-	18			
103B	TOOL RM/ALIS STATION - 103	10'-0"	8'-8"	-	7	INSUL MTL	-	-	-	-	-	-	F12/A-605	A1/A-605 & A7/A-605	A13/A-605	MANUF			1
104	ELECTRICAL - 104	PR 3'-0"	7'-0"	1 3/4"	3	HM	PTD	C	HM	PTD	4"	-	F15/A-603	A15/A-603 & E14/A-602	A14/A-602	8			
105	MECHANICAL - 105	PR 3'-0"	7'-0"	1 3/4"	3	HM	PTD	C	HM	PTD	4"	-	F15/A-603	A15/A-603 & E14/A-602	A14/A-602	7			
106A	HOIST BAY - 106	59'-10"	26'-6"	-	8	FABRIC	-	-	-	-	-	-	A1/A-611	A8/A-611 & A15/A-611	-	MANUF			
106B	HOIST BAY - 106	3'-0"	6'-8"	1 3/4"	6.1	HM	PTD	B	HM	PTD	4" / 2"	4	F15/A-603	A8/A-603 & A1/A-603	A14/A-602	6			
107A	VEST - 107	PR 3'-0"	7'-0"	1 3/4"	5	HM	PTD	C	HM	PTD	4"	1	E11/A604	A16/A604	-	19			
107B	VEST - 107	PR 3'-0"	7'-0"	1 3/4"	5	HM	PTD	C	HM	PTD	4"	2	E11/A604	A16/A604	-	20		45	
108	JAN - 108	PR 3'-0"	7'-0"	1 3/4"	3	HM	PTD	C	HM	PTD	4"	-	E11/A604	A16/A604	-	21			
109A	RVE STORAGE - 109	3'-8"	7'-0"	1 3/4"	6	HM	PTD	B	HM	PTD	4" / 2"	2	E11/A604	A11/A604	-	12		45	
109B	RVE STORAGE - 109	3'-0"	7'-0"	1 3/4"	3	HM	PTD	B	HM	PTD	4" / 2"	-	E11/A604	A11/A604	-	13			
110	MOTHER'S ROOM - 110	3'-0"	7'-0"	1 3/4"	2	WD	STN	B	HM	PTD	4" / 2"	-	E6/A604	A6/A604	-	14	45		
111	OFFICE - 111	3'-0"	7'-0"	1 3/4"	2	WD	STN	D	HM	PTD	4" / 2"	-	E6/A604	A6/A604	-	15	45		
112A	VEST - 112	PR 3'-0"	7'-0"	1 3/4"	5	HM	PTD	C	HM	PTD	4"	1	E11/A604	A16/A604	-	19			
112B	VEST - 112	PR 3'-0"	7'-0"	1 3/4"	5	HM	PTD	C	HM	PTD	4"	2	E11/A604	A16/A604	-	20		45	
113A	MAINTENANCE BAY - 113	59'-10"	26'-6"	-	8	FABRIC	-	-	-	-	-	-	A1/A-611	A8/A-611 & A15/A-611		MANUF			
113B	MAINTENANCE BAY - 113	3'-0"	6'-8"	1 3/4"	6.1	HM	PTD	B	HM	PTD	4" / 2"	4	F15/A-603	A8/A-603 & A1/A-603	A14/A-602	6			
113C	MAINTENANCE BAY - 113	3'-0"	7'-0"	1 3/4"	3	HM	PTD	B	HM	PTD	4" / 2"	-	E11/A604	A11/A604	-	11			4
115	ELEC - 115	3'-0"	7'-0"	1 3/4"	3	HM	PTD	B	HM	PTD	4"	-	E11/A604	A11/A604	-	16			
116	COMM - 116	3'-0"	7'-0"	1 3/4"	3	HM	PTD	B	HM	PTD	4" / 2"	-	K14/A602	A1/A-603	A14/A-602	3			
117	WOMEN'S TOILET - 117	3'-0"	7'-0"	1 3/4"	2	WD	STN	A	HM	PTD	2"	-	E1/A604	A1/A604	-	17	45		
118	MEN'S TOILET - 118	3'-0"	7'-0"	1 3/4"	2	WD	STN	A	HM	PTD	2"	-	E1/A604	A1/A604	-	17	45		
119A	VEST - 119	PR 3'-0"	7'-0"	1 3/4"	5	HM	PTD	C	HM	PTD	4"	1	E11/A604	A16/A604	-	19			
119B	VEST - 119	PR 3'-0"	7'-0"	1 3/4"	5	HM	PTD	C	HM	PTD	4"	2	E11/A604	A16/A604	-	20		45	
120A	WASH BAY - 120	59'-10"	26'-6"	-	8	FABRIC	-	-	-	-	-	-	A1/A-611	A8/A-611 & A15/A-611		MANUF			
120B	WASH BAY - 120	3'-0"	6'-8"	1 3/4"	6.1	HM	PTD	B	HM	PTD	4" / 2"	4	F15/A-603	A8/A-603 & A1/A-603	A14/A-602	6			
120C	WASH BAY - 120	3'-0"	7'-0"	1 3/4"	3	HM	PTD	B	HM	PTD	4" / 2"	-	E11/A604	A11/A604	-	11			4
121A	WASH EQUIPMENT - 121	PR 3'-0"	7'-0"	1 3/4"	4	HM	PTD	C	HM	PTD	4"	-	E11/A604	A16/A604	-	9		45	
121B	WASH EQUIPMENT - 121	3'-0"	7'-0"	1 3/4"	3	HM	PTD	B	HM	PTD	4" / 2"	-	F15/A-603	A8/A-603 & A1/A-603	A14/A-602	4			
122A	MECHANICAL - 122	10'-0"	8'-8"	-	7	INSUL MTL	-	-	-	-	-	-	F12/A-605	A1/A-605 & A7/A-605	A13/A-605	MANUF			1
122B	MECHANICAL - 122	3'-0"	7'-0"	1 3/4"	3	HM	PTD	B	HM	PTD	4" / 2"	-	F15/A-603	A8/A-603 & A1/A-603	A14/A-602	5			
122C	MECHANICAL - 122	3'-0"	7'-0"	1 3/4"	3	HM	PTD	B	HM	PTD	4" / 2"	-	F15/A-603	A8/A-603 & A1/A-603	A14/A-602	5			
123	ELECTRICAL - 123	PR 3'-0"	7'-0"	1 3/4"	3	HM	PTD	C	HM	PTD	4"	-	F15/A-603	A15/A-603 & E14/A-602	A14/A-602	8			

REMARKS:
1. ELECTRICALLY OPERATED OVERHEAD COILING DOOR. SEE SPEC SECTION 08 33 23 FOR ADDITIONAL INFORMATION.
2. GLAZING IN EXTERIOR DOORS SHALL BE 1" INSULATED WITH INTERIOR PANE CONSISTING OF 1/4" LAMINATED GLASS COMPLYING WITH THE REQUIREMENTS OF UFC 4-010-01, STANDARD 10.
3. PROVIDE SECURITY CARD READER PER NOTES IN THE HARDWARE SCHEDULE, SPEC SECTION 08 71 00.
4. ACCESS DOOR BETWEEN HANGAR BAYS AT CATWALK LEVEL.

GENERAL NOTES:
1) SEE SPEC SECTION 08 71 00 FOR HARDWARE SETS
2) SEE INTERIORS SHEETS FOR FINISH INFO.
3) SEE INTERIORS SHEETS FOR SIGNAGE INFO.
4) SEE SHEET A-601 FOR DOOR & FRAME TYPES.

ABBREVIATIONS:

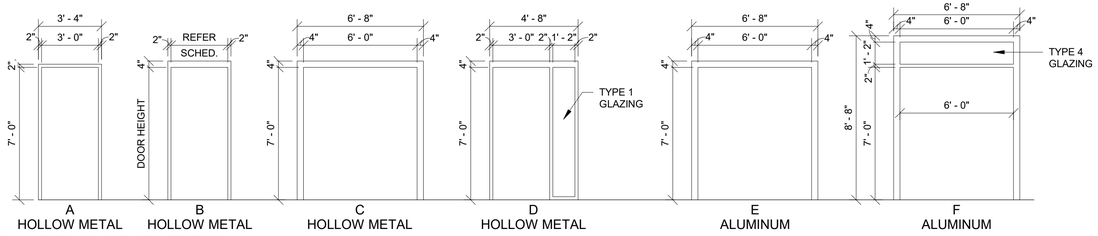
AL	ALUMINUM
ANZ	ANODIZE
GL	GLASS
HM	HOLLOW METAL
PTD	PAINTED
ST	STEEL
STN	STAIN, STAINED
WD	WOOD
WM	WIRE MESH

MISCELLANEOUS, OTHER COLUMN:

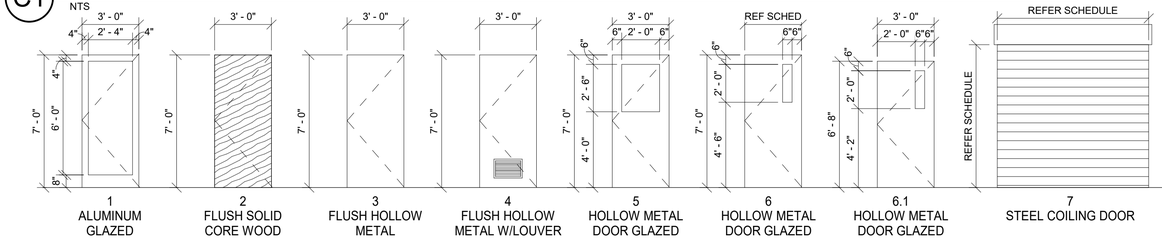
COMP.	COMPUTER
COMM.	COMMUNICATION
CORR.	CORRIDOR
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EQUIP.	EQUIPMENT
JAN.	JANITOR
MECH.	MECHANICAL
STOR.	STORAGE

GLASS TYPES:

1	TEMPERED
2	FIRE RATED - TEMPERED
3	LAMINATED
4	TEMPERED / LAMINATED



C1 FRAME TYPES
NTS



A1 DOOR TYPES
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

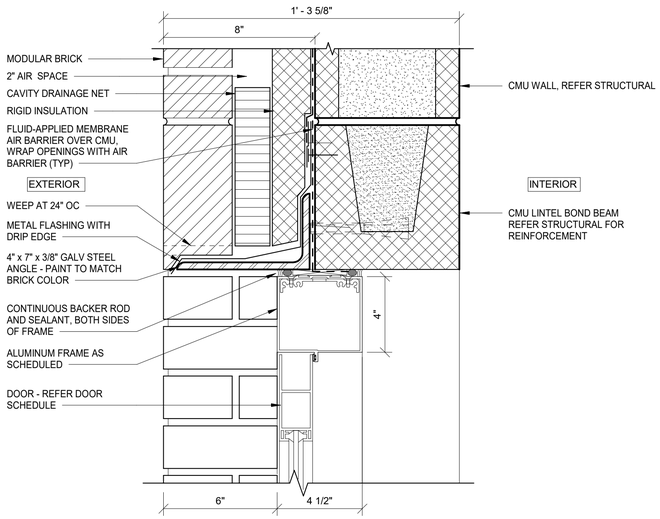
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

DOOR SCHEDULE AND DOOR TYPES

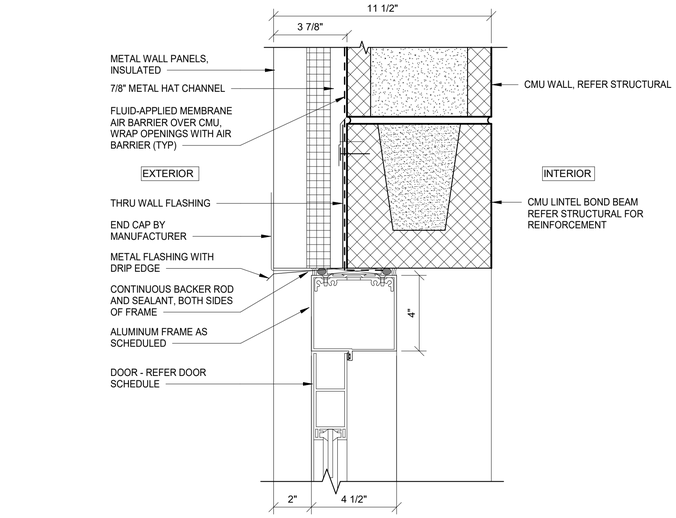
SHEET ID
A-601

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



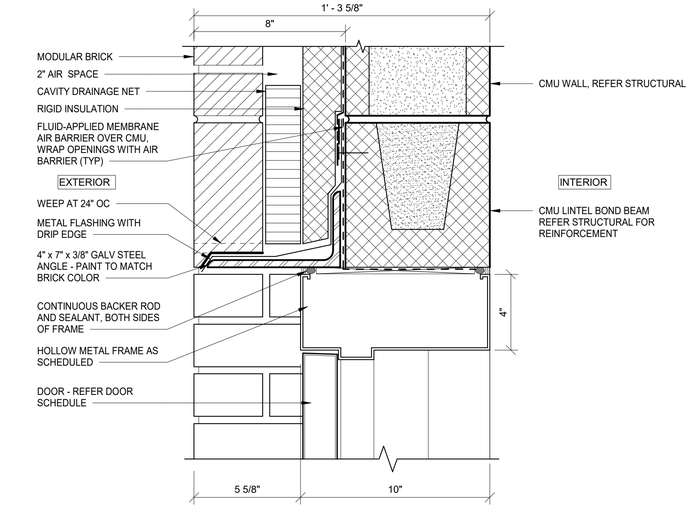
K1 ALUMINUM ENTRY DOOR HEAD - EXTERIOR

3" = 1'-0"



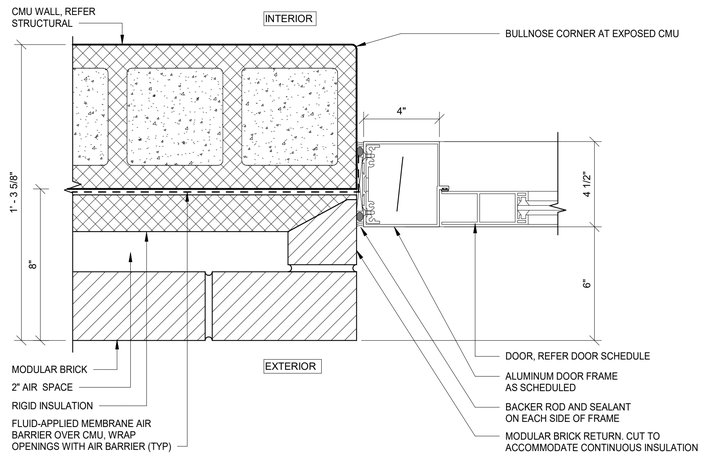
K8 ALUMINUM DOOR HEAD - EXTERIOR

3" = 1'-0"



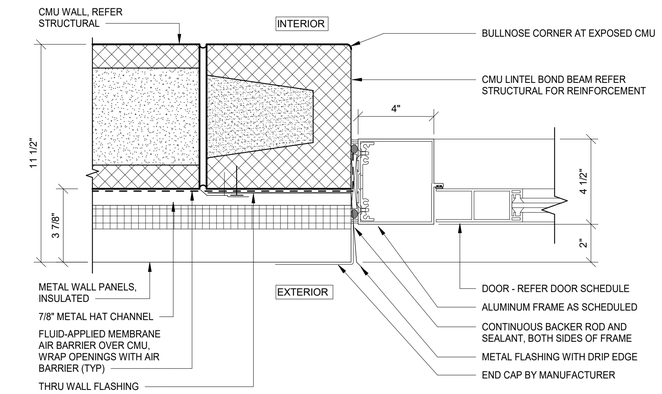
K15 HOLLOW METAL DOOR HEAD - EXTERIOR

3" = 1'-0"



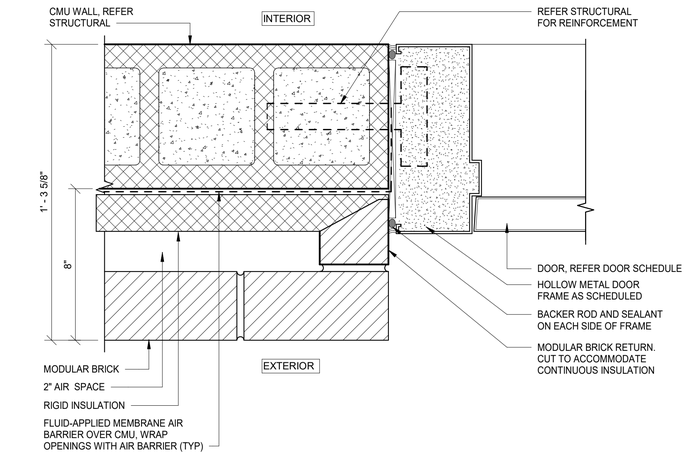
E1 ALUMINUM DOOR JAMB - EXTERIOR

3" = 1'-0"



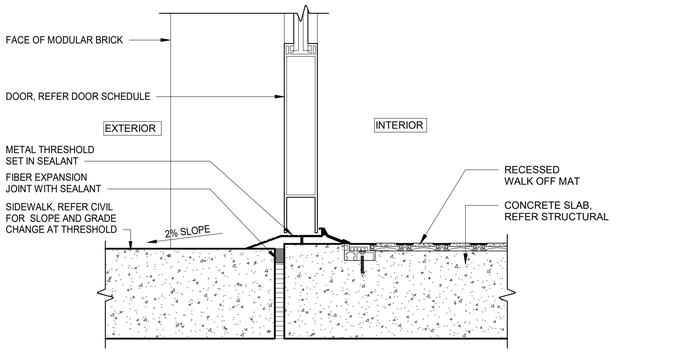
E8 ALUMINUM DOOR JAMB EXTERIOR(ABOVE 3'-4")

3" = 1'-0"



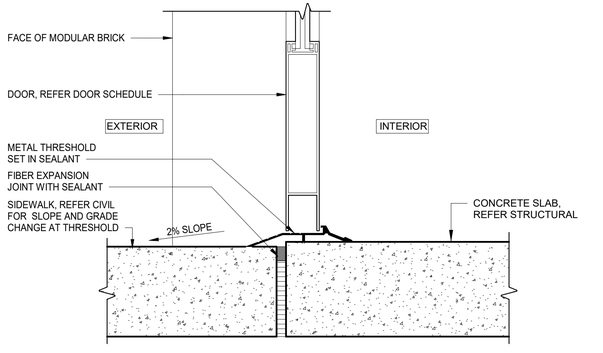
E15 HOLLOW METAL DOOR JAMB - EXTERIOR

3" = 1'-0"



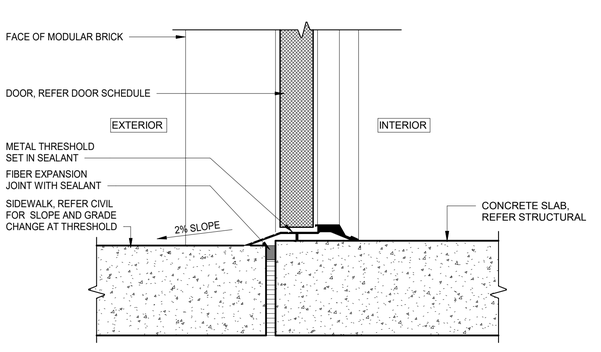
A1 ALUMINUM ENTRY DOOR SILL - EXTERIOR

3" = 1'-0"



A8 ALUMINUM DOOR SILL - EXTERIOR

3" = 1'-0"



A15 HOLLOW METAL DOOR SILL - EXTERIOR

3" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

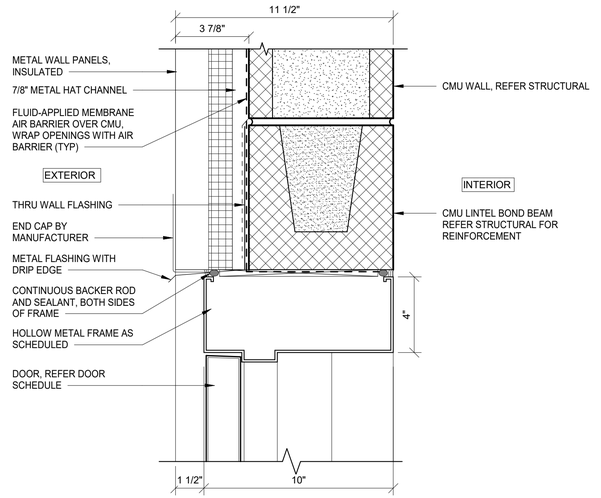
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

DOOR DETAILS

SHEET ID
A-602

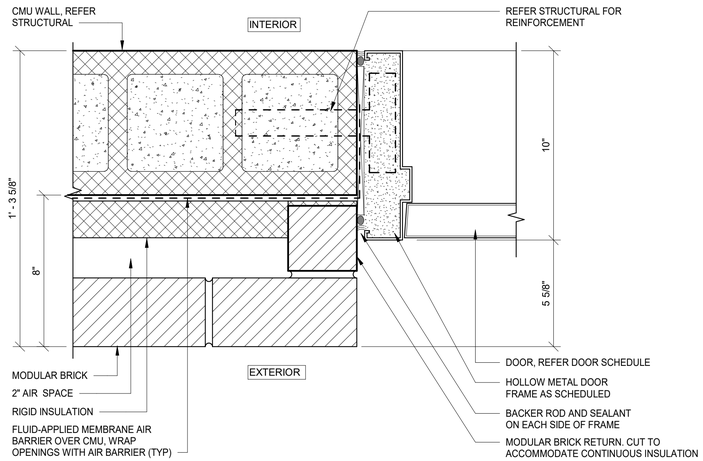
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100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



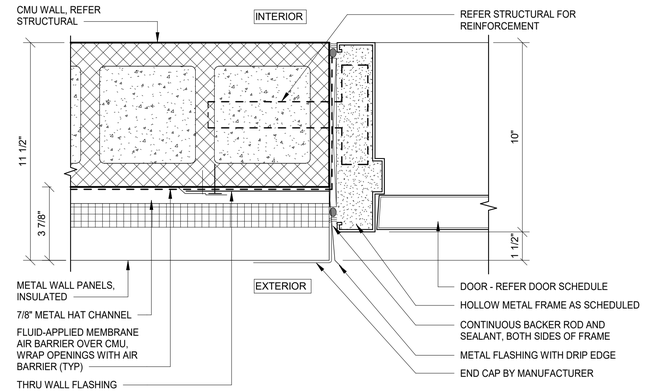
F15 HOLLOW METAL DOOR HEAD - EXTERIOR

3" = 1'-0"



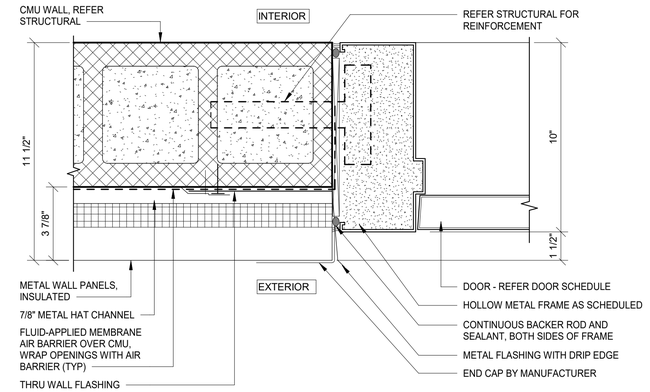
A1 HOLLOW METAL DOOR JAMB - EXTERIOR

3" = 1'-0"



A8 HOLLOW METAL DOOR JAMB EXTERIOR (ABOVE 3'-4")

3" = 1'-0"



A15 HOLLOW METAL DOOR JAMB EXTERIOR (ABOVE 3'-4")

3" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	T. MANN
DRAWN BY:	R. READER
CHECKED BY:	M. HOOVER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

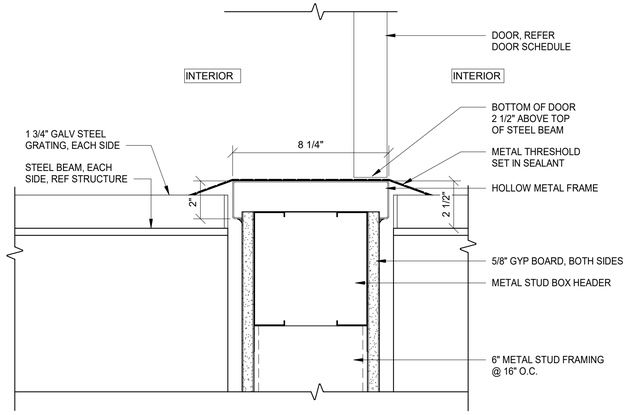
DOOR DETAILS

SHEET ID

A-603

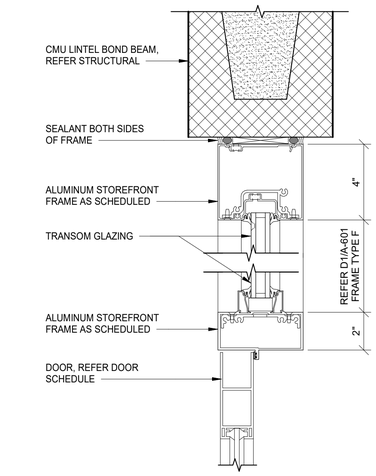
Plot Date: 10/20/2025 1:23:00 PM File Path: C:\Users\hbcarr\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECERKART.rvt

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



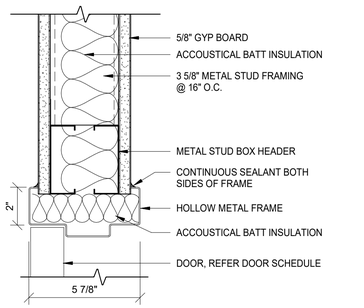
J1 INTERIOR HOLLOW METAL DOOR THRESHOLD

3" = 1'-0" 0 0.125' 0.25' 0.5' 1'



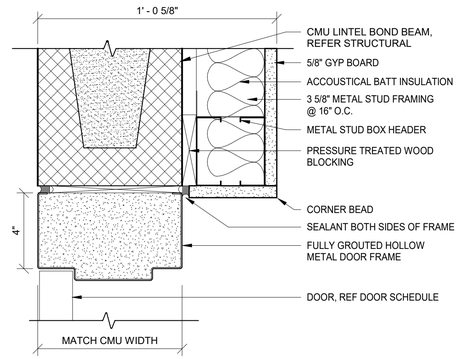
J16 ALUMINUM HEAD INTERIOR VESTIBULE

3" = 1'-0" 0 0.125' 0.25' 0.5' 1'



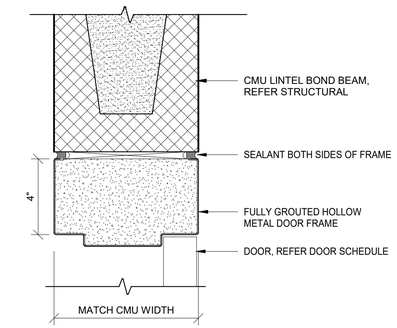
E1 HOLLOW METAL DOOR HEAD - STC

3" = 1'-0" 0 0.125' 0.25' 0.5' 1'



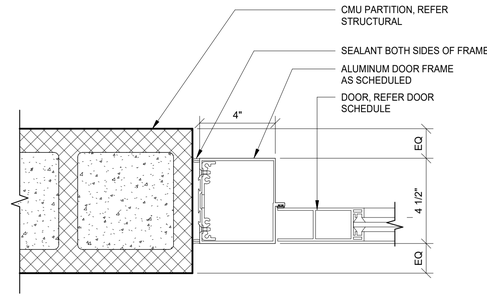
E6 HOLLOW METAL DOOR HEAD - INTERIOR

3" = 1'-0" 0 0.125' 0.25' 0.5' 1'



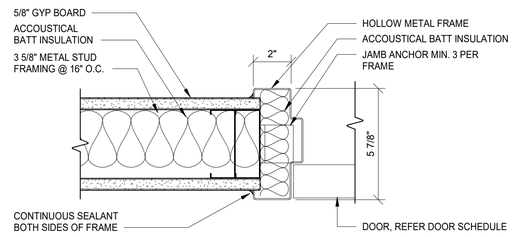
E11 HOLLOW METAL DOOR HEAD - INTERIOR

3" = 1'-0" 0 0.125' 0.25' 0.5' 1'



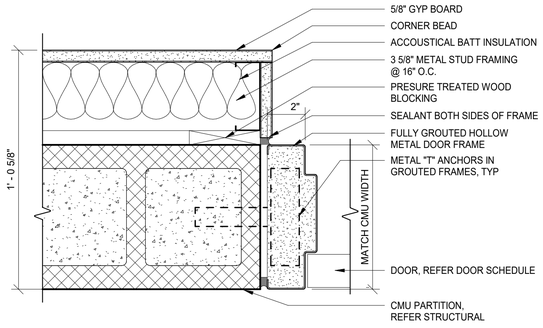
E16 ALUMINUM JAMB INTERIOR VESTIBULE

3" = 1'-0" 0 0.125' 0.25' 0.5' 1'



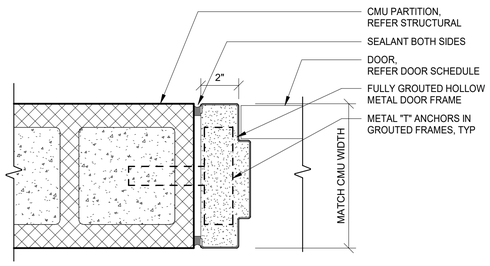
A1 HOLLOW METAL DOOR JAMB - STC

3" = 1'-0" 0 0.125' 0.25' 0.5' 1'



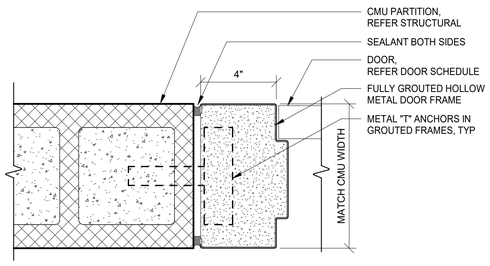
A6 HOLLOW METAL DOOR JAMB - INTERIOR

3" = 1'-0" 0 0.125' 0.25' 0.5' 1'



A11 HOLLOW METAL DOOR JAMB - INTERIOR

3" = 1'-0" 0 0.125' 0.25' 0.5' 1'



A16 HOLLOW METAL DOOR JAMB - INTERIOR

3" = 1'-0" 0 0.125' 0.25' 0.5' 1'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	C. LONGACRE
DRAWN BY:	R. READER
CHECKED BY:	M. HOOVER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

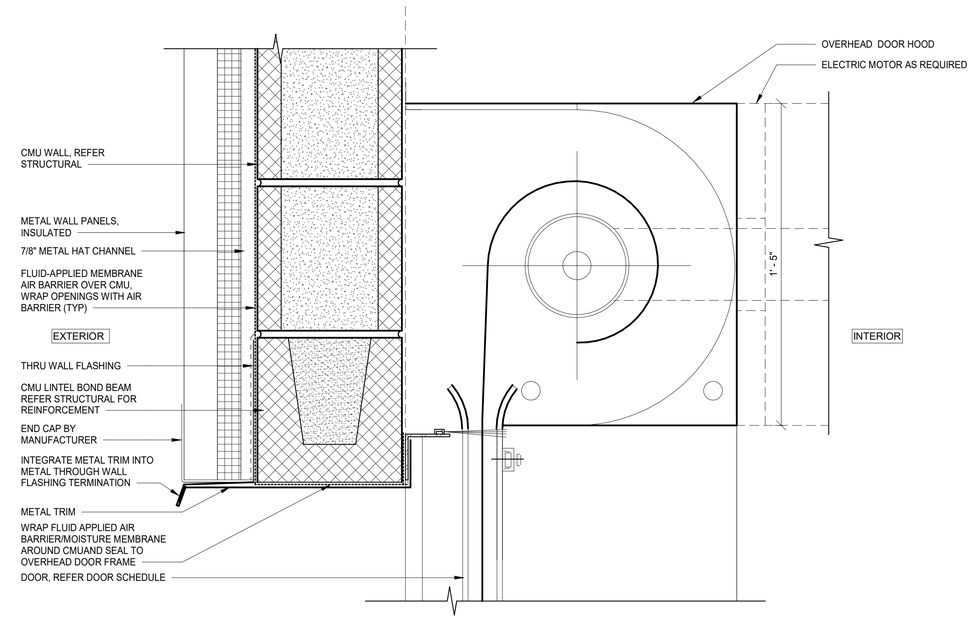
DOOR DETAILS

SHEET ID

A-604

Plot Date: 10/20/2025 1:23:03 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECERKAR.rvt

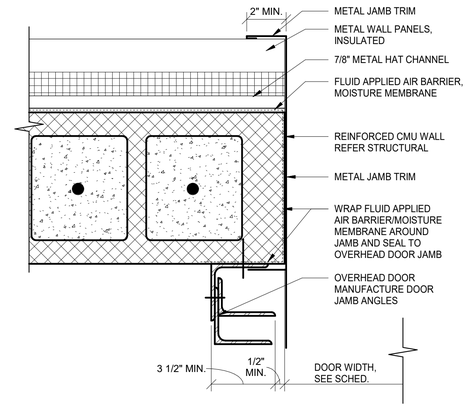
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



F12 OVERHEAD DOOR HEAD

3" = 1'-0"

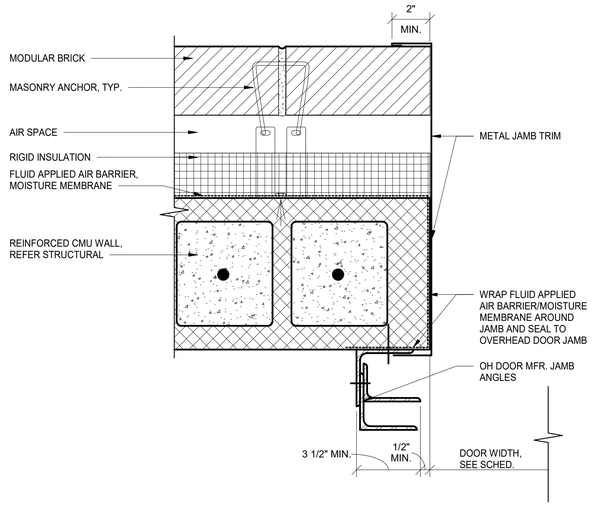
0 0.125' 0.25' 0.5' 1'



A1 OVERHEAD DOOR JAMB EXTERIOR (ABOVE 3'-4")

3" = 1'-0"

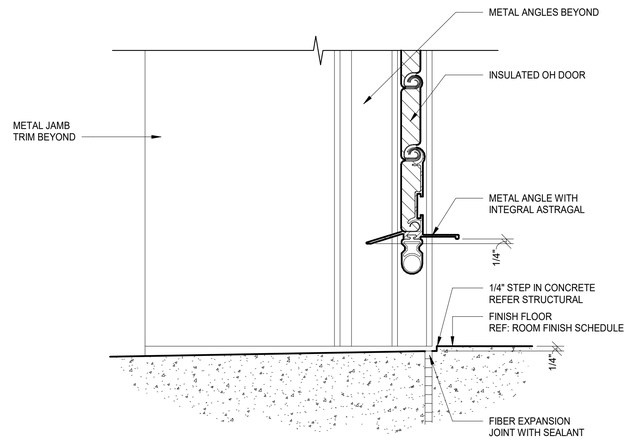
0 0.125' 0.25' 0.5' 1'



A7 OVERHEAD DOOR JAMB

3" = 1'-0"

0 0.125' 0.25' 0.5' 1'



A13 OVERHEAD DOOR SILL

3" = 1'-0"

0 0.125' 0.25' 0.5' 1'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	C. LONGACRE
DRAWN BY:	R. READER
CHECKED BY:	M. HOOVER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:23:05 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECCRAFT.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

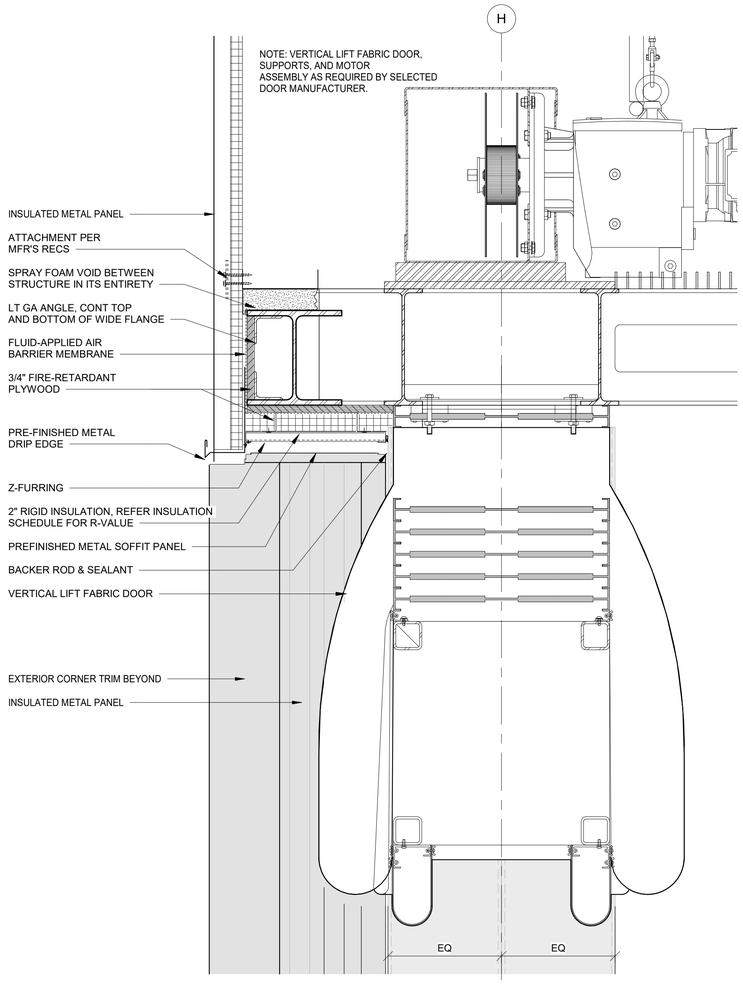
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 5122203

OVERHEAD DOOR DETAILS

SHEET ID

A-605

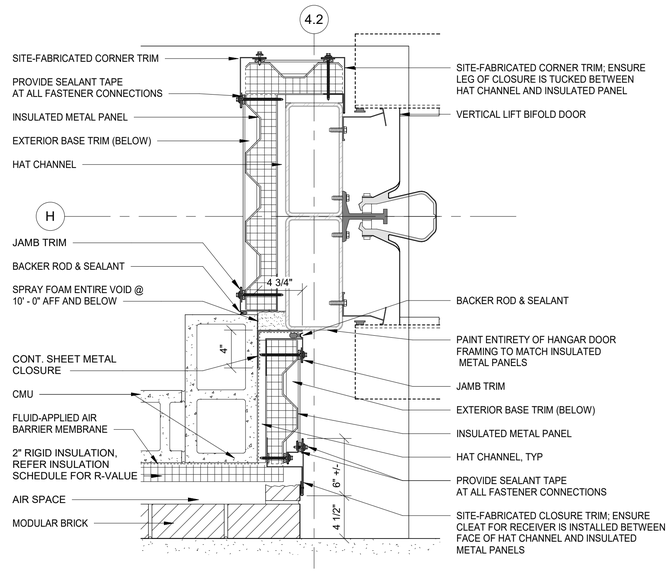
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A1 VERTICAL LIFT FABRIC DOOR HEAD

1 1/2" = 1'-0"

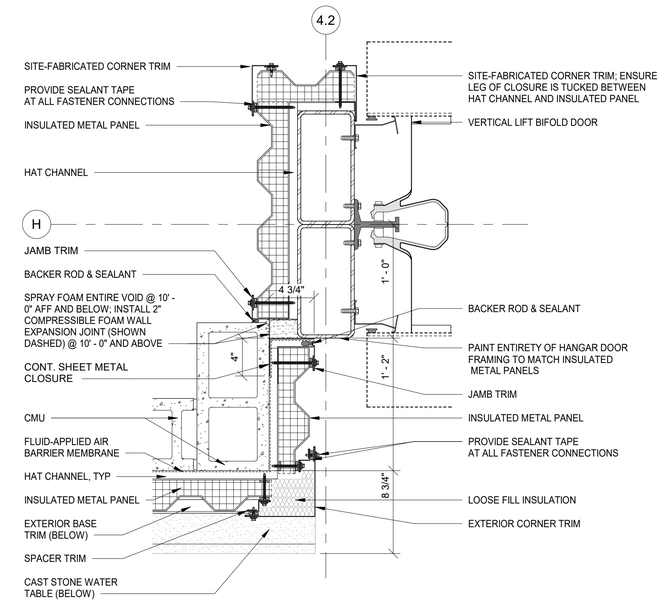
0 0.25' 0.5' 1' 1.5'



A8 VERTICAL LIFT FABRIC DOOR JAMB (BRICK)

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A15 VERTICAL LIFT FABRIC DOOR JAMB (PANEL)

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	C. LONGACRE
DRAWN BY:	R. READER
CHECKED BY:	M. HOOSER, R.A.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO:	512203
FILE NAME:	EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:23:09 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECCRKAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

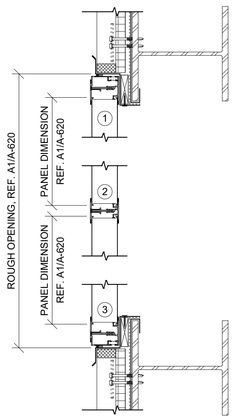
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

HANGAR DOOR DETAILS

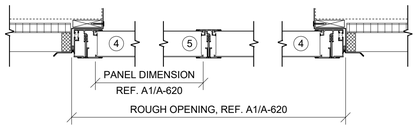
SHEET ID

A-611

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BACKFASTENED WALL SYSTEM
THERMALLY BROKEN

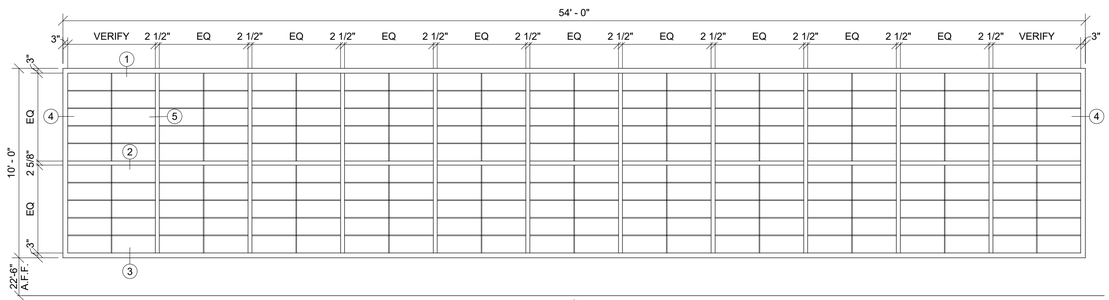


THERMAL BREAK WALL SYSTEM
JAMB AND 2 5/8" BATTEN.

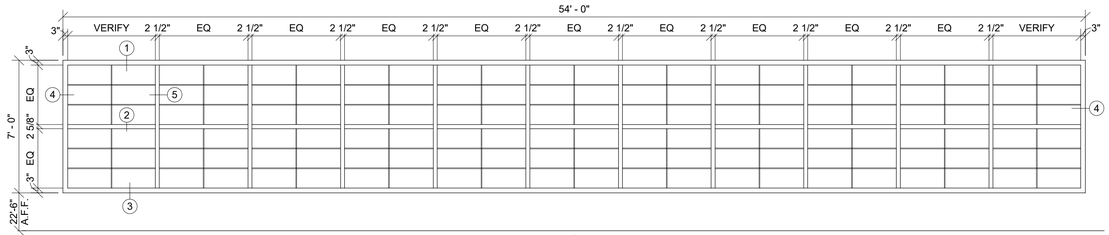
REFER TO A1/A620 FOR NUMBER OF BATTENS IN EACH PANEL SYSTEM

K16 FACADE DETAILS

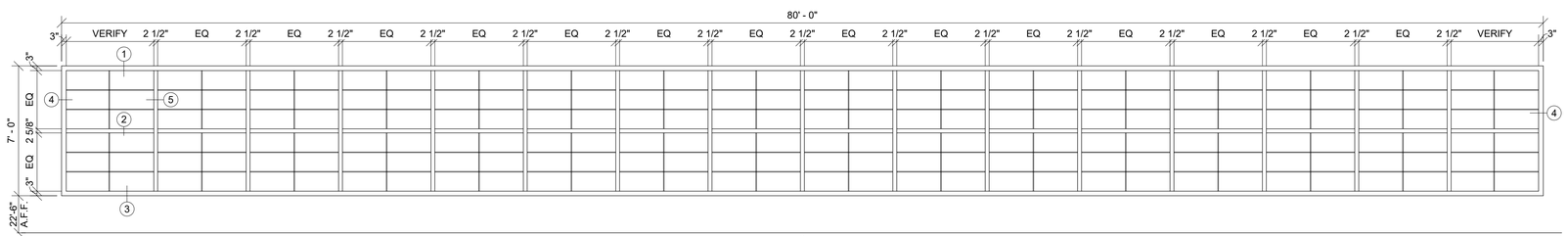
NTS



1



2



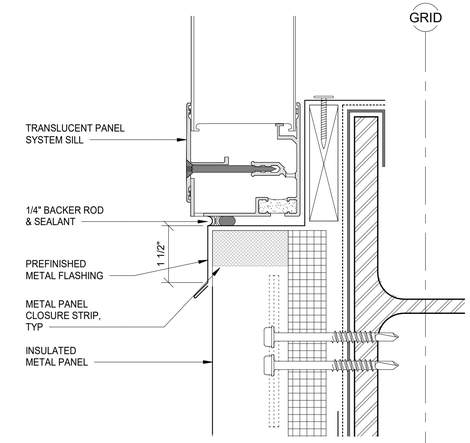
3

NOTE: TRANSLUCENT FIBERGLASS SANDWICH PANEL ASSEMBLIES
COLOR: ANODIZED ALUMINUM W/ EXT .070 CRYSTAL SW AND INTERIOR .045 CRYSTAL S-171

A1 TRANSLUCENT PANEL FRAME TYPES

1/4" = 1'-0"

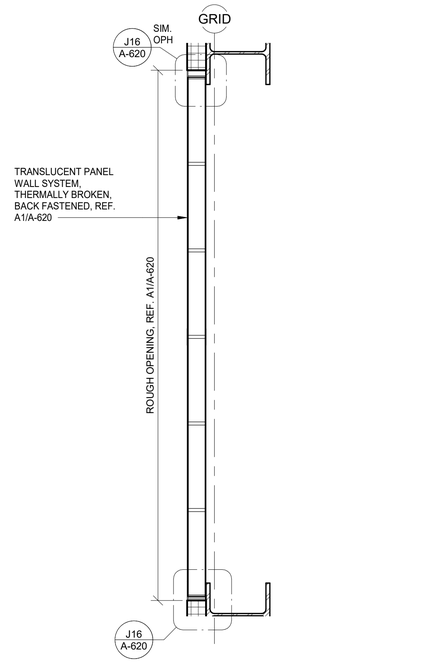
0 2' 4' 8'



J16 TRANSLUCENT PANEL DETAIL (BACK FASTENED)

6" = 1'-0"

0 0.125' 0.25' 0.5' 1'



A16 TRANSLUCENT WALL PANEL SECTION

1" = 1'-0"

0 0.5' 1' 2'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. LONGACRE
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

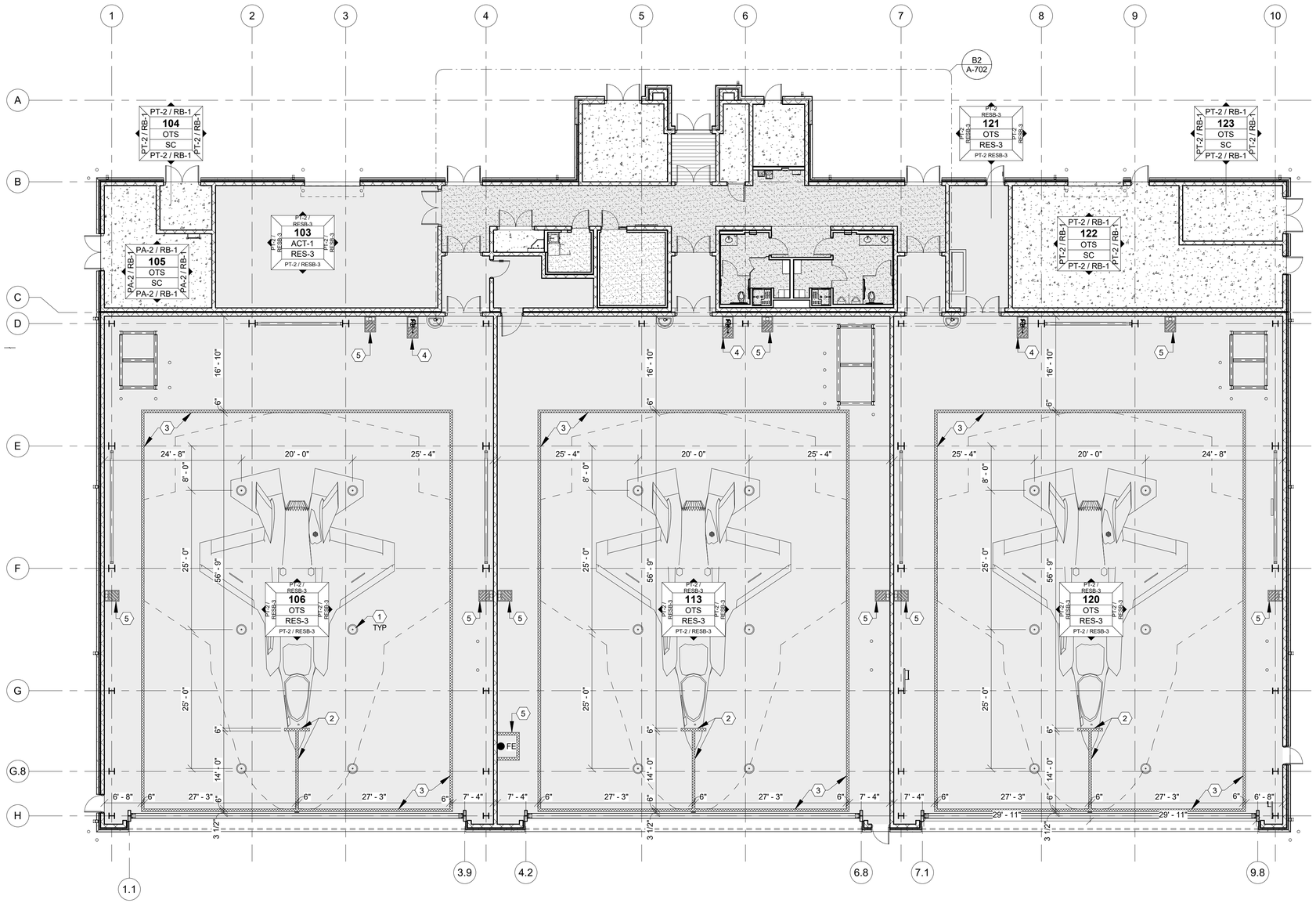
EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

TRANSLUSCENT PANEL SCHEDULE, TYPES AND DETAILS

SHEET ID

A-620

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



FLOOR MARKING KEYNOTES

1	GROUNDING RECEPTACLE. REF ELECTRICAL, PAINT PER UFC3-575-01, FIGURE 2-3.
2	AIRCRAFT POSITION CENTERLINE AND NOSE GEAR STOP. 6 INCH (152MM) WIDE STRIPE; COLOR - YELLOW (OR WHITE) TO MATCH MARKINGS FROM OUTSIDE OF THE HANGAR TO INSIDE THE HANGAR.
3	AIRCRAFT CLEARANCE BOUNDARY LINE 6 INCH (152MM) WIDE STRIPE; COLOR - YELLOW - RES-4
4	SAFETY EYEWASH/SHOWER; COLOR - GREEN, RES-5 PROVIDE 2 FOOT (610 MM) CLEARANCE FROM SAFETY EQUIPMENT. CONFIRM LOCATION OF EYEWASH/SHOWER PRIOR TO APPLYING FLOOR MARKING. REF PLUMBING, REF K15 / A-813
5	FIRE EXTINGUISHERS; COLOR - RED, RES-6 PROVIDE 2 FOOT (610 MM) CLEARANCE FROM SAFETY EQUIPMENT. CONFIRM FINAL LOCATION OF FIRE EXTINGUISHERS PRIOR TO APPLYING FLOOR MARKING: REF F15 / A-813

GENERAL FINISH NOTES

1. FOR ARCHITECTURAL GENERAL NOTES, MATERIAL LEGEND, AND ABBREVIATIONS, REFER TO SHEET G-004,
2. REFER TO ARCHITECTURAL FLOOR PLANS FOR BUILDING LAYOUT, DIMENSIONS AND COORDINATION TO BUILDING SYSTEMS AND STRUCTURE.
3. ALL MATERIAL/PRODUCTS ARE TO BE INSTALLED PER MANUFACTURER'S INSTALLATION REQUIREMENTS BY THOSE TRAINED AND CERTIFIED IN THEIR SPECIALTY.
4. SEE A-711 FOR FINISH SCHEDULE AND FINISH LEGEND.
5. REFER UFC 4-211-01 FOR FLOOR MARKING IN HANGAR.
6. FEATHER RES-2 FLOORING FROM CORRIDOR TO THE RES-1 FLOORING AT THE OFFICE AND MOTHERS ROOM.

FLOOR FINISH LEGEND

	RESINOUS FLOORING (RES-1)
	RESINOUS FLOORING (RES-2)
	RESINOUS FLOORING (RES-3)
	RESINOUS FLOOR MARKING (RES-4 - YELLOW, RES-5 - RED, RES-6 - GREEN)
	SEALED CONCRETE (SC)
	WALK OFF MAT (WOM)

FINISH TAG LEGEND



ROOM LEGEND

ROOM #	ROOM NAME
100	ENTRY VESTIBULE
101	CORRIDOR
102	FIRE PUMP ROOM
103	TOOL RM/ALIS
104	ELECTRICAL ROOM
105	MECHANICAL ROOM
106	HOIST BAY
107	VESTIBULE
108	JANITOR
109	RVE STORAGE
110	MOTHER'S ROOM
111	OFFICE
112	VESTIBULE
113	MAINTENANCE BAY
114	ALCOVE
115	ELECTRICAL ROOM
116	COMM
117	WOMEN'S TOILET
118	MEN'S TOILET
119	VESTIBULE
120	WASH BAY
121	WASH EQUIPMENT
122	MECHANICAL ROOM
123	ELECTRICAL ROOM

A1 OVERALL FINISH PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: T. MANN
DRAWN BY: R. READER
CHECKED BY: M. HOOVER R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912B726RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

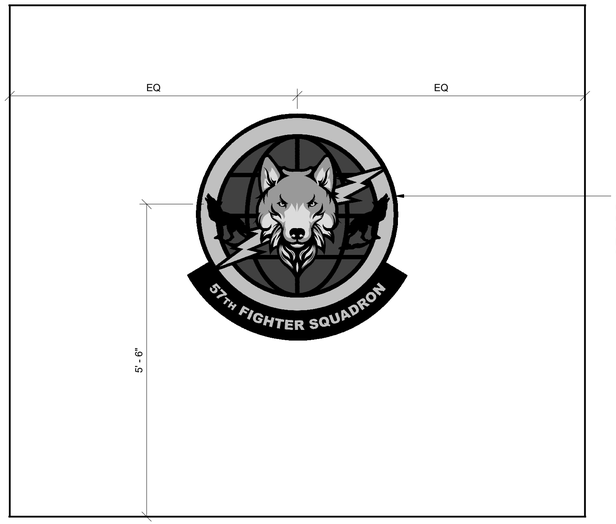
EBBING ANGB, ARKANSAS
F-35; 3 BAY HANGAR
PN: 512203

OVERALL ROOM FINISH PLAN PLAN

SHEET ID

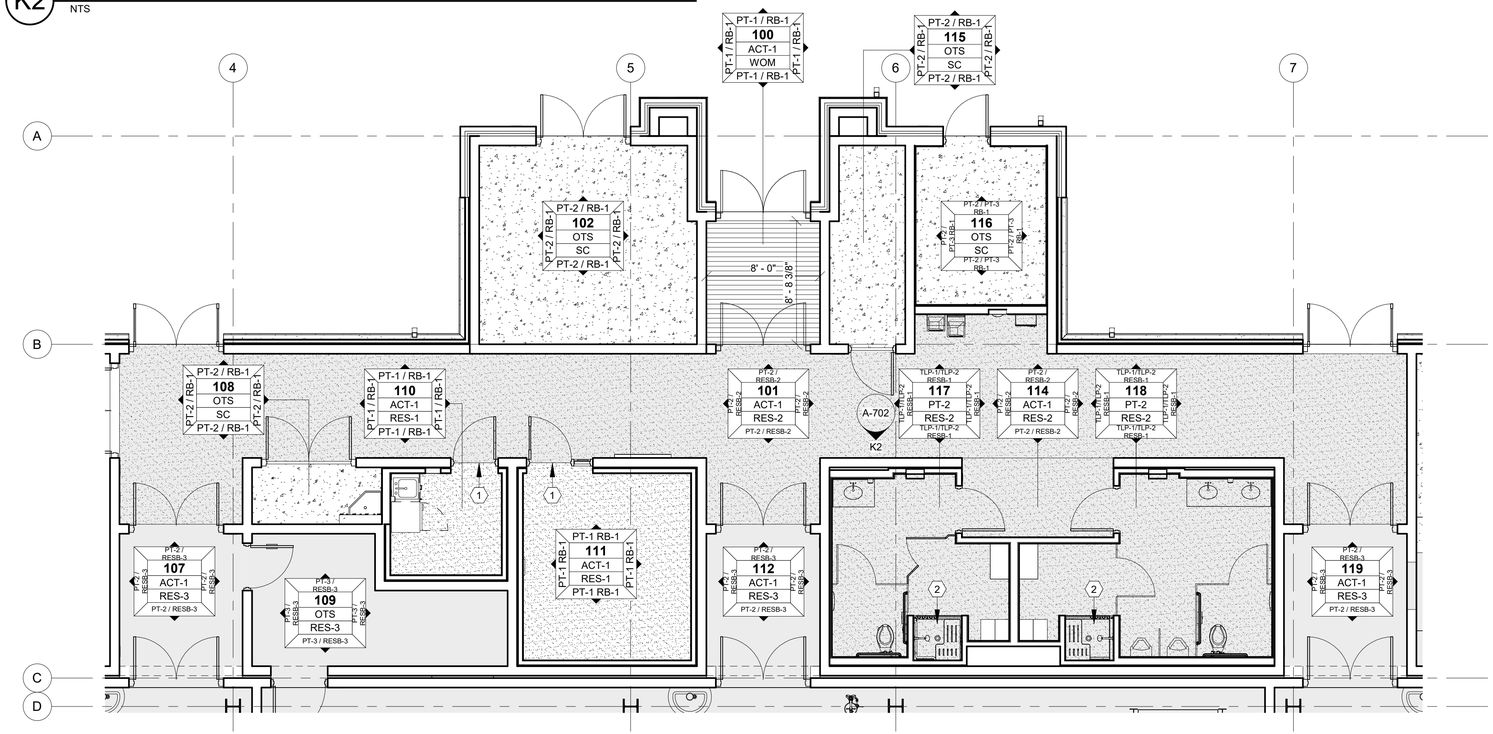
A-701

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K2 WALL GRAPHIC

NTS



B2 ENLARGED FINISH PLAN - AREA B

3/16" = 1'-0"

0 2' 4' 8' 16'

FLOOR MARKING KEYNOTES

1	FEATHER RES-2 FLOORING FROM CORRIDOR TO THE RES-1 FLOORING AT THE OFFICE AND MOTHERS ROOM.
2	RESINOUS FLOORING TO EXTEND UNDER THE SHOWER PAN. INSTALL PRIOR TO SHOWER PAN INSTALLATION.

GENERAL FINISH NOTES

1. FOR ARCHITECTURAL GENERAL NOTES, MATERIAL LEGEND, AND ABBREVIATIONS, REFER TO SHEET G-004,
2. REFER TO ARCHITECTURAL FLOOR PLANS FOR BUILDING LAYOUT, DIMENSIONS AND COORDINATION TO BUILDING SYSTEMS AND STRUCTURE.
3. ALL MATERIAL/PRODUCTS ARE TO BE INSTALLED PER MANUFACTURER'S INSTALLATION REQUIREMENTS BY THOSE TRAINED AND CERTIFIED IN THEIR SPECIALTY.
4. SEE A-711 FOR FINISH SCHEDULE AND FINISH LEGEND.
5. REFER UFC 4-211-01 FOR FLOOR MARKING IN HANGAR.
6. FEATHER RES-2 FLOORING FROM CORRIDOR TO THE RES-1 FLOORING AT THE OFFICE AND MOTHERS ROOM.

FLOOR FINISH LEGEND

	RESINOUS FLOORING (RES-1)
	RESINOUS FLOORING (RES-2)
	RESINOUS FLOORING (RES-3)
	RESINOUS FLOOR MARKING (RES-4 - YELLOW, RES-5 - RED, RES-6 - GREEN)
	SEALED CONCRETE (SC)
	WALK OFF MAT (WOM)

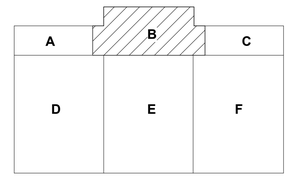
FINISH TAG LEGEND



ROOM LEGEND

ROOM #	ROOM NAME
100	ENTRY VESTIBULE
101	CORRIDOR
102	FIRE PUMP ROOM
103	TOOL RM/ALIS
104	ELECTRICAL ROOM
105	MECHANICAL ROOM
106	HOIST BAY
107	VESTIBULE
108	JANITOR
109	RVE STORAGE
110	MOTHER'S ROOM
111	OFFICE
112	VESTIBULE
113	MAINTENANCE BAY
114	ALCOVE
115	ELECTRICAL ROOM
116	COMM
117	WOMEN'S TOILET
118	MEN'S TOILET
119	VESTIBULE
120	WASH BAY
121	WASH EQUIPMENT
122	MECHANICAL ROOM
123	ELECTRICAL ROOM

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: T. MANN
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

ENLARGED FINISH PLAN - AREA B

SHEET ID
A-702

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FINISH SCHEDULE

ROOM NO	ROOM NAME	FLOOR	BASE	WALL FINISH				CEILING	REMARKS
				NORTH	EAST	SOUTH	WEST		
100	ENTRY VEST	WOM	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	
101	CORRIDOR	RES-2	RESB-2	PT-2	PT-2	PT-2	PT-2	ACT-1	3
102	FIRE PUMP	SC	RB-1	PT-2	PT-2	PT-2	PT-2	OTS	1, 5
103	TOOL RM/ALIS STATION	SC	RESB-3	PT-2	PT-2	PT-2	PT-2	ACT-1	
104	ELECTRICAL	SC	RB-1	PT-2	PT-2	PT-2	PT-2	OTS	1, 5
105	MECHANICAL	SC	RB-1	PT-2	PT-2	PT-2	PT-2	OTS	1, 5
106	HOIST BAY	RES-3	RESB-3	PT-2	PT-2	PT-2	PT-2	OTS	1, 4, 6
107	VEST	RES-3	RESB-3	PT-2	PT-2	PT21	PT-2	ACT-1	
108	JAN	SC	RB-1	PT-2	PT-2	PT-2	PT-2	OTS	
109	RVE STORAGE	RES-3	RESB-3	PT-2	PT-2	PT-2	PT-2	OTS	1, 4
110	MOTHER'S RM	RES-1	RB-1	PT-1	PT-1	PT-1	PT-7	ACT-1	
111	OFFICE	RES-1	RB-1	PT-1	PT-7	PT-1	PT-1	ACT-1	
112	VEST	RES-3	RESB-3	PT-2	PT-2	PT-2	PT-2	ACT-1	-
113	MAINTENANCE BAY	RES-3	RESB-3	PT-2	PT-2	PT-2	PT-2	OTS	1, 4, 6
114	ALCOVE	RES-2	RESB-2	-	PT-2	PT-2	PT-2	ACT-1	
115	ELEC	SC	RB-1	PT-2	PT-2	PT-2	PT-2	OTS	1, 5
116	COMM	SC	RB-1	PT-2 / PT-3	PT-2 / PT-3	PT-2 / PT-3	PT-2 / PT-3	OTS	1, 5, 8
117	WOMEN'S TOILET	RES-2	RESB-1	TLP-2/TLP-3	TLP-1/TLP-2/TLP-3	TLP-1	TLP-1/TLP-2/ TLP-3	PT-2	2, 7
118	MEN'S TOILET	RES-2	RESB-1	TLP-1/TLP-2	TLP-1/TLP-2/TLP-3	TLP-1	TLP-1/TLP-2/ TLP-3	PT-2	2, 7
119	VEST	RES-3	RESB-3	PT-2	PT-2	PT-2	PT-2	ACT-1	
120	WASH BAY	RES-3	RESB-3	PT-2	PT-2	PT-2	PT-2	OTS	1, 4, 6
121	WASH EQUIPMENT	RES-3	RESB-3	PT-2	PT-2	PT-2	PT-2	OTS	1, 4, 6
122	MECHANICAL	SC	RB-1	PT-2	PT-2	PT-2	PT-2	OTS	1, 5
123	ELECTRICAL	SC	RB-1	PT-2	PT-2	PT-2	PT-2	OTS	1, 5

NOTES:
1. CEILING IS OPEN TO STRUCTURE.
2. MOISTURE RESISTANT GYPSUM BOARD ON CEILING.
3. MOISTURE RESISTANT GYPSUM BOARD BEHIND DRINKING FOUNTAIN.
4. OPEN TO STRUCTURE (OTS) IN THE HANGARS, RVE STORAGE AND WASH BAY, INCLUDING DECK, WILL BE PAINTED PT-5.
5. OPEN TO STRUCTURE (OTS) WILL BE PAINTED PT-6.
6. HANGAR STRUCTURE AND WASH EQUIPMENT ROOM WILL BE PAINTED EPOXY PT-2
7. RESINOUS FLOORING TO EXTEND UNDER THE SHOWER PAN. INSTALL PRIOR TO SHOWER PAN INSTALLATION.
8. UL 723 FIRE RETARDANT PAINT.

NOTE: PRODUCTS LISTED BY MANUFACTURER ARE FOR IDENTIFICATION AND PERFORMANCE PURPOSES ONLY. THEY ARE NOT INTENDED TO LIMIT SELECTION FROM OTHER MANUFACTURERS. HOWEVER, COLORS PATTERNS, TEXTURES AND PROFILES MUST MATCH THOSE LISTED IN THIS LEGEND IN ORDER TO MAINTAIN COLOR COORDINATION AND VISUAL DESIGN INTEGRITY.

FINISH LEGEND

SPEC. SECTION	MATERIAL	ITEM DESCRIPTION	MANUFACTURER	MODEL NUMBER	COLOR	REMARKS
CEILING						
09 51 00	ACT-1	ACOUSTICAL CEILING TILE, 24" X 24"	ARMSTRONG CEILINGS	OPTIMA SQUARE TEGULAR - 3250	WHITE	PRELUDE WHITE 15/16" GRID
FLOORING						
09 67 23.13	RES-1	RESINOUS FLOORING	STONHARD	STONTEC UTF	TEC4-63B, LARGE FLAKES	STANDARD
09 67 23.16	RES-2	RESINOUS FLOORING	STONCHEM	STONCHEM X58/X58HD	TO MATCH TEC4-63B, LARGE FLAKES	5 COAT, FUEL RESISTIVE
09 67 23.16	RES-3	RESINOUS FLOORING	STONCHEM	STONCHEM X58/X58HD	WHITE	5 COAT, FUEL RESISTIVE
09 67 23.16	RES-4	RESINOUS FLOORING	STONCHEM	STONCHEM X58/X58HD	YELLOW	FLOOR MARKING - 5 COAT, FUEL RESISTIVE
09 67 23.16	RES-5	RESINOUS FLOORING	STONCHEM	STONCHEM X58/X58HD	RED	FLOOR MARKING - 5 COAT, FUEL RESISTIVE
09 67 23.16	RES-6	RESINOUS FLOORING	STONCHEM	STONCHEM X58/X58HD	GREEN	FLOOR MARKING - 5 COAT, FUEL RESISTIVE
03 30 00	SC	SEALED CONCRETE	-	-	NATURAL	SEAL WITH CHEMICALLY REACTIVE HARDNER/DENSIFIER. REFER SPEC 03 30 00. NON SLIP
12 48 13	WOM	RECESSED WALK OFF MAT	CONSTRUCTION SPECIALTIES	PEDIMAT M1	9325 GRAPHITE TREADS, BLACK RUBBER, STANDARD RAIL AND FRAME	8'-0"X 8'-8 3/8"
MISCELLANEOUS						
10 26 00	CG-1	CORNER GUARD - 1" X 1"	CONSTRUCTION SPECIALTIES	CO-8	STAINLESS STEEL	
08 22 20	FRP-1	FIBERGLASS REINFORCED PANEL	MARLITE	P-151	LIGHT GREY, PEBBLED	
06 41 16.00 10	PL-1	PLASTIC LAMINATE	WILSONART	P8213K-28	PHANTOM COCOA	
06 61 16	SSF-1	SOLID SURFACE FABRICATION	FORMICA	785	BIANCO MINERAL	
06 61 16	SSF-2	SOLID SURFACE FABRICATION	FORMICA	757	LUNA SAND	
PAINT						
09 90 00	PT-1	ACRYLIC/LATEX - FIELD	BENJAMIN MOORE	OC-130	CLOUD WHITE	REFER SPEC FOR SHEEN
09 90 00	PT-2	EPOXY - FIELD	BENJAMIN MOORE	OC-130	CLOUD WHITE	REFER SPEC FOR SHEEN
09 90 00	PT-3	FIRE RETARDANT - FIELD	BENJAMIN MOORE	OC-130	CLOUD WHITE	UL 723, REFER SPEC FOR SHEEN
09 90 00	PT-4	ACRYLIC/LATEX - GYP. BD CEILING	SHERWIN WILLIAMS	SW7005	PURE WHITE	REFER SPEC FOR SHEEN
09 90 00	PT-5	EPOXY - OTS HANGAR	SHERWIN WILLIAMS	SW7005	PURE WHITE	REFER SPEC FOR SHEEN
09 90 00	PT-6	EPOXY - OTS	SHERWIN WILLIAMS	SW7075	WEB GRAY	REFER SPEC FOR SHEEN
09 90 00	PT-7	ACRYLIC/LATEX - ACCENT WALL	SHERWIN WILLIAMS	SW6524	COMMODORE	REFER SPEC FOR SHEEN
09 90 00	PT-8	EPOXY - DOORS, FRAMES, TRIM	SHERWIN WILLIAMS	SW7075	WEB GRAY	REFER SPEC FOR SHEEN
TILE						
09 30 10	GR-1	GROUT	MAIPEI		93 WARM GRAY	
09 30 10	TLC-1	CERAMIC TILE, 16" X 48"	MARAZZI	MATERIKA	MT12 - OFF WHITE MATTE	RESTROOM FIELD WALL TILE
09 30 10	TLC-2	CERAMIC TILE, 4" X 16"	DALTILE	COLOR WHEEL CLASSIC	1174 - SEA BREEZE GLOSS	RESTROOM ACCENT TILE (50/50 MIX W/ TLC-3)
09 30 10	TLC-3	CERAMIC TILE, 4" X 16"	DALTILE	COLOR WHEEL CLASSIC	1469 - GALAXY GLOSS	RESTROOM ACCENT TILE (50/50 MIX W/ TLC-2)
WALL BASE						
09 65 00	RB-1	RESILIENT WALL BASE, 4" COVE	TARKETT	BASEWORKS	38 PEWTER	
09 67 23.16	RESB-2	RESINOUS WALL BASE	STONCHEM	STONCHEM X58/X58HD	TO MATCH TEC4-63B, LARGE FLAKES	5 COAT, FUEL RESISTIVE
09 67 23.16	RESB-3	RESINOUS WALL BASE	STONCHEM	STONCHEM X58/X58HD	WHITE	5 COAT, FUEL RESISTIVE

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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Plot Date: 10/20/2025 1:23:28 PM File Path:

DESIGNED BY: T. MANN
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

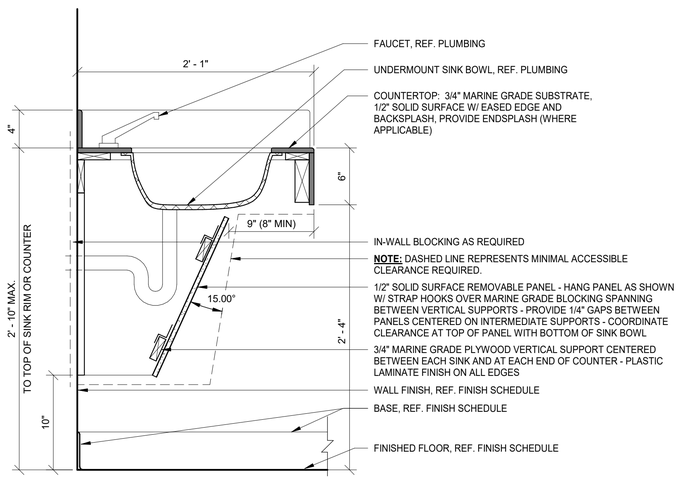
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

ROOM FINISH SCHEDULE

SHEET ID

A-711

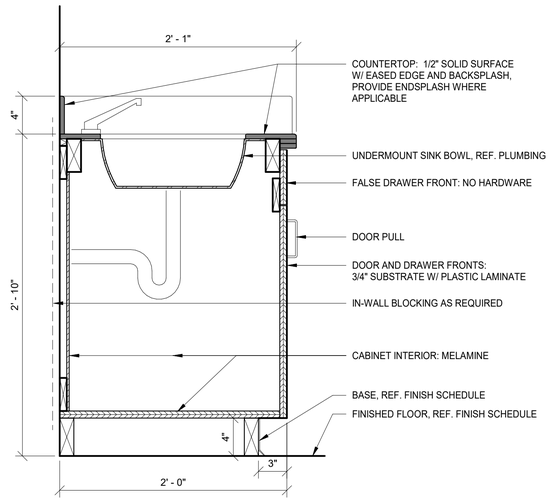
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A2 ACCESSIBLE BASE SINK SECTION

1 1/2" = 1'-0"

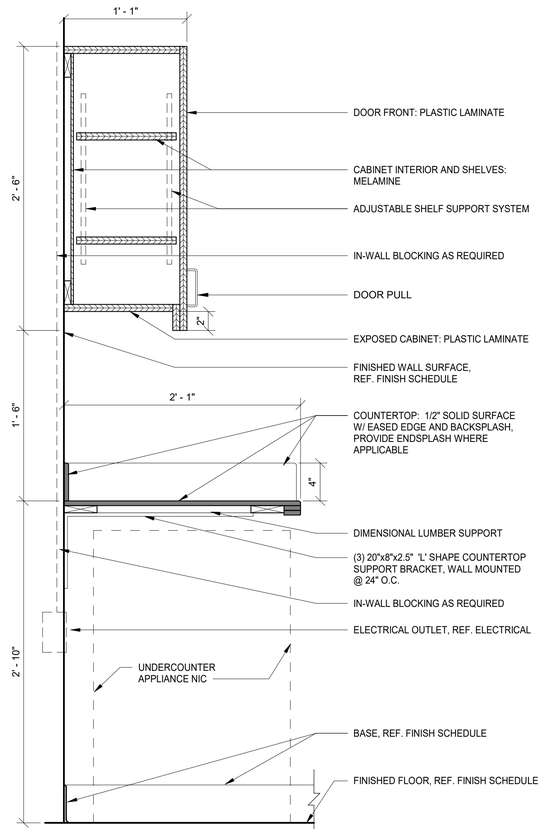
0 0.25' 0.5' 1' 1.5'



A9 STANDARD BASE SINK SECTION

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A15 SECTION THRU MILLWORK

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
T. MANN	5 DECEMBER 2025
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R. READER	W912BV26RA004
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A. BLANKENSHIP, P.E.	512203
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MILLWORK SECTIONS AND DETAILS

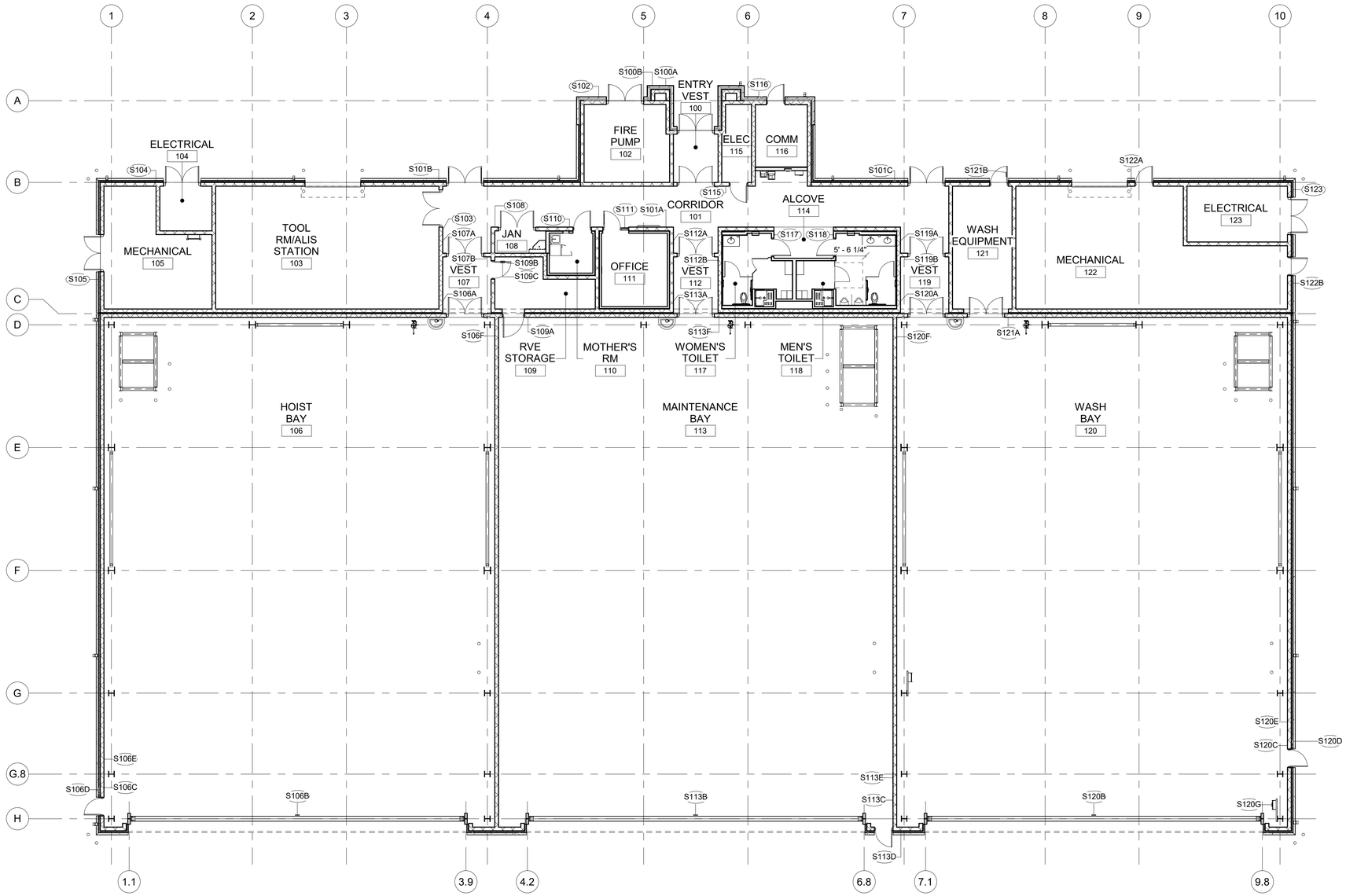
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GENERAL SHEET NOTES

1. REFER SIGNAGE SCHEDULE GENERAL NOTES.
2. REFER TO SIGNAGE SCHEDULE AND DETAIL DRAWINGS FOR ADDITIONAL INFORMATION. REFER TO SIGNAGE SCHEDULE FOR SIGN LOCATION TAG, SIGN TYPE, SIGN TEXT NUMBER, AND PLACE HOLDER MESSAGE TEXT.
3. REFER TO THE SIGNAGE MOUNTING HEIGHTS ON SIGNAGE DETAIL DRAWINGS. SIGNS WILL BE WALL-MOUNTED ON THE LATCH SIDE OF DOOR OR AS INDICATED. HEIGHTS, CLEARANCES, AND CONFIGURATIONS SHOWN ARE TYPICAL AND MUST APPLY IN ALL INSTANCES, UNLESS NOTED OTHERWISE.
4. EXTERIOR AND INTERIOR SIGNAGE MUST COMPLY WITH THE LATEST VERSION OF REQUIREMENTS, GUIDANCE FOR AIR FORCE SIGNAGE FOUND IN UFC 3-120-01 DESIGN STANDARD AND BASE STANDARDS.



A1 OVERALL SIGNAGE PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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T. MANN	5 DECEMBER 2025
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R. READER	W912BV26RA004
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TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

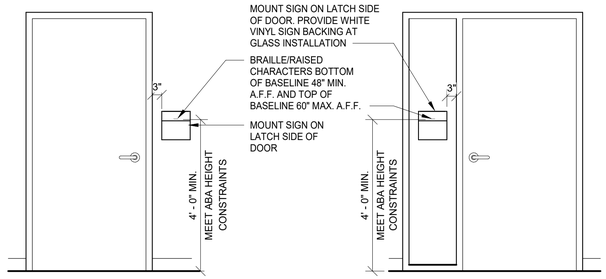
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F-35: 3 BAY HANGAR
PN: 512203

OVERALL SIGNAGE PLAN

SHEET ID

A-801

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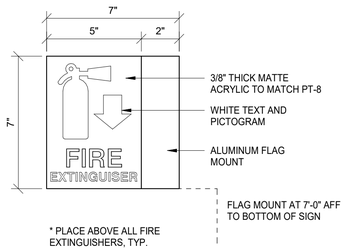
WALL MOUNT AT DOOR

GLASS MOUNT AT DOOR

L1 SIGNAGE MOUNTING HEIGHTS, TYPICAL

1/2" = 1'-0"

0 1' 2' 4'

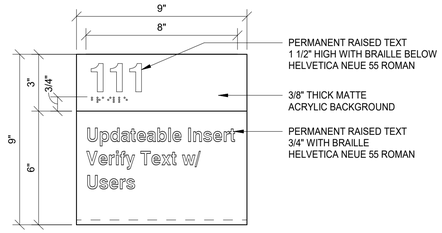


* PLACE ABOVE ALL FIRE EXTINGUISHERS, TYP.

L7 FIRE EXTINGUISHER SIGNAGE

3" = 1'-0"

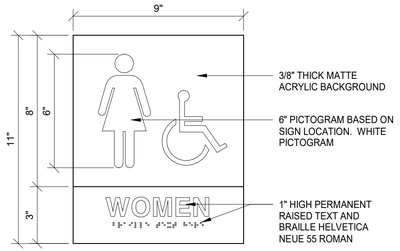
0 0.125' 0.25' 0.5' 1'



H1 SIGN TYPE "A"

3" = 1'-0"

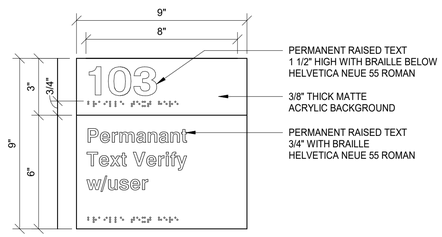
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H7 SIGN TYPE "D1"

3" = 1'-0"

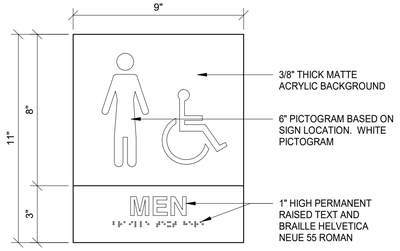
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E1 SIGN TYPE "B"

3" = 1'-0"

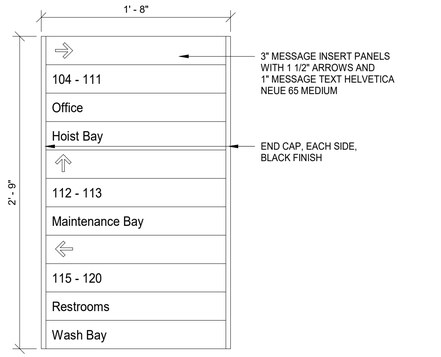
0 0.125' 0.25' 0.5' 1'



E7 SIGN TYPE "D2"

3" = 1'-0"

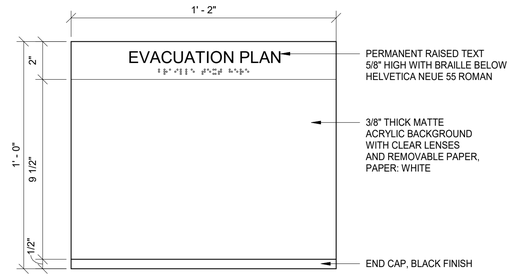
0 0.125' 0.25' 0.5' 1'



A1 SIGN TYPE "C"

1 1/2" = 1'-0"

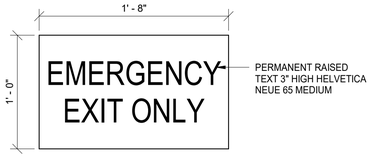
0 0.25' 0.5' 1' 1.5'



A6 SIGN TYPE "E"

3" = 1'-0"

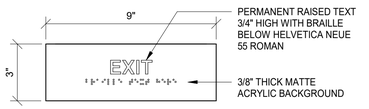
0 0.125' 0.25' 0.5' 1'



E12 SIGN TYPE "F"

1 1/2" = 1'-0"

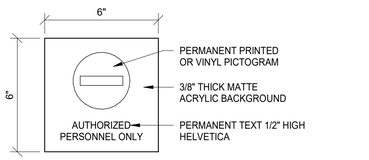
0 0.25' 0.5' 1' 1.5'



C12 SIGN TYPE "G"

3" = 1'-0"

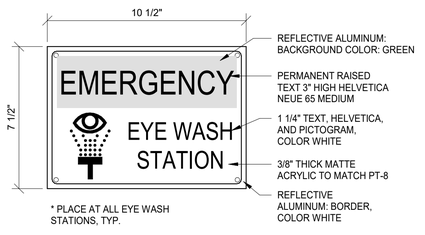
0 0.125' 0.25' 0.5' 1'



A12 SIGN TYPE "H"

3" = 1'-0"

0 0.125' 0.25' 0.5' 1'



* PLACE AT ALL EYE WASH STATIONS, TYP.

A16 FIRE EXTINGUISHER SIGNAGE

3" = 1'-0"

0 0.125' 0.25' 0.5' 1'

SIGNAGE SCHEDULE

MARK	SIGN TYPE	ROOM NO.	MESSAGE	REMARKS
S100A	L	-	*SEE DETAIL*	1
S100B	M	-	*SEE DETAIL*	1
S101A	C	-	*SEE DETAIL*	2
S101B	M	-	*SEE DETAIL*	1
S101C	M	-	*SEE DETAIL*	1
S102	J	102	FIRE PUMP ROOM	1
S103	B	103	TOOL CRIB/ALIS STATION	
S104	J	104	ELECTRICAL ROOM	1
S105	J	105	MECHANICAL ROOM	1
S106A	B	106	HOIST BAY	
S106B	Q	-	*SEE DETAIL*	1
S106C	P	-	*SEE DETAIL*	
S106D	M	-	*SEE DETAIL*	1
S106E	R	-	*SEE DETAIL*	
S106F	E	-	*SEE DETAIL*	
S107A	B	106	HOIST BAY	
S107B	G	-	*SEE DETAIL*	
S108	B	108	JANITOR	
S109A	B	109	RVE STORAGE	
S109B	F	-	*SEE DETAIL*	
S109C	H	-	*SEE DETAIL*	
S110	B	110	MOTHER'S ROOM	
S111	A	111	OFFICE	
S112A	B	113	MAINTENANCE BAY	
S112B	G	-	*SEE DETAIL*	
S113A	B	113	MAINTENANCE BAY	
S113B	Q	-	*SEE DETAIL*	
S113C	P	-	*SEE DETAIL*	
S113D	M	-	*SEE DETAIL*	1
S113E	R	-	*SEE DETAIL*	
S113F	E	-	*SEE DETAIL*	
S115	B	115	ELECTRICAL	
S116	J	116	COMM ROOM	1
S117	D1	117	WOMEN	
S118	D2	118	MEN	
S119A	B	120	WASH BAY	
S119B	G	-	*SEE DETAIL*	
S120A	B	120	WASH BAY	
S120B	Q	-	*SEE DETAIL*	
S120C	P	-	*SEE DETAIL*	
S120D	M	-	*SEE DETAIL*	1
S120E	R	-	*SEE DETAIL*	
S120F	E	-	*SEE DETAIL*	
S120G	N	-	*SEE DETAIL*	
S121A	B	121	WASH EQUIPMENT	
S121B	F	-	*SEE DETAIL*	
S122A	J	122	MECHANICAL ROOM	1
S122B	J	122	MECHANICAL ROOM	1
S123	J	123	ELECTRICAL ROOM	1

REMARKS:
1. EXTERIOR GRADE SIGN.

2. COORDINATE WITH APPROVED GOVERNMENT REPRESENTATIVE FOR THE ROOM NAMES TO BE LISTED ON DIRECTIONAL SIGN TYPE(S).

GENERAL SIGNAGE NOTES

1. REFER TO OVERALL SIGNAGE PLAN FOR INTERIOR AND EXTERIOR SIGN LOCATIONS.
2. REFER TO SIGNAGE DETAILS FOR SIGNAGE CONSTRUCTION. COORDINATE WITH WALL TYPES FOR WALL CONSTRUCTION.
3. ALL SIGNS SHALL BE MECHANICALLY FASTENED. ALL HARDWARE MOUNTING ATTACHMENTS TO BE CONCEALED AND APPROPRIATE FOR THE RECEIVING WALL SURFACE.
4. ALL MESSAGE TEXT SHOWN ON THE SIGN SCHEDULE IS A PLACE HOLDER ONLY AND IS NOT THE FINAL TEXT MESSAGE. ALL PERMANENT SIGNAGE TEXT MUST BE COORDINATED WITH THE PROJECT COORDINATOR AND CONFIRMED WITH THE GOVERNMENT END USER PRIOR TO SIGNAGE SHOP DRAWINGS. ALLOW FOR A MAXIMUM 4 DIGIT ROOM NUMBERS AND A MINIMUM 25 CHARACTER ROOM NAMES, TYPICAL FOR ALL SIGNS.
5. SIGNAGE SHALL COMPLY WITH THE REQUIREMENTS OF ABA ACCESSIBILITY GUIDELINES (ADAGG) AND UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS).
6. REFER TO 09 06 00 SCHEDULES FOR FINISHES AND SIGNAGE SPECIFICATIONS SHEET A-8111 FOR BASIS OF DESIGN OR EQUIVALENT MANUFACTURER, PRODUCT STYLE, MATERIALS AND COLORS.
7. PER UFC 1-200-02, SECTION 2-5.3.4 - ENVIRONMENTAL TOBACCO SMOKE CONTROL. PROHIBIT SMOKING WITHIN THE BUILDING AND WITHIN A MINIMUM OF 50 FEEL OF ALL BUILDING ENTRANCES, OPERABLE WINDOWS AND BUILDING VENTILATION INTAKES.
8. EXTERIOR AND INTERIOR SIGNAGE SHALL COMPLY WITH UFGS REQUIREMENTS, GUIDANCE FOR AIR FORCE SIGNAGE AS FOUND IN THE UFC 3-120-01 "AIR FORCE STANDARDS" AND BASE STANDARDS.
9. REFER TO SIGNAGE SCHEDULE GENERAL NOTES.
10. GENERAL CONTRACTOR MUST BE RESPONSIBLE FOR OBTAINING LOGO IMAGES FROM APPROVED GOVERNMENT REPRESENTATIVE AND PROVIDE TO SIGNAGE MANUFACTURER(S). SIGNAGE MANUFACTURER(S) MUST BE RESPONSIBLE FOR CREATING VECTOR IMAGES FOR INCORPORATION INTO SIGNAGE BACKGROUND INSERTS AND LOGO MEDALLION SIGNAGE.
11. GENERAL CONTRACTOR MUST BE RESPONSIBLE FOR COORDINATING WITH SIGNAGE MANUFACTURER(S) TO PROVIDE ANY ADDITIONAL SIGNAGE AS REQUIRED BY GOVERNING MUNICIPALITY AT THE SITE LOCATION.
12. REFER TO SIGNAGE MOUNTING HEIGHTS ON SIGNAGE DETAIL DRAWINGS. SIGNS TO BE WALL-MOUNTED ON THE LATCH SIDE OF DOOR OR AS INDICATED. HEIGHTS, CLEARANCES AND CONFIGURATIONS SHOWN ARE TYPICAL AND SHALL APPLY IN ALL INSTANCES UNLESS NOTED OTHERWISE.
13. ALL EXTERIOR SIGNAGE SHALL BE SUBMITTED TO THE BASE ARCHITECTURAL COMPATIBILITY BOARD AND BE SUBJECTED TO ITS REVIEW AND APPROVAL PRIOR TO INSTALLATION.
14. THE BUILDING NUMBER SIGN SHALL BE PER THE REQUIREMENT UFC 3-120-01: DESIGN: SIGN STANDARDS; HELVETICA NEUE FAMILY FONT.
15. EXTERIOR SIGNS SHALL MATCH THE REST OF THE BASE WITH REFLECTIVE WHITE LETTERS.
16. CONSTRUCT EXTERIOR GRADE SIGNAGE WITH MATERIAL APPROPRIATE FOR EXTERIOR USE.
17. COORDINATE SIGN TYPE "C" TEXT AND ARROW ARRANGEMENT WITH COR.
18. CONFIRM ALL ROOM NAMES AND NUMBERS WITH USER PRIOR TO ORDERING.
19. ALL SIGNAGE MOUNTED ON GLASS, MUST HAVE A MATCHING BACK PLATE TO CONCEAL ATTACHMENT METHOD FOR SIGN.
20. PROVIDED MESSAGE INSERTS FOR UPDATABLE INSERT AREAS WHERE INDICATED IN THE SIGNAGE DRAWINGS OR SPECIFICATIONS.
21. INSTALL FIRE EXTINGUISHER IDENTIFICATION SIGN ABOVE ALL FIRE EXTINGUISHER, BOTH CABINETS AND WALL BRACKET MOUNTED. SEE LIFE SAFETY PLAN F-101 FOR FIRE EXTINGUISHER LOCATIONS.
22. INSTALL EMERGENCY EYE WASH IDENTIFICATION SIGN ABOVE ALL EYE WASH STATIONS. SEE PLUMBING DRAWINGS FOR LOCATIONS.

SIGNAGE COLOR SPECIFICATIONS

REFER 09 06 00 SCHEDULES FOR FINISHES

1. SIGNAGE MESSAGE COLOR
   a. TO MATCH: PT-6: SHERWIN WILLIAMS - SW7075 WEB GRAY
2. SIGNAGE BACKGROUND COLOR
   a. TO MATCH: PT-1: BENJAMIN MOORE - OC-130 CLOUD WHITE
3. BUILDING DIRECTORY
   a. TO MATCH: PT-1: BENJAMIN MOORE - OC-130 CLOUD WHITE

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: T. MANN
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

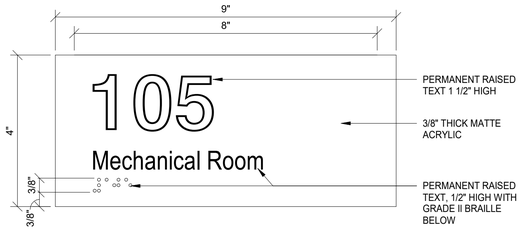
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

SIGNAGE SCHEDULE AND DETAILS

SHEET ID
A-811

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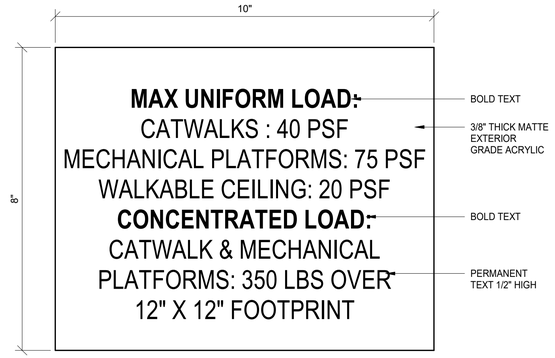


NOTE: BRAILLE NOT REQUIRE ON EXTERIOR SIGNS ON EXTERIOR OF BUILDING

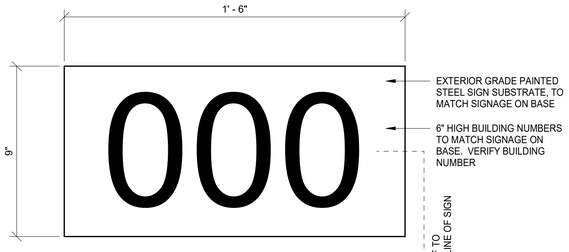
K1 SIGN TYPE "J"
6" = 1'-0"



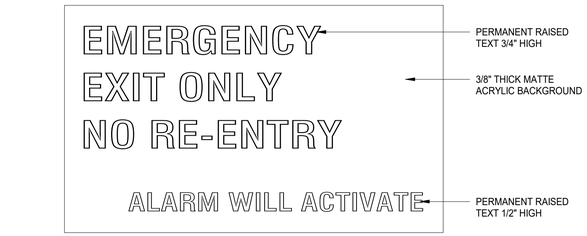
L7 SIGN TYPE "M"
6" = 1'-0"



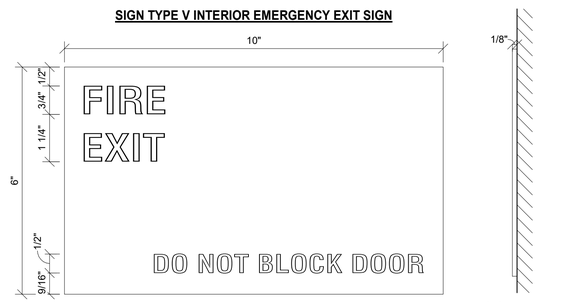
G7 SIGN TYPE "N"
6" = 1'-0"



F1 SIGN TYPE "K"
3" = 1'-0"



SIGN TYPE V INTERIOR EMERGENCY EXIT SIGN

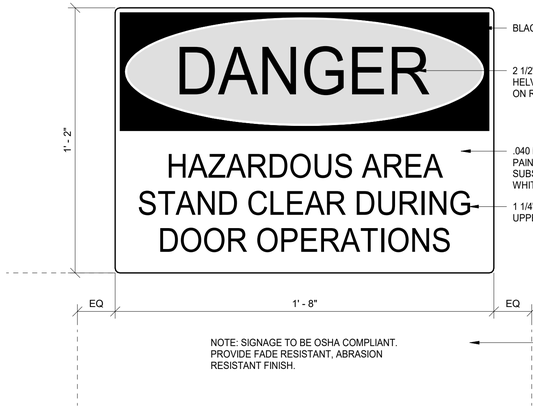


SIGN TYPE V EXTERIOR EMERGENCY EXIT SIGN

SIGN TYPE V SIDE VIEW

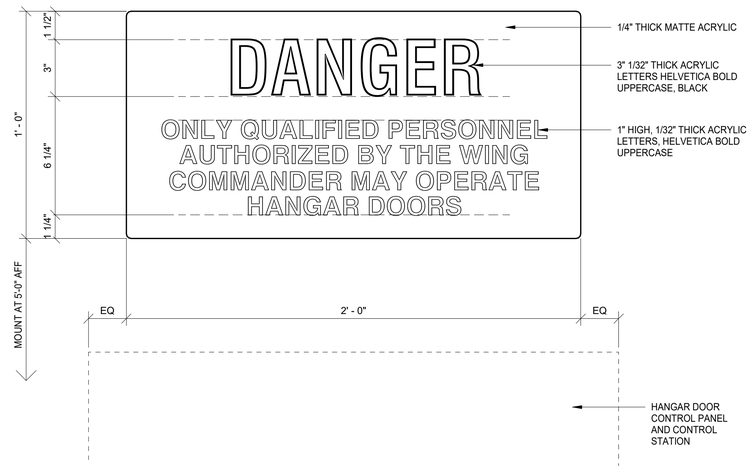
SCALE: N.T.S.

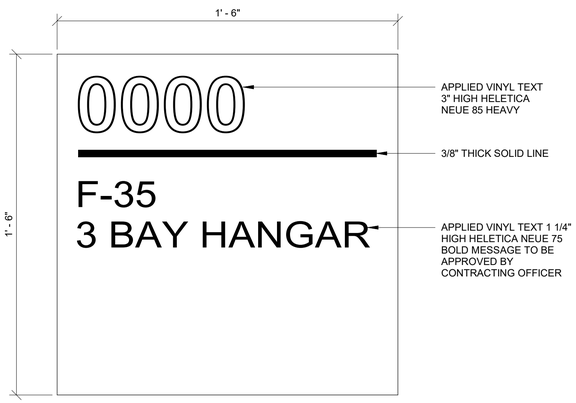
A7 SIGN TYPE "P"
6" = 1'-0"



NOTE: SIGNAGE TO BE OSHA COMPLIANT. PROVIDE FADE RESISTANT, ABRASION RESISTANT FINISH.

F13 SIGN TYPE "Q"
3" = 1'-0"





A1 SIGN TYPE "L"
3" = 1'-0"

A13 SIGN TYPE "R"
3" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
T. MANN	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
R. READER	W912BV26RA004
CHECKED BY:	CONTRACT NO.:
M. HOOVER, R.A.	
SUBMITTED BY:	PROJECT NO:
A. BLANKENSHIP, P.E.	512203
SIZE:	FILE NAME:
ANSI D	EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:23:39 PM File Path: C:\Users\hbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECCRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

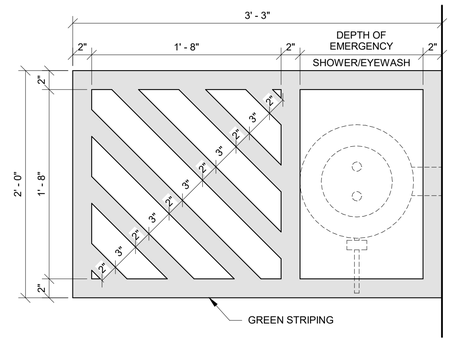
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

SIGNAGE DETAILS

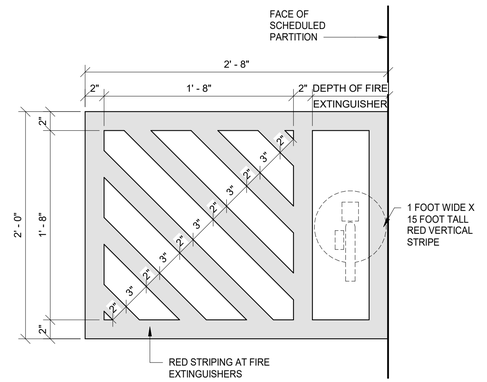
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A-812

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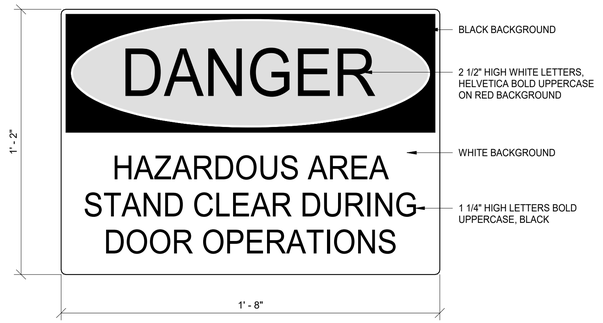
K15 TYPICAL EYEWASH STRIPING

1 1/2" = 1'-0"



F15 TYPICAL FIRE EXTINGUISHER STRIPING

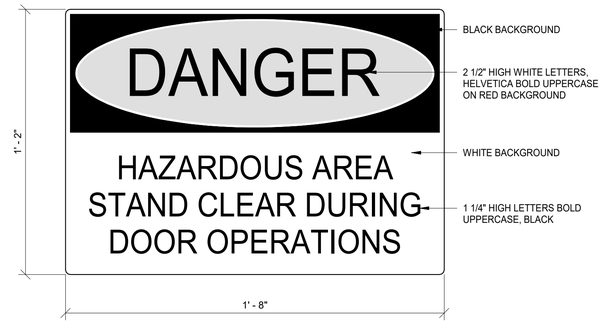
1 1/2" = 1'-0"



APPLIED DECAL - INTERIOR

A9 SIGN TYPE "S"

3" = 1'-0"



APPLIED DECAL - EXTERIOR

A15 SIGN TYPE "T"

3" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: T. MANN
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

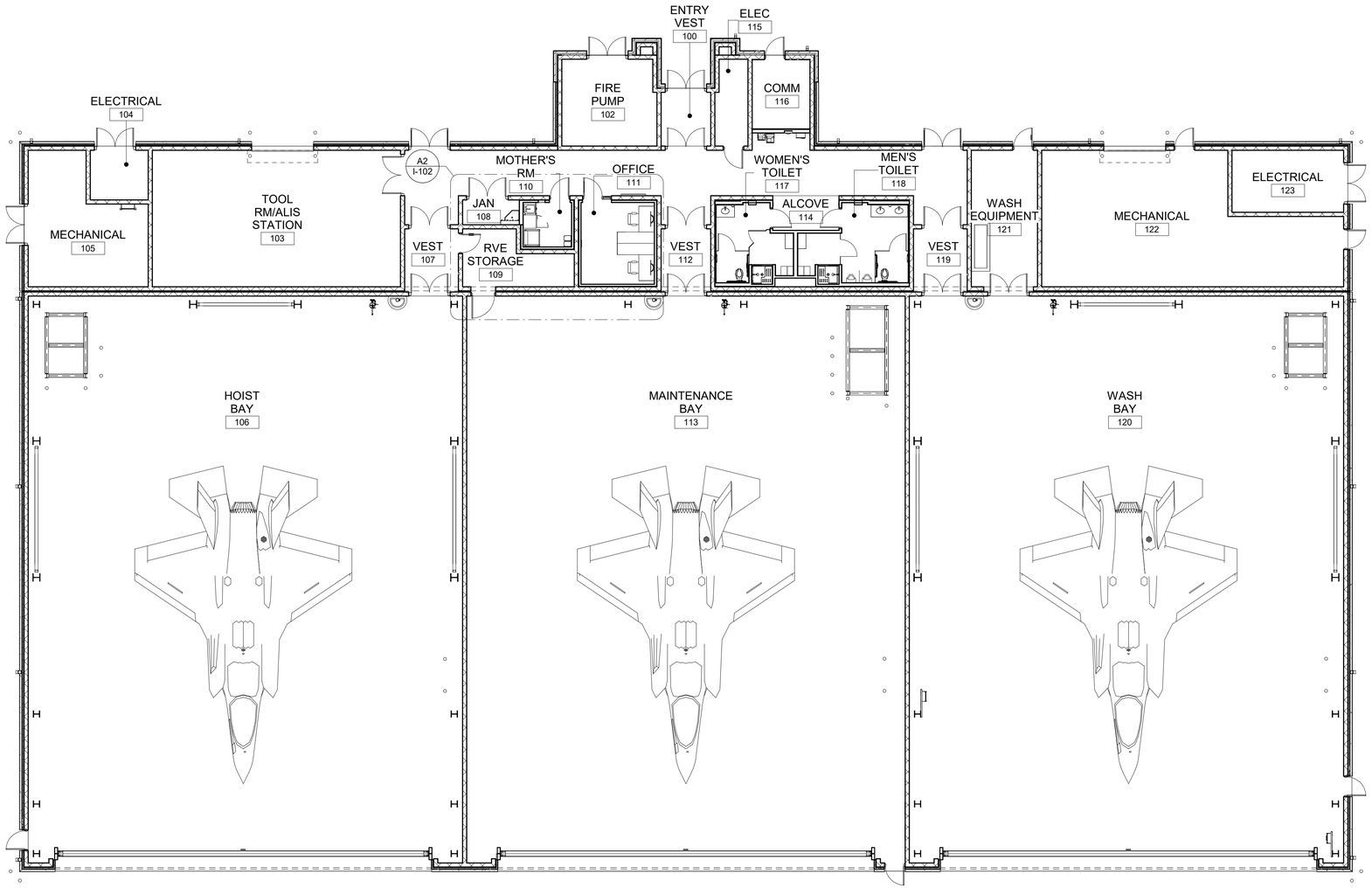
SIGNAGE AND FLOOR MARKING DETAILS

SHEET ID

A-813

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GENERAL FURNITURE AND EQUIPMENT NOTES

1. FOR ARCHITECTURAL GENERAL NOTES, MATERIAL LEGEND, AND ABBREVIATIONS, REFER TO SHEET G-004.
2. REFER TO ARCHITECTURAL FLOOR PLANS FOR BUILDING LAYOUT, DIMENSIONS AND COORDINATION TO BUILDING SYSTEMS AND STRUCTURE.
3. REFER TO ELECTRICAL DRAWINGS FOR COORDINATION OF THE LIGHTING, POWER, DATA, COMMUNICATIONS AND LOCATIONS OF OTHER WALL AND FLOOR MOUNTED ELECTRICAL DEVICES AND EQUIPMENT FOR COORDINATION TO FURNITURE LAYOUTS. CONTRACTOR MUST IDENTIFY ANY CONFLICTS WITH FURNITURE LAYOUTS.
4. REFER TO MECHANICAL DRAWINGS FOR COORDINATION OF PLUMBING AND HVAC SYSTEMS TO FURNITURE LAYOUTS. THERMOSTATS, DIFFUSERS AND ACCESS PANELS MUST NOT CONFLICT WITH FURNITURE LAYOUTS. CONTRACTOR MUST IDENTIFY ANY CONFLICTS WITH FURNITURE LAYOUTS.
5. FURNITURE, FIXTURES AND EQUIPMENT (FF&E) DRAWINGS PROVIDED FOR COORDINATION WITH BUILDING SYSTEMS ONLY.
6. REFER TO FF&E PACKAGE FOR FURNITURE PROCUREMENT INFORMATION AND SPECIFICATION.
7. FIELD VERIFY ALL BUILDING CONDITIONS PRIOR TO INSTALLATION OF FF&E.
8. FF&E CONTRACTOR TO FIELD VERIFY ALL MEASUREMENTS AND SITE CONDITIONS TO ENSURE PROPER FIT OF ALL FF&E. FURNISHINGS MUST NOT OVERLAP OR OBSTRUCT DOOR FRAMES, WALL SWITCHES, THERMOSTATS OR OTHER WALL MOUNTED ITEMS. MODIFICATIONS TO FURNISHINGS LAYOUTS REQUIRED TO MEET BUILDING CONDITIONS AT TIME OF INSTALLATION MUST BE THE RESPONSIBILITY OF THE FF&E CONTRACTOR. ALL MODIFICATIONS MUST BE APPROVED IN WRITING BY A GOVERNMENT APPROVED REPRESENTATIVE PRIOR TO INSTALLATION OF THE FURNISHINGS.
9. FURNITURE INSTALLER/CONTRACTOR MUST COORDINATE POWER/COM/DATA CONNECTIONS WITH ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION OF ELECTRIFIED FURNISHINGS.
10. INSTALL BULLETIN BOARDS AT 54" TO THE MID-HEIGHT OF THE BOARD.
11. INSTALL CLOCKS AT 8'-0" A.F.F. TO CENTER OF CLOCK UNLESS OTHERWISE NOTED.
12. PERSONAL WASTE (A1) TO BE AT EACH DESK IN OFFICE.
13. PERSONAL RECYCLING RECEPTACLE (A2) TO BE AT EACH DESK IN OFFICE.
14. ALL FF&E REFLECTED IN THE DRAWINGS AND FF&E PACKAGE IS PROVIDED AS BASIS OF DESIGN.

A1 OVERALL FURNITURE PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
T. MANN	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
R. READER	W912BV26RA004
CHECKED BY:	CONTRACT NO.:
M. HOOVER, R.A.	
SUBMITTED BY:	PROJECT NO:
A. BLANKENSHIP, P.E.	512203
SIZE:	FILE NAME:
ANSI D	EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 1:37:21 PM File Path: C:\Users\mboettne\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MBECKNAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

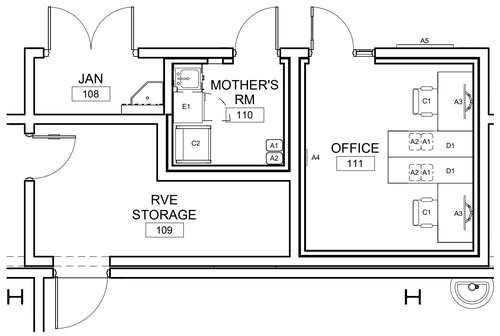
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

FURNITURE FLOOR PLAN

SHEET ID

I-101

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A2 ENLARGED FURNITURE PLAN

3/16" = 1'-0"

0 2' 4' 8' 16'

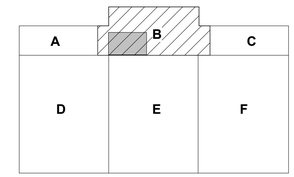
GENERAL FURNITURE AND EQUIPMENT NOTES

1. FOR ARCHITECTURAL GENERAL NOTES, MATERIAL LEGEND, AND ABBREVIATIONS, REFER TO SHEET G-004.
2. REFER TO ARCHITECTURAL FLOOR PLANS FOR BUILDING LAYOUT, DIMENSIONS AND COORDINATION TO BUILDING SYSTEMS AND STRUCTURE.
3. REFER TO ELECTRICAL DRAWINGS FOR COORDINATION OF THE LIGHTING, POWER, DATA, COMMUNICATIONS AND LOCATIONS OF OTHER WALL AND FLOOR MOUNTED ELECTRICAL DEVICES AND EQUIPMENT FOR COORDINATION TO FURNITURE LAYOUTS. CONTRACTOR MUST IDENTIFY ANY CONFLICTS WITH FURNITURE LAYOUTS.
4. REFER TO MECHANICAL DRAWINGS FOR COORDINATION OF PLUMBING AND HVAC SYSTEMS TO FURNITURE LAYOUTS. THERMOSTATS, DIFFUSERS AND ACCESS PANELS MUST NOT CONFLICT WITH FURNITURE LAYOUTS. CONTRACTOR MUST IDENTIFY ANY CONFLICTS WITH FURNITURE LAYOUTS.
5. FURNITURE, FIXTURES AND EQUIPMENT (FF&E) DRAWINGS PROVIDED FOR COORDINATION WITH BUILDING SYSTEMS ONLY.
6. REFER TO FF&E PACKAGE FOR FURNITURE PROCUREMENT INFORMATION AND SPECIFICATION.
7. FIELD VERIFY ALL BUILDING CONDITIONS PRIOR TO INSTALLATION OF FF&E.
8. FF&E CONTRACTOR TO FIELD VERIFY ALL MEASUREMENTS AND SITE CONDITIONS TO ENSURE PROPER FIT OF ALL FF&E. FURNISHINGS MUST NOT OVERLAP OR OBSTRUCT DOOR FRAMES, WALL SWITCHES, THERMOSTATS OR OTHER WALL MOUNTED ITEMS. MODIFICATIONS TO FURNISHINGS LAYOUTS REQUIRED TO MEET BUILDING CONDITIONS AT TIME OF INSTALLATION MUST BE THE RESPONSIBILITY OF THE FF&E CONTRACTOR. ALL MODIFICATIONS MUST BE APPROVED IN WRITING BY A GOVERNMENT APPROVED REPRESENTATIVE PRIOR TO INSTALLATION OF THE FURNISHINGS.
9. FURNITURE INSTALLER/CONTRACTOR MUST COORDINATE POWER/COM/DATA CONNECTIONS WITH ELECTRICAL CONTRACTOR PRIOR TO INSTALLATION OF ELECTRIFIED FURNISHINGS.
10. INSTALL BULLETIN BOARDS AT 54" TO THE MID-HEIGHT OF THE BOARD.
11. INSTALL CLOCKS AT 8'-0" A.F.F. TO CENTER OF CLOCK UNLESS OTHERWISE NOTED.
12. PERSONAL WASTE (A1) TO BE AT EACH DESK IN OFFICE.
13. PERSONAL RECYCLING RECEPTACLE (A2) TO BE AT EACH DESK IN OFFICE.
14. ALL FF&E REFLECTED IN THE DRAWINGS AND FF&E PACKAGE IS PROVIDED AS BASIS OF DESIGN.

FF&E SCHEDULE

ITEM CODE	ITEM DESCRIPTION
ACCESSORIES	
A1	WASTE RECEPTACLE, PERSONAL - *IN OFFICE, LOCATED UNDER DESK
A2	RECYCLING RECEPTACLE, PERSONAL - *IN OFFICE, LOCATED UNDER DESK
A3	MONITOR ARM
A4	WALL CLOCK
A5	BULLETIN BOARD
CHAIRS & SEATING	
C1	TASK CHAIR, HARD CASTERS
C2	RECLINER
DESKS	
D1	DESK, 6'X6' L-SHAPE - WITH LOCKABLE FILE CABINET/STORAGE
EQUIPMENT	
E1	REFRIGERATOR - UNDERCOUNTER

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: T. MANN
DRAWN BY: R. READER
CHECKED BY: M. HOOVER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

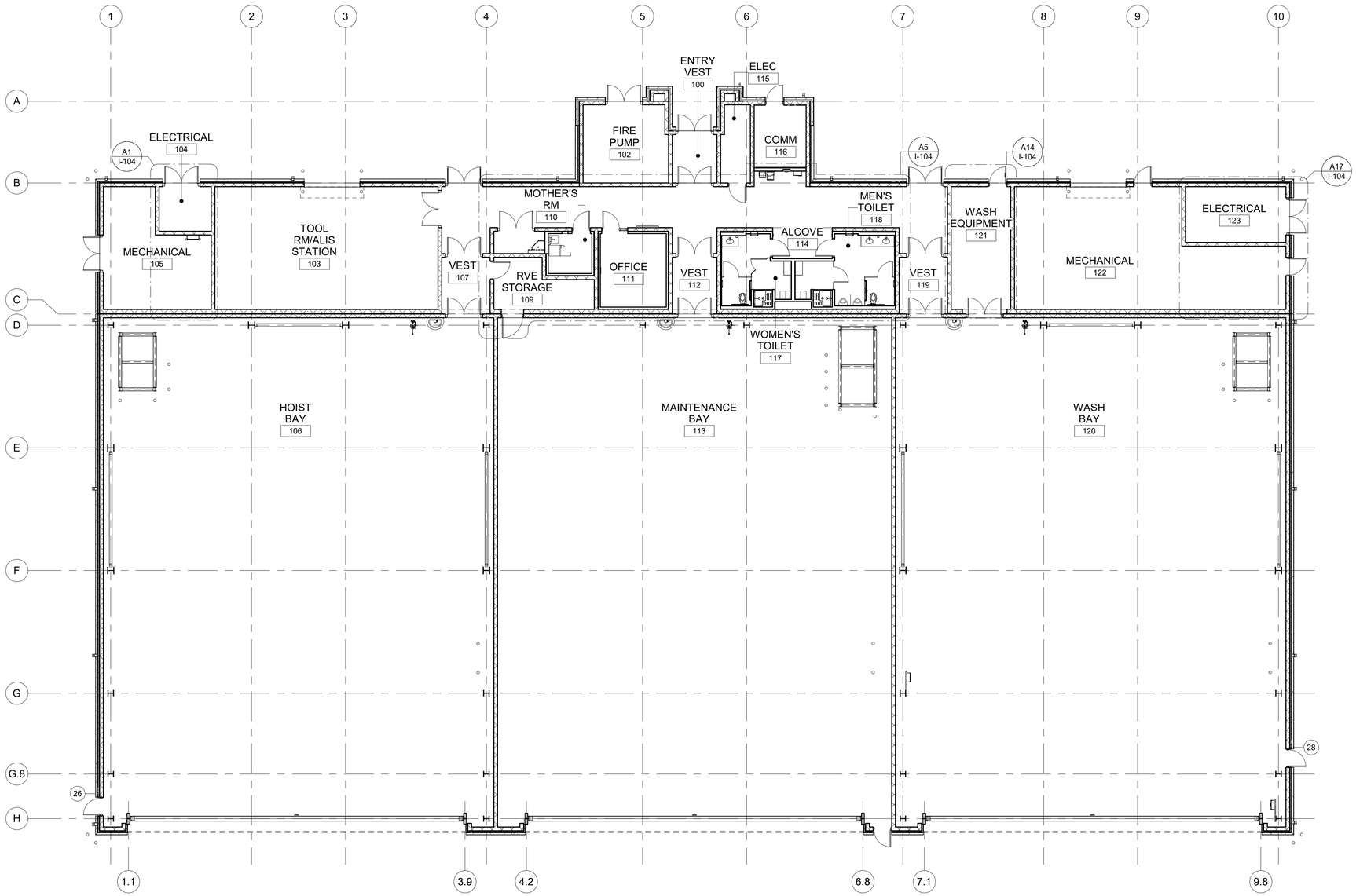
EBBING ANGB - ARKANSAS
F-35; 3 BAY HANGAR
PN: 512203

ENLARGED FURNITURE PLAN - AREA B

SHEET ID
I-102

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A1 OVERALL ELEMENTS PLAN

3/32" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: T. MANN
DRAWN BY: R. READER
CHECKED BY: M. HOOSER, R.A.
SUBMITTED BY: A. BLANKENSHIP, P.E.
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PROJECT NO: 512203
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Plot Date: 10/20/2025 1:37:28 PM File Path: C:\Users\rbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECCRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
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TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3-BAY HANGAR
PN: 512203

ELEMENTS FLOOR PLAN

SHEET ID

I-103

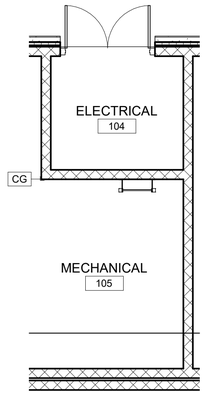
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GENERAL SHEET NOTES

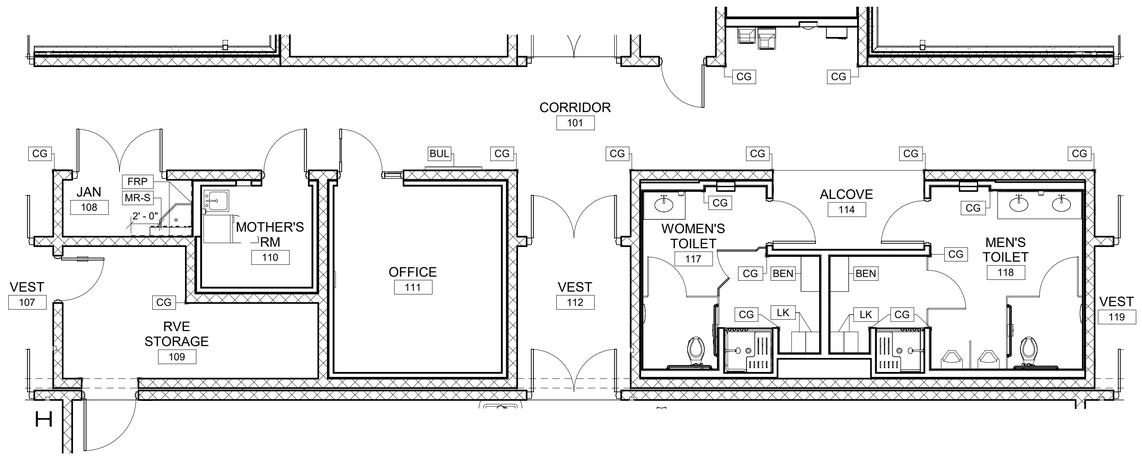
1. REFERENCE INTERIOR FINISH MATERIALS LEGEND FOR FINISH TYPES; REFER A-711.
2. REFER TO ELECTRICAL DRAWINGS FOR CONNECTION HEIGHTS.
3. SURFACE MOUNTED MOP RACK WITH SHELF SHALL BE PROVIDED ABOVE FLOOR MOP SINK. REFER FLOOR AND PLUMBING PLANS FOR LOCATIONS.
4. INSTALL FIBERGLASS REINFORCED PANELS (FRP) ON GYPSUM BOARD WALLS ADJACENT TO MOP SINK TO 4'-0" A.F.F.
5. ALL BULLETIN BOARDS SHALL BE MOUNTED FROM THE TOP OF THE FRAME 7'-0" A.F.F. SIZE AS INDICATED.
6. CENTER WALL MOUNTED ITEMS HORIZONTALLY BETWEEN ADJACENT WALL UNLESS OTHERWISE NOTED.

ELEMENTS LEGEND

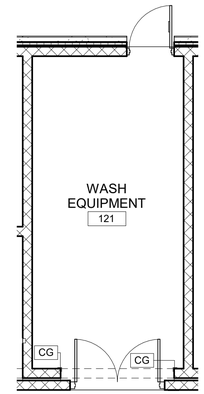
CODE	DESCRIPTION	SPECIFICATION
BEN	BENCH	10 51 13
BUL	BULLETIN BOARD 48" X 48"	10 51 13
CG	CORNER GUARD	10 11 00
FRP	FIBERGLASS REINFORCED PLASTIC	07 42 63
LK	LOCKER	10 51 13
MR-S	MOP RACK WITH SHELF	10 28 13



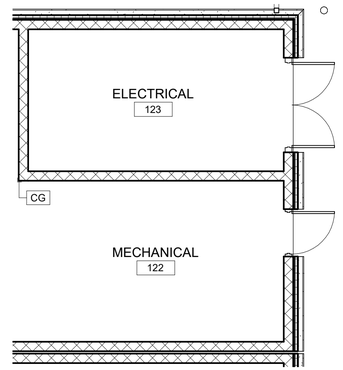
A1 ENLARGED ELEMENTS PARTIAL PLAN - AREA A
3/16" = 1'-0"



A5 ENLARGED ELEMENTS PARTIAL PLAN - AREA B
3/16" = 1'-0"



A14 ENLARGED ELEMENTS PARTIAL PLAN - AREA C
3/16" = 1'-0"



A17 ENLARGED ELEMENTS PARTIAL PLAN - AREA C
3/16" = 1'-0"

US Army Corps of Engineers ®

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DESIGNED BY: T. MANN
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SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
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PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

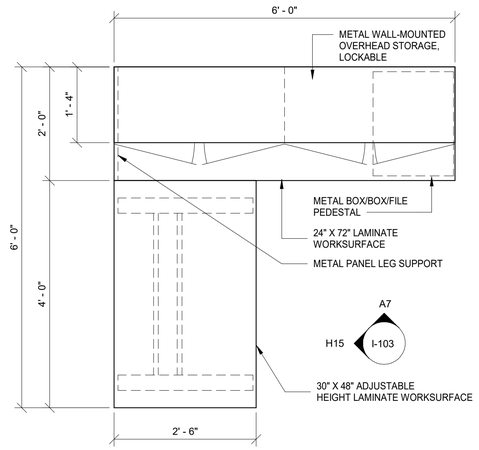
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 5122203

ENLARGED ELEMENTS PLANS

SHEET ID
I-104

Plot Date: 10/20/2025 1:37:31 PM File Path: C:\Users\hbcarl\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_A_3BAYH_RVT22_MECCRAFT.rvt

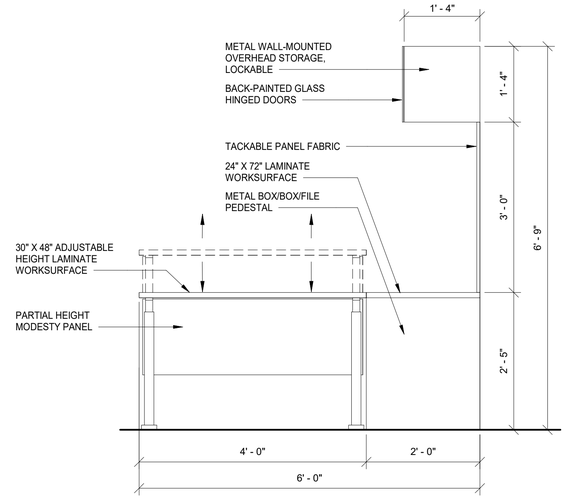
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H7 DESK PLAN

3/4" = 1'-0"

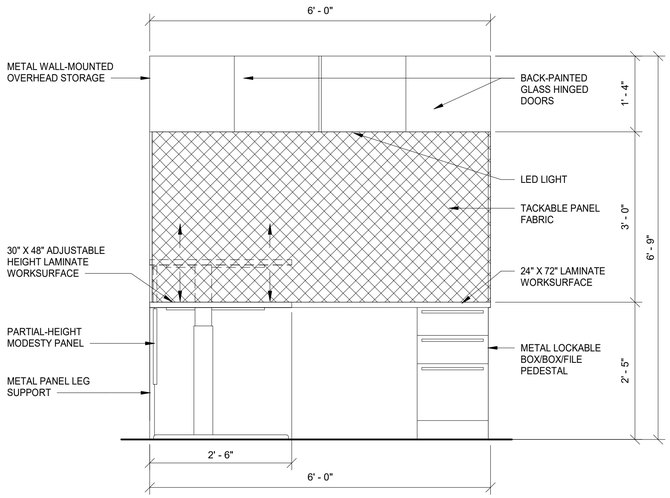
0 0.5' 1' 2' 3'



H15 DESK ELEVATION

3/4" = 1'-0"

0 0.5' 1' 2' 3'



A7 DESK ELEVATION

3/4" = 1'-0"

0 0.5' 1' 2' 3'



A15 DESK ILLUSTRATION

NTS

US Army Corps of Engineers ®

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SUBMITTED BY: A. BLANKENSHIP, P.E.
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PROJECT NO: 512203
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

DESK PLAN AND ELEVATIONS

SHEET ID
I-111

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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GENERAL INFORMATION:

PROPERTY NAME & PHYSICAL ADDRESS: F-35: 3-BAY HANGAR
EBBING ANGB - ARKANSAS

PROJECT CONSTRUCTION PURPOSE: NEW CONSTRUCTION

REASON FOR SUBMITTAL: CODE COMPLIANCE OF NEW CONSTRUCTION

CRITERIA USED:
INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION
NFPA 1: FIRE CODE, 2024 EDITION
NFPA 10: STANDARD FOR PORTABLE FIRE EXTINGUISHERS, 2022 EDITION
NFPA 13: STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2022 EDITION
NFPA 20: STANDARD FOR THE INSTALLATION OF STATIONARY FIRE PUMPS FOR FIRE PROTECTION, 2025 EDITION
NFPA 24: STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES, 2025 EDITION
NFPA 70: NATIONAL ELECTRICAL CODE, 2023 EDITION
NFPA 72: NATIONAL FIRE ALARM AND SIGNALING CODE, 2025 EDITION
NFPA 80: STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES, 2025 EDITION
NFPA 90A: STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS, 2024 EDITION
NFPA 101: LIFE SAFETY CODE, 2024 EDITION
NFPA 170: STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS, 2024 EDITION
UFC 1-200-01: GENERAL BUILDING REQUIREMENTS, 8 OCTOBER 2020; CHANGE 3, 26 FEBRUARY 2024
UFC 3-600-01: FIRE PROTECTION ENGINEERING FOR FACILITIES, 8 AUGUST 2016; CHANGE 6, 6 MAY 2021
UFC 4-010-01: DoD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS, 12 DECEMBER 2018; CHANGE 1, 19 AUGUST 2020
UFC 4-021-01: DESIGN AND O&M: MASS NOTIFICATION SYSTEMS, 9 APRIL 2008; CHANGE 1, JANUARY 2010
UFC 4-211-01: AIRCRAFT MAINTENACE HANGARS, 13 APRIL 2017; CHANGE 3, 20 APRIL 2021

ANTICIPATED ADDITIONS: NONE

DATE DEVELOPED: NOVEMBER 1, 2024

DATE MODIFIED: APRIL 23, 2025

OWNER INFORMATION: AIR NATIONAL GUARD

CODE CONSULTANT INFORMATION:
POOLE FIRE PROTECTION, INC.
19910 WEST 161ST STREET
OLATHE, KS 66062
913.829.8650 (TELEPHONE)
913.829.8690 (TELEFAX)

DESIGNER'S SEAL: SEE TITLE BLOCK

FIRE SERVICE: EBBING FIELD FIRE DEPARTMENT

LOCAL BUILDING INSPECTOR: EBBING FIELD FIRE DEPARTMENT

AUTHORITY HAVING JURISDICTION: UNITED STATES ARMY CORPS OF ENGINEERS (USACE)

OCCUPANCY GROUP AND TYPE:

IBC OCCUPANCY:

MIXED-USE NON-SEPARATED	(IBC, SECTION 508.3.3)
BUSINESS (GROUP B)	(IBC, SECTION 304)
MODERATE-HAZARD STORAGE (GROUP S-1)	(IBC, SECTION 311.2)
MODERATE-HAZARD FACTORY INDUSTRIAL (GROUP F-1)	(IBC, SECTION 306.2)

NFPA 101 OCCUPANCY:

NON-SEPARATED MIXED OCCUPANCY	(NFPA 101, SECTION 6.1.14.3)
BUSINESS	(NFPA 101, SECTION 6.1.11)
STORAGE	(NFPA 101, SECTION 6.1.13)
GENERAL INDUSTRIAL	(NFPA 101, SECTION 6.1.12.1)

TYPE OF CONSTRUCTION: TYPE IIB (IBC, TABLE 601)
TYPE II HANGAR REQUIRED (IBC, SECTION 602.2) - PROVIDED
GROUP II AIRCRAFT HANGAR REQUIRED (NFPA 409, SECTION 6.1.2) - PROVIDED

STRUCTURAL CODE REQUIREMENTS:

HEIGHT LIMITATION (IBC, TABLES 504.3 AND 504.4 AND 507.5)	
ALLOWABLE HEIGHT (BUSINESS)	4 STORIES, 55 FT
ALLOWABLE HEIGHT MODERATE-HAZARD STORAGE (GROUP S-1)	4 STORIES, 55 FT
ACTUAL HEIGHT	1 STORY - 46 FT

AREA LIMITATION (IBC, TABLE 506.2 AND 507.5)	
ALLOWABLE AREA (BUSINESS)	92,000 SF
ALLOWABLE HEIGHT MODERATE-HAZARD STORAGE (GROUP S-1)	70,000 SF
ACTUAL AREA	26,361 SF - COMPLIANT

AHJ APPROVED EQUIVALENCIES: NOT APPLICABLE

INITIAL INTEGRATED PERFORMANCE VERIFICATION AND TESTING PLAN(S): TESTING PLAN PROCEDURES MUST BE DEVELOPED/REVIEWED BY THE PROJECT QFPE.

FIRE DEPARTMENT NEEDS:

FIRE DEPARTMENT ACCESS:
AT LEAST ONE MEANS OF ALL-WEATHER GROUND ACCESS NO FARTHER THAN 33 ft FROM THE BUILDING REQUIRED (UFC 3-600-01, SECTION 9-1.1) - PROVIDED
FIRE DEPARTMENT ACCESS ROADS SUCH THAT ANY PORTION OF THE FACILITY OR ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY OF THE BUILDING IS LOCATED NOT MORE THAN 450 ft FROM FIRE DEPARTMENT ACCESS ROADS REQUIRED (NFPA 1, SECTION 18.2.3.2.2.1) - PROVIDED
FIRE APPARATUS ACCESS ROADS MUST HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAN 20 ft AND AN UNOBSTRUCTED VERTICAL CLEARANCE OF NOT LESS THAN 13 ft 6 in. REQUIRED (NFPA 1, SECTIONS 18.2.3.5.1.1 & 18.2.3.5.1.2) - PROVIDED
FORCE PROTECTION EQUIPMENT ARRANGED TO NOT REQUIRE MORE THAN ONE PERSON TO REMOVE OR OPEN REQUIRED (UFC 3-600-01, SECTION 9-1.3) - PROVIDED
LOCKING DEVICES CONTROLLING VEHICLE ACCESS UNDER CONTROL OF FIRE DEPARTMENT REQUIRED (UFC 3-600-01, SECTION 9-1.3) - PROVIDED
APPROVED SIGNS, APPROVED ROADWAY SURFACE MARKINGS OR APPROVED NOTICES MUST BE PROVIDED AND MAINTAINED TO IDENTIFY FIRE DEPARTMENT ACCESS ROADS (NFPA 1, SECTION 18.2.3.6)

KEY BOX:
REQUIRED (UFC 3-600-01) - PROVIDED
ELECTRONIC SUPERVISION OF KNOX BOX / KEYBOX IS NOT REQUIRED (BASE FD)

FIRE HYDRANTS:
FIRE HYDRANT SPACING SUCH THAT ALL PARTS OF THE BUILDING EXTERIOR ARE WITHIN 350 ft OF A FIRE HYDRANT REQUIRED (UFC 3-600-01, SECTION 9-3.5.8.2) - PROVIDED
FIRE HYDRANT SPACING SUCH THAT FIRE DEPARTMENT CONNECTIONS ARE WITHIN 150 ft OF A FIRE HYDRANT REQUIRED (UFC 3-600-01, SECTION 9-3.5.8.4(A)) - PROVIDED
2 ft CLEAR SPACE AROUND CIRCUMFERENCE OF FIRE HYDRANTS REQUIRED (UFC 3-600-01, SECTION 9-3.5.7(G)) - PROVIDED
HEIGHT TO THE CENTER OF A HOSE OUTLET GREATER THAN OR EQUAL TO 18 in. ABOVE FINAL GRADE REQUIRED (UFC 3-600-01, SECTION 9-3.5.7(D) AND NFPA 24, SECTION 7.3.3) - PROVIDED
FIRE HYDRANTS INSTALLED SUCH THAT THEY ARE NOT SPACED MORE THAN 300 ft FROM EACH OTHER REQUIRED (UFC 4-211-01, SECTION 3-6.3.2) - PROVIDED
LOCATE AT LEAST ONE HYDRANT WITHIN 100 ft OF EACH CORNER OF THE BUILDING (UFC 4-211-01, SECTION 3-6.3.2) - PROVIDED
PHYSICAL PROTECTION PROVIDED FOR FIRE HYDRANTS THAT ARE SUBJECT TO IMPACT BY A MOTOR VEHICLE REQUIRED (UFC 3-600-01, SECTION 9-3.5.9) - NOT PROVIDED

FIRE SAFETY AND EVACUATION PLANS: NOT REQUIRED (UFC 3-600-01 & NFPA 101) - NOT PROVIDED

FIRE COMMAND CENTER: NOT REQUIRED (UFC 3-600-01 & NFPA 101) - NOT PROVIDED

WATER SUPPLY REQUIREMENTS:

FIRE HYDRANT FLOW TEST (HISTORICAL): HYDRANT FLOW TEST PROVIDED BY GOV'T

DATE: 12 DEC 2023
LOCATION: Near MPF

STATIC: 60 psi
RESIDUAL: 58 psi
FLOW: 1060 gpm
FLOW AT 20 psi: 5344 gpm

FIRE FLOW: 1000 GPM AT 20 PSI FOR 3 HOURS REQUIRED (UFC 3-600-01, SECTION 9-2.1 & NFPA 1) - PROVIDED

FIRE WATER DEMAND: 1725 GPM AT 60 PSI FOR 90 MINUTES REQUIRED (UFC 4-211-01, SECTION 3-6.11.2) - PROVIDED

DUE TO LACK OF PRESSURE A FIRE PUMP MUST BE PROVIDED

Poole Fire Protection
19910 West 161st Street
Olathe, KS 66062
www.poolefire.com
913.829.8650 office ▲ 913.829.8690 fax

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. BRINKMEYER
DRAWN BY: S. BRINKMEYER
CHECKED BY: A. POOLE, P.E.
SUBMITTED BY: A. BLANKENSHIP, P.E.
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TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIFE SAFETY CODE NARRATIVE

SHEET ID
F-001

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PASSIVE FIRE SAFETY FEATURES:

FIRE BARRIER AND OCCUPANCY SEPARATION: NOT REQUIRED (IBC, SECTION 508.3.3) - NOT PROVIDED

1-HOUR FIRE BARRIER FOR FIRE PROTECTION EQUIPMENT ROOMS REQUIRED (UFC 4-211-01, SECTION 3-6.7) - PROVIDED

1-HOUR FIRE BARRIER BETWEEN HANGAR BAY AND SUPPORT AREAS REQUIRED (UFC 4-211-01, SECTION 3-3.1.3) - PROVIDED

1-HOUR FIRE BARRIER BETWEEN SEPARATE FIRE AREAS WITHIN THE HANGAR BAY REQUIRED (UFC 4-211-01, SECTION 3-3.1.3) - PROVIDED
NOTE: ALL HANGAR BAYS ARE OF SIMILAR OPERATIONS

SMOKE PARTITION SHALL BE PROVIDED AROUND THE RVE STORAGE ROOM (NFPA 101, SECTION 8.7.1.2) - PROVIDED

PROTECTION OF HAZARDOUS AREAS: NOT APPLICABLE

PROTECTION OF HORIZONTAL AND VERTICAL PENETRATIONS: THROUGH PENETRATIONS OF FIRE RESISTANCE RATED CONSTRUCTION PROTECTED BY AN APPROVED FIRE STOP SYSTEM INSTALLED AS TESTED IN ACCORDANCE WITH ASTM 814 OR UL 1479 REQUIRED (IBC, SECTION 714.4.1.2 AND NFPA 101, SECTION 8.3.4.2) - PROVIDED

BUILDING SEPARATION AND EXPOSURE PROTECTION: NOT REQUIRED (IBC, TABLE 602) - NOT PROVIDED AS BUILDING SEPARATION DISTANCE EXCEEDS 10 FT

EXIT ACCESS CORRIDORS: NOT REQUIRED (NFPA 101 38.3.6.1(3) AND 42.3.6) - NOT PROVIDED AS BUILDING IS PROVIDED WITH AN AUTOMATIC SPRINKLER SYSTEM

FIRE RESISTIVE REQUIREMENTS: FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (IBC, TABLES 601 & 705.5)

PRIMARY STRUCTURAL FRAME	*1-HOUR REQUIRED - PROVIDED
BEARING WALLS - EXTERIOR	0-HOUR REQUIRED - PROVIDED
BEARING WALLS - INTERIOR	0-HOUR REQUIRED - PROVIDED
NON BEARING WALLS - EXTERIOR	0-HOUR REQUIRED - PROVIDED
NON BEARING WALLS - INTERIOR	0-HOUR REQUIRED - PROVIDED
FLOOR CONSTRUCTION AND SECONDARY MEMBERS	0-HOUR REQUIRED - PROVIDED
ROOF CONSTRUCTION AND SECONDARY MEMBERS	0-HOUR REQUIRED - PROVIDED

ELECTRICAL CLASSIFICATIONS: PITS OR DEPRESSIONS BELOW THE LEVEL OF THE FLOOR IN MAINTENANCE BAYS CLASS I DIVISION 1 REQUIRED (NFPA 70, ARTICLE 513.3(A)) - PROVIDED

ENTIRE AREA OF MAINTENANCE BAYS, WALL TO WALL AND FLOOR TO CEILING, CLASS I DIVISION 2 REQUIRED (IN-HANGAR REFUELING MEMORANDUM OF UNDERSTANDNIG) - PROVIDED

ENTIRE AREA OF MAINTENANCE BAYS, AND ANY ADJACENT AND COMMUNICATING SPACES THAT ARE NOT SUITABLE CUT OFF FROM THE BAYS, CLASS I DIVISION 2 UP TO 18 in. ABOVE THE FLOOR REQUIRED (NFPA 70, ARTICLE 513.3(B)) - PROVIDED

ANY AREA WITHIN 5 ft HORIZONTALLY FROM AIRCRAFT POWER PLANTS OR AIRCRAFT FUEL TANKS CLASS I DIVISION 2 FROM THE FLOOR UP TO 5 ft ABOVE THE UPPER SURFACE OF THE WINGS AND ENGINE ENCLOSURES REQUIRED (NFPA 70, ARTICLE 513.3(C)(1)) - PROVIDED

INTERIOR FINISH: INTERIOR FINISH REQUIREMENTS PER OCCUPANCY CLASSIFICATION (NFPA 101, SECTIONS 38.3.3, 40.3.3, AND 42.3.3 AND UFC 4-211-01, SECTIONS 3-3.4.1.1) - PROVIDED

OCCUPANCY TYPE	INTERIOR WALL AND CEILING FINISHES IN EXITS AND EXIT ACCESS CORRIDORS	INTERIOR WALL AND CEILING FINISHES IN OTHER AREAS	INTERIOR FLOOR FINISHES IN EXIT ENCLOSURES	INTERIOR FLOOR FINISHES IN OTHER AREAS
STORAGE	CLASS A OR B (EXIT ENCLOSURES ONLY)	CLASS A, B, OR C	CLASS I OR II (EXIT ENCLOSURES AND EXIT ACCESS CORRIDORS)	NO REQUIREMENT
GENERAL AND HIGH HAZARD INDUSTRIAL	CLASS A OR B (EXIT ENCLOSURES ONLY)	CLASS A, B, OR C	CLASS I OR II	NO REQUIREMENT
NEW BUSINESS	CLASS A OR B	CLASS A, B, OR C	CLASS I OR II	MEET ASTM D2859, OR MINIMUM CRITICAL RADIANT FLUX OF 0.1 W/cm²

ACTIVE FIRE SAFETY FEATURES:

AUTOMATIC SPRINKLER SYSTEMS: REQUIRED (UFC 3-600-01, SECTION 9-7 AND UFC 4-211-01, SECTION 3-6.16) - PROVIDED

LOCATION OF FIRE DEPARTMENT CONNECTIONS: FIRE DEPARTMENT CONNECTIONS PROVIDED WITH A FIRE HYDRANT WITHIN 150 ft OF THE FIRE DEPARTMENT CONNECTION REQUIRED (UFC 3-600-01, SECTION 9-3.5.8.4(A)) - PROVIDED

FIRE DEPARTMENT CONNECTIONS WITH 150 ft OF ALL-WEATHER GROUND ACCESS SURFACE REQUIRED (UFC 3-600-01, SECTION 9-1.4) - PROVIDED

LOCATIONS OF POST INDICATOR VALVES (PIVS) AND OTHER CONTROL OR ISOLATION VALVES: SECTIONAL VALVES TO BE PROVIDED SUCH THAT NOT MORE THAN A COMBINED TOTAL OF FIVE HYDRANTS OR THE SERVICE LATERALS TO NOT MORE THAN THREE SEPARATE BUILDINGS ARE OUT OF SERVICE DUE TO A SINGLE BREAK (UFC 3-600-01, SECTION 9-3.4) - PROVIDED

CONTROL VALVE TO BE PROVIDED ON EACH SERVICE LATERAL, DOWNSTREAM OF THE CONNECTION TO THE SERVICE MAIN REQUIRED (UFC 3-600-01, SECTION 9-3.4) - PROVIDED

SECTIONAL VALVES ON SERVICE MAINS TO BE KEY-OPERATED REQUIRED (UFC 3-600-01, SECTION 9-3.4) - PROVIDED

POST INDICATOR VALVE (PIV) TO BE SUPERVISED USING PAD LOCK REQUIRED (UFC 3-600-01, SECTION 9-3.4) - PROVIDED

ANALYSIS OF AUTOMATIC SPRINKLER AND SUPPRESSION SYSTEMS AND PROTECTED AREAS: WET PIPE SYSTEM REQUIRED (UFC 3-600-01, SECTION 9-7.1.2 AND UFC 4-211-01, SECTION 3-6.15) - PROVIDED

HAZARD CLASSIFICATION OF LIGHT HAZARD, ORDINARY HAZARD, AND SPECIAL HAZARD REQUIRED (UFC 3-600-01, SECTION 9-7.3.1 AND APPENDIX B) - PROVIDED

OVERHEAD HANGAR BAY SPRINKLER SYSTEM DESIGN DENSITY OF 0.2 gpm/ft2 OVER 5000 ft² WITH 500 gpm HOSE STREAM IS REQUIRED (UFC 4-211-01, SECTION 3-6.15.1) - PROVIDED

LIGHT HAZARD DESIGN DENSITY OF 0.1 FT/MIN OVER 1500 FT² WITH 250 GPM HOSE STREAM REQUIRED (UFC 3-600-01, TABLES 9-3 AND 9-4) - PROVIDED

ORDINARY HAZARD DESIGN DENSITY OF 0.2 FT/MIN OVER 2500 FT² WITH 250 GPM HOSE STREAM REQUIRED (UFC 3-600-01, TABLES 9-3 AND 9-4) - PROVIDED

FIRE PUMP: A SINGLE FIRE PUMP IS REQUIRED FOR THIS PROJECT. FIRE PUMP WILL BE RATED FOR A MINIMUM OF 1000 GPM AT 40 PSI (UFC 4-211-01, SECTION 3-6.4.1.2) - PROVIDED

STANDPIPE SYSTEMS: NOT REQUIRED (UFC 3-600-01, SECTION 9-10) - NOT PROVIDED

DRY CHEMICAL EXTINGUISHING SYSTEMS: NOT REQUIRED (UFC 3-600-01, SECTION 9-11) - NOT PROVIDED

WET CHEMICAL EXTINGUISHING SYSTEMS: NOT REQUIRED (UFC 3-600-01, SECTION 9-12) - NOT PROVIDED

CLEAN AGENT FIRE EXTINGUISHING SYSTEMS: NOT REQUIRED (UFC 3-600-01, SECTION 9-13) - NOT PROVIDED

WATER MIST FIRE PROTECTION SYSTEMS: NOT REQUIRED (UFC 3-600-01, SECTION 9-14) - NOT PROVIDED

CARBON DIOXIDE SYSTEMS: NOT REQUIRED (UFC 3-600-01, SECTION 9-15) - NOT PROVIDED

HALON 1301 SYSTEMS: NOT REQUIRED (UFC 3-600-01, SECTION 9-16) - NOT PROVIDED

PORTABLE FIRE EXTINGUISHERS: REQUIRED (UFC 3-600-01, SECTION 9-17) - PROVIDED

FIRE ALARM SYSTEM: REQUIRED (UFC 3-600-01, SECTIONS 9-18) - PROVIDED COMBINED FA/MNS SYSTEM

THE NEW FIRE ALARM CONTROL UNIT (FACU) MUST BE A MONACO MAP(+) WITH POINT REPORTING REQUIRED (188TH CES J&A) - PROVIDED

MASS NOTIFICATION SYSTEM: REQUIRED (UFC 4-010-01, SECTION 1-8) - PROVIDED

CONNECTION TO AND DISCRIPTION OF BASE FIRE ALARM REPORTING SYSTEM: REQUIRED (UFC 3-600-01, SECTIONS 9-18.3) - ALL FIRE ALARM SIGNALS SENT FROM INDIVIDUAL BUILDINGS MUST BE SENT VIA RADIO, 146.5 MHz. SIGNALS MUST BE TRANSMITTED TO BUILDING 3262 AND BUILDING 55 HEAD-END RECEIVING STATIONS.

SMOKE DETECTION: AREA DETECTION NOT REQUIRED (UFC 3-600-01, SECTION 9-18.5) - NOT PROVIDED

SMOKE DETECTOR ABOVE FIRE ALARM CONTROL UNIT, NOTIFICATION APPLIANCE CIRCUIT POWER EXTENDERS, AND SUPERVISING STATION TRANSMITTING EQUIPMENT REQUIRED (NFPA 72, SECTION 10.4.4) - PROVIDED

DUCT SMOKE DETECTION ON AIR HANDLING UNITS GREATER THAN 2000 ft3/min SUPPLY AIR CAPACITY REQUIRED (NFPA 90A, SECTION 6.4.2.1(1)) - PROVIDED

CARBON MONOXIDE DETECTION: CARBON MONOXIDE DETECTION IS NOT REQUIRED (UFC 3-600-01, SECTION 9-19.1.1) - NOT PROVIDED

SMOKE MANAGEMENT OR CONTROL METHODS: FIRE DAMPERS INSTALLED IN ALL TRANSFER OPENINGS IN FIRE BARRIERS REQUIRED (NFPA 90A, SECTION 5.3.1.2) - PROVIDED

SMOKE VENTILATION REQUIRED (UFC 3-440-01, SECTION 3-3.12 AND NFPA 1, SECTION 11.12.2.2.2.3.3) - PROVIDED, SINGLE STORY BUILDINGS WITH AT LEAST 48 IN. PATHWAY BORDERING SKYLIGHTS OR SMOKE AND HEAT VENTS ON NOT LESS THAN ONE SIDE

SECURITY AND ANTITERRORISM REQUIREMENTS: MASS NOTIFICATION SYSTEM REQUIRED (UFC 4-010-01, SECTION 2-3.5) - PROVIDED.

ILLUMINATION OF MEANS OF EGRESS: REQUIRED (NFPA 101, SECTIONS 38.2.8, 42.8.2.8 AND 7.8) - PROVIDED

EMERGENCY LIGHTING: REQUIRED (NFPA 101, SECTIONS 38.2.9.1 AND 42.2.9) - PROVIDED

MARKING OF MEANS OF EGRESS: REQUIRED (NFPA 101,SECTIONS 7.10, 38.2.10, AND 42.8.2.10) - PROVIDED

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DESIGNED BY: S. BRINKMEYER
DRAWN BY: S. BRINKMEYER
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SUBMITTED BY: A. BLANKENSHIP, P.E.
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

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MEANS OF EGRESS:

OCCUPANT LOAD: CALCULATED OCCUPANT LOAD PER OCCUPANCY CLASSIFICATION AND USE (NFPA 101, TABLE 7.3.1.2 AND UFC 3-600-01, TABLE 10-1) - PROVIDED

USE	OCCUPANT LOAD FACTOR	GROSS OR NET AREA
STORAGE	500 FT² PER PERSON	GROSS
ASSMEBLY - LESS CONCENTRATED	15 FT² PER PERSON	NET
INDUSTRIAL	100 FT² PER PERSON	GROSS
MECH, ELEC, OTHER	500 FT² PER PERSON	GROSS
AIRCRAFT HANGARS - AIRCRAFT STORAGE AND SERVICING AREAS	500 FT² PER PERSON	GROSS
BUSINESS – UNCONCENTRATED	150 FT² PER PERSON	GROSS

TOTAL BUILDING OCCUPANT LOAD:
GROUND FLOOR OCCUPANT LOAD: 242
FIRST FLOOR OCCUPANT LOAD: 69
TOTAL OCCUPANT LOAD: 311

NUMBER OF EXITS: TWO BUILDING EXIT REQUIRED (NFPA 101, SECTIONS 38.2.4, 42.2.4, AND 7.4.1.2(1)) - PROVIDED

ARRANGEMENT OF EXITS: WHERE TWO EXITS OR EXIT ACCESS DOORWAYS ARE REQUIRED, EXITS OR EXIT ACCESS DOORWAYS SEPARATED BY NOT LESS THAN ONE-THIRD THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA SERVED REQUIRED (NFPA 101, SECTION 7.5.1.3.3) - PROVIDED

EXITS SERVING THE HANGAR BAY MUST BE ARRANGED SUCH THAT THEY ARE SPACED NO GREATER THAN 150 FT BETWEEN EXITS AND EXIT ACCESS DOORS ALONG THE HANGAR BAY PERIMETER REQUIRED (UFC 4-211-01, SECTION 3-3.1.9 NOTE 3) - PROVIDED

WHERE HANGAR BAY DOOR OPENINGS EXCEED 110 FT THE FIRST EXIT OR EXIT ACCESS MUST BE PROVIDED WITHIN 20 FT OF THE HANGAR BAY DOOR OPENING REQUIRED (UFC 4-211-01, SECTION 3-3.1.9 NOTE 7) - PROVIDED

MEANS OF EGRESS SIZING: CALCULATED MEANS OF EGRESS COMPONENTS SIZING REQUIREMENTS PER COMPONENT REQUIRED (NFPA 101, TABLES 7.3.3.1, 7.2.5.3(a), AND 7.2.2.2.1.2(B) AND SECTIONS 7.2.1.2.3.2, 7.2.2.2.1.2(A), 7.2.2.2.1.2(F), 7.2.6.4.2, AND 7.3.4) - PROVIDED

COMPONENT	SIZING FACTOR - LOW/ORDINARY HAZARD	MINIMUM SIZE
CORRIDORS	0.2 in. PER PERSON	36 in.
STAIRWAYS (50 OCCUPANTS OR LESS)	0.3 in. PER PERSON	36 in.
STAIRWAYS (50 OCCUPANTS OR MORE)	0.3 in. PER PERSON	44 in.
RAMPS	0.2 in. PER PERSON	44 in.
PASSAGEWAYS	0.2 in. PER PERSON	36 in.
DOORS	0.2 in. PER PERSON	32 in.

STAIRWAY DIMENSIONAL REQUIREMENTS:

WIDTH:	SEE TABLE ABOVE
HEADROOM:	6 ft 8 in. REQUIRED (NFPA 101, TABLE 7.2.2.2.1.1(a)) - PROVIDED
STAIR TREADS AND RISERS:	4 in. TO 7 in. RISE REQUIRED (NFPA 101, TABLE 7.2.2.2.1.1(a)) - PROVIDED
	11 in. MINIMUM RUN REQUIRED (NFPA 101, TABLE 7.2.2.2.1.1(a)) - PROVIDED
	UNIFORM SIZE AND SHAPE REQUIRED (NFPA 101, SECTION 7.2.2.3.6) - PROVIDED
NOSING PROJECTION SIZE:	LESS THAN OR EQUAL TO 1 1/2 in. REQUIRED (NFPA 101, SECTION 7.2.2.3.3.4) - PROVIDED
NOSING PROJECTION UNIFORMITY:	THE VARIATION IN THE HORIZONTAL PROJECTION OF ALL NOSINGS, INCLUDING THE PROJECTION OF THE LANDING NOSING, MUST NOT EXCEED 3/8 in. WITHIN EACH STAIR FLIGHT AND MUST NOT EXCEED 3/16 in. BETWEEN ADJACENT NOSINGS REQUIRED (NFPA 101, SECTION 7.2.2.3.6.6) - PROVIDED
SOLID RISERS:	STAIR TREADS AND LANDINGS MUST BE SOLID, WITHOUT PERFORATIONS, REQUIRED (NFPA 101, SECTION 7.2.2.3.3.1) - PROVIDED
STAIRWAY LANDINGS:	LANDINGS MUST HAVE A DIMENSION, MEASURED IN THE DIRECTION OF TRAVEL THAT IS NOT LESS THAN THE WIDTH OF THE STAIR REQUIRED (NFPA 101, SECTION 7.2.2.3.2.3) - PROVIDED
VERTICAL RISE:	LESS THAN OR EQUAL TO 12 ft PER LANDING REQUIRED (NFPA 101, TABLE 7.2.2.2.1.1(A)) - PROVIDED
HANDRAILS:	ON EACH SIDE REQUIRED (NFPA 101, SECTION 7.2.2.4.1.1) - PROVIDED

RAMP REQUIREMENTS: NOT APPLICABLE

HANDRAIL REQUIREMENTS:

HEIGHT:	34 in. - 38 in. REQUIRED (NFPA 101, SECTION 7.2.2.4.5.1) - PROVIDED
GRASPABILITY:	OUTSIDE DIAMETER OF 1 1/4 in. - 2 in. OR PERIMETER OF 4 in. - 6 1/4 in. WITH A MAXIMUM CROSS-SECTIONAL DIMENSION OF 57 MM, EDGE RADIUS GREATER THAN OR EQUAL TO 3.2 MM REQUIRED (NFPA 101, SECTION 7.2.2.4.5.6) - PROVIDED
CONTINUITY:	CONTINUOUS REQUIRED (NFPA 101, SECTION 7.2.2.4.2) - PROVIDED
EXTENSIONS:	HANDRAILS THAT ARE NOT CONTINUOUS BETWEEN FLIGHTS MUST EXTEND HORIZONTALLY, AT THE REQUIRED HEIGHT, NOT LESS THAN 12 in. BEYOND THE TOP RISER AND CONTINUE TO SLOPE FOR A DEPTH OF ONE TREAD BEYOND THE BOTTOM RISER REQUIRED (NFPA 101, SECTION 7.2.2.4.5.10) - PROVIDED
CLEARANCE:	HANDRAILS INSTALLED TO PROVIDE A CLEARANCE OF NOT LESS THAN 2 1/4 in. BETWEEN THE HANDRAIL AND THE WALL TO WHICH IT IS FASTENED REQUIRED (NFPA 101, SECTION 7.2.2.4.5.5) - PROVIDED
INTERMEDIATE HANDRAILS:	20 in. MINIMUM CLEAR WIDTH BETWEEN HANDRAILS AND INTERMEDIATE HANDRAILS REQUIRED (NFPA 101, SECTION 7.2.2.4.1.3) - PROVIDED

MEANS OF EGRESS (CONT'D):

GUARD REQUIREMENTS:

LOCATION:	GUARDS PROVIDED AT THE OPEN SIDES OF MEANS OF EGRESS THAT EXCEED 30 in. ABOVE THE FLOOR OR THE FINISHED GROUND LEVEL BELOW REQUIRED (NFPA 101, SECTION 7.1.8) - PROVIDED
HEIGHT:	GREATER THAN OR EQUAL TO 42 in. REQUIRED (NFPA 101, SECTION 7.2.2.4.6.2) - PROVIDED
OPENING LIMITATIONS:	LESS THAN OR EQUAL TO 4 in. SPHERE REQUIRED (NFPA 101, SECTION 7.2.2.4.6.3) - PROVIDED

MAXIMUM TRAVEL DISTANCE:

ALLOWABLE TRAVEL DISTANCE	
BUSINESS	300 ft (NFPA 101, SECTION 38.2.6.3)
ORDINARY HAZARD STORAGE	400 ft (NFPA 101, TABLE 42.2.6)
ASSEMBLY	250 ft (NFPA 101, SECTION 12.2.6.2)
GENERAL INDUSTRIAL	250 ft (NFPA 101, TABLE 40.2.6.1)
ACTUAL	
BUSINESS	REFER TO LIFE SAFETY PLANS
ORDINARY HAZARD STORAGE	REFER TO LIFE SAFETY PLANS
ASSEMBLY	REFER TO LIFE SAFETY PLANS
GENERAL INDUSTRIAL	REFER TO LIFE SAFETY PLANS

COMMON PATH OF TRAVEL:

ALLOWABLE COMMON PATH OF TRAVEL	
BUSINESS	100 ft (NFPA 101, SECTION 38.2.5.2.1)
ORDINARY HAZARD STORAGE	100 ft (NFPA 101, TABLE 40.2.5.1)
ASSEMBLY (≤ 50 OCCUPANTS)	75 ft (NFPA 101, SECTION 12.2.5.2)
ASSEMBLY (> 50 OCCUPANTS)	20 ft (NFPA 101, SECTION 12.2.5.2)
GENERAL INDUSTRIAL	100 ft (NFPA 101, TABLE 40.2.5.1)
ACTUAL	
BUSINESS	REFER TO LIFE SAFETY PLANS
ORDINARY HAZARD STORAGE	REFER TO LIFE SAFETY PLANS
ASSEMBLY (≤ 50 OCCUPANTS)	REFER TO LIFE SAFETY PLANS
ASSEMBLY (> 50 OCCUPANTS)	REFER TO LIFE SAFETY PLANS
GENERAL INDUSTRIAL	REFER TO LIFE SAFETY PLANS

DEAD-END CORRIDORS:

ALLOWABLE DEAD-END CORRIDORS	
BUSINESS	50 ft (NFPA 101, SECTION 38.2.5.2)
ORDINARY HAZARD STORAGE	100 ft (NFPA 101, TABLE 42.2.5)
ASSEMBLY	20 ft (NFPA 101, SECTION 12.2.5.3)
GENERAL INDUSTRIAL	50 ft (NFPA 101, TABLE 40.2.5.1)
ACTUAL	
BUSINESS	REFER TO LIFE SAFETY PLANS
ORDINARY HAZARD STORAGE	REFER TO LIFE SAFETY PLANS
ASSEMBLY	REFER TO LIFE SAFETY PLANS
GENERAL INDUSTRIAL	REFER TO LIFE SAFETY PLANS

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SUBMITTED BY: A. BLANKENSHIP, P.E.
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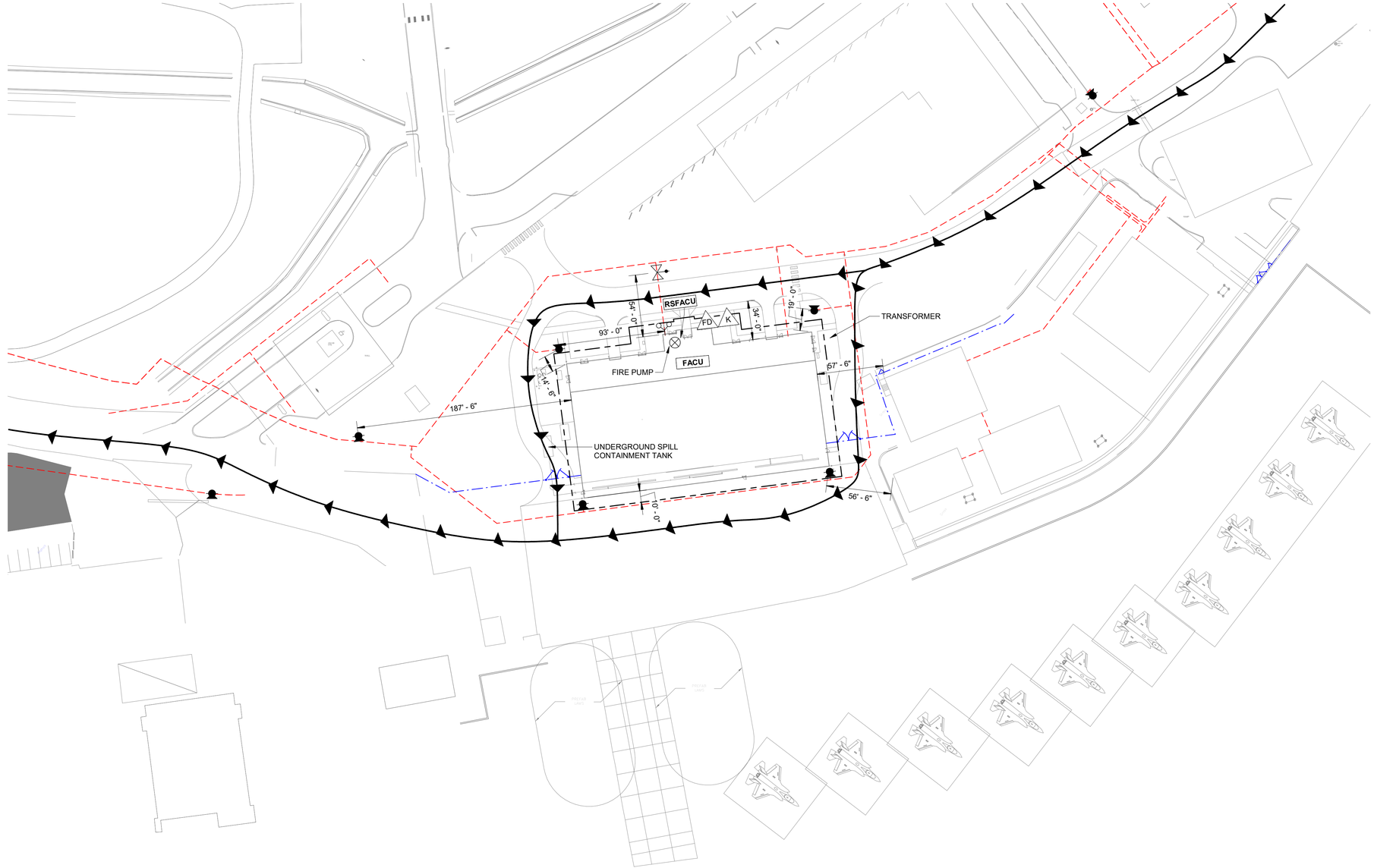
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PN: 512203

LIFE SAFETY CODE NARRATIVE

SHEET ID
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LIFE SAFETY SITE LEGEND

SYMBOL	DESCRIPTION
	FIRE DEPARTMENT ACCESS
	FIRE HYDRANT
	FIRE SUPPRESSION RISER
	FIRE DEPARTMENT CONNECTION
	POST INDICATOR VALVE
FACU	FIRE ALARM CONTROL UNIT
K	KNOX BOX
FD	FIRE DEPARTMENT MAIN POINT OF ACCESS
	IMAGINARY LOT LINE
	FIRE WATER MAIN
	FENCE

B1 CODE COMPLIANCE SITE PLAN

SCALE = 1" = 50'-0"

0 25' 50' 100'

SCALE: 1" = 50'-0"

PLAN NORTH

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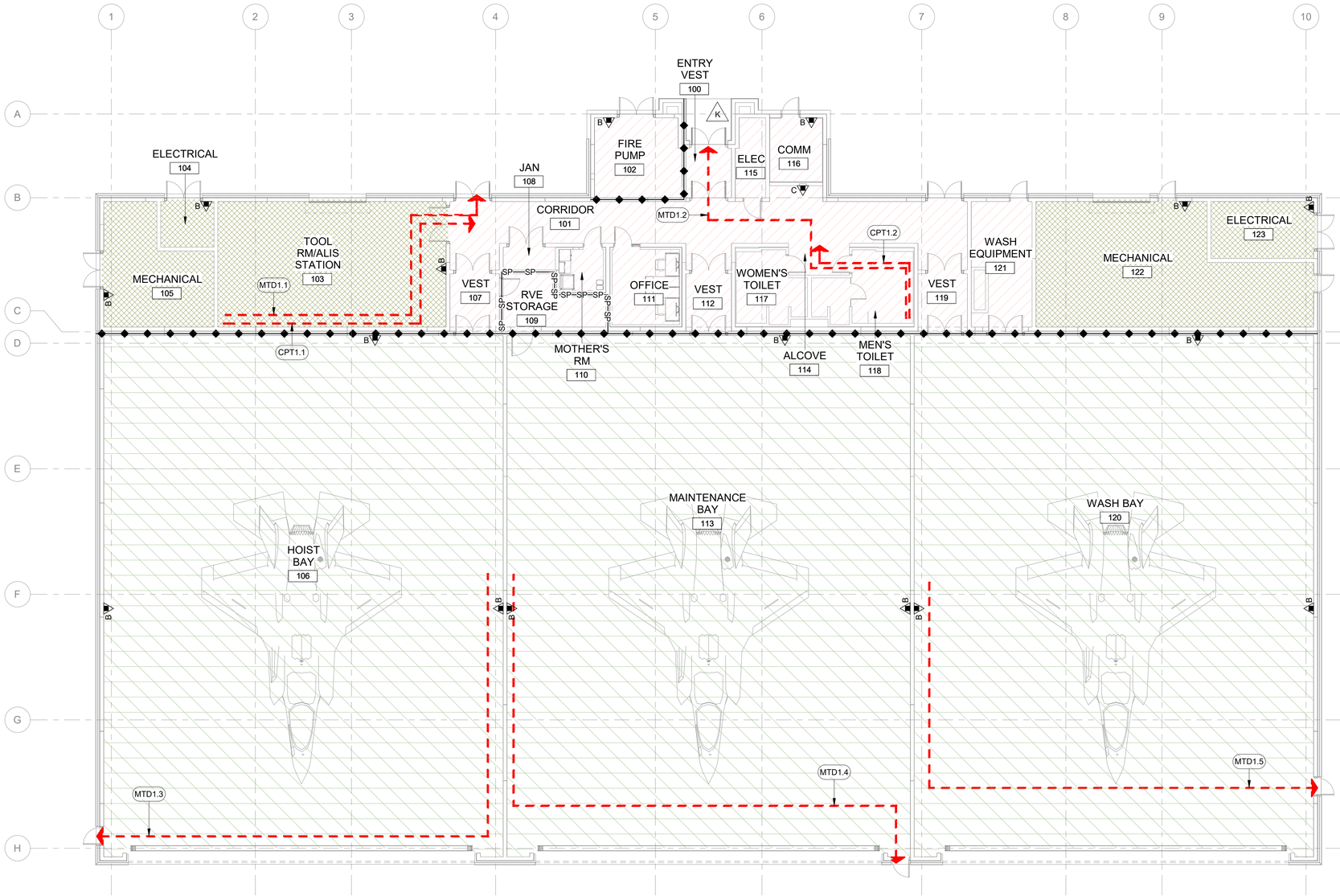
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LIFE SAFETY LEGEND

SYMBOL	DESCRIPTION
	PATH OF EGRESS
XX#.#	PATH OF EGRESS IDENTIFIER
	1-HOUR FIRE RATED BARRIER
B	PORTABLE FIRE EXTINUISHER - MOUNTED ON BRACKET
C	PORTABLE FIRE EXTINUISHER - MOUNTED IN CABINET
K	FIRE DEPARTMENT KEY BOX

OCCUPANCY CLASSIFICATION LEGEND

HATCH	DESCRIPTION
	BUSINESS (BUSINESS GROUP B)
	ORDINARY HAZARD STORAGE (MODERATE-HAZARD STORAGE GROUP S-1)
	AIRCRAFT HANGAR (MODERATE-HAZARD STORAGE GROUP S-1)

EGRESS PATH SCHEDULE

TAG ABBREVIATIONS:
CPT: COMMON PATH OF TRAVEL
MTD: MAXIMUM TRAVEL DISTANCE
DEC: DEAD-END CORRIDOR

TAG	ACTUAL LENGTH	OCCUPANCY	MAXIMUM ALLOWABLE LENGTH
CPT1.1	61' - 0"	S-1	100' - 0"
MTD1.1	64' - 6"	S-1	400' - 0"
CPT1.2	27' - 11"	B	100' - 0"
MTD1.2	64' - 2"	B	300' - 0"
MTD1.4	117' - 0"	S-1	400' - 0"
MTD1.3	114' - 0"	S-1	400' - 0"
MTD1.5	103' - 6"	S-1	400' - 0"

A2 LIFE SAFETY PLAN
SCALE = 3/32" = 1'-0"
0 8' 16' 32'
SCALE: 3/32" = 1'-0"

PLAN NORTH

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ENGINEERING & CONSTRUCTION DIVISION
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PN: 512203

LIFE SAFETY FLOOR PLAN

SHEET ID
F-101

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A2 LIFE SAFETY OCCUPANT LOAD PLAN

SCALE = 3/32" = 1'-0"

0 8' 16' 32'

SCALE: 3/32" = 1'-0"

LIFE SAFETY LEGEND

SYMBOL	DESCRIPTION
A C / B D	OCCUPANCY TAG A: AREA (ft²) B: OCCUPANT LOAD FACTOR C: OCCUPANT LOAD D: OCCUPANCY USE
0 / 0 / 0 / 0 / D	EGRESS CAPACITY TAG ACTUAL CLEAR WIDTH REQUIRED CLEAR WIDTH ACTUAL EGRESS MAXIMUM EGRESS CAPACITY EGRESS COMPONENT: (D)DOOR (S)STAIRWAY

OCCUPANCY USE LEGEND

HATCH	USE	DESCRIPTION
	B	BUSINESS 150ft²/PERSON, GROSS
	S	STORAGE 500ft²/PERSON, GROSS
	H	AIRCRAFT HANGAR 500ft²/PERSON, GROSS
	IT	IT EQUIPMENT ROOMS 300ft²/PERSON, GROSS
	M	MECH, ELEC, OTHER BUILDING EQUIP SPACES 500ft²/PERSON, GROSS

OCCUPANCY USE AND LOAD FACTOR SCHEDULE

NUMBER	NAME	OCCUPANCY USE	AREA	LOAD FACTOR	OCCUPANT LOAD
100	ENTRY VEST	B	69 ft²	150 ft²	1
101	CORRIDOR	B	809 ft²	150 ft²	6
102	FIRE PUMP	M	211 ft²	500 ft²	1
103	TOOL RM/ALIS STATION	S	880 ft²	500 ft²	2
104	ELECTRICAL	M	75 ft²	500 ft²	1
105	MECHANICAL	M	339 ft²	500 ft²	1
106	HOIST BAY	H	6280 ft²	500 ft²	13
107	VEST	B	81 ft²	150 ft²	1
108	JAN	S	37 ft²	500 ft²	1
109	RVE STORAGE	S	131 ft²	500 ft²	1
110	MOTHER'S RM	B	56 ft²	150 ft²	1
111	OFFICE	M	156 ft²	500 ft²	1
112	VEST	B	75 ft²	150 ft²	1
113	MAINTENANCE BAY	H	6342 ft²	500 ft²	13
114	ALCOVE	B	60 ft²	150 ft²	1
115	ELEC	M	71 ft²	500 ft²	1
116	COMM	IT	105 ft²	300 ft²	1
117	WOMEN'S TOILET	B	136 ft²	150 ft²	1
118	MEN'S TOILET	B	188 ft²	150 ft²	2
119	VEST	B	81 ft²	150 ft²	1
120	WASH BAY	H	6280 ft²	500 ft²	13
121	WASH EQUIPMENT	S	235 ft²	500 ft²	1
122	MECHANICAL	M	872 ft²	500 ft²	2
123	ELECTRICAL	M	180 ft²	500 ft²	1
FLOOR TOTAL OCCUPANT LOAD:					68

NOTE: PER DISCUSSION WITH END USER THE ACTUAL FACILITY OCCUPANT LOAD WILL BE FAR LESS THAN WHAT IS CALCULATED ABOVE. THE FACILITY HAS BEEN CLASSIFIED AS A LOW OCCUPANCY FACILITY IN ACCORDANCE WITH UFC 4-010-01.

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. BRINKMEYER
DRAWN BY: S. BRINKMEYER
CHECKED BY: A. POOLE, P.E.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

File Path: C:\Users\sbrinkmeyer\Documents\EANG_512203_FIRE_sbrinkmeyerBALS.rvt

Plot Date: 10/9/2025 1:30:41 PM

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TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

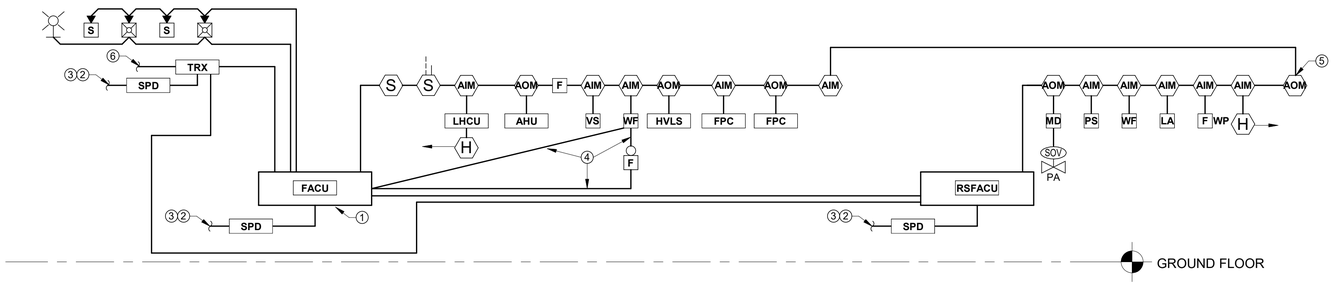
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIFE SAFETY OCCUPANT LOAD PLAN

SHEET ID
F-102

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NOTES:
1. THIS RISER DIAGRAM IS INTENDED ONLY TO CAPTURE THE SYSTEM DESIGN INTENT, PANEL CONNECTIONS, AND GENERAL CIRCUIT ROUTING REQUIREMENTS. EXACT QUANTITIES AND TYPES OF DEVICES NECESSARY TO ACCOMPLISH THE DESIGN GOALS ARE NOT INDICATED. THE INTENT OF THIS RISER DIAGRAM IS TO INDICATE THE GENERAL SYSTEM CONFIGURATION AFTER SUCCESSFUL COMPLETION OF THE PROJECT.
2. TO DEDICATED 120VAC/60HZ BRANCH CIRCUIT
3. PROVIDE POWER FOR THE FIRE PROTECTION SYSTEM FROM THE SERVICE ENTRANCE EQUIPMENT PER UFC 3-520-01.
4. 24VDC AUXILIARY POWER.
5. DRY CONTACT OUTPUTS OF THE RSFACU WILL BE USED TO SIGNAL THE FACU. ADDRESSABLE INPUT MODULES ON THE FACU SIGNALING LINE CIRCUIT WILL MONITOR AND SUPERVISE THESE DRY CONTACTS. SEE MATRIX FOR OUTPUTS TO FACU.
6. MONCAO FREQUENCY IS 138.9250.

J1 FACU RISER DIAGRAM
SCALE = NONE

FIRE ALARM / MASS NOTIFICATION GENERAL NOTES

FIRE ALARM / MASS NOTIFICATION SYSTEM GENERAL NOTES:
1. THE FIRE ALARM SYSTEM DRAWING DETAILS ARE REPRESENTED BY THE SERIES OF FA DRAWINGS. THE FA SERIES DRAWINGS MUST BE INTERPRETED IN THEIR ENTIRETY FOR CONSTRUCTION AND INSTALLATION REQUIREMENTS. NO SINGLE FA SERIES DRAWING CONTAINS INFORMATION RELATING TO THE FIRE ALARM SYSTEM DESIGN INTENT OR SPECIFICATION.
2. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW ONE POTENTIAL METHOD OF CODE COMPLIANCE BASED UPON DESIGNED CONDITIONS. THE WORK THAT IS INDICATED ON THESE DRAWINGS ARE AN OVERVIEW OF THE PROJECT, INTENDED TO ESTABLISH THE CONTRACTOR'S RESPONSIBILITIES, DETERMINE THE FINAL QUANTITY, CANDELA, TAP SETTINGS, AND LOCATION OF DEVICES IN ACCORDANCE WITH THE SPECIFICATIONS, CONTRACT DRAWINGS, AND MANUFACTURER'S WRITTEN RECOMMENDATIONS MUST BE COMPLIANT WITH APPLICABLE CODES AND STANDARDS. PROVIDE ADDITIONAL DEVICES WHEN REQUIRED FOR A FULLY FUNCTIONING FIRE ALARM SYSTEM.
3. THE DESIGN AND INSTALLATION OF THE FIRE ALARM AND MASS NOTIFICATION SYSTEM MUST BE IN ACCORDANCE WITH UFC 3-600-01 (8 AUGUST 2016; CHANGE 6 - 6 MAY 2021), UFC 4-021-01 (9APRIL 2008; CHANGE 1- JANUARY 10), NFPA 70 (2020 EDITION), AND NFPA 72 (2022 EDITION).
4. PENETRATIONS OF FIRE RESISTANCE RATED CONSTRUCTION MUST BE SEALED TO MAINTAIN THE REQUIRED FIRE RESISTANCE RATING TO ORIGINAL SPECIFICATIONS.
5. NOTIFICATION APPLIANCES MUST NOT BE BLOCKED BY SCREENS, TELEVISIONS, FURNITURE OR SIMILAR ITEMS. COORDINATE FINAL DEVICE LOCATIONS WITH ACTUAL INSTALLATION CONDITIONS.
6. REFER TO ELECTRICAL DRAWINGS FOR HAZARDOUS CLASSIFIED AREA LOCATIONS. PROVIDE CONDUIT BREATHERS IN ISOLATED PORTIONS OF CONDUIT RATED FOR THE ELECTRICAL HAZARD CLASSIFICATION FOR WHICH THEY ARE INSTALLED PER DIVISION 26 SPECIFICATIONS.
7. PROVIDE WIRING IN METALLIC CONDUIT IN ACCORDANCE WITH NFPA 70. CONDUIT MUST BE SIZED IN ACCORDANCE WITH MAXIMUM FILL REQUIREMENTS, AND MUST BE NO LESS THAN 3/4 INCH WIRING INSTALLED THROUGHOUT PLENUMS MUST BE IN ACCORDANCE WITH NFPA 70, SECTION 760.135(C).

MASS NOTIFICATION SYSTEM PRIORITIZATION:
1. AUTONOMOUS CONTROL UNIT INPUTS TAKE PRIORITY OVER OTHER INPUTS.
2. LOCAL OPERATING CONSOLE INPUTS TAKE PRIORITY OVER INSTALLATION GENERATED INPUTS.
3. MASS NOTIFICATION SYSTEM INPUTS TAKE PRIORITY OVER FIRE INPUTS.

AUDIBLE DESIGN CRITERIA:
1. PROVIDE AUDIBLE NOTIFICATION APPLIANCES TO ACHIEVE A SOUND PRESSURE LEVEL AT LEAST 15 dB ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, MEASURED 5 FT. ABOVE THE FLOOR.
2. AUDIBILITY LEVELS OF 15 dB ABOVE AMBIENT MAY NOT BE CONSISTENTLY ACHIEVED IN ROOMS WITH AN ANTICIPATED AMBIENT SOUND PRESSURE LEVEL OF 85 dB OR GREATER. VISIBLE NOTIFICATION MUST BE PROVIDED IN THESE SPACES TO SUPPLEMENT THE AUDIBLE NOTIFICATION APPLIANCES IN ACCORDANCE WITH UFC 3-600-01, SECTION 9-18.6.3.h, AND NFPA 72, SECTION 18.4.4.2.
3. ACHIEVE A CIS SCORE OF NO LESS THAN 0.8 IN EACH AREA WHERE BUILDING OCCUPANTS TYPICALLY COULD BE FOUND. MEASUREMENTS MUST BE TAKEN NEAR THE HEAD LEVEL APPLICABLE FOR MOST PERSONNEL IN THE SPACE UNDER NORMAL CONDITIONS. CIS SCORES GREATER THAN OR EQUAL TO 0.75 MAY BE ROUNDED UP TO 0.8.
4. A LESSER CIS IS PERMITTED IN AREAS OF THE BUILDING WITH EXCESSIVE SOUND REFLECTIONS, SUCH AS ROOMS WITH HARD SURFACES (METAL, TILE, OR CONCRETE), WHERE THE OCCUPANT CAN DETERMINE THAT A VOICE SIGNAL IS BEING BROADCAST AND THEY MUST WALK NO MORE THAN 33 FT. TO A LOCATION THAT ACHIEVES THE MINIMUM CIS. THIS AREA MUST BE READILY ACCESSIBLE, WITHOUT REQUIRING THE OCCUPANT TO WALK THROUGH A SECURED DOOR/AREA OR EXIT THE BUILDING.
5. A LESSER CIS IS PERMITTED IN NORMALLY UNOCCUPIED ROOMS OF THE BUILDING, WHERE THE OCCUPANT CAN DETERMINE THAT A VOICE SIGNAL IS BEING BROADCAST AND THEY MUST WALK NO MORE THAN 50 FT. TO A LOCATION THAT ACHIEVES THE MINIMUM CIS. THIS AREA MUST BE READILY ACCESSIBLE, WITHOUT REQUIRING THE OCCUPANT TO WALK THROUGH A SECURED DOOR/AREA OR EXIT THE BUILDING.
6. STORAGE ROOMS, MECHANICAL ROOMS, RISER ROOMS, ELECTRICAL ROOMS, JANITOR ROOMS, AND COMMUNICATIONS CLOSETS ARE CONSIDERED NORMALLY UNOCCUPIED. OTHER ROOMS MUST BE CONSIDERED NORMALLY OCCUPIED FOR THE PURPOSES OF INTELLIGIBILITY.
7. A CIS VALUE OF NO LESS THAN 0.6 IS PERMITTED IN PORTIONS OF LARGE CAVERNOUS-TYPE ROOMS, SUCH AS A HANGAR BAY OR HIGH-BAY STORAGE, WHERE THE OCCUPANT CAN STILL ADEQUATELY UNDERSTAND THE MESSAGE CONTENT IN THE VOICE SIGNAL BEING BROADCAST AND THE OCCUPANT MUST WALK NO MORE THAN 100 FT. TO FIND ANOTHER LOCATION WITHIN THE LARGE CAVERNOUS-TYPE ROOM HAVING AT LEAST THE NORMAL MINIMUM REQUIRED CIS VALUE.

VISUAL DESIGN CRITERIA:
1. STROBE AND COMBINATION SPEAKER/STROBE APPLIANCES, WHEN WALL MOUNTED, MUST BE LOCATED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80 IN. AND NOT GREATER THAN 96 IN. ABOVE THE FINISHED FLOOR.

INITIATING DEVICE NOTES:
1. PROVIDE REMOTE ALARM INDICATORS AND TEST SWITCHES FOR CONCEALED DUCT DETECTORS, OR DUCT DETECTORS LOCATED MORE THAN 15 FT. ABOVE FINISHED FLOOR. MOUNT REMOTE ALARM INDICATORS AND TEST SWITCHES AT AN ACCESSIBLE LOCATION ON THE WALL.
2. MOUNT SMOKE DETECTORS ON THE BOTTOM OF THE CEILING/DECK (NOT ON THE BOTTOM OF STRUCTURAL MEMBERS)
3. LOCATE SMOKE DETECTORS MORE THAN 3 FT. FROM AIR SUPPLY DIFFUSERS AND RETURN GRILLES.
4. THE OPERABLE PART OF MANUAL PULL STATIONS MUST NOT BE LESS THAN 42 IN. AND NOT MORE THAN 48 IN. ABOVE FINISHED FLOOR, AND LOCATED WITHIN 5 FT. OF EACH EXIT DOORWAY.

FIRE ALARM LEGEND

SYMBOL	DESCRIPTION
FACU	FIRE ALARM/MASS NOTIFICATION CONTROL UNIT (MONACO MAAP(+))
RSFACU	RELEASING SERVICE FIRE ALARM CONTROL UNIT
SPD	SURGE PROTECTIVE DEVICE
FPC	FIRE PUMP CONTROLLER
TRX	BASE-WIDE MASS NOTIFICATION TRANSCEIVER PANEL
HVLS	HVLS FAN CONTROL UNIT
AHU	AIR HANDLING UNIT CONTROLLER
LOC	LOCAL OPERATING CONSOLE
F	FIRE ALARM PULL STATION
AOM	ADDRESSABLE OUTPUT MODULE
AIM	ADDRESSABLE INPUT MODULE
H	LINEAR HEAT DETECTOR
S	SMOKE DETECTOR - SPOT TYPE
S	SMOKE DETECTOR - DUCT TYPE
WF	WATERFLOW SWITCH
PS	PRESSURE SWITCH
VS	VALVE SUPERVISORY SWITCH
LA	LOW AIR SWITCH
MD	KEYED MAINTENANCE DISCONNECT SWITCH
GM	GRAPHIC FLOOR PLAN MAP
F	WATERFLOW BELL
S	SPEAKER
	SPEAKER STROBE
	STROBE - WALL MOUNT
	STROBE - CEILING MOUNT
SOV PA	PRE-ACTION SOLENOID VALVE
S S S S	SPEAKER CLUSTER - CEILING MOUNTED

SYMBOL MODIFIERS	
SUPPLY	SUPPLY DUCT
RETURN	RETURN DUCT
C	CEILING MOUNTED
*n*cd	CANDELA RATING
*n*W	WATT TAP
WP	WEATHER PROOF

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\brinkmeyer\Documents\EANG_512203_FIRE_\brinkmeyerRAL5.rvt

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DESIGNED BY: S. BRINKMEYER
DRAWN BY: S. BRINKMEYER
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SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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ENGINEERING & CONSTRUCTION DIVISION
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FIRE ALARM AND MASS NOTIFICATION GENERAL NOTES, LEGEND, AND RISER DIAGRAM

SHEET ID
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SYSTEM INPUTS ALARM CONDITIONS	FACU ANNUNCIATION							NOTIFICATION					AUXILIARY FUNCTIONS				MASS NOTIFICATION SYSTEM							
	SYSTEM OUTPUTS																							
	A ACTIVATE COMMON ALARM SIGNAL INDICATOR	B ACTIVATE AUDIBLE ALARM SIGNAL	C ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	D ACTIVATE AUDIBLE SUPERVISORY SIGNAL	E ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	F ACTIVATE AUDIBLE TROUBLE SIGNAL	G DISPLAY/PRINT CHANGE OF STATUS	H ACTIVATE TEMPORAL 3 ALERT TONE AND PRE-RECORDED FIRE EVACUATION MESSAGE THROUGHOUT BUILDING	I ACTIVATE STROBES THROUGHOUT BUILDING	J TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION VIA MONACO (BY DEVICE TYPE)	K TRANSMIT GENERAL SUPERVISORY SIGNAL TO SUPERVISING STATION VIA MONACO	L TRANSMIT GENERAL TROUBLE SIGNAL TO SUPERVISING STATION VIA MONACO	M SHUT DOWN ASSOCIATED AIR HANDLING UNIT	N ACTIVATE LIGHTING CONTROL DEVICES	O RELEASE ELECTRICALLY LOCKED EGRESS DOORS	P SHUNT TRIP POWER TO ASSOCIATED EQUIPMENT	Q ACTIVATE TEXT SIGN - "EVACUATE"	R ACTIVATE TEXT SIGN - "ALERT"	S TEMPORARILY DE-ACTIVATE FIRE EVACUATION MESSAGE	T ACTIVATE SPEAKERS THROUGHOUT BUILDING FOR LIVE MNS MESSAGE	U ACTIVATE RESPECTIVE ALERT TONE AND PRE-RECORDED VOICE MESSAGE THROUGHOUT BUILDING	V TRANSMIT UNIQUE SUPERVISORY SIGNAL TO SUPERVISING STATION	W DE-ACTIVATE MASS NOTIFICATION MESSAGE AFTER 10 MINUTES, RESUME FIRE EVACUATION MESSAGE	
1 MANUAL PULL STATION	X	X					X	X	X	X			X	X			X							1
2 SMOKE DETECTOR - SPOT TYPE	X	X					X	X	X	X			X	X										2
3 WATERFLOW/PRESSURE SWITCH	X	X					X	X	X	X			X	X	X	X	X							3
4 FIRE PUMP RUNNING	X	X					X			X														4
5 GENERAL FIRE ALARM SIGNAL FROM RSFACU	X	X					X	X	X					X	X		X							5
6 PREACTION WATER RELEASE SIGNAL FROM RSFACU	X	X					X	X	X					X	X		X							6
7 HANGAR BAY MANUAL PRE-ACTION RELEASE PULL STATION SIGNAL FROM RSFACU	X	X					X	X	X	X				X	X		X							7
SUPERVISORY CONDITIONS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	
8 SMOKE DETECTOR - DUCT TYPE			X	X			X				X		X			X								8
9 SHUNT TRIP POWER MONITOR			X	X			X				X													9
10 CONTROL VALVE SUPERVISORY SWITCH			X	X			X				X													10
11 ELECTRIC FIRE PUMP LOSS OF PHASE			X	X			X				X													11
12 ELECTRIC FIRE PUMP PHASE REVERSAL			X	X			X				X													12
13 SUPERVISED SOLENOID DISCONNECT SIGNAL FROM RSFACU			X	X			X				X													13
14 COMMON PREACTION SUPERVISORY SIGNAL FROM RSFACU			X	X			X				X													14
15 LOW AIR PRESSURE - PRE-ACTION			X	X			X				X													15
16 HIGH AIR PRESSURE - PRE-ACTION			X	X			X				X													16
17 LOW TEMPERATURE			X	X			X				X													17
TROUBLE CONDITIONS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	
18 AC POWER FAILURE					X	X	X					X												18
19 LOW BATTERY					X	X	X					X												19
20 OPEN CIRCUIT					X	X	X					X												20
21 GROUND FAULT					X	X	X					X												21
22 NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X	X					X												22
23 REMOTE POWER SUPPLY COMMON TROUBLE					X	X	X					X												23
24 FIRE PUMP CONTROLLER COMMON TROUBLE					X	X	X					X												24
25 COMMON PREACTION TROUBLE SIGNAL FROM RSFACU					X	X	X					X												25
26 ANY OTHER SYSTEM TROUBLE					X	X	X					X												26
MASS NOTIFICATION CONDITIONS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	
27 FACU -OR- LOC MICROPHONE KEYED-ALL CALL WITHOUT ACTIVE FIRE ALARM			X	X			X		X		X							X		X				27
28 FACU -OR- LOC MICROPHONE KEYED-ALL CALL WITH ACTIVE FIRE ALARM			X	X			X		X		X							X	X	X		X		28
29 PRE-RECORDED MESSAGE BUTTON ACTIVATED WITHOUT ACTIVE FIRE ALARM									X									X			X			29
30 PRE-RECORDED MESSAGE BUTTON ACTIVATED WITH ACTIVE FIRE ALARM			X	X			X		X		X							X	X		X	X	X	30
31 LIVE VOICE MESSAGE FROM WIDE AREA MNS CENTRAL CONTROL UNIT WITHOUT ACTIVE FIRE ALARM									X									X		X				31
32 LIVE VOICE MESSAGE FROM WIDE AREA MNS CENTRAL CONTROL UNIT WITH ACTIVE FIRE ALARM			X	X			X		X									X	X	X		X		32
33 PRE-RECORDED MESSAGE ACTIVATED FROM WIDE AREA MNS CENTRAL CONTROL UNIT WITHOUT ACTIVE FIRE ALARM									X									X			X			33
34 PRE-RECORDED MESSAGE ACTIVATED FROM WIDE AREA MNS CENTRAL CONTROL UNIT WITH ACTIVE FIRE ALARM			X	X			X		X									X	X		X	X	X	34
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	

X PERFORM OPERATION/REPORT DEVICE STATUS

NOTE: EXISTING BASE WIDE AREA MASS NOTIFICATION SYSTEM IS FEDERAL SIGNAL.

E2 FACU INPUT/OUTPUT MATRIX

SCALE = 12" = 1'-0"

SYSTEM INPUTS	RSFACU ANNUNCIATION							SIGNALS TO FACU					SIGNALS TO MONACO				AUXILIARY FUNCTIONS		
	SYSTEM OUTPUTS																		
	A ACTIVATE COMMON ALARM SIGNAL INDICATOR	B ACTIVATE AUDIBLE ALARM SIGNAL	C ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	E ACTIVATE AUDIBLE SUPERVISORY SIGNAL	F ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	G ACTIVATE AUDIBLE TROUBLE SIGNAL	H GENERAL FIRE ALARM - BY ZONE AND DEVICE TYPE	I PREACTION WATER RELEASE	J COMMON PREACTION SUPERVISORY	K SUPERVISED SOLENOID DISCONNECT SWITCH ENABLED - ASSOCIATED ZONE	M COMMON PREACTION TROUBLE	N GENERAL FIRE ALARM - BY ZONE AND DEVICE TYPE	O PREACTION WATER RELEASE	Q COMMON PREACTION SUPERVISORY	S SUPERVISED SOLENOID DISCONNECT SWITCH ENABLED	T COMMON PREACTION TROUBLE	T RELEASE PREACTION SPRINKLER SYSTEM	U SHUT DOWN HLVS FANS IN ASSOCIATED ZONE	
FIRE ALARMS																			
1 LINEAR HEAT DETECTOR IN PROTECTED ZONE	X	X					X												1
2 WATERFLOW SWITCH IN PROTECTED ZONE	X	X					X						X						3
SUPERVISORY SIGNALS																			
3 PREACTION SUPERVISED SOLENOID DISCONNECT			X	X						X									4
4 COMMON SUPERVISORY			X	X					X					X					5
TROUBLE CONDITIONS																			
5 AC POWER FAILURE					X	X				X						X			6
6 LOW BATTERY					X	X				X						X			6
7 OPEN CIRCUIT					X	X				X						X			6
8 GROUND FAULT					X	X				X						X			6
9 COMMON TROUBLE					X	X				X						X			7
	A	B	C	E	F	G	H	I	J	K	M	N	O	P	Q	S	T	U	

X PERFORM OPERATION/REPORT DEVICE STATUS

E14 RSFACU INPUT/OUTPUT MATRIX

SCALE = NONE

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. BRINKMEYER
DRAWN BY: S. BRINKMEYER
CHECKED BY: A. POOLE, P.E.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt
10/9/2025 1:30:42 PM
File Path: C:\Users\brinkmeyer\Documents\EANG_512203_FIRE_alarmmapsRAILS.rvt
Plot Date: 10/9/2025

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PN: 512203

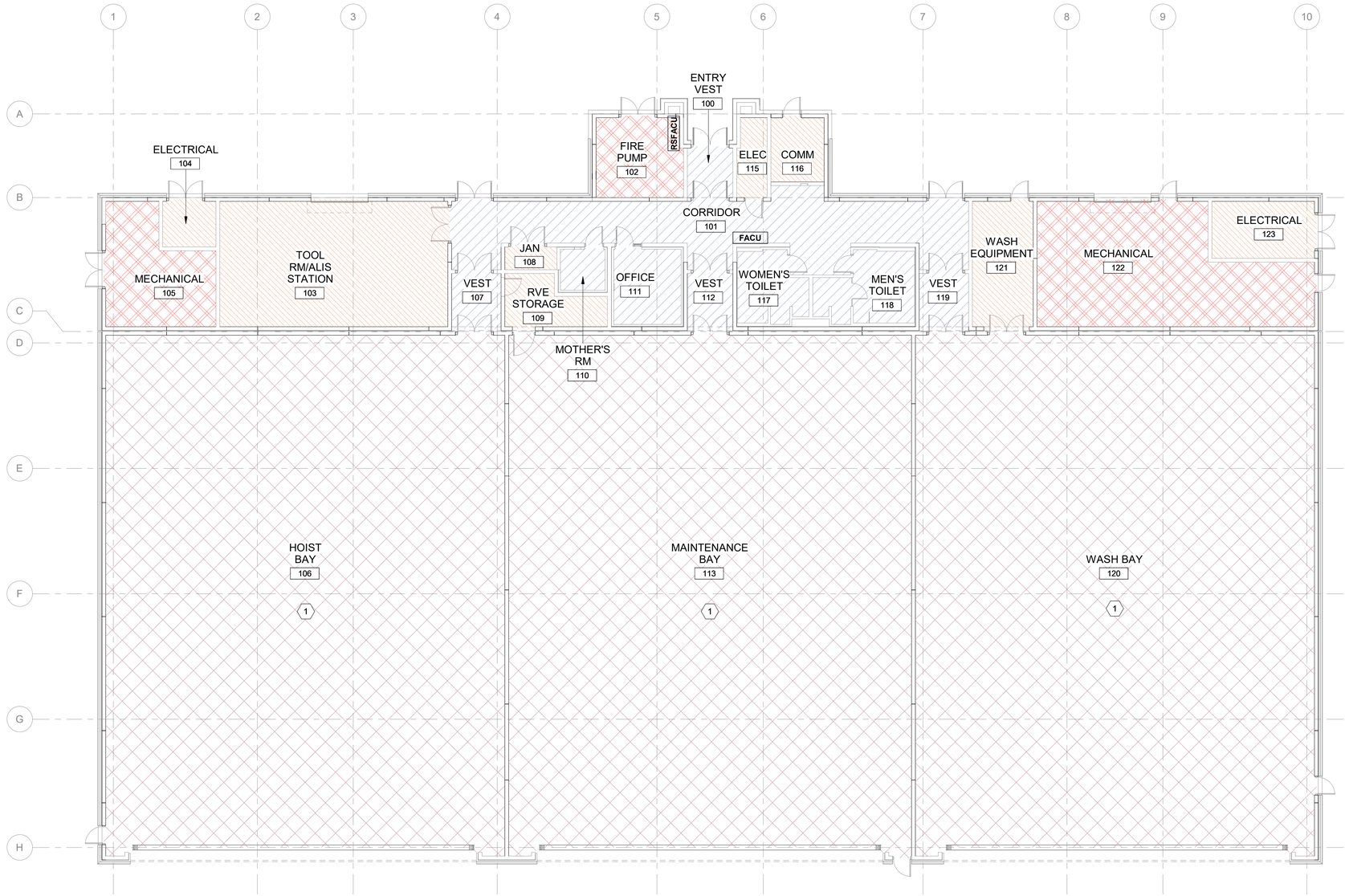
FIRE ALARM INPUT/OUTPUT MATRIX

SHEET ID

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REQUIRED AUDIBILITY LEGEND

HATCH	DESCRIPTION
	30dB AMBIENT SPL 45dB EXPECTED SPL (STORAGE OCCUPANCIES)
	54dB AMBIENT SPL 69dB EXPECTED SPL (BUSINESS OCCUPANCIES)
	60dB AMBIENT SPL 75dB EXPECTED SPL (ASSEMBLY OCCUPANCIES)
	75dB AMBIENT SPL 90dB EXPECTED SPL (HANGAR BAY)
	91dB AMBIENT SPL 106dB EXPECTED SPL (MECHANICAL OCCUPANCIES)

REQUIRED INTELLIGIBILITY SCHEDULE

NOTE: SPACES SHOWN WITHOUT A REQUIRED CIS VALUE DO NOT REQUIRE INTELLIGIBILITY, PER NFPA 72 (2022) 18.4.1.5.1.

ROOM NUMBER	ROOM NAME	REQUIRED CIS
100	ENTRY VEST	0.8
101	CORRIDOR	0.8
102	FIRE PUMP	
103	TOOL RM/ALIS STATION	0.8
104	ELECTRICAL	
105	MECHANICAL	
106	HOIST BAY	0.8
107	VEST	0.8
108	JAN	
109	RVE STORAGE	0.8
110	MOTHER'S RM	0.8
111	OFFICE	0.8
112	VEST	0.8
113	MAINTENANCE BAY	0.8
114	ALCOVE	0.8
115	ELEC	
116	COMM	
117	WOMEN'S TOILET	0.8
118	MEN'S TOILET	0.8
119	VEST	0.8
120	WASH BAY	0.8
121	WASH EQUIPMENT	0.8
122	MECHANICAL	
123	ELECTRICAL	

SHEET KEYNOTES

MARK	KEYNOTE
1	LARGE CAVERNOUS SPACE IN ACCORDANCE WITH UFC 4-021-01 AND UFC 4-211-01. MINIMUM AUDIBILITY THROUGHOUT MUST BE 88BDA. PROVIDE A MINIMUM OF 0.6 CIS THROUGHOUT WITH A MINIMUM OF 0.8 CIS WITHIN 98FT.

A2 FIRE ALARM AUDIBILITY PLAN

SCALE = 3/32" = 1'-0"

0 8' 16' 32'

SCALE: 3/32" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. BRINKMEYER
DRAWN BY: S. BRINKMEYER
CHECKED BY: A. POOLE, P.E.
SUBMITTED BY: A. BLANKENSHIP, P.E.
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PN: 512203

FIRE ALARM AUDIBILITY FLOOR PLAN

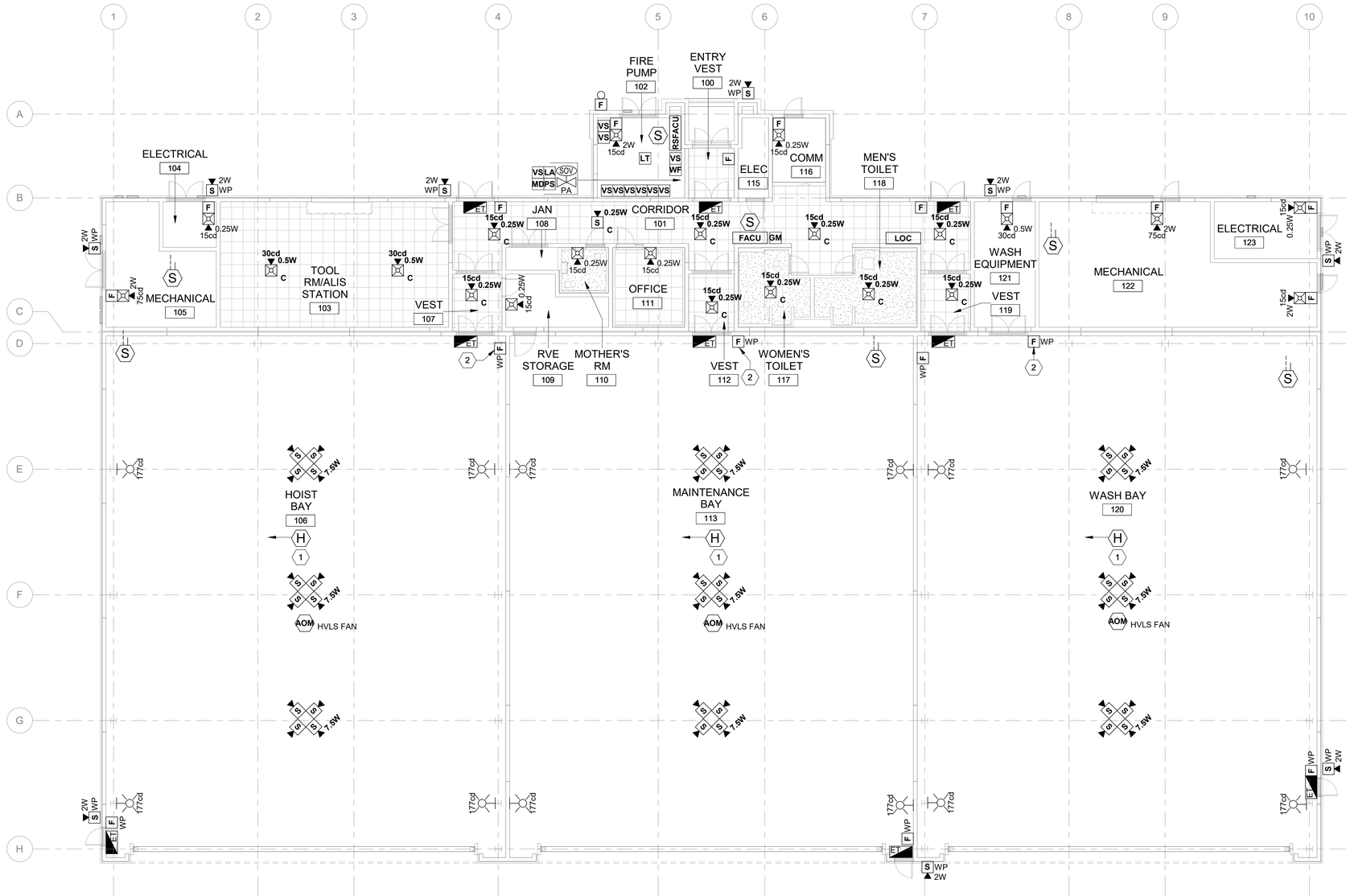
SHEET ID
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SHEET KEYNOTES

MARK	KEYNOTE
1	PROVIDE LINEAR HEAT DETECTION THROUGHOUT HANGAR BAY IN ACCORDANCE WITH NFPA 72.
2	FIELD COORDINATE FINAL LOCATION OF MANUAL PULL STATION WITH SCRUB SINKS AND EYE WASH STATIONS.



A2 FIRE ALARM PLAN

SCALE = 3/32" = 1'-0"

0 8' 16' 32'

SCALE: 3/32" = 1'-0"

PLAN NORTH

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US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. BRINKMEYER
DRAWN BY: S. BRINKMEYER
CHECKED BY: A. POOLE, P.E.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_A_3BAYH_RVT22.rvt

Plot Date: 10/9/2025 1:30:43 PM File Path: C:\Users\brinkmeyer\Documents\EANG_512203_FIRE_brinkmeyerBALS.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

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PN: 512203

FIRE ALARM FLOOR PLAN

SHEET ID
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FIRE PUMP GENERAL NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW ONE POTENTIAL METHOD OF CODE COMPLIANCE BASED UPON DESIGNED CONDITIONS. THE WORK THAT IS INDICATED ON THESE DRAWINGS ARE AN OVERVIEW OF THE PROJECT, INTENDED TO ESTABLISH THE SCOPE OF THE PROJECT MINIMUM REQUIREMENTS AS WELL AS THE CONTRACTOR'S RESPONSIBILITIES. DETERMINE THE FINAL QUANTITY AND LOCATION OF EQUIPMENT IN ACCORDANCE WITH THE SPECIFICATIONS, CONTRACT DRAWINGS, AND MANUFACTURER'S WRITTEN RECOMMENDATIONS TO BE COMPLIANT WITH APPLICABLE CODES AND STANDARDS. PROVIDE ADDITIONAL EQUIPMENT WHEN REQUIRED FOR A FULLY FUNCTIONING FIRE SUPPRESSION SYSTEM. THE DESIGN AND INSTALLATION OF THE FIRE SUPPRESSION SYSTEM MUST BE IN ACCORDANCE WITH NFPA 13 (2022 EDITION), NFPA 20 (2022 EDITION), NFPA 22 (2019 EDITION), NFPA 24 (2022 EDITION), NFPA 70 (2023 EDITION) AND NFPA 72 (2022 EDITION).
2. PROVIDE FIRE PUMP MONITORING VIA FIRE ALARM SYSTEM IN ACCORDANCE WITH NFPA 20.
3. FIRE PUMP SHALL BE HORIZONTAL SPLIT CASE.
4. FLOW METER MUST HAVE AT LEAST FIVE (5) PIPE DIAMETERS UPSTREAM AND TWO (2) PIPE DIAMETERS DOWNSTREAM WITHOUT ANY CHANGES IN DIRECTION OR CONTROL/THROTTLE VALVES.
5. SIZE FIRE PUMP PIPING, INCLUDING INLET, OUTLET, FLOW METER, AND TEST HEADER IN ACCORDANCE WITH NFPA 20.
6. PROVIDE PIPE SUPPORTS IN ACCORDANCE WITH NFPA 13.

FIRE SUPPRESSION GENERAL NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW ONE POTENTIAL METHOD OF CODE COMPLIANCE BASED UPON DESIGNED CONDITIONS. THE WORK THAT IS INDICATED ON THESE DRAWINGS ARE AN OVERVIEW OF THE PROJECT, INTENDED TO ESTABLISH THE SCOPE OF THE PROJECT MINIMUM REQUIREMENTS AS WELL AS THE CONTRACTOR'S RESPONSIBILITIES. DETERMINE THE FINAL QUANTITY AND LOCATION OF EQUIPMENT IN ACCORDANCE WITH THE SPECIFICATIONS, CONTRACT DRAWINGS, AND MANUFACTURER'S WRITTEN RECOMMENDATIONS TO BE COMPLIANT WITH APPLICABLE CODES AND STANDARDS. PROVIDE ADDITIONAL EQUIPMENT WHEN REQUIRED FOR A FULLY FUNCTIONING FIRE SUPPRESSION SYSTEM. THE DESIGN AND INSTALLATION OF THE FIRE SUPPRESSION SYSTEM MUST BE IN ACCORDANCE WITH UFC 3-600-01 (8 AUGUST 2016; CHANGE 6 - 6 MAY 2021),UFC 4-211-01 (13 APRIL 2017; CHNAGE 3, 20 APRIL 2021), NFPA 13 (2022 EDITION), NFPA 20 (2025) AND NFPA 24 (2022 EDITION)
2. DRAWINGS INDICATE DESIGN INTENT AND GENERAL ROUTING OF SPRINKLER PIPING. CONTRACTOR IS RESPONSIBLE FOR ADDITIONAL OFFSETS, FITTINGS, PROVIDING ADDITIONAL SPRINKLER HEADS TO MEET CODE REQUIREMENTS, ETC. TO COORDINATE PIPING LAYOUT WITH STRUCTURAL, DUCTWORK, PIPING, CONDUIT, ETC.
3. PRIOR TO BEGINNING CONSTRUCTION, VERIFY DIMENSIONS, MEASUREMENTS, LOCATIONS OF EXISTING FACILITIES, UTILITIES, AND EQUIPMENT, AND OTHER EXISITNG CONDITIONS WHICH MAY AFFECT CONSTRUCTION. IN THE EVENT OF DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITIONS, CONTACT THE CONTRACTING OFFICER IMMEDIATELY.
4. COORDINATE LOCATIONS OF FIRE PROTECTION COMPONENTS SUCH AS PIPING, ALARMS, DRAINS, SPRINKLERS, AND TEST POINTS, WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS. AVOID OBSTRUCTIONS TO SPRINKLER DISCHARGE DURING INSTALLATION. DO NOT INSTALL SPRINKLER PIPING BELOW EQUIPMENT OR WITHIN CLEARANCE SPACES FOR MECHANICAL AND ELECTRICAL EQUIPMENT. INSTALL SPRINKLERS UNDER OBSTRUCTIONS IN ACCORDANCE WITH NFPA 13.
5. HANGERS MUST BE PROVIDED IN ACCORDANCE WITH NFPA 13. THE FACILITY IS CATEGORIZED AS SEISMIC DESIGN CATEGORY "B", SEISMIC BRACING IS NOT REQUIRED.
6. PROVIDE SPRINKLERS UNDER OBSTRUCTIONS GREATER THAN 4 FEET WIDE IN ACCORDANCE WITH NFPA 13.
7. IDENTIFY VALVES (DRAINS, INSPECTOR'S TEST, CONTROL) AS REQUIRED BY NFPA 13.
8. PENETRATION OF FIRE RESISTANCE RATED CONSTRUCTION MUST BE SEALED TO MAINTAIN THE REQUIRED FIRE RESISTANCE RATING TO ORIGINAL SPECIFICATIONS.
9. PROVIDE CLEARANCE AROUND PIPING EXTENDING THROUGH WALLS AND FLOORS IN ACCORDANCE WITH NFPA 13.
10. PROVIDE OVERSIZED COVER PLATES FOR CONCEALED SPRINKLERS ON HARD PIPED DROPS IN SUSPENDED CEILINGS.
11. COMPONENTS AND ASSEMBLIES USED IN THIS FIRE PROTECTION SYSTEM MUST BE SPECIFICALLY UL LISTED OR FM APPROVED FOR THEIR INTENDED USE.
12. LOCATE INSPECTOR'S TEST VALVES NO MORE THAN 7 FEET ABOVE THE FINISHED FLOOR.
13. PROVIDE A LISTED RELIEF VALVE IN ACCORDANCE WITH NFPA 13 ON EACH WET PIPE SPRINKLER SYSTEM.
14. ARRANGE PIPING FOR FLUSHING. PROVIDE READILY REMOVABLE FITTINGS AT THE END OF EACH CROSS MAIN.
15. PROVIDE AIR VENTS IN ACCORDANCE WITH NFPA 13.
16. NO SPRINKLER PIPING IS PERMITTED BE INSTALLED PASSING THROUGH STAIRS, ELECTRICAL OR TELECOMMUNICATION ROOMS OR OVER ELECTRICAL PANELS/EQUIPMENT. EQUIPMENT, PIPING, DUCTWORK, MACHINERY, ETC THAT DOES NOT SERVE THE STAIRS, ELECTRICAL OR TELECOMMUNICATIONS ROOM MUST NOT BE INSTALLED ABOVE, BELOW (I.E. IN OR UNDER SLAB) OR ENTER OR PASS THRU THIS SPACE. ONLY DEDICATED BRANCH SPRINKLER PIPING WILL BE ALLOWED WITHIN EACH OF THE SPACES INDICATED ABOVE OR SIDEWALL SPRINKLER HEADS MUST BE USED. COORDINATE THE LOCATION OF ALL PIPING WITH ELECTRICAL OR EQUIPMENT AND OTHER TRADES AND ADJUST AS NECESSARY.
17. SPRINKLER HEADS 7 FOOT OR LESS ABOVE THE FLOOR MUST HAVE APPROVED HEADGUARDS.
18. AVOID ROUTING PIPING DIRECTLY OVER ELECTRICAL CABINETS AND PUMP CONTROLLERS.
19. AVOID ROUTING PIPING DIRECTLY UNDER ROOF HATCHES
20. RUN PIPING ON A LEVEL HORIZONTAL PLANE. IF TRAPPED PIPE OVER 50 GALLONS OCCURS, PROVIDE A MINIMUM 3/4 INCH BALL VALVE AND ¾ INCH DRAIN PIPING FROM BALL VALVE TO DISCHARGE TO THE EXTERIOR OF THE BUILDING OR TO A DRAIN ACCEPTABLE TO THE ENGINEER OF RECORD AND THE OWNER.
21. PROVIDE NECESSARY COMPONENTS FOR A WET-PIPE SYSTEM THROUGHOUT BUILDING. AT A MINIMUM PROVIDE COMPONENTS AS INDICATED ON THESE DRAWINGS. PROVIDE ADDITIONAL COMPONENTS AND MODIFICATION AS REQUIRED TO PROVIDE A FULLY FUNCTIONING FIRE SUPPRESSION SYSTEM. REQUIRED SYSTEMS MUST BE INSTALLED TO THE SATISFACTION OF THE ENGINEER AND AUTHORITY HAVING JURISDICTION; DEFICIENCIES, INCONSISTENCIES, OR POORLY COORDINATED INSTALLATIONS MUST BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST.
22. LOCATE DRAINS TO PROVIDE DRAINAGE IN ACCORDANCE WITH NFPA 13. DRAINS AND TEST CONNECTIONS MUST DISCHARGE TO THE EXTERIOR OF THE BUILDING ONTO A SPLASH BLOCK OR PAVEMENT, AND MUST NOT DISCHARGE ACROSS PATHS OF EGRESS.
23. SYSTEM CONTROL VALVES, CHECK AND TRIM VALVES ARE TO BE LOCATED WITHIN 5 FEET OFF THE FLOOR. OTHER VALVES SUCH AS FOAM SECTIONAL/TEST VALVES MAY BE ABOVE 5 FEET. PROVIDE CHAIN OPERATORS ON VALVES ABOVE 8 FEET.
24. CENTER PENDENT SPRINKLERS IN CEILING TILES WHERE SUSPENDED CEILINGS ARE PROVIDED.
25. REFERENCE CIVIL DRAWINGS FOR FIRE WATER UNDERGROUND PIPING.
26. WATER SUPPLY DATA: SEE SHEEET F-001

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CHECKED BY: A. POOLE, P.E.	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO: 512203
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ENGINEERING &
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F-35: 3 BAY HANGAR
PN: 512203

FIRE SUPPRESSION GENERAL NOTES

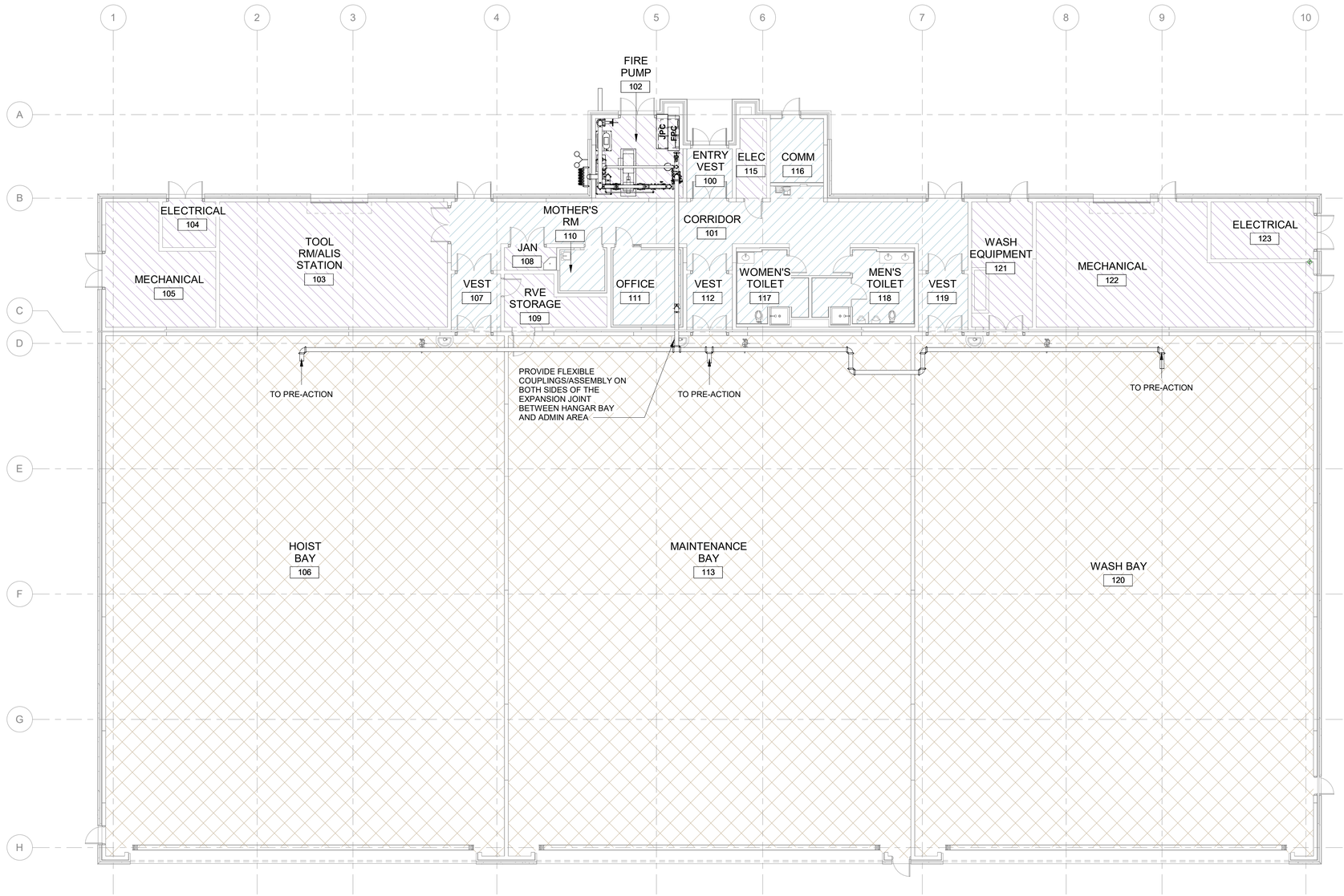
SHEET ID

FX001

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HAZARD CLASSIFICATION LEGEND

HATCH	DESCRIPTION
	LIGHT HAZARD (WET-PIPE) (0.10 GPM/FT² OVER 1,500 FT² WITH 250 GPM EXTERIOR HOSE DEMAND)
	ORDINARY HAZARD (WET-PIPE) (0.20 GPM/FT² OVER 2,500 FT² WITH 250 GPM EXTERIOR HOSE DEMAND)
	HANGAR BAY (SINGLE-INTERLOCK PRE-ACTION SYSTEM) (0.20 GPM/FT² OVER 5,000 FT² WITH 250 GPM EXTERIOR HOSE DEMAND MINIMUM 8.0K AND 175F TEMPERATURE RATING)



PLAN NORTH

A2 FIRE SUPRESSION HAZARD CLASSIFICATION
SCALE = 3/32" = 1'-0"

0 8' 16' 32'

SCALE: 3/32" = 1'-0"

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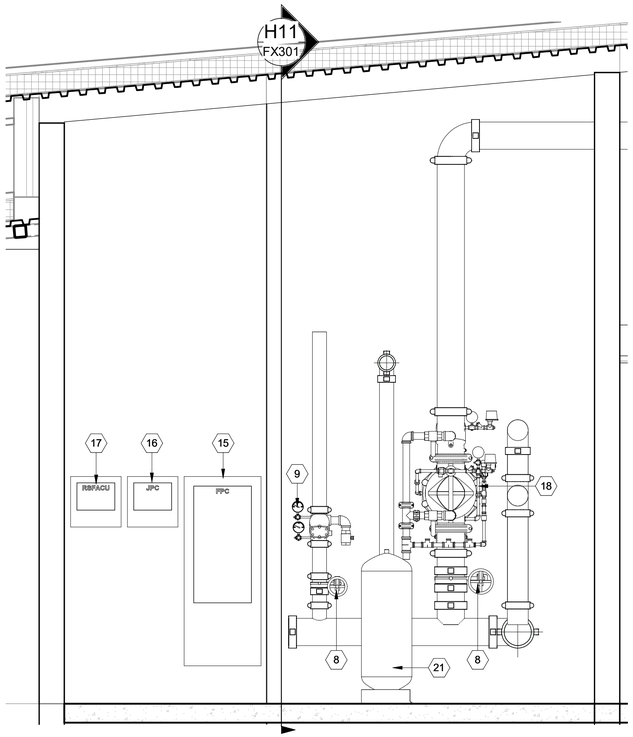
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FIRE SUPPRESSION HAZARD CLASSIFICATION FLOOR PLAN

SHEET ID
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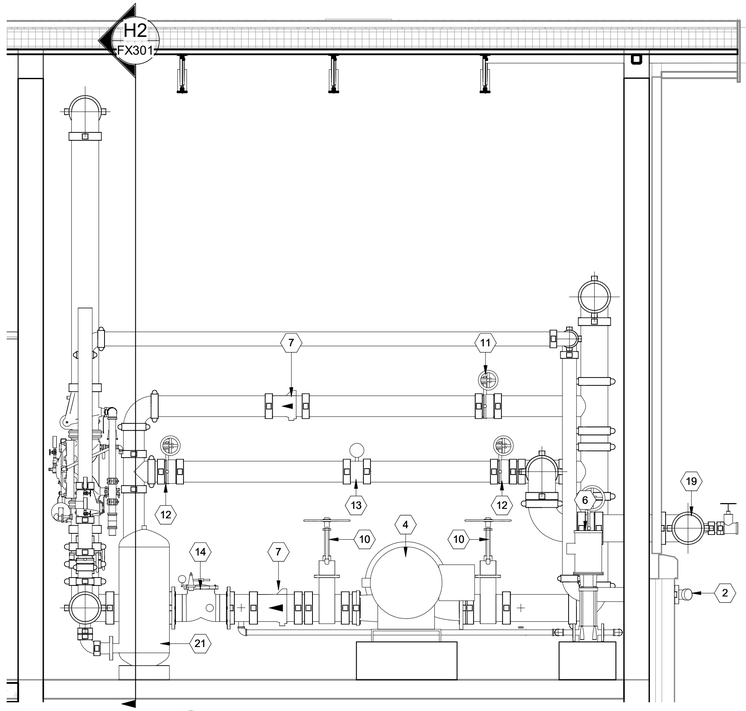


H2 FIRE SUPPRESSION RISER SECTION VIEW

SCALE = 1/2" = 1'-0"

0 1' 2' 4'

SCALE: 1/2" = 1'-0"

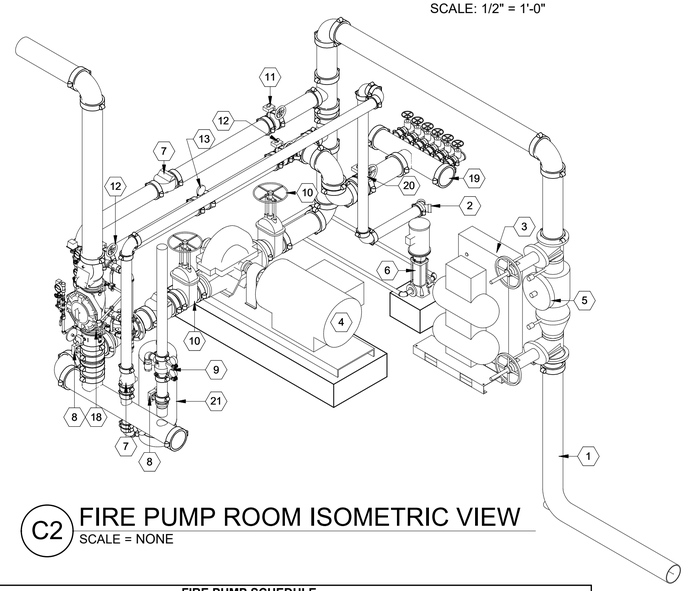


H11 FIRE PUMP SECTION VIEW

SCALE = 1/2" = 1'-0"

0 1' 2' 4'

SCALE: 1/2" = 1'-0"



C2 FIRE PUMP ROOM ISOMETRIC VIEW

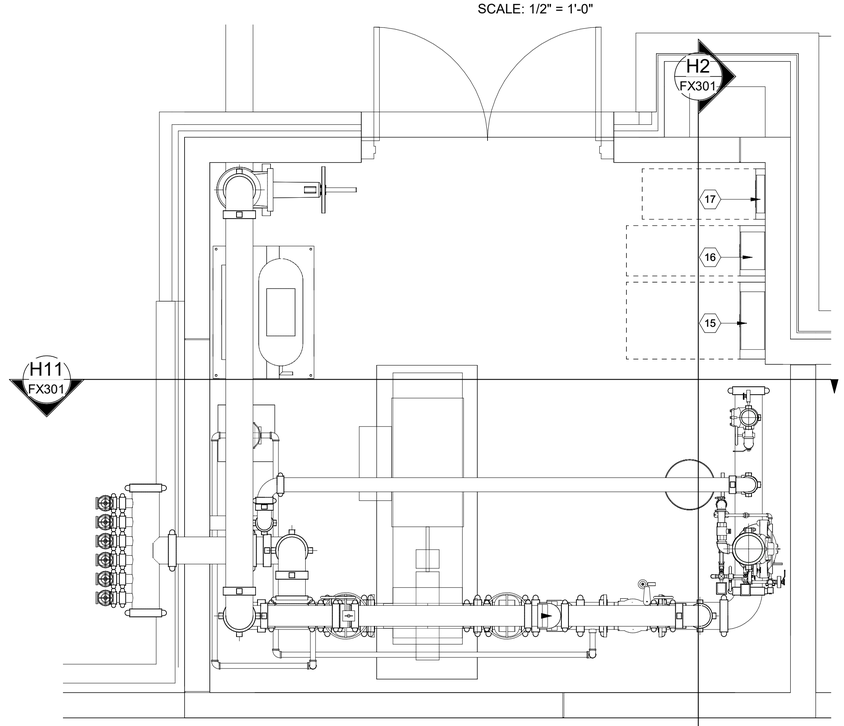
SCALE = NONE

FIRE PUMP SCHEDULE

		BASIS OF DESIGN							
MARK	LOCATION	PUMP TYPE	SERVICE TYPE	DRIVE TYPE	VOLTAGE / PHASE / Hz	BHP	RATED FLOW	TOTAL HEAD (PSI)	NOTES
FP-1	PUMP ROOM	HSC	FIRE PUMP	ELECTRIC	480 / 3 / 60	40	1250	40	1, 3, 4
JP-1	PUMP ROOM	VP	JOCKEY PUMP	ELECTRIC	208 / 3 / 60	3	10	TBD	2, 3

KEY NOTES:
(A) HSC - HORIZONTAL SPLIT CASE
(B) VP - VERTICAL PUMP
(C) TBD - TO BE DETERMINED ONCE FINAL PUMP SECTION IS DETERMINED, PER NFPA 20

NOTES:
1. THE CONTRACTOR SHALL MAKE THE FINAL SELECTION OF THE FIRE PUMP CONTROLLER AFTER THE FIRE PUMP IS SELECTED. THE FINAL SELECTION SHALL BE COORDINATED WITH ELECTRICAL.
2. THE CONTRACTOR SHALL COORDINATE THE PRESSURE MAINTENANCE PUMP WITH ELECTRICAL.
3. TO BE DETERMINED ONCE FINAL PUMP SECTION IS DETERMINED



A11 PUMP ROOM ENLARGED PLAN

SCALE = 1/2" = 1'-0"

0 1' 2' 4'

SCALE: 1/2" = 1'-0"

SHEET KEYNOTES

MARK	KEYNOTE
1	8" UNDERGROUND LEAD-IN (STAINLESS STEEL IN-BUILDING RISER ASSEMBLY)
2	FIRE DEPARTMENT CONNECTION (4" NH FEMALE x 5" STORZ CONNECTION WITH 30-DEGREE DOWNTURN; ROUND PLATE, AND FDC SIGNAGE)
3	NITROGEN GENERATOR
4	ELECTRIC FIRE PUMP (1250 GPM @ 40 PSI)
5	DOUBLE CHECK BACKFLOW ASSEMBLY WITH OS&Y VALVES
6	JOCKEY PUMP
7	CHECK VALVE
8	BUTTERFLY VALVE (NORMALLY OPEN)
9	WET-PIPE RISER ASSEMBLY WITH ASSOCIATED TRIM
10	OS&Y CONTROL VALVE
11	FIRE PUMP BYPASS VALVE
12	FLOW METER THROTTLE VALVE
13	FLOW METER
14	SUCTION CONTROL VALVE
15	FIRE PUMP CONTROLLER
16	JOCKEY PUMP CONTROLLER
17	RELEASING SERVICE CONTROL UNIT
18	SINGLE-INTERLOCK PRE-ACTION VALVES WITH ASSOCIATED TRIM
19	FIRE PUMP TEST HEADER/BACKFLOW FORWARD FLUSHING CONNECTION (6 2-1/2" VALVES)
20	BUTTERFLY VALVE (NORMALLY CLOSED)
21	10 GALLON SURGE ARRESTOR TANK WITH 3" CONNECTION

US Army Corps of Engineers ®

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FIRE SUPPRESSION SECTIONS

SHEET ID
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GENERAL ABBREVIATIONS

A

AFF - ABOVE FINISHED FLOOR
ALT - ALTERNATE
AP - ACCESS PANEL

B

BOP - BOTTOM OF PIPE ELEV.

C

CA - COMBUSTION AIR
CAV - CONSTANT AIR VOLUME
CFM - CUBIC FEET PER MINUTE
CL - CENTERLINE
CLG - CEILING
COND - CONDENSATE/CONDENSER
CONN - CONNECTION/CONNECT
COP - CENTER OF PIPE

D

DB - DRY BULB TEMPERATURE
DDC - DIRECT DIGITAL CONTROL
DTC - DATA TERMINAL CABINET
DWBP - DOMESTIC WATER BOOSTER PUMP

E

EL - ELEVATION
EMCS - ENERGY MONITORING AND CONTROL SYSTEM
ESP - EXTERNAL STATIC PRESSURE
EWT - ENTERING WATER TEMP.

F

FA - FIELD ADJUSTABLE
FC - FAIL CLOSED
FD - FLOOR DRAIN
FID - FIELD INTERFACE DEVICE
FLA - FULL LOAD AMPS
FCO - FLOOR CLEANOUT
FO - FAIL OPEN
FPBV - FULL PORT BALL VALVE
FPWH - FREEZE PROOF WALL HYDRANT

G

GA - GAUGE

H

HD - HUB DRAIN
HB - HOSE BIBB
I

IE - INVERT ELEVATION

K

kW - KILOWATTS

L

LWT - LEAVING WATER TEMP.

N

NA - NOT APPLICABLE
NC - NORMALLY CLOSED
NIC - NOT IN CONTRACT
NO - NORMALLY OPEN
NPS - NOMINAL PIPE SIZE
NPT - NATIONAL PIPE THREAD
NTS - NOT TO SCALE

O

OC - ON CENTER
OED - OPEN END DUCT
OV - OUTLET VELOCITY

P

Pa - PASCALS
PaA - PASCALS ABSOLUTE
PaG - PASCALS GAUGE
PD - PRESSURE DROP

R

RA - RETURN AIR
RPM - REVOLUTIONS PER MINUTE

S

SOG - SLAB ON GRADE
SP - STATIC PRESSURE
SV - SUPPLY VALVE

T

TOP - TOP OF PIPE ELEVATION
TOS - TOP OF SLAB/ TOP OF STEEL
TSP - TOTAL STATIC PRESSURE

V

VP - VELOCITY PRESSURE
VTR - VENT THRU ROOF

W

W - WATTS
WB - WET BULB
WC - WATER COLUMN
WCO - WALL CLEANOUT
WG - WATER GAUGE

PIPING SYMBOLS

CONTINUATION
DROP IN PIPE
VALVE IN RISER
ELBOW
ELBOW UP
ELBOW DOWN
TEE
UNION
UNION, FLANGED
TOP CONNECTION
BOTTOM CONNECTION
PIPE PITCH
VTR VENT THRU ROOF
CONCENTRIC REDUCER
ECCENTRIC REDUCER
PRV PRESSURE RELIEF
PRESSURE REDUCING VALVE
TPRV TEMP & PRESS RELIEF
ANCHOR
BALL JOINT
EXPANSION LOOP
GUIDE
EXPANSION JOINT
FLEXIBLE CONNECTOR
PRESSURE/TEMPERATURE TEST PORT)
FPWH FREEZE PROOF WALL HYDRANT

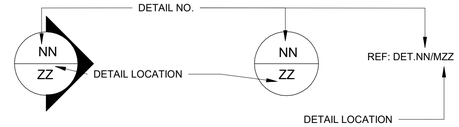
FLOOR DRAIN WITH TRAP
FD CO FLOOR DRAIN WITH CLEANOUT
FLOOR SINK WITH HALF GRATE
FLOOR SINK WITH FULL GRATE
DIRECTION OF FLOW
FLOOR PENETRATION
WH WALL HYDRANT
WCO WALL CLEANOUT
HB HOSE BIB
WATER HAMMER ARRESTOR/ACCESS
THERMOMETER
THERMOMETER WELL
STRAINER W/BLOW-OFF AND HOSE CONNECTION
PRESSURE GAUGE WITH COCK
PS PRESSURE SWITCH
FS FLOW SWITCH
AV AIR VENT, AUTOMATIC
AIR VENT, MANUAL
AS AIR SEPARATOR
FLOW METER, ORIFICE
PETE'S PLUG

VALVES

BALL VALVE
GLOBE VALVE
GATE VALVE
CHECK VALVE
PLUG VALVE
SOLENOID VALVE

CALIBRATED BALANCING VALVE
AUTOMATIC BALANCING VALVE
BUTTERFLY VALVE
MODULATING TWO-WAY
S SOLENOID TWO-WAY
THREE-WAY MODULATING

REFERENCE SYMBOLOGY



PIPING SYSTEMS

DOMESTIC COLD WATER
DOMESTIC HOT WATER
DOMESTIC HOT WATER RETURN
SANITARY SEWER
VENT
NATURAL GAS
COMPRESSED AIR
FIRE PROTECTION
NPW NON-POTABLE WATER (PURPLE PIPE) PIPES SHALL BE MARKED WITH "NONPOTABLE WATER, DO NOT DRINK"

CHS CHILLED WATER SUPPLY
CHR CHILLED WATER RETURN
HWS HEATING WATER SUPPLY
HWR HEATING WATER RETURN
CD CONDENSATE DRAIN
CWS CONDENSER WATER SUPPLY
CWR CONDENSER WATER RETURN
RS REFRIGERANT SUCTION
RL REFRIGERANT LIQUID
RD ROOF DRAIN

GENERAL NOTES

A. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS OF CONSTRUCTION

B. OVERHEAD PLUMBING EQUIPMENT AND SYSTEMS SHALL BE SUPPORTED TO MEET ANTI-TERRORISM/FORCE PROTECTION MEASURES OF UFC 4-010-01.

C. ALL FLOOR MOUNTED EQUIPMENT IN MECHANICAL ROOM SHALL BE MOUNTED ON 6" HIGH HOUSEKEEPING PADS. THESE PADS SHALL EXTEND 6" BEYOND THE FOOTPRINT OF THE EQUIPMENT IN ALL DIRECTIONS.

D. WHERE PIPE SIZES ARE NOT INDICATED, THEY SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE (LATEST EDITION). DOMESTIC COLD WATER PIPING SHALL BE LIMITED TO 5 FPS. DOMESTIC HOT WATER PIPING SHALL BE LIMITED TO 4 FPS.

E. TRAP PRIMER LINES SHALL BE 1/2" TYPE K COPPER. TRAP PRIMER VALVES/DISTRIBUTORS SHALL BE PROVIDED FOR ALL FLOOR DRAINS AND FLOOR SINKS. TRAP PRIMER VALVE/DISTRIBUTORS SHALL BE LOCATED AS INDICATED OR IN THE NEAREST ACCESSIBLE LOCATION AND PROVIDED WITH ACCESS PANELS.

F. DRAWINGS ARE TO SHOW DESIGN INTENT, AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE FINAL PLACEMENT OF PROCURED EQUIPMENT.

G. REFER TO MECHANICAL SHEETS FOR ADDITIONAL DETAILS.

H. PIPE AND EQUIPMENT ELEVATIONS SHOWN ARE BASED ON A NOMINAL 0' 00" DATUM ELEVATION (0'-0") CORRESPONDS TO THE FINISH FLOOR ELEVATION INDICATED ON THE CIVIL SHEETS. ACTUAL ELEVATION AFF MAY VARY ON SLOPED FLOORS.

I. PIPE AND EQUIPMENT ELEVATIONS MAY REQUIRE FIELD ADJSTMENT FOR FINAL COODINATION WITH INSTALLED SYSTEMS.

PIPE MATERIALS

BELOW SLAB SANITARY SEWER - ADMIN	HUBBED CAST IRON PIPE AND FITTINGS ASTM A74 OR SCH 40 PVC ASTM D2665	
BELOW SLAB SANITARY SEWER - HANGAR TRENCH	HUBBED CAST IRON PIPE AND FITTINGS ASTM A74	
ABOVE SLAB SANITARY SEWER / VENT	HUBBLESS CAST IRON PIPE AND FITTINGS CISPI 301	
ABOVE SLAB DCW, DHW, DHWR	TYPE L COPPER ASTM B88	SOLDERED FITTINGS
BELOW SLAB DCW	TYPE K COPPER ASTM B88	BRAZED FITTINGS
COMPRESSED AIR	COPPER CAPPED & CLEANED ASTM B819	CLEAN BAGGED FITTINGS ASME B16.22

REFER TO SPECIFICATION 22.00.00 FOR SPECIFIC DETAILS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:33:51 AM File Path: C:\Users\rbocar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECR04R.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB , ARKANSAS
F-35; 3 BAY HANGAR
PN: 512203

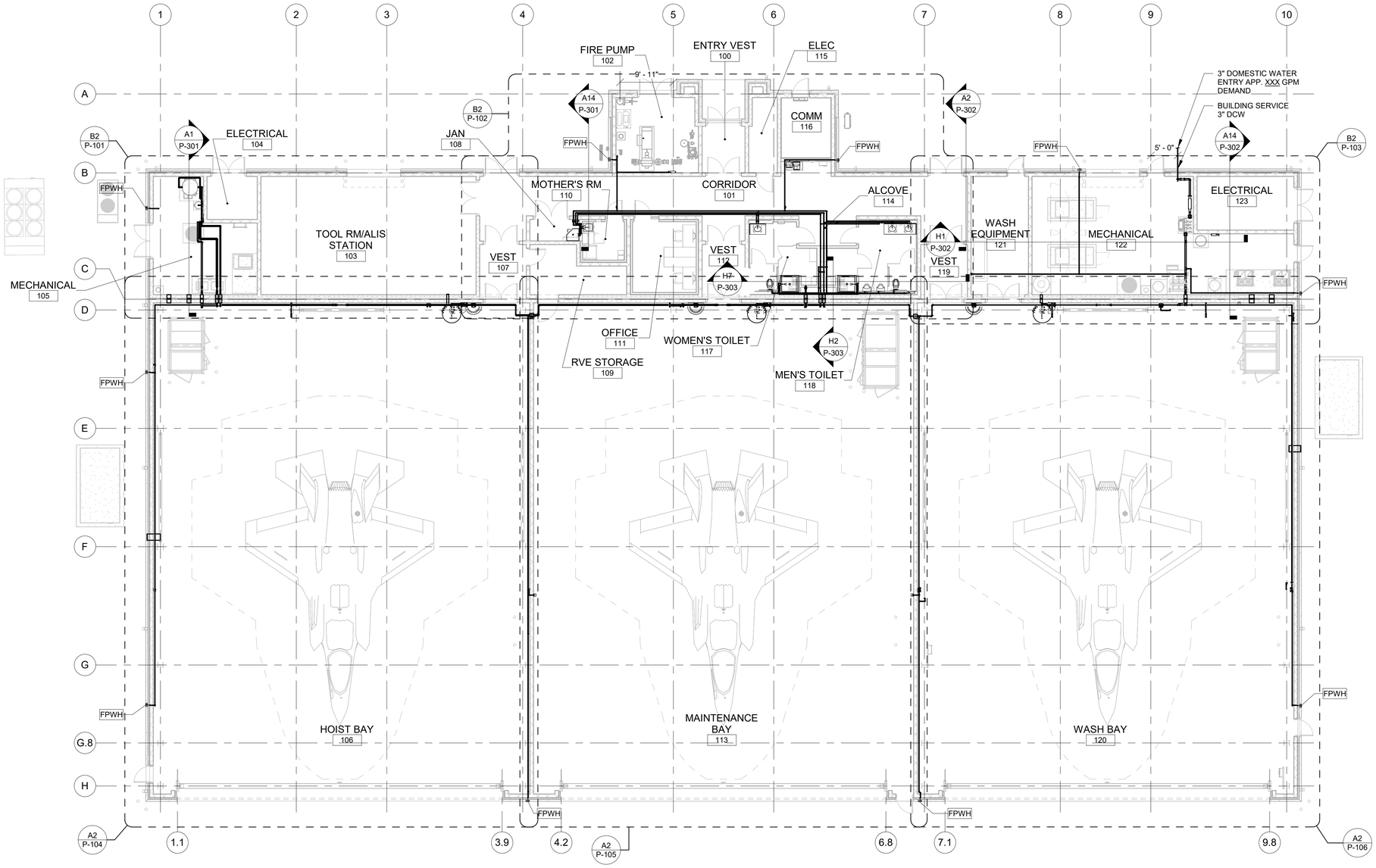
PLUMBING LEGEND

SHEET ID
P-001

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

1. ALL PIPING INSTALLED PER SPECIFICATIONS, LATEST ADITION OF UFC 3-420-01 AND IPC 2018.
2. PIPE ELEVATIONS SHOWN BASED ON ADMIN FF AS 0' 00"
3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS



A1 OVERALL DOMESTIC WATER FLOOR PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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File Path:

Plot Date: 10/20/2025 11:34:42 AM

DESIGNED BY: J. PONTHIEX, P.E.	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: R. REINDER	SOLICITATION NO.: W912BV26RA004
CHECKED BY:	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO.: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

OVERALL PLUMBING DOMESTIC WATER FLOOR PLAN

SHEET ID

P-100

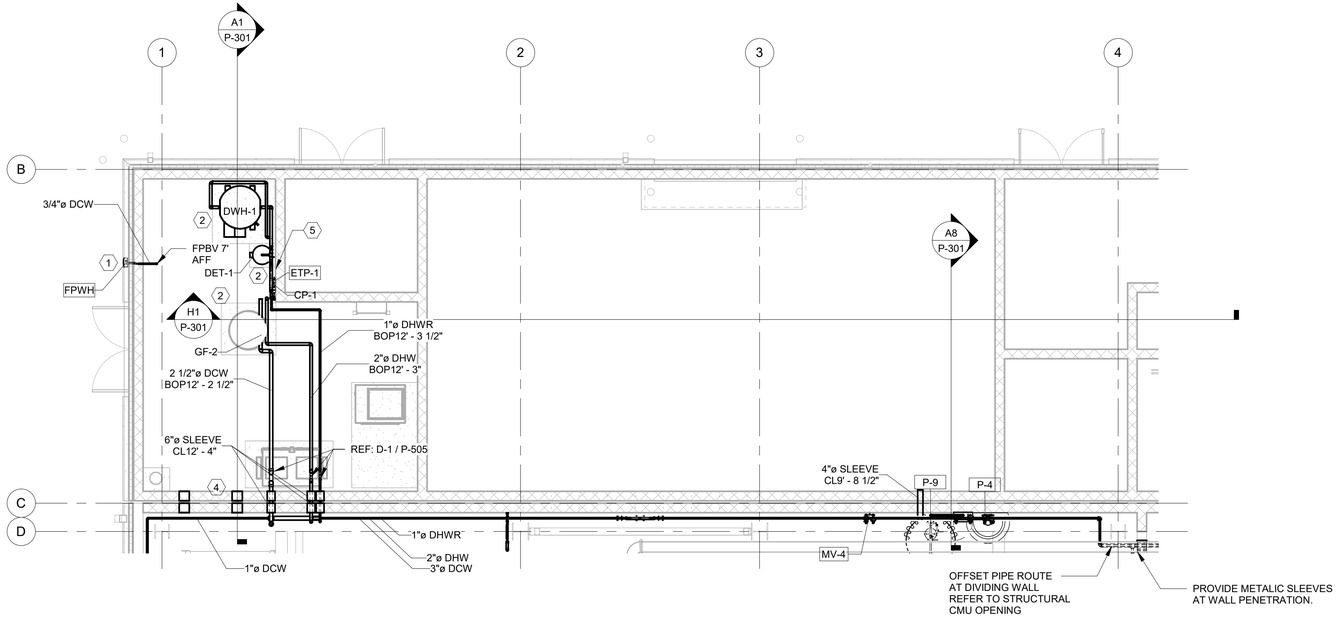
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

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2. PIPE ELEVATIONS SHOWN BASED ON ADMIN FF AS 0' 00"
3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

1	FREEZE PROOF WALL HYDRANT 24" AFF, TYP.
2	CONCRETE EQUIPMENT PAD
3	THERMOSTATIC MIXING VALVE IN WALL WITH ACCESS PANEL AT 8'-0" AFF
4	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
5	MAIN THERMOSTATIC MIXING VALVE SURFACE MOUNT
6	SCH 40 PVC SLEEEVE THROUGH GRADE BEAM REF STRUCTURAL FOR DETAIL
7	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
8	ISOLATE EACH RESTROOM

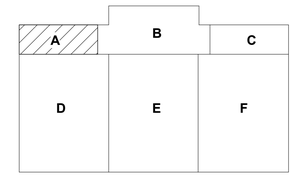


B2 DOMESTIC PLUMBING FLOOR PLAN - AREA A

3/16" = 1'-0"

0 2' 4' 8' 16'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: R. READER	SOLICITATION NO.: W912BV26RA004
CHECKED BY:	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO.: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
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F-35: 3 BAY HANGAR
PN: 512203

PLUMBING DOMESTIC WATER FLOOR PLAN - AREA A

SHEET ID

P-101

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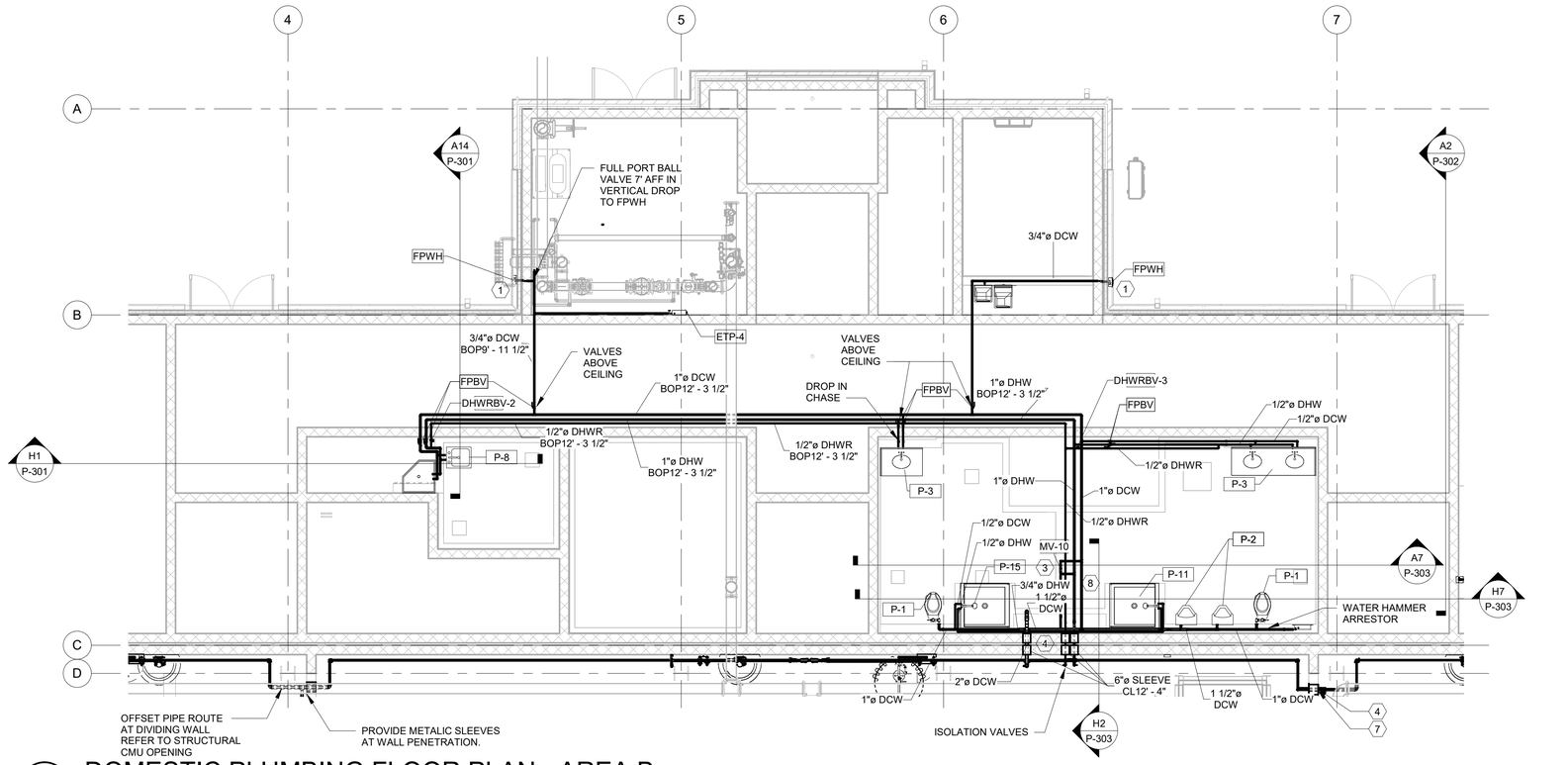
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GENERAL NOTES

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3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

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6	SCH 40 PVC SLEEEVE THROUGH GRADE BEAM REF STRUCTURAL FOR DETAIL
7	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
8	ISOLATE EACH RESTROOM

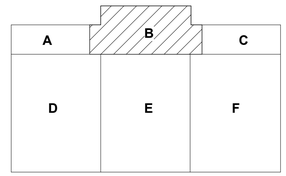


B2 DOMESTIC PLUMBING FLOOR PLAN - AREA B

3/16" = 1'-0"

0 2' 4' 8' 16'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. READER
CHECKED BY:	
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	FILE NAME:
ANSI D	EANG_512203_M_3BAYH_RVT22.rvt

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203

Plot Date: 10/20/2025 11:35:04 AM
File Path: C:\Users\rbecerar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECSRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

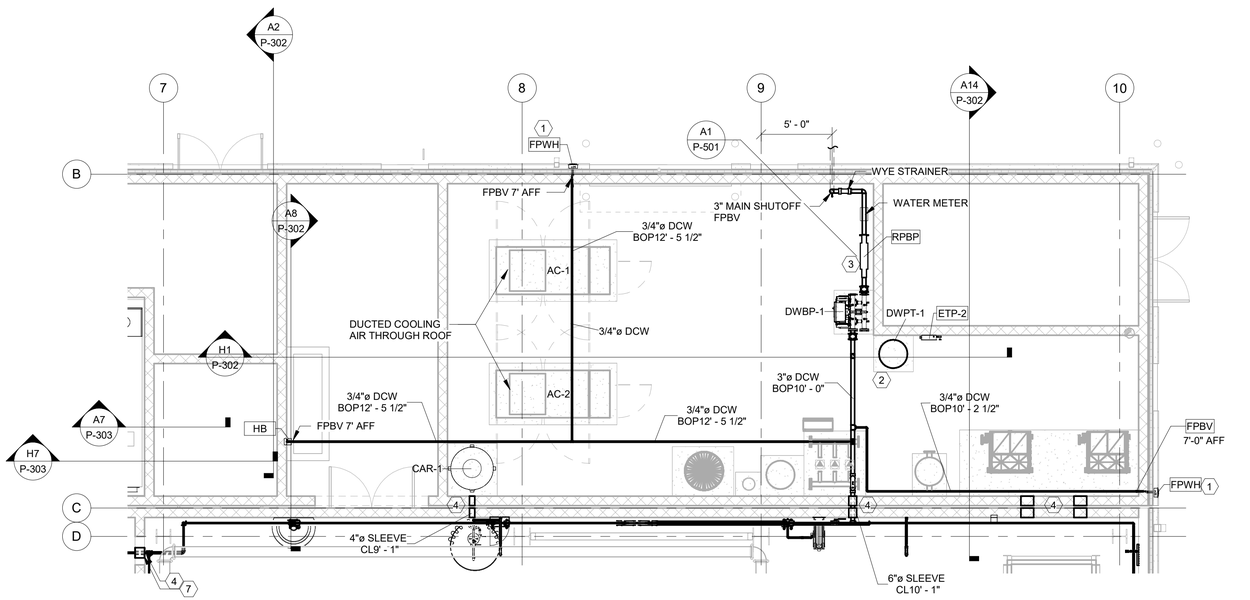
EBBING ANGB - ARKANSAS
F-35; 3 BAY HANGAR
PN: 512203

PLUMBING DOMESTIC WATER FLOOR PLAN - AREA B

SHEET ID

P-102

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



B2 DOMESTIC PLUMBING FLOOR PLAN - AREA C

3/16" = 1'-0"

0 2' 4' 8' 16'

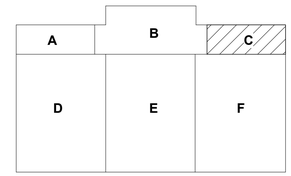
GENERAL NOTES

1. ALL PIPING INSTALLED PER SPECIFICATIONS, LATEST ADITION OF UFC 3-420-01 AND IPC 2018.
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3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

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6	SCH 40 PVC SLEEEVE THROUGH GRADE BEAM REF STRUCTURAL FOR DETAIL
7	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
8	ISOLATE EACH RESTROOM

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

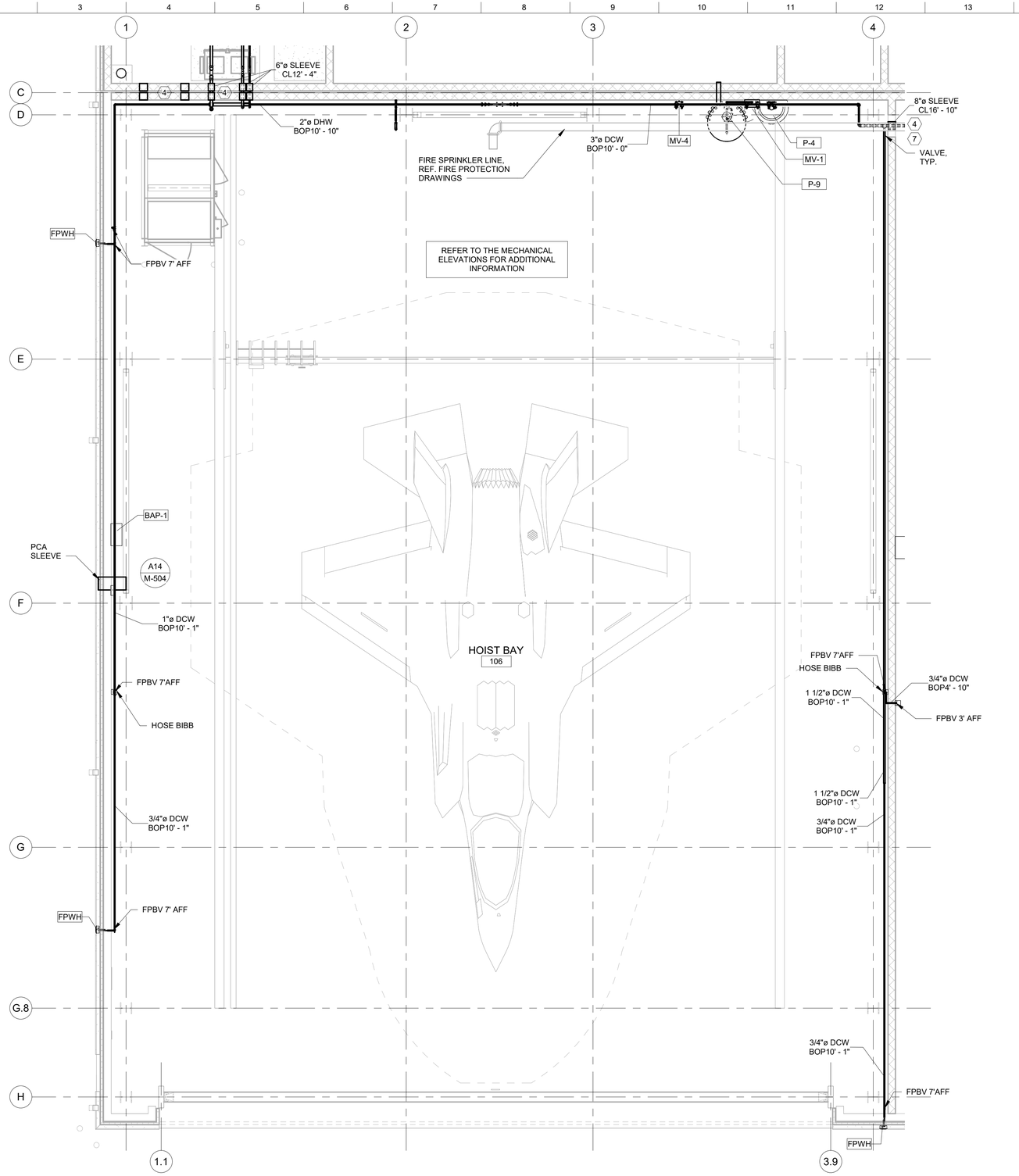
PLUMBING DOMESTIC WATER FLOOR PLAN - AREA C

SHEET ID

P-103

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A2 DOMESTIC PLUMBING FLOOR PLAN - AREA D

3/16" = 1'-0"

0 2' 4' 8' 16'

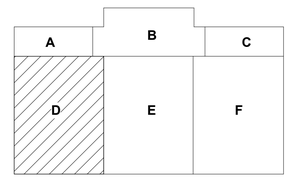
GENERAL NOTES

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KEYNOTES

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7	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
8	ISOLATE EACH RESTROOM

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

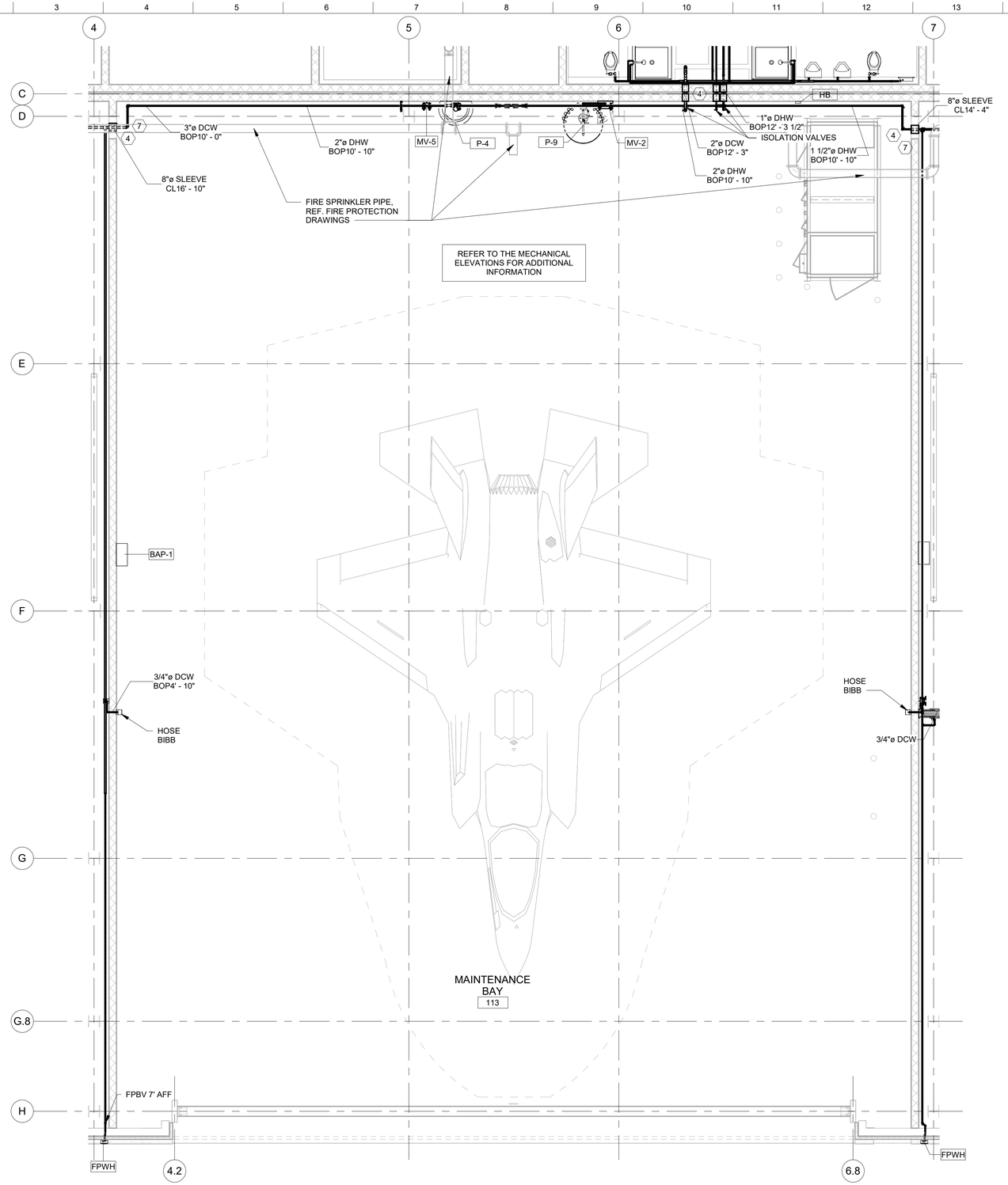
PLUMBING DOMESTIC WATER FLOOR PLAN - AREA D

SHEET ID

P-104

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A2 DOMESTIC PLUMBING FLOOR PLAN - AREA E

3/16" = 1'-0"

0 2' 4' 8' 16'

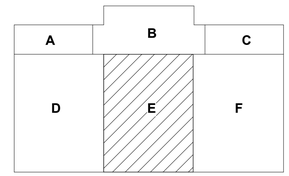
GENERAL NOTES

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3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

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6	SCH 40 PVC SLEEEVE THROUGH GRADE BEAM REF STRUCTURAL FOR DETAIL
7	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
8	ISOLATE EACH RESTROOM

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

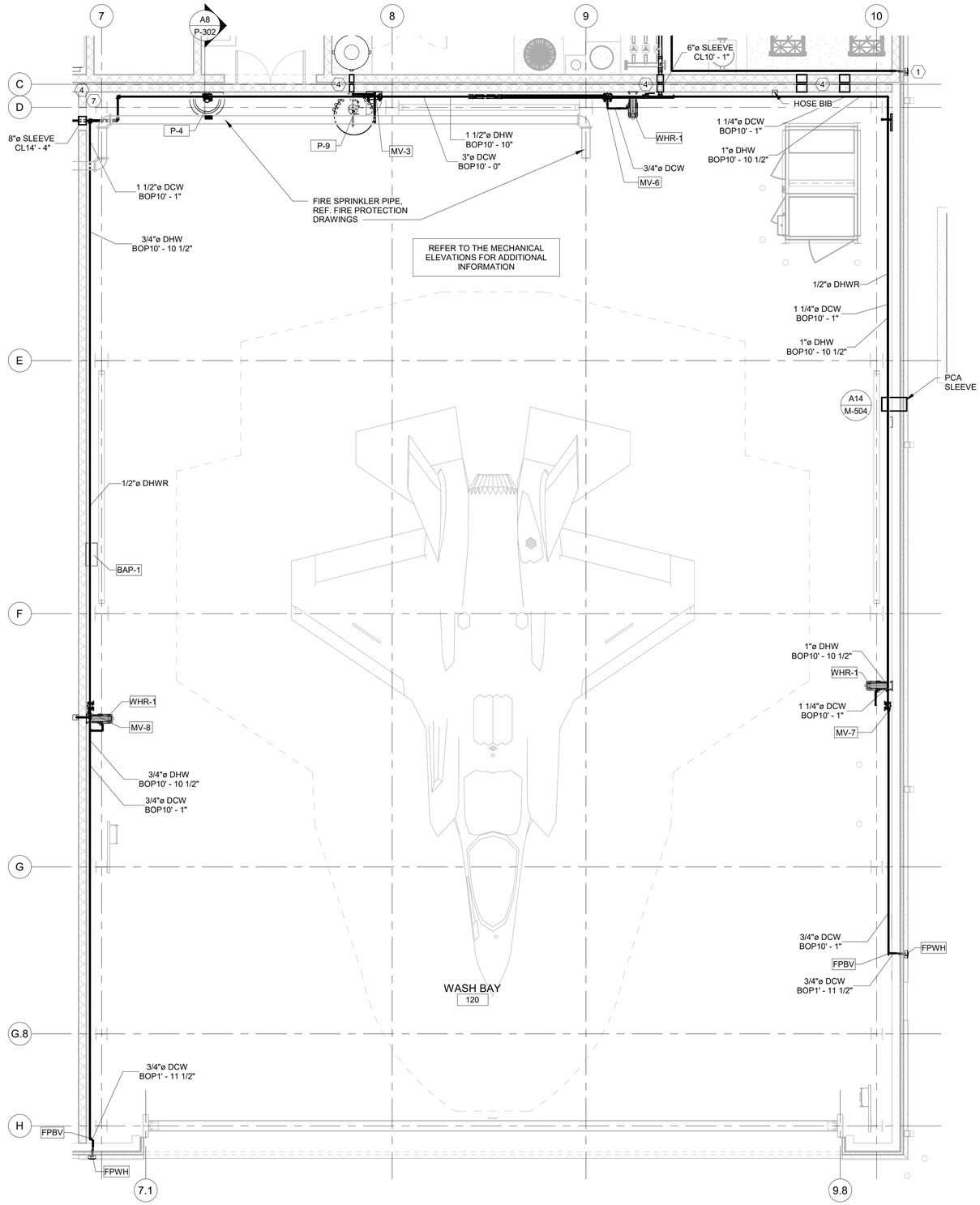
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PN: 512203

PLUMBING DOMESTIC WATER FLOOR PLAN - AREA E

SHEET ID

P-105

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A2 DOMESTIC PLUMBING FLOOR PLAN - AREA F

3/16" = 1'-0"

0 2' 4' 8' 16'

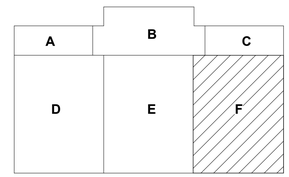
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KEYNOTES

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6	SCH 40 PVC SLEEEVE THROUGH GRADE BEAM REF STRUCTURAL FOR DETAIL
7	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
8	ISOLATE EACH RESTROOM

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. READER
CHECKED BY:	
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
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FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:36:06 AM File Path: C:\Users\rbdcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

PLUMBING DOMESTIC WATER FLOOR PLAN - AREA F

SHEET ID

P-106

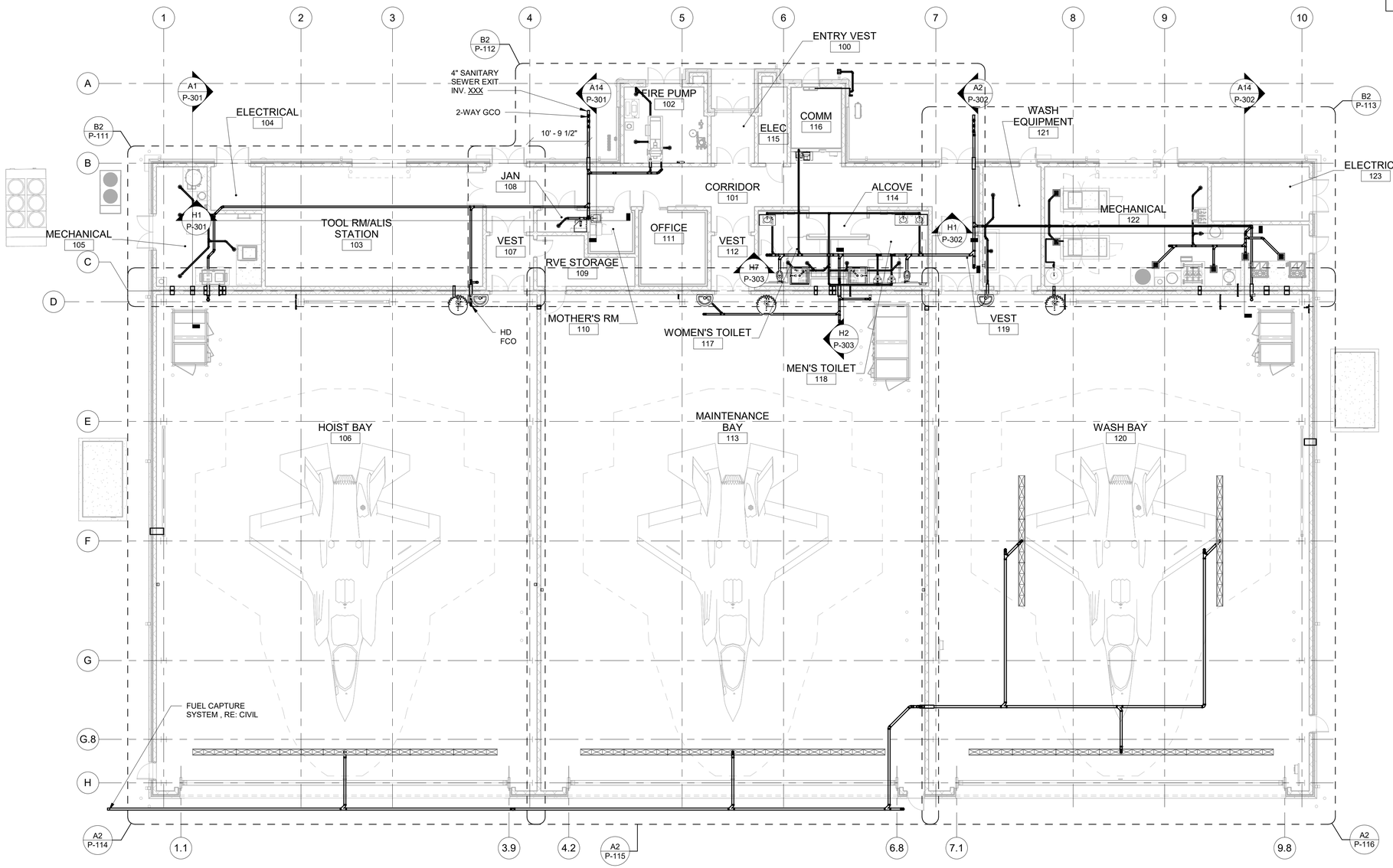
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

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KEYNOTES

1	MOUNT HUB DRAIN TO WALL, OFFSET TRAP AS REQUIRED TO ROUTE PIPE UP WALL
2	SCH 40 PVC SLEEVE THROUGH GRADE BEAM BEFORE CONCRETE PLACEMENT REF STRUCTURAL DETAILS FOR REQUIREMENTS
3	ELECTRONIC TRAP PRIMER, PROVIDE CONNECTION TO EACH TRAP
4	INSTALL FUEL VAPOR SENSOR IN EACH TRENCH DRAIN LOCATE IN DEEPEST SECTION ADJACENT TO OUTLET
5	CONNECT HUB DRAIN TO NEAREST BELOW GROUND STORM DRAIN LINE REF CIVIL, PROVIDE CAP WITH DRILLED HOLE MATCHING CONDENSATE PIPE SIZE
6	ROUTE CONDUIT FOR VAPOR SENSOR FROM JUNCTION BOX UNDER SLAB AN UP TO SECTION WITH SENSOR. ENTER TRENCH DRAIN FROM SIDE.



A1 OVERALL WASTE AND VENT FLOOR PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. READER
CHECKED BY:	
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	
ANSI D	
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO.:	512203
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

OVERALL PLUMBING WASTE AND VENT FLOOR PLAN

SHEET ID

P-110

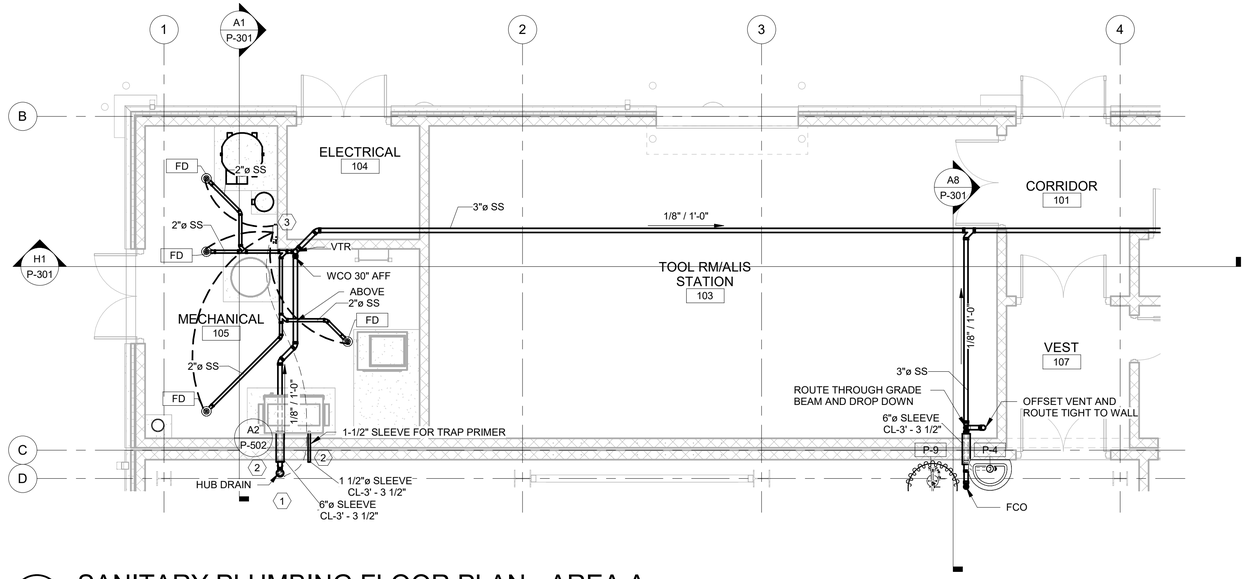
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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5	CONNECT HUB DRAIN TO NEAREST BELOW GROUND STORM DRAIN LINE REF CIVIL, PROVIDE CAP WITH DRILLED HOLE MATCHING CONDENSATE PIPE SIZE
6	ROUTE CONDUIT FOR VAPOR SENSOR FROM JUNCTION BOX UNDER SLAB AN UP TO SECTION WITH SENSOR. ENTER TRENCH DRAIN FROM SIDE.

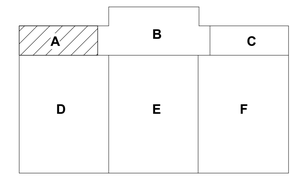


B2 SANITARY PLUMBING FLOOR PLAN - AREA A

3/16" = 1'-0"

0 2' 4' 8' 16'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: CHECKED
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING WASTE AND VENT FLOOR PLAN - AREA A

SHEET ID

P-111

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

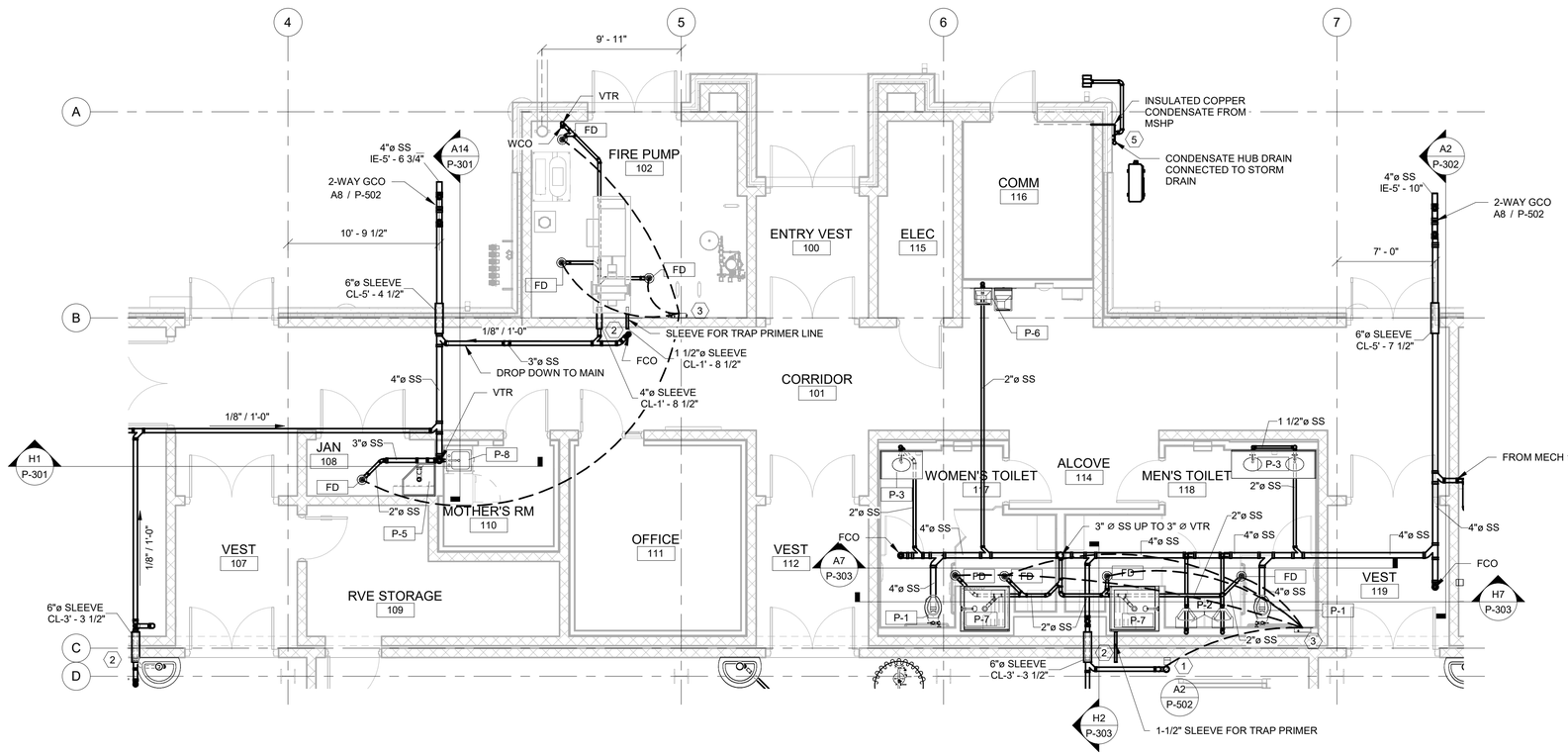
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GENERAL NOTES

1. ALL PIPING INSTALLED PER SPECIFICATIONS, LATEST ADITION OF UFC 3-420-01 AND IPC 2018.
2. PIPE ELEVATIONS SHOWN BASED ON ADMIN FF AS 0' 00"
3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

1	MOUNT HUB DRAIN TO WALL, OFFSET TRAP AS REQUIRED TO ROUTE PIPE UP WALL
2	SCH 40 PVC SLEEVE THROUGH GRADE BEAM BEFORE CONCRETE PLACEMENT REF STRUCTURAL DETAILS FOR REQUIREMENTS
3	ELECTRONIC TRAP PRIMER, PROVIDE CONNECTION TO EACH TRAP
4	INSTALL FUEL VAPOR SENSOR IN EACH TRENCH DRAIN LOCATE IN DEEPEST SECTION ADJACENT TO OUTLET
5	CONNECT HUB DRAIN TO NEAREST BELOW GROUND STORM DRAIN LINE REF CIVIL, PROVIDE CAP WITH DRILLED HOLE MATCHING CONDENSATE PIPE SIZE
6	ROUTE CONDUIT FOR VAPOR SENSOR FROM JUNCTION BOX UNDER SLAB AN UP TO SECTION WITH SENSOR. ENTER TRENCH DRAIN FROM SIDE.

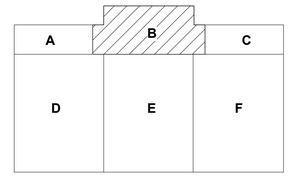


B2 SANITARY PLUMBING FLOOR PLAN - AREA B

3/16" = 1'-0"

0 2' 4' 8' 16'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. PONTHIEX, P.E.	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
R. REAGER	W912BV26RA004
CHECKED BY:	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO.:
A. BLANKENSHIP, P.E.	512203
SIZE:	FILE NAME:
ANSI D	EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:37:08 AM File Path: C:\Users\rbscarr\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING WASTE AND VENT FLOOR PLAN - AREA B

SHEET ID

P-112

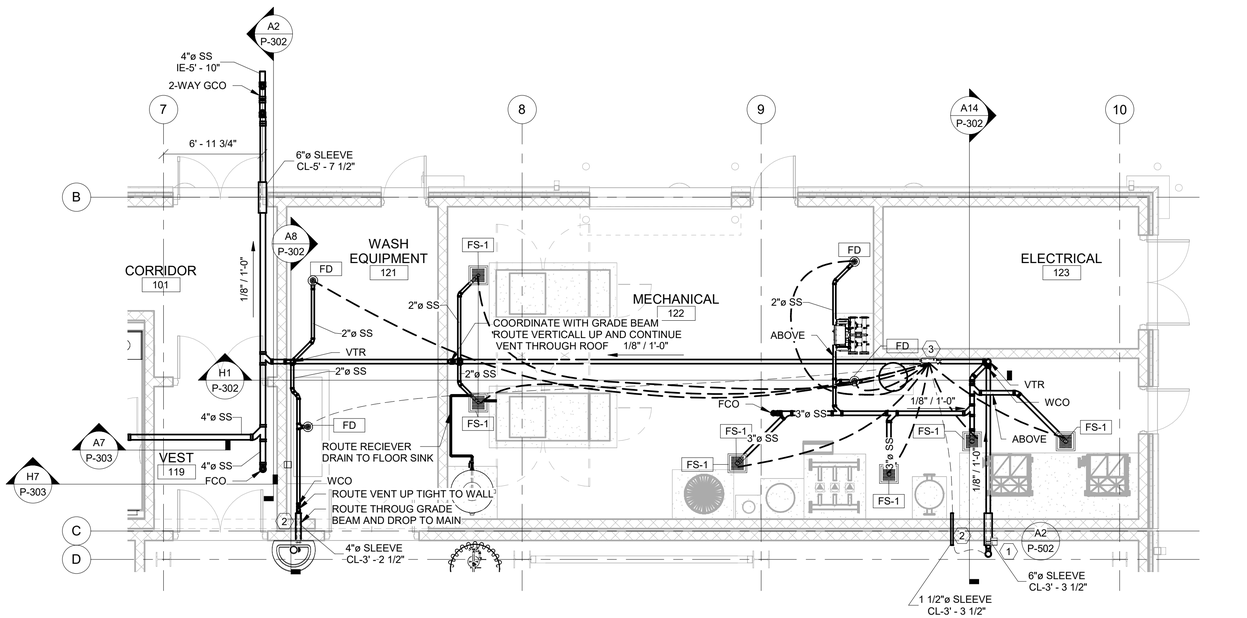
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

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2. PIPE ELEVATIONS SHOWN BASED ON ADMIN FF AS 0' 00"
3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

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2	SCH 40 PVC SLEEVE THROUGH GRADE BEAM BEFORE CONCRETE PLACEMENT REF STRUCTURAL DETAILS FOR REQUIREMENTS
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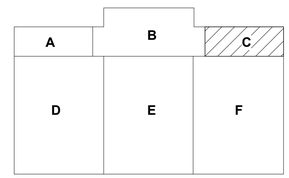


B2 SANITARY PLUMBING FLOOR PLAN - AREA C

3/16" = 1'-0"

0 2' 4' 8' 16'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

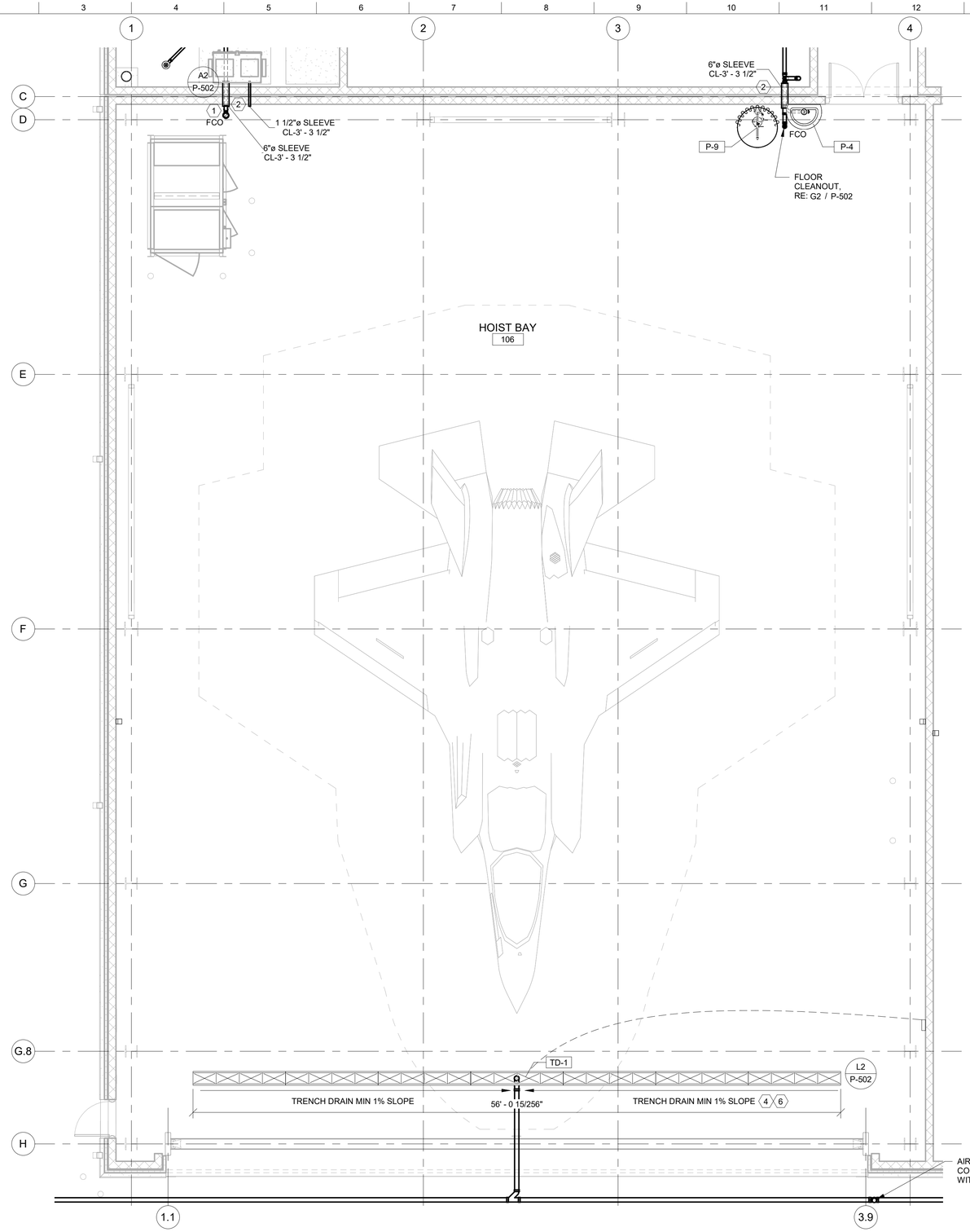
PLUMBING WASTE AND VENT FLOOR PLAN - AREA C

SHEET ID

P-113

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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A2 SANITARY PLUMBING FLOOR PLAN - AREA D

3/16" = 1'-0"

0 2' 4' 8' 16'

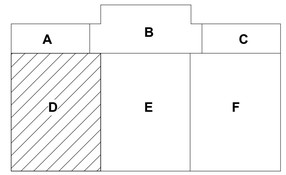
GENERAL NOTES

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PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:37:44 AM File Path: C:\Users\mbeciar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

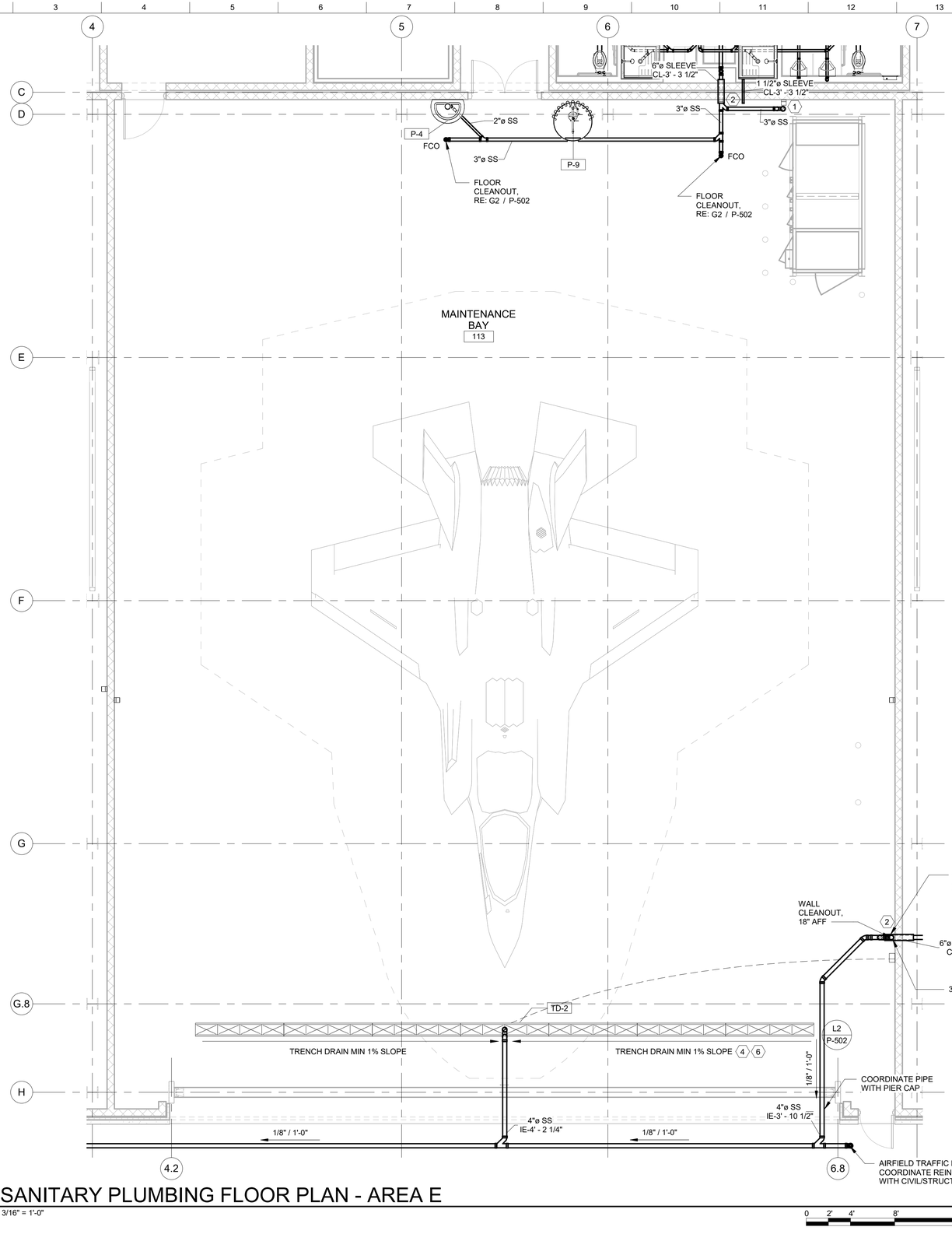
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING WASTE AND VENT FLOOR PLAN - AREA D

SHEET ID

P-114

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 SANITARY PLUMBING FLOOR PLAN - AREA E

3/16" = 1'-0"

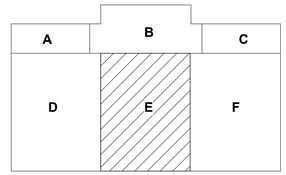
GENERAL NOTES

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2. PIPE ELEVATIONS SHOWN BASED ON ADMIN FF AS 0' 00"
3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

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PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: R. READER	SOLICITATION NO.: W912BV26RA004
CHECKED BY:	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO.: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

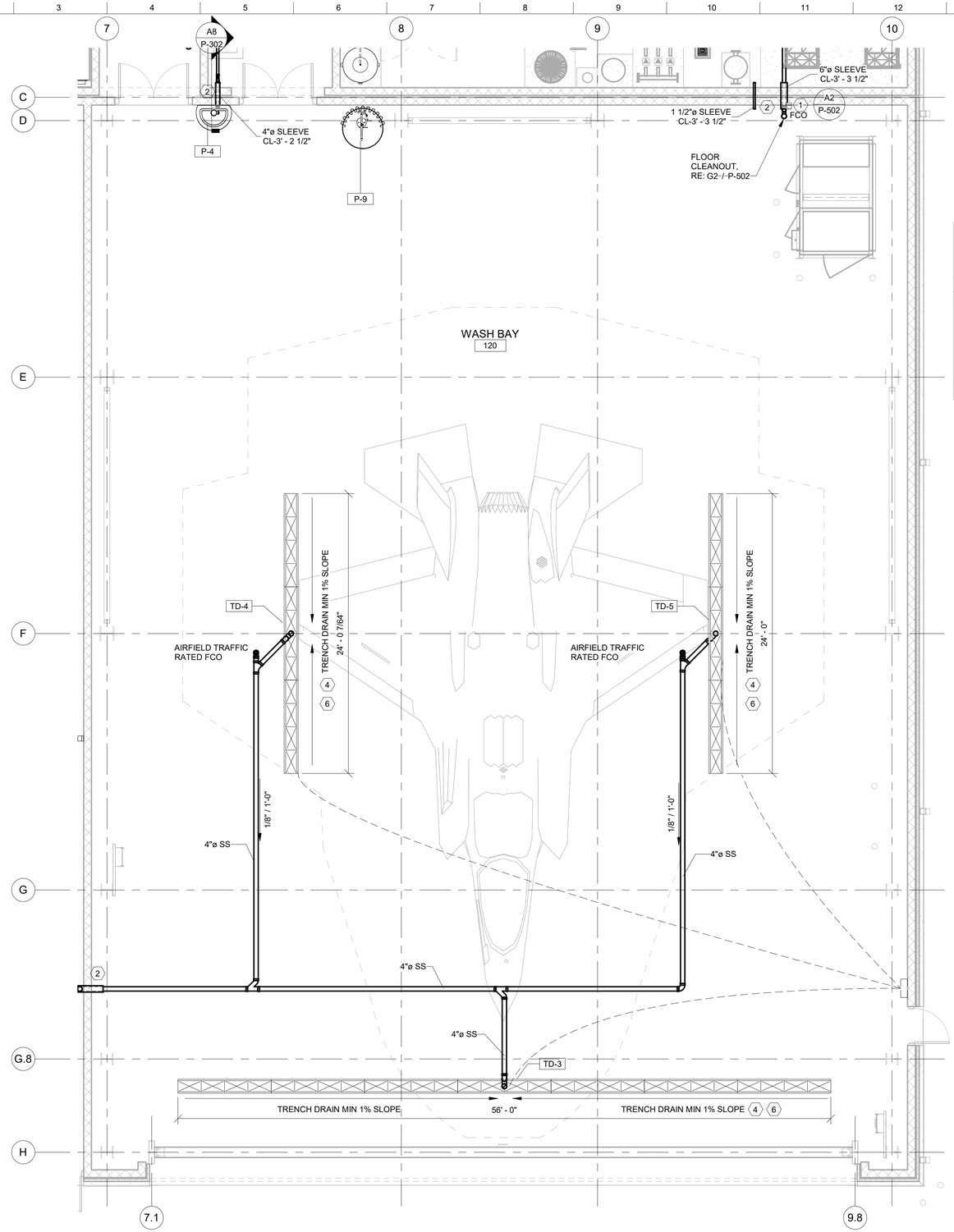
PLUMBING WASTE AND VENT FLOOR PLAN - AREA E

SHEET ID

P-115

Plot Date: 10/20/2025 11:37:47 AM File Path: C:\Users\mbedrar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MBEDRAR.rvt

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 SANITARY PLUMBING FLOOR PLAN - AREA F

3/16" = 1'-0"

0 2' 4' 8' 16'

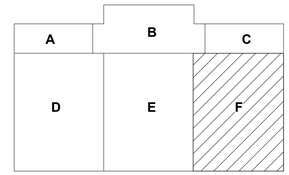
GENERAL NOTES

1. ALL PIPING INSTALLED PER SPECIFICATIONS, LATEST ADITION OF UFC 3-420-01 AND IPC 2018.
2. PIPE ELEVATIONS SHOWN BASED ON ADMIN FF AS 0' 00"
3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

1	MOUNT HUB DRAIN TO WALL, OFFSET TRAP AS REQUIRED TO ROUTE PIPE UP WALL
2	SCH 40 PVC SLEEVE THROUGH GRADE BEAM BEFORE CONCRETE PLACEMENT REF STRUCTURAL DETAILS FOR REQUIREMENTS
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6	ROUTE CONDUIT FOR VAPOR SENSOR FROM JUNCTION BOX UNDER SLAB AN UP TO SECTION WITH SENSOR. ENTER TRENCH DRAIN FROM SIDE.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. PONTHIEX, P.E.	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
R. REINDER	W912BV26RA004
CHECKED BY:	CONTRACT NO.:
Checker	
SUBMITTED BY:	PROJECT NO.:
A. BLANKENSHIP, P.E.	512203
SIZE:	FILE NAME:
ANSI D	EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:38:01 AM File Path: C:\Users\rbcoiran\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING WASTE AND VENT FLOOR PLAN - AREA F

SHEET ID

P-116

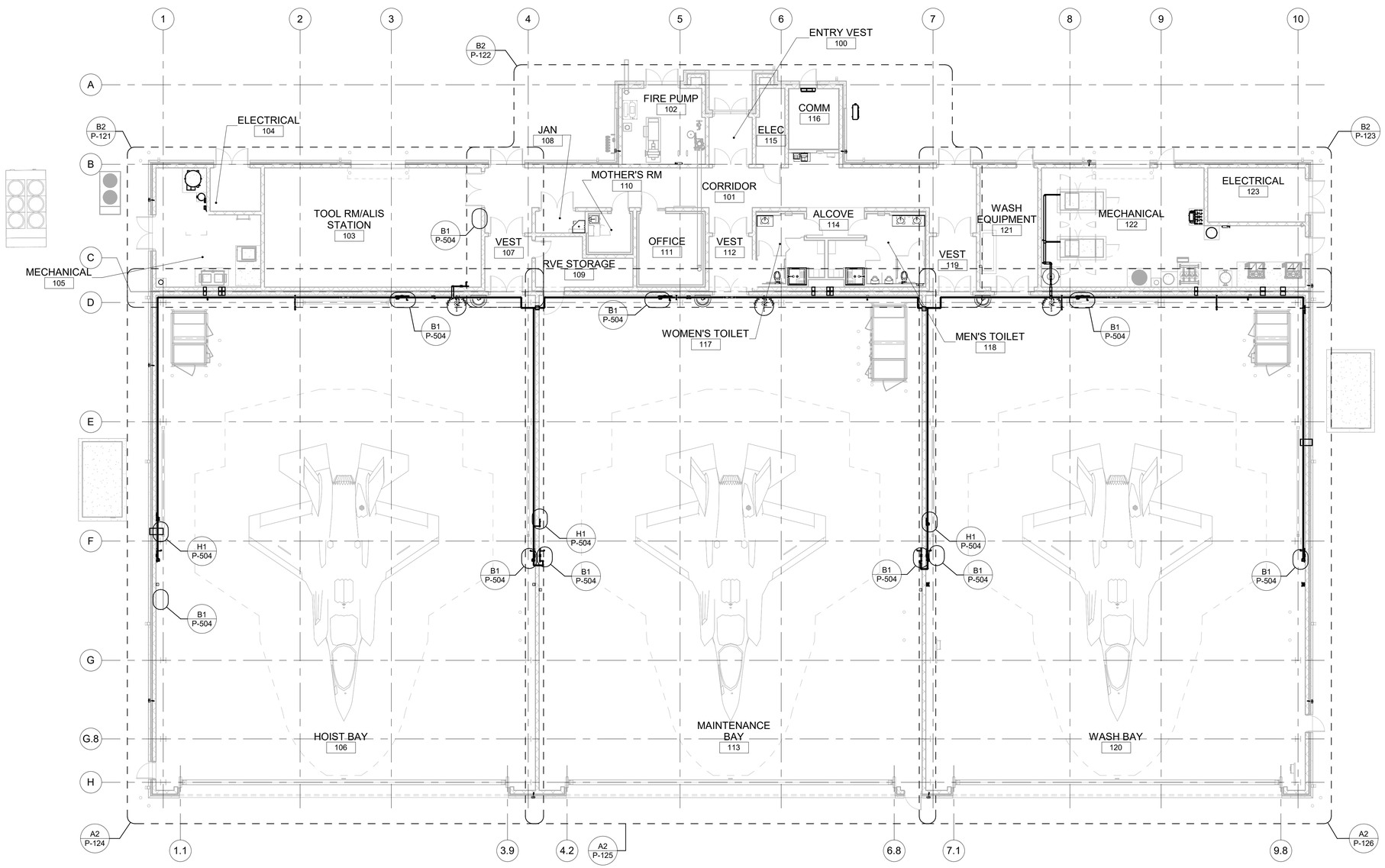
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

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KEYNOTES

1	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
2	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
3	TERMINATE COMPRESSED AIR BLOW DOWN IN HUB DRAIN
4	ROUTE AIR COMPRESSOR CONDENSATE TO FLOOR SINK



A1 OVERALL COMPRESSED AIR FLOOR PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. READER
CHECKED BY:	
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO.:	512203
FILE NAME:	EANG_512203_M_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

OVERALL PLUMBING COMPRESSED AIR FLOOR PLAN

SHEET ID

P-120

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

1. ALL PIPING INSTALLED PER SPECIFICATIONS, LATEST ADITION OF UFC 3-420-01 AND IPC 2018.
2. PIPE ELEVATIONS SHOWN BASED ON ADMIN FF AS 0' 00"
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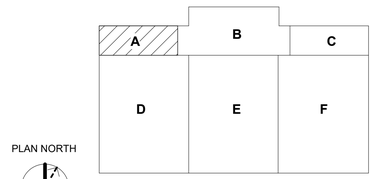
KEYNOTES

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4	ROUTE AIR COMPRESSOR CONDENSATE TO FLOOR SINK

B2 COMPRESSED AIR PLUMBING FLOOR PLAN - AREA A

3/16" = 1'-0"

0 2' 4' 8' 16'



KEY PLAN

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:38:56 AM File Path: C:\Users\hbeciar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING COMPRESSED AIR FLOOR PLAN - AREA A

SHEET ID

P-121

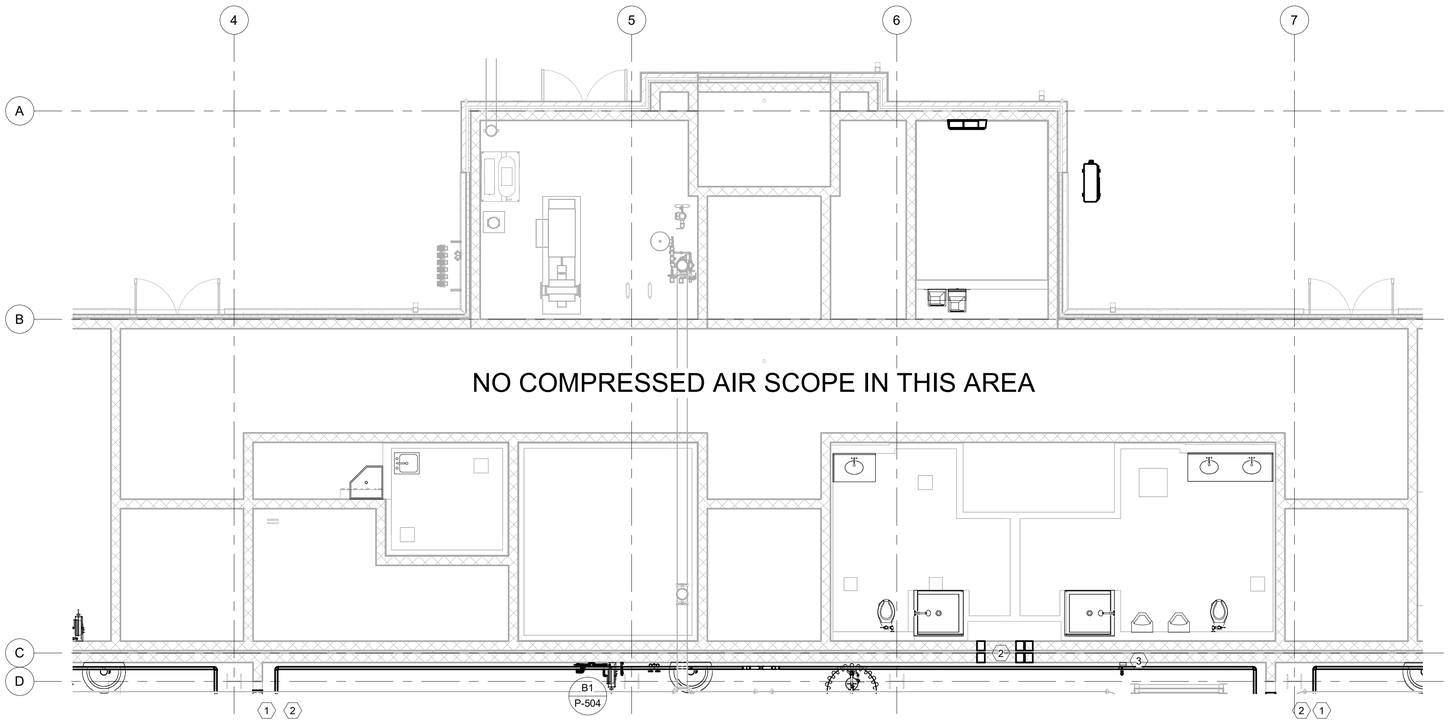
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

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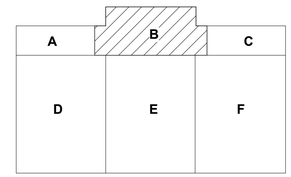


B2 COMPRESSED AIR PLUMBING FLOOR PLAN - AREA B

3/16" = 1'-0"

0 2' 4' 8' 16'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. READER
CHECKED BY:	
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

PLUMBING COMPRESSED AIR FLOOR PLAN - AREA B

SHEET ID

P-122

Plot Date: 10/20/2025 11:39:01 AM File Path: C:\Users\rbdcarle\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

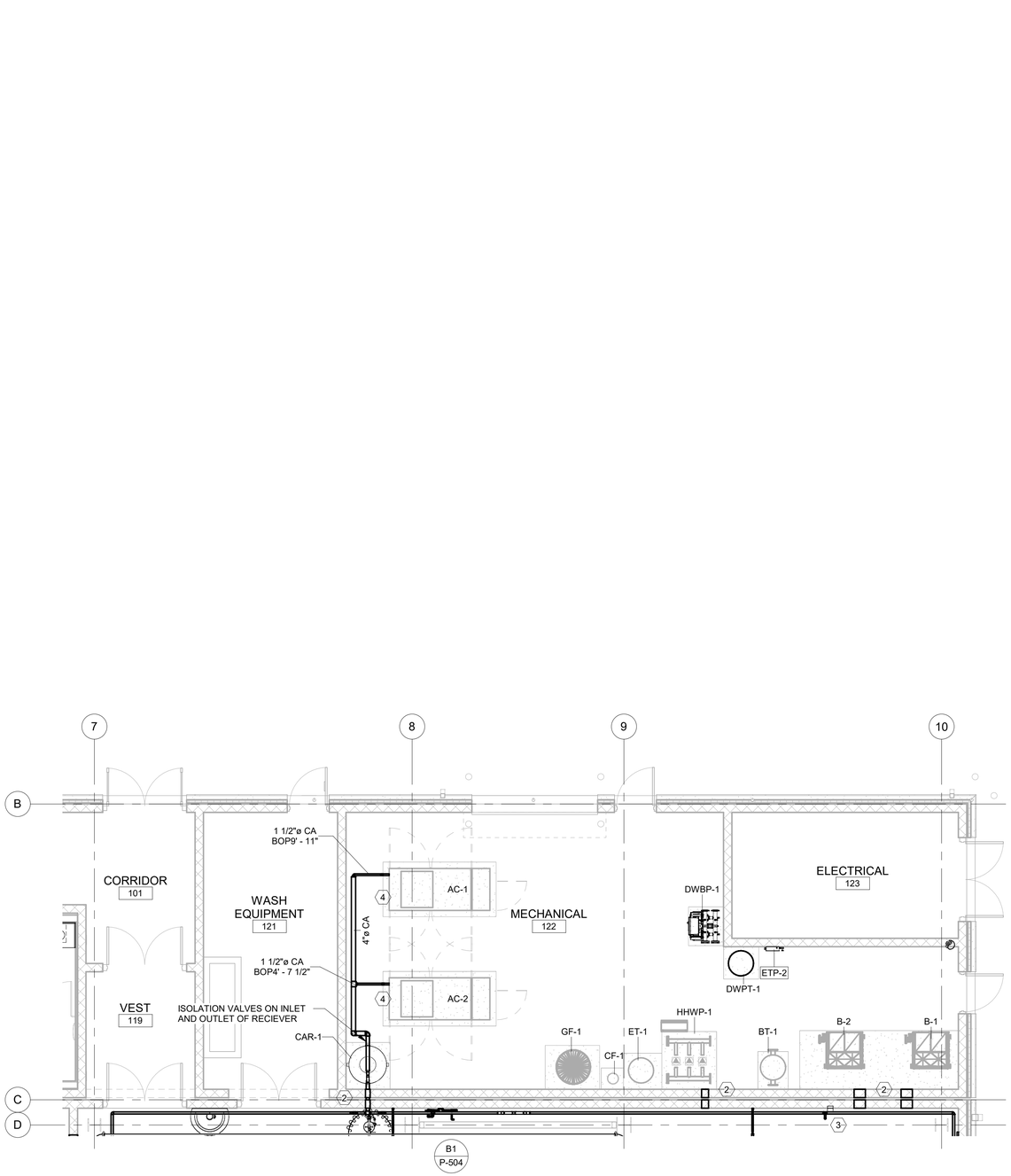
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3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

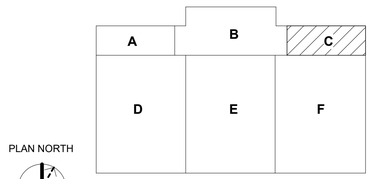
1	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
2	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
3	TERMINATE COMPRESSED AIR BLOW DOWN IN HUB DRAIN
4	ROUTE AIR COMPRESSOR CONDENSATE TO FLOOR SINK



B2 COMPRESSED AIR PLUMBING FLOOR PLAN - AREA C

3/16" = 1'-0"

0 2' 4' 8' 16'



KEY PLAN

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

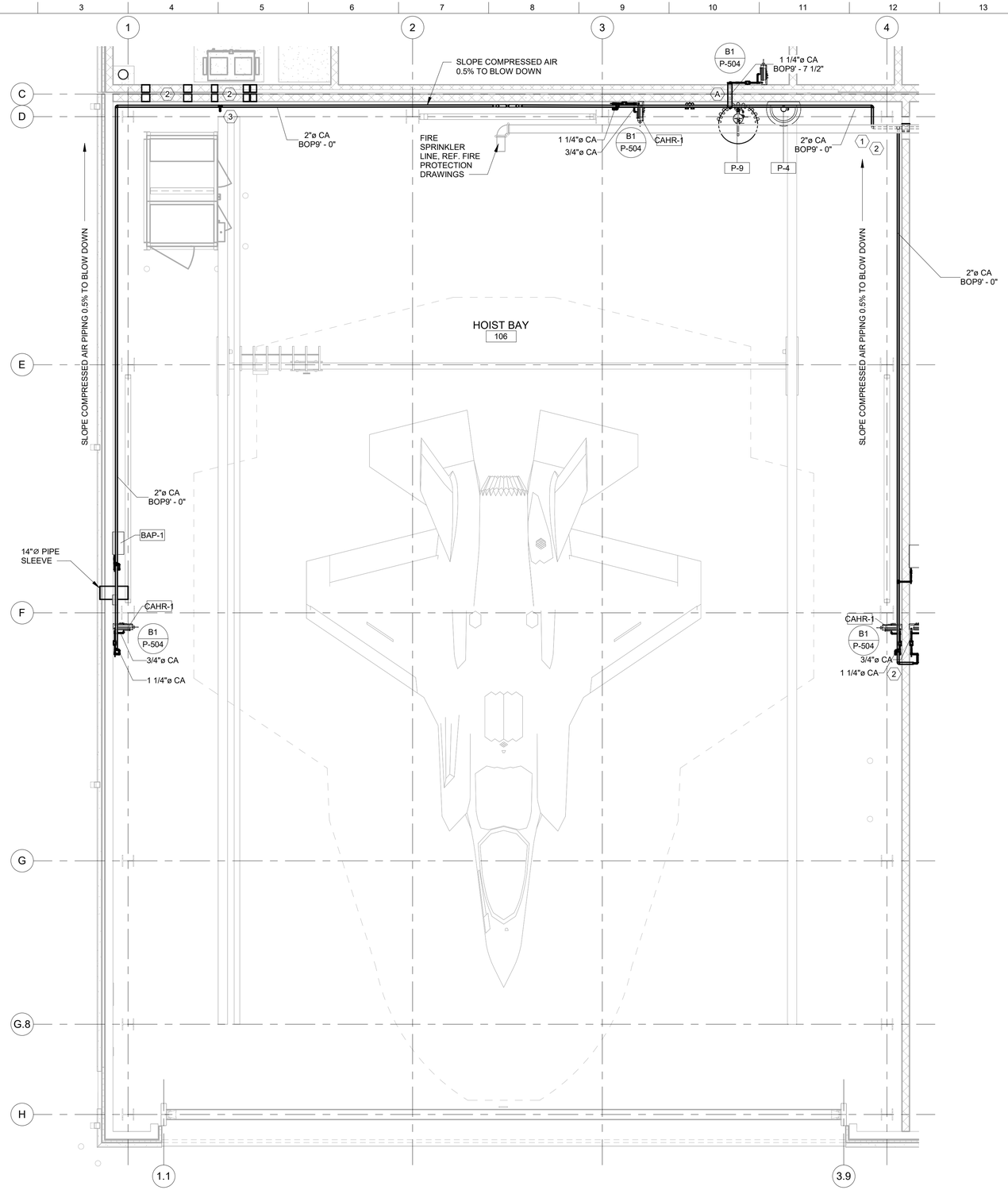
PLUMBING COMPRESSED AIR FLOOR PLAN - AREA C

SHEET ID

P-123

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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A2 COMPRESSED AIR PLUMBING FLOOR PLAN - AREA D

3/16" = 1'-0"

0 2' 4' 8' 16'

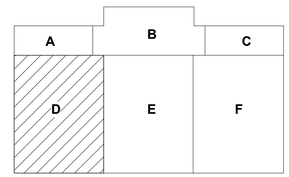
GENERAL NOTES

1. ALL PIPING INSTALLED PER SPECIFICATIONS, LATEST ADITION OF UFC 3-420-01 AND IPC 2018.
2. PIPE ELEVATIONS SHOWN BASED ON ADMIN FF AS 0' 00"
3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

1	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
2	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
3	TERMINATE COMPRESSED AIR BLOW DOWN IN HUB DRAIN
4	ROUTE AIR COMPRESSOR CONDENSATE TO FLOOR SINK

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:39:37 AM File Path: C:\Users\rbocanar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

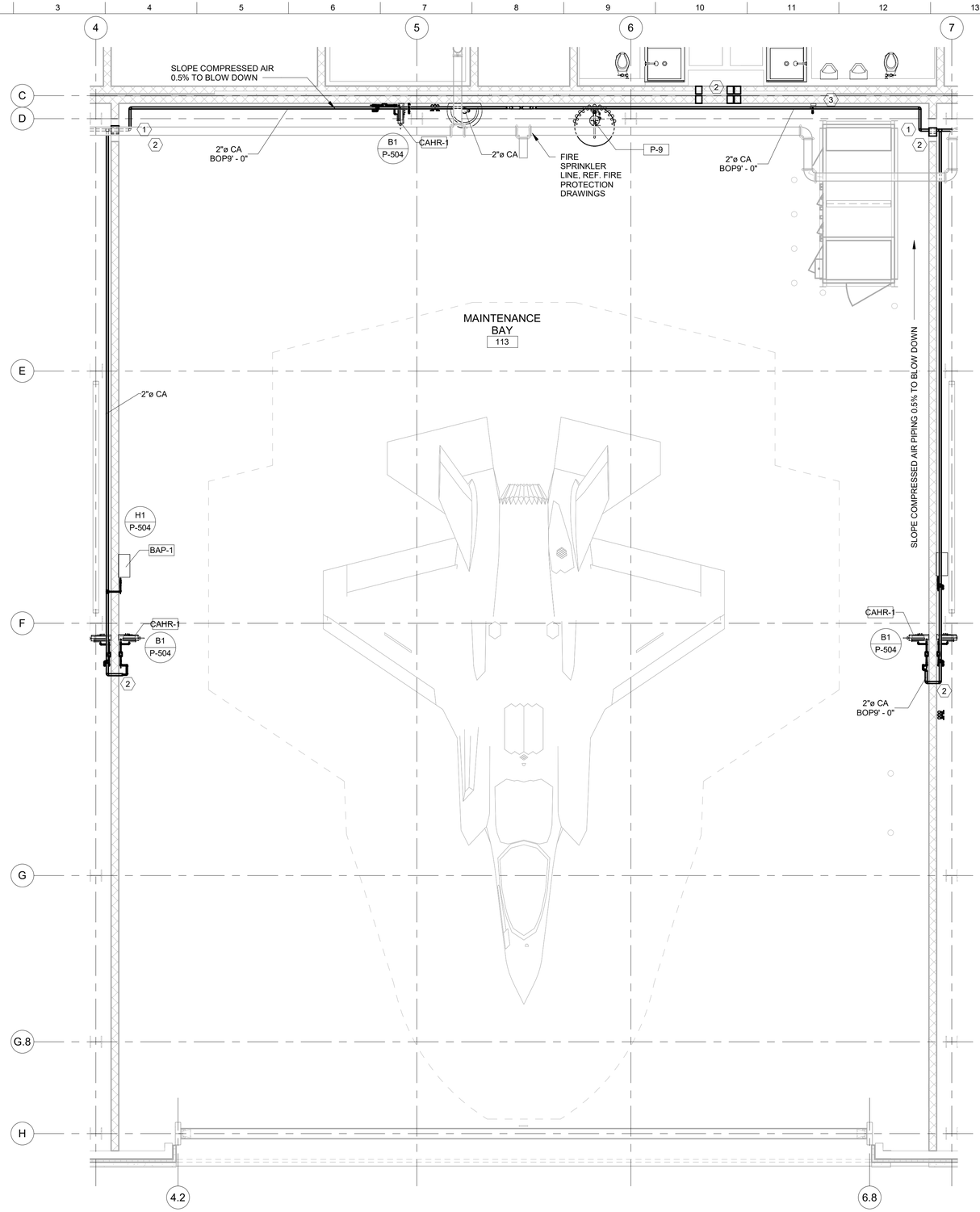
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING COMPRESSED AIR FLOOR PLAN - AREA D

SHEET ID

P-124

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 COMPRESSED AIR PLUMBING FLOOR PLAN - AREA E

3/16" = 1'-0"

0 2' 4' 8' 16'

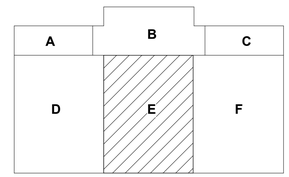
GENERAL NOTES

1. ALL PIPING INSTALLED PER SPECIFICATIONS, LATEST ADITION OF UFC 3-420-01 AND IPC 2018.
2. PIPE ELEVATIONS SHOWN BASED ON ADMIN FF AS 0' 00"
3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

1	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
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3	TERMINATE COMPRESSED AIR BLOW DOWN IN HUB DRAIN
4	ROUTE AIR COMPRESSOR CONDENSATE TO FLOOR SINK

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:39:42 AM File Path: C:\Users\rbscrar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

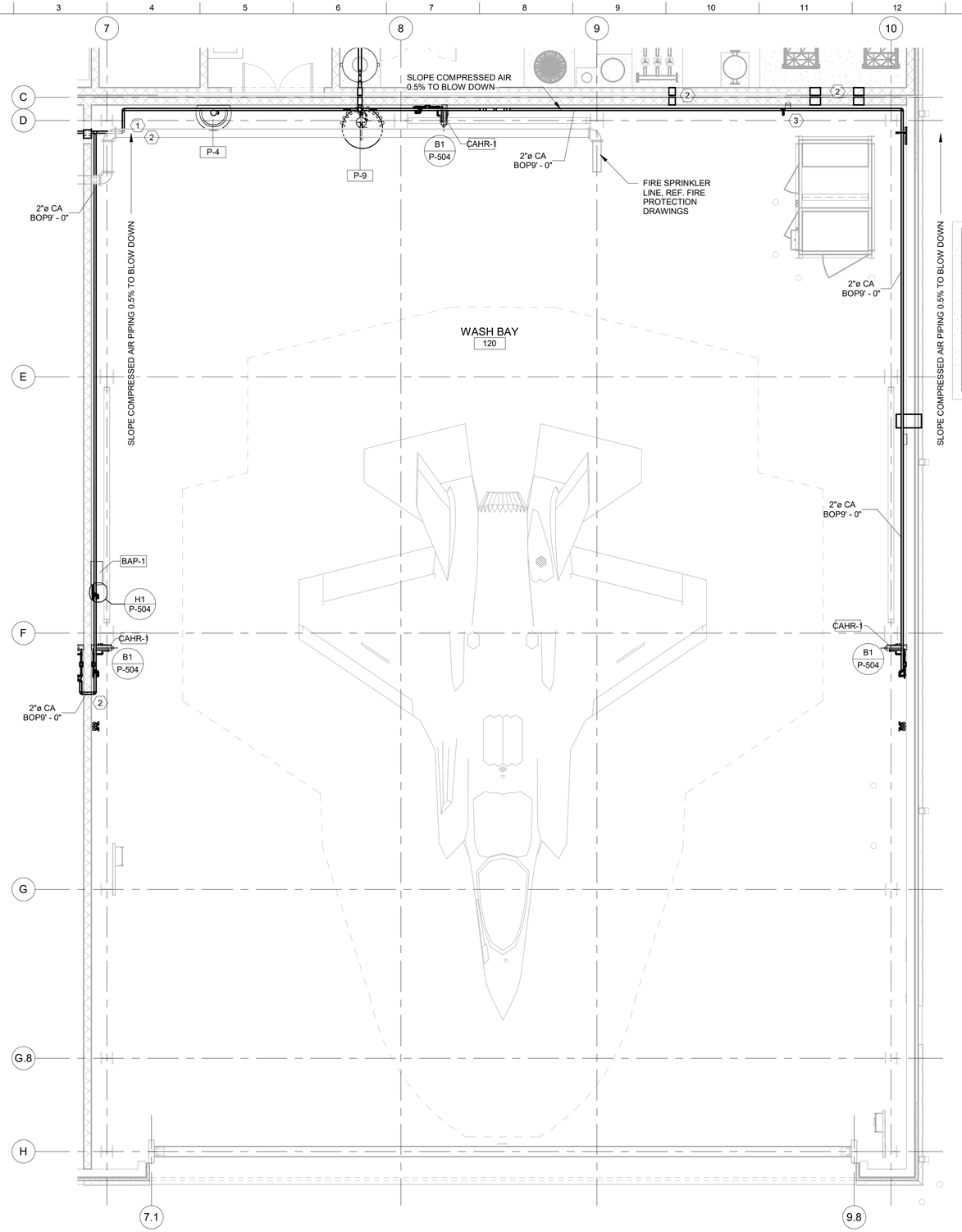
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING COMPRESSED AIR FLOOR PLAN - AREA E

SHEET ID

P-125

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 COMPRESSED AIR PLUMBING FLOOR PLAN - AREA F

3/16" = 1'-0"

0 2' 4' 8' 16'

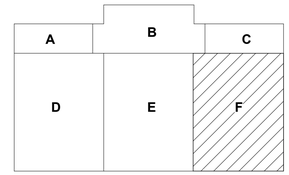
GENERAL NOTES

1. ALL PIPING INSTALLED PER SPECIFICATIONS, LATEST ADITION OF UFC 3-420-01 AND IPC 2018.
2. PIPE ELEVATIONS SHOWN BASED ON ADMIN FF AS 0' 00"
3. COORDINATE FINAL EQUIPMENT LOCATIONS AND FLOOR DRAINS

KEYNOTES

1	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
2	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
3	TERMINATE COMPRESSED AIR BLOW DOWN IN HUB DRAIN
4	ROUTE AIR COMPRESSOR CONDENSATE TO FLOOR SINK

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. REAGER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:39:58 AM File Path: C:\Users\rbeciar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

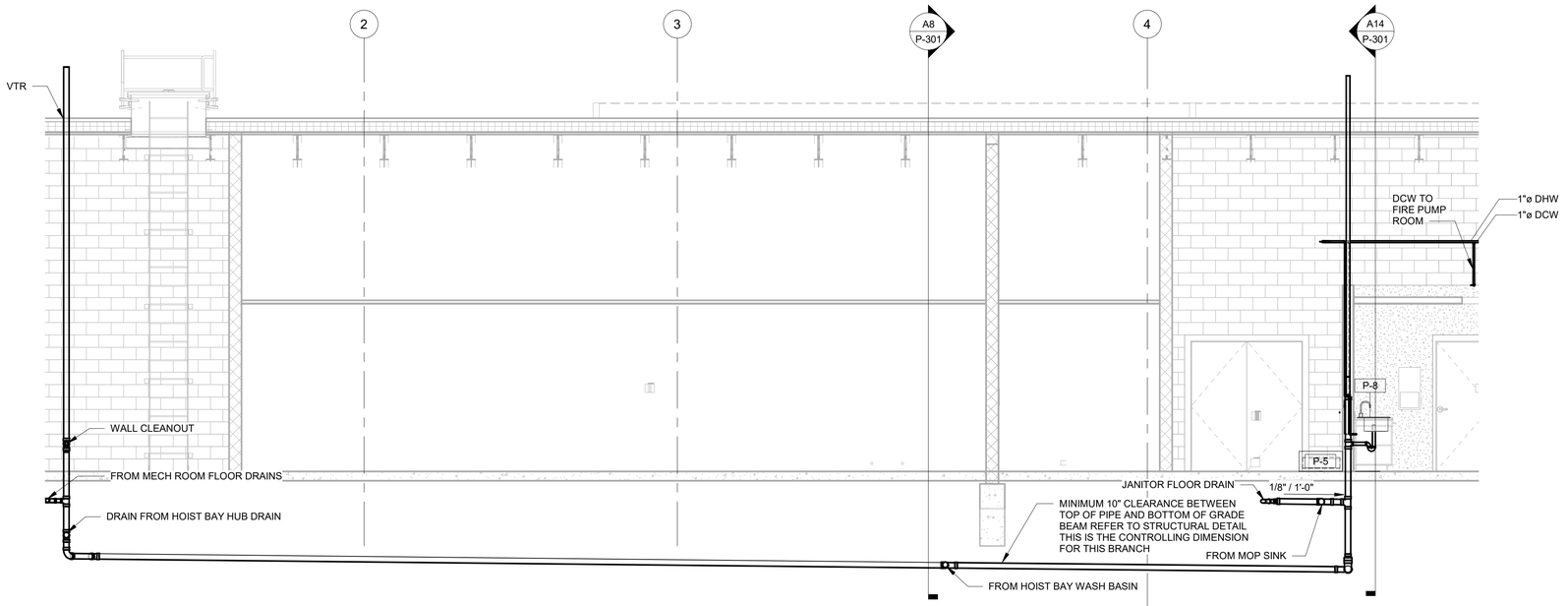
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING COMPRESSED AIR FLOOR PLAN - AREA F

SHEET ID

P-126

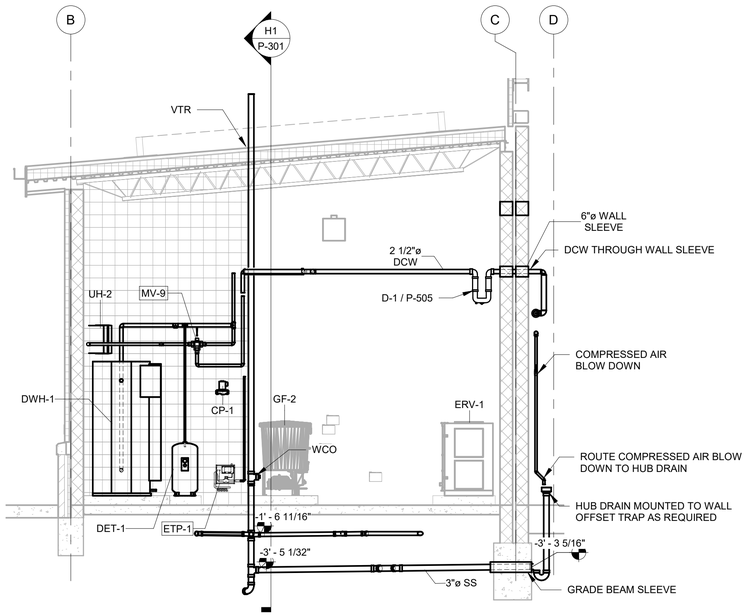
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



H1 EAST BRANCH MAIN

1/4" = 1'-0"

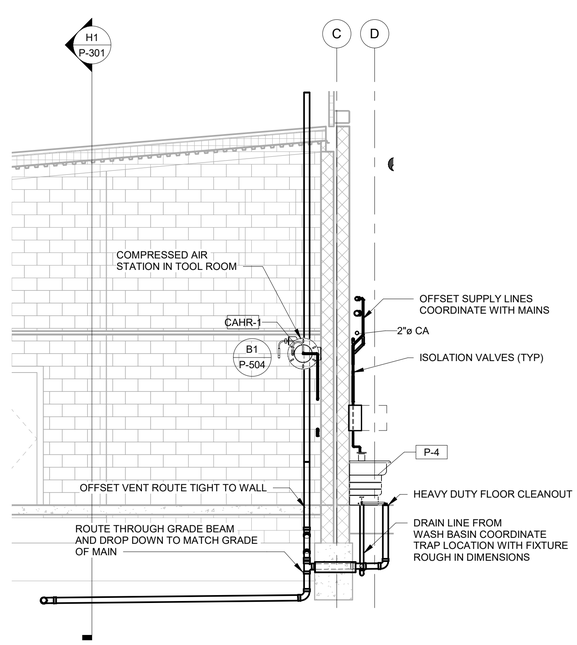
0 2' 4' 8'



A1 MECHANICAL ROOM 105 BRANCH

1/4" = 1'-0"

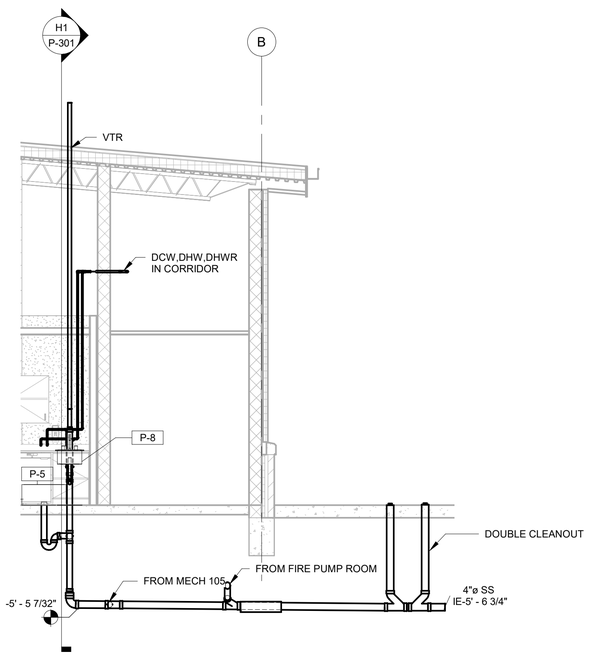
0 2' 4' 8'



A8 HOIST BAY WASH BASIN BRANCH

1/4" = 1'-0"

0 2' 4' 8'



A14 WEST BUILDING MAIN 110

1/4" = 1'-0"

0 2' 4' 8'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. PONTHIEX, P.E.	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
R. READER	W912BV26RA004
CHECKED BY:	CONTRACT NO.:
Checker	
SUBMITTED BY:	PROJECT NO.:
A. BLANKENSHIP, P.E.	512203
SIZE:	FILE NAME:
ANSI D	EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:40:14 AM File Path: C:\Users\rbcolar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

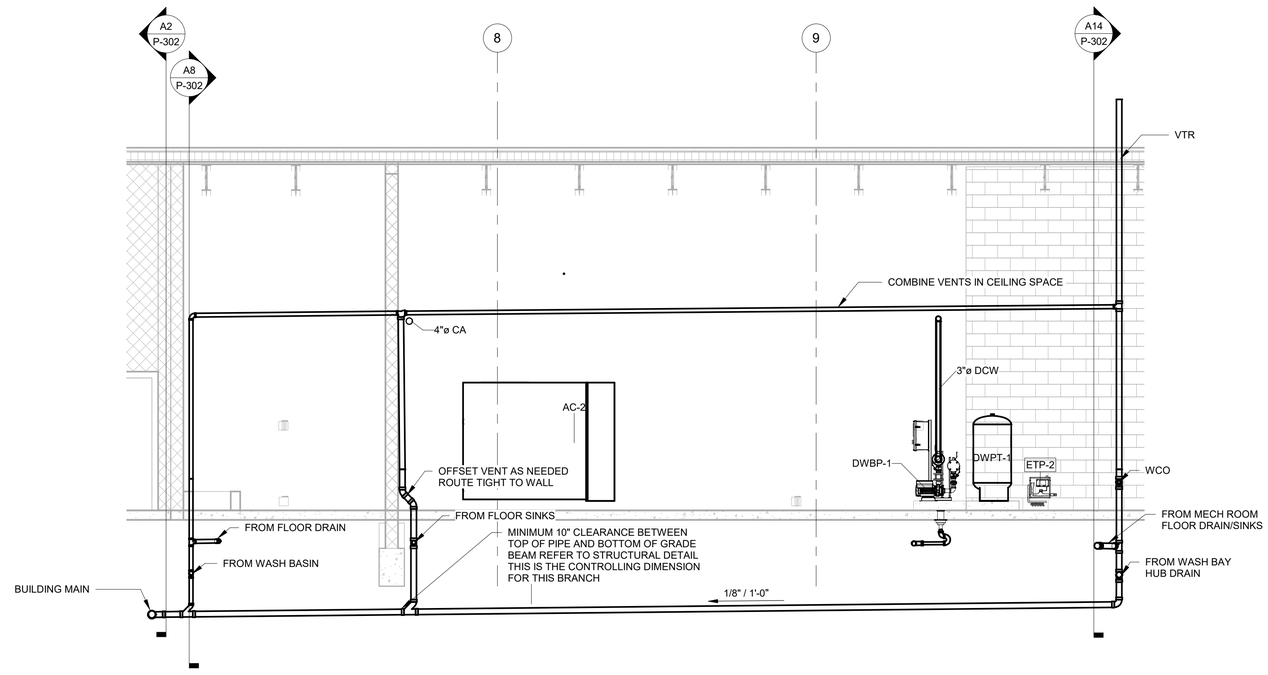
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING SECTIONS

SHEET ID

P-301

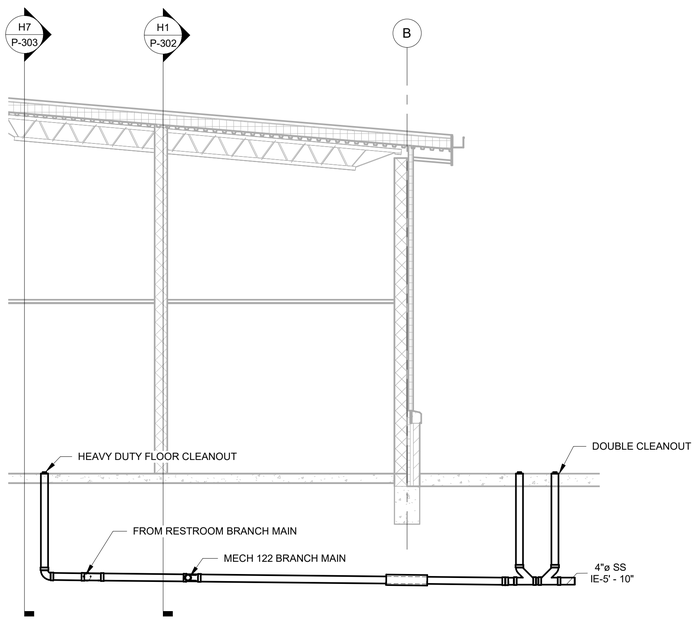
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



H1 BRANCH MAIN FROM MECH 122

1/4" = 1'-0"

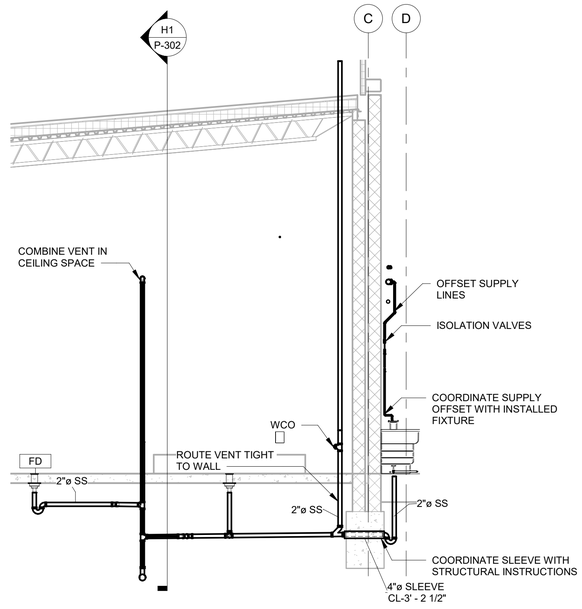
0 2' 4' 8'



A2 EAST BUILDING MAIN

1/4" = 1'-0"

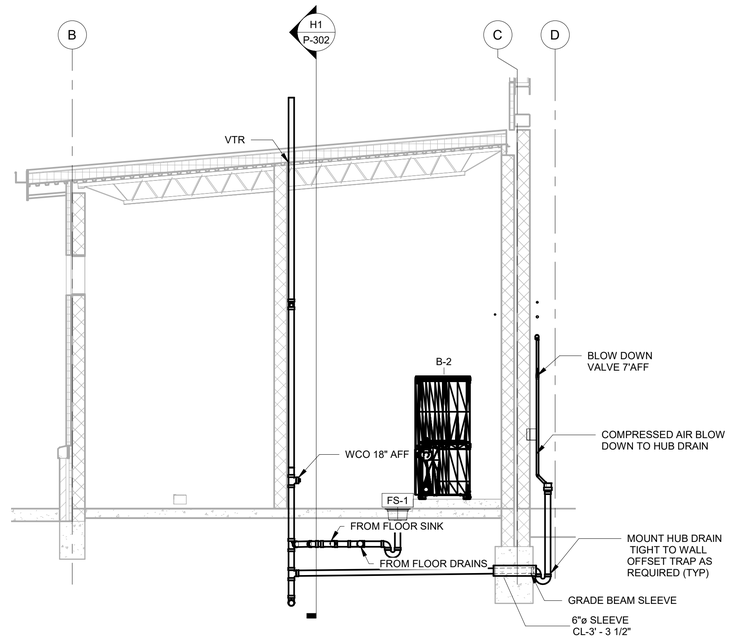
0 2' 4' 8'



A8 HOIST BAY WASH BASIN BRANCH

1/4" = 1'-0"

0 2' 4' 8'



A14 WASH BAY HUB DRAIN BRANCH

1/4" = 1'-0"

0 2' 4' 8'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

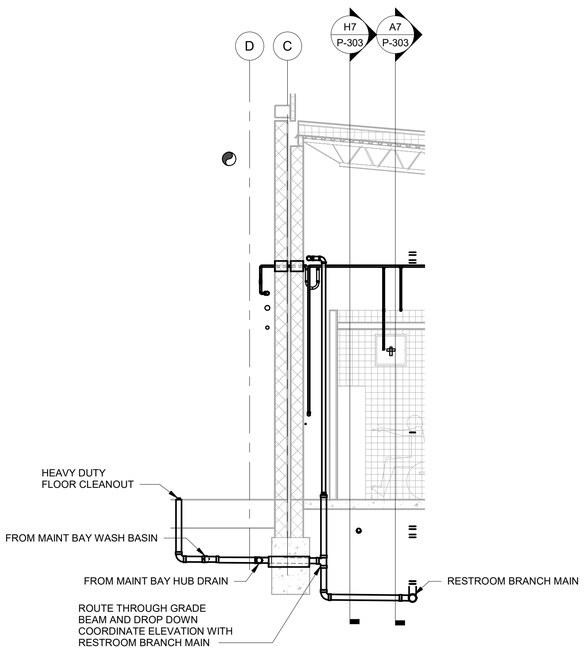
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING SECTIONS

SHEET ID

P-302

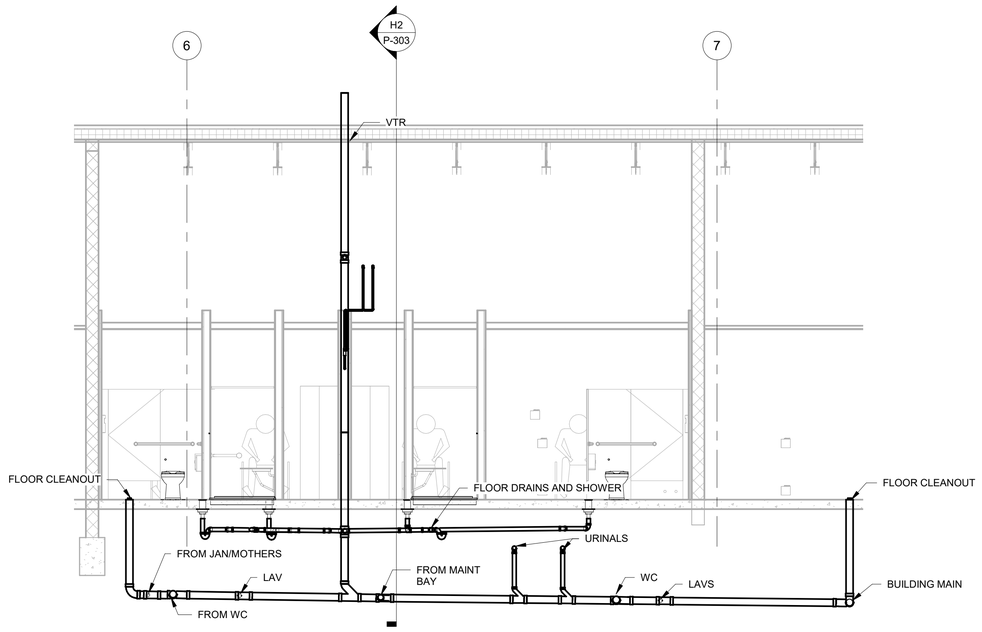
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



H2 MAINT BAY GB SLEEVE

1/4" = 1'-0"

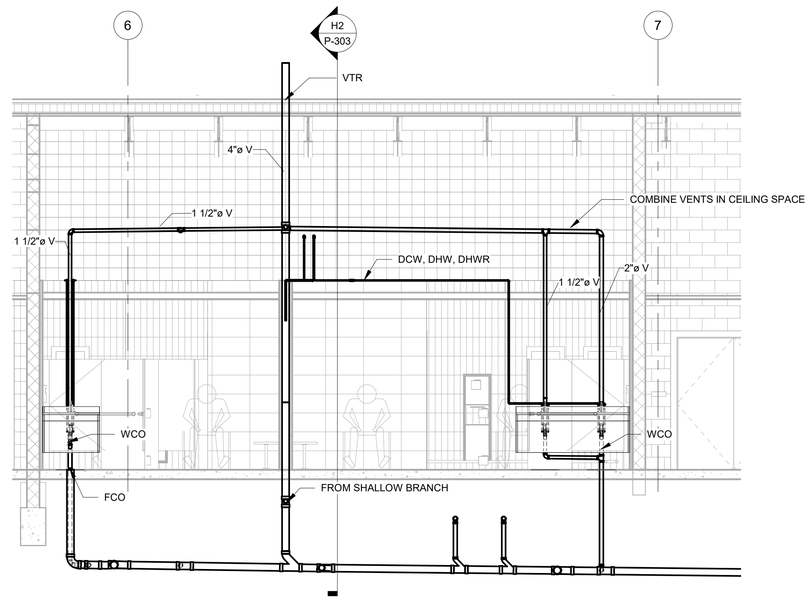
0 2' 4' 8'



H7 SECTION AT RESTROOM - BRANCH DEEP MAIN

1/4" = 1'-0"

0 2' 4' 8'



A7 WASTE AND VENT SECTION AT TOILETS EW

1/4" = 1'-0"

0 2' 4' 8'

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MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. RENDER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

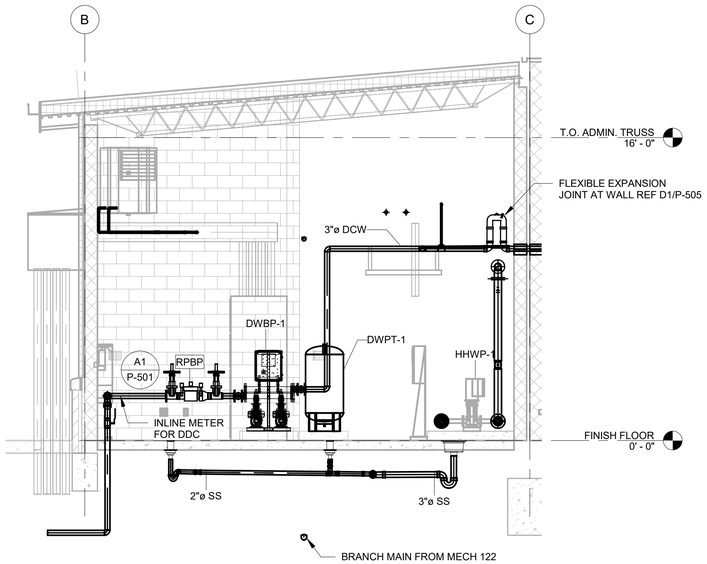
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING SECTIONS

SHEET ID

P-303

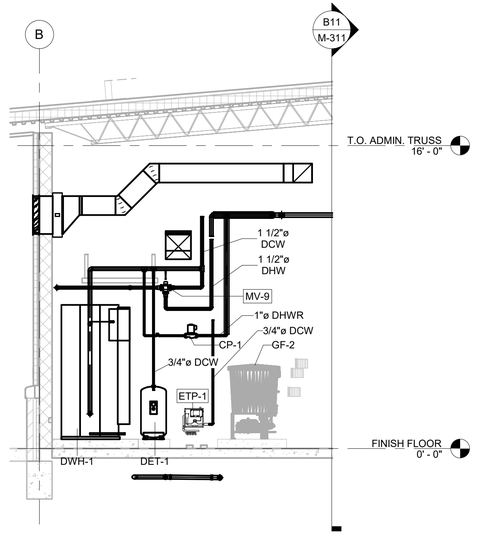
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



C3 SECTION AT WATER ENTRY MECH 122

1/4" = 1'-0"

0 2' 4' 8'



C11 SECTION AT DWH MECH 105

1/4" = 1'-0"

0 2' 4' 8'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

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CONSTRUCTION DIVISION
ENGINEERING BRANCH

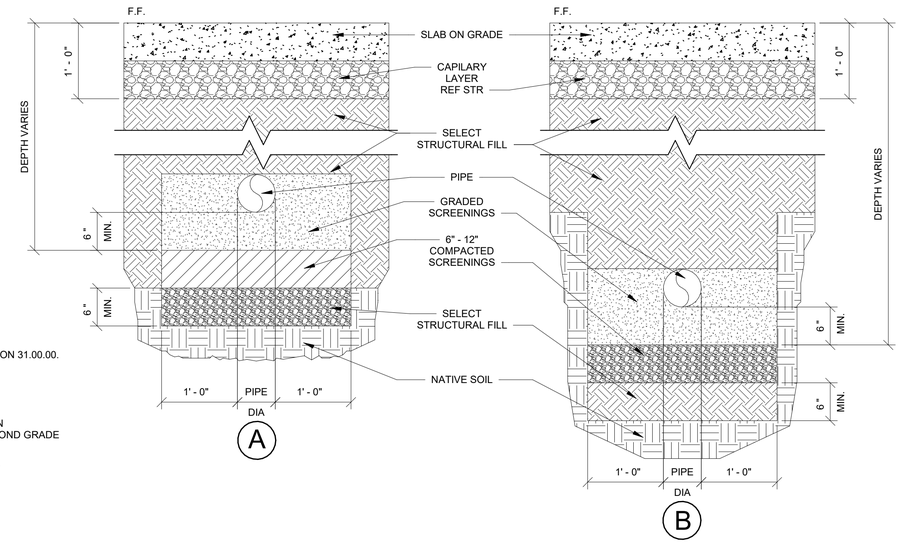
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

PLUMBING SECTIONS

SHEET ID

P-304

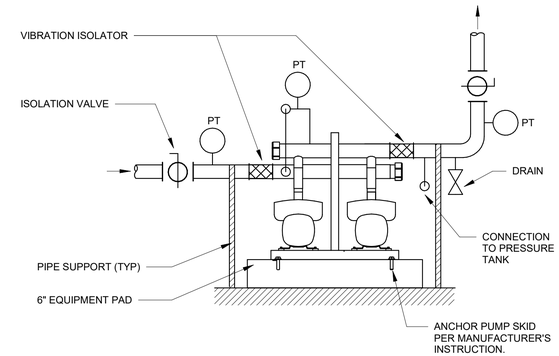
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1. TOP OF PIPE 0 TO 2' BFF USE DETAIL A.
2. TOP OF PIPE 2' BFF AND BELOW USE DETAIL B.
3. CONTINUE UTILITY TRENCH TO MEET CIVIL.
4. COMPACT BEDDING AND BACK FILL PER SPECIFICATION SECTION 31.00.00.
5. COMPACTED AASHTO #10 CRUSHED STONE SCREENINGS.
6. SAND PER ASTM C33.
7. STRUCTURAL FILL PER EARTHWORK SPECIFICATION SECTION 31.00.00. CONTINUE NONEXPANSIVE BACKFILL MINIMUM 5' BEYOND GRADE BEAM TO MEET CIVIL.
8. PROTECT EXCAVATED TRENCH FROM WEATHER TO PREVENT ENCAPSULATING MOISTURE IN UTILITY TRENCH.

J1 TRENCHING & PIPE BEDDING FOR BELOW SLAB UTILITIES

NTS

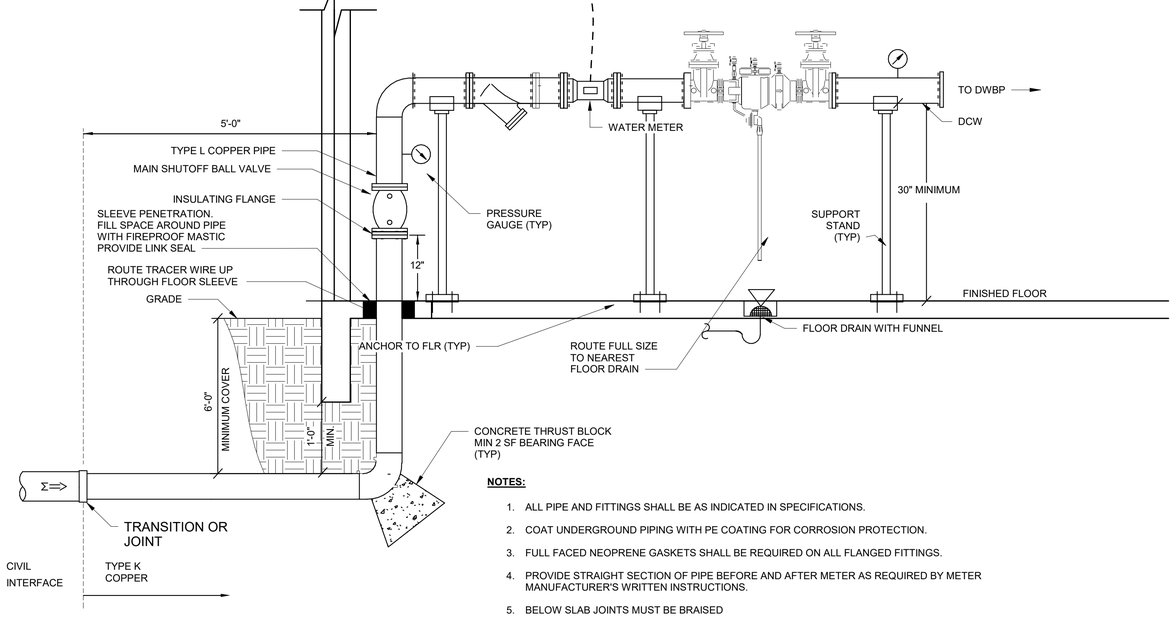


NOTES:

1. PUMPS SHALL UTILIZE ONE PRESSURE GAUGE CONNECTED WITH GAUGE COCKS AS SHOWN.
2. BASIS OF DESIGN MANUFACTURED VARIABLE SPEED DUPLEX PRESSURE BOOSTING SKID COMPLETE WITH PUMPS, STRUCTURAL BASE, HEADER, VFD'S, AND CONTROLS.
3. SUPPORT PIPE AND APPURTENCES SEPARATE FROM PUMP FLANGE.

J14 DOMESTIC WATER BOOSTER PUMP DETAIL

NTS

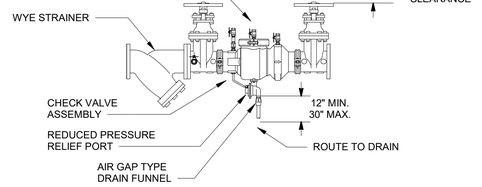


NOTES:

1. ALL PIPE AND FITTINGS SHALL BE AS INDICATED IN SPECIFICATIONS.
2. COAT UNDERGROUND PIPING WITH PE COATING FOR CORROSION PROTECTION.
3. FULL FACED NEOPRENE GASKETS SHALL BE REQUIRED ON ALL FLANGED FITTINGS.
4. PROVIDE STRAIGHT SECTION OF PIPE BEFORE AND AFTER METER AS REQUIRED BY METER MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. BELOW SLAB JOINTS MUST BE BRAISED

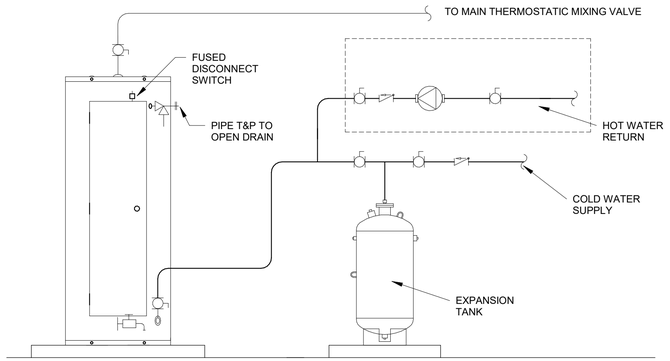
A1 DOMESTIC WATER ENTRANCE AND BACKFLOW PREVENTER

NTS



F14 RPBP BACKFLOW PREVENTER - LARGE

NTS



A14 DOMESTIC WATER HEATER SCHEMATIC

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
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CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS TULSA DISTRICT 2488 EAST 81ST ST TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION ENGINEERING BRANCH

EBBING ANGB - ARKANSAS F-35, 3 BAY HANGAR PN: 512203

PLUMBING DETAILS

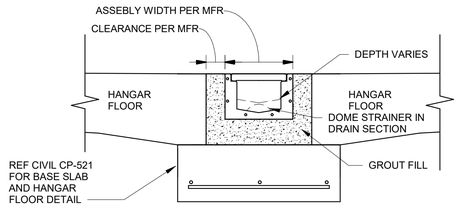
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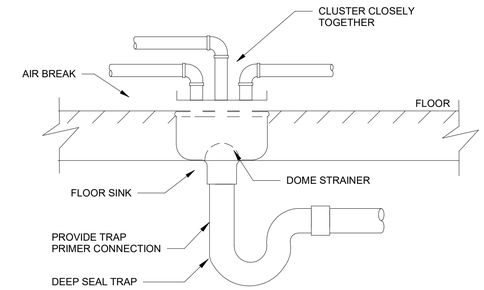
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



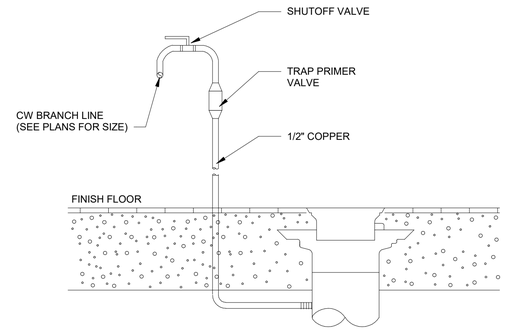
PROVIDE BOTTOM OUTLET TRENCH SECTION WITH DOME STRAINER. SLOPE ALL SECTIONS TO DRAIN

PROVIDE FUEL VAPOR SENSOR IN CENTER/DRAIN SECTION IN EACH TRENCH. ROUTE CONDUIT UNDER SLAB FROM HANGAR WALL TO VAPOR SENSOR.

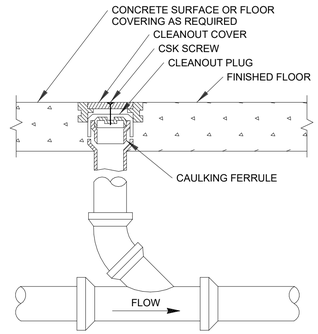
L2 TRENCH DRAIN DETAIL
NTS



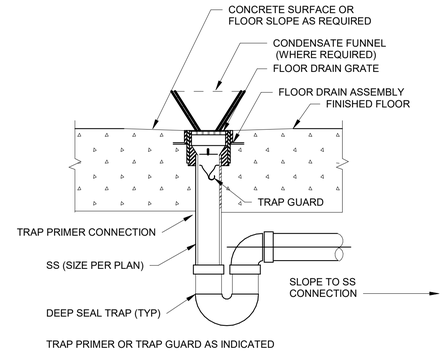
L8 FLOOR SINK DETAIL
NTS



L15 FLOOR DRAIN WITH TRAP PRIMER
NTS

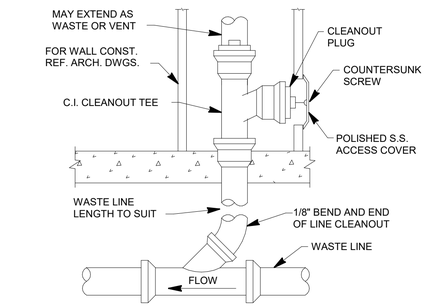


G2 FLOOR CLEANOUT DETAIL
NTS

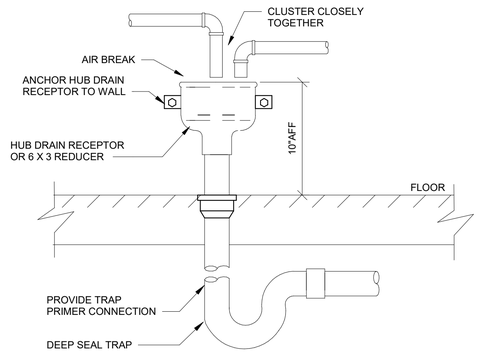


TRAP PRIMER OR TRAP GUARD AS INDICATED

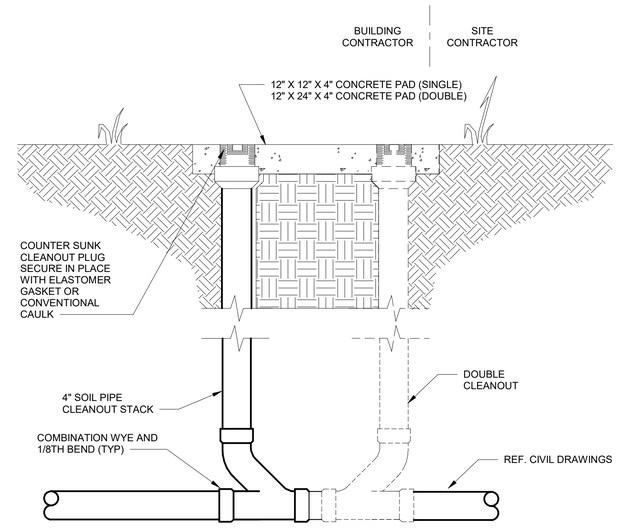
G8 FLOOR DRAIN DETAIL
NTS



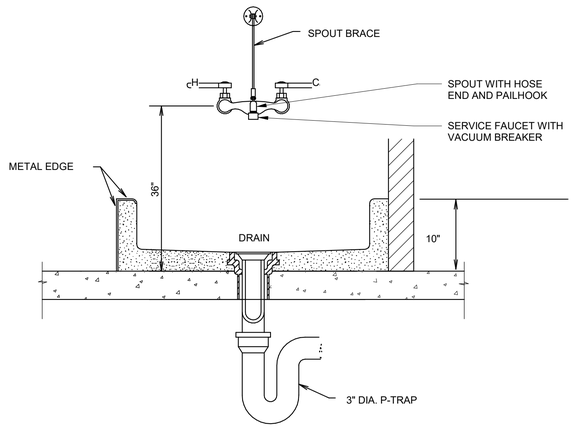
G15 WALL CLEANOUT DETAIL
NTS



A2 HUB DRAIN DETAIL
NTS



A8 OUTDOOR GRADE CLEANOUT DETAIL
NTS



A15 MOP SINK DETAIL
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. REAGER
CHECKED BY:	
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	
ANSI D	
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO.:	512203
FILE NAME:	EANG_512203_M_3BAYH_RVT22.rvt

File Path: C:\Users\rbcarar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

Plot Date: 10/20/2025 11:40:45 AM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

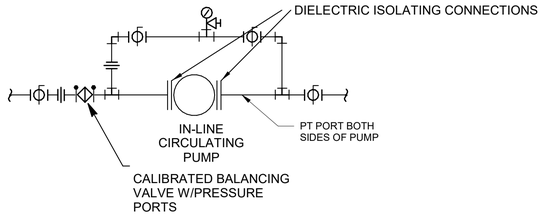
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING DETAILS

SHEET ID

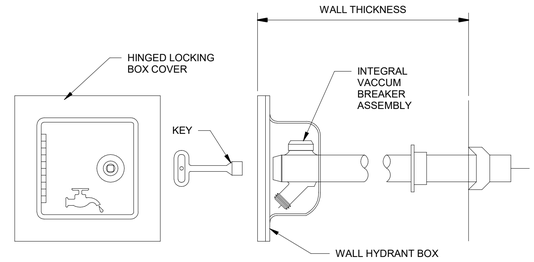
P-502

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

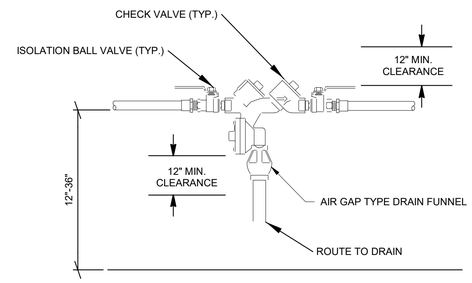


NOTE:
1. BYPASS LINE AND FITTINGS SHALL BE 3/4". FITTINGS IN MAIN LINE SHALL BE SAME SIZE AS LINE.
2. SUPPORT PIPING INDEPENDENT OF PUMP.
3. SUPPORT PUMP INDEPENDENT FROM PIPING PER MANUFACTURERS RECOMMENDATION.

L2 IN-LINE PUMP DETAIL
NTS

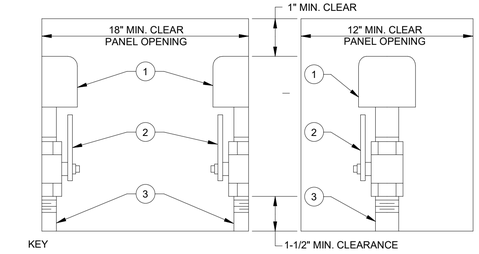


L8 NON-FREEZE WALL HYDRANT
NTS



L15 DBLCHCK BACKFLOW PREVENTER -SMALL
NTS

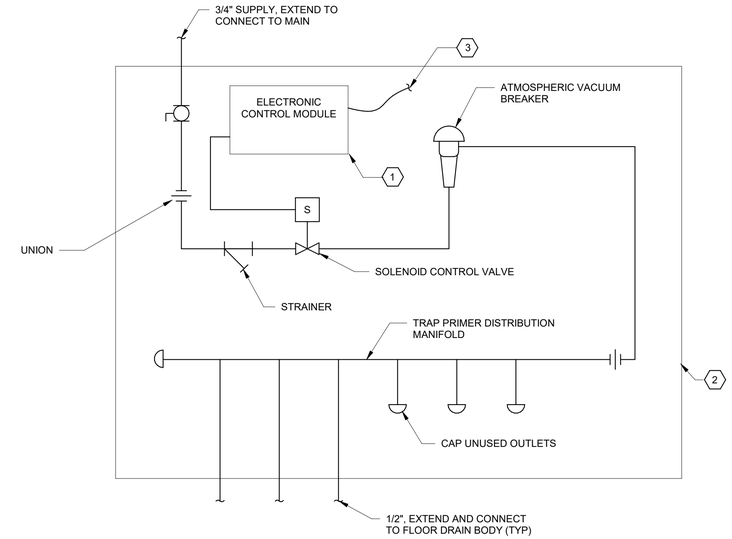
NOTES:
1. INSTALL TRAP PRIMER ASSEMBLY A MINIMUM OF 12" ABOVE FLOOR RIM ELEVATION OF HIGHEST DRAIN CONNECTED.
2. EACH OUTLET SHALL BE CONNECTED ONLY TO ONE FLOOR DRAIN OR FLOOR SINK.
3. TRAP PRIMER DISTRIBUTION PIPING SHALL BE BUBBLE TIGHT AND SEALED.



KEY
1. WATER HAMMER ARRESTOR
2. BALL VALVE PORT SHALL BE FULLSIZE. REDUCED PORT VALVE IS NOT ACCEPTABLE.
3. PIPE TO BE SAME NOMINAL SIZE AS WATER HAMMER ARRESTOR PORT.
4. PROVIDE ACCESS PANEL FOR ALL CONCEALED WATER HAMMER ARRESTORS

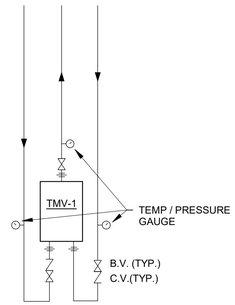
NOTE: PROVIDE REDUCER IF REQUIRED BETWEEN VALVE AND WATER HAMMER ARRESTOR.

E2 WATER HAMMER ARRESTOR DETAIL
NTS

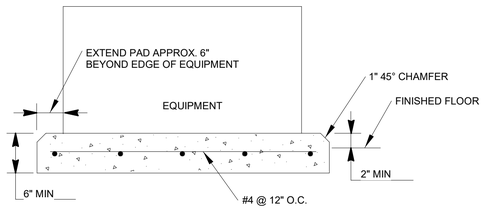


KEYED NOTES:
1. PROGRAM CONTROL MODULE TO OPEN SOLENOID CONTROL VALVE AT MANUFACTURER'S RECOMMENDED FREQUENCY AND DURATION.
2. GALVANIZED WALL BOX AND COVER PROVIDED BY TRAP PRIMER MANUFACTURER.
3. POWER CONNECTION, PROVIDED BY OTHERS.

E8 ELECTRONIC TRAP PRIMER DETAIL
NTS



A2 THERMOSTATIC MIXING VALVE
NTS



NOTE: USED ONLY IN MECHANICAL AND WATER TREATMENT ROOMS

A8 EQUIPMENT PAD DETAIL
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: C. CHANEY
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt
File Path: C:\Users\rbecker\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MECP0A8.rvt
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

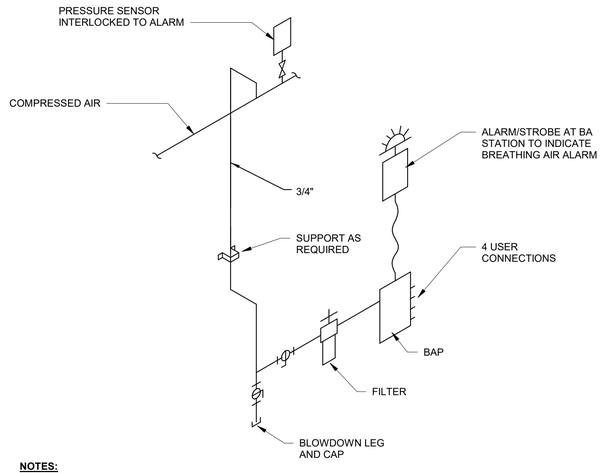
ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35; 3 BAY HANGAR
PN: 512203

PLUMBING DETAILS

SHEET ID
P-503

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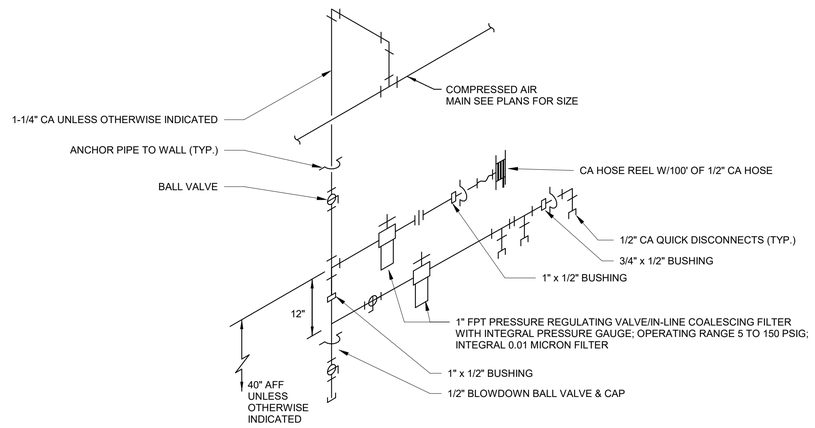


NOTES:

1. ALL BREATHING AIR PIPING TAKE-OFFS SHALL BE FROM THE TOP OF THE HEADER.

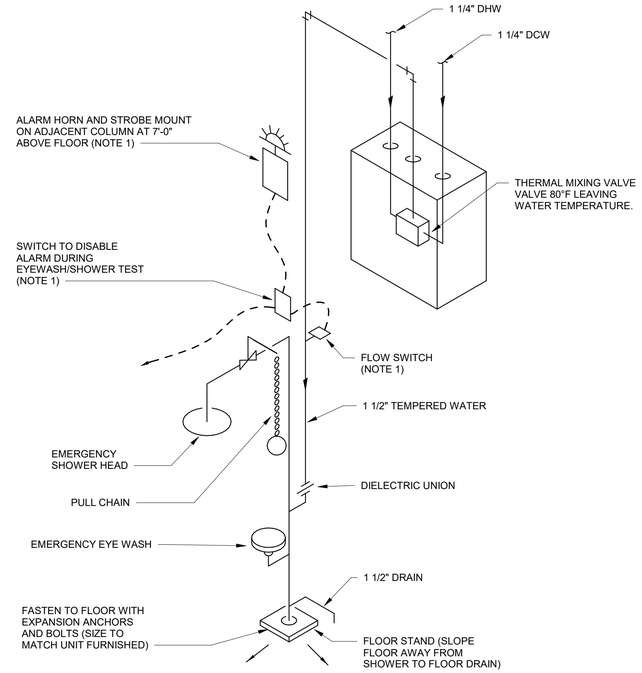
H1 BREATHING AIR SERVICE DROP

NTS



B1 HANGAR COMPRESSED AIR SERVICE DROP

NTS



NOTE:

1. PROVIDE WITH EXPLOSION PROOF RATED DEVICE AND ENCLOSURE. COORDINATE WITH ELECTRICAL HAZARDOUS LOCATION PLAN.

B13 EMERGENCY SHOWER/EYEWASH W/ MIXING VALVE

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

Plot Date: 10/20/2025 11:40:47 AM File Path: C:\Users\rbscarl\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

DESIGNED BY: J. PONTHIEX, P.E.	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: R. READER	SOLICITATION NO.: W912BV26RA004
CHECKED BY:	CONTRACT NO.:
APPROVED BY:	
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO.: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

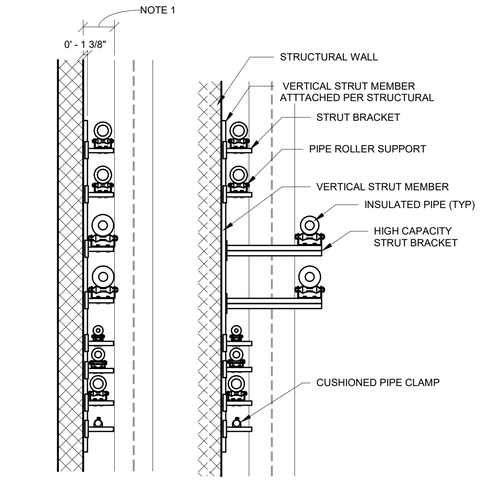
EBBING ANGB , ARKANSAS
F-35; 3 BAY HANGAR
PN: 512203

PLUMBING DETAILS

SHEET ID

P-504

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

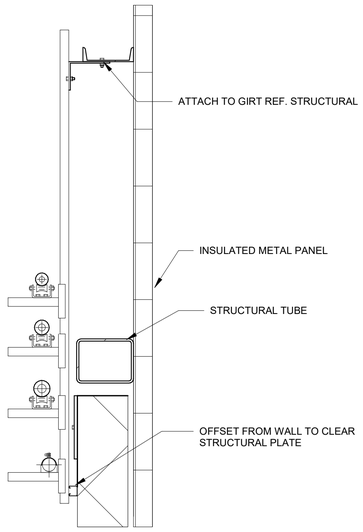


1. DESIGN INTENT IS FOR ALL SERVICES TO BE ROUTED AS CLOSE AS POSSIBLE TO CMU WALL. COORDINATE FINAL PIPE ROUTING WITH AVAILABLE SPACE ROUTE PIPES OUTSIDE COLUMN IF SPACE BEHIND COLUMN IS NOT ASEQUATE.

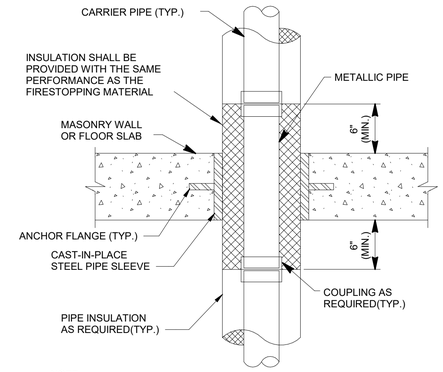
2. STRUT SYSTEM COMPONENTS FROM SINGLE MANUFACTURER. REFER TO STRUCTURAL S- 522 AND 05 50 13 FOR REQUIREMENTS. ATTACH VERTICAL STRUT MEMBERS PER STRUCTURAL REQUIREMENTS.

3. PIPE SUPPORT ASSEMBLY 4' ON CENTER. NOT ALL PIPES WILL BE SUPPORTED AT EVERY VERTICAL MEMBER. COORDINATE ANCHORS WITH REINFORCEMENT.

H1 PIPE SUPPORT ON FRONT WALL
NTS



H8 PIPE SUPPORT ON OUTSIDE WALL
NTS

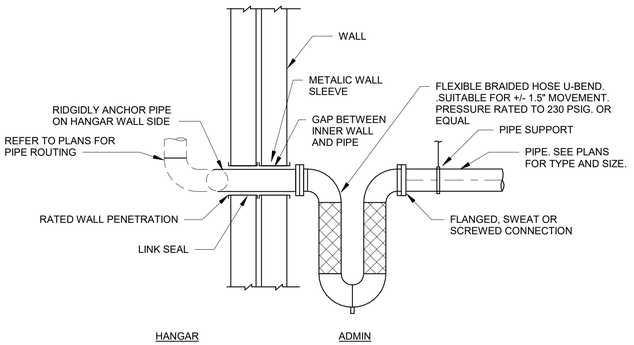


NOTE:
1. PIPE SLEEVE SHALL BE SIZED TO PROVIDE 1/4" ALL AROUND CLEARANCE.

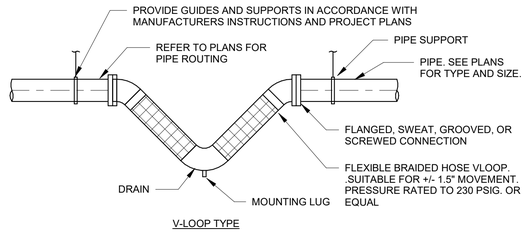
2. PROVIDE UL LISTED ASSEMBLY APPROPRITED FOR RATING OF PARTITION/FLOOR/WALL

3. PROVIDE AIR BARRIER SEALING AT ALL AIR BARRIER PENETRATIONS

H14 PIPE PENETRATION (CONCRETE WALL OR FLOOR ABOVE GRADE)
NTS

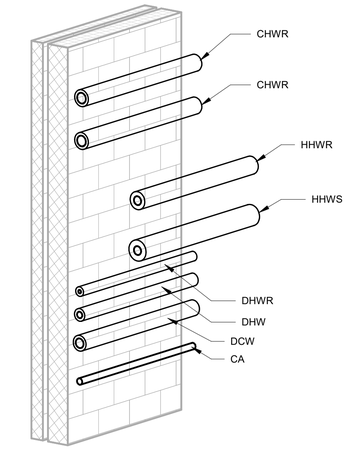


D1 PIPE FLEX CONN. AT BLDG EXPANSION JOINT EBBING
NTS

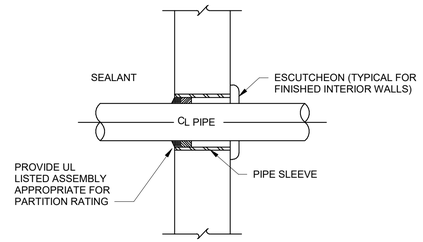


NOTE: ELBOW MATERIAL TO MATCH PIPE MATERIAL TYPE. HOSE SHALL BE COMPATIBLE WITH FLUID BEING PIPED.

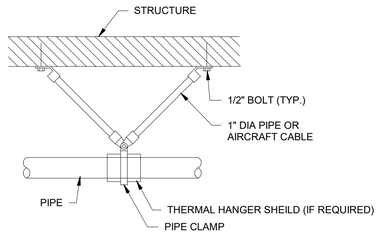
D8 PRE-ENGINEERED EXPANSION LOOP DETAIL
NTS



A16 PIPE SUPPORT ISO
NTS



A1 PIPE PENETRATION (UNINSULATED)
NTS



A8 PIPE SUPPORT/ANCHOR DETAIL
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: R. REINDER	SOLICITATION NO.: W912BV26RA004
CHECKED BY:	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO.: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:40:49 AM File Path: C:\Users\mbecerra\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

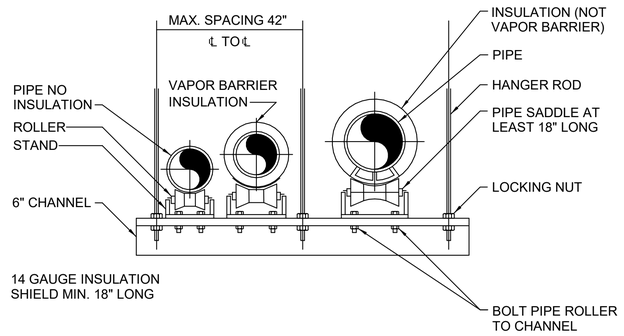
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 5122203

PLUMBING DETAILS

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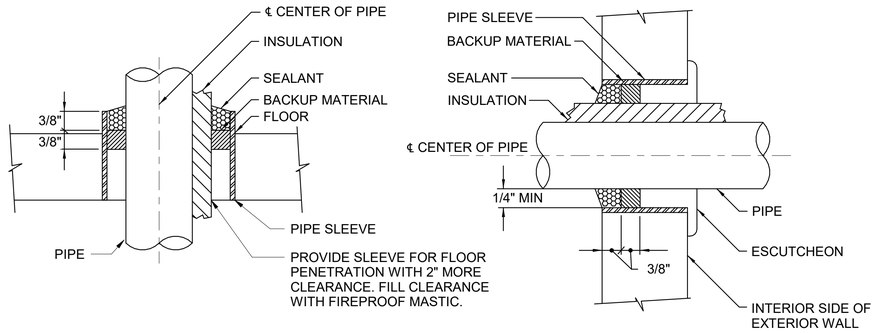
P-505

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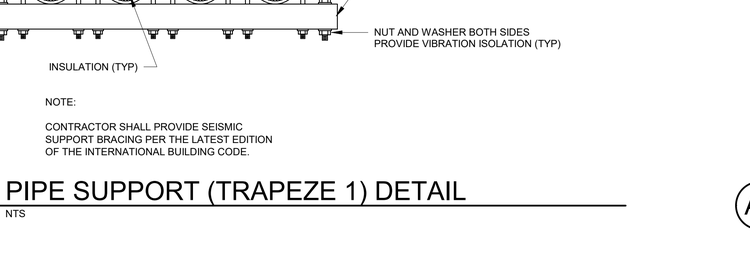
L1 PIPE HANGER - TRAPEZE

NTS



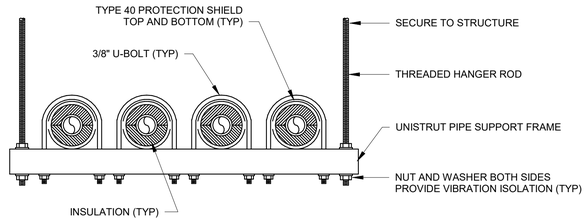
K8 PIPE PENETRATIONS THROUGH VARIOUS STRUCTURES

NTS



F1 TYPICAL PIPE ANCHOR SUPPORT DETAIL

NTS

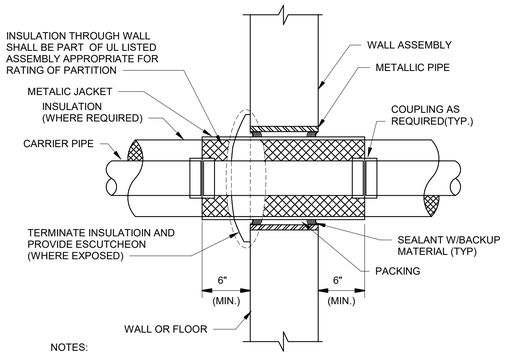


NOTE:

CONTRACTOR SHALL PROVIDE SEISMIC SUPPORT BRACING PER THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE.

A1 PIPE SUPPORT (TRAPEZE 1) DETAIL

NTS



NOTES:

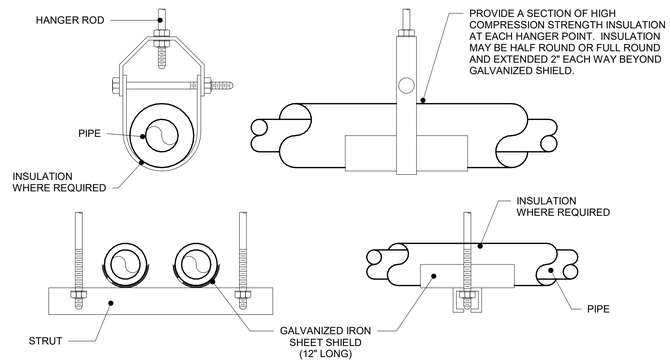
1. IN BEARING WALLS, SLEEVE TO BE SCHEDULE 40 PIPE MATERIAL. SLEEVE AND PACKING MAY BE OMITTED FOR PIPE PASSING THRU GYPSUM WALL BOARD EXCEPT WHERE WALL IS FIRE RATED.

2. THIS DETAIL IS NOT RATED ASSEMBLIES. PENETRATIONS IN RATED ASSEMBLIES SHALL BE FIRE STOPPED WITH UL LISTED SYSTEM

3. PENETRATIONS IN BUILDING AIR BARRIERS SHALL BE SEALED TO PREVENT AIR LEAKAGE REFER TO ARCHITECTURAL

A8 PIPE PENETRATION (TYPICAL- INSULATED)

NTS



NOTES:

1.) ATTACH SUPPORTS FOR ALL PIPING SUSPENDED FROM THE STEEL STRUCTURE TO THE TOP CHORD OF JOISTS OR BEAMS.

2.) PROVIDE COPPER OR PLASTIC COATED HANGERS FOR NON-INSULATED COPPER PIPE.

A14 PIPE HANGER DETAIL

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING DETAILS

SHEET ID

P-506

File Path: C:\Users\rbcerar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

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PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	MIN. INDIVIDUAL CONNECTIONS (IN.)				BASIS OF DESIGN	NOTES
		SS	V	CW	HW		
P-1	WATER CLOSET	3	3	1"	-	WHITE VITREOUS CHINA	1,2,4
P-2	URINAL	3	3	1"	-	WHITE VITREOUS CHINA	1,2,3
P-3	LAVATORY*	1-1/2	1-1/2	3/8	3/8	SOLID SURFACE LAVATORY BOWL (REF INTERIORS)	5,14
P-4	HANDWASH STATION*	2	2	1/2	1/2	STAINLESS STEEL SIMICIRCULAR, WITH THREE STATIONS	15
P-5	SERVICE SINK	2	2	3/4	3/4	PRECAST 24" X 24" TERRAZO SINK	6,7
P-6	ELECTRIC WATER COOLER	1-1/2	1-1/2	3/8	-	DUAL STATION WITH BOTTLE FILLER	8
P-7	SHOWER	2	2	1/2	1/2	SOLID SURFACE ADA SURROUND (REF INTERIORS)	10
P-8	BAR SINK*	2	1-1/2	3/8	3/8	SINGLE COMPARTMENT STAINLESS STEEL UNDERMOUNT	11
P-9	EMERGENCY EYEWASH W/SHOWER	-	-	3/4	3/4	STAINLESS BOWL AND SHOWER HEAD,PROVIDE,INTEGRAL PRIVACY CURTAIN	13
FPWH	FP WALL HYDRANT	-	-	3/4	-	-	12
HB	SURFACE MOUNT HOSE BIB	-	-	3/4	-	-	9
						-	

NOTES:
1. PROVIDE WATER HAMMER ARRESTORS IN EACH PIPE CHASE SIZED PER CODE. REFER TO INSTALLATION DETAIL.
2. PROVIDE CEILING AND WALL ACCESS PANELS WHERE REQUIRED FOR VALVES AND WATER HAMMER ARRESTORS.
3. WALL MOUNTED, MANUAL FLUSHOMETER , WATER SENSE CERTIFIED , ADA COMPLIANT, IN WALL CARRIER
4. FLOOR MOUNTED, MANUAL FLUSHOMETER , WATER SENSE CERTIFIED , ADA COMPLIANT, OPEN FRONT SEAT.
5. LAVATORY FAUCET FEATURES - ADA COMPLIANT, .5 GPM, CERAMIC CATRIDGE MANUAL FAUCET.
6. SERVICE SINK FAUCET FEATURES - CAST BRASS SPOUT, CERAMIC DISK VALVE CARTRIGES , TOP BRACE, INTEGRAL VACUUM BREAKER AND SUPPLY STOPS, BUCKET HOOK
7. SERVICE SINK PROVIDED WITH STAINLESS STEEL WALL GUARD 36" HIGH ON ALL ADJACENT WALL SURFACES AND STAINLESS CAPS ON ALL SIDES
8. DUAL STATION ELECTRIC WATER COOLER WITH BOTTLE FILLER 8 GPH OF 50°F DRINKING WATER , ADA COMPLIANT WITH CANE APRON ON UPPER BASIN, INSTALL BOTTLE FILLER ON LOWER BASIN, PROVIDE IN WALL CARRIER
9. SURFACE MOUNT HOSE BIB BRACED TO PREVENT DAMAGE WITH VACUUM BREAKER
10. SHOWER VALVE , BRASS BODY, PRESSURE BALANCING, CERAMIC DISK VALVE CARTRIDGE, 2 GPM ADA COMPLIANT, 36" GRAB BAR, LEVER HANDLE, TELEPHONE WAND WITH VALVE, TEMPERATURE STOP AND SCALD PROTECTION. FINAL TEMP 115° F
11. MOTHERS ROOM FAUCET, WATER SENSE CERTIFIED CERAMIC CARTRIDGE ADA COMPLIANT
12. COMMERCIAL FREEZEPROOF WALL HYDRANT WITH LOOSE KEY AND INTEGRAL VACUUM BREAKER
13. THERMOSTATIC MIXING VALVE TO PROVIDE TEMPERED WATER TO FIXTURE IN ACCORDANCE WITH ANSI STANDARD Z358.1. WATER CONNECTIONS SHOWN FOR MIXING VALVE SUPPLY. REFER TO MIXING VALVE SCHEDULE. PROVIDE WITH INTEGRAL PRIVACY CURTAIN
14. SINGLE/DOUBLE STATION AS INDICATED. REFER TO INTERIORS.
15. MANUAL FOOT CONTROL,INTERGRATED THERMOSTATIC MIXING VALVE OUTLET TEMPERATURE 115° F SET POINT. REFER TO SPECIFICATION 22.00.00

*PROVIDE ASSE 1070 TEMPERATURE LIMITING DEVICES AT ALL LAVATORIES AND MOTHERS ROOM SINK, ADJUST SHOWER HOT WATER STOP, SET TO 115° F

DOMESTIC WATER BOOSTER PUMP SCHEDULE

MARK	LOCATION	TYPE	FLUID			PUMP		ELECTRICAL							NOTES
			FLOW RATE (GPM)	WORKING FLUID	HEAD (FT)	MIN. EFFICIENCY (%)	CONSTRUCTION	MINIMUM MOTOR SIZE (HP)	MOTOR SPEED (RPM)	FLA	FLA	MOP	SCCR	VOLT/PH/HZ	
DWBP-1	MECH ROOM 121	DUPLEX PUMP SKID	77.0	WATER	57.8	68	CAST IRON / 304SS	(2 Pumps) 3	VARIES	(Panel Max)	8.6	12A	100KA	460/3/60	ALL

NOTES:
1. PROVIDE INTEGRAL BACKNET CONTROLLER.
2. BOILER PUMP, LOAD AND SOURCE PUMPS; OPERATING TEMP RANGE 110 TO 160 DEG. F.
3. PROVIDE WITH FLEX CONNECTORS, INLET STRAINER, BALANCING VALVE, ISOLATION AND CHECK VALVES.
4. DUPLEX PUMP SKID WITH PUMPS, INTEGRAL VFD'S, VALVES, SUCTION AND DISCHARGE HEADER, PRESSURE SENSORS, CONTROL PANEL WITH PUMP LOGIC CONTROLLER AND PUMP BASE, N+1 DESIGN (1 ACTIVE + 1 STANDBY).
6. PUMPS TO HAVE INTEGRAL VFD'S WITH ECM MOTORS AND RATED IE3.
7. STACKED HEADER CONFIGURATION FOR MINIMUM FOOTPRINT.
8. CERTIFIED FOR USE WITH DOMESTIC WATER

DOMESTIC HOT WATER CIRCULATING PUMP SCHEDULE

MARK	LOCATION	SERVICE	TYPE	FLUID			PUMP		ELECTRICAL			NOTES
				FLOW RATE (GPM)	HEAD (FT)	WORKING FLUID	MIN. EFF. (%)	CONSTRUCTION MATERIAL	NUMBER OF MOTORS/ SIZE (-/HP)	RPM	VOLT/PH/A	
CP-1	MECH ROOM 105	DHW RECIRC	IN-LINE CENTRIFUGAL	5.75	25	WATER	60	SEE SPECS	1/FRACTIONAL		115/1	1, 2, 3

NOTES:
1. PUMP SHALL RUN CONTINUOUSLY TO CIRCULATE WATER IN THE DHW AND DHWR SYSTEM.
2. CIRCULATES WATER AT OR ABOVE 120 DEGREES F TO MINIMIZE LEGIONELLA.
3. PUMP WILL BE MOUNTED AT MASTER MIXING STATION

STORAGE TYPE DOMESTIC WATER HEATER SCHEDULE

MARK	LOCATION (ROOM)	TYPE	FUEL	HEATING POWER INPUT	MINIMUM TEMPERATURE RISE @ FLOW RATE	ELECTRICAL					PHYSICAL	
						NO. OF HEATING ELEMENTS	MIN. ELEMENT POWER AMPS	FCA	SCCR	(VOLT/PH/HZ)	TANK SIZE (GAL.)	SIZE L X W / H (IN.)
DWH-1	MECH	VERTICAL TANK	ELECTRIC	216 KW	100 @ 885 GPH	12	18 KW	262	100,000	480/3/60	250	34 X 37 / 85

NOTES:
1. PROVIDE WITH ISOLATION VALVES FOR SERVICE.
2. STORAGE SETPOINT 140°F PROVIDE TEMPERING CIRCULATION LOOP HELD ABOVE 120°F.
3. PROVIDE 18-GALLON ACCEPTANCE EXPANSION TANK CONNECTED TO WATER HEATER INLET.

DHWR BALANCE VALVE SCHEDULE

MARK		SET GPM	WATER TEMP (F)	NOTES
DHWRBV-1	MAIN- MECH 105	5.75	120	1,2
DHWRBV-2	ADMIN JANITOR CLOSET	1.50	120	1,2
DHWRBV-3	MENS LAV BRANCH	0.25	120	1,2
DHWRBV-4	WASH BAY EAST	3.50	120	1,2
DHWRBV-5	WASH BAY WEST	1.50	120	1,2

NOTES:
1. MANUAL BALANCE VALVE
2. PROVIDE CEILING AND WALL ACCESS PANELS WHERE REQUIRED IN FINISHED LOCATIONS

ELECTRONIC TRAP PRIMER SCHEDULE

MARK	LOCATION	INLET SIZE (IN)	OUTLET SIZE (IN)	MOUNTING	NUMBER OF OUTLETS	ELECTRICAL (VOLTS/PHASE)	PHYSICAL DEPTH/ WIDTH/ HEIGHT (IN)	NOTES
ETP-1	MECH 105	3/4	1/2	SURFACE	8	120/1	4 X 12 X 12	1,2,3,4,
ETP-2	MECH 122	3/4	1/2	SURFACE	12	120/1	4 X 12 X 12	1,2,3,4
ETP-3	MENS RESTROOM	3/4	1/2	FLUSH/RECESSED	8	120/1	3-3/8 / 14 / 16	1,2,3,4,5,6
ETP-4	FIRE PUMP	3/4	1/2	SURFACE	8	120/1	4 X 12 X 12	1,2,3,4

NOTES:
1. ATMOSPHERIC VACUUM BREAKER
2. PRE SET 24 HOUR ADJUSTABLE TIMER
3. MOUNT RECESSED PANEL 12" AFF,SURFACE MOUNT 18" AFF
4. CALIBRATED MANIFOLD FOR EQUAL WATER DISTRIBUTION, COMPRESSION FITTING OUTLETS
5. PROVIDE COMPATIBLE WALL ACCESS PANELS WHERE REQUIRED FOR RECESSED VALVES IN FINISHED LOCATIONS.
6. COORDINATE DOOR WITH ARCHITECHTURAL/INTERIOR DETAILS

DOMESTIC HOT WATER EXPANSION TANK SCHEDULE

MARK	BASIS OF DESIGN	LOCATION	TYPE	SERVICE	VOLUME CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	MINIMUM WORKING PRESSURE (PSI)	DIA/ HEIGHT (IN)	NOTES
DET-1	BLADDER TYPE	MECH ROOM 105	VERT - BLADDER	DHW	26.0	18.0	125	TBD	1,2,3,4,5,6

NOTES:
1. INITIAL FILL PRESSURE IS 40 PSI.
2. AMSE CODE TANK REQUIRED.
3. FLOOR MOUNTED
4. CHARGE PRESSSURE 15 PSI OR BASED ON MANUFACTURER.
5. PROVIDE WITH INTEGRATED BLADDER INTEGRITY MONITOR
6. NSF/ANSI STANDARD 61 COMPLIANT

DRAIN SCHEDULE

MARK	DESCRIPTION	DIMENSION	BODY MATERIAL	TRAP	SHAPE	NOTES
FD	FLOOR DRAIN	6" D	CAST IRON	YES	ROUND	1,3
FS	FLOOR SINK	10" X 10"	CAST IRON	YES	SQUARE	1,2,3

NOTES:
1. FLOOR DRAIN OUTLET AND TRAP BASED ON CONNECTING PIPE. SEE PLANS FOR OUTLET DIAMETERS.
2. DEEP CAST IRON BODY AND SQUARE SLOTTED HEAVY-DUTY GRATE, WITH WHITE ACID RESISTING EPOXY COATED INTERIOR AND TOP, COMPLETE WITH ALUMINUM ANIT-SPLASH INTERIOR BOTTOM DOME STRAINER.
3. MODULAR TRENCH DRAIN ASSEMBLY, COORDINATE SLOPE, NUMBER OF SECTIONS TO COVER FULL WIDTH OF HANGAR DOOR. COORDINATE SLOPE AND OUTLETS WITH INSTALLED EQUIPMENT TO PREVENT POOLING AND DEAD ENDS.
4. PROVIDE 4" DEEP SEAL TRAPS AND TRAP PRIMERS ON BELOW GRADE DRAIN TRAPS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

PLUMBING SCHEDULES

SHEET ID
P-601

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THERMOSTATIC MIXING VALVE SCHEDULE

MARK		MINIMUM GPM	MAXIMUM GPM	DESIGN GPM	INLET WATER TEMP (F)	OUTLET WATER TEMP (F)	CONNECTION (IN) DCW-DHW-OUT	PRESSURE DROP (PSI)	NOTES
MV-1	E SHOWER-HOIST BAY	3	54	20	131	85	3/4 - 3/4 - 1	15	3
MV-2	E SHOWER-MAINT BAY	3	54	20	131	85	3/4 - 3/4 - 1	15	3
MV-3	E SHOWER-WASH BAY	3	54	20	131	85	3/4 - 3/4 - 1	15	3
MV-4	WASH STATION-HOIST	NA	NA	10	131	VARIES - 120 LIMIT	3/4 - 3/4 - 3/4 HOSE	20-30	4,5,7
MV-5	WASH STATION-MAINT	NA	NA	10	131	VARIES - 120 LIMIT	3/4 - 3/4 - 3/4 HOSE	20-30	4,5,7
MV-6	WASH STATION-WASH	NA	NA	10	131	VARIES - 120 LIMIT	3/4 - 3/4 - 3/4 HOSE	20-30	4,5,6
MV-7	WASH STATION-WASH	NA	NA	10	131	VARIES - 120 LIMIT	3/4 - 3/4 - 3/4 HOSE	20-30	4,5,6
MV-8	WASH STATION-WASH	NA	NA	10	131	VARIES - 120 LIMIT	3/4 - 3/4 - 3/4 HOSE	20-30	4,5,6
MV-9	MAIN	2	60	20	140	131	3/4 - 3/4 - 3/4	16	1,4,8
MV-10	ADMIN	2	60	10	131	120	3/4 - 3/4 - 3/4	9	1,4,8
POU*	VARIES	0.25	3	0.5	131	115	3/8 - 3/8 - 3/8	5	1,4,8

NOTES:
1. PROVIDE ASSE 1070 TEMPERATURE LIMITING DEVICES AT ALL LAVATORIES AND MOTHERS ROOM SINK, ADJUST SHOWER HOT WATER STOP, SET TO 115° F
2. PROVIDE CEILING AND WALL ACCESS PANELS WHERE REQUIRED FOR IN WALL MIXING VALVES IN FINISHED LOCATIONS.
3. INSTALL IN MANUFACTURER PROVIDED STAINLESS STEEL CABINET WITH WINDOW TO VIEW TEMPERATURE GAUGE
4. PROVIDE LIQUID-FILLED THERMAL MOTOR AND PISTON CONTROL MECHANISM WITH POSITIVE SHUTOFF OF HOT WATER WHEN COLD WATER SUPPLY IS LOST.
5. WASH DOWN STATION WITH THERMOSTATIC MIXING VALVE, TEMPERATURE GAUGE , AND VACUUM BREAKER. PROVIDE WITH ADJ TEMPERATURE LIMIT.
6. CONNECT TO TO WATER HOSE REEL IN WASH BAY
7. PROVIDE HOSE LOOP IN HOIST BAY AND SHIELD BAY
8. NSF/ANSI 372

* POU THERMOSTATIC MIXING VALVES LOCATED AT ALL END USE FIXTURES WITHOUT INTEGRAL TEMPERATURE LIMIT, THEY ARE NOT TAGGED ON DRAWINGS

AIR COMPRESSOR SCHEDULE

MARK	LOCATION	MIN FLOW (SCFM)	MIN WORKING PRESS. (PSIG)	ELECTRICAL							PHYSICAL LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
				MOTOR QUAN.	MOTOR SIZE (HP)	MOTOR SPEED (RPM)	VOLT/PH/HZ	ST/FL (A)	SCCR	MOP (A)		
AC-1	MECH 122	150	121	2	40	VARIABLE	460 / 3 / 60	76*	100KA	100	96.06 / 40.24 / 75.16	ALL
AC-2	MECH 122	150	121	2	40	VARIABLE	460 / 3 /60	76*	100KA	100	96.06 / 40.24 / 75.16	ALL

NOTES:
1. TYPE IS OIL FREE, ROTARY SCREW.
2. AIRFLOW IS AT COMPRESSED PRESSURE OF 125 PSIG.
3. ENTERING AIR TEMPERATURE MAX IS 104 DEG F; AMBIENT FOR COOLING AND AIR TEMP IN SPACE IS 104 DEG F.
4. UNIT IS COMPLETE WITH SOUND REDUCTION CABINET AND ALL OPERATING CONTROLS AND INTERNAL COOLING EQUIPMENT.
5. SITE ALTITUDE FOR SELECTION IS 400 FEET AMSL.
6. PROVIDE WITH REFRIGERATED AIR DRYER FACTORY CALIBRATED FOR MAXIMUM 37 DEGREE DP AIR @ SIZED FOR COMPRESSOR HORSEPOWER AND FLOW.
7. INTEGRATED FILTER AND SEPARATOR.

BOOSTER PUMP PRESSURE TANK SCHEDULE

MARK	BASIS OF DESIGN	LOCATION	TYPE	SERVICE	VOLUME CAPACITY (GAL)	MIN ACCEPTANCE CAPACITY (GAL)	MINIMUM WORKING PRESSURE (PSI)	DIA/HEIGHT (IN)	NOTES
DWPT-1	BLADDER TYPE	MECH ROOM 122	VERT - BLADDER	DCW	44.0	34.0	125	TBD	1,2,3,4,5,6

NOTES:
1. INITIAL FILL PRESSURE IS 40 PSI.
2. AMSE CODE TANK REQUIRED.
3. FLOOR MOUNTED
4. CHARGE PRESSSURE 38 PSI OR BASED ON MANUFACTURER.
5. PROVIDE WITH INTEGRATED BLADDER INTEGRITY MONITOR
6. NSF/ANSI STANDARD 61 COMPLIANT

TRENCH DRAIN SCHEDULE

MARK	DESCRIPTION	SECTION DIMENSION *	OUTLET	OVERALL LENGTH	BODY MATERIAL	GRATE MATERIAL	SHAPE	NOTES
TD-1	TRENCH DRAIN	12" X 96" * X VARIES	4" - CENTER	56'	304 STAINLESS	DUCTILE IRON	TRENCH	ALL
TD-2	TRENCH DRAIN	12" X 96" * X VARIES	4" - CENTER	56'	304 STAINLESS	DUCTILE IRON	TRENCH	ALL
TD-3	TRENCH DRAIN	12" X 96" * X VARIES	4" - CENTER	56'	304 STAINLESS	DUCTILE IRON	TRENCH	ALL
TD-4	TRENCH DRAIN	12" X 96" * X VARIES	4" - CENTER	24'	304 STAINLESS	DUCTILE IRON	TRENCH	ALL
TD-5	TRENCH DRAIN	12" X 96" * X VARIES	4" - CENTER	24'	304 STAINLESS	DUCTILE IRON	TRENCH	ALL

NOTES:
1. MODULAR TRENCH DRAIN ASSEMBLY WITH MINIMUM 1% INTEGRAL SLOPE TO DRAIN SECTION.
2. MINIMUM 8" INVERT DEPTH AT HIGH END, COORDINATE SLOPE WITH FINAL INVERT DEPTH.
3. PROVIDE NUMBER OF TRENCH DRAIN SECTIONS REQUIRED FOR INDICATED LENGTH.
4. PROVIDE HEAVY DUTY, EPOXY COATED, DUCTILE IRON, CLASS F GRATES
5. PROVIDE 4" DEEP SEAL TRAPS ON BELOW GRADE DRAIN TRAPS
6. PROVIDE DOME STRAINER IN DRAIN SECTION.
7. ASSEMBLE, LEVEL, AND ANCHOR DRAIN SYSTEM PRIOR TO GROUTING.
8. COORDINATE SLOPE AND OUTLETS WITH INSTALLED SYSTEM TO PREVENT POOLING, BELLYS, AND DEAD ENDS.
9. PROVIDE FUEL VAPOR SENSOR IN EACH TRENCH

* NOMINAL 12" WIDE GRATE. ASSEMBLY DIMENSIONS MAY VARY. SECTION INVERTS VARY. COORDINATE ROUGH IN PRIOR TO PLACING HANGAR FLOOR.

WASH DOWN HOSE REEL SCHEDULE

MARK	LOCATION	MIN FLOW (GPM	OPERATING PRESSURE (PSIG)	HOSE LENGTH (FT)	DIA	NOTES
WHR-1	WASH BAY	10	40	50	3/4"	ALL

NOTES:
1. PROVIDE WASHDOWN NOZZLE ON END OF HOSE
2. PROVIDE HOSE AND REEL TO OPERATE AT 120 DEGREE F
3. MOUNT HOSE REEL 8' AFF ADJUST STOP TO HANG HOSE 6' AFF.
4. PROVIDE CARTRIDGE TYPE SPRING MOTORS

COMPRESSED AIR HOSE REEL SCHEDULE

MARK	LOCATION	MIN FLOW (SCFM)	OPERATING PRESSURE (PSIG)	HOSE LENGTH (FT)	HOSE SIZE	NOTES
CAHR-1	VARIES - MAINT BAYS	45	125	100	1/2"	ALL

NOTES:
1. PROVIDE BALL VALVE, PRESSURE REGULATOR, AND FILTER DRYER ON HOSE REEL SUPPLY BRANCH
2. AIRFLOW IS AT COMPRESSED PRESSURE OF 125 PSIG.
3. MOUNT HOSE REEL 8' AFF ADJUST STOP TO HANG HOSE 6' AFF.

COMPRESSED AIR RECIEVER SCHEDULE

MARK	LOCATION	TYPE	SERVICE	MIN VOLUME CAPACITY (GAL)	MINIMUM WORKING PRESSURE (PSI)	DIA/HEIGHT (IN)	NOTES
CAR-1	MECH ROOM 122	VERT	COMPRESSED AIR	400	150	36 / 102	1,2,3

NOTES:
1. AMSE CODE TANK REQUIRED.
2. FLOOR MOUNTED
3. EPOXY LINED

BREATHING AIR PURIFIER SCHEDULE

MARK	LOCATION	INLET FLOW (SCFM)	OUTLET FLOW (SCFM)	OPERATING PRESSURE (PSIG)	USER OUTLETS	ELECTRICAL	PHYSICAL LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
BAP-1	HOIST BAY	50	50	110	4	115	TBD	ALL
	MAINT BAY	50	50	110	4	115	TBD	ALL
	WASH BAY	50	50	110	4	115	TBD	ALL

NOTES:
1. PROVIDE BALL VALVE AND PRESSURE REGULATOR ON SUPPLY BRANCH
2. SUPPLY AIRFLOW IS AT NOMINAL PRESSURE OF 125 PSIG.
3. MOUNT PANEL 56" AFF
4. IN LINE CONTINUOUS MONITORING OF CARBON MONOXIDE WITH VISUAL ALARM STROBE AND REMOTE ALARM CONNECTION
5. PROVIDE BREATHING AIR PANEL INSIDE NEMA 4X ENCLOSURE.
6. BREATHING AIR SUPPLY SHALL MEET OR EXCEED OSHA GRADE D

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MARK	DESCRIPTION	DATE

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DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
SUBMITTED BY: A. BLANKENSHIP, P.E.
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

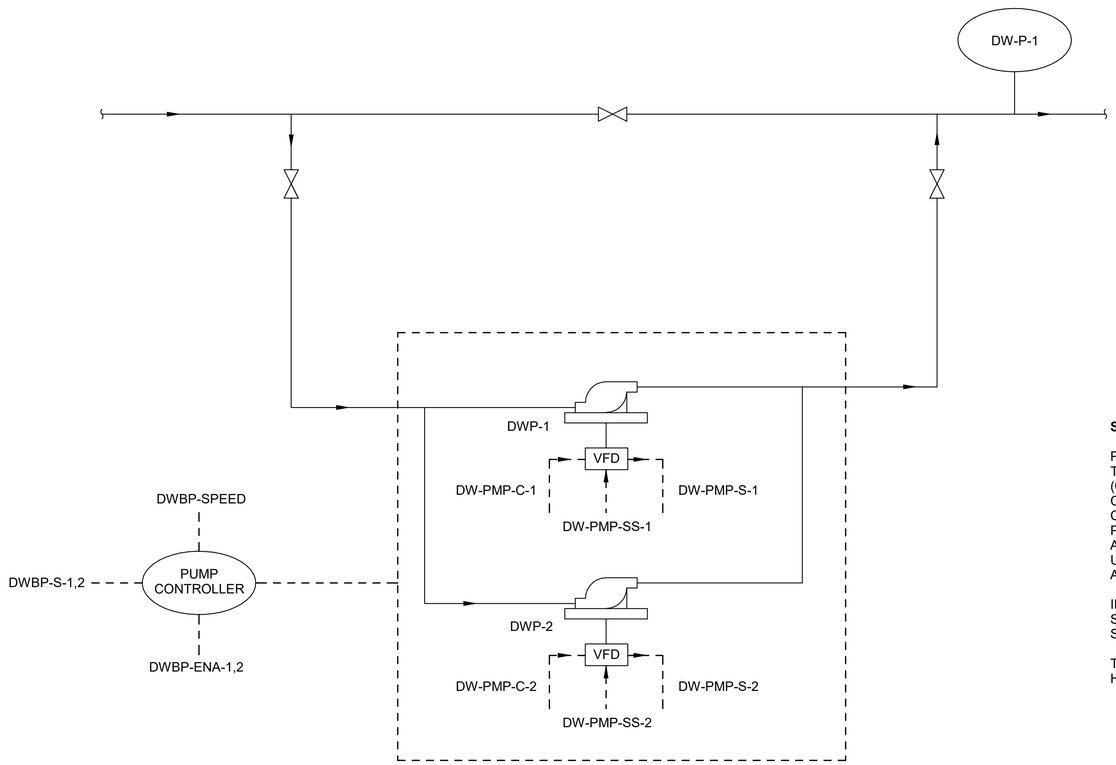
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F-35 3 BAY HANGAR
PN: 512203

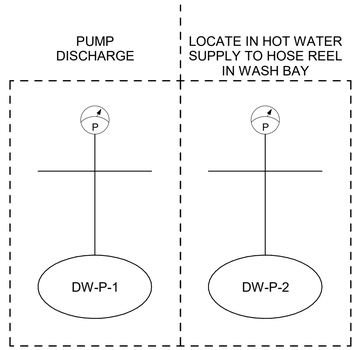
PLUMBING SCHEDULES

SHEET ID

P-602

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SEQUENCE OF OPERATIONS: DOMESTIC WATER PUMPS

PACKAGED BOOSTER PUMP SKID CONSISTES OF TWO DOMESTIC WATER BOOSTER PUMPS VARIABLE FREQUENCY DRIVES AND CONTROLLER, TWO PUMPS ARE MATCHED TO REQUIRED WATER FLOW. THE TWO DOMESTIC WATER PUMPS ARE EACH SIZED FOR 50% OF THE MAXIMUM FLOW (CASCADING). LEAD PUMP WILL START WHEN DOMESTIC WATER PRESSURE AT DW-P-2 FALLS BELOW 30 PSI (SYSTEM IS ENABLED). PUMP CONTROLLER WILL MODULATE VARIABLE FREQUENCY TO MAINTAIN BUILDING PRESSURE SETPOINT IN THE SYSTEM AS MEASURED BY CONTROLLER. PUMP SKID WILL OPERATE BASED ON INTERNAL CONTROLS TO MAXIMIZE EFFICIENCY WHILE MEETING DEMAND. WHEN THE LEAD PUMP COMMAND REACHES 90% (ADJ.) OF FULL LOAD SPEED, THE SECOND PUMP SHALL BE STARTED. THE LEAD PUMP SPEED SHALL DECREASE AND THE LAG PUMP SHALL INCREASE UNTIL BOTH PUMPS ARE RUNNING AT THE SAME SPEED. THE LEAD AND LAG PUMP WILL MODULATE IN UNISON TO MAINTAIN THE BUILDING PRESSURE SETPOINT. THE MINIMUM PUMP SPEED SHALL BE 40% (ADJ.) OF FULL LOAD SPEED. IF BOTH PUMPS ARE AT MINIMUM SPEED THE LAG PUMP SHALL BE SHUT DOWN AND THE LEAD PUMP SHALL MODULATE AS DESCRIBED ABOVE.

IF ANY PUMP IS COMMANDED TO RUN AND ITS STATUS SENSOR DOES NOT INDICATE PROOF OF FLOW AFTER A 30 SECOND (ADJ.) DELAY, THE STANDBY PUMP SHALL BE COMMANDED ON IN ITS PLACE, THE FAILED PUMP SHALL BE DISABLED AND AN ALARM SHALL BE SENT TO THE DDC SYSTEM.

THE PUMP DESIGNATION (LEAD/LAG) WILL BE SET BASED ON RUN HOURS AND ROTATE ON A WEEKLY SCHEDULE. LEAD - LOWEST HOURS, LAG - HIGHEST HOURS.

G1 HEATING HOT WATER SYSTEM WITH PRIMARY ONLY PUMPING SCHEMATIC

12" = 1'-0"

DOMESTIC WATER BOOSTER PUMP POINTS LIST

											ALARMING			PRIMARY POINT INFORMATION	NETWORK DATA EXCHANGE		OVERRIDES	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION			CONFIG. INFO.
FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARM CONDITION	ALARM PRIORITY	M&C ROUTING	OBJECT TYPE & INSTANCE NUMBER (AND PROPERTY ID)	DATA FROM	DATA TO	OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE		ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	NOTIFICATION CLASS OBJECT INSTANCE NUMBER	EVENT ENROLLMENT OBJECT INSTANCE NUMBER	
START/STOP	DWBP-ENA-1	SYSTEM ENABLE	<___>		ENABLE/ DISABLE	NET-IN	Y	H	VO	V	[~]	[~]	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	DW-P-1	DOMESTIC WATER PRESSURE PUMP DISCHARGE	<___>	VARIES	0-80PSI	AI	~		VO	V	[~]	[~]	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>		<___>
	DW-P-2	DOMESTIC WATER PRESSURE REMOTE (PER PLANS)	<___>	35 PSI	28-40 PSI	AI	~		VO	V	[~]	PRESSURE BELOW 20 PSI	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>		<___>
	DWBP-LOAD	OPERATING, KW	<___>		ON/OFF	NET-OUT	~		V	V	[~]	[~]	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	DWBP-S	DOMESTIC WATER BOOSTER SYSTEM STATUS (WHICH PUMP, SPEED ETC))	<___>		0-100%	NET-OUT	~	H	V	V	[~]	PUMP COMMAND ON PUMP FAILS TO START	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>

NOTES:
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US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. REINDER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:41:00 AM File Path: C:\Users\rbeiner\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

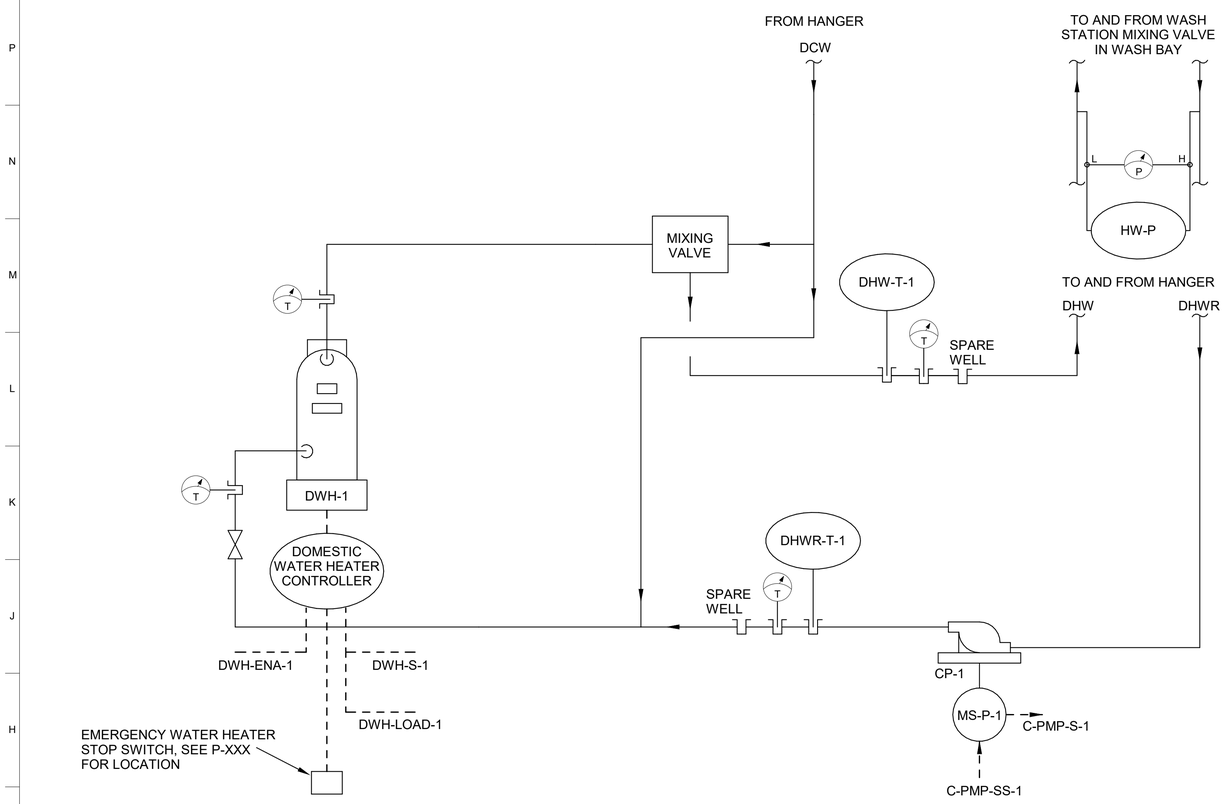
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING CONTROLS - DWBP

SHEET ID

P-801

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



G1 HEATING HOT WATER SYSTEM WITH PRIMARY ONLY PUMPING SCHEMATIC

NTS

SEQUENCE OF OPERATION DOMESTIC WATER

ALL MODES OF OPERATION:

THE DOMESTIC WATER HEATER WILL OPERATE BASED ON INTERNAL CONTROLS. WATER HEATER CONTROLLER SHALL UTILIZE BACNET COMMUNICATION INTERFACE FOR MONITORING OPERATING STATUS AND ALARMS BY THE DDC SYSTEM. THE DDC WATER HEATER CONTROLLER SHALL ENABLE AND OPERATE THE WATER HEATER TO MAINTAIN DOMESTIC HOT WATER STORAGE TANK TEMPERATURE OF 140 DEGREES F AND SUPPLY TEMPERATURE SETPOINT. THE WATER HEATER INTERNAL FUNCTION SHALL OPERATE PER THE MANUFACTURER'S PACKAGED CONTROLS. THE CIRCULATING PUMP SHALL OPERATION AT A CONSTANT SPEED AND SHALL ALWAYS BE ENERGIZED UNLESS EMERGENCY STOP SWITCH IS ENABLED.

THE DOMESTIC WATER CONTROLLER WILL MONITOR THE STORAGE TANK TEMPERATURE AND LEAVING DOMESTIC HOT WATER TEMPERATURE. WHEN THE LEAVING DOMESTIC HOT WATER TEMPERATURE FALLS BELOW THE SETPOINT OF 130 F ADJ. THE CONTROLLER WILL ENABLE THE DOMESTIC WATER HEATER. WHEN THE DOMESTIC HOT WATER SUPPLY IS REACHED, THE WATER HEATER SHALL DISABLED. WATER HEATER SAFETIES AND ALARMS SHALL BE MONITORED BY THE DDC WATER HEATER CONTROLLER.

THE DOMESTIC WATER CIRCULATION PUMP WILL RUN CONTINUOUSLY TO MAINTAIN HOT WATER AT THE MIXING VALVE IN THE WASH BAY.

EMERGENCY SHUTDOWN:

THE WATER HEATER AND CIRCULATION PUMP SHALL POWER DOWN WHEN THE EMERGENCY SHUTOFF SWITCH IS ACTIVATED.

DOMESTIC HOT WATER POINTS LIST

												ALARMING			PRIMARY POINT INFORMATION	NETWORK DATA EXCHANGE		OVERRIDES	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION			CONFIG. INFO.
FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARM CONDITION	ALARM PRIORITY	M&C ROUTING	OBJECT TYPE & INSTANCE NUMBER (AND PROPERTY ID)	DATA FROM	DATA TO	OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE		ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	NOTIFICATION CLASS OBJECT INSTANCE NUMBER	EVENT ENROLLMENT OBJECT INSTANCE NUMBER	
PROOFS & SAFETIES	DHWR-CP-S	HOT WATER PUMP STATUS	<___>		ON/OFF	BI			V	[V]	[~]	[~]	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	DHWR-SP	DHWR TEMP SP	<___>		>120	BI			V	[V]	[~]	RETURN LESS THAN 120 F	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
START/STOP	DWH-ENA	DWH ENABLE	<___>		ENABLE/ DISABLE	NET-IN	Y		VO	[~]	[~]	[~]	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	DWH-CP-ENA	DOMESTIC WATER RECIRCULATION PUMP ENABLE	<___>		ENABLE/ DISABLE	NET-IN			VO	[~]	[~]	[~]	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>		<___>
	DHW-CP-SS	HOT WATER PUMP START/STOP	<___>		START/STOP	BI	Y		VO	[V]	[~]	[~]	INFO	[___]	<___>	<___>	<___>	<___>		<___>	<___>		<___>
	DWH-S	DWH STATUS, ON/OFF	<___>		ON/OFF	NET-OUT			V	[~]	[~]	[~]	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
OTHER POINTS	DWH-T-SP	DOMESTIC WATER HEATER STORAGE SETPOINT	<___>	140 F	<___>	<___>			VO	[V]	X	STORAGE TEMP BELOW 140 F	INFO		<___>	<___>	<___>	<___>					<___>
	DWH-T	DOMESTIC WATER HEATER STORAGE TEMP	<___>	140 F	<___>	AI			V	[V]	X	STORAGE TEMP BELOW 140 F	INFO	[___]	<___>	<___>	<___>	<___>		<___>	<___>		<___>
	DHW-T-1	HOT WATER SUPPLY TEMPERATURE (AFTER MIXING VALVE)	<___>	131 F	120 F TO 131 F	AI			V	[V]	X	[~]	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	DHWR-T	HOT WATER RETURN TEMPERATURE	<___>	120 F	<___>	AI			V	[V]	X	RETUN LESS THAN 120F	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	DWH-LOAD	NUMBER OF ELEMENTS OPERATING, KW INPUT	<___>		ON/OFF	NET-OUT			V	[~]	[~]	INFO	INFO	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	HW-P	HOT WATER PRESSURE SWITCH	<___>	35 PSI	<___>	AI			V	[V]	X	[~]	INFO	[___]	<___>	<___>	<___>	<___>		<___>	<___>		<___>

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US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS TULSA DISTRICT 2488 EAST 81ST ST TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION ENGINEERING BRANCH

EBBING ANGB - ARKANSAS F-35 ; 3 BAY HANGAR PN: 512203

PLUMBING CONTROLS - DWH

SHEET ID

P-802

Plot Date: 10/20/2025 11:41:01 AM File Path: C:\Users\mbeckler\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MBECKMAR.rvt

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SEQUENCE OF OPERATION - COMPRESSED AIR

SYSTEM ENABLE:
DDC SYSTEM WILL ENABLE THE COMPRESSED AIR SYSTEM WHEN ANY BAY IS IN ANY OCCUPIED MODE. VARIABLE SCROLL AIR COMPRESSORS WILL OPERATE BASED ON INTERNAL CONTROLS AND REPORT DISCHARGE PRESSURE, FLOW RATE, AND DEW POINT.

PRIOR TO STARTING COMPRESSORS THE EXHAUST DAMPER AND VENTILATION DAMPERS WILL COMMAND AND PROVE OPEN. LARGE LOUVER WILL HAVE MULTIPLE DAMPER ACTUATORS WITH SEPARATE DAMPER SEGMENTS WILL BE ACCOCIATED WITH EACH COMPRESSOR. SEPARATE EXHAUST DAMPERS WILL BE ASSOCIATED WITH EACH COMPRESSOR.

AIR COMPRESSOR CONTROLS WILL MONITOR THE COMPRESSED AIR RECEIVER PRESSURE AND MAINTAIN SETPOINT.

TO PREVENT SHORT CYCLING, THE AIR COMPRESSORS WILL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES, UNLESS SHUTDOWN ON SAFETIES. OPERATIONS BASED ON COMPRESSOR MANUFACTURER RECOMMENDATIONS.

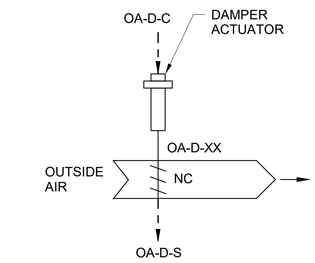
AIR COMPRESSOR CONTROL:
THE TWO VARIABLE SPEED AIR COMPRESSORS ARE EACH SIZED FOR 50% OF THE MAXIMUM COMPRESSED AIR FLOW (LEAD/STANDBY). VARIABLE SPEED COMPRESSORS WILL MODULATE TO MAINTAIN PRESSURE IN RECIEVER.

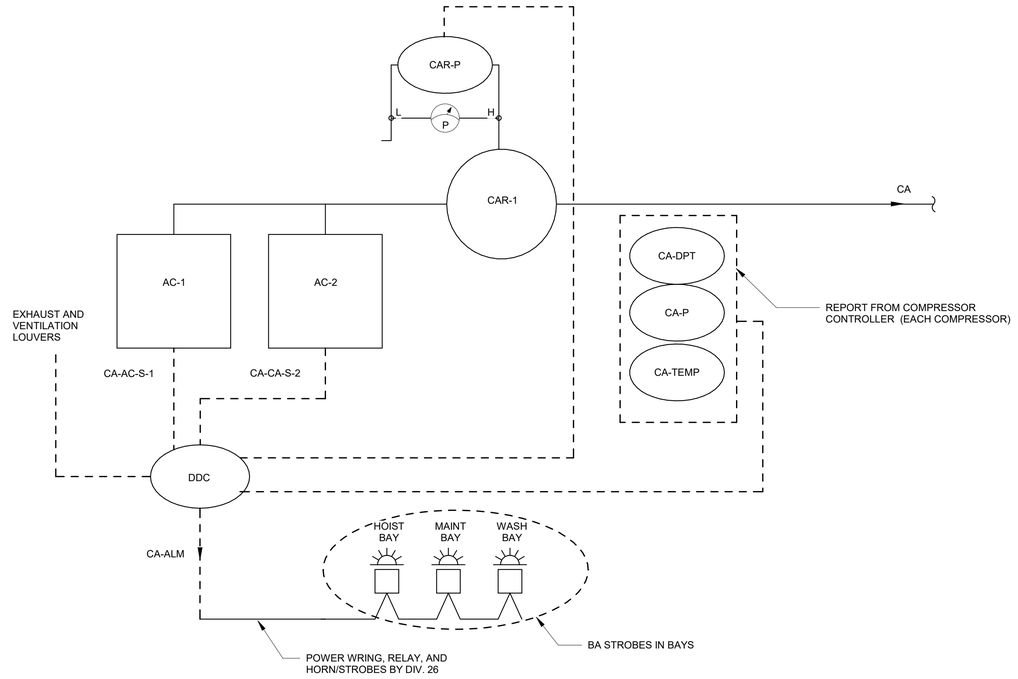
IF ANY COMPRESSOR IS COMMANDED TO RUN AND ITS DIFFERENTIAL PRESSURE SENSOR DOES NOT INDICATE PROOF OF FLOW AFTER A 30 SECOND (ADJ.) DELAY, THE STANDBY COMPRESSOR WILL BE COMMANDED ON IN ITS PLACE, THE FAILED COMPRESSOR DISABLED, AND AN ALARM SHALL BE SENT TO THE DDC SYSTEM.

DESIGNATIONS (LEAD/STANDBY) WILL ROTATE EITHER MANUALLY THROUGH A SOFTWARE SWITCH OR AUTOMATICALLY AS LEAD COMPRESSOR RUNTIME EXCEEDS 200 HOURS (ADJ.)

SAFETY CONTROLS:
COMPRESSORS RUN SUBJECT TO THEIR INTERNAL SAFETIES AND CONTROLS.

IF COMPRESSED AIR RECEIVER PRESSURE FALLS BELOW SETPOINT AND BOTH AIR COMPRESSORS FAIL TO OPERATE ACTIVATE BREATHING AIR STROBES IN ALL BAYS.





H1 COMPRESSED AIR SCHEMATIC

12" = 1'-0"

COMPRESSED AIR PLANT POINTS

FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN...	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE...	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIG. INFO.
PROOFS & SAFETIES	S-T	MECHANICAL SPACE TEMP	<___>	0 DEG F	40F - 80F	BI	~					SPACE TEMPERATURE IS BELOW 40 F	INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	OA-D-S-1	AC1 OUTSIDE AIR DAMPER STATUS	<___>		0-100% OR SEGMENTAL	BI	~		V	V	~	DAMPER COMMANDED OPEN BUT STATUS CLOSED	INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	EA-D-S-1	AC1 EXHAUST DAMPER STATUS	<___>		0-100% OR SEGMENTAL	BI	~		V	V	~	DAMPER COMMANDED OPEN BUT STATUS CLOSED	INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	OA-D-S-2	AC2 OUTSIDE AIR DAMPER STATUS	<___>		0-100% OR SEGMENTAL	BI	~		V	V	~	DAMPER COMMANDED OPEN BUT STATUS CLOSED	INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	EA-D-S-2	AC2 EXHAUST DAMPER STATUS	<___>		0-100% OR SEGMENTAL	BI	~		V	V	~	DAMPER COMMANDED OPEN BUT STATUS CLOSED	INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	CA-AC-COMM-1	AIR COMPRESSOR 1 COMMAND	<___>		ENABLE/DISABLE	NET-I	Y	H	V	V	~	ANY EQUIPMENT FAULT	INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	CA-AC-COMM-2	AIR COMPRESSOR 2 COMMAND	<___>		ENABLE/DISABLE	NET-I	Y	H	V	V	~	ANY EQUIPMENT FAULT	INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
SYSTEM	CA-AC-S-1	AIR COMPRESSOR 1 STATUS	<___>		ALM/NORMAL	NET-O	~	H	V	V	~	ANY EQUIPMENT FAULT	INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	CA-AC-S-2	AIR COMPRESSOR 2 STATUS	<___>		ALM/NORMAL	NET-O	~	H	V	V	~	ANY EQUIPMENT FAULT	INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	CA-AC-P-1	AIR COMPRESSOR 1 DISCHARGE PRESSURE	<___>	125 PSI	0-145 PSI	NET-O	~	H	V	V	~		INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	CA-AC-P-2	AIR COMPRESSOR 2 DISCHARGE PRESSURE	<___>	125 PSI	0-145 PSI	NET-O	~	H	V	V	~		INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	CA-AC-DP-1	AIR COMPRESSOR 1 DISCHARGE DEW POINT	<___>	[DEG F]	[DEG F]	NET-O	~	H	V	V	~		INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	CA-AC-DP-2	AIR COMPRESSOR 2 DISCHARGE DEW POINT	<___>	[DEG F]	[DEG F]	NET-O	~	H	V	V	~		INFO	<___>	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
OTHER POINTS	EA-D-C-1	EXHAUST AIR DAMPER COMMAND	<___>		0-100%	BO	~		V	V	~	~	~	~	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	EA-D-C-2	EXHAUST AIR DAMPER COMMAND	<___>		0-100%	BO	~		V	V	~	~	~	~	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	CAR-P	COMPRESSED AIR RECEIVER...	<___>	125 PSI	0-145 PSI	AO	~				~	~	~	~	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>

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4) DDC HW ID FOR DEVICE CONTAINING TREND OBJECT FOR REMOTE TRENDING FOR THIS SYSTEM: <_____>
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6) DDC HW IF FOR DEVICE CONTAINING SIMPLE SCHEDULER OBJECT (OR SYSTEM SCHEDULER SEQUENCE OF OPERATIONS) FOR THIS SYSTEM: <_____>

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\mbcoral\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

Plot Date: 10/20/2025 11:41:03 AM

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

PLUMBING CONTROLS -COMPRESSED AIR

SHEET ID

P-803

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SEQUENCE OF OPERATION - BREATHING AIR ALARM

IF ANY ONE OF THE FOLLOWING EVENTS OCCUR THE LOCAL BREATHING AIR ALARM HORN/STROBES IS ACTIVATED AND THE DDC IS ALARMED:

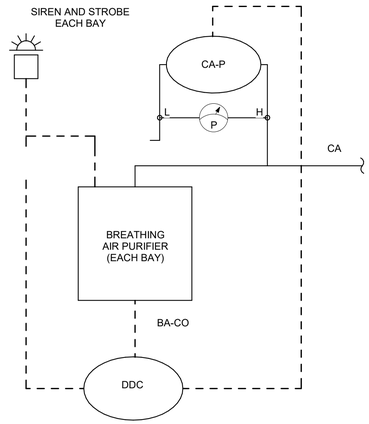
COMPRESSED AIR SUPPLY PRESSURE DROPS BELOW LOW LIMIT SETPOINT OR RISES ABOVE THE HIGH LIMIT SETPOINT.

BREATHING AIR CARBON MONOXIDE EXCEEDS THE ALARM SETPOINT.

ANY AIR PURIFIER GOES INTO ALARM STATUS.

DDC ALARM:

DISPLAY WHICH PURIFIER AND ALARM CAUSE ON LOCAL CONTROL PANEL



K7 BREATHING AIR ALARM SYSTEM SCHEMATIC

NTS

BREATHING AIR ALARM POINTS

FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIG. INFO.
PROOFS & SAFTIES	BAP-CO1	BREATHING AIR PURIFIER 1 STATUS	<___>		ALM/NORMAL	BO			V	V		HIGH CO IN BREATHING AIR	CRIT	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	
	BAP-CO2	BREATHING AIR PURIFIER 2 STATUS	<___>		ALM/NORMAL	BO			V	V		HIGH CO IN BREATHING AIR	CRIT	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	
	BAP-CO3	BREATHING AIR PURIFIER 3 STATUS	<___>		ALM/NORMAL	BO			V	V	[~]	HIGH CO IN BREATHING AIR	CRIT	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	
	CA-P1	BAP COMPRESSED AIR PRESSURE SENSOR 1	<___>	90 PSI	ALM/NORMAL	BO			V	V	[~]		CRIT		<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	
	CA-P2	BAP COMPRESSED AIR PRESSURE SENSOR 2	<___>	90 PSI	ALM/NORMAL	BO			V	V	[~]		CRIT		<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	
	CA-P3	BAP COMPRESSED AIR PRESSURE SENSOR 3	<___>	90 PSI	ALM/NORMAL	BO			V	V	[~]		CRIT		<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	

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US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

PLUMBING CONTROLS -BREATHING AIR ALARM

SHEET ID

P-804

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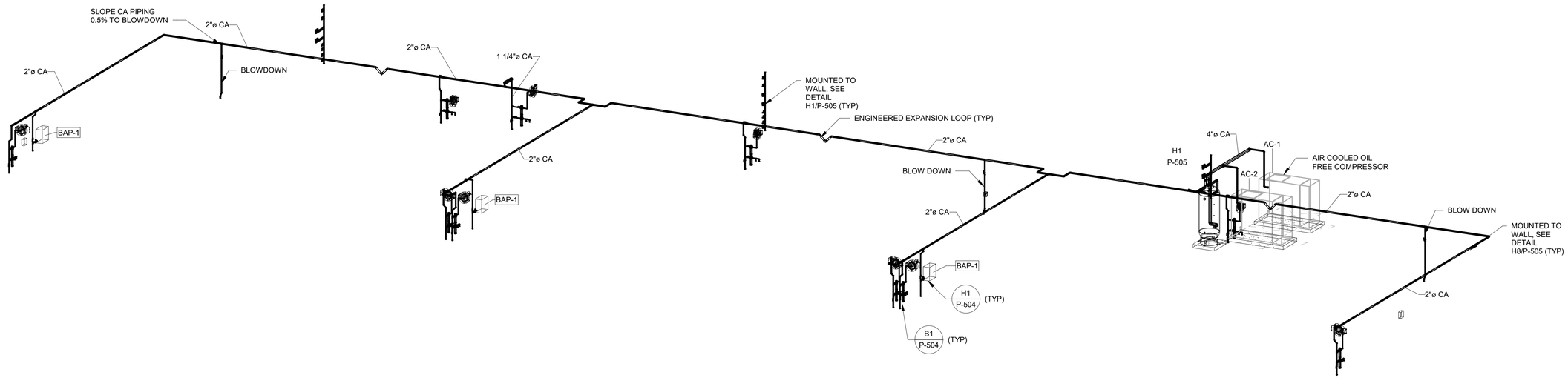
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COMPRESSED AIR DEMAND

	OUTLET COUNT	FLOW (CFM)		
BAY				
GENERAL PURPOSE	9	45	405	
HIGH VOLUME	3	100	300	
BREATHING	9	15	135	
TOOL				
GENERAL PURPOSE	1	45	45	
TOTAL			885.0	
DIVERSITY FACTOR		30%	265.5	
COMPRESSOR RATING		**10%**	292	ACFM @ 125 PSI

GENERAL NOTES

1. SLOPE COMPRESSED AIR PIPING 0.5% TO NEAREST BLOW DOWN.
2. ROUTE COMPRESSED AIR BLOW DOWN TO HUB DRAIN.
3. MOUNT HOSE REEL 8' AFF, ADJUST STOP TO HANG HOSE 6' AFF



C1 OVERALL COMPRESSED AIR ISOMETRIC
NTS

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TULSA DISTRICT
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ENGINEERING & CONSTRUCTION DIVISION
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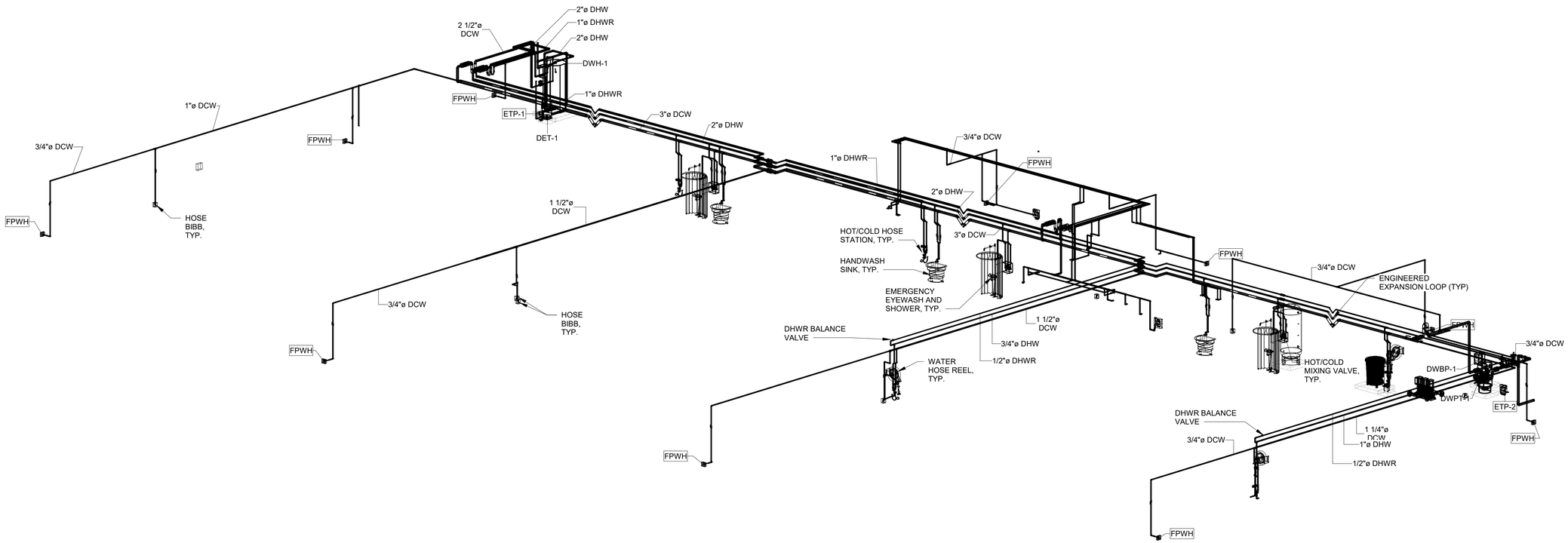
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PLUMBING ISOMETRIC - COMPRESSED AIR

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C1 OVERALL DOMESTIC WATER ISOMETRIC

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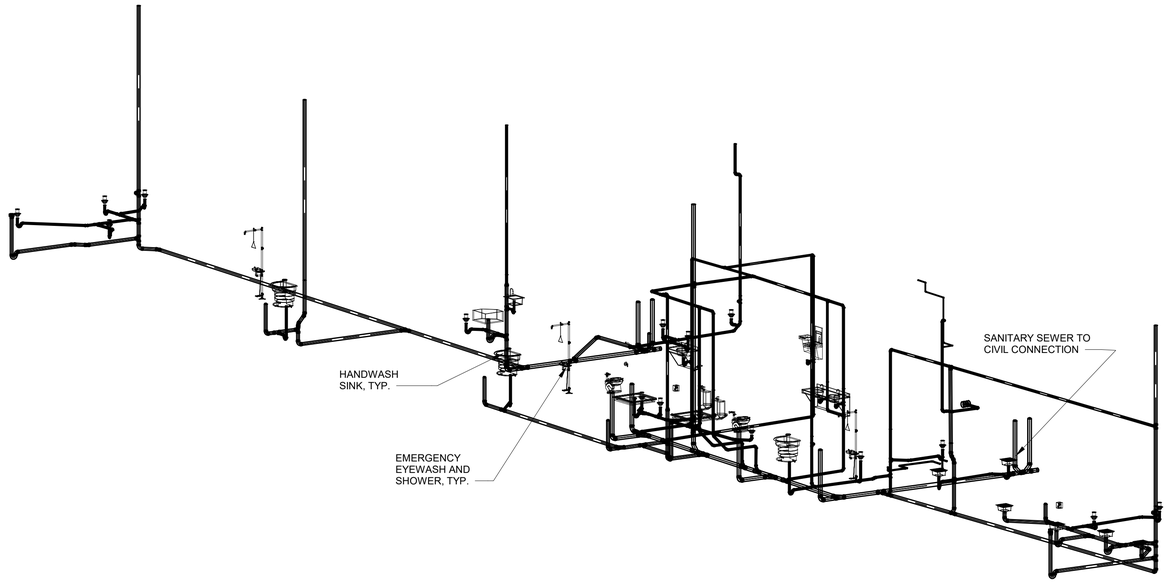
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PLUMBING ISOMETRIC

SHEET ID

P-902

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D4 OVERALL SANITARY AND VENT ISOMETRIC

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ENGINEERING &
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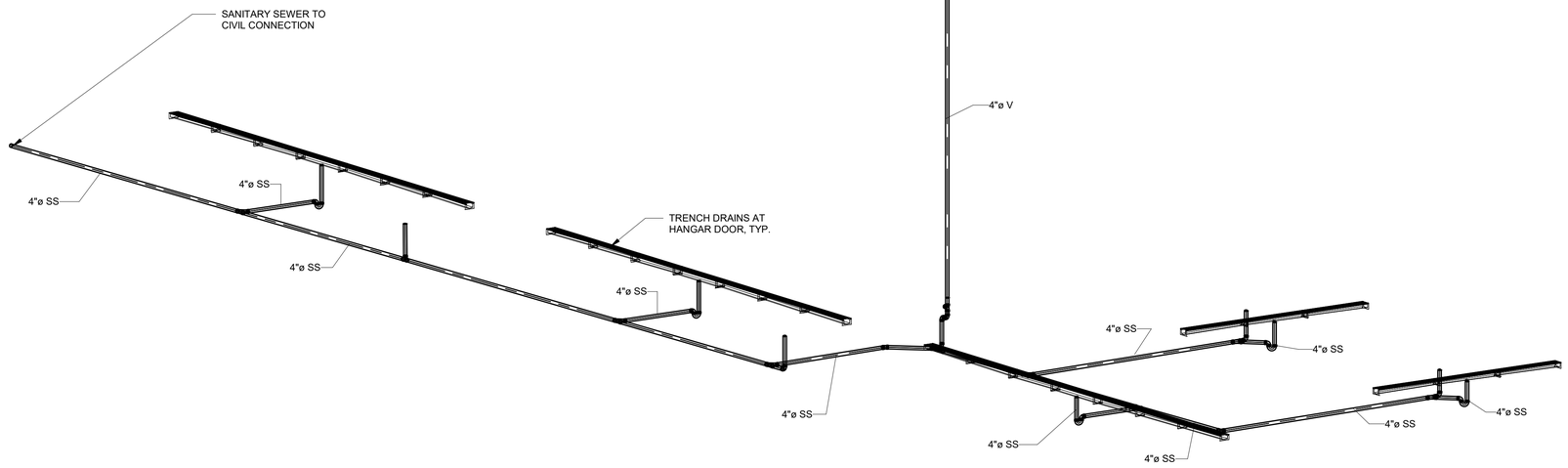
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P-903

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D4 OVERALL TRENCH DRAIN ISOMETRIC

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PLUMBING ISOMETRIC

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DAMPERS

- MANUAL BALANCING DAMPER
- BD — BACKDRAFT DAMPER
- FD-1.5 — FIRE DAMPER; 1.5 HOUR RATED
- FD-3 — FIRE DAMPER; 3 HOUR RATED
- SD — SMOKE DAMPER
- FSD — COMBINATION FIRE/SMOKE DAMPER

DUCTWORK

- FLEXIBLE ROUND DUCT
- 2 1 — CHANGE IN DUCT CONSTRUCTION BY PRESSURE CLASS. (PRESSURES IN INCHES W.G)
- FLEXIBLE DUCT CONNECTION
- ACOUSTICALLY LINED DUCT
- SA — SOUND ATTENUATOR
- BRANCH TAKEOFF

GENERAL CONTROL SYMBOLOGY

- T — THERMOSTAT
- TS — TEMPERATURE SENSOR
- HS — HUMIDITY SENSOR
- H — HUMIDISTAT
- PS — DUCT PRESSURE SENSOR
- CO — CARBON MONOXIDE DETECTOR
- SD — SMOKE DETECTOR
- W — WATER METER
- E — ELECTRIC METER
- ESS — EMERGENCY STOP BUTTON
- N — NIGHT THERMOSTAT
- FVS — DIESEL/JET FUEL VAPOR SENSOR
- NO — NITRIC OXIDE

DIFFUSER, REGISTER AND GRILLE NOTATION

DUCT SIZE IN INCHES
(OUTSIDE DIMENSIONS)
(RECTANGULAR DUCT SHOWN)
⌀ INDICATES ROUND DUCT.
DIAO. INDICATES OVAL DUCT.
FOR RECTANGULAR DUCT:
FIRST FIGURE: SIDE SHOWN
SECOND FIGURE: SIDE NOT SHOWN
BOD: INDICATES BOTTOM OF DUCT HEIGHT

12"x24" RA OR 10"⌀ SA
BOD: 13"-0"

DEVICE IDENTIFICATION
A SA
900 CFM
AIR QUANTITY (CFM)

- SUPPLY DIFFUSER
- RETURN REGISTER OR GRILLE
- EXHAUST REGISTER OR GRILLE

PIPING SYSTEMS

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER RETURN
- SS — SANITARY SEWER
- VENT
- G — NATURAL GAS
- F — FIRE PROTECTION
- NPW — NON-POTABLE WATER
- HRR — HEAT RECOVERY RETURN
- HRS — HEAT RECOVERY SUPPLY
- EXISTING PIPING TO BE REMOVED
- CHS — CHILLED WATER SUPPLY
- CHR — CHILLED WATER RETURN
- HWS — HEATING WATER SUPPLY
- HWR — HEATING WATER RETURN
- CD — CONDENSATE DRAIN
- RS — REFRIGERANT SUCTION
- RL — REFRIGERANT LIQUID
- RD — ROOF DRAIN
- MU — MAKE-UP WATER
- (E) — EXISTING PIPING TO REMAIN

PIPING SYMBOLS

- CONTINUATION
- DROP IN PIPE
- VALVE IN RISER
- ELBOW, 90 DEG.
- ELBOW UP, 90 DEG.
- ELBOW DOWN, 90 DEG.
- ELBOW, 45 DEG.
- TEE
- UNION
- UNION, FLANGED
- TEE, OUTLET TURNED DOWNWARD
- TEE, OUTLET TURNED UPWARD
- PIPE PITCH
- PRV — PRESSURE RELIEF VALVE
- PRESSURE REDUCING VALVE
- TPRV — TEMP & PRESS RELIEF
- PA — ANCHOR
- BALL VALVE
- GLOBE VALVE
- GATE VALVE
- CHECK VALVE
- PLUG VALVE
- DOUBLE CHECK VALVE BACKFLOW PREVENTER
- FIRE DEPARTMENT CONNECTION
- PRESSURE GAGE WITH SHUT OFF COCK AND SIPHON OR PULSATION DAMPENER
- CAP
- FD — FLOOR DRAIN WITH TRAP
- DIRECTION OF FLOW
- FLOOR PENETRATION
- WH — WALL HYDRANT
- WCO — WALL CLEANOUT
- HB — HOSE BIB
- THERMOMETER
- AV — AIR VENT, AUTOMATIC
- AIR VENT, MANUAL
- EL — EXPANSION LOOP
- PG — GUIDE
- EXPANSION JOINT
- FLEXIBLE CONNECTOR
- PT — PRESSURE/TEMPERATURE TEST PORT
- BALL JOINT
- FS — FLOOR SINK WITH TRAP
- WFD — WATER FLOW DETECTOR
- CALIBRATED BALANCING VALVE
- AUTOMATIC FLOW CONTROL VALVE
- BUTTERFLY VALVE
- MODULATING TWO-WAY
- MODULATING THREE-WAY
- REDUCED PRESSURE BACKFLOW PREVENTER
- OS&Y VALVE
- T — THERMOMETER GAGE
- BLIND FLANGE

GENERAL ABBREVIATIONS

AFF - ABOVE FINISHED FLOOR
BOD - BOTTOM OF DUCT ELEV.
BOP - BOTTOM OF PIPE ELEV.
CFM - CUBIC FEET PER MINUTE
CL - CENTERLINE
CLG - CEILING
COND- CONDENSATE/CONDENSER
CONN- CONNECTION/CONNECT
DB - DRY BULB TEMPERATURE
DDC - DIRECT DIGITAL CONTROL
DX - DIRECT EXPANSION
EA - EXHAUST AIR
EAT - ENTERING AIR TEMP.
ELEV - ELEVATION
EMCS- ENERGY MONITORING AND CONTROL SYSTEM
ESP - EXTERNAL STATIC PRESSURE
EWT - ENTERING WATER TEMP.
FC - FAIL CLOSED
FD - FLOOR DRAIN
FLA - FULL LOAD AMPS
FO - FAIL OPEN
GA - GAUGE
HD - HUB DRAIN
IE - INVERT ELEVATION
LAT - LEAVING AIR TEMP.
LWT - LEAVING WATER TEMP.
NC - NORMALLY CLOSED
NO - NORMALLY OPEN
NPS - NOMINAL PIPE SIZE
NPT - NATIONAL PIPE THREAD
NTS - NOT TO SCALE
OA - OUTSIDE AIR
OBD - OPPOSED BLADE DAMPER
OS&Y- OUTSIDE STEM AND YORK
Pa - PASCAL
PD - PRESSURE DROP
RA - RETURN AIR
RPM - REVOLUTIONS PER MINUTE
SA - SUPPLY AIR
SOG - SLAB ON GRADE
SP - STATIC PRESSURE
TOD - TOP OF DUCT ELEVATION
TOP - TOP OF PIPE ELEVATION
TOS - TOP OF SLAB/ TOP OF STEEL
TSP - TOTAL STATIC PRESSURE
VAV - VARIABLE AIR VOLUME
VP - VELOCITY PRESSURE
VTR - VENT THRU ROOF
W - WATTS
WB - WET BULB
WC - WATER COLUMN
WG - WATER GAUGE

GENERAL NOTES

A. MECHANICAL LAYOUTS ARE SCHEMATIC. PROVIDE ANY ADDITIONAL DROPS, RISES, OR OFFSETS REQUIRED FOR A COMPLETE INSTALLATION. COORDINATE EXACT ROUTING OF WORK WITH ALL OTHER TRADES AND OBSTRUCTIONS. COORDINATE EXACT LOCATIONS OF CEILING MOUNTED WORK WITH LIGHTS, CEILING GRID, AND OTHER OBSTRUCTIONS.

B. UNLESS OTHERWISE INDICATED, ROUTE ALL DUCTWORK AND PIPING ABOVE CEILINGS. ROUTE ALL DUCTWORK AND PIPING AS HIGH AS POSSIBLE IN AREAS WITHOUT CEILINGS. ROUTE ALL DUCTWORK AND PIPING TIGHT TO STRUCTURE.

C. DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS.

D. UNLESS OTHERWISE INDICATED, PROVIDE DUCT RUNOUTS TO TERMINAL UNITS SAME SIZE AS TERMINAL UNIT INLET.

E. FLEXIBLE DUCT RUNOUTS TO TERMINAL AIR DEVICES SHALL BE SAME SIZE AS DIFFUSER CONNECTION. LIMIT FLEX TO 5 FEET.

F. INSTALL CALIBRATED BALANCING VALVES AND VENTURIS WITH A MINIMUM UNRESTRICTED STRAIGHT RUN OF 5 PIPE DIAMETERS UPSTREAM AND 3 PIPE DIAMETERS DOWNSTREAM.

G. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DIFFUSERS, PLENUM SLOT DIFFUSERS, REGISTERS, AND GRILLS.

H. ALL WORK INDICATED IS NEW.

I. SOME SYMBOLS INDICATED ON THIS LEGEND SHEET MAY NOT APPEAR OF THE DRAWINGS.

K. MOUNT CO2 SENSORS AND TEMPERATURE SENSORS 48 INCHES AFF. UNLESS OTHERWISE INDICATED

L. ALL PIPING LOW POINTS SHALL HAVE DRAIN VALVES WITH HOSE CONNECTION AND CAP.

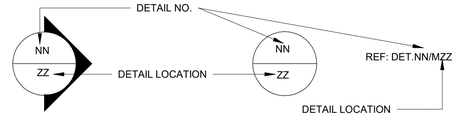
M. ALL PIPING HIGH POINTS SHALL HAVE VALVED AIR VENTS.

N. PIPE AND EQUIPMENT ELEVATIONS SHOWN ARE BASED ON A NOMINAL 0' 00" DATUM ELEVATION (0'-0") CORRESPONDS TO THE FINISH FLOOR ELEVATION INDICATED ON THE CIVIL SHEETS. ACTUAL ELEVATION AFF MAY VARY ON SLOPED FLOORS.

O. PIPE AND EQUIPMENT ELEVATIONS MAY REQUIRE FIELD ADJSTMENT FOR FINAL COODINATION WITH INSTALLED SYSTEMS.

Mechanical Sheet Numbering Prefixes
M- All or any portion of subjects in the following

REFERENCE SYMBOLOGY



- 000 — ROOM NUMBER
- Ø — ROUND DUCT
- POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
- EXISTING WORK TO BE REMOVED
- EXISTING WORK TO REMAIN
- POINT BETWEEN WORK TO REMAIN AND WORK TO BE REMOVED

DUCT CONSTRUCTION AND LEAKAGE TEST SCHEDULE

	DUCT	AHU (ALL)	MAU (ALL)	EF/ERV (ALL)
TEST PRESSURE (IN WC)	SUPPLY	1	1	-
	RETURN	1	-	-
	EXHAUST	-	-	1
	OSA	-	1	1
SEAL CLASS RECTANGULAR AND OVAL	SUPPLY	A	A	-
	RETURN	A	-	-
	EXHAUST	-	-	A
	OSA	-	A	A
CONSTRUCTION PRESSURE CLASS (IN WG)	SUPPLY	1	1	-
	RETURN	1	-	-
	EXHAUST	-	-	-1
	OSA	-	1	1
ROUND/OVAL SMACNA LEAK CLASS	SUPPLY	12	12	-
	RETURN	12	-	-
	EXHAUST	-	-	24
	OSA	-	12	24
RECTANGULAR SMACNA LEAK CLASS	SUPPLY	24	24	-
	RETURN	24	-	-
	EXHAUST	-	-	24
	OSA	-	24	24
DALT ELIGIBLE**		YES	YES	YES

NOTE:

1. ALL DUCT PENETRATING FLOOR SLABS OR SMOKE PARTITIONS SHALL BE 22 GAUGE MIN OR PER SMACNA, WHICHEVER IS GREATER.
2. LISTED PRESSURES ARE ABSOLUTE VALUE PRESSURES ARE POSITIVE AND NEGATIVE RESPECTIVE OF SYSTEM AND DUCT SEGMENT
3. TEST IN ACCORDANCE WITH UFGS 23 05 93, TESTING ADJUSTING, AND BALANCING FOR HVAC AND THE PROCEDURES IN SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL

* LOW PRESSURE DUCT DOWN STREAM OF VAV UNITS
** ALL AIRSIDE SYSTEMS ELIGIBLE TO BE SELECTED FOR DALT IN ACC WITH UFGS 23 05 93

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MECHANICAL GENERAL NOTES, ABBREVIATIONS

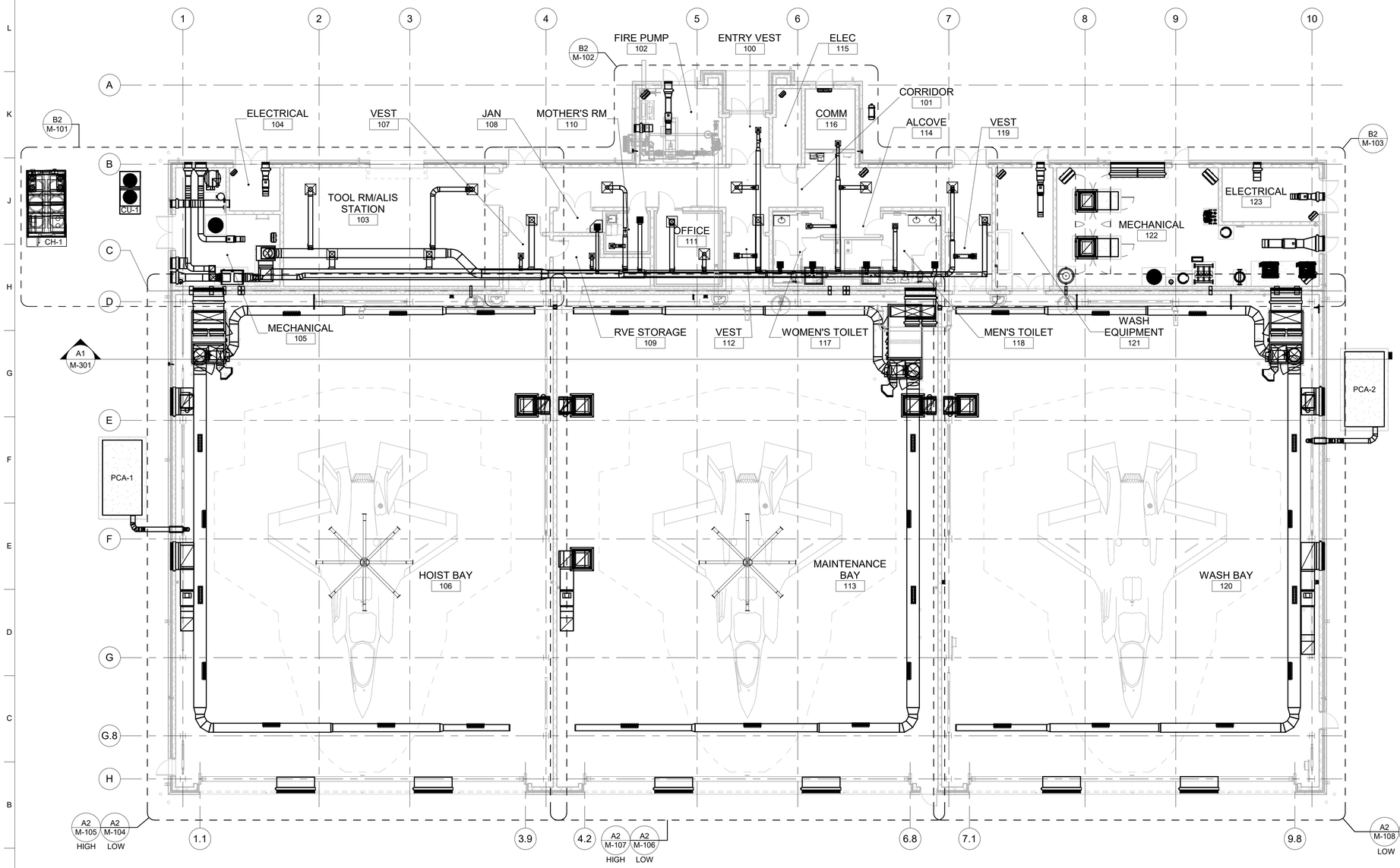
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GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
2. COORDINATE ALL FABRICATED SUPPORTS WITH BUILDING STRUCTURE. PROVIDE SHOP DRAWINGS FOR APPROVAL.
3. PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT. COORDINATE DUCT CONNECTION SIZES WITH INSTALLED EQUIPMENT.
4. COORDINATE FLASHINGS AT ALL BUILDING PENETRATIONS WITH ARCHITECTURAL.
5. BOTTOM OF BUILDING OPENINGS MUST BE INSTALLED MINIMUM 10'-0" ABOVE GRADE
6. COORDINATE ALL CMU PENETRATIONS WITH STRUCTURAL DETAILS.
7. PROVIDE MANUAL BALANCE DAMPER AT ALL BRANCH DUCTS.
8. REFER TO SHEET M-816 FOR APPROXIMATE SPACE SENSOR LOCATIONS
9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT



A1 OVERALL MECHANICAL FLOOR PLAN

3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'

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OVERALL MECHANICAL PLAN

SHEET ID

M-100

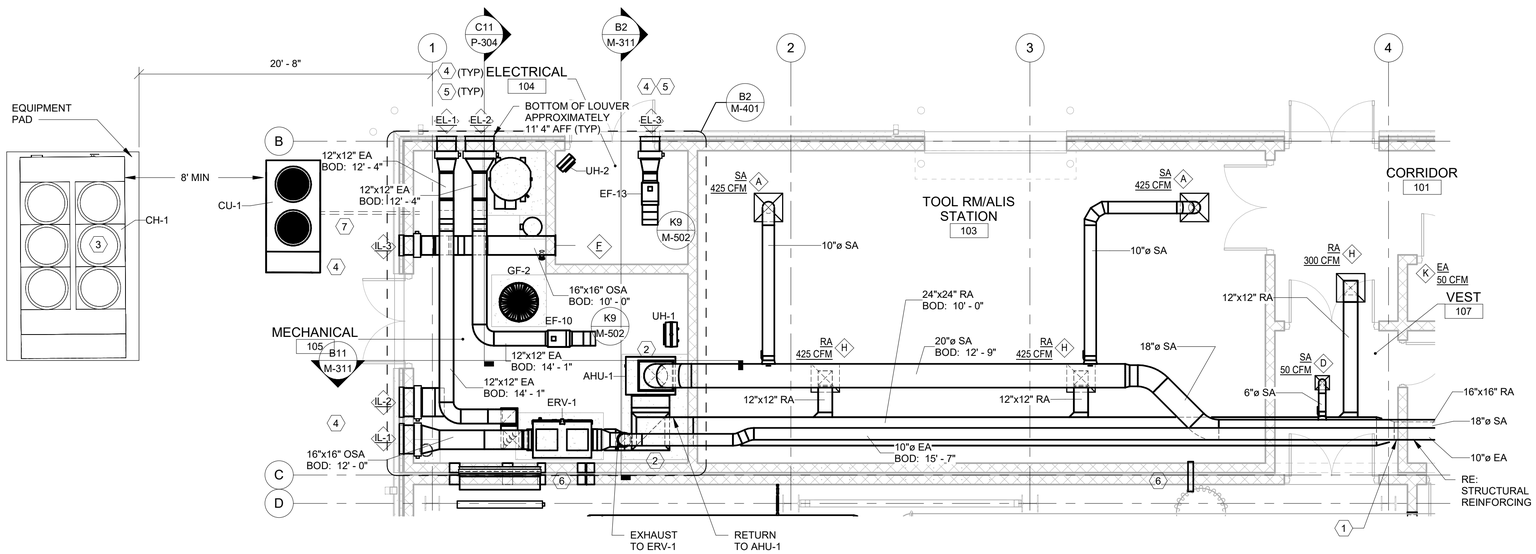
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KEYNOTES

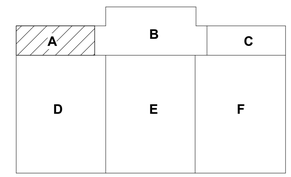
1	COORDINATE CMU PENETRATIONS WITH STRUCTURAL PENETRATION DETAILS .
2	DROP DUCTING DOWN TO AIR HANDLER UNIT. TRANSITION TO SIZES EQUIPENT..
3	AIR COOLED CHILLER WITH ON BOARD PUMP PACKAGE AND BUFFER TANK.
4	INSTALL ALL OSA AND EXHAUST OPENINGS AS INDICATED COORDINATE WITH COURSING AND ARCHITECTURAL ELEVATIONS. COORDINATE FINAL LOUVER DIMENSIONS WITH REQUIRED FLASHING.
5	PROVIDE LOW LEAKAGE ATFP DAMPERS ON ALL LOUVERS INTERLOCKED WITH HVAC SHUTDOWN
6	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
7	ROUTE REFRIGERANT LINES ABOVE GROUND. PROVIDE PERMANENT MOUNT AND PROVIDE ALUMINUM JACKET ON INSULATED LINES.



B2 MECHANICAL FLOOR PLAN - AREA A

3/16" = 1'-0"

0 2' 4' 8' 16'



KEY PLAN

PLAN NORTH

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MECHANICAL FLOOR PLAN - AREA A

SHEET ID
M-101

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

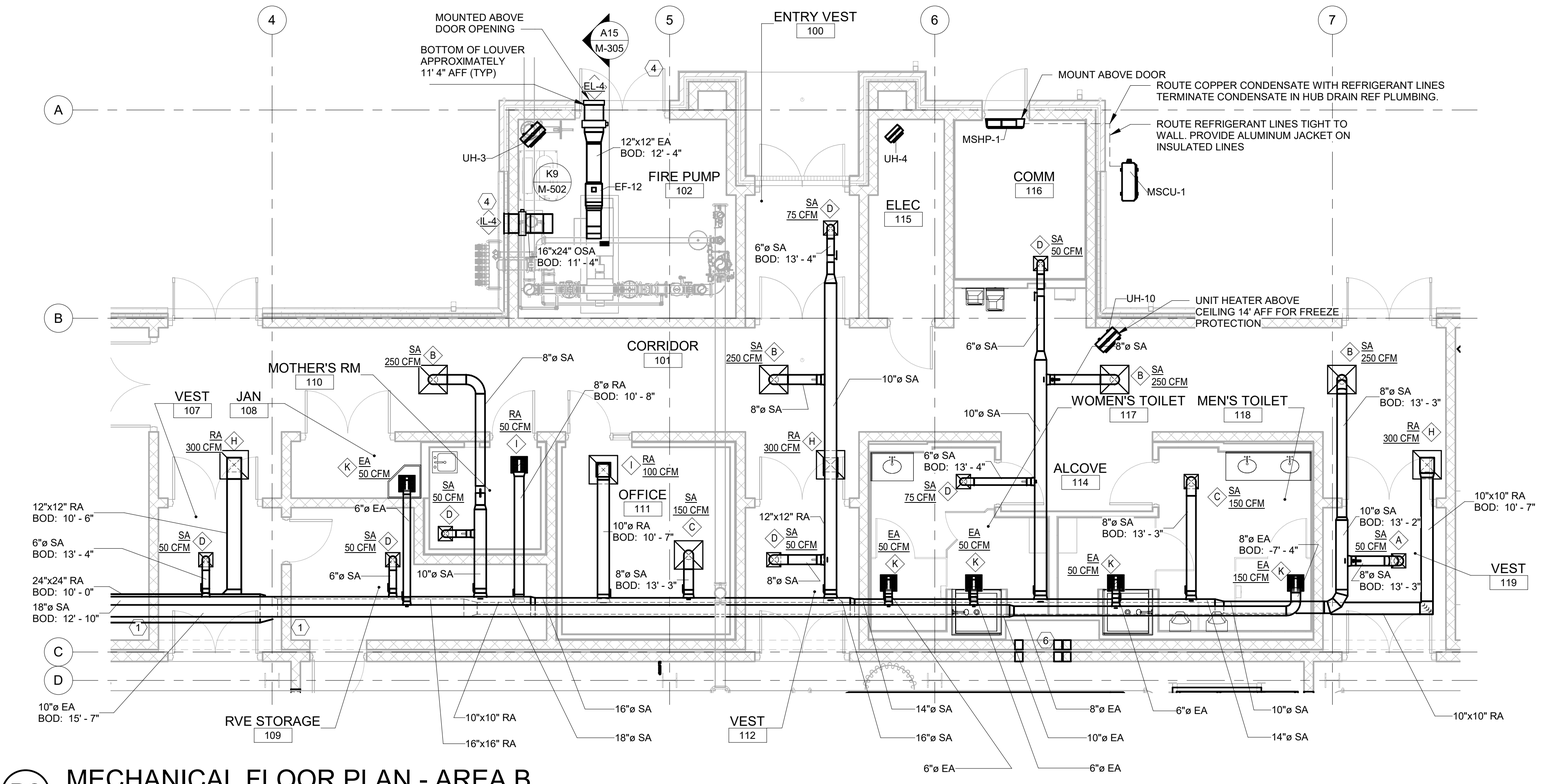
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GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
2. COORDINATE ALL FABRICATED SUPPORTS WITH BUILDING STRUCTURE. PROVIDE SHOP DRAWINGS FOR APPROVAL.
3. PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT. COORDINATE DUCT CONNECTION SIZES WITH INSTALLED EQUIPMENT.
4. COORDINATE FLASHINGS AT ALL BUILDING PENETRATIONS WITH ARCHITECTURAL.
5. BOTTOM OF BUILDING OPENINGS MUST BE INSTALLED MINIMUM 10'-0" ABOVE GRADE
6. COORDINATE ALL CMU PENETRATIONS WITH STRUCTURAL DETAILS.
7. PROVIDE MANUAL BALANCE DAMPER AT ALL BRANCH DUCTS.
8. REFER TO SHEET M-816 FOR APPROXIMATE SPACE SENSOR LOCATIONS
9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT

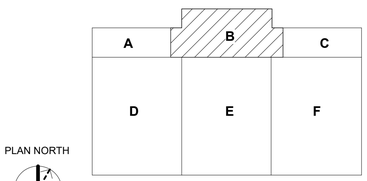
KEYNOTES

1	COORDINATE CMU PENETRATIONS WITH STRUCTURAL PENETRATION DETAILS .
2	DROP DUCTING DOWN TO AIR HANDLER UNIT. TRANSITION TO SIZES EQUIPENT..
3	AIR COOLED CHILLER WITH ON BOARD PUMP PACKAGE AND BUFFER TANK.
4	INSTALL ALL OSA AND EXHAUST OPENINGS AS INDICATED COORDINATE WITH COURSING AND ARCHITECTURAL ELEVATIONS. COORDINATE FINAL LOUVER DIMENSIONS WITH REQUIRED FLASHING.
5	PROVIDE LOW LEAKAGE ATFP DAMPERS ON ALL LOUVERS INTERLOCKED WITH HVAC SHUTDOWN
6	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
7	ROUTE REFRIGERANT LINES ABOVE GROUND. PROVIDE PERMANENT MOUNT AND PROVIDE ALUMINUM JACKET ON INSULATED LINES.



B2 MECHANICAL FLOOR PLAN - AREA B

3/16" = 1'-0"



KEY PLAN

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: J. PONTHIEX, P.E.
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

MECHANICAL FLOOR PLAN - AREA B

SHEET ID
M-102

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

Plot Date: 10/20/2025 11:15:23 AM

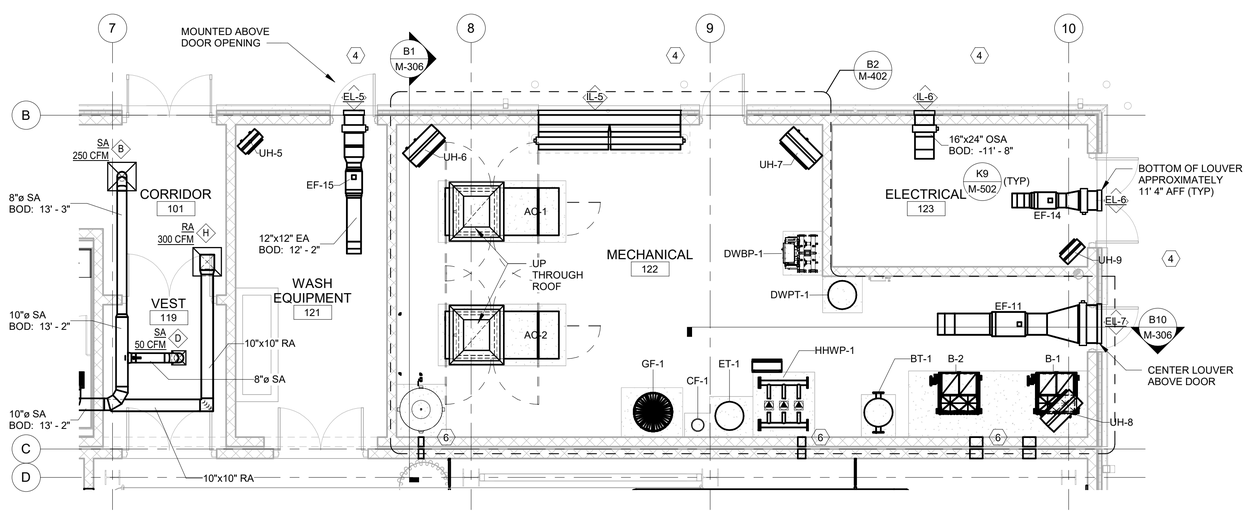
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GENERAL NOTES

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KEYNOTES

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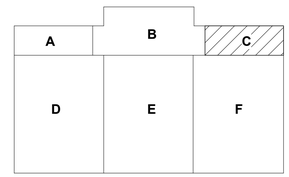


B2 MECHANICAL FLOOR PLAN - AREA C

3/16" = 1'-0"

0 2' 4' 8' 16'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. REINDER
CHECKED BY: Checker
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

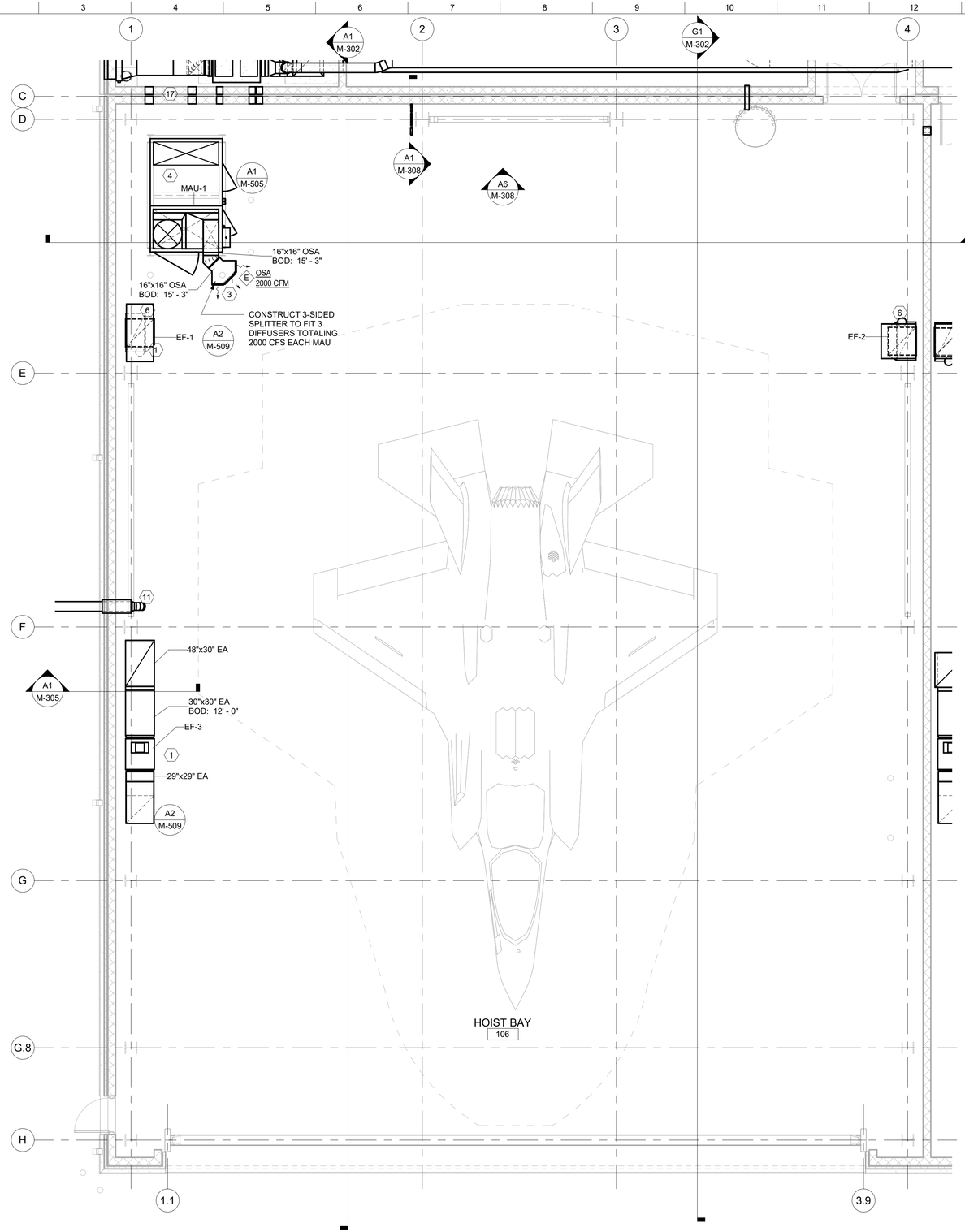
MECHANICAL FLOOR PLAN - AREA C

SHEET ID

M-103

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

Plot Date: 10/20/2025 11:15:59 AM File Path: C:\Users\rbeciar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt



A2 MECHANICAL FLOOR PLAN - LOW - AREA D

3/16" = 1'-0"

0 2' 4' 8' 16'

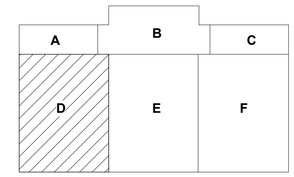
GENERAL NOTES

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9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT

KEYNOTES

1	INLINE SPARK PROOF EXHAUST FAN 12' AFF, DUCT TO WALL LOUVER
2	OSA INTAKE WITH MULTI ZONE LOW LEAKAGE DAMPER. COORDINATE LOUVER WITH STRUCTURAL FRAMING AND TRANSLUCENT PANEL
3	3 WAY OSA DISTRIBUTION 16'AFF
4	HEATING ONLY MAKEUP AIR UNIT, MOUNT ON PLATFORM 18"AFF, PROVIDE WITH INTERNAL VIBRATION ISOLATION FOR RIGID MOUNT REF STRUCTURAL D6-S401
5	HEATING/COOLING MAKEUP AIR UNIT, MOUNT ON PLATFORM 18"AFF, PROVIDE WITH INTERNAL VIBRATION ISOLATION FOR RIGID MOUNT REF STRUCTURAL D6-S401
6	VERTICAL INLINE EXHAUST FAN 12' AFF DUCTED TO ROOF PENTHOUSE
7	PROVIDE LOW LEAKAGE ATFP DAMPERS ON ALL LOUVERS INTERLOCKED WITH HVAC SHUTDOWN
8	COORDINATE DUCT SIZE AT EQUIPMENT CONNECTIONS WITH INSTALLED EQUIPMENT
9	HIGH VOLUME LOW SPEED FAN, SUPPORT FROM STRUCTURE COORDINATE WITH LIGHTING AND CRANE
10	SUMMER VENTILATION INTAKE, PROVIDE LOW LEAKAGE MOTORIZED DAMPER AND INTERLOCK TO CLOSE DAMPER
11	PRE CONDITIONED AIR DUCT, REF DETAIL A14/M-504 . PROVIDE EXTERNAL POWER CONNECTION WITH INTERCONNECT TO INDOOR CONNECTION. REF ELECRICAL
12	INLINE SPARK PROOF EXHAUST FAN 12' AFF DUCTED TO ROOF PENTHOUSE, PROVIDED FOR PURGE VENTILATION AND UNOCCUPIED MODE CONTINUOUS VENTILATION.
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14	OSA DISTRIBUTION DUCT, COORDINATE WITH STRUCTURE, OVERHEAD DOOR, AND CRANE
15	PROVIDE DOUBLE WALL STEEL DUCT FOR ALL EXPOSED DUAL TEMP SUPPLY DUCT.
16	PROVIDE DOUBLE WALL STEEL DUCT FOR ALL EXPOSED WARM AIR SUPPLY DUCT.
17	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

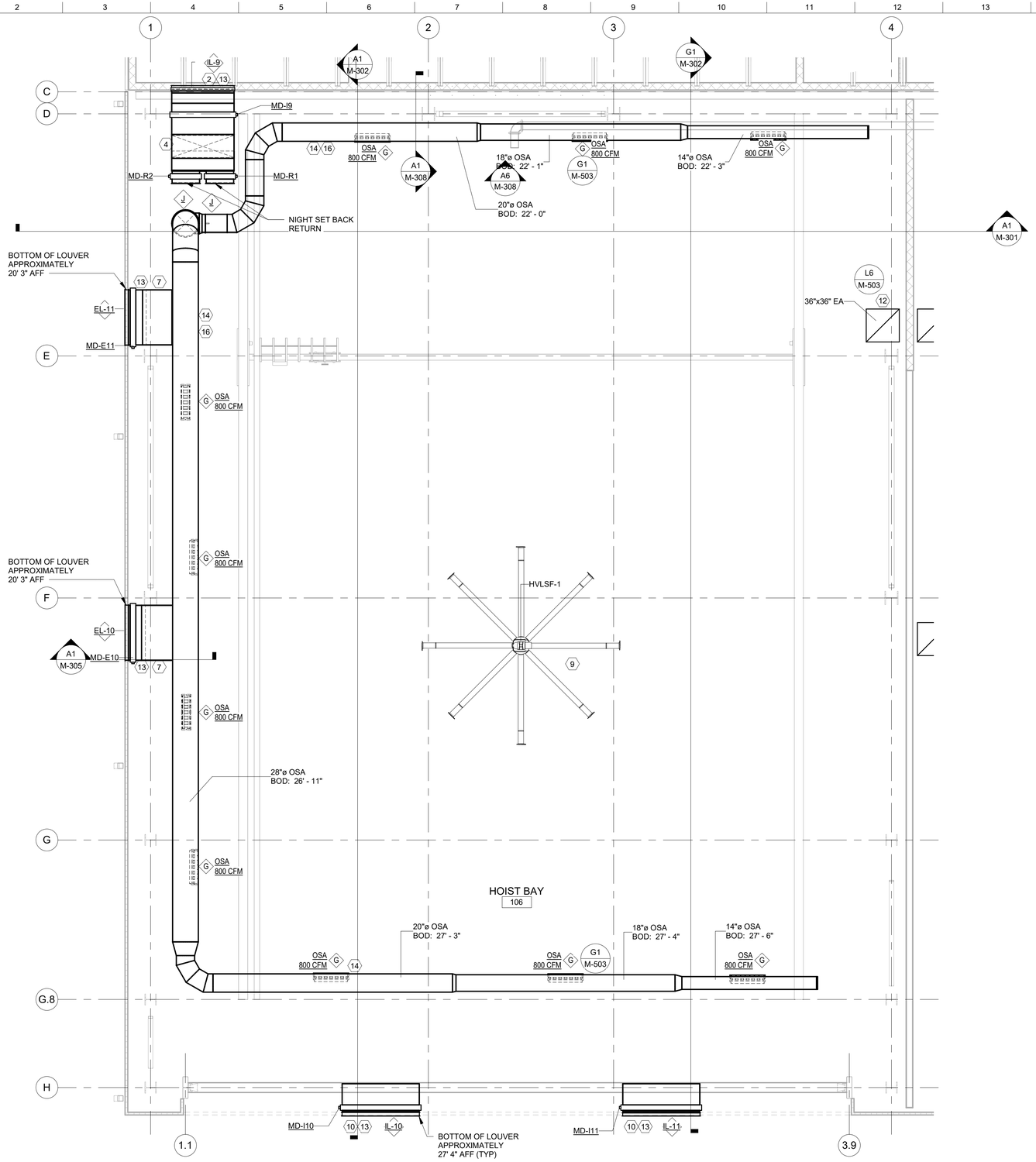
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL FLOOR PLAN - LOW - AREA D

SHEET ID
M-104

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
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9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT

KEYNOTES

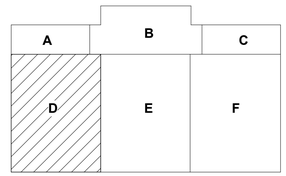
1	INLINE SPARK PROOF EXHAUST FAN 12' AFF, DUCT TO WALL LOUVER
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10	SUMMER VENTILATION INTAKE, PROVIDE LOW LEAKAGE MOTORIZED DAMPER AND INTERLOCK TO CLOSE DAMPER
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17	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING

A2 MECHANICAL FLOOR PLAN - HIGH - AREA D

3/16" = 1'-0"

0 2' 4' 8' 16'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. RENDER
CHECKED BY:	
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:16:06 AM File Path: C:\Users\mbcarr\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MECDRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

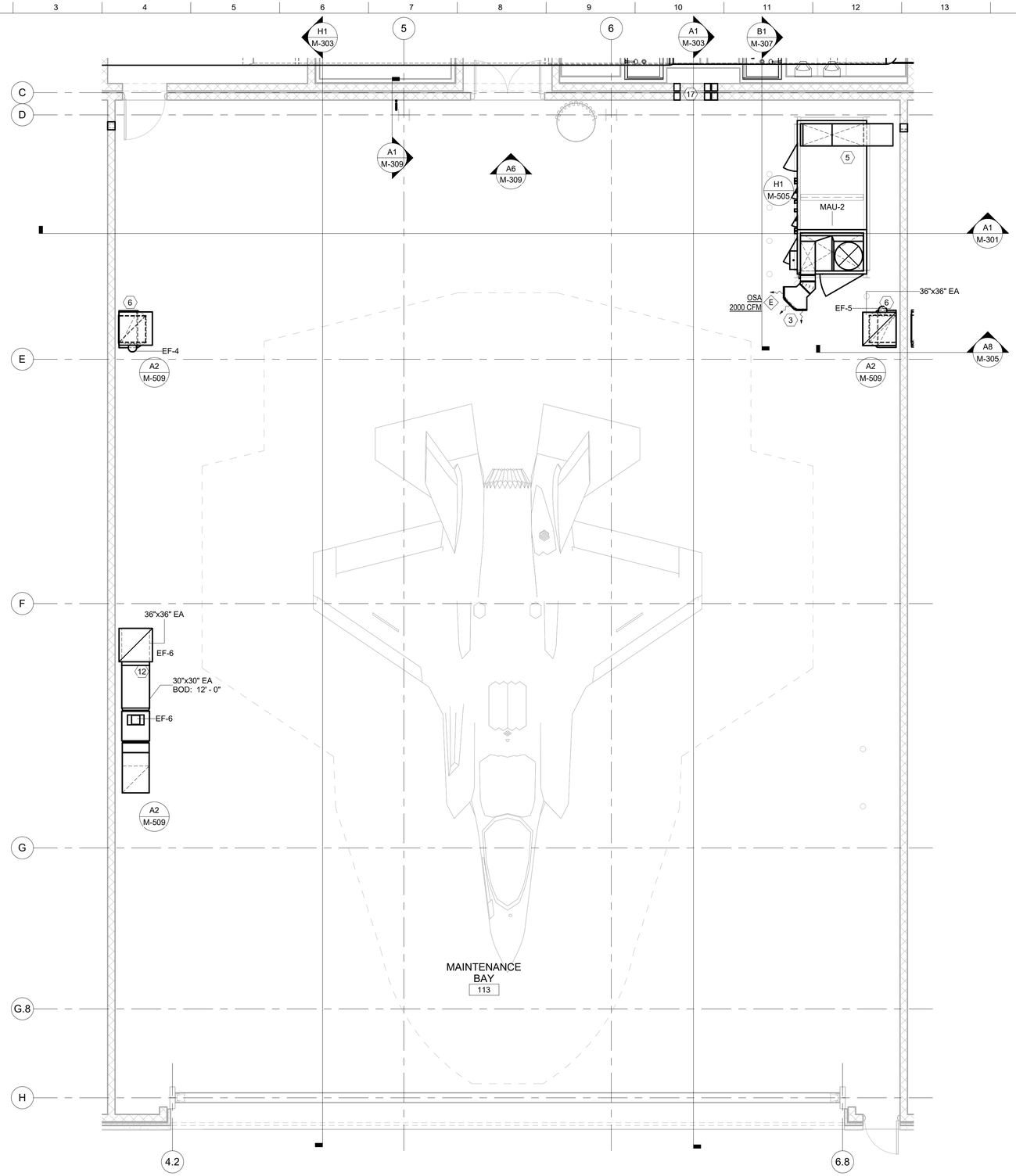
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL FLOOR PLAN - HIGH - AREA D

SHEET ID

M-105

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 MECHANICAL FLOOR PLAN - LOW - AREA E

3/16" = 1'-0"

0 2' 4' 8' 16'

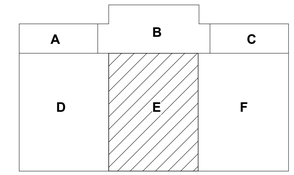
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PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. REINDER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

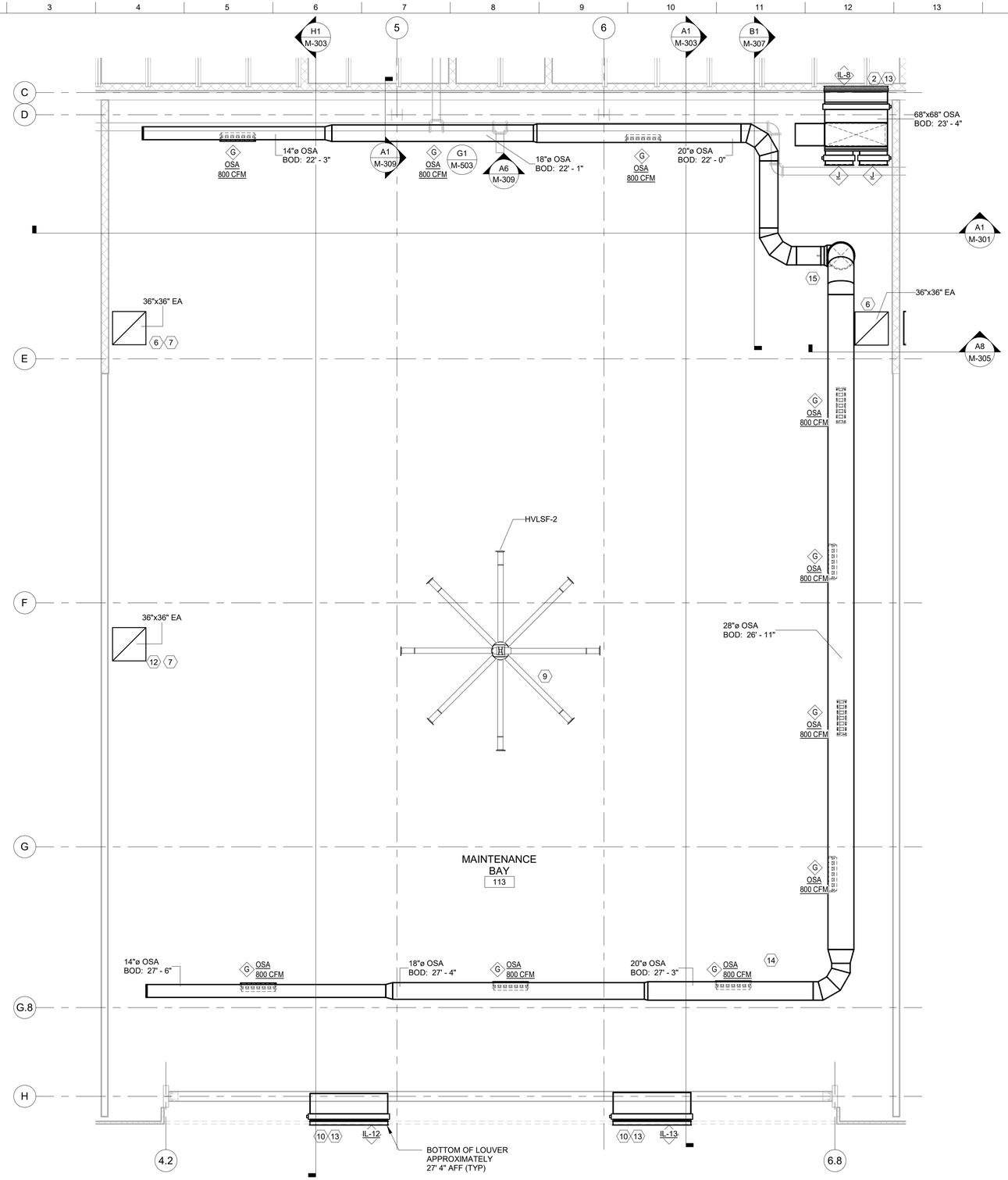
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL FLOOR PLAN - LOW - AREA E

SHEET ID
M-106

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

Plot Date: 10/20/2025 11:16:10 AM
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A2 MECHANICAL FLOOR PLAN - HIGH - AREA E

3/16" = 1'-0"

0 2' 4' 8' 16'

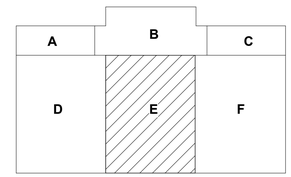
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10	SUMMER VENTILATION INTAKE, PROVIDE LOW LEAKAGE MOTORIZED DAMPER AND INTERLOCK TO CLOSE DAMPER
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12	INLINE SPARK PROOF EXHAUST FAN 12' AFF DUCTED TO ROOF PENTHOUSE, PROVIDED FOR PURGE VENTILATION AND UNOCCUPIED MODE CONTINUOUS VENTILATION.
13	COORDINATE DUCT, LOUVER, AND DAMPER ASSEMBLY WITH STRUCTURAL FRAMING
14	OSA DISTRIBUTION DUCT, COORDINATE WITH STRUCTURE, OVERHEAD DOOR, AND CRANE
15	PROVIDE DOUBLE WALL STEEL DUCT FOR ALL EXPOSED DUAL TEMP SUPPLY DUCT.
16	PROVIDE DOUBLE WALL STEEL DUCT FOR ALL EXPOSED WARM AIR SUPPLY DUCT.
17	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. REINDER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

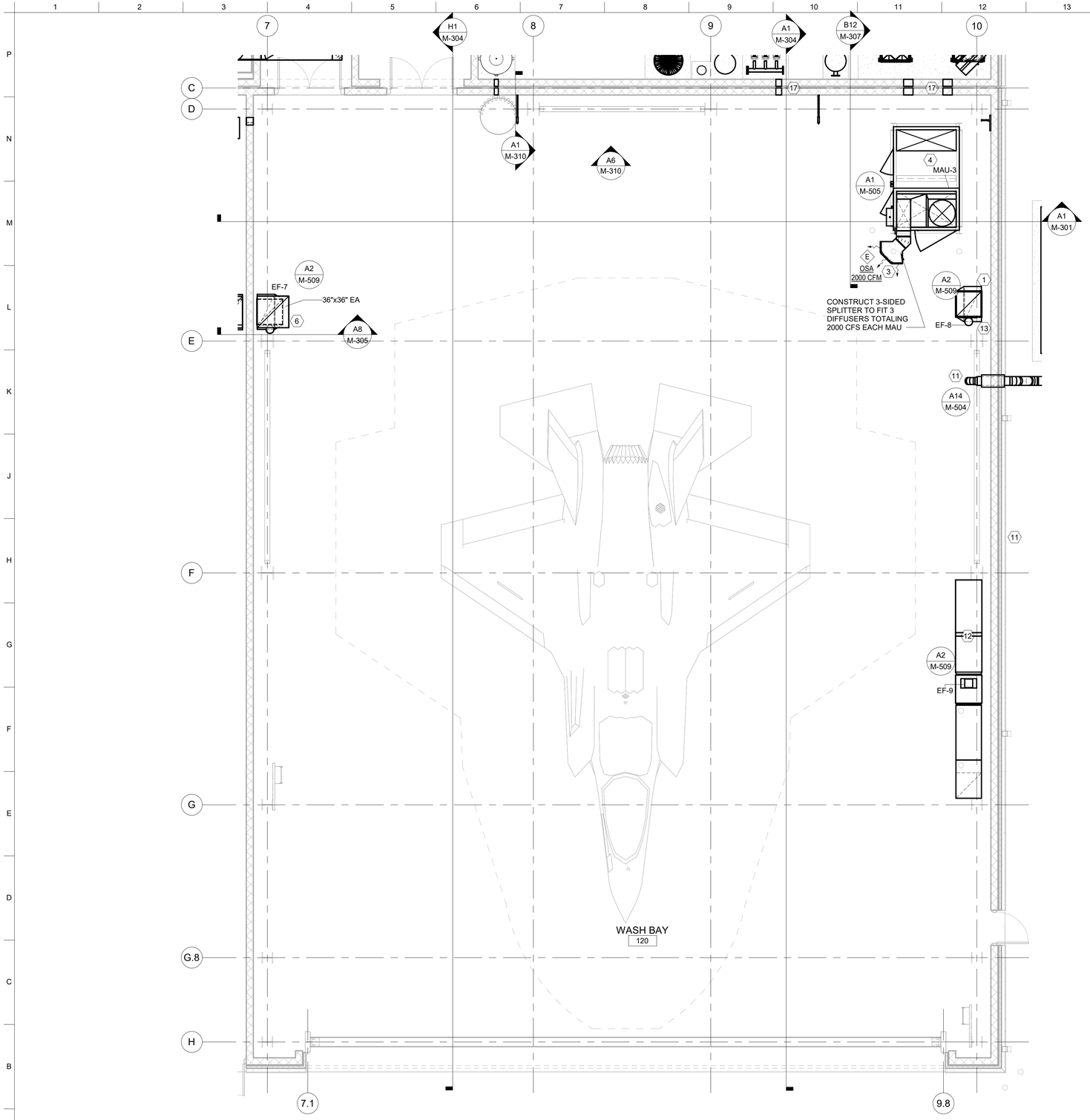
EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

MECHANICAL FLOOR PLAN - HIGH - AREA E

SHEET ID
M-107

Plot Date: 10/20/2025 11:16:14 AM File Path: C:\Users\rbocian\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECR04R.rvt

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 MECHANICAL FLOOR PLAN - LOW - AREA F

3/16" = 1'-0"

0 2' 4' 8' 16'

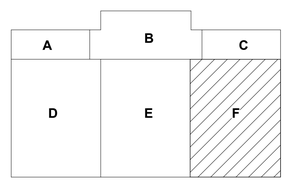
GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
2. COORDINATE ALL FABRICATED SUPPORTS WITH BUILDING STRUCTURE. PROVIDE SHOP DRAWINGS FOR APPROVAL.
3. PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT. COORDINATE DUCT CONNECTION SIZES WITH INSTALLED EQUIPMENT.
4. COORDINATE FLASHINGS AT ALL BUILDING PENETRATIONS WITH ARCHITECTURAL.
5. BOTTOM OF BUILDING OPENINGS MUST BE INSTALLED MINIMUM 10'-0" ABOVE GRADE
6. COORDINATE ALL CMU PENETRATIONS WITH STRUCTURAL DETAILS.
7. PROVIDE MANUAL BALANCE DAMPER AT ALL BRANCH DUCTS.
8. REFER TO SHEET M-816 FOR APPROXIMATE SPACE SENSOR LOCATIONS
9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT

KEYNOTES

1	INLINE SPARK PROOF EXHAUST FAN 12' AFF, DUCT TO WALL LOUVER
2	OSA INTAKE WITH MULTI ZONE LOW LEAKAGE DAMPER. COORDINATE LOUVER WITH STRUCTURAL FRAMING AND TRANSLUCENT PANEL
3	3 WAY OSA DISTRIBUTION 16'AFF
4	HEATING ONLY MAKEUP AIR UNIT, MOUNT ON PLATFORM 18"AFF, PROVIDE WITH INTERNAL VIBRATION ISOLATION FOR RIGID MOUNT REF STRUCTURAL D6-S401
5	HEATING/COOLING MAKEUP AIR UNIT, MOUNT ON PLATFORM 18"AFF, PROVIDE WITH INTERNAL VIBRATION ISOLATION FOR RIGID MOUNT REF STRUCTURAL D6-S401
6	VERTICAL INLINE EXHAUST FAN 12' AFF DUCTED TO ROOF PENTHOUSE
7	PROVIDE LOW LEAKAGE ATFP DAMPERS ON ALL LOUVERS INTERLOCKED WITH HVAC SHUTDOWN
8	COORDINATE DUCT SIZE AT EQUIPMENT CONNECTIONS WITH INSTALLED EQUIPMENT
9	HIGH VOLUME LOW SPEED FAN, SUPPORT FROM STRUCTURE COORDINATE WITH LIGHTING AND CRANE
10	SUMMER VENTILATION INTAKE, PROVIDE LOW LEAKAGE MOTORIZED DAMPER AND INTERLOCK TO CLOSE DAMPER
11	PRE CONDITIONED AIR DUCT, REF DETAIL A14/M-504 . PROVIDE EXTERNAL POWER CONNECTION WITH INTERCONNECT TO INDOOR CONNECTION. REF ELECRICAL
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15	PROVIDE DOUBLE WALL STEEL DUCT FOR ALL EXPOSED DUAL TEMP SUPPLY DUCT.
16	PROVIDE DOUBLE WALL STEEL DUCT FOR ALL EXPOSED WARM AIR SUPPLY DUCT.
17	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. READER
CHECKED BY:	
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO.:	512203
FILE NAME:	EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

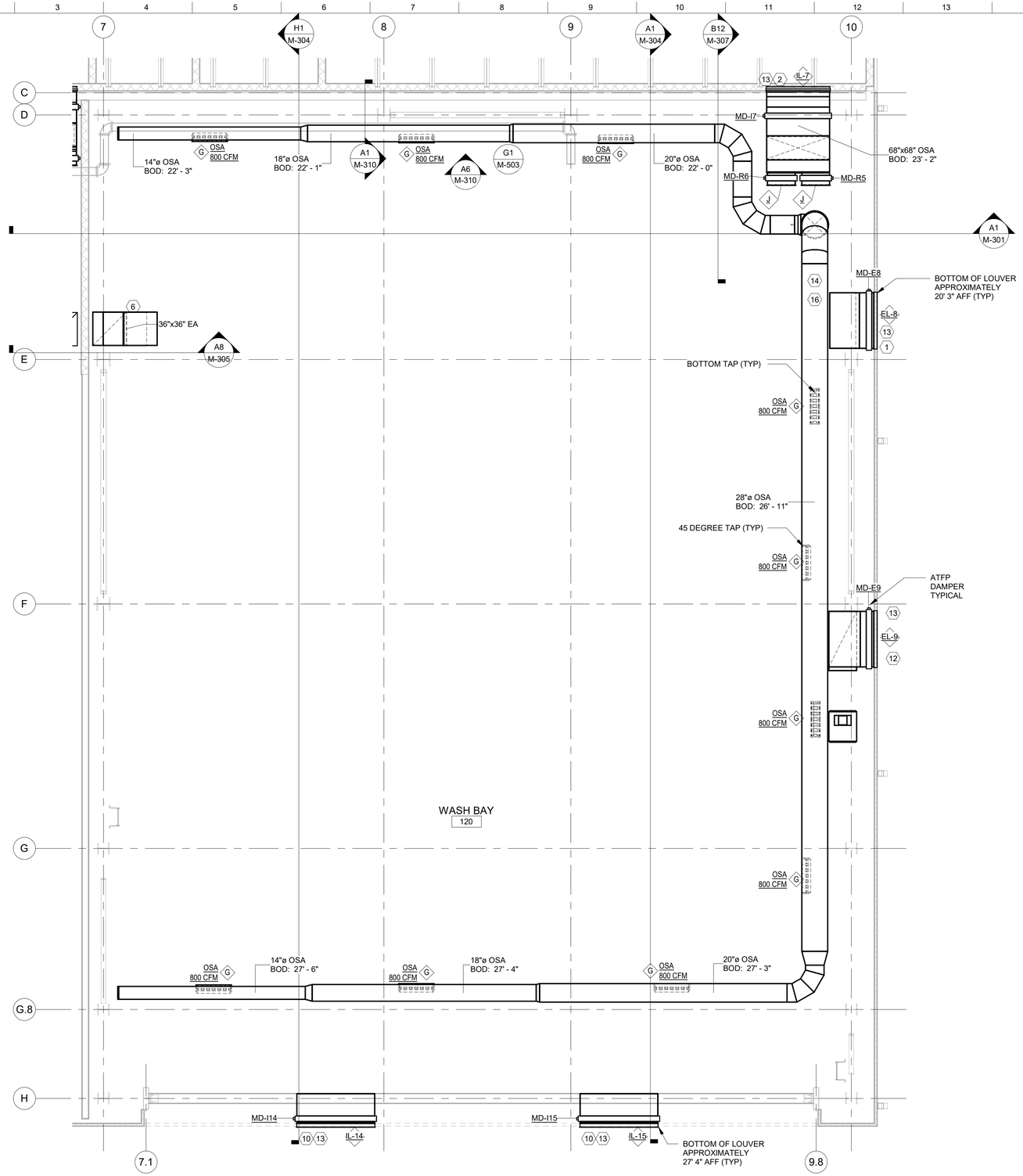
MECHANICAL FLOOR PLAN - LOW - AREA F

SHEET ID

M-108

Plot Date: 10/20/2025 11:16:28 AM File Path: C:\Users\rbcerar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MECDRAR.rvt

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 MECHANICAL FLOOR PLAN - HIGH - AREA F

3/16" = 1'-0"

0 2' 4' 8' 16'

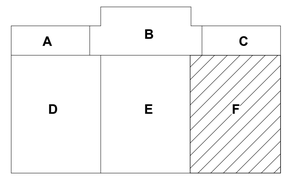
GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
2. COORDINATE ALL FABRICATED SUPPORTS WITH BUILDING STRUCTURE. PROVIDE SHOP DRAWINGS FOR APPROVAL.
3. PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT. COORDINATE DUCT CONNECTION SIZES WITH INSTALLED EQUIPMENT.
4. COORDINATE FLASHINGS AT ALL BUILDING PENETRATIONS WITH ARCHITECTURAL.
5. BOTTOM OF BUILDING OPENINGS MUST BE INSTALLED MINIMUM 10'-0" ABOVE GRADE
6. COORDINATE ALL CMU PENETRATIONS WITH STRUCTURAL DETAILS.
7. PROVIDE MANUAL BALANCE DAMPER AT ALL BRANCH DUCTS.
8. REFER TO SHEET M-816 FOR APPROXIMATE SPACE SENSOR LOCATIONS
9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT

KEYNOTES

1	INLINE SPARK PROOF EXHAUST FAN 12' AFF, DUCT TO WALL LOUVER
2	OSA INTAKE WITH MULTI ZONE LOW LEAKAGE DAMPER. COORDINATE LOUVER WITH STRUCTURAL FRAMING AND TRANSLUCENT PANEL
3	3 WAY OSA DISTRIBUTION 16'AFF
4	HEATING ONLY MAKEUP AIR UNIT, MOUNT ON PLATFORM 18"AFF, PROVIDE WITH INTERNAL VIBRATION ISOLATION FOR RIGID MOUNT REF STRUCTURAL D6-S401
5	HEATING/COOLING MAKEUP AIR UNIT, MOUNT ON PLATFORM 18"AFF, PROVIDE WITH INTERNAL VIBRATION ISOLATION FOR RIGID MOUNT REF STRUCTURAL D6-S401
6	VERTICAL INLINE EXHAUST FAN 12' AFF DUCTED TO ROOF PENTHOUSE
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16	PROVIDE DOUBLE WALL STEEL DUCT FOR ALL EXPOSED WARM AIR SUPPLY DUCT.
17	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. REAGER
CHECKED BY:	
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
FILE NAME:	EANG_512203_M_3BAYH_RVT22.rvt
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO.:	512203

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

MECHANICAL FLOOR PLAN - HIGH - AREA F

SHEET ID

M-109

File Path: C:\Users\rbocara\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MECR04R.rvt

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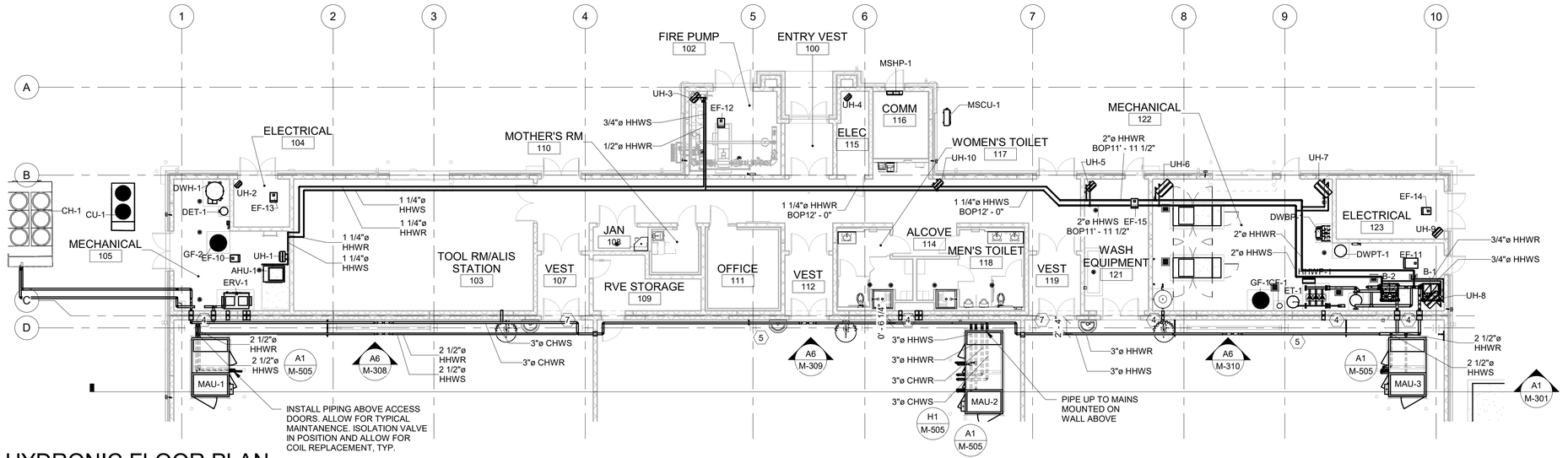
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
2. COORDINATE ALL FABRICATED SUPPORTS WITH BUILDING STRUCTURE. PROVIDE SHOP DRAWINGS FOR APPROVAL.
3. PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT. COORDINATE DUCT CONNECTION SIZES WITH INSTALLED EQUIPMENT.
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7. PROVIDE MANUAL BALANCE DAMPER AT ALL BRANCH DUCTS.
8. REFER TO SHEET M-816 FOR APPROXIMATE SPACE SENSOR LOCATIONS
9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT

KEYNOTES

1	BELOW GROUND CHWS/CHWR
2	FLEXIBLE EXPANSION JOINT AT EXPANSION JOINT CROSSING
3	VARIABLE PRIMARY FLOW, BOILERS PARALLEL
4	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
5	COORDINATE PIPE ROUTE WITH COLUMN AND WALL. INTENT IS TO INSTALL AS TIGHT AS POSSIBLE TO WALL.



C1 HYDRONIC FLOOR PLAN

3/32" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

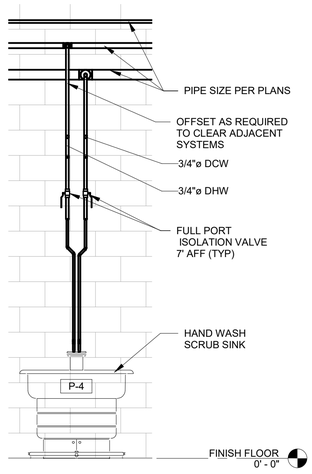
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

OVERALL HYDRONIC PIPING FLOOR PLAN

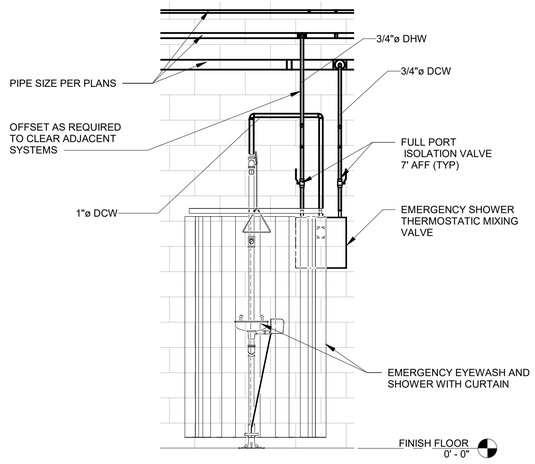
SHEET ID
M-110

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



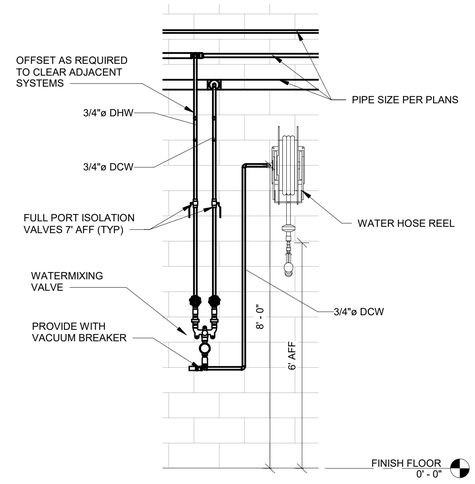
H1 ENLARGED SCRUB SINK ELEVATION

1/2" = 1'-0"



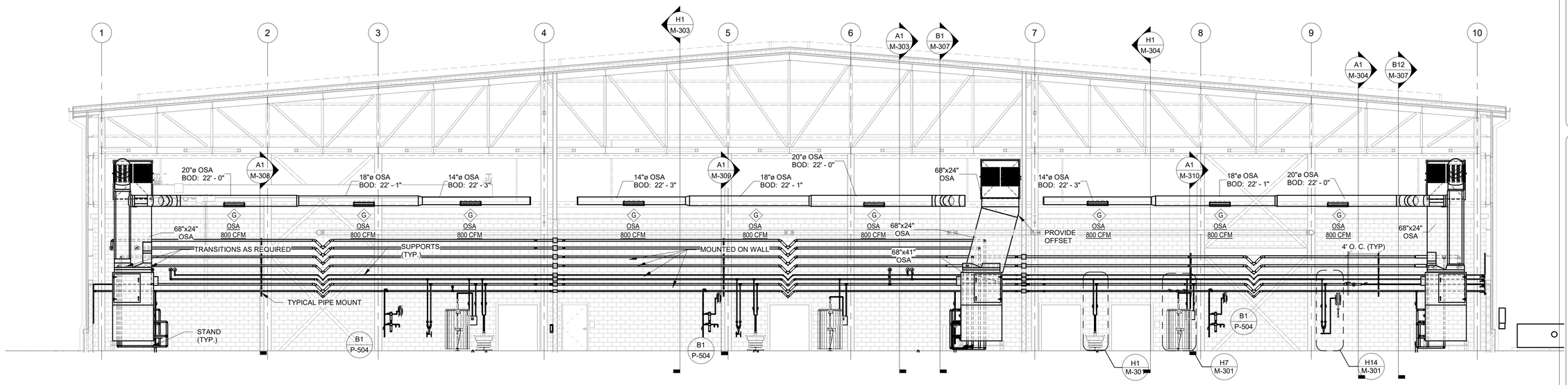
H7 ENLARGED EYEWASH AND SHOWER ELEVATION

1/2" = 1'-0"



H14 ENLARGED WATER HOSE REEL ELEVATION

1/2" = 1'-0"



A1 MECHANICAL SECTION - HANGAR BAYS NORTH WALL

1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. READER
CHECKED BY:	Checker
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:17:36 AM File Path: C:\Users\rbcolar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECSKMR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

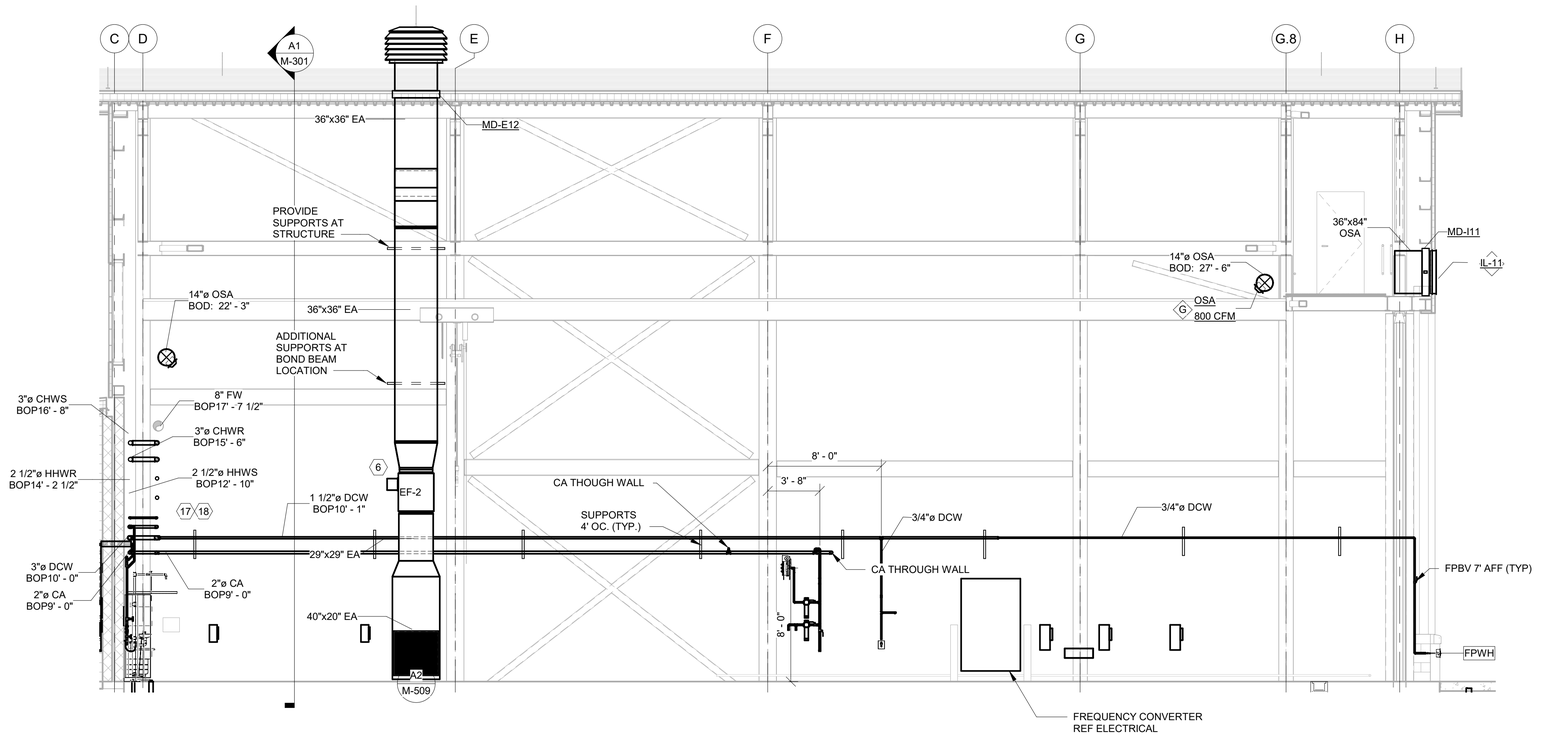
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL SECTIONS

SHEET ID

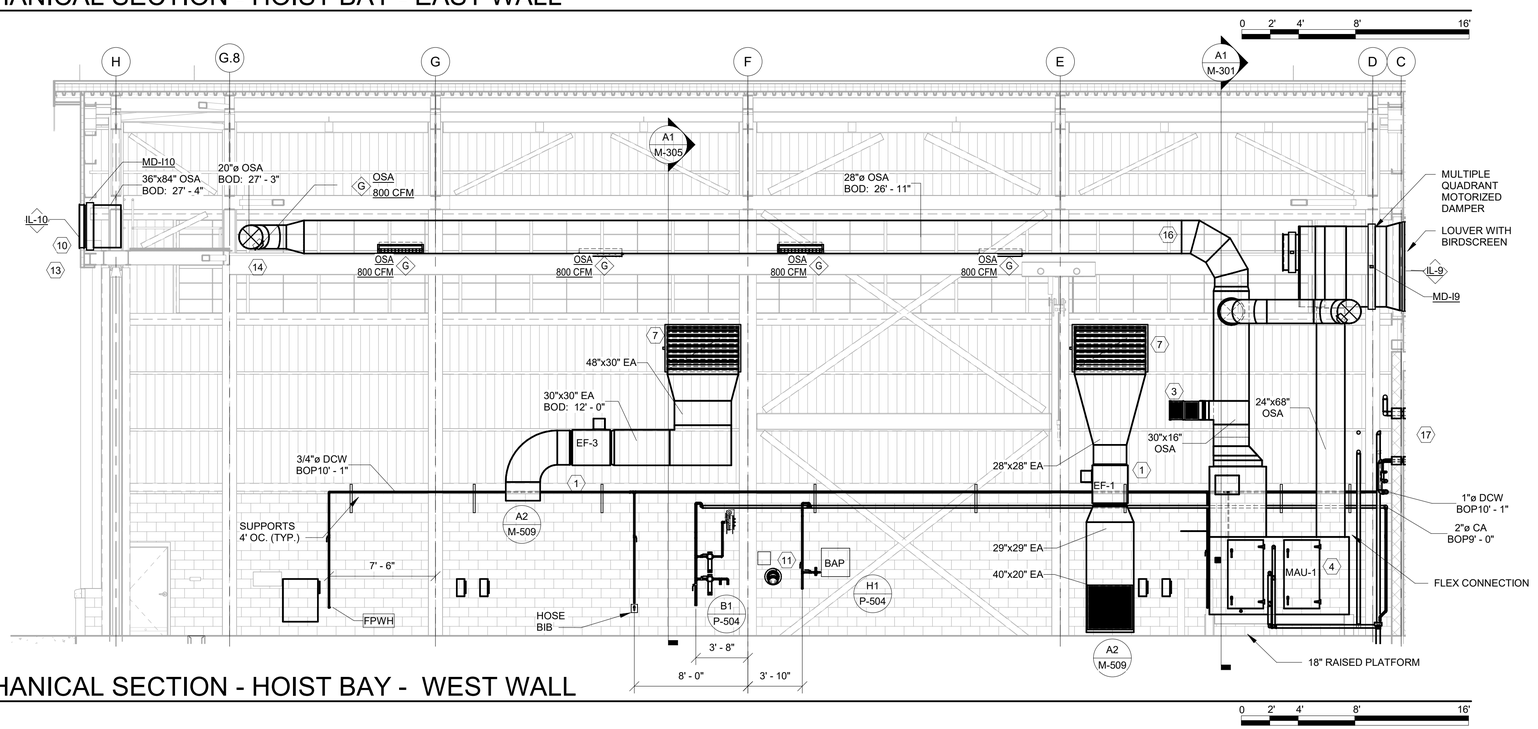
M-301

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



G1 MECHANICAL SECTION - HOIST BAY - EAST WALL

3/16" = 1'-0"



A1 MECHANICAL SECTION - HOIST BAY - WEST WALL

3/16" = 1'-0"

GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
2. COORDINATE ALL FABRICATED SUPPORTS WITH BUILDING STRUCTURE. PROVIDE SHOP DRAWINGS FOR APPROVAL.
3. PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT. COORDINATE DUCT CONNECTION SIZES WITH INSTALLED EQUIPMENT.
4. COORDINATE FLASHINGS AT ALL BUILDING PENETRATIONS WITH ARCHITECTURAL.
5. BOTTOM OF BUILDING OPENINGS MUST BE INSTALLED MINIMUM 10'-0" ABOVE GRADE
6. COORDINATE ALL CMU PENETRATIONS WITH STRUCTURAL DETAILS.
7. PROVIDE MANUAL BALANCE DAMPER AT ALL BRANCH DUCTS.
8. REFER TO SHEET M-816 FOR APPROXIMATE SPACE SENSOR LOCATIONS
9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT

KEYNOTES

1	INLINE SPARK PROOF EXHAUST FAN 12' AFF, DUCT TO WALL LOUVER
2	OSA INTAKE WITH MULTI ZONE LOW LEAKAGE DAMPER. COORDINATE LOUVER WITH STRUCTURAL FRAMING AND TRANSLUCENT PANEL
3	3 WAY OSA DISTRIBUTION 16'AFF
4	HEATING ONLY MAKEUP AIR UNIT, MOUNT ON PLATFORM 18"AFF, PROVIDE WITH INTERNAL VIBRATION ISOLATION FOR RIGID MOUNT REF STRUCTURAL D6-S401
5	HEATING/COOLING MAKEUP AIR UNIT, MOUNT ON PLATFORM 18"AFF, PROVIDE WITH INTERNAL VIBRATION ISOLATION FOR RIGID MOUNT REF STRUCTURAL D6-S401
6	VERTICAL INLINE EXHAUST FAN 12' AFF DUCTED TO ROOF PENTHOUSE
7	PROVIDE LOW LEAKAGE ATFP DAMPERS ON ALL LOUVERS INTERLOCKED WITH HVAC SHUTDOWN
8	COORDINATE DUCT SIZE AT EQUIPMENT CONNECTIONS WITH INSTALLED EQUIPMENT
9	HIGH VOLUME LOW SPEED FAN, SUPPORT FROM STRUCTURE COORDINATE WITH LIGHTING AND CRANE
10	SUMMER VENTILATION INTAKE, PROVIDE LOW LEAKAGE MOTORIZED DAMPER AND INTERLOCK TO CLOSE DAMPER
11	PRE CONDITIONED AIR DUCT, REF DETAIL A14/M-504 . PROVIDE EXTERNAL POWER CONNECTION WITH INTERCONNECT TO INDOOR CONNECTION. REF ELECRICAL PROVIDE INDOOR CONTROL PANEL ON WALL.
12	INLINE SPARK PROOF EXHAUST FAN 12' AFF DUCTED TO ROOF PENTHOUSE, PROVIDED FOR PURGE VENTILATION AND UNOCCUPIED MODE CONTINUOUS VENTILATION.
13	COORDINATE DUCT, LOUVER, AND DAMPER ASSEMBLY WITH STRUCTURAL FRAMING. CONSTRUCT SLOPED PLENUM WITH WELDED WATER TIGHT SEAMS.
14	OSA DISTRIBUTION DUCT, COORDINATE WITH STRUCTURE, OVERHEAD DOOR, AND CRANE
15	PROVIDE DOUBLE WALL STEEL DUCT FOR ALL EXPOSED DUAL TEMP SUPPLY DUCT.
16	PROVIDE SINGLE WALL STEEL DUCT FOR ALL EXPOSED WARM AIR SUPPLY DUCT.
17	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
18	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. READER
CHECKED BY:	
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
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File Path: C:\Users\rbocar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECSHAR.rvt

Plot Date: 10/20/2025 11:17:43 AM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

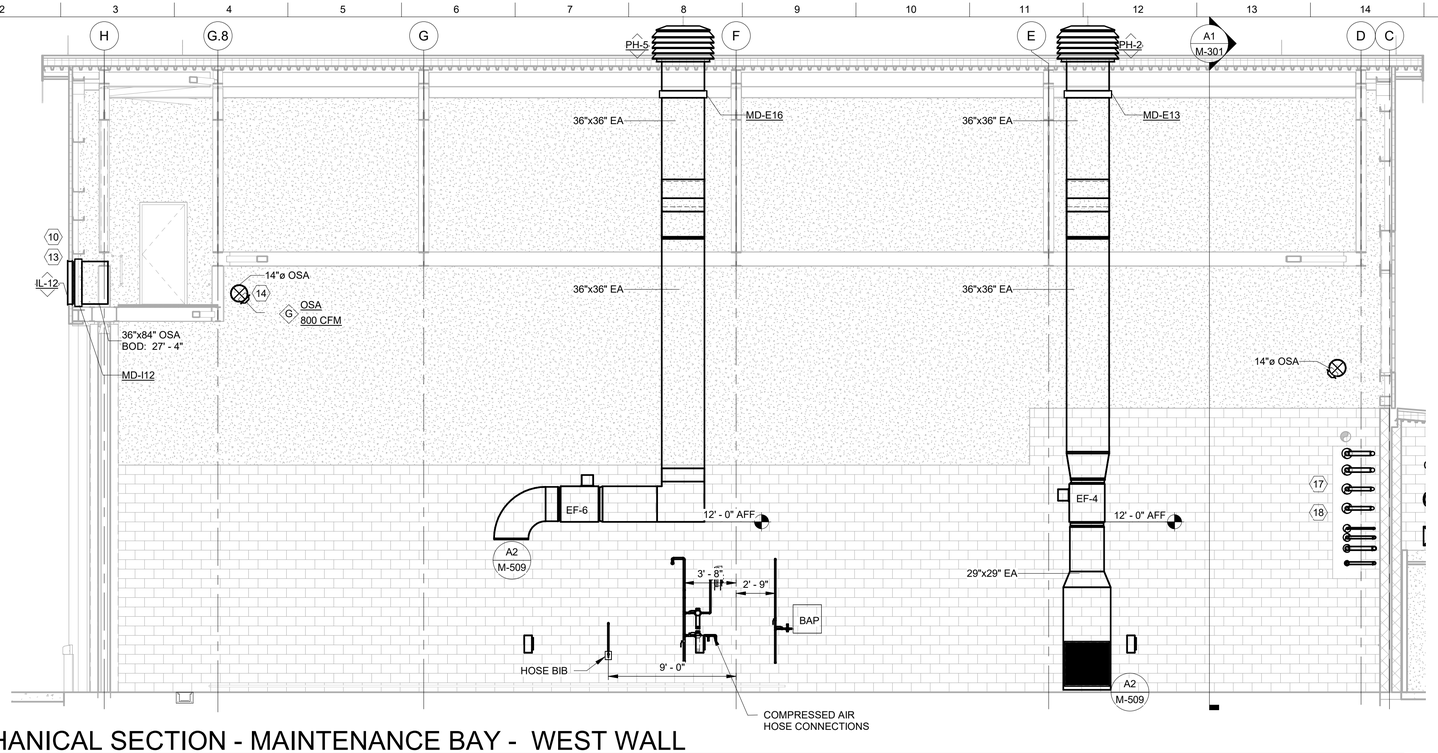
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL SECTIONS

SHEET ID

M-302

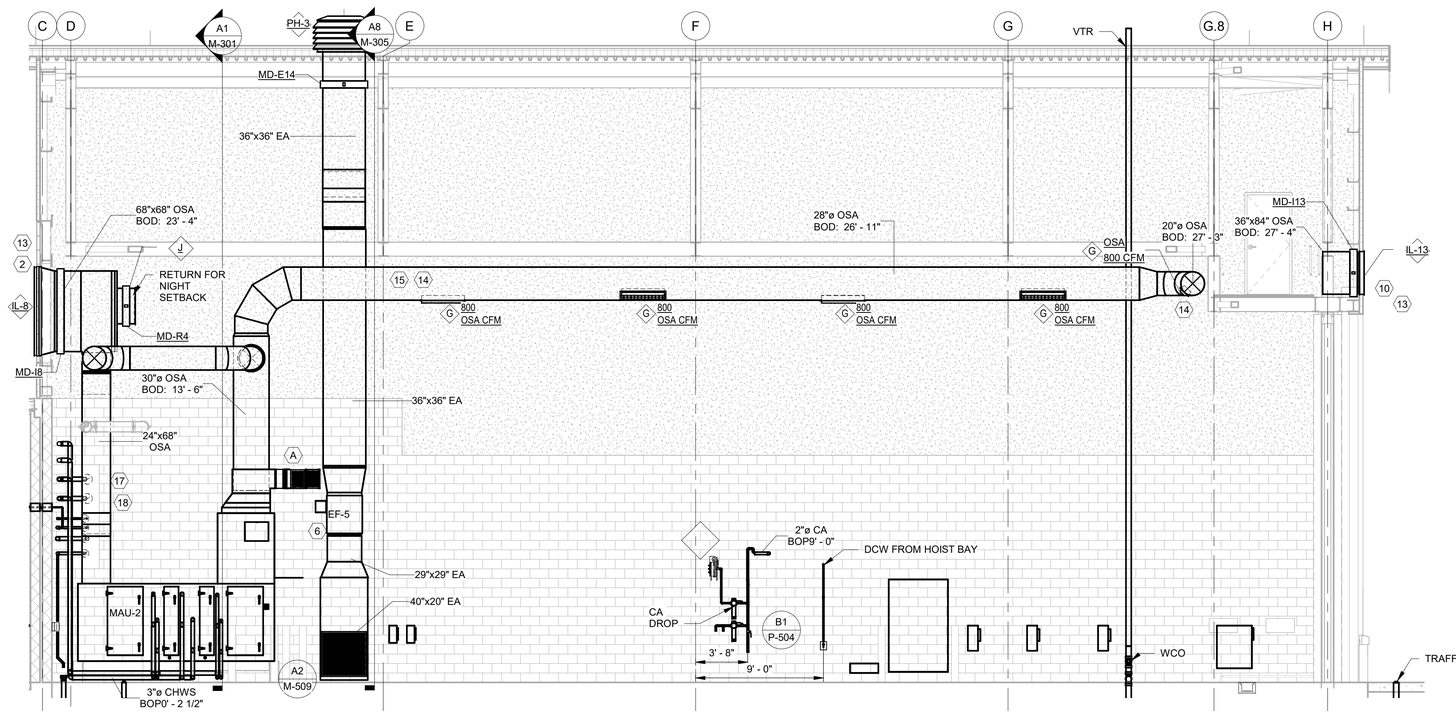
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



H1 MECHANICAL SECTION - MAINTENANCE BAY - WEST WALL

3/16" = 1'-0"

0 2' 4' 8' 16'



A1 MECHANICAL SECTION - MAINTENANCE BAY - EAST WALL

3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
2. COORDINATE ALL FABRICATED SUPPORTS WITH BUILDING STRUCTURE. PROVIDE SHOP DRAWINGS FOR APPROVAL.
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KEYNOTES

1	INLINE SPARK PROOF EXHAUST FAN 12' AFF, DUCT TO WALL LOUVER
2	OSA INTAKE WITH MULTI ZONE LOW LEAKAGE DAMPER. COORDINATE LOUVER WITH STRUCTURAL FRAMING AND TRANSLUCENT PANEL
3	3 WAY OSA DISTRIBUTION 16'AFF
4	HEATING ONLY MAKEUP AIR UNIT, MOUNT ON PLATFORM 18"AFF, PROVIDE WITH INTERNAL VIBRATION ISOLATION FOR RIGID MOUNT REF STRUCTURAL D6-S401
5	HEATING/COOLING MAKEUP AIR UNIT, MOUNT ON PLATFORM 18"AFF, PROVIDE WITH INTERNAL VIBRATION ISOLATION FOR RIGID MOUNT REF STRUCTURAL D6-S401
6	VERTICAL INLINE EXHAUST FAN 12' AFF DUCTED TO ROOF PENTHOUSE
7	PROVIDE LOW LEAKAGE ATFP DAMPERS ON ALL LOUVERS INTERLOCKED WITH HVAC SHUTDOWN
8	COORDINATE DUCT SIZE AT EQUIPMENT CONNECTIONS WITH INSTALLED EQUIPMENT
9	HIGH VOLUME LOW SPEED FAN, SUPPORT FROM STRUCTURE COORDINATE WITH LIGHTING AND CRANE
10	SUMMER VENTILATION INTAKE, PROVIDE LOW LEAKAGE MOTORIZED DAMPER AND INTERLOCK TO CLOSE DAMPER
11	PRE CONDITIONED AIR DUCT, REF DETAIL A14/M-504 . PROVIDE EXTERNAL POWER CONNECTION WITH INTERCONNECT TO INDOOR CONNECTION. REF ELECRICAL PROVIDE INDOOR CONTROL PANEL ON WALL.
12	INLINE SPARK PROOF EXHAUST FAN 12' AFF DUCTED TO ROOF PENTHOUSE, PROVIDED FOR PURGE VENTILATION AND UNOCCUPIED MODE CONTINUOUS VENTILATION.
13	COORDINATE DUCT, LOUVER, AND DAMPER ASSEMBLY WITH STRUCTURAL FRAMING. CONSTRUCT SLOPED PLENUM WITH WELDED WATER TIGHT SEAMS.
14	OSA DISTRIBUTION DUCT, COORDINATE WITH STRUCTURE, OVERHEAD DOOR, AND CRANE
15	PROVIDE DOUBLE WALL STEEL DUCT FOR ALL EXPOSED DUAL TEMP SUPPLY DUCT.
16	PROVIDE SINGLE WALL STEEL DUCT FOR ALL EXPOSED WARM AIR SUPPLY DUCT.
17	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
18	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\rbocanar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECBKAR.rvt

Plot Date: 10/20/2025 11:17:50 AM

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. RENDER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

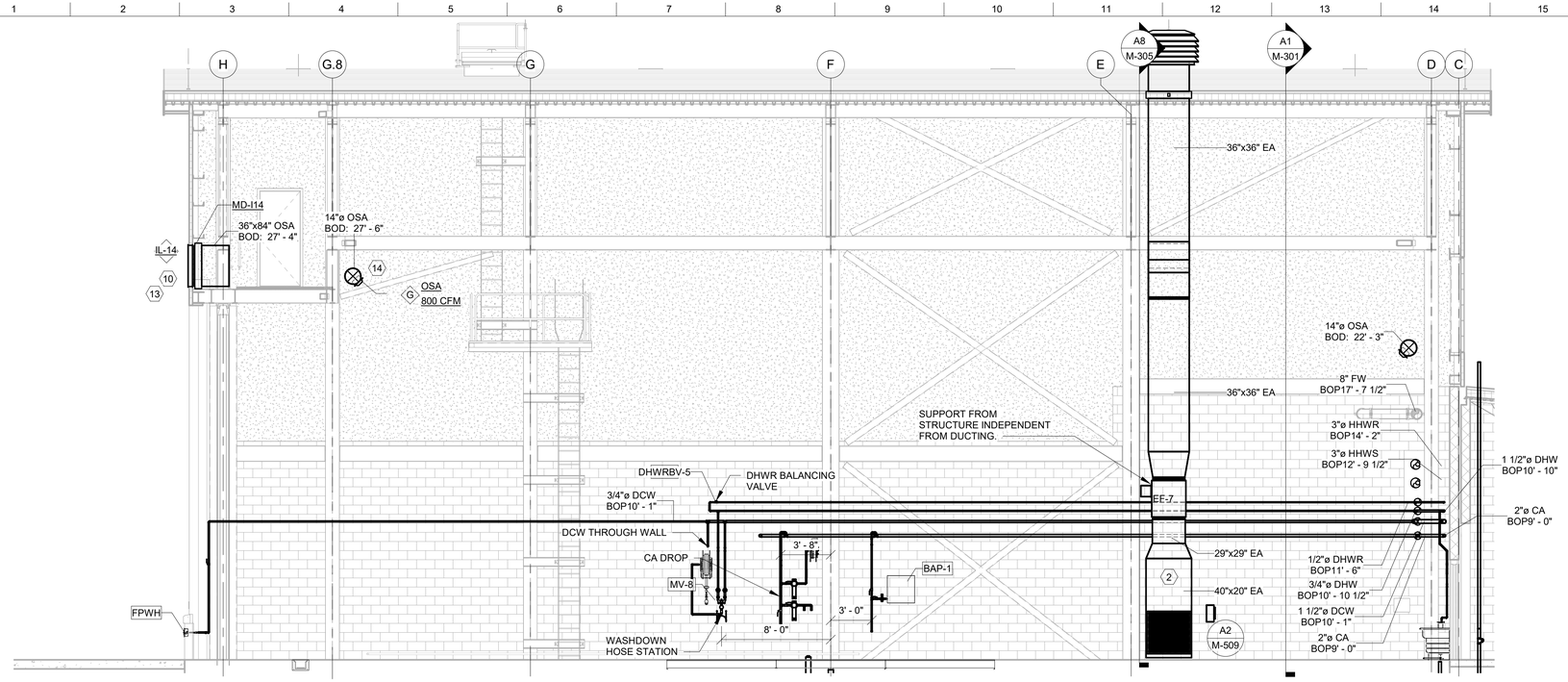
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL SECTIONS

SHEET ID

M-303

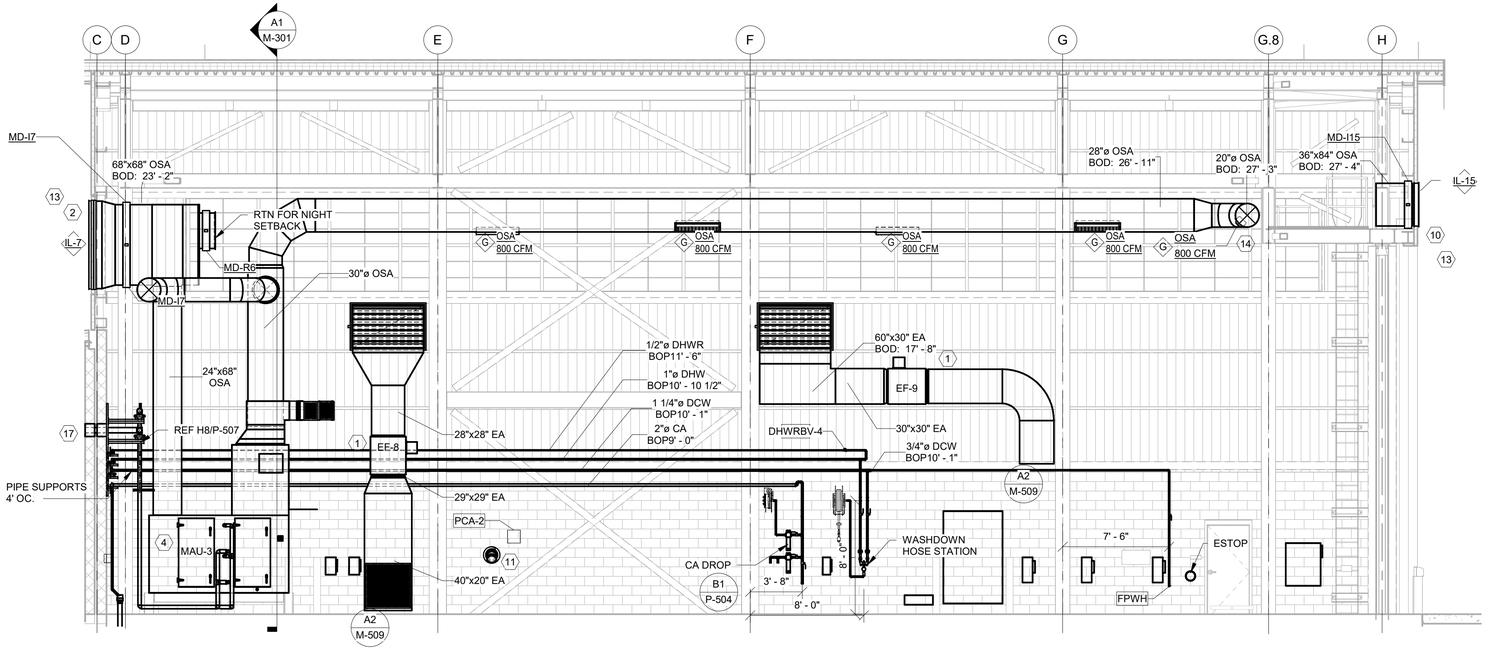
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H1 MECHANICAL SECTION - WASH BAY - WEST WALL

3/16" = 1'-0"

0 2' 4' 8' 16'



A1 MECHANICAL SECTION - WASH BAY - EAST WALL

3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
2. COORDINATE ALL FABRICATED SUPPORTS WITH BUILDING STRUCTURE. PROVIDE SHOP DRAWINGS FOR APPROVAL.
3. PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT. COORDINATE DUCT CONNECTION SIZES WITH INSTALLED EQUIPMENT.
4. COORDINATE FLASHINGS AT ALL BUILDING PENETRATIONS WITH ARCHITECTURAL.
5. BOTTOM OF BUILDING OPENINGS MUST BE INSTALLED MINIMUM 10'-0" ABOVE GRADE
6. COORDINATE ALL CMU PENETRATIONS WITH STRUCTURAL DETAILS.
7. PROVIDE MANUAL BALANCE DAMPER AT ALL BRANCH DUCTS.
8. REFER TO SHEET M-816 FOR APPROXIMATE SPACE SENSOR LOCATIONS
9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT

KEYNOTES

1	INLINE SPARK PROOF EXHAUST FAN 12' AFF, DUCT TO WALL LOUVER
2	OSA INTAKE WITH MULTI ZONE LOW LEAKAGE DAMPER. COORDINATE LOUVER WITH STRUCTURAL FRAMING AND TRANSLUCENT PANEL
3	3 WAY OSA DISTRIBUTION 16'AFF
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18	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. RENDER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL SECTIONS

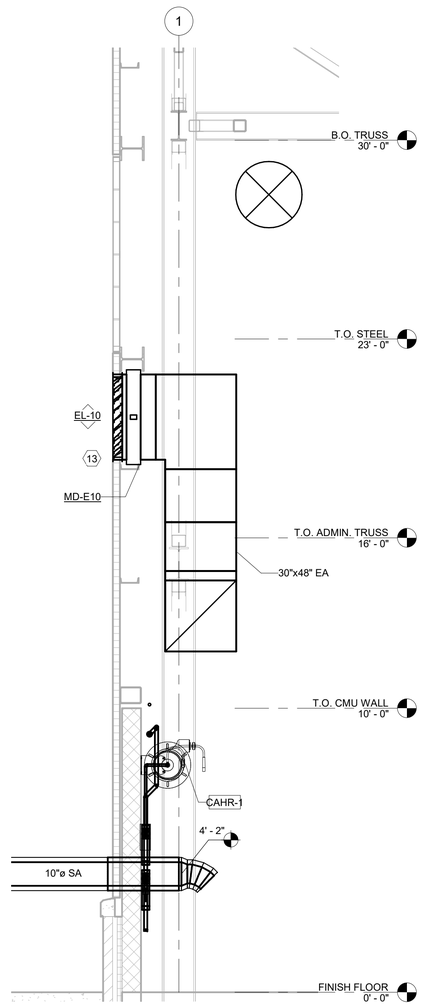
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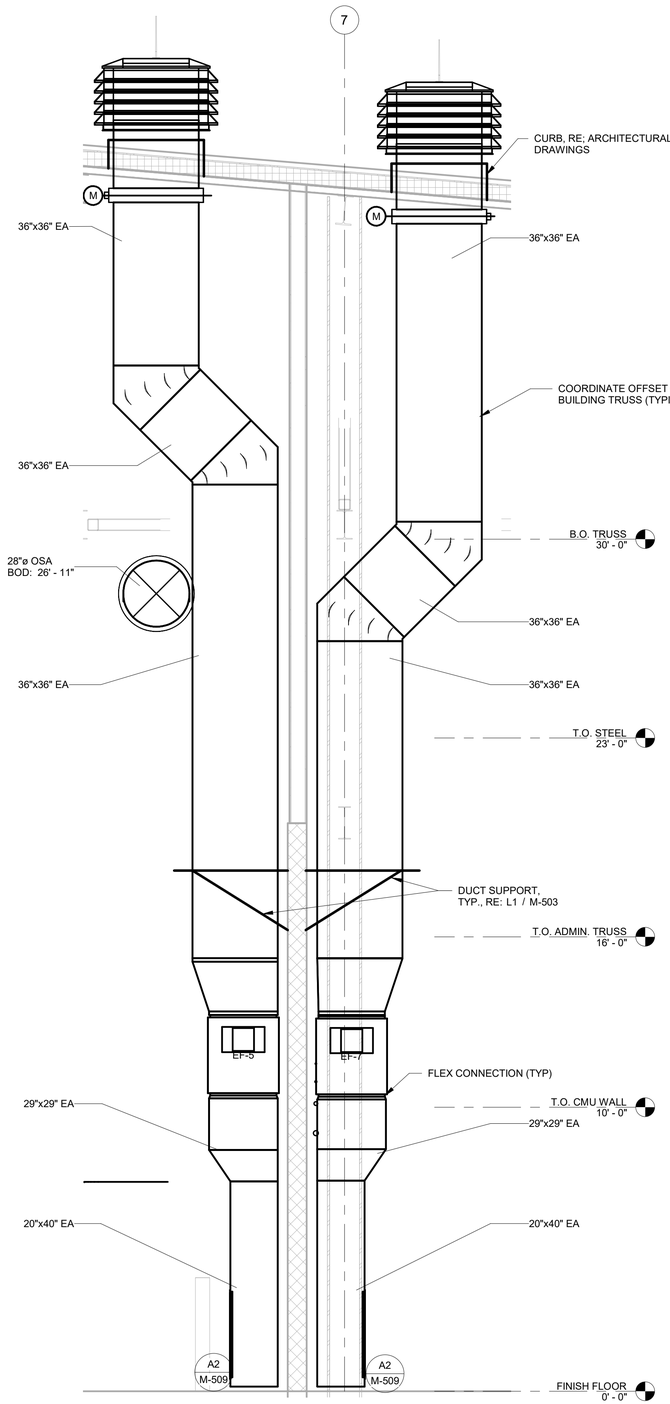
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GENERAL NOTES

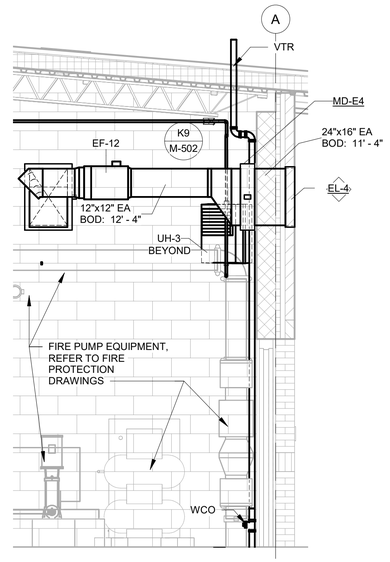
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9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT



A1 SECTION EXHAUST AIR DUCT AT EXTERIOR WALL
3/8" = 1'-0"
0 1' 2' 4' 8'



A8 SECTION EXHAUST AIR DUCT AT INTERIOR WALL
3/8" = 1'-0"
0 1' 2' 4' 8'



A15 SECTION AT FIRE PUMP ROOM
3/8" = 1'-0"
0 1' 2' 4' 8'

KEYNOTES

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US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

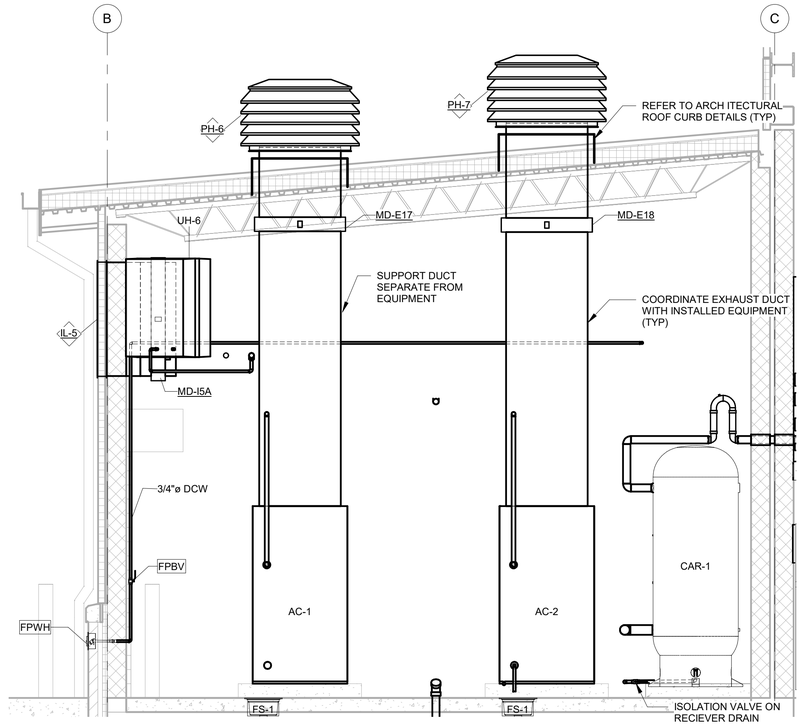
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL SECTIONS

SHEET ID
M-305

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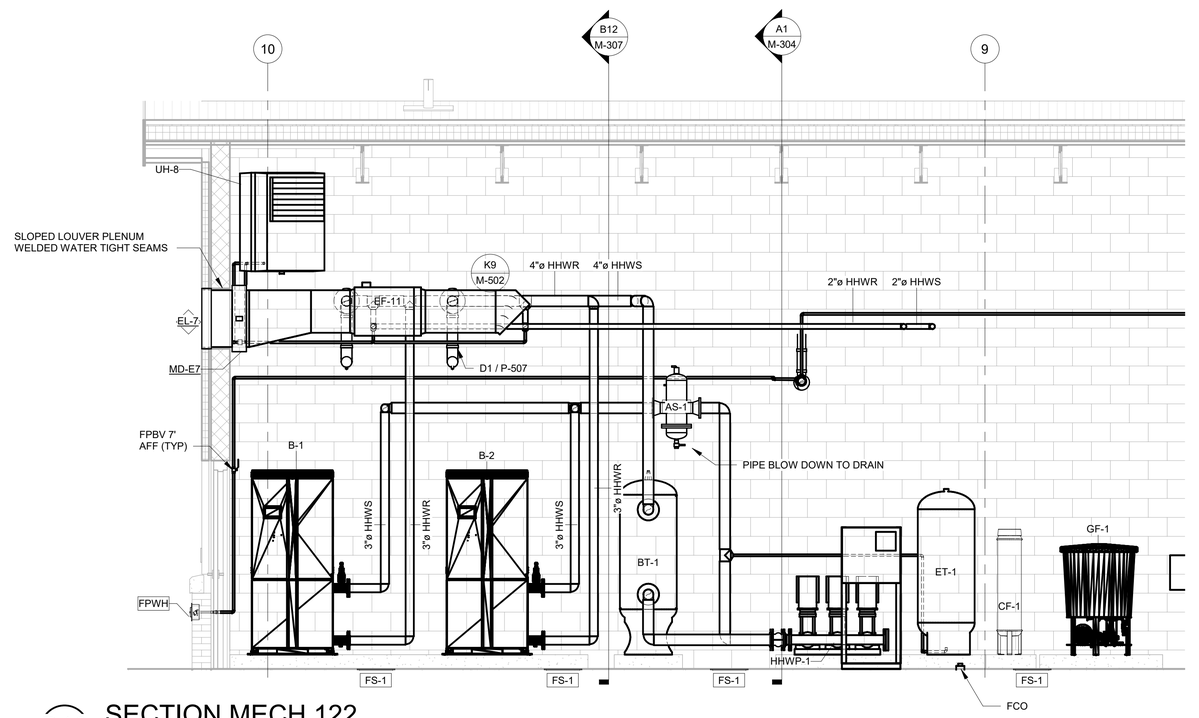
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B1 SECTION AT AIR COMPRESSORS

3/8" = 1'-0"

0 1' 2' 4' 8'



B10 SECTION MECH 122

3/8" = 1'-0"

0 1' 2' 4' 8'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: CHECKER
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35, 3 BAY HANGAR
PN: 512203

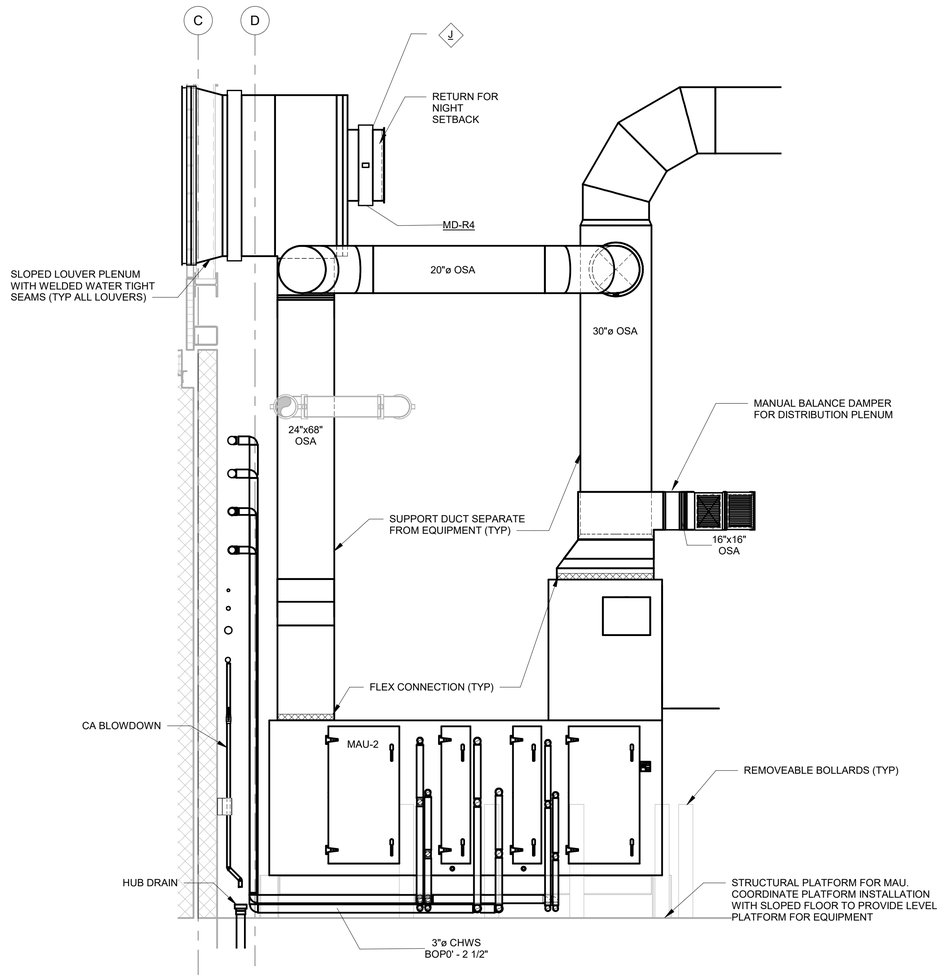
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SHEET ID

M-306

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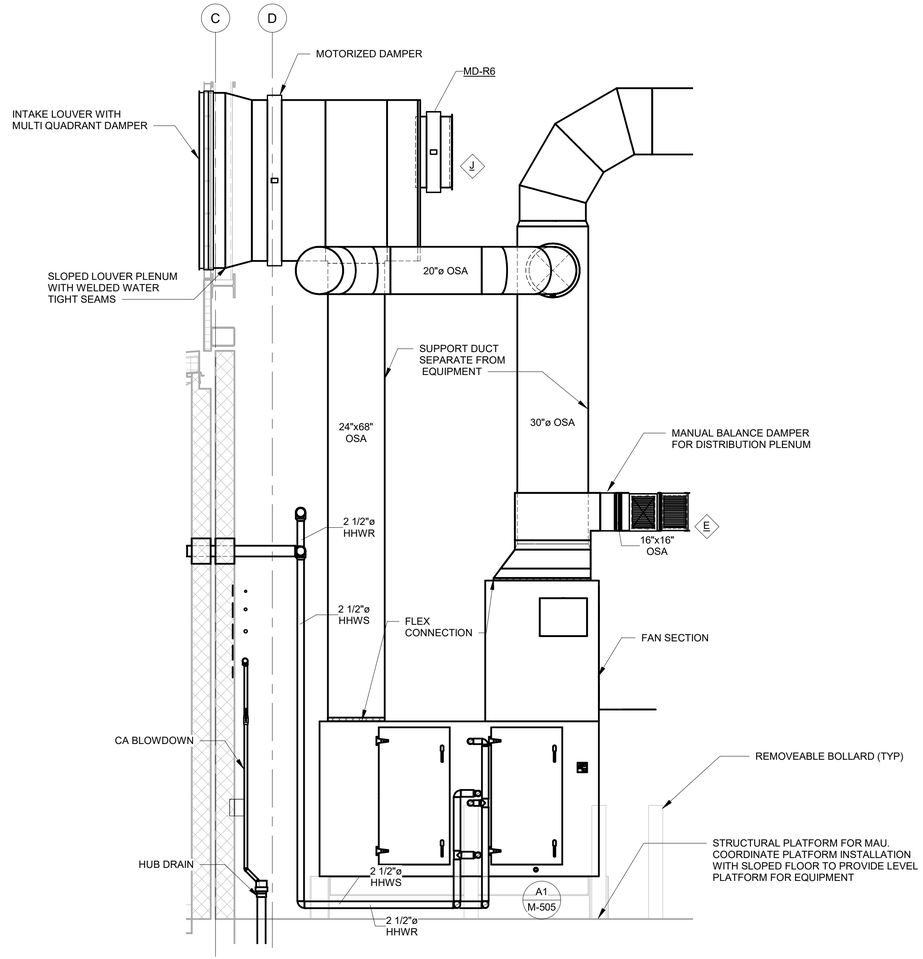
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B1 MAU-2 ENLARGED

3/8" = 1'-0"

0 1' 2' 4' 8'



B12 MAU-1,3 ENLARGED

3/8" = 1'-0"

0 1' 2' 4' 8'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
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SOLICITATION NO.: W912BV26RA004
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

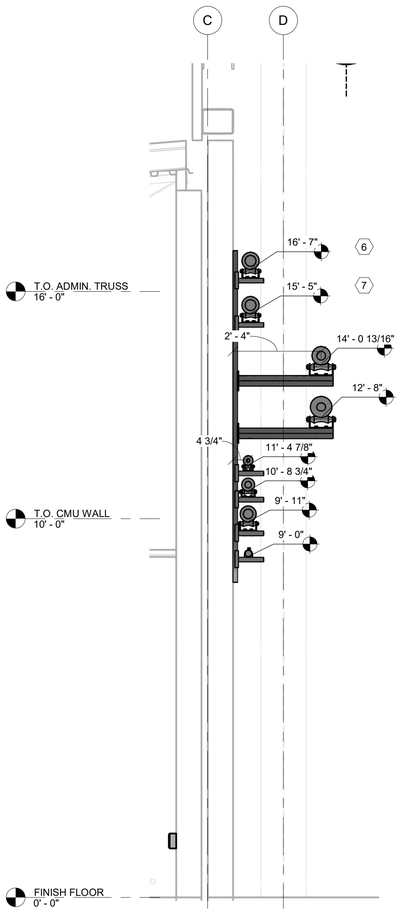
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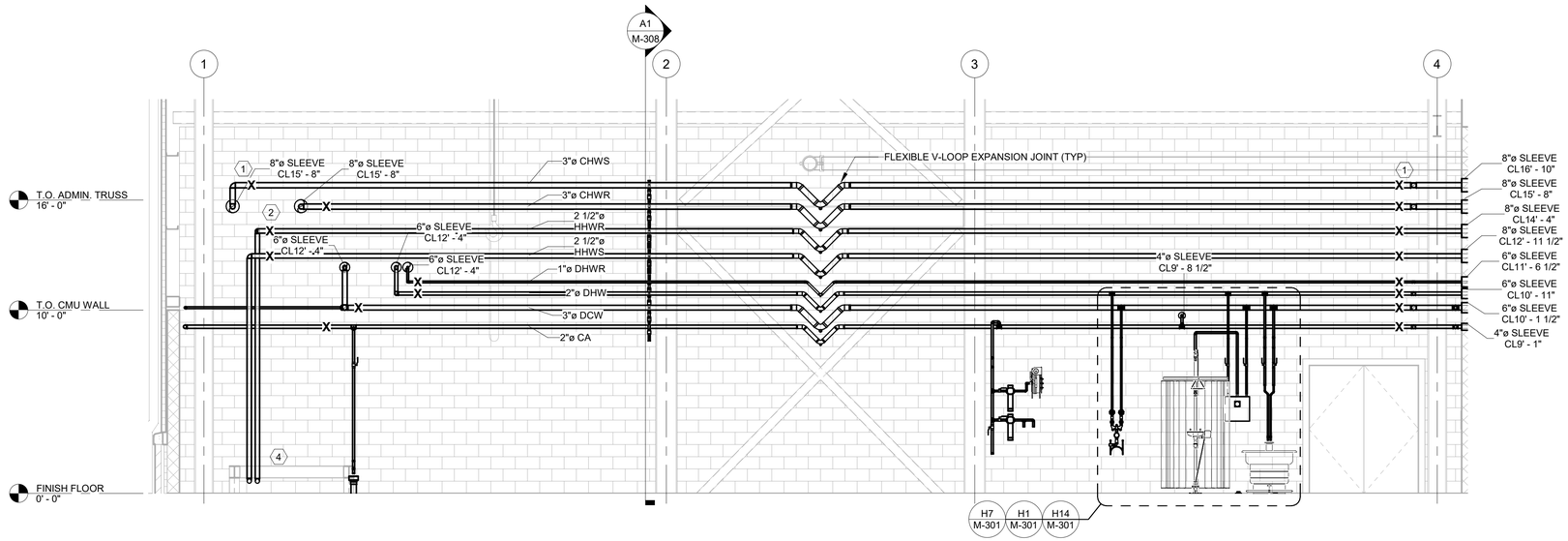
M-307

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

PIPE SUPPORT SPACING		
MATERIAL	SIZE	SUPPORT SPACING
COPPER	1/2" - 1"	4' OC
COPPER	1-1/2" - 3"	8' OC
STEEL	2-1/2" - 4"	8' OC



A1 TYPICAL WALL PIPE SUPPORT
1/2" = 1'-0"
0 1' 2' 4'



A6 MECHANICAL ELEVATION - HANGAR BAYS NORTH WALL
1/4" = 1'-0"
0 2' 4' 8'

GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
2. COORDINATE ALL FABRICATED SUPPORTS WITH BUILDING STRUCTURE. PROVIDE SHOP DRAWINGS FOR APPROVAL.
3. PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT. COORDINATE DUCT CONNECTION SIZES WITH INSTALLED EQUIPMENT.
4. COORDINATE FLASHINGS AT ALL BUILDING PENETRATIONS WITH ARCHITECTURAL.
5. BOTTOM OF BUILDING OPENINGS MUST BE INSTALLED MINIMUM 10'-0" ABOVE GRADE
6. COORDINATE ALL CMU PENETRATIONS WITH STRUCTURAL DETAILS.
7. PROVIDE MANUAL BALANCE DAMPER AT ALL BRANCH DUCTS.
8. REFER TO SHEET M-816 FOR APPROXIMATE SPACE SENSOR LOCATIONS
9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT

KEYNOTES

1	X INTICATES PIPE ANCHOR LOCATION
2	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
3	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
4	DOWN TO HEATING ONLY MAKEUP AIR UNIT
5	DOWN TO HEATING/COOLING MAKEUP AIR UNIT
6	PIPE ROLLER SUPPORT. SPACING SUBJECT TO LIMITATION TABLE. ALL SERVICES WILL NOT REST ON EVERY SUPPORT.
7	ENGINEERED STRUT SYSTEM PIPE SUPPORT SUPOPRT CONFIGURATION WILL VARY DEPENDING ON LOCATION OF PIPE ROUTE. INTENT IS TO ROUTE PIPE AS TIGHT TO WALL AS POSSIBLE. REF STRUCTURAL FOR LIMITATIONS. SUPPORTS 4' OC

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

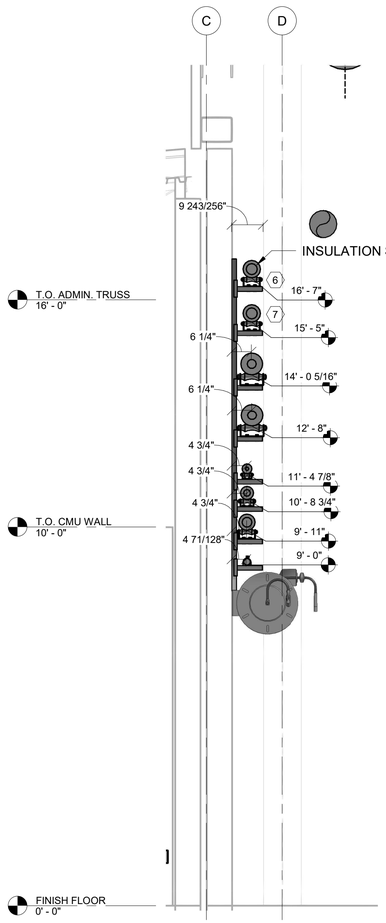
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MECHANICAL SECTIONS

SHEET ID
M-308

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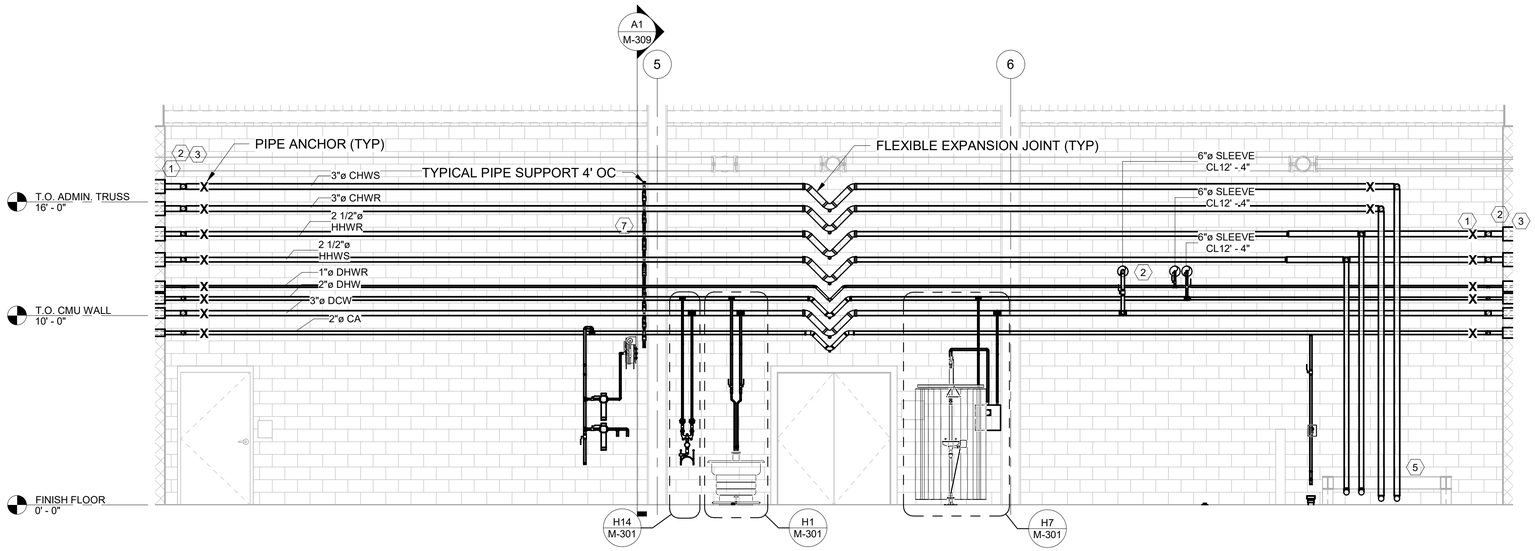
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A1 PIPE SUPPORT GRID 5

1/2" = 1'-0"

0 1' 2' 4'



A6 MECHANICAL ELEVATION - HANGAR BAYS NORTH WALL

1/4" = 1'-0"

0 2' 4' 8'

GENERAL NOTES

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

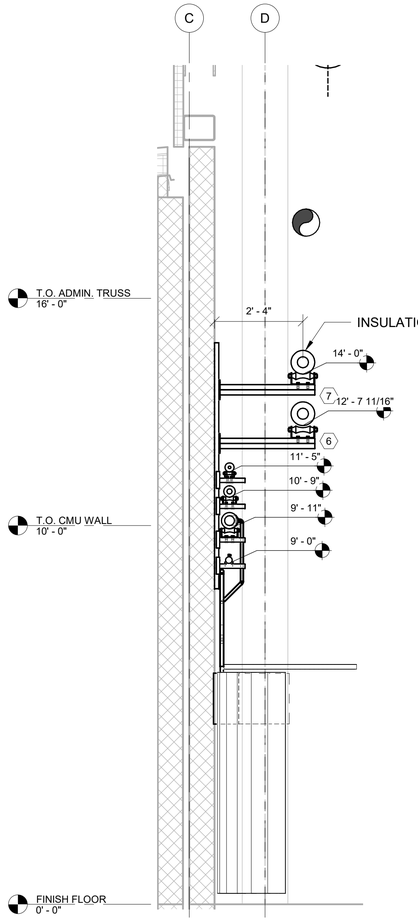
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL SECTIONS

SHEET ID
M-309

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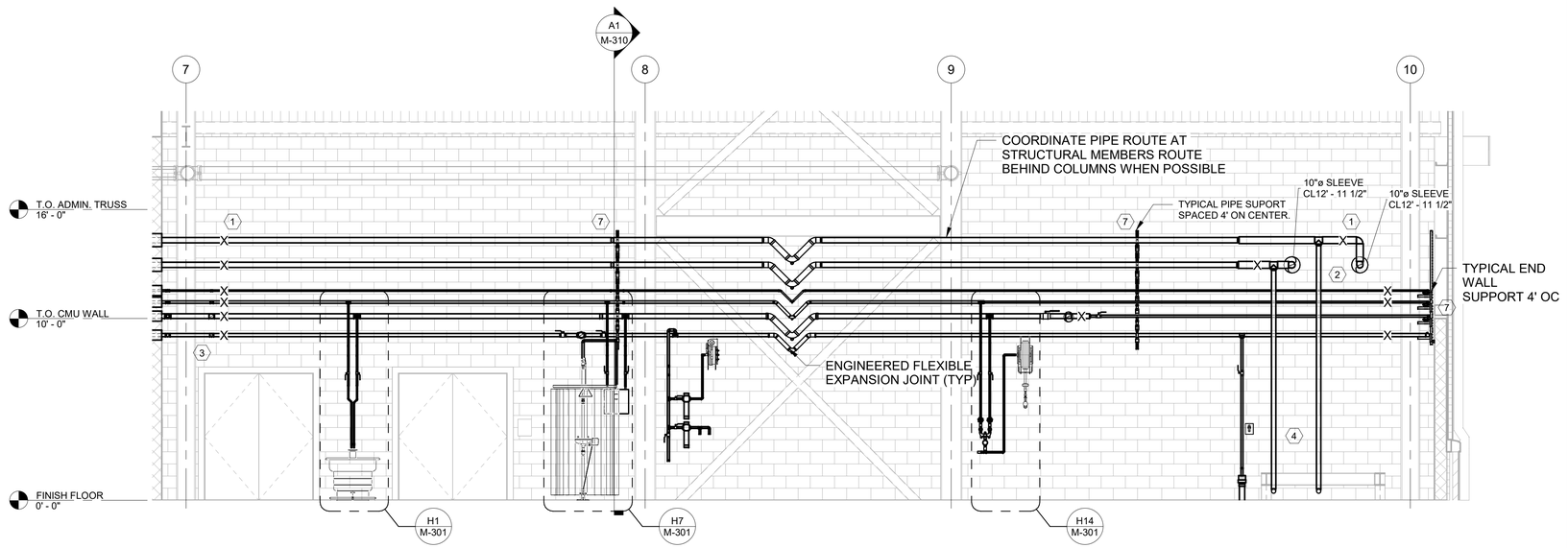
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A1 PIPE SUPPORT GRID 8

1/2" = 1'-0"

0 1' 2' 4'



A6 MECHANICAL PIPE SUPPORT COORDINATION - WASH BAY

1/4" = 1'-0"

0 2' 4' 8'

GENERAL NOTES

1. SUPPORT ALL DUCT/PIPE FROM STRUCTURE, PROVIDE SWAY BRACING.
2. COORDINATE ALL FABRICATED SUPPORTS WITH BUILDING STRUCTURE. PROVIDE SHOP DRAWINGS FOR APPROVAL.
3. PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT. COORDINATE DUCT CONNECTION SIZES WITH INSTALLED EQUIPMENT.
4. COORDINATE FLASHINGS AT ALL BUILDING PENETRATIONS WITH ARCHITECTURAL.
5. BOTTOM OF BUILDING OPENINGS MUST BE INSTALLED MINIMUM 10'-0" ABOVE GRADE
6. COORDINATE ALL CMU PENETRATIONS WITH STRUCTURAL DETAILS.
7. PROVIDE MANUAL BALANCE DAMPER AT ALL BRANCH DUCTS.
8. REFER TO SHEET M-816 FOR APPROXIMATE SPACE SENSOR LOCATIONS
9. COORDINATE FINAL INSTALLATION PIPE SPACING AND ELEVATIONS ARE PROVIDED TO INDICATE DESIGN INTENT

KEYNOTES

1	X INTICATES PIPE ANCHOR LOCATION
2	METALIC WALL SLEEVES PLACED DURING WALL CONSTRUCTION COORDINATE WITH STRUCTURAL WALL / OPENING
3	OFFSET PIPE ROUTE AT DIVIDING WALL REFER TO STRUCTURAL CMU OPENING
4	DOWN TO HEATING ONLY MAKEUP AIR UNIT
5	DOWN TO HEATING/COOLING MAKEUP AIR UNIT
6	PIPE ROLLER SUPPORT. SPACING SUBJECT TO LIMITATION TABLE. ALL SERVICES WILL NOT REST ON EVERY SUPPORT.
7	ENGINEERED STRUT SYSTEM PIPE SUPPORT SUPOPRT CONFIGURATION WILL VARY DEPENDING ON LOCATION OF PIPE ROUTE. INTENT IS TO ROUTE PIPE AS TIGHT TO WALL AS POSSIBLE. REF STRUCTURAL FOR LIMITATIONS. SUPPORTS 4' OC

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

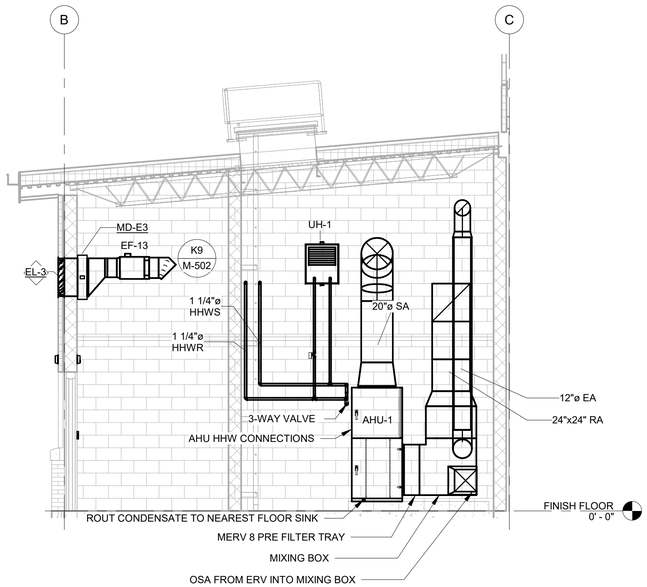
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
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MECHANICAL SECTIONS

SHEET ID
M-310

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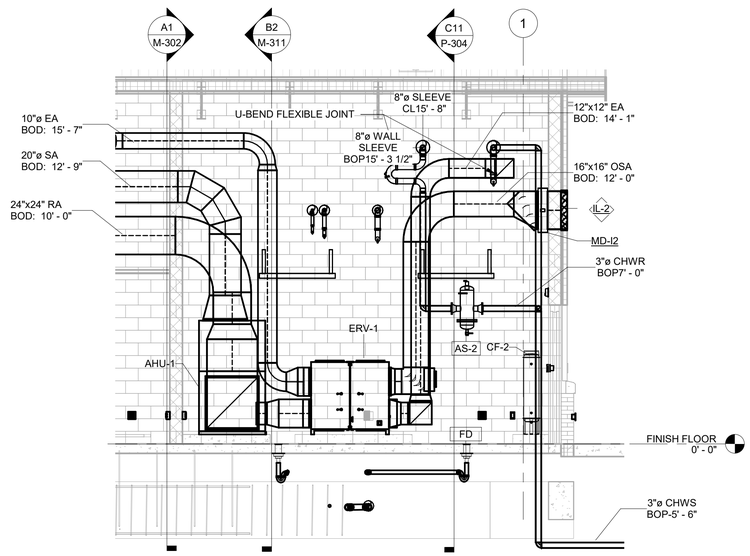
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B2 SECTION AT MECHANICAL ROOM 105

1/4" = 1'-0"

0 2' 4' 8'



B11 SECTION AT MECHANICAL ROOM 105

1/4" = 1'-0"

0 2' 4' 8'

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MARK	DESCRIPTION	DATE

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: C. CHAMBERLAIN
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

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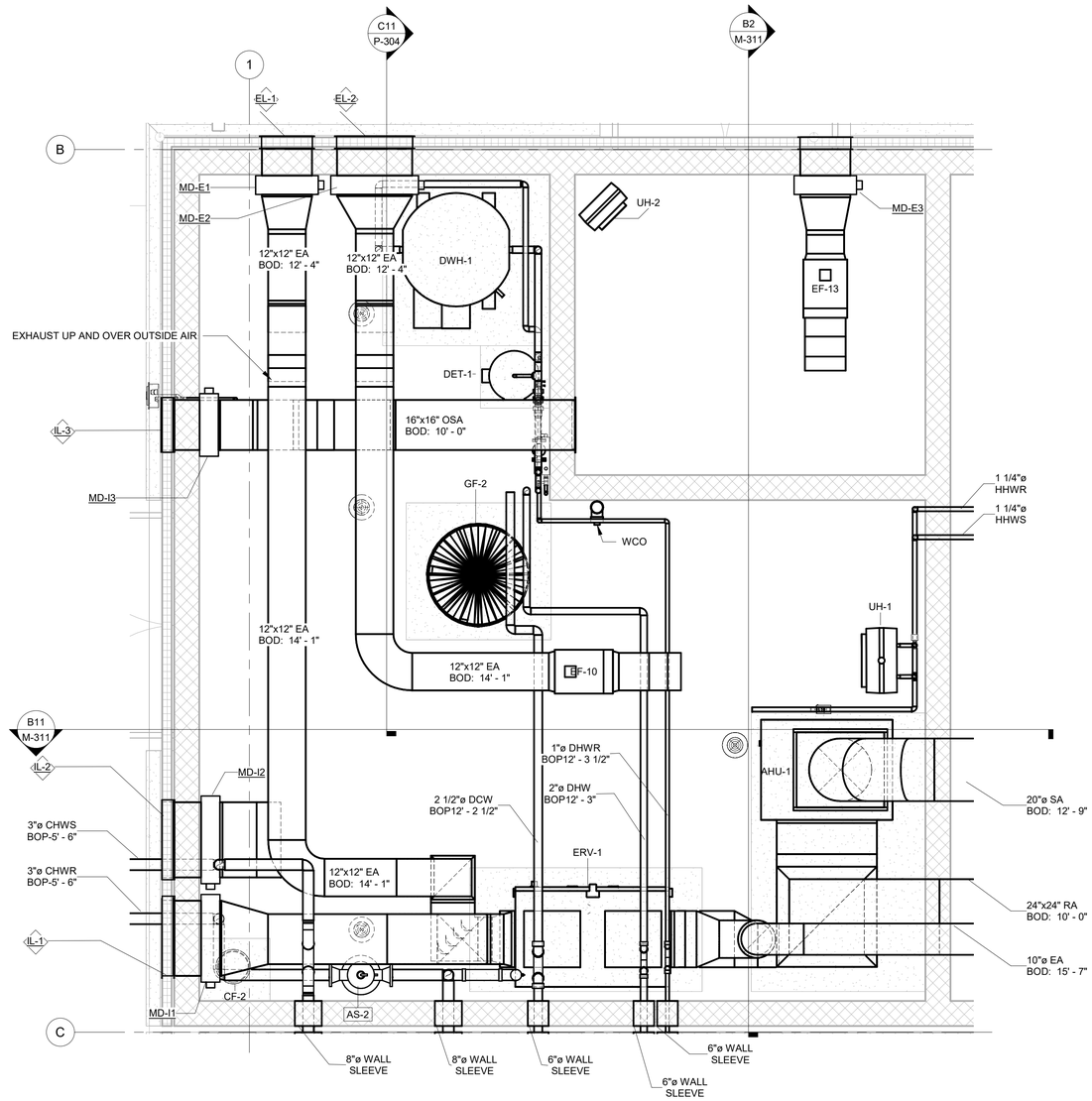
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F-35: 3 BAY HANGAR
PN: 512203

MECHANICAL SECTIONS

SHEET ID

M-311

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B2 ENLARGED MECHANICAL ROOM 105

1/2" = 1'-0"

0 1' 2' 4'

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DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

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TULSA DISTRICT
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

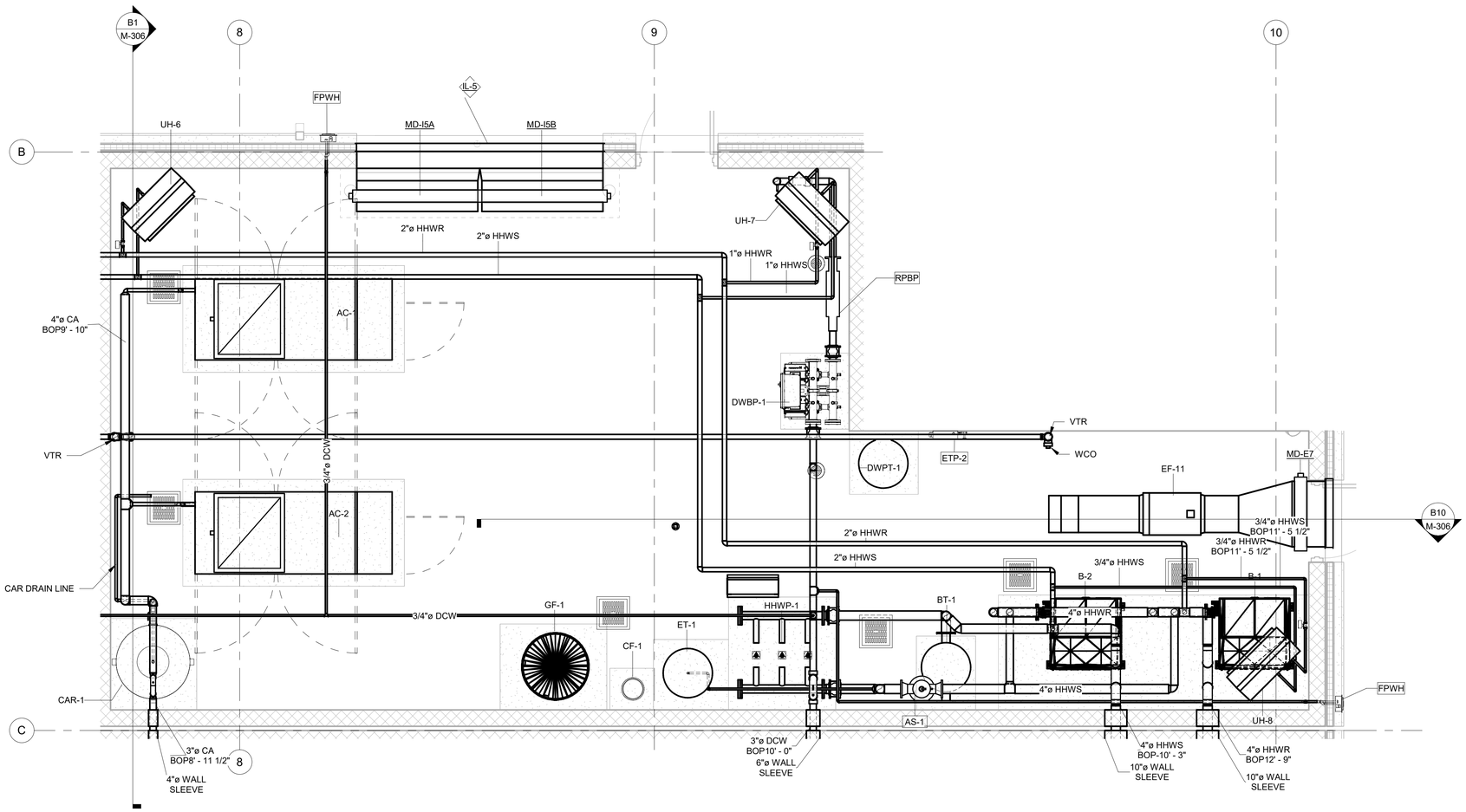
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F-35 3 BAY HANGAR
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ENLARGED MECHANICAL ROOM 105

SHEET ID

M-401

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B2 ENLARGED MECHANICAL ROOM 122

3/8" = 1'-0"

0 1' 2' 4' 8'

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MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

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TULSA DISTRICT
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TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

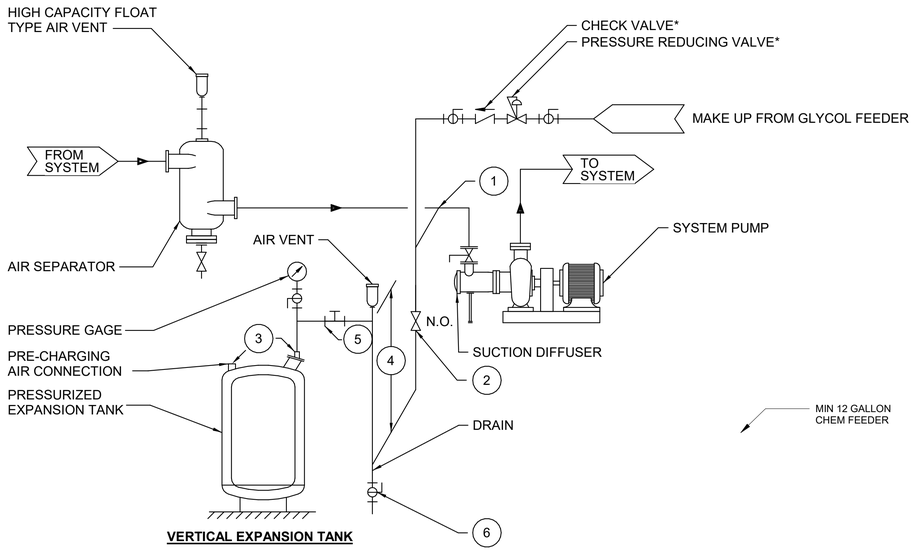
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F-35 3 BAY HANGAR
PN: 512203

ENLARGED MECHANICAL ROOM 122

SHEET ID

M-402

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VERTICAL EXPANSION TANK

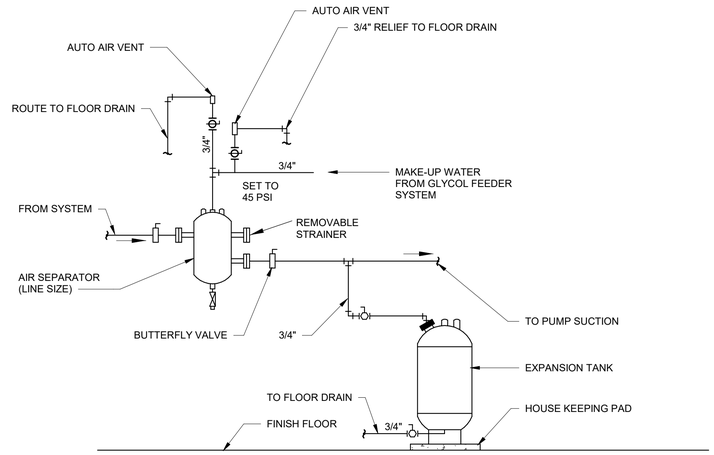
NOTES:

1. CONNECT TO SIDE OF MAIN. AVOID TOP OR BOTTOM CONNECTION TO PREVENT AIR OR DEBRIS FROM ENTERING PIPE TO TANK.
2. SHUT-OFF VALVE (LOCKED NORMALLY OPEN)
3. TANK CONNECTION LOCATIONS MAY VARY DEPENDING ON TANK SIZE AND MODEL.
4. PROVIDE 12" MIN. DROP FOR ANTI-THERMOSYPHON LOOP TO PREVENT HEATING OF TANK.
5. INSERT TEE HERE FOR SYSTEM WATER CONNECTION OF PARALLEL TANKS (IF USED). TEE BRANCH SHALL BE ON HORIZONTAL. SHOWN HERE IN VERTICAL FOR CLARITY.
6. DRAIN VALVE REQUIRED TO PROPERLY PRECHARGE TANK.

* OMIT CHECK VALVE AND PRV IF INCLUDED IN GLYCOL FEEDER PACKAGE

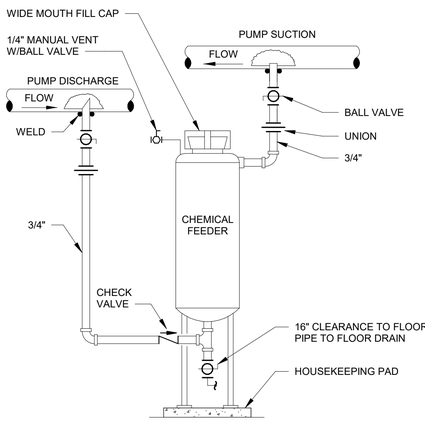
G1 HYDRONIC ACCESSORIES SCHEMATIC (HHW)

NTS



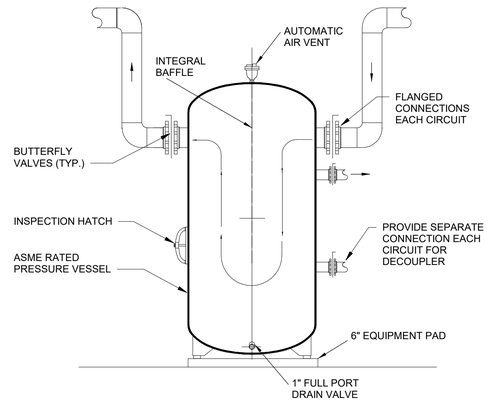
G13 HYDRONIC ACCESSORIES SCHEMATIC (CHW)

NTS



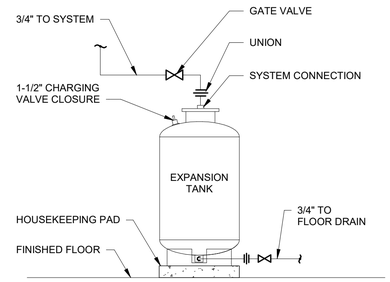
A1 CHEMICAL SHOT FEEDER PIPING DETAIL

NTS



A8 BUFFER TANK DETAIL

NTS



A15 TYPICAL EXPANSION TANK DETAIL

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
J. PONTHIEX, P.E.	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
R. READER	W912BV26RA004
CHECKED BY:	CONTRACT NO.:
Checker	
SUBMITTED BY:	PROJECT NO.:
A. BLANKENSHIP, P.E.	512203
SIZE:	FILE NAME:
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TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

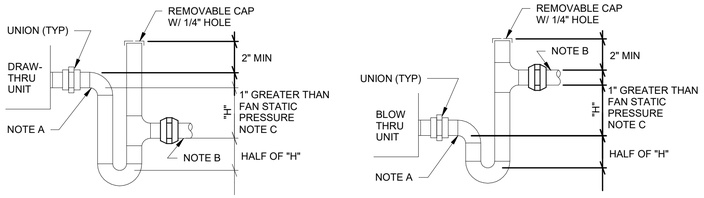
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL DETAILS

SHEET ID

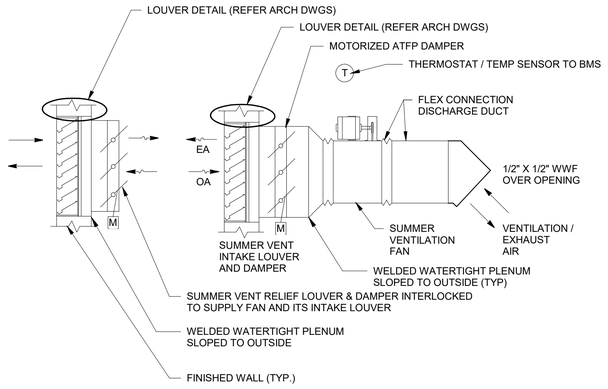
M-501

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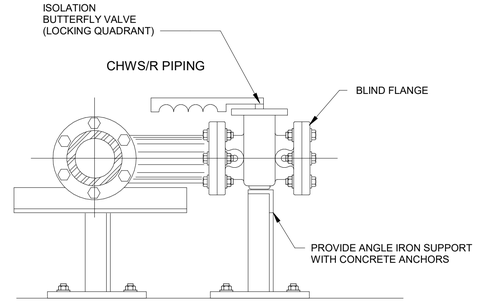


KEYED NOTES:
A. UNLESS OTHERWISE NOTED, DRAIN SHALL BE FULL SIZE OF UNIT CONNECTION.
B. EXTEND TO NEAREST FLOOR DRAIN.
C. FAN STATIC PRESSURE SHALL BE THE FAN TOTAL STATIC PRESSURE. ADJUST DIMENSIONS WHERE REQUIRED TO CONFORM TO MANUFACTURER'S RECOMMENDATIONS.
D. SIZE AND INSTALL BY DIVISION 23. REMAINDER OF CONDENSATE LINE TO BE INSTALLED BY DIVISION 22.
E. PROVIDE FREEZE RESISITANT (RUBBER) TRAP

K1 AIR HANDLER CONDENSATE DETAIL
NTS

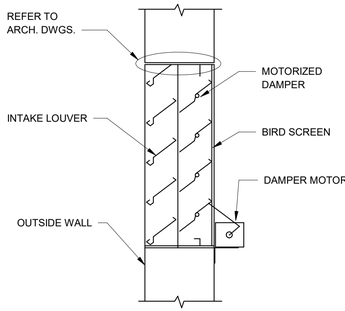


K9 SUMMER VENTILATION DETAIL
NTS



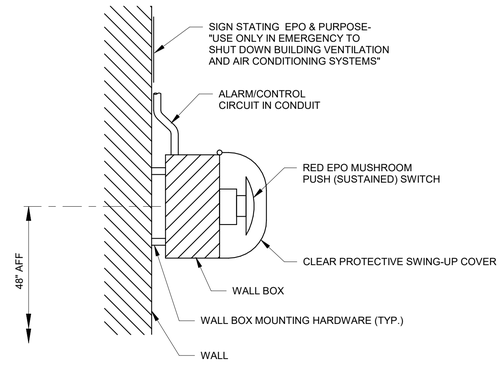
NOTES:
1. INSULATION NOT SHOWN FOR CLARITY
2. SUPPORT COMPONTS ARE HOT DIPPED GALVANIZED.

K15 EMERGENCY CHILLER CONNECTION
NTS



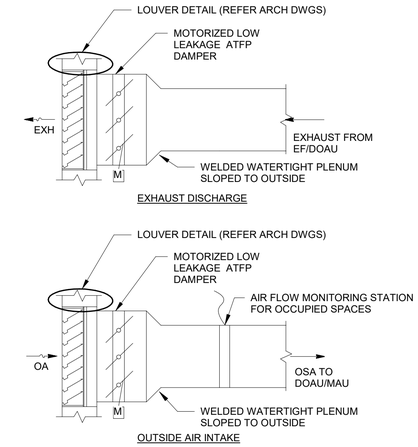
F1 COMBINATION LOUVER DAMPER DETAIL
NTS

F9 INLINE EXHAUST FAN DETAIL
NTS



NOTE:
1. THIS SWITCH SHUTS DOWN ALL HVAC EQUIPMENT.
2. AT CONTRACTOR OPTION, THE EPO CAN BE INSTALLED IN THE LOC PANEL AS A STANDARD LOC PANEL MANUFACTURER'S OPTION.
3. CONTRACTOR SHALL PROVIDE EPO SWITCH AT EACH LOC, EITHER IN OR ADJACENT TO THE LOC.
4. PROVIDE FULL COORDINATION BETWEEN FIRE PROTECTION/ALARMING, CONTROLS AND HVAC CONTRACTORS FOR SWITCH INSTALLATION.

A1 EMERGENCY POWER OFF (EPO) DETAIL
NTS



A9 DUCTED LOUVER DETAIL
NTS

NOTES:
1. PROVIDE MANUFACTURER RECOMMENDED CLEARANCES ON ALL SIDES
2. INSULATE AND BIND REFRIGERANT LINES IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS PROVIDE UV STABLE JACKET ON ALL INSULATION
3. PROVIDE WIRED THERMOSTAT AND CONTROLLER FOR ALL UNITS

A15 MINI-SPLIT TYPICAL DETAIL
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: CHECKER
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt
Plot Date: 10/20/2025 11:20:08 AM
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

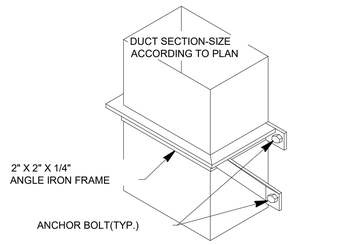
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MECHANICAL DETAILS

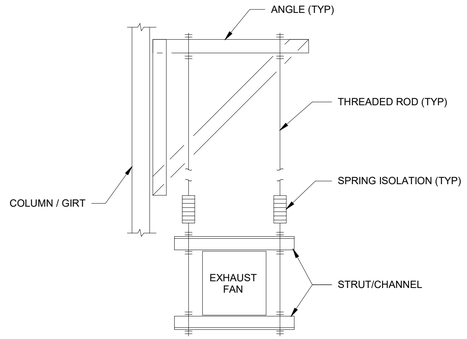
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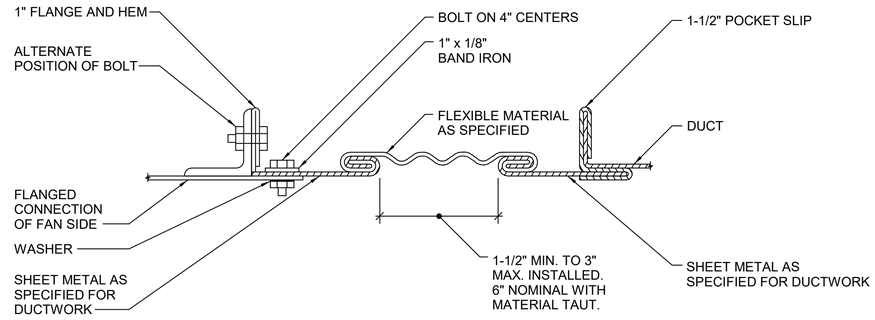


NOTE:
ANCHOR TO WALL STRUCTURE. REFER TO STRUCTURAL. DRAWINGS FOR DETAILS.
PROVIDE SHIOP DRAWINGS FOR INTENDED DUCT ATTACHMENTS

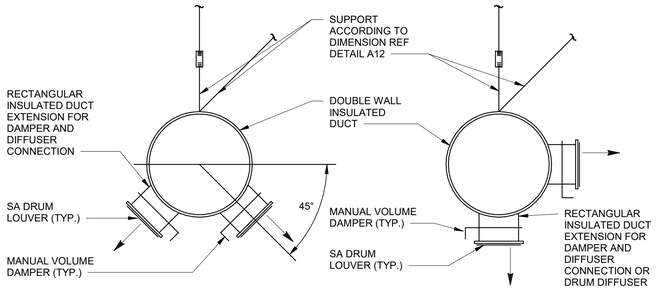
L1 VERTICAL DUCT DETAIL
NTS



L6 HANGAR EXHAUST FAN SUPPORT DETAIL
NTS

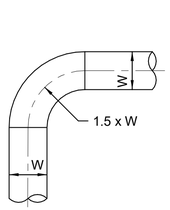


L12 RECTANGULAR FLEXIBLE CONNECTION
NTS

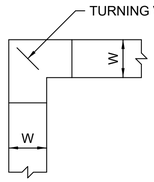


NOTES:
1. PROVIDE AIRCRAFT CABLE SUPPORT AS REQUIRED.
2. REFER TO PLANS FOR DIFFUSER ORIENTATION.

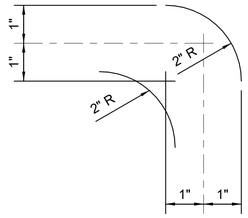
G1 EXPOSED DUCT DETAIL
NTS



ROUND 90 ELBOW

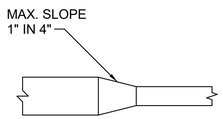


SQUARE 90 ELBOW

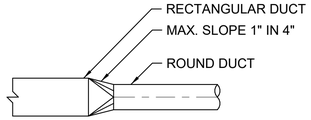


TURNING VANES DETAIL

NOTE:
1. USE THIS DESIGN WHERE SQUARE 90°ELBOWS ARE SHOWN ON DRAWINGS OR IF SPACE DOES NOT PERMIT ROUND 90° ELBOWS.

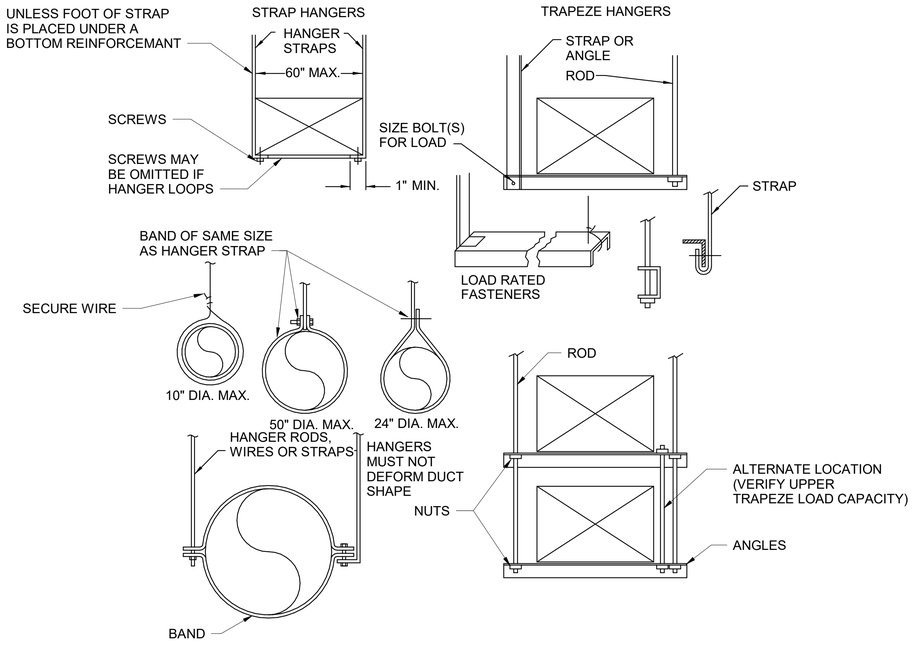


RECTANGULAR TRANSITION



RECTANGULAR TO ROUND TRANSITION

A1 LOW VELOCITY DUCT LAYOUT
NTS



ONE HALF-ROUND MAY BE USED
IF DUCT SHAPE IS MAINTAINED.

REINFORCEMENT MAY BE USED FOR ATTACHMENT
IF IT QUALIFIES FOR BOTH DUTIES
DO NOT EXCEED ALLOWABLE LOAD LIMITS

NOTE:
SEE STRUCTURAL DRAWINGS FOR UPPER HANGER DUCT ATTACHMENT REQUIREMENTS.

A12 LOWER DUCT HANGER ATTACHMENTS
NTS

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DESIGNED BY: J. PONTHIEX, P.E.	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: R. READER	SOLICITATION NO.: W912BV26RA004
CHECKED BY:	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO.: 512203
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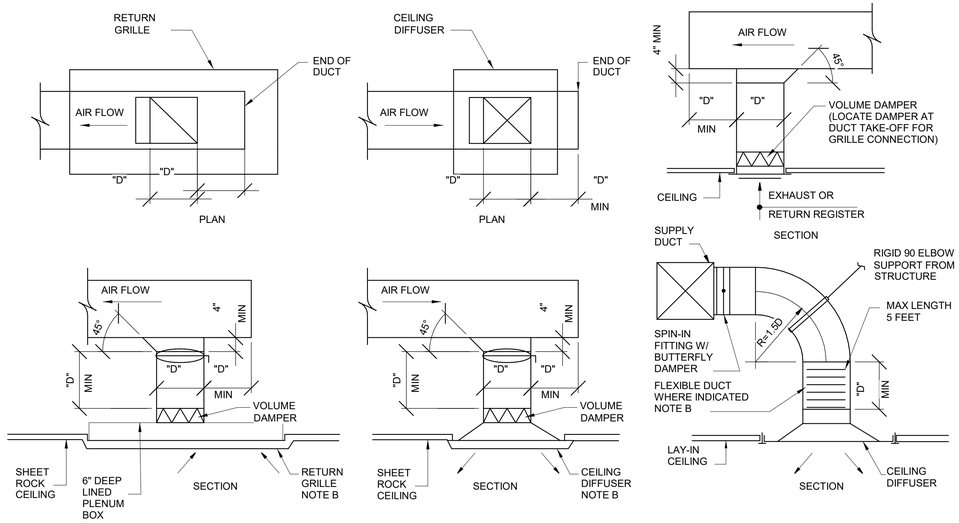
ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL DETAILS

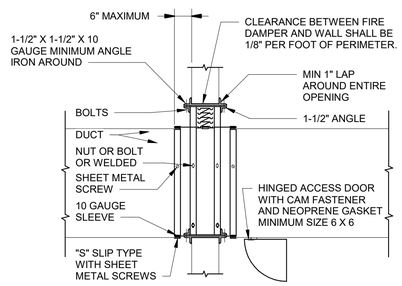
SHEET ID
M-503

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



NOTES:
A. "D" IS THROAT DIA OR SIDE DIM. OF SQUARE CONN.
B. MIN LENGTH OF STRAIGHT DUCT ABOVE CD IS "D".
C. ABOVE DETAILS ARE REPRESENTATIVE OF STANDARD DUCT CONNECTIONS, ONLY. THESE DETAILS ARE NOT INTENDED TO SHOW ALL POSSIBLE DUCT CONNECTIONS.

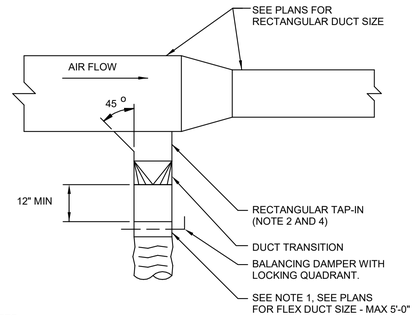
G1 TYPICAL DUCT CONNECTIONS
NTS



NOTE:
PROVIDE FIRE DAMPER FOR ROUND DUCT OR USE TRANSITIONS FOR ROUND TO SQUARE DUCT.

PROVIDE DUCT ACCESS DOOR FOR INSPECTION.

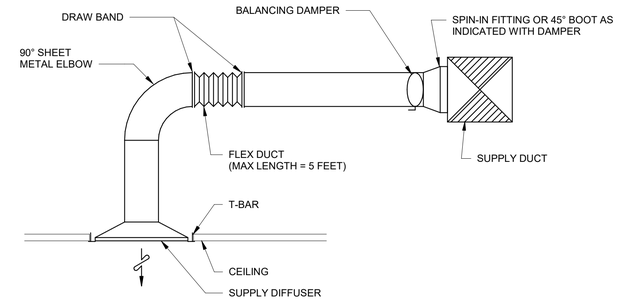
A1 FIRE DAMPER WITH FUSIBLE LINK
NTS



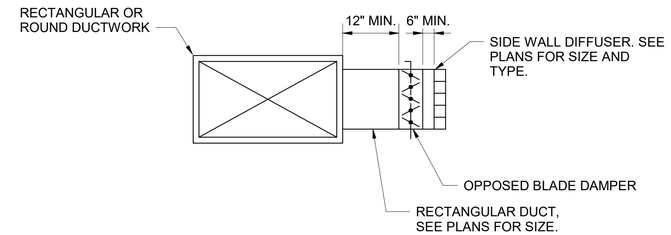
NOTES:

1. TAKEOFF ON BOTH SIDES OR SINGLE SIDE AS REQUIRED BY PLANS.
2. TAP-IN MAY BE RECTANGULAR OR ROUND. SEE SMACNA MANUAL FOR DETAILS.
3. CLINCH LOCK CONNECTION TO DUCT SHALL HAVE CORNER SEALS (SEE SMACNA MANUAL).

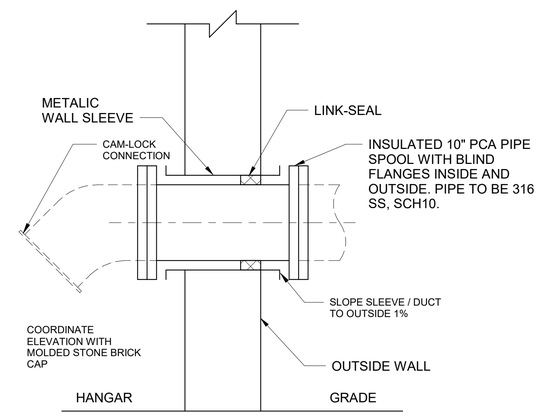
A7 DIFFUSER TAKE-OFF
NTS



L14 FLEXIBLE DUCT AT DIFFUSER
NTS



G14 SIDE WALL DIFFUSER
NTS



NOTE: BLIND FLANGES NOT REQUIRED IF INSULATED DUCT AND PCA EQUIPMENT IS INSTALLED

A14 PCA DUCT SLEEVE DETAIL
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

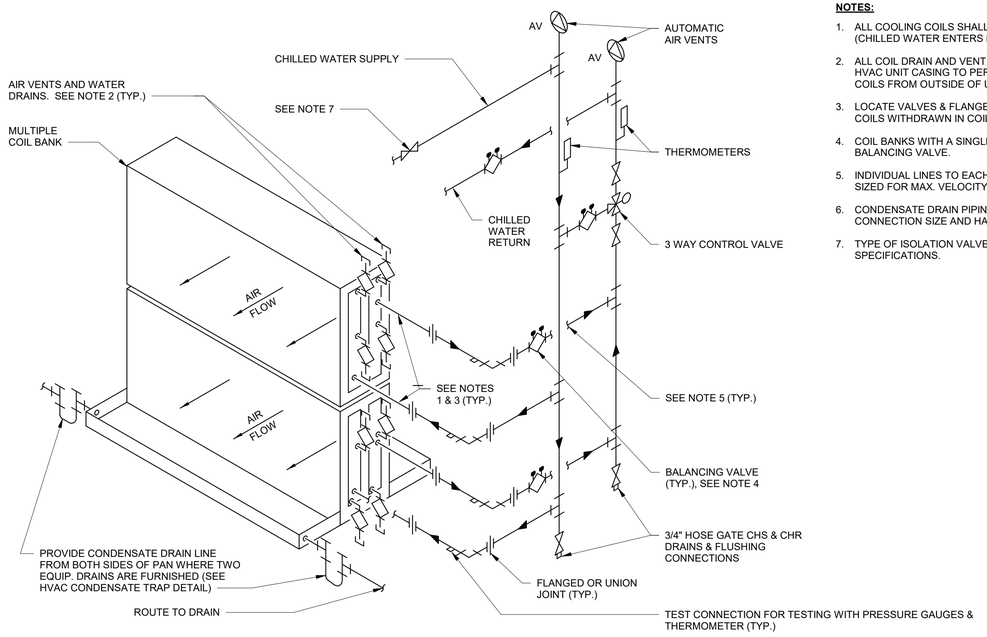
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL DETAILS

SHEET ID
M-504

Plot Date: 10/20/2025 11:20:11 AM File Path: C:\Users\rbocar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MECDRAR.rvt

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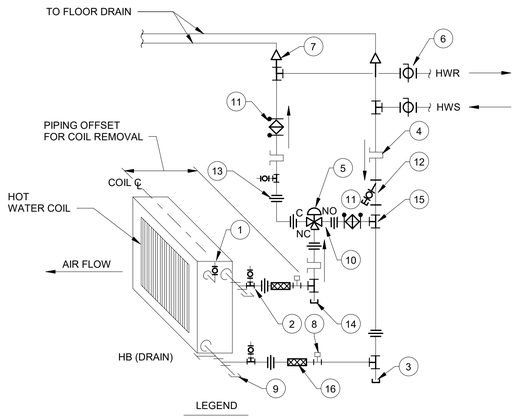


NOTES:

1. ALL COOLING COILS SHALL BE PIPED FOR COUNTER FLOW ARRANGEMENT. (CHILLED WATER ENTERS NEAREST COIL FACE WHERE COLD AIR LEAVES.)
2. ALL COIL DRAIN AND VENT CONNECTIONS TO BE INSTALLED THROUGH HVAC UNIT CASING TO PERMIT COMPLETE DRAINAGE AND VENTING OF COILS FROM OUTSIDE OF UNIT.
3. LOCATE VALVES & FLANGES SO THAT PIPING CAN BE DISCONNECTED AND COILS WITHDRAWN IN COIL REMOVAL SPACE.
4. COIL BANKS WITH A SINGLE COIL DO NOT REQUIRE INDIVIDUAL COIL BALANCING VALVE.
5. INDIVIDUAL LINES TO EACH COIL SHALL BE SAME SIZE AS COIL TAPS OR SIZED FOR MAX. VELOCITY OF 4 F.P.S.
6. CONDENSATE DRAIN PIPING SIZE SHALL BE EQUAL TO THE DRAIN PAN CONNECTION SIZE AND HAVE LOOP SEAL TRAPS AS INDICATED.
7. TYPE OF ISOLATION VALVE DEPENDS ON LINE SIZE. REFER TO SPECIFICATIONS.

H1 CHILLED WATER MULTIPLE COIL BANK W/ 3-WAY VALVE

NTS



LEGEND

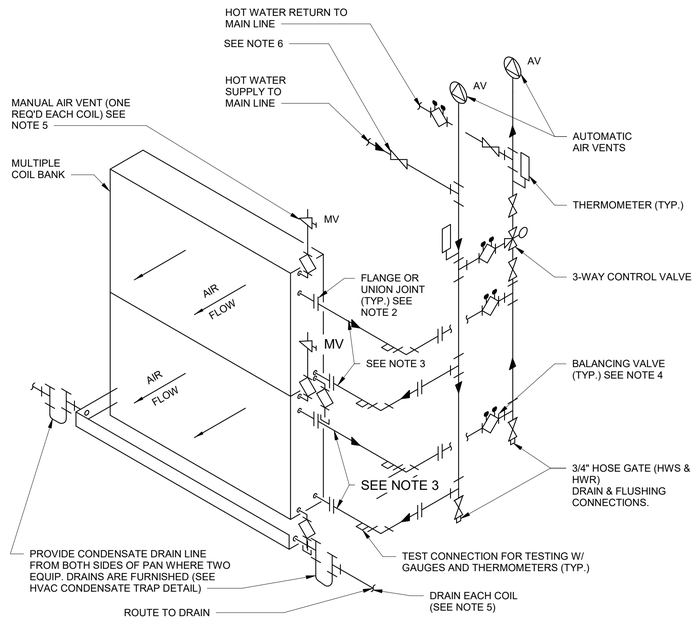
1. MANUAL COIL VENT
2. BALL VALVE(GAUGE CONNECTION), TYP.
3. DIRT LEG 3/4"x 4" LONG
4. THERMOWELL, TYP.
5. 3-WAY CONTROL VALVE
6. BALL VALVE, TYP.
7. MANUAL AIR VENT VALVE, TYP.
8. (PETES) PLUG
9. COIL BLOWOUT CAP, TYP.
10. PIPING AT 3-WAY VALVE SHALL BE SAME SIZE AS PORTS
11. CALIBRATED BALANCING VALVE WITH PRESSURE PORTS.
12. STRAINER WITH BALL VALVE DRAIN
13. UNION, TYP.
14. PIPE CAP, TYP.
15. PIPE TEE, TYP.
16. FLEXIBLE CONNECTION, TYP.

NOTES:

1. COILS W/2 ROWS OR GREATER SHALL BE PIPED FOR COUNTER FLOW OF WATER AND AIR.
2. PROVIDE PIPING REDUCERS AS REQUIRED.
3. VERIFY PIPING CONNECTIONS FOR 3-WAY VALVE WITH TEMPERATURE CONTROL CONTRACTOR.
4. SUPPORT PIPING AND CONTROL VALVES INDEPENDENT.

G14 HOT WATER COIL PIPING SCHEMATIC 3-WAY VALVE

NTS

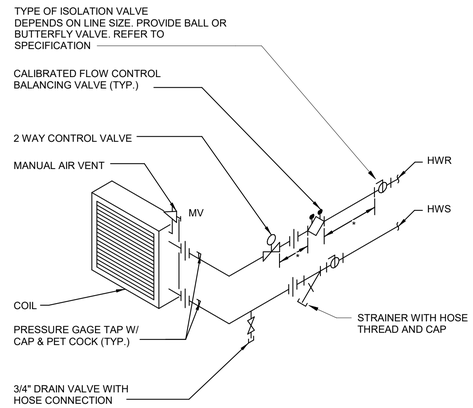


NOTES:

1. MULTI-ROW COILS SHALL BE PIPED FOR PARALLEL FLOW CIRCUITING.
2. LOCATE VALVES & FLANGES OR UNION JOINTS SO THAT PIPING CAN BE DISCONNECTED AND COILS WITHDRAWN IN COIL REMOVAL SPACE.
3. INDIVIDUAL LINES TO COILS SHALL BE SAME SIZE AS COIL TAPS OR SIZED FOR MAXIMUM VELOCITY 4 FEET PER SECOND.
4. COIL BANKS WITH SINGLE COIL DO NOT REQUIRE INDIVIDUAL COIL BALANCING VALVE.
5. ALL COIL DRAIN & VENT CONNECTIONS TO BE INSTALLED THROUGH UNIT CASING TO PERMIT COMPLETE DRAINING & VENTING FROM OUTSIDE.
6. TYPE OF ISOLATION VALVE DEPENDS ON LINE SIZE. REFER TO SPECIFICATION.

A1 HOT WATER MULTIPLE COIL BANK W/ 3-WAY VALVE

NTS



* STRAIGHT LENGTHS OF UNOBSTRUCTED PIPE WITHOUT INLINE APPURTENANCES SHALL BE INSTALLED UP AND DOWNSTREAM OF FLOW CONTROL BALANCING VALVES PER MFGR. INSTALLATION INSTRUCTIONS.

A14 HOT WATER SINGLE COIL W/ 2-WAY VALVE

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. REINDER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS TULSA DISTRICT 2488 EAST 81ST ST TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION ENGINEERING BRANCH

EBBING ANGB - ARKANSAS F-35 3 BAY HANGAR PN: 512203

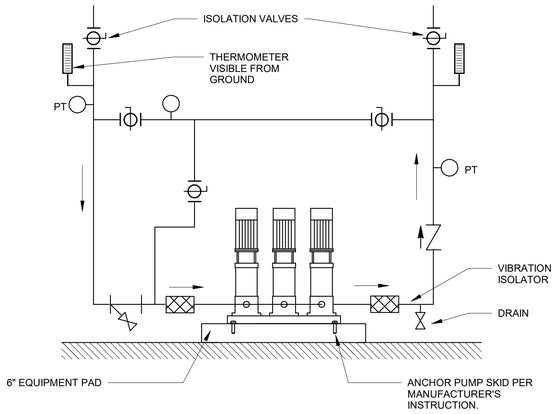
MECHANICAL DETAILS

SHEET ID

M-505

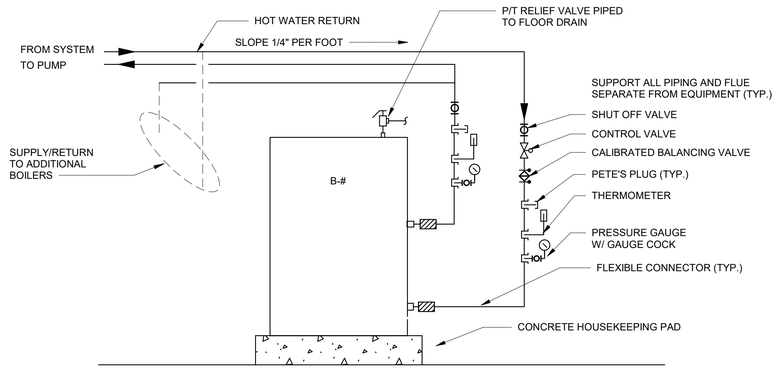
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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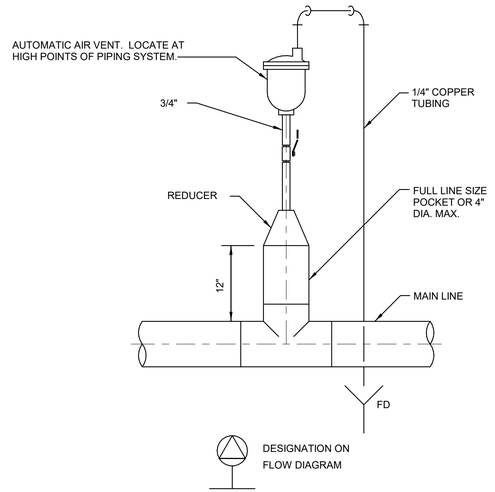
NOTES:
1. PUMPS SHALL UTILIZE ONE PRESSURE GAUGE CONNECTED WITH GAUGE COCKS AS SHOWN.
2. BASIS OF DESIGN MANUFACTURED HIPLEX PUMP SKID COMPLETE WITH PUMPS, STRUCTURAL BASE, HEADER, VFD'S, AND CONTROLS.
3. USE PIPE SUPPORTS ON EACH SIDE OF PUMP SKID

J1 PACKAGED PUMP SKID DETAIL
NTS

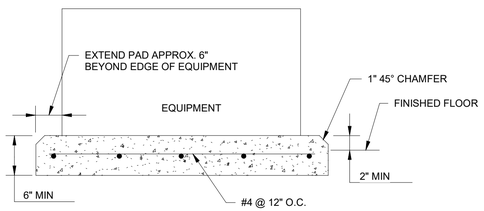


NOTES:
1. PIPE MULTIPLE PARALLEL BOILERS IN REVERSE RETURN CONFIGURATION
2. CONNECTION LOCATIONS VARY

J7 TYPICAL BOILER CONNECTION DETAIL (VARIABLE PRIMARY)
NTS

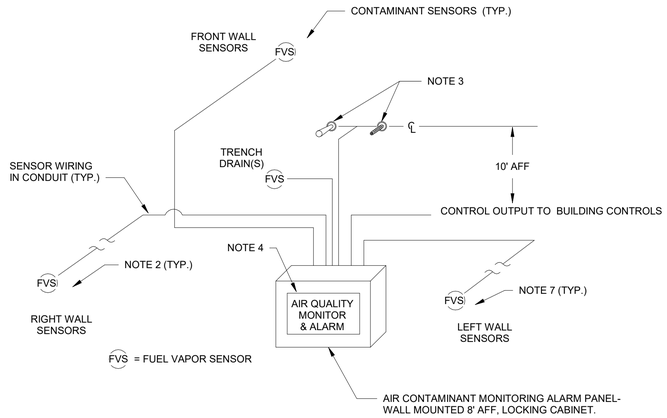


J15 AUTOMATIC AIR VENT
NTS



NOTE: USED ONLY IN MECHANICAL AND WATER TREATMENT ROOMS

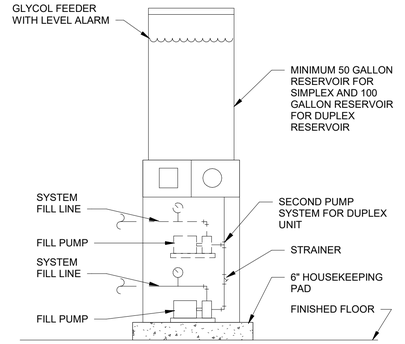
B1 EQUIPMENT PAD DETAIL
NTS



NOTES:

1. REFER PLANS FOR PANEL AND APPPROXIMATE SENSOR LOCATIONS. ONE SYSTEM IN EACH BAY.
2. MOUNT TRENCH DRAIN SENSORS IN DEEPEST PORTION OF TRENCH ADJACENT TO DRAIN OUTLET.
3. FLASHING STROBE LIGHT DIRECTLY ABOVE PANEL . 10' AFF.
4. PROVIDE PERMANENT BRASS OR THICK PLASTIC LABEL SCREWED ON PANEL.
5. SAME SENSOR MAY DETECT BOTH DIESEL FUEL / JET FUEL. COORDINATE WITH MANUFACTURER.
6. ALARM SYSTEM MANUFACTURER TO SET ALARM ON/OFF LEVEL. SUBMIT SHOP DRAWINGS FOR APPROVAL. AT SENSOR TRIP ABOVE SET CONTAMINANT LEVEL, BMS IS ALARMED, AND LIGHT IS ON (FLASHING).
7. INSTALL DIESEL FUEL / JET FUEL VAPOR SENSOR 18"-36" AFF. COORDINATE WITH MANUFACTURERS RECOMMENDATIONS.
8. QUANTITY OF SENSORS IS DEPENDENT ON COVERAGE AND IS MANUFACTURER SPECIFIC
9. COORDINATE WITH SYSTEM VENDOR AND PROVIDE SHOP DRAWINGS WITH SENSOR LOCATIONS.

B7 INDOOR AIR QUALITY MONITORING SYSTEM (IAQS)
NTS



B15 GLYCOL FEEDER (GF) SYSTEM
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:20:13 AM
File Path: C:\Users\rbcolar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

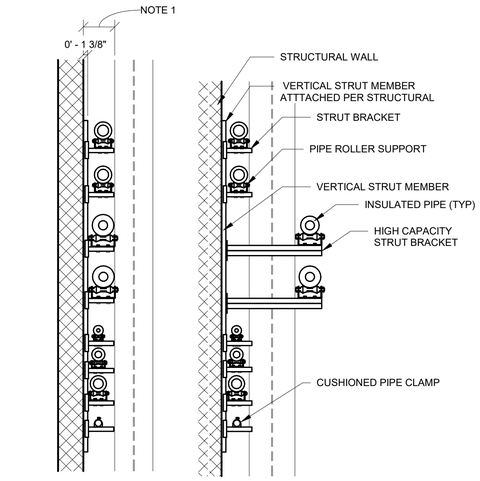
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL DETAILS

SHEET ID
M-506

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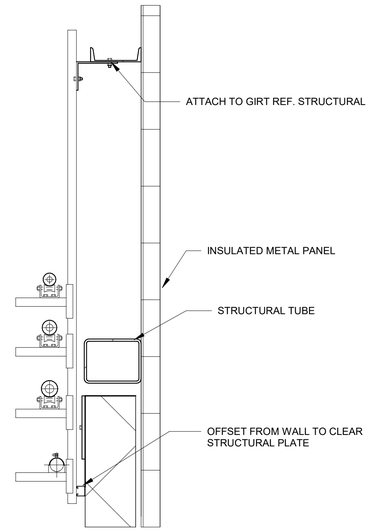


1. DESIGN INTENT IS FOR ALL SERVICES TO BE ROUTED AS CLOSE AS POSSIBLE TO CMU WALL. COORDINATE FINAL PIPE ROUTING WITH AVAILABLE SPACE ROUTE PIPES OUTSIDE COLUMN IF SPACE BEHIND COLUMN IS NOT ASEQUATE.

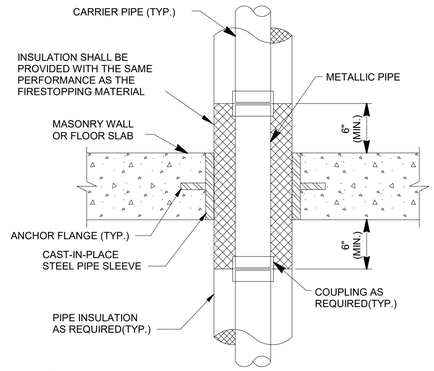
2. STRUT SYSTEM COMPONENTS FROM SINGLE MANUFACTURER. REFER TO STRUCTURAL S- 522 AND 05 50 13 FOR REQUIREMENTS. ATTACH VERTICAL STRUT MEMBERS PER STRUCTURAL REQUIREMENTS.

3. PIPE SUPPORT ASSEMBLY 4' ON CENTER. NOT ALL PIPES WILL BE SUPPORTED AT EVERY VERTICAL MEMBER. COORDINATE ANCHORS WITH REINFORCEMENT.

H1 PIPE SUPPORT ON FRONT WALL
NTS



H8 PIPE SUPPORT ON OUTSIDE WALL
NTS

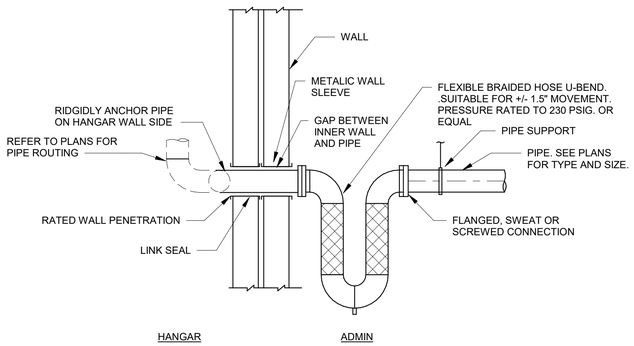


NOTE:
1. PIPE SLEEVE SHALL BE SIZED TO PROVIDE 1/4" ALL AROUND CLEARANCE.

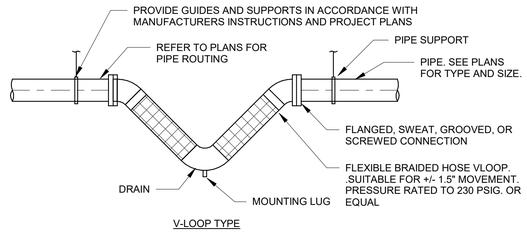
2. PROVIDE UL LISTED ASSEMBLY APPROPRITED FOR RATING OF PARTITION/FLOOR/WALL

3. PROVIDE AIR BARRIER SEALING AT ALL AIR BARRIER PENETRATIONS

H14 PIPE PENETRATION (CONCRETE WALL OR FLOOR ABOVE GRADE)
NTS

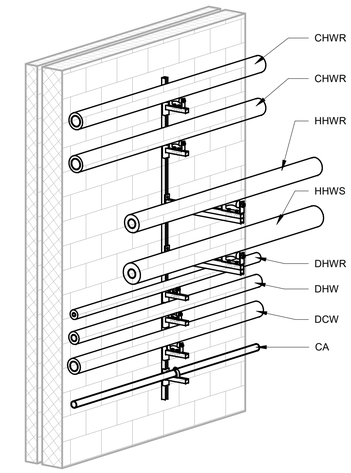


D1 PIPE FLEX CONN. AT BLDG EXPANSION JOINT EBBING
NTS

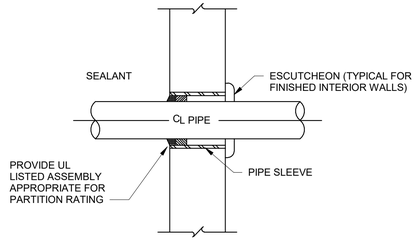


NOTE: ELBOW MATERIAL TO MATCH PIPE MATERIAL TYPE. HOSE SHALL BE COMPATIBLE WITH FLUID BEING PIPED.

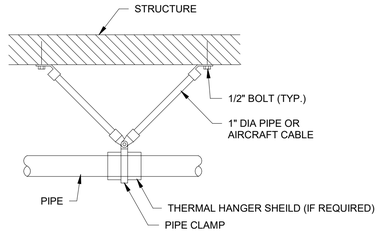
D8 PRE-ENGINEERED EXPANSION LOOP DETAIL
NTS



A16 PIPE SUPPORT ISO
NTS



A1 PIPE PENETRATION (UNINSULATED)
NTS



A8 PIPE SUPPORT/ANCHOR DETAIL
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: R. READER	SOLICITATION NO.: W912BV26RA004
CHECKED BY:	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO.: 512203
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

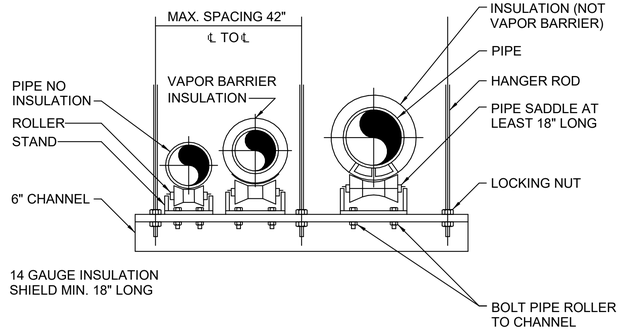
EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL DETAILS

SHEET ID
M-507

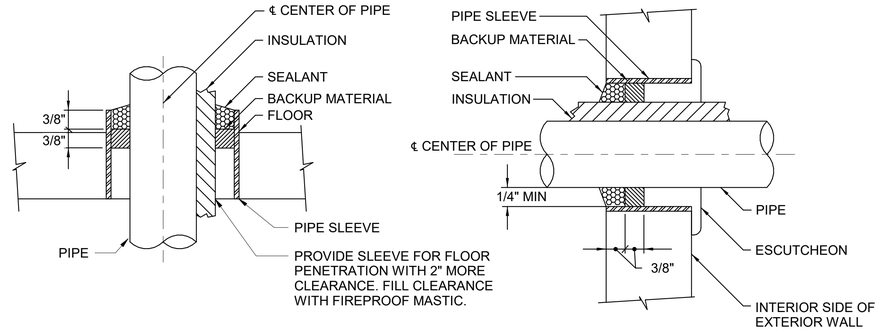
100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

Plot Date: 10/20/2025 11:20:15 AM File Path: C:\Users\rbeader\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECR04R.rvt



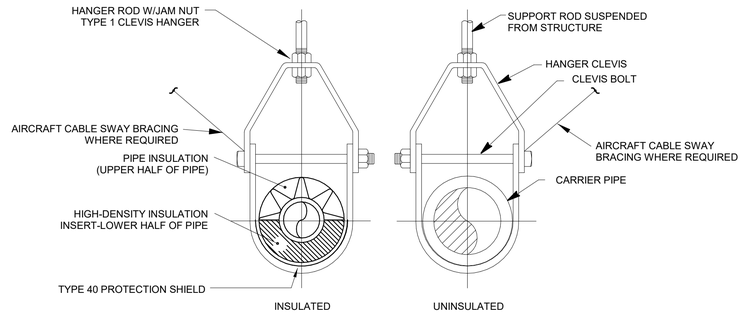
L1 PIPE HANGER - TRAPEZE

NTS



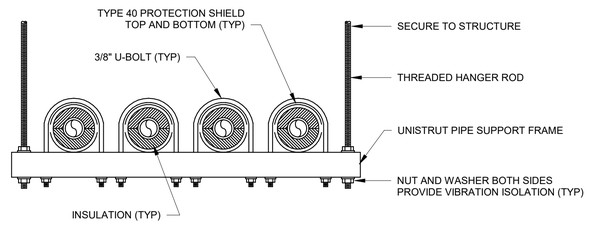
L8 PIPE PENETRATIONS THROUGH VARIOUS STRUCTURES

NTS



G1 TYPICAL PIPE ANCHOR SUPPORT DETAIL

NTS

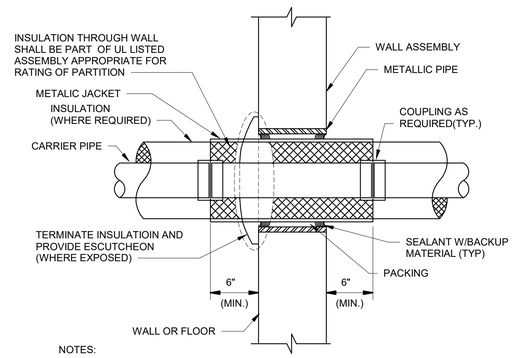


NOTE:

CONTRACTOR SHALL PROVIDE SEISMIC SUPPORT BRACING PER THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE.

A1 PIPE SUPPORT (TRAPEZE 1) DETAIL

NTS



NOTES:

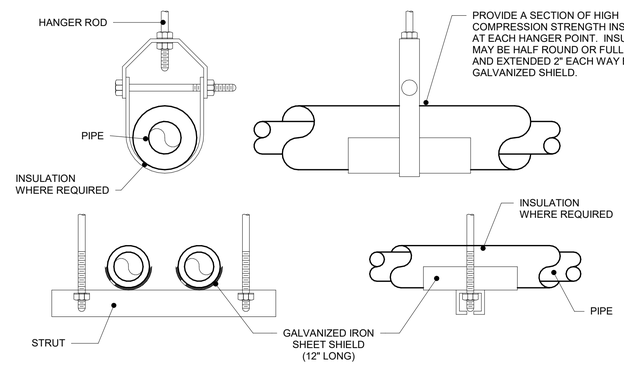
1. IN BEARING WALLS, SLEEVE TO BE SCHEDULE 40 PIPE MATERIAL. SLEEVE AND PACKING MAY BE OMITTED FOR PIPE PASSING THRU GYPSUM WALL BOARD EXCEPT WHERE WALL IS FIRE RATED.

2. THIS DETAIL IS NOT RATED ASSEMBLIES. PENETRATIONS IN RATED ASSEMBLIES SHALL BE FIRE STOPPED WITH UL LISTED SYSTEM

3. PENETRATIONS IN BUILDING AIR BARRIERS SHALL BE SEALED TO PREVENT AIR LEAKAGE REFER TO ARCHITECTURAL

A8 PIPE PENETRATION (TYPICAL- INSULATED)

NTS



NOTES:

1.) ATTACH SUPPORTS FOR ALL PIPING SUSPENDED FROM THE STEEL STRUCTURE TO THE TOP CHORD OF JOISTS OR BEAMS.

2.) PROVIDE COPPER OR PLASTIC COATED HANGERS FOR NON-INSULATED COPPER PIPE.

A14 PIPE HANGER DETAIL

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

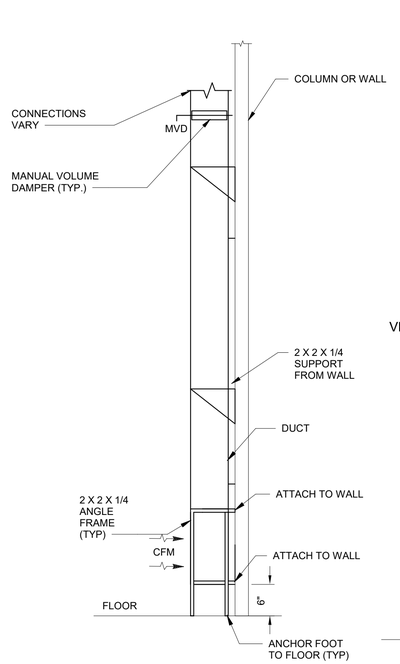
MECHANICAL DETAILS

SHEET ID

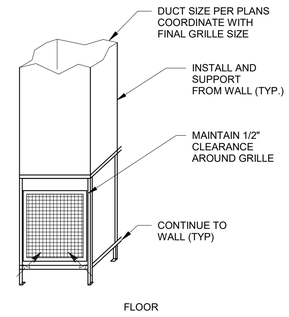
M-508

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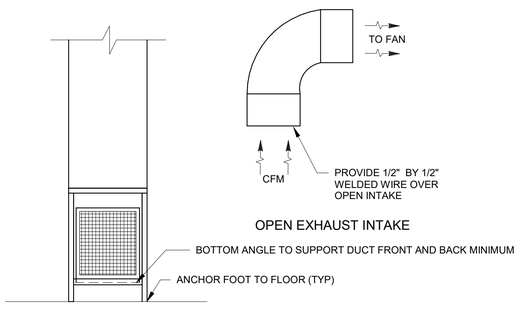
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HANGAR BAY - SIDE VIEW



VEHICLE CORRIDOR - OBLIQUE VIEW



HANGAR BAY - FRONT VIEW

OPEN EXHAUST INTAKE

*SUBMIT CONTRACTOR DEVELOPED SHOP DRAWING

A2 HANGAR BAY GENERAL EXHAUST SYSTEM INTAKE

NTS

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MECHANICAL DETAILS

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M-509

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AIR SEPARATOR SCHEDULE

MARK	LOCATION	SERVICE	TYPE	FLUID				DIA./HEIGHT (IN)	NOTES
				FLOW RATE (GPM)	SIZE (IN)	WORKING FLUID	MAX. HEAD LOSS (FT)		
AS-1	MECH ROOM 122	HEATING WATER	IN-LINE	152.0	4"	30% PG	1	8.6/31.4	ALL
AS-2	MECH ROOM 105	CHILLED WATER	IN-LINE	105.0	3"	30% PG	1	8.6/31.4	ALL

NOTES:
1. COMBINATION AIR AND DIRT SEPERATOR WITH REMOVEABLE COALESCING MEDIUM
2. FLANGED CONNECTIONS, DESIGN PRESSURE MIN. 125 PSIG. COORDINATE WITH MANUFACTURER SUPPLIED.
3. PROVIDE WITH SEPARATE VENTING CHAMBER WITH FULL PORT FLOAT ACTUATED BRASS VENTING MECHANISM
4. PROVIDE WITH REMOVEABLE HEAD FOR CLEANING...

CHEMICAL FEEDER SCHEDULE

MARK	LOCATION	TYPE	SERVICE	VOLUME CAPACITY (GAL)	MINIMUM WORKING PRESSURE (PSI)	DIA/HEIGHT (IN)	NOTES
CF-1	MECH ROOM 122	BYPASS	HHWS	13.3	200	10/51.25	1,2,3,4
CF-2	MECH ROOM 105	BYPASS	CHW	13.3	200	10/51.25	1,2,3,4

NOTES:
1. PROVIDE WITH FILL FUNNEL.
2. AMSE CODE TANK REQUIRED.
3. FLOOR MOUNTED.
4. PROVIDE LAMINATED INSTRUCTION SHEET FOR OPERATION.

PACKAGED AIR-COOLED CHILLER SCHEDULE

GENERAL							REFRIGERANT CIRCUIT			FLUID				ONBOARD PUMP PACKAGE				SINGLE POC ELECTRICAL						
MARK	LOCATION	REFRIGERANT TYPE	REFRIGERANT BOD	CAPACITY NOM/ACTUAL (TONS)	AMBIENT DB (°F)	EER (Btu/Wh)	REFRIGERANT CIRCUITS	# COMP	CAPACITY STAGES	FLOW RATE (GPM)	ENTERING / LEAVING TEMP. (°F)	WORKING FLUID	MAX. ALLOW HEAD LOSS (FT.)	QUANTITY	SPEED	AVAILABLE HEAD @ CHILLER CONNECTION (FT H2O)	MOTOR SIZE (HP)	MAXIMUM ALLOWABLE RUNNING KW	TOTAL MCA / MOP	CHILLER AND CONTROL CIRCUIT (VOLT/PH/HZ)	SCCR (KA)	AUXILARY CIRCUITS (115/1/60)	PHYSICAL MAX ALLOW. LENGTH/WIDTH /HEIGHT (IN.)	NOTES
CH-1	YARD	NOTE 1	R-454B	70 / 65.54	102	9.6	2	4	4	110.6	58/43	30% PG	11.4	2	VFD	91	7.5	90	156 / 200	460 / 3 / 60	65	AS REQU	173 / 88.4 / 84.8	ALL

NOTES:
1. REFRIGERANT SHALL COMPLY WITH CURRENT FEDERAL PHASEOUT REGULATIONS OR OTHER ZERO ODP REFRIGERANT.
2. PROVIDE MULTI STAGE CHILLER WITH MINIMUM 4 CAPACITY STAGES OR FULLY VARIABLE. MINIMUM STAGE MAX 25% FULL CAPACITY.
3. PROVIDE PACKAGED AIR COOLED CHILLER WITH ONBOARD HIGH HEAD PUMP PACKAGE. WITH MANUFACTURER SIZED EXPANSION TANK ,MIN 5 GALLONS AND BUFFER TANK MIN 140 GALLONS.
4. CHILLED WATER TEMPERATURE RISE TARGET IS 15.0 DEGREE F.
5. CHILLER COMPRESSOR TYPE IS SCROLL;
6 PROVIDE FULL SKIRTING ON BASE.
7. SELECT CHILLER AT 460 FEET ABOVE SEA LEVEL.
8. PROVIDE HAIL GUARDS OVER ALL HEAT EXCHANGE COILS.
9. POWER CONNECTION IS SINGLE POINT WITH UNIT MOUNTED DISCONNECT.
10. PROVIDE MANUFACTURERS CHILLER SOUND ATTENUATION DESIGN AND PACKAGE.
11. PROVIDE WITH VAPOR-PROOF FLOW SWITCH.
12. PROVIDE UNIT WITH MANUFACTURER OPEN BACNET EMS/CONTROL CARD WHICH WILL BE INTERFACED WITH BASEWIDE EMCS. EMCS CAPABILITIES TO RESET CHILLED WATER TEMP, LIMIT CHILLER DEMAND, ETC.
13. PROVIDE WITH MANUFACTURER INSTALLED FREEZE PROTECTION PACKAGE ON PUMP PACKAGE COMPONENTS AND EVAPORATOR. PROVIDE AUXILLARY CIRCUITS AS REQUIRED.
14. PROTECT ALL EXPOSED PIPING.
15. PROVIDE WITH FULL FACTORY ON-SITE STARTUP, TESTING AND REPORTS.

ELECTRIC HOT WATER HEATING BOILER SCHEDULE

MARK	SERVICE	FUEL	SYSTEM CAPACITY MBH9	SYSTEM CAPACITY KW9	BOD INPUT KW	BOD OUTPUT BTUH	WATTAGE (KW) / # STEPS	CONTROL	FLOW RATE @ 40 DEGREE TEMP RISE (GPM)	PRESSURE DROP AT FLOW RATE (FT OF HD)	SYSTEM TEMP	ELECTRICAL FEEDS			DIMENSIONS (HxWxD)	NOTES
												VOLTAGE (V/P/HZ)	AMPS	SCCR		
B-1	HHWS	ELECTRIC	1,501,000	440	450	1,505,000	15 @ 30KW	PROPORTIONAL	75.25	0.5	160	480/3/60	542	100kA	77.75 x 34.4 x 34.5	ALL
B-2	HHWS	ELECTRIC	1,501,000	440	450	1,505,000	15 @ 30KW	PROPORTIONAL	75.25	0.5	160	480/3/60	542	100kA	77.75 x 34.4 x 34.5	ALL

NOTES:
1. 100% EFFICIENCY.
2. UL LABELED BOILER.
3. ASME SECTION IV PRESSURE VESSEL.
4. PROVIDE BOILER CONTROL PACKAGE AS NECESSARY TO INTERFACE WITH BUILDING DDC AND FULFILL ALL REQUIREMENTS AS INDICATED IN THE SEQUENCE OF OPERATION.
5. PROVIDE BOILER WITH SILICONE CONTROLLED RECTIFIER CONTROL FOR MAXIMUM LOAD VARIATION
6. UNIT SHALL BE MONITORED AND CONTROLLED BY THE BACNET DDC CONTROL SYSTEM.
7. BOILERS ALTITUDE 460 FEET ABOVE SEA LEVEL
8. WORKING FLUID IS 30% P.G.
9. BOILER CAPACITY 65% OF BUILDING LOAD. BASIS OF DESIGN BOILERS SELECTED TO EXCEED 65% OF DESIGN LOAD
10. INDIVIDUAL CIRCUIT BREAKER ON EACH STAGE
11. COORDINATE ELECTRICAL EQUIPMENT WITH INSTALLED EQUIPMENT

ENERGY RECOVERY VENTILATOR

PERFORMANCE

DESIGN CONDITION	OUTDOOR AIR		SUPPLY AIR		RETURN AIR			HX	CAPACITY REDUCTIONS (BTU/h)
	DB	WB	DW	WB	DB	WB/RH		EFF.	
SUMMER	97	76	88.6	72.6	81.3	66.2		67.4	9,418.00
WINTER	21	17.4	45.1	39.9	66	55.4		89.2	24,361.00

FAN PERFORMANCE

TYPE	TOTAL VOLUME (CFM)	EXTERNAL SP (in. wg)		FRPM	FAN		
					QTY	TYPE	DRIVE-TYPE
SUPPLY	600	1		2180	1	BACKWARD CURVE	DIRECT
EXHAUST	350	1		1877	1	BACKWARD CURVE	DIRECT

MOTOR SPECIFICATIONS

MOTOR	QTY	OPERATING POWER (WATTS)	SIZE (WATTS)	ENCLOSURE	EFFICIENCY	RPM
SUPPLY	1	335.00	860	TEFC	NEMA Premium	VARIES - ECM
EXHAUST	1	198	860	TEFC	NEMA Premium	VARIES - ECM

ELECTRICAL SPECIFICATIONS

POWER SUPPLY	RATING (V/C/P)	MCA (A)	MOP (A)
UNIT	460/60/3	2.7	15

NOTES:
1. STATIC HEAT AND HUMIDITY PLATE .
2. CONSTANT VOLUME OA PRETREATMENT.
3. PROVIDE WITH AIR FLOW MONITORING STATION.
4. PROVIDE OA/EA LOW-LEAKAGE ATFP DAMPER AT BUILDING ENVELOPE.
5. CONNECT SUPPLY TO AHU RETURN AIR PLENUM.
6. PROVIDE DIRTY FILTER MONITOR BOTH AIRSTREAMS.
7. STATICALLY AND DYNAMICALLY BALANCED BLOWERS
8. MINIMUM 65% EFFECTIVENESS

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MECHANICAL SCHEDULES

SHEET ID
M-601

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DIRECT EXPANSION - AHU SCHEDULE

			MARK	AHU-1
INDOOR AIR HANLING UNIT	MAU		UNIT TYPE	DX W/HGRH
			SUPPLY, OCCUPIED CFM	2600
			SUPPLY, UNOCCUPIED CFM	2600
			EXTERNAL STATIC PRESS REQUIRED WG,	2
			FANS TYPE	DIRECT DRIVE
	MAIN COIL	COOLING	COIL ENT AIR DB/WB (F) - MIXED AIR FROM RETURN AND ERV	83 / 67.8
			COIL LVG AIR DB/WB (F)	52.1 / 51.9
			SENSIBLE BTU/HR (MIN.),	83,200
			COIL TOTAL BTU/HR (MIN.)	119,700
			COIL, ROWS	6
			COIL, FPI	12
		HEATING	COIL ENT AIR DB/WB (F) - OSA	66 / 55
			COIL LVG AIR DB (F)	94.2
			SENSIBLE BTU/HR (MIN.),	93,000
			FLUID - 30% PG - GPM	5
			FLUID ENTERING / LEAVING	160 / 120.8
	HGRH	RE-HEAT	COIL ENT AIR DB (ºF)	52.1 / 51.9
			COIL LVG AIR W.B. (ºF) - SUPPLY TO SPACE	68 / 58.2
			SENSIBLE BTU/HR (MIN.),	42,700
			PRE FILTER TYPE	2" THROW AWAY
			MAX. CLEAN PRE FILTER PRESS DROP, IN. W.G.	0.25
			PRE FILTER MIN MERV	8
			FINAL FILTER TYPE	4" THROW AWAY
			MAX. CLEAN FINAL FILTER PRESS DROP, IN. W.G.	0.25
			FINAL FILTER MIN MERV	13
	ELECTRICAL		VOLTAGE	460
			PHASE	3
			FREQUENCY	60
			MCA	4
			MOCP	15
			MIN. MOTOR HP, SUPPLY	2.76
			NOTES:	1 THROUGH 11
			MARK	**CU-1**
OUTDOOR HEAT PUMP UNIT	ELECTRICAL		NUMBER OF COMPRESSORS	2
			NUMBER OF CONDENSER FANS	2
			VOLTAGE	460
			PHASE	3
			FREQUENCY	60
			MCA	20
			MOCP	25
			COMPRESSOR RLA	
			NOTES:	1 THROUGH 11

NOTES:
1. SPECIFICALLY DESIGNED AND RATED BY MANUFACTURER FOR 100% OUTSDIE AIR APPLICATIONS.
2. SPLIT SYSTEM AIR CONDITIONING UNIT WITH HOT GAS REHEAT FOR HUMIDITY CONTROL SEQUENCE
3. ENTERING AIR IS MIXED AIR CONDITION COMBINING PRETREATED OUTSIDE AIR WITH RETURN.
4. PROVIDE WITH 2" MERV 8 PRE-FILTERS AND 4" MERV 13 FINAL FILTERS
5. PROVIDE INSULATED CABINET
6. PROVIDED WITH FACTORY MOUNTED CONTROLS TO CONTROL DISCHARGE AIR TEMPERATURE AND HUMIDITY.
7. CONTROLS CAPABLE OF 7 DAY SCHEDULE PROGRAMMING WITH OCCUPANCY OVERRIDE.
8. PROVIDE TEMPERATURE CONTROL SENSORS ACCURATE TO 1%
9. UNITS REQUIRE CONTRACTOR FIELD MOUNTED DISCONNECT
10. PROVIDE .5 IN WG FOR DIRTY FILTER ALLOWANCE
11. FAN HP MAY VERY PER MANUFACTURER

GLYCOL MAKE-UP PACKAGE SCHEDULE

MARK	LOCATION	TANK CAPACITY (GAL.)	ELECTRICAL		MECHANICAL			NOTES
			HP	VAC	MAX PRESS (PSIG)	OPER PRESS (PSIG)	CONN SIZE (IN)	
GF-1	MECH. RM. HEATING WATER	50	1/3	120	25	70	1/2	1,2,3
GF-2	MECH. RM. CHILLED WATER	50						

NOTES:
1. AUTOMATIC SIMPLEX GLYCOL FEEDER AND PUMP WITH SELF CONTAINED CONTROLS .
2. PROVIDE WITH LEAK DETECTION REMOTE ALARM PANEL KIT.
3. PROVIDE WITH OUTLET METER CONNECTED TO BMS.

EXHAUST FAN SCHEDULE

MARK	SERVICE	FAN TYPE	DRIVE TYPE	CFM AIRFLOW	EXT STATIC PRESSURE, IN. W.G.	LOCATION	VFD OR SPEED CONTROL	MINIMUM MOTOR HP	ELECTRICAL					NOTES
									MOTOR RPM	MOP	MCA	FLA (AMPS)	VOLTS / PH	
EF - 1	HOIST BAY 106	IN-LINE CENT	XP	2000 / 5500	2.00	WASH BAY	VFD/ECM	3	VARIES	15	6	4.8	460/60/3	2,3,4,5,6,7,8
EF - 2	HOIST BAY 106	IN-LINE CENT	XP	2000 / 5500	2.00	WASH BAY	VFD/ECM	3	VARIES	15	6	4.8	460/60/3	2,3,4,5,6,7,8
EF - 3	HOIST BAY (EMERGENCY) 106	IN-LINE CENT	XP	1000 / 4400	2.00	WASH BAY	VFD/ECM	3	VARIES	15	6	4.8	460/60/3	1,3,4,5,6,7,8
EF - 4	MAINTENANCE BAY 113	IN-LINE CENT	XP	2000 / 5500	2.00	SHIELDED BAY	VFD/ECM	3	VARIES	15	6	4.8	460/60/3	2,3,4,5,6,7,8
EF - 5	MAINTENANCE BAY 113	IN-LINE CENT	XP	2000 / 5500	2.00	SHIELDED BAY	VFD/ECM	3	VARIES	15	6	4.8	460/60/3	2,3,4,5,6,7,8
EF - 6	MAINTENANCE BAY (EMERGENCY) 113	IN-LINE CENT	XP	1000 / 4400	2.00	SHIELDED BAY	VFD/ECM	3	VARIES	15	6	4.8	460/60/3	1,3,4,5,6,7,8
EF - 7	WASH BAY 120	IN-LINE CENT	XP	2000 / 5500	2.00	HOIST BAY	VFD/ECM	3	VARIES	15	6	4.8	460/60/3	2,3,4,5,6,7,8
EF - 8	WASH BAY 120	IN-LINE CENT	XP	2000 / 5500	2.00	HOIST BAY	VFD/ECM	3	VARIES	15	6	4.8	460/60/3	2,3,4,5,6,7,8
EF - 9	WASH BAY (EMERGENCY) 120	IN-LINE CENT	XP	1000 / 4400	2.00	HOIST BAY	VFD/ECM	3	VARIES	15	6	4.8	460/60/3	1,3,4,5,6,7,8
EF-10	MECH 105	IN-LINE CENT	DIRECT	650	1.00	MECH ROOM	VFD/ECM	1/2	VARIES	15	8.2	6.6	115/60/1	2,3,4,6,7,8
EF-11	MECH 122	IN-LINE CENT	DIRECT	1600	1.00	MECH ROOM	VFD/ECM	3/4	VARIES	15	4.4	3.5	208/60/3	2,3,4,6,7,8
EF-12	FIRE PUMP 102	IN-LINE CENT	DIRECT	400	1.00	FIRE PUMP ROOM	VFD/ECM	1/2	VARIES	15	4.1	5.1	115/60/1	2,3,4,6,7,8
EF-13	ELECTRICAL 104	IN-LINE CENT	DIRECT	150	1.00	ELECTRICAL ROOM	VFD/ECM	1/2	VARIES	15	8.2	6.6	115/60/1	2,3,4,6,7,8
EF-14	ELECTRICAL 123	IN-LINE CENT	DIRECT	350	1.00	ELECTRICAL ROOM	VFD/ECM	1/2	VARIES	15	4.4	3.5	115/60/1	2,3,4,6,7,8
EF-15	WASH BAY STORAGE 121	IN-LINE CENT	XP	200	1.00	WASH BAY STORAGE	VFD/ECM	1/2	VARIES	15	4.4	3.5	115/60/1	2,3,4,6,7,8

NOTES:
1. PROVIDE FAN WITH ECM MOTOR, HI IS 100% RPM, LOW IS APPROX. 25% CFM.
2. PROVIDE ECM MOTOR FOR SPEED CONTROL, FAN OPERATES AT MULTIPLE SETPOINTS
3. ALL FANS ARE SELECTED AT SITE ELEVATION OF 469 FEET AMSL.
4. FAN RATED FOR CONTINUOUS 24/7 OPERATION.
5. CONTINUOUS OPERATION, VARIABLE SPEED, EXPLOSION PROOF ALUMINUM CONSTRUCTION, AMCA CLASS TYPE A
6. PROVIDE VIBRATION ISOLATION FOR ALL FANS.
7. AIRFOIL FAN = AF; CENTRIFUGAL = CENT; UTILI = UTILITY FAN PACKAGE; WALL PROP = PROPELLER FAN.
8. ALL FANS ARE SELECTED FOR MAX STATIC EFFICIENCY IN PRESSURE CLASS, MIN SOUND OUTPUT; MOTOR SIZES LISTED ARE MINIUMUMS.

EXHAUST LOUVER SCHEDULE

MARK	MAX. AIRFLOW, CFM	MIN NET FREE AREA, SQ. FEET	FUNCTION	LOUVER OVERALL SIZE*, L" X H"	MAX ALLOWABLE PRESSURE DROP, IN. W.G.	MAX VELOCITY (FPM)	LOUVER DEPTH IN INCHES	ASSOCIATED EQUIPMENT	NOTES
EL-1	350	1.26	ERV EXHAUST	16 x 24	0.10	277.78	4	ERV-1	ALL
EL-2	650	1.98	MECHANICAL ROOM 105 EXHAUST	24 x 24	0.10	328.28	4	EF-10	ALL
EL-3	150	1.26	ELECTRICAL ROOM 104 EXHAUST	16 x 24	0.10	119.05	4	EF-13	ALL
EL-4	400	1.26	FIRE PUMP 102 EXHAUST	16 X 24	0.10	317.46	4	EF-12	ALL
EL-5	350	1.26	WASH EQUIPMENT 121 EXHAUST	16 x 24	0.10	277.78	4	EF-15	ALL
EL-6	350	1.26	ELECTRICAL ROOM 123 EXHAUST	16 x 24	0.10	277.78	4	EF-14	ALL
EL-7	1,600	2.69	MECHANICAL ROOM 122 EXHAUST	32 x 24	0.10	594.80	4	EF-11	ALL
EL-8	5,500	8.42	WASH BAY 120 EXHAUST	72 X 36	0.10	653.21	4	EF-7	ALL
EL-9	4,300	8.42	WASH BAY 120 EM EXHAUST	72 X 36	0.10	510.69	4	EF-9	ALL
EL-10	4,300	8.42	HOIST BAY 106 EM EXHAUST	72 X 36	0.10	510.69	4	EF-3	ALL
EL-11	5,500	8.42	HOST BAY 106 EXHAUST	72 X 36	0.10	653.21	4	EF-1	ALL

NOTE:
1. LOUVER EXTRUDED AND ANODIZED ALUMINUM, COLOR RE: ARCH TO MATCH ADJACENT EXTERIOR BUILDING SURFACE, SUBMIT COLOR FOR APPROVAL.
2. ALL LOUVERS HAVE STAINLESS BIRD SCREEN
3. SELECTED LOUVERS SHALL PREVENT WATER INTRUSION AT DESIGN FLOW AND VELOCITY.
4. ROUTE LOUVER DRAINS IN A MANNER THAT WILL PREVENT WATER INTRUSION INTO WALL.
5. SEE ARCHITECTURAL BUILDING ELEVATIONS FOR LOCATIONS AND MOUNTING HEIGHTS.
6. PROVIDE CONTROL / SHUT-OFF LOW LEAKAGE DAMPER ATTACHED AS CLOSE TO REAR OF LOUVER AS POSSIBLE.
7. COORDINATE LOUVER FRAMING WITH BUILDING STRUCTURE AND/OR MASONRY OPENINGS.
* LOUVER SIZE IS NOMINAL, COORDINATE LOUVER SIZE WITH INSTALLATION REQUIREMENTS, AND STRUCTURAL OPENINGS.

EXHAUST PENTHOUSE SCHEDULE

MARK	MAX. AIRFLOW, CFM	FUNCTION	DUCT SIZE* L" X H"	LOUVER SIDE 1*, L" X H"	LOUVER SIDE 2*, L" X H"	PENTHOUSE HEIGHT	MAX ALLOWABLE PRESSURE DROP, IN. W.G.	LOUVER DEPTH IN INCHES	ASSOCIATED EQUIPMENT	NOTES
PH-1	5,500	HOIST BAY 107 EXHAUST	36 X 36	36 X 24	36 X 24	24	0.10	4	EF-2	ALL
PH-2	5,500	MAINTENANCE BAY 112 EXHAUST	36 X 36	36 X 24	36 X 24	24	0.10	4	EF-4	ALL
PH-3	5,500	MAINTENANCE BAY 112 EXHAUST	36 X 36	36 X 24	36 X 24	24	0.10	4	EF-5	ALL
PH-4	5,500	WASH BAY 117 EXHAUST	36 X 36	36 X 24	36 X 24	24	0.10	4	EF-7	ALL
PH-5	4,300	MAINTENANCE BAY EM 107 EXHAUST	36 X 36	36 X 24	36 X 24	24	0.10	4	EF-6	ALL
PH-6	6,000	AIR COMPRESSOR 1 EXHAUST	34 X 30	34 X 24	34 X 24	24	0.10	4	AC-1	ALL
PH-7	6,000	AIR COMPRESSOR 2 EXHAUST	34 X 30	34 X 24	34 X 24	24	0.10	4	AC-2	ALL

NOTE:
1. PENTHOUSE COMPRISED OF MULTIPLE, SEPARATE LOUVER UNITS INSTALLED WITH MANUFACTURER PROVIDED HARDWARE.
2. CONTRACTOR RESPONSIBLE FOR CONFIRMING FLOWS AND FUNCTION OF FINAL ASSEMBLY.
3. LOUVER EXTRUDED AND ANODIZED ALUMINUM, COLOR RE: ARCH TO MATCH ADJACENT EXTERIOR BUILDING SURFACE, SUBMIT COLOR FOR APPROVAL.
4. ALL LOUVERS HAVE STAINLESS STEEL BIRD SCREEN
5. LOUVERS PREVENT WATER INTRUSION AT DESIGN FLOW AND VELOCITY. PROVIDE LOUVERS RESISTANT TO WIND DRIVEN RAIN,
6. ROUTE LOUVER DRAINS IN A MANNER THAT WILL PREVENT WATER INTRUSION THROUGH ROOF.
7. SEE ARCHITECTURAL BUILDING ELEVATIONS FOR LOCATIONS AND MOUNTING HEIGHTS.
8. PROVIDE CONTROL / SHUT-OFF LOW LEAKAGE DAMPER ATTACHED AS CLOSE TO BASE OF PENTHOUSE AS POSSIBLE.
9. COORDINATE PENTHOUSE WITH CURB, BUILDING STRUCTURE, AND ARCHITECTURAL FLASHING DETAILS
* LOUVER SIZE IS NOMINAL, COORDINATE LOUVER SIZE WITH INSTALLATION REQUIREMENTS, AND STRUCTURAL OPENINGS.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: CHECKED
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SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
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SUBMITTED BY: A. BLANKENSHIP, P.E.
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL SCHEDULES

SHEET ID
M-602

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

HHW EXPANSION TANK SCHEDULE

MARK	BASIS OF DESIGN	LOCATION	TYPE	SERVICE	VOLUME CAPACITY (GAL)	MIN ACCEPTANCE CAPACITY (GAL)	MINIMUM WORKING PRESSURE (PSI)	DIA/HEIGHT (IN)	NOTES
ET-1	BLADDER TYPE	MECH ROOM 122	VERT-DIAPHRAGM	HHWS	20.0	10.0	125	TDB	1,2,3,4

NOTES:
1. INITIAL FILL PRESSURE IS 20 PSI.
2. AMSE CODE TANK REQUIRED.
3. FLOOR MOUNTED OR IN-LINE.
4. CHARGE PRESSSURE 15 PSI OR BASED ON MANUFACTURER.

HVLS FAN SCHEDULE

MARK	FAN TYPE	DRIVE TYPE	DIAMETER (FT)	LOCATION	MAX FAN RPM	VFD OR SPEED CONTROL	MINIMUM MOTOR HP	ELECTRICAL			OVERALL WEIGHT, POUNDS	NOTES
								MOTOR RPM	VOLTS / PH	MOP		
HVLSF-1	CEILING-AIRFOIL	DIRECT,GEAR REDUCER	18'	HOIST BAY	90	VFD	2.5	VARIES	460 / 3	10	281	ALL
HVLSF-2	CEILING-AIRFOIL	DIRECT,GEAR REDUCER	18'	MAINTENANCE BAY	90	VFD	2.5	VARIES	460 / 3	10	281	ALL

NOTES:
1. MINIMUM 8 AIRFOIL BLADES WITH SOUND ELIMINATING DEVICE AND AIRFOIL RETAINING DEVICE FOR SAFETY
2. PROVIDE WITH MANUFACTURER SUPPLIED INTEGRATED VFD MOUNTED ON FAN.
3. PROVIDE WALL MOUTED CONTROLLER IN EACH BAY, PROVIDE BACNET INTERFACE WITH SUPERVISORY CONTROL.
4. FANS SHALL BE RATED FOR CONTINUOUS 24/7 OPERATION.
5. TOTALLY ENCLOSED FAN COOLED MOTOR WITH IP56 CLASSIFICATION
6. PROVIDE HIGH EFFICIENCY, HERMETICALLY SEALED,NITROGEN FILLED,OFFSET HELICAL GEAR REDUCER WITH TWO STAGE GEARING
7. PROVIDE MANUFACTURER PROVIDED STRUCTURUAL SUPPORTS AS REQUIRED FOR FAN. PROVIDE SHOP DRAWINGS FOR APPROVAL.
8. COORDINATE FINAL MOUNTING LOCATIONS WITH MANUFACTURER RECOMMENDED LAYOUT FOR OPTIMUM AIRFLOW AND OTHER DISCIPLINES
9. PROVIDE ALL MANUFACTURER RECOMMENDED MOUNTING HARDWARE AND SAFETY EQUIPMENT.
10. PROVIDE MINIMUM MANUFACUTURER CLEARANCE WITH CRANE IN HOIST BAY.

HYDRONIC CONTROL VALVE SCHEDULE

EQUIPMENT ID	LOCATION	LOGICAL DESCRIPTION	TYPE	FLUID			NOTES
				FLOW RATE (GPM)	WORKING FLUID	Cv	
MAU-1	HOIST BAY (107)	MAU- 1 HHW COIL	3-WAY - BYPASS	45.10	30% P.G.	45.47	ALL
MAU-2	MAINT BAY (112)	MAU-2 HHW COIL	3-WAY - BYPASS	45.10	30% P.G.	45.47	ALL
MAU-2	MAINT BAY (112)	MAU-2 CHW COIL	3-WAY - BYPASS	101.00	30% P.G.	101.82	ALL
MAU-2	MAINT BAY (112)	MAU-2 RHW COIL	3-WAY - BYPASS	10.30	30% P.G.	10.38	ALL
MAU-3	WASH BAY (117)	MAU-3 HHW COIL	3-WAY - BYPASS	45.10	30% P.G.	45.47	ALL
AHU-1	MECH (105)	AHU-1 HHW COIL	3-WAY - BYPASS	5.00	30% P.G.	5.04	ALL
UH-1	MECH (105)	UH-1 HHW COIL	2-WAY - 2 POSITION	3.75	30% P.G.	3.78	ALL
UH-3	FIRE PUMP (102)	UH-3 HHW COIL	2-WAY - 2 POSITION	3.00	30% P.G.	3.02	ALL
UH-5	WASH EQUIPMENT (121)	UH-5 HHW COIL	2-WAY - 2 POSITION	3.00	30% P.G.	3.02	ALL
UH-6	MECHANICAL ROOM (122)	UH-6 HHW COIL	2-WAY - 2 POSITION	3.25	30% P.G.	3.28	ALL
UH-7	MECHANICAL ROOM (122)	UH-7 HHW COIL	2-WAY - 2 POSITION	3.25	30% P.G.	3.28	ALL
UH-8	MECHANICAL ROOM (122)	UH-8 HHW COIL	2-WAY - 2 POSITION	3.25	30% P.G.	3.28	ALL

NOTES:
1. SIZE VERIFIED BY CONTROLS CONTRACTOR
2. CONTROLS CONTACTOR TO ASSIGN DEVICE ID PROVIDE VALVE ID IN AS BUILT DRAWINGS
3. COORDINATE FLOWS WITH FINAL COIL SELECTIONS
4. VARY BYPASS FLOW TO ADJUST LEAVING AIR TEMP

PRE-CONDITIONED AIR UNIT SCHEDULE

MARK	LOCATION SERVED	TYPE	AIR		HEATING		COOLING			ELECTRICAL			NOTES
			MAXIMUM SUPPLY AIRFLOW RATE (LB/MIN)	EXTERNAL STATIC PRESSURE DROP (IN H20)	HEATING CAPACITY (KW)	LAT RANGE (°F)	EAT DB/WB	LAT RANGE (°F)	NOMINAL COOLING LOAD (TON)	S.A. FAN MOTOR SIZE (HP)	VOLT/PH	MCA/MOP	
PCA-1	HOIST BAY	PACKAGED	180	20	36.0	80 -130	95 / 76	25 - 60	30*	25	460 / 3	91/125	ALL
PCA-2	WASH BAY	PACKAGED	180	20	36.0	80-130	95 / 76	25 - 60	30*	25	460 / 3	91/125	ALL

NOTES:
1. EQUIPMENT SHALL BE STANDARD,SELF CONTAINED, EQUIPMENT MANUFACTURED SPECIFICALLY AS A PCA UNIT .
2. PROVIDE PCA WITH VARIABLE CAPACITY
3. FAN EXTERNAL STATIC PRESSURE LISTED INCLUDES ONLY EXTERNAL DUCTWORK MFR. TO ADD PRESSURE DROP FOR DIRTY FILTERS OF AT LEAST 0.6" W.G.
4. PROVIDE LOCAL AND REMOTE CONTROL PANEL FOR PERMANENTLY INSTALLED PCA.
5. CONTRACTOR RESPONSIBLE FOR COORDINATING CIRCUITS AND FUSES REQUIRED FOR EQUIPMENT PROVIDED.
6. DUCT PCA AIR THROUGH HANGAR WALL WITH HARD DUCT
7. PROVIDE SAE AS38386 4 CAM, CAM LOCK, MALE AIR DUCT CONNECTOR WITH REMOVEABLE CAP AT HANGAR WALL
8. PROVIDE AIRCRAFT SPECIFIC COUPLING COMPLIANT WITH AIRCRAFT NIPPPLE MS16052 FOR PRE CONDITIONED AIR.
9. COORDINATE WITH PCA ACCESSORIES CONTRACTING OFFICER.
10, PROVIDE WITH 45' 8" INSULATED FLEX DUCT WITH SAE AS38386 4 CAM CONNECTORS. PROVIDE 8' OF 4" PCA HOSE AND 8-4 ADAPTER.
11. PROVIDE STORAGE RACK FOR PCA HOSE
12. REFER TO UFGS 23 75 15

GRILLE / REGISTER / DIFFUSER SCHEDULE

MARK ◇	BASIS OF DESIGN	SERVICE	FACE : CONNECTION SIZE (L" X H"; ø") NOTE 4,5	TARGET OR AIRFLOW RANGE, (CFM)	MAX. PRESS, "W.G - TOTAL PRESS / STATIC PRESSURE	MAX. NC LEVEL-MFR LISTING	MIN. THROW (FT.) @ 50 FPM	DAMPER TYPE	NOTES
A	NOTE 7	SA DIFFUSER	24" x 24"; 10"	200 - 400	0.075/0.033	25	12	OPP BLADE	1, 2, 3, 4, 5, 7,10
B	NOTE 7	SA DIFFUSER	24" x 24"; 8"	200-299	0.085/0.038	26	8	OPP BLADE	1, 2, 3, 4, 6, 7,10
C	NOTE 7	SA DIFFUSER	12" x 12"; 8"	100-199	0.085/0.038	26	8	OPP BLADE	1, 3, 5, 6, 7,10
D	NOTE 7	SA DIFFUSER	12" x 12"; 6"	<100	0.085/0.038	26	8	OPP BLADE	1, 3, 5, 6, 7,10
E	NOTE 11	OSA DIFFUSER	VARIES	2100	----	30	26	OPP BLADE	5,
F	NOTE 14	OSA DIFFUSER	16 X 16	150	----	30	GRAVITY	OPEN	5
G	NOTE 8	OSA DRUM DIFFUSER	36"x 8"	800	0.1	-	43	OPP BLADE	1, 3, 5, 6, 8,10
H	NOTE 6	RA GRILLE	24" x 24"	300-1000	/0.24	-	-	OPP BLADE	1, 3, 5, 6, 9,10
I	NOTE 6	RA GRILLE	12" x 12"	50-200	/0.008	-	-	OPP BLADE	1, 2, 3, 4, 5, 9,10
J	NOTE 13	RA GRILLE	30 X 30	5000	0.125	50	-	OPEN	5
K	NOTE 6	EA GRILLE	12" x 12"	50-200	/0.008	-	-	OPP BLADE	1, 2, 3, 4, 5, 9,10
L	NOTE 12	EA GRILLE	36 X 36	5500	0.125	50	-	OPEN	5

NOTES:
1. PRESSURE & THROWS ARE AT AIRFLOW SHOWN FOR EACH DEVICE. REFER TO PLAN FOR SPECIFIC DEVICE AIRFLOW AND BRANCH SIZE.
2. SA DIFFUSERS INSTALLED IN LAY-IN CEILINGS UNLESS NOTED OTHERWISE. PROVIDE TRANSITION IF DIFFUSER SIZE IS LESS THAN 24"x 24".
3. TOILET SUPPLY DIFFUSERS, RETURN AIR AND EXHAUST GRILLES ARE PAINTED ALUMINUM. OTHER DEVICES ARE PAINTED STEEL
4. IF NO CONNECTION SIZE IS LISTED CONNECTION SIZE IS APPROX SAME AS BRANCH SIZE.
5. COORDINATE COLOR WITH ARCHITECTURAL ROOM FINISH AS REQUIRED.
6. EGGCRATE AIR GRILLE, 1/2 SQUARE GRID
7. ADJUSTABLE LOUVERED LAY-IN CEILING DIFFUSER PROVIDE FROME IN HARD CEILING
8. DRUM LOUVER W/DAMPER, INSTALLED AT 45 DEGREE TYPICAL, SOME BOTTOM TAPS OR HORIZONTAL WHERE NOTED
9. RETURN GRILLE, 35 DEGREE DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION
10. PROVIDE EACH DEVICE WITH BALANCE DAMPER.
11. 3-WAY DISTRIBUTION PLENUM 3 DIFFUSERS AS INDICATED. COORDINATE PLENUM WITH SELECTED DIFFUSERS. OPPOSED BLADE DAMPER IN DUCT FEEDING PLENUM.
12. DUCT MOUNTED EXHAUST GRILLE
13. RETURN/RELIEF GRILL CONNECTED TO MAU PLENUM WITH MOTORIZED DAMPER FOR NIGHT SETBACK
14. TRANSFER DUCT THROUGH MECH ROOM WALL MOUNTED OSA GRILLE IN ELECTRICAL...

HHW PUMP SCHEDULE

MARK	LOCATION	TYPE	FLUID			PUMP		ELECTRICAL						NOTES
			FLOW RATE (GPM)	WORKING FLUID	HEAD (FT)	MIN. EFFICIENCY (%)	CONSTRUCTION	MINIMUM MOTOR SIZE (HP)	MOTOR SPEED (RPM)	FLA	MOP	SCCR	VOLT/PH/HZ	
HHWP-1	MECH ROOM 122	TRIPLEX PUMP SKID	152.3	30% PG	63.0	71	CAST IRON / 304 SS	(3 Pumps) 5	VARIES	(Panel Max) 19.6	25A	100 KA	460/3/60	ALL

NOTES:
1. PROVIDE INTEGRAL BACKNET CONTROLLER.
2. OPERATING TEMP RANGE 110 TO 160 DEG. F.
3. PROVIDE WITH FLEX CONNECTORS, INLET STRAINER, BALANCING VALVE, ISOLATION AND CHECK VALVES.
5. BOILER PUMP START/STOP CONTROLLED BY BOILER CONTROLLER.
6. TRIPLEX PUMP SKID WITH PUMPS, INTEGRAL VFD'S, VALVES, SUCTION AND DISCHARGE HEADER, PRESSURE SENSORS, CONTROL PANEL WITH PUMP LOGIC CONTROLLER AND PUMP BASE, N+1 DESIGN (2 ACTIVE + 1 STANDBY).
7. PUMPS ARE MULTI-STAGE DESIGN.
8. PUMPS TO HAVE INTEGRAL VFD'S WITH ECM MOTORS AND RATED IE3.

INTAKE LOUVER SCHEDULE

MARK	MAX. AIRFLOW, CFM	MIN NET FREE AREA, SQ. FEET	FUNCTION	LOUVER NOMINAL* SIZE*, L" X H"	MAX ALLOWABLE PRESSURE DROP, IN. W.G.	MAX VELOCITY (FPM)	LOUVER DEPTH IN INCHES	ASSOCIATED EQUIPMENT	NOTES
IL-1	600	1.98	ADMIN ERV-1 OSA INTAKE	24 x 24	0.10	303.03	4	ERV-1	2,3,4,5,6,7,8
IL-2	650	1.98	MECHANICAL ROOM 105 VENTILATION	24 x 24	0.10	328.28	4	EF-10	2,3,4,5,6,7,8
IL-3	150	1.26	ELECTRICAL ROOM 104 VENTILATION	16 x 24	0.10	119.05	4	EF-13	2,3,4,5,6,7,8
IL-4	400	1.26	FIRE PUMP ROOM 102 VENTILATION	16 x 24	0.10	317.46	4	EF-12	2,3,4,5,6,7,8
IL-5	13,600	21.98	MECHANICAL ROOM 122 VENTILATION	120 x 48	0.10	618.74	4	EF-11	1,2,3,4,5,6,7,8,9
IL-6	350	1.26	ELECTRICAL ROOM 123 VENTILATION	16 x 24	0.10	277.78	4	EF-14	2,3,4,5,6,7,8
IL-7	10,300	20.21	WASH BAY MAU 3 INTAKE	68 x 74	0.10	509.65	4	MAU-3	1,2,3,4,5,6,7,8
IL-8	10,300	20.21	MAINTENANCE BAY MAU 2 INTAKE	68 x 74	0.10	509.65	4	MAU-2	1,2,3,4,5,6,7,8
IL-9	10,300	20.21	HOIST BAY MAU 1 INTAKE	68 x 74	0.10	509.65	4	MAU-1	1,2,3,4,5,6,7,8
IL-10	5,500	9.86	HOIST BAY 106 SUMMER VENT INTAKE	84 X 36	0.10	557.81	4	RELIEF	2,3,4,5,6,7,8
IL-11	5,500	9.86	HOIST BAY 106 SUMMER VENT INTAKE	84 X 36	0.10	557.81	4	RELIEF	2,3,4,5,6,7,8
IL-12	5,500	9.86	MAINT BAY 113 SUMMER VENT INTAKE	84 X 36	0.10	557.81	4	RELIEF	2,3,4,5,6,7,8
IL-13	5,500	9.86	MAINT BAY 113 SUMMER VENT INTAKE	84 X 36	0.10	557.81	4	RELIEF	2,3,4,5,6,7,8
IL-14	5,500	9.86	WASH BAY 120 SUMMER VENT INTAKE	84 X 36	0.10	557.81	4	RELIEF	2,3,4,5,6,7,8
IL-15	5,500	9.86	WASH BAY 120 SUMMER VENT INTAKE	84 X 36	0.10	557.81	4	EF-15	2,3,4,5,6,7,8

NOTES:
1. MULTIPLE & SEPARATE LOUVER UNITS USED FOR SAME FUNCTION AS A LARGE LOUVER IS ALLOWABLE. CONTRACTOR RESPONSIBLE FOR CONFIRMING FLOWS AND FUNCTION OF FINAL ASSEMBLY. FLOW DIVIDED BY MULTIPLE MOTORIZED DAMPERS.
2. LOUVER EXTRUDED AND ANODIZED ALUMINUM, COLOR RE: ARCH TO MATCH ADJACENT EXTERIOR BUILDING SURFACE, SUBMIT COLOR FOR APPROVAL.
3. ALL LOUVERS HAVE STAINLESS STEEL BIRD SCREEN
4. SELECTED LOUVERS SHALL PREVENT WATER INTRUSION AT DESIGN FLOW AND VELOCITY. PROVIDE LOUVERS RESISTANT TO WIND DRIVEN RAIN,
5. ROUTE LOUVER DRAINS IN A MANNER THAT WILL PREVENT WATER INTRUSION INTO WALL.
6. SEE ARCHITECTURAL BUILDING ELEVATIONS FOR LOCATIONS AND MOUNTING HEIGHTS.
7. PROVIDE CONTROL / SHUT-OFF LOW LEAKAGE DAMPER ATTACHED AS CLOSE TO REAR OF LOUVER AS POSSIBLE.
8. COORDINATE LOUVER FRAMING WITH BUILDING STRUCTURE AND/OR MASONRY OPENINGS.
9. COORDINATE MECHANICAL ROOM LOUVER WITH INSTALLED AIR COMPRESSORS COOLING FLOW RATE PLUS 1600 CFM
* LOUVER SIZE IS NOMINAL, COORDINATE LOUVER SIZE WITH INSTALLATION REQUIREMENTS, AND STRUCTURAL OPENINGS.

US Army Corps of Engineers ®

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MECHANICAL SCHEDULES

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100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

MAKEUP AIR UNITS

MARK	LOCATION SERVED	TYPE	AIR			HEATING SECTION						COOLING SECTION						REHEAT			ELECTRICAL			PHYSICAL		NOTES
			OCCUPIED SUPPLY AIRFLOW 100% OSA (CFM)	NIGHT SETBACK OSA/RTN AIRFLOW (CFM)	EXTERNAL STATIC PRESSURE DROP (IN H20)	SOURCE	EAT DB/WB (°F)	LAT STEPS (°F)	MAX HEATING LOAD (MBH)	TEMP (°F)	FLOW STEPS (GPM)	SOURCE	EAT DB/WB (°F)	LAT STEPS (°F)	MAX COOLING LOAD (MBH)	TEMP ENTER/LEAVE (°F)	FLOW (GPM)	EAT DB/WB (°F)	LA (T / RH)	FLOW (GPM)	S.A. FAN MOTOR SIZE (HP)	VOLT/PH/HZ	MCA/MOP	ASSOCIATED SYSTEM EXHAUST FAN	MIN MERV FILTER EFF. PRE-POST	
MAU-1	HOIST BAY	HORIZONTAL STACKED	10,300	1000 / 5000	2	30% PG	21 / 19	91.7/71.9	838.4	160.0	45.1/ 18	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 X 2	460 / 3 / 60	14.2	EF-1, EF-2, EF-3	8	ALL
MAU-2	MAINT BAY	HORIZONTAL STACKED	10,300	1000 / 5000	2	30% PG	21 / 19	91.7/71.9	838.4	160.0	45.1/18	30% PG	97 / 76	55 / 55	728.7	43 / 58	101	55/55	73 / 55%	10.3	6.5 X 2	460 / 3 / 60	16.7	EF-4, EF-5, EF-6	8	ALL
MAU-3	WASH BAY	HORIZONTAL STACKED	10,300	1000 / 5000	2	30% PG	21 / 19	91.7/71.9	838.4	160.0	45.1/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 X 2	460 / 3 / 60	14.2	EF-7, EF-8, EF-9	8	ALL

NOTES:
1. NIGHT SETBACK IN HEATING ONLY
2. MAU FANS SUPPLIED WITH VARIABLE FREQUENCY DRIVES, SUPPLY FANS ARE FORWARD CURVED, AIRFOIL SHAPES FOR HIGH EFFICIENCY
3. PROVIDE MAU'S WITH MERV 8 PRE-FILTERS.
4. SEE FAN SCHEDULE FOR ASSOCIATED EXHAUST FAN. EF'S ARE SEPARATE FROM THE MAU AND MAY OR MAY NOT BE PROVIDED BY THE MAU MFR.
5. FAN EXTERNAL STATIC PRESSURE LISTED INCLUDES ONLY EXTERNAL DUCTWORK MFR. TO ADD PRESSURE DROP FOR DIRTY FILTERS OF AT LEAST 0.6" W.G.
6. UNIT CONTROLS MUST BE COMPATIBLE AND INTEGRATED WITH BACNET BMS SYSTEM.
7. CONTRACTOR RESPONSIBLE FOR COORDINATING CIRCUITS AND FUSES REQUIRED FOR EQUIPMENT PROVIDED.
8. PROVIDE DRAIN PAN FOR ALL COILS, ROUTE PIPE TO HUB DRAIN. PROVIDE FLOST SWITCH IN EACH DRAIN PAN.
9. PROVIDE BALL VALVE IN DRAIN LINE FOR HEATING COIL. TO BE OPENED FOR COIL CLEANING OR IN CASE OF BROKEN...
10. COORDINATE MAXIMUM EQUIPMENT LENGTH WITH AIRCRAFT CLEARANCES AND STRUCTURAL SUPPORT

MINI-SPLIT HEAT PUMP SCHEDULE

MARK	LOCATION	TYPE	REFRIG.	COOLING AND HEATING REQUREMENTS							ELECTRICAL & EFFICIENCY			ASSOCIATED CONDENSING UNIT AND MARK NO.	PHYSICAL INSIDE UNIT DIMENSION (IN.) (LxDxH)	NOTES
				NOMINAL COOLING/ HEATING (BTUH)	REQUIRED COOLING (BTUH)	COOLING AMBIENT ENTERING AIR TEMPERATURE (°F DB) RANGE	REQUIRED HEATING (BTUH)	HEATING ENTERING AIR TEMPERATURE (°F) RANGE	SEER/EER	HSPF/COP	MOP	TOTAL MCA	CHILLER AND CONTROL CIRCUIT (V/P/HZ)			
MSHP-1	COMM ROOM	HEAT PUMP	R-454B	18000	18,000 @ 95F	0-115	19000 @ 47F	-4-70	25/13	11 / 4.35				MSCU-1	34.1/8.2/11.5	ALL
MSCU-1	OUTDOOR		R-454B	18000							25.0	19.0	208 / 1 / 60		35.4/14.9/23.5	ALL

NOTES:
1. REFRIGERANT IS ZERO ODP REFRIGERANT
2. INSIDE AND OUTSIDE UNITS SHALL BE MATCHED UNITS FROM THE SAME MANUFACTURER
3. COMPRESSOR TYPE IS ROTARY; OTHER TYPES ACCEPTABLE BUT LOOKING FOR BEST EFFICIENCY IN CLASS
4. CONTROLS SHALL BE PROVIDED BY UNIT MANUFACTURER. CONTROLS SHALL BE WALL MOUNTED. IF WIRELESS REMOTE IS PROVIDED, MOUNT TO WALL WITH MANUFACTURER RECOMMENDED MOUNT.
5. PROVIDE MANUFACTURERS REQUIRED AIRFLOW AND SERVICE CLEARANCES ON ALL SIDES.
6. CONDENSER COILS SHALL BE CLEANABLE AND HAVE HAIL GUARDS.
7 PROVIDE COMPLETE WITH INDOOR WALL MOUNTED UNIT AND EXTERIOR HEAT PUMP UNIT MOUNTED AS SHOWN.
8. MIN ONE YEAR PARTS AND 5 YEAR COMPRESSOR WARRANTY.
9. INDOOR UNIT IS WALL MOUNTED APPROX 7 FEET ABOVE FINISHED FLOOR OR AS SHOWN OR NOTED
10. OUTDOOR UNIT IS MOUNTED ON CONCRETE PAD EXTERIOR TO THE FACILITY WHERE SHOWN.
11. ROUTE CONDENSATE OUTSIDE WITH REFRIGERANT LINES. PIPE CONDENSATE TO STORM DRAIN INLET ADJSCENT TO CONDENSING UNIT.
12. INSTALL UNIT ACCORDING TO MANUFACTURERS PUBLISHED INSTALLATION INSTRUCTIONS AND APPLICABLE LOCAL CODE.

UNIT HEATER SCHEDULE

MARK	LOCATION	TYPE	FUEL TYPE	USE TYPE	AIR			FLUID			ELECTRICAL			NOTES
					AIRFLOW RATE (CFM)	MIN OUTPUT CAPACITY (KW)	MIN OUTPUT CAPACIY (MBH)	FLOW RATE (GPM)	ENTERING/ LEAVING TEMP. (ºF)	WORKING FLUID	MOTOR SIZE (HP)	MCA/MOP	VOLT / PH	
UH-1	MECHANICAL (105)	VERTICAL PROPELLER	HYDRONIC	NON-FREEZE HEATING	417 / 636	-	75.0	3.75	160 /120	30% GLYCOL	FRACTIONAL	2.09 / 15	115/1	1,2,3,4,5
UH-2	ELECTRICAL ROOM (104)	VERTICAL PROPELLER	ELECTRIC	NON-FREEZE HEATING	350	3.7	-	-	-	ELECTRIC	FRACTIONAL	4.7	480/3	1,2,3,4,5
UH-3	FIRE PUMP (102)	VERTICAL PROPELLER	HYDRONIC	NON-FREEZE HEATING	248 / 410	-	60.0	3.00	160 / 120	30% GLYCOL	FRACTIONAL	1.2 / 15	115/1	1,2,3,4,5
UH-4	ELECTRICAL ROOM (115)	VERTICAL PROPELLER	ELECTRIC	NON-FREEZE HEATING	350	3.7	-	-	160 / 120	ELECTRIC	FRACTIONAL	4.7	480/3	1,2,3,4,5
UH-5	WASH EQUIPMENT (121)	VERTICAL PROPELLER	HYDRONIC	NON-FREEZE HEATING	248 / 410	-	60.0	3.00	-	30% GLYCOL	FRACTIONAL	1.2 / 15	115/1	1,2,3,4,5
UH-6	MECHANICAL (122)	VERTICAL PROPELLER	HYDRONIC	NON-FREEZE HEATING	1094 / 1659	-	65.0	3.25	160 / 120	30% GLYCOL	FRACTIONAL	4.25 / 15	115/1	1,2,3,4,5
UH-7	MECHANICAL (122)	VERTICAL PROPELLER	HYDRONIC	NON-FREEZE HEATING	1094 / 1659	-	65.0	3.25	160 / 120	30% GLYCOL	FRACTIONAL	4.25 / 15	115/1	1,2,3,4,5
UH-8	MECHANICAL (122)	VERTICAL PROPELLER	HYDRONIC	NON-FREEZE HEATING	1094 / 1659	-	65.0	3.25	160 / 120	30% GLYCOL	FRACTIONAL	4.25 / 15	115/1	1,2,3,4,5
UH-9	ELECTRICAL ROOM (123)	VERTICAL PROPELLER	ELECTRIC	NON-FREEZE HEATING	650	7.5	-	-	-	ELECTRIC	FRACTIONAL	9.4	480/3	1,2,3,4,5
UH-10	ADMIN ABOVE CEILING	VERTICAL PROPELLER	HYDRONIC	NON-FREEZE HEATING	248 / 410	-	60.0	3.00	-	30% GLYCOL	FRACTIONAL	1.2 / 15	115/1	1,2,3,4,5

NOTES:
1. WALL MOUNTED LOW VOLTAGE THERMOSTAT. INTEGRATE WITH BMS.
2. MOUNTING HEIGHT IS NOMINAL 10 FEET ABOVE FLOOR TO BOTTOM OF UNIT.
3. ALL UNITS ARE SELECTED / CORRECTED FOR ALTITUDE,GLYCOL, ENTERING TEMPERATURE, ETC. TO PROVIDE MIN. HEATING OUTPUT CAPACITY SHOWN OR GREATER.
4. SELECTION ALTITUDE IS 460 FEET AMSL.
5. ROD SUSPENED FROM STRUCTURE ABOVE OR BRACKET TO COLUMN WITH WALL SWAY BRACE ALL UNITS.

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MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL SCHEDULES

SHEET ID
M-604

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MOTORIZED DAMPER SCHEDULE

MARK	MAX. AIRFLOW, CFM	FUNCTION	LOUVER OVERALL SIZE*, L" X H"	ASSOCIATED EQUIPMENT		NOTES
MD-E1	350	ERV EXHAUST	16 x 24	EL-1	ERV-1	1
MD-E2	650	MECHANICAL ROOM 105 EXHAUST	24 x 24	EL-2	EF-10	1
MD-E3	150	ELECTRICAL ROOM 104 EXHAUST	16 x 24	EL-3	EF-13	1
MD-E4	400	FIRE PUMP 102 EXHAUST	16 X 24	EL-4	EF-12	1
MD-E5	350	WASH EQUIPMENT 121 EXHAUST	16 x 24	EL-5	EF-15	1
MD-E6	350	ELECTRICAL ROOM 123 EXHAUST	16 x 24	EL-6	EF-14	1
MD-E7	1,600	MECHANICAL ROOM 122 EXHAUST	32 x 24	EL-7	EF-11	1
MD-E8	5,500	WASH BAY 120 EXHAUST	72 X 36	EL-8	EF-7	1
MD-E9	4,300	WASH BAY 120 EM EXHAUST	72 X 36	EL-9	EF-9	1
MD-E10	4,300	HOIST BAY 106 EM EXHAUST	72 X 36	EL-10	EF-3	1
MD-E11	5,500	HOST BAY 106 EXHAUST	72 X 36	EL-11	EF-1	1
MD-E12	5,500	HOIST BAY 107	36 X 36	PH-1	EF-2	1
MD-E13	5,500	MAINTENANCE BAY 112	36 X 36	PH-2	EF-4	1
MD-E14	5,500	MAINTENANCE BAY 112	36 X 36	PH-3	EF-5	1
MD-E15	5,500	WASH BAY 117	36 X 36	PH-4	EF-7	1
MD-E16	4,300	MAINTENANCE BAY EMERGENCY 107	36 X 36	PH-5	EF-6	1
MD-E17	6,000	AIR COMPRESSOR 122	34 X 30	PH-7	AC-1	1
MD-E18	6,000	AIR COMPRESSOR 122	34 X 30	PH-8	AC-2	1
MD-I1	600	ADMIN ERV-1 OSA INTAKE	24 x 24	IL-1	ERV-1	1
MD-I2	650	MECHANICAL ROOM 105 VENTILATION	24 x 24	IL-2	EF-10	1
MD-I3	150	ELECTRICAL ROOM 104 VENTILATION	16 x 24	IL-3	EF-13	1
MD-I4	400	FIRE PUMP ROOM 102 VENTILATION	16 x 24	IL-4	EF-12	1
MD-I5	13,600	MECHANICAL ROOM 122 VENTILATION	120 x 48	IL-5	EF-11	1
MD-I6	350	ELECTRICAL ROOM 123 VENTILATION	16 x 24	IL-6	EF-14	1
MD-I7	10,300	WASH BAY MAU 3 INTAKE	68 x 68	IL-7	MAU-3	1,2
MD-I8	10,300	MAINTENANCE BAY MAU 2 INTAKE	68 x 68	IL-8	MAU-2	1,2
MD-I9	10,300	HOIST BAY MAU 1 INTAKE	68 x 68	IL-9	MAU-1	1,2
MD-I10	5,500	HOIST BAY 106 SUMMER VENT INTAKE	84 X 36	IL-10	RELIEF	1
MD-I11	5,500	HOIST BAY 106 SUMMER VENT INTAKE	84 X 36	IL-11	RELIEF	1
MD-I12	5,500	MAINT BAY 113 SUMMER VENT INTAKE	84 X 36	IL-12	RELIEF	1
MD-I13	5,500	MAINT BAY 113 SUMMER VENT INTAKE	84 X 36	IL-13	RELIEF	1
MD-I14	5,500	WASH BAY 120 SUMMER VENT INTAKE	84 X 36	IL-14	RELIEF	1
MD-I15	5,500	WASH BAY 120 SUMMER VENT INTAKE	84 X 36	IL-15	EF-15	1
MD-R1	3,400	MAU 1 NIGHT SETBACK RTN	30 X 30		MAU-1	1
MD-R2	3,400	MAU 1 NIGHT SETBACK RTN	30 X 30		MAU-1	1
MD-R3	3,400	MAU 2 NIGHT SETBACK RTN	30 X 30		MAU-2	1
MD-R4	3,400	MAU 2 NIGHT SETBACK RTN	30 X 30		MAU-2	1
MD-R5	3,400	MAU 3 NIGHT SETBACK RTN	30 X 30		MAU-3	1
MD-R6	3,400	MAU 3 NIGHT SETBACK RTN	30 X 30		MAU-3	1

NOTES:
1. PROVIDE LOW LEAKAGE MOTORIZED DAMPER ATFP COMPLIANT
2. PROVIDE DAMPER SECTION SIZED FOR NIGHT SETBACK AIRFLOW

US Army Corps of Engineers ®

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MECHANICAL SCHEDULE

SHEET ID

M-605

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LEGEND & SYMBOLS

W-X-Y-Z
##
DEVICE SYMBOL, GENERIC
USED TO REPRESENT SENSORS, INSTRUMENTS SAFETIES, AND OTHER CONTROL DEVICES
W-X-Y-Z : (SEE ABBREVIATIONS AND ACRONYMS)

GENERIC USAGE TO SHOW LOCATION OF DEVICE; PROCESS OR DEVICE BEING MEASURED OR CONTROLLED; SIGNAL TYPE; MODIFIERS AND OTHER APPLICATION INFORMATION

W-X-Y-Z
##
DEVICE SYMBOL, GENERIC
MULTIPLE OUTPUT DEVICE WHERE AT LEAST 1 OUTPUT IS ALWAYS SAFETY INTERLOCK

W-X-Y-Z
DDC
##
DIR
REV
DEVICE SYMBOL, CONTROLLER
DDC : DIRECT DIGITAL CONTROL
: DEVICE NUMBER
DIR : DIRECT CONTROL ACTION, OR
REV : REVERSE CONTROL ACTION
W-X-Y-Z : (SEE ABBREVIATIONS AND ACRONYMS)

GENERIC USAGE TO SHOW LOCATION OF DEVICE; PROCESS OR DEVICE BEING MEASURED OR CONTROLLED; SIGNAL TYPE; MODIFIERS AND OTHER APPLICATION INFORMATION

EPS
##
ELECTRIC-TO-PNEUMATIC SWITCH
(SOLENOID ACTUATED PNEUMATIC VALVE)
= SEQUENTIAL NUMBER
(WHEN MORE THAN 1 EPS)

EP
##
ELECTRIC-TO-PNEUMATIC TRANSDUCER
VDC OR mA INPUT / 3-15 PSI OUTPUT
= SEQUENTIAL NUMBER
(WHEN MORE THAN 1 EP)

LDP
##
LOCAL DISPLAY PANEL
= SEQUENTIAL NUMBER
(WHEN MORE THAN 1 LDP)

H L P
PRESSURE SWITCH, DIFFERENTIAL, WITH GAGE
H = HIGH PRESSURE TAP
L = LOW PRESSURE TAP
SEE "DEVICE SYMBOL, GENERIC"

RST-BUT
RESET BUTTON FOR SAFETY RESET

SMOKE DETECTOR, DUCT-MOUNTED
SEE "DEVICE SYMBOL, GENERIC"

TEMPERATURE SENSOR, AVERAGING
or TEMPERATURE LOW LIMIT / FREEZESTAT
SEE "DEVICE SYMBOL, GENERIC"

TEMPERATURE SENSOR, POINT
SEE "DEVICE SYMBOL, GENERIC"

STAT
THERMOSTAT WITH SPECIFIED I/O FUNCTIONS

AFMA
AIR FLOW MEASUREMENT ARRAY,
WITH FLOW TRANSMITTER
SEE "DEVICE SYMBOL, GENERIC"

CONTROL SIGNAL LINE, LOW VOLTAGE

C — COIL, COOLING

RH — COIL, REHEAT

H — COIL, HEATING

PH — COIL, PREHEAT

HP — COIL, HEATING AND COOLING, HEAT PUMP

FAN

FILTER

HUMIDIFIER

DAMPER, BALANCING

DAMPER, PARALLEL BLADE
NORMALLY OPEN OR CLOSED AS SHOWN

DAMPER, OPPOSED BLADE
NORMALLY OPEN OR CLOSED AS SHOWN

BOILER

CHILLER

PUMP

ACTUATOR, ELECTRIC

THERMOWELL IN PIPE

VALVE, BALANCING

V-##
NC/NO
VALVE, WITH SPRING FAILSAFE
NO = NORMALLY OPEN
NC = NORMALLY CLOSED
= VALVE NUMBER AS SHOWN
IN VALVE SCHEDULE

V-##
FL
VALVE
FL = FAIL IN LAST POSITION
= VALVE NUMBER AS SHOWN
IN VALVE SCHEDULE

V-##
COM
NO
NC
VALVE, 3-WAY DIVERTING
WITH SPRING FAILSAFE
NO = NORMALLY OPEN
NC = NORMALLY CLOSED
COM = COMMON PORT
= VALVE NUMBER AS SHOWN
IN VALVE SCHEDULE

V-##
NO
COM
NC
VALVE, 3-WAY DIVERTING
WITH SPRING RETURN FAILSAFE
NO = NORMALLY OPEN
NC = NORMALLY CLOSED
COM = COMMON PORT
= VALVE NUMBER AS SHOWN
IN VALVE SCHEDULE

PP
POSITIVE POSITIONER
SEE "ACTUATOR, PNEUMATIC"

P
PRESSURE GAGE

T
TEMPERATURE GAGE

M#
MOTOR

MS-#
MOTOR STARTER

CT
CURRENT TRANSFORMER/SWITCH

FM
FLOW METER

VFD
XX-C
XX-S
XX-SS
VARIABLE FREQUENCY DRIVE
XX = PROCESS/DEVICE BEING CONTROLLED

SS = START/STOP COMMAND
S = STATUS FEEDBACK (ON/OFF)
C = 4-20 mA, VDC, or SNVT CONTROL SIGNAL

ABBREVIATIONS & ACRONYMS

2P	TWO-POSITION (CONTROL SIGNAL)
ADJ	ADJUSTABLE/ADJUSTMENT
AFMA	AIRFLOW MEASUREMENT ARRAY
AI	ANALOG INPUT
ALM	ALARM
AO	ANALOG OUTPUT
BA	BREATHING AIR
BI	BINARY INPUT
BLDG	BUILDING
BLR	BOILER
BO	BINARY OUTPUT
BPOC	BUILDING POINT OF CONNECTION (ROUTER)
BUT	BUTTON
BYP	BYPASS
C	COMMAND (MODULATING CONTROL SIGNAL)
CA	COMPRESSED AIR
CF	CONDENSER FAN
CH	CHILLER
CHW	CHILLED WATER
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
CLG	COOLING
COM	COMMON
COMP	COMPRESSOR
CP	CONFIGURATION PROPERTY
CR	CONDENSATE WATER RETURN
CS	CONDENSATE WATER SUPPLY
CSR	CURRENT SENSING RELAY
CT	COOLING TOWER
CT	CURRENT TRANSFORMER/SWITCH
CTF	COOLING TOWER FAN
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
CW	CONDENSER WATER
D	DAMPER
DA	DISCHARGE AIR
DB	DEADBAND
DDC	DIRECT DIGITAL CONTROL(LER)
DIFF	DIFFERENCE
DIR	DIRECT (CONTROL ACTION)
DIS	DISABLE
DISP	DISPLAY
DPT	DEW POINT TEMPERATURE
DX	DIRECT EXPANSION (UNIT)
EA	EXHAUST AIR
ECM	ELECTRICALLY COMMUTATED MOTOR
EF	EXHAUST FAN
ENA	ENABLE
F	FLOW
FACP	FIRE ALARM CONTROL PANEL
FL	FAIL IN LAST POSITION
FLT	FILTER
HL	HIGH LIMIT
HTG	HEATING
HUM	HUMIDIFIER
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
IW	INDUSTRIAL WASTE
I/O	INPUT/OUTPUT
L	LEVEL
LDP	LOCAL DISPLAY PANEL
LL	LOW LIMIT
LVG	LEAVING
M	MOTOR or MAIN
M&C	MONITORING & CONTROL (SOFTWARE)
MA	MIXED AIR
MINOA	MINIMUM OUTSIDE AIR
MS	MOTOR STARTER
MUW	MAKE-UP WATER
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
nci	NETWORK CONFIGURATION INPUT
NO	NORMALLY OPEN
NVI	NETWORK VARIABLE INPUT
NVO	NETWORK VARIABLE OUTPUT
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OCC	OCCUPIED
ODT	ON DELAY TIMER
OL	OVERLOAD
OVRD	OVERRIDE
OWS	OPERATOR WORKSTATION
P	PRESSURE
PH	PREHEAT
PHW	PROCESS HOT WATER
PHWR	PROCESS HOT WATER RETURN
PHWS	PROCESS HOT WATER SUPPLY
PID	PROPORTIONAL INTEGRAL DERIVATIVE (CONTROL)
PMP	PUMP
PP	POSITIVE POSITIONER
PWR	POWER
R	RELAY
RA	RETURN AIR
RE	RELIEF AIR
REV	REVERSE (CONTROL ACTION)
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RH	REHEAT
RLA	RELIEF AIR
RM	ROOM
RQST	REQUEST
RST	RESET
RT	RATE
S	STATUS
SA	SUPPLY AIR
SEC	SECONDARY
SF	SUPPLY FAN
SMK	SMOKE
SNVT	STANDARD NETWORK VARIABLE TYPE
SO	SHUT-OFF
SP	SETPOINT
SS	START/STOP COMMAND
STAT	THERMOSTAT
STM	STEAM
SYS	SYSTEM
SCHD	SCHEDULER
T	TEMPERATURE
TAP	TAP, PRESSURE
TRB	TROUBLE
TSTAT	THERMOSTAT
UNOCC	UNOCCUPIED
V	VALVE
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VIB	VIBRATION
VOC	VOLATILE ORGANIC COMPOUND
WB	WET BULB (TEMPERATURE)
XFMR	TRANSFORMER
ZN	ZONE

"HVAC CONTROLS" GENERAL NOTES: SHEETS M-801 - M-817

1. THE CONTROL DIAGRAMS AND SCHEMATICS ILLUSTRATE THE FUNCTIONAL REQUIREMENTS AND CONTROL RELATIONSHIPS, ALL ACCESSORIES AND DEVICES MAY NOT BE SHOWN IN DETAIL.
2. THE SPECIFICATIONS SHOULD BE CONSULTED FOR DETAILED REQUIREMENTS.
3. BUILDING CONTROL SYSTEM SHALL BE COMPLETELY OPERATIONAL BEFORE BUILDING COMMISSIONING CAN TAKE PLACE.
4. THE CONTRACTOR MUST PROVIDE ALL CONDUIT, WIRE, DEVICES, AND ASSOCIATED HARDWARE FROM 120V CONTROL PANELBOARDS AS REQUIRED TO POWER ALL INSTRUMENTATION AND CONTROL EQUIPMENT NOT INDICATED ON E-SERIES DRAWINGS .

"POINTS LIST SCHEDULE" GENERAL NOTES: SHEETS M-701 - M-730

1. CELLS WITH "<___>" SHALL BE DETERMINED BY THE CONTRACTOR
2. SPACES WHERE NO ENTRY IS REQUIRED CONTAIN " ~ "
3. AN ALARM PRIORITY OF CRITICAL (CRIT) INDICATES THAT THE ALARM SHALL REMAIN IN ALARM UNTIL ACKNOWLEDGED BY A UMCS OPERATOR.
4. AN ALARM PRIORITY OF INFORMATIONAL (INFO) INDICATES THAT THE ALARM SHALL REMAIN IN ALARM UNTIL THE ALARM CONDITION NO LONGER EXISTS

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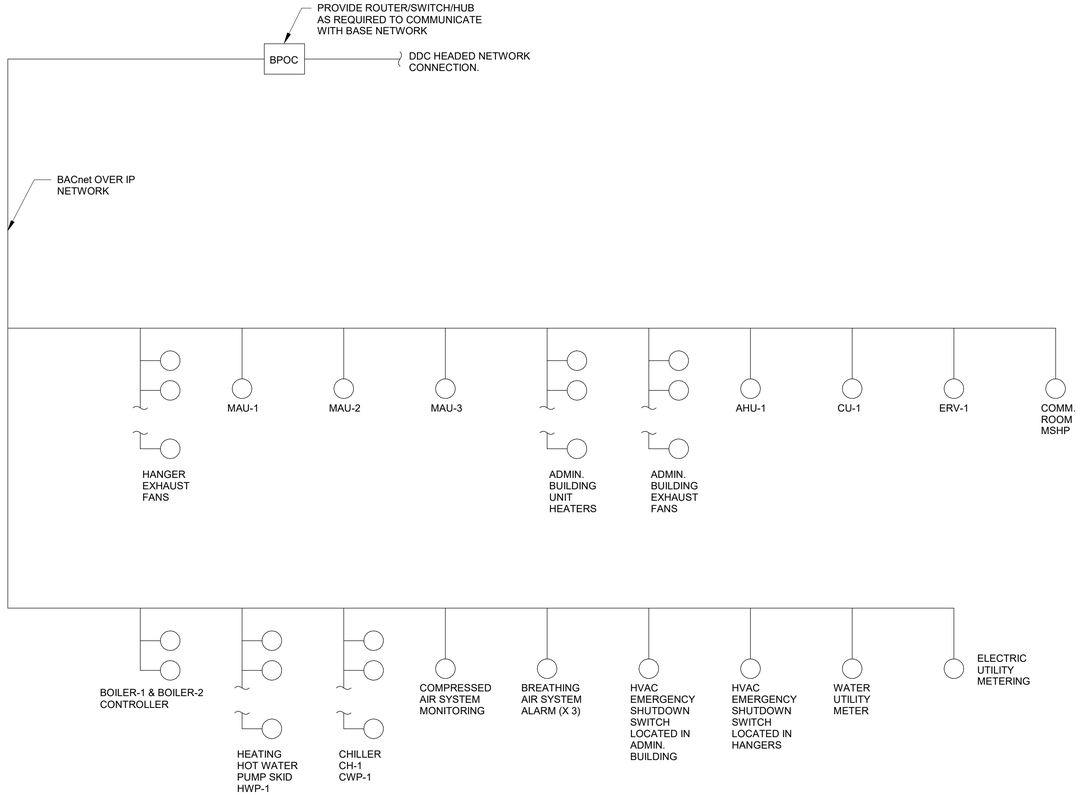
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MECHANICAL CONTROLS - LEGENDS AND SYMBOLS

SHEET ID
M-800

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G1 CONTROLS - ARCHITECTURE

NTS

GENERAL NOTES:

1. SEE DRAWING M-800 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. ANY DEVICE CONTAINING WIRELESS FUNCTIONALITY SHALL HAVE THE WIRELESS COMMUNICATION CAPABILITY PHYSICALLY REMOVED FROM THE DEVICE.
3. ALL DEFAULT CREDENTIALS FOR ANY CONTROLS EQUIPMENT AND SUPPORTING DEVICES SUCH AS ROUTERS, FIREWALLS, WORKSTATIONS, SWITCHES, SERVERS, ETC SHALL ALL BE CHANGED FROM DEFAULT TO A UNIQUE SECURE USERNAME AND PASSWORD AND PROVIDED TO THE CONTRACTING OFFICER.
4. INSTALL ALL CONTROLS WIRING AND CABLES IN CONDUIT OR RACEWAY PER SPECIFICATION SECTIONS 26 20 00 AND 27 10 00.
5. PROVIDE LAPTOP COMPUTER.

BUILDING DDC SYSTEM GENERAL SEQUENCE OF OPERATION:

THE HEATING VENTILATING AND AIR CONDITIONING (HVAC) SYSTEMS SHALL BE CONTROLLED AUTOMATICALLY USING A TEMPERATURE CONTROL SYSTEM.

ALL SET POINTS SHALL BE ADJUSTABLE (ADJ.). WIRELESS CONTROLS ARE PROHIBITED, WHERE DEVICES HAVE FACTORY INSTALLED WIRELESS CAPABILITY, THE WIRELESS COMPONENTS SHALL BE REMOVED.

INSTALL AN EMERGENCY SHUT-DOWN FOR HVAC SYSTEM. THIS SYSTEM MUST BE HARDWIRED TO THE DDC SYSTEM. SYSTEM WILL BE ACTIVATED BY PRESSING ANY HVAC SYSTEM EMERGENCY SHUT-DOWN BUTTON. CLEARLY LABEL BUTTONS AND LOCATE THEM WHERE SHOWN ON THE DRAWINGS. WHEN ANY BUTTON IS PRESSED, ALL HVAC SYSTEMS SERVING OCCUPIED AREAS OF THE BUILDING WILL GO INTO OFF MODE; FANS WILL DE-ENERGIZE AND OUTSIDE AIR, INTAKE AIR, EXHAUST AIR, AND RELIEF AIR DAMPERS WILL CLOSE. EMERGENCY SHUT-OFF WILL COMMUNICATE TO ALL MECHANICAL SYSTEM DEVICES. REFER TO DRAWINGS M-816 FOR LOCATION OF EMERGENCY SHUT-OFF SWITCHES. CONTROL PANEL MUST CONTAIN "EMERGENCY SHUT-DOWN", AND "SYSTEM RESET" BUTTONS AND BE PROVIDED WITH ALL RELAYS AND CONTACTORS REQUIRED FOR COMPLETE SYSTEM OPERATION. "SYSTEM RESET" BUTTON MUST RESTART ALL SYSTEMS.

TEMPERATURE AND HUMIDITY SENSORS MUST INDICATE CURRENT VALUES.

ELECTRIC METERS

PROVIDE BACNET COMPATIBLE METERS CONNECTED TO DDC BY DIVISION 23. THE DDC WILL MONITOR THE FOLLOWING PARAMETERS : V, A, PF, KW, KVA, KVAR, FREQ, KVAH AND KWH. MEASURE AND RECORD KW/KVA DEMAND EVERY 15 MINUTES. COORDINATE METER PROGRAMMING CAPABILITES AND DETAILS WITH DDC INSTALLER. COORDINATE WITH GOVT ON FINAL MONITORING PREFERENCES. SEE ELECTRICAL PLAN DRAWINGS FOR LOCATION OF ELECTRIC METERS.

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MECHANICAL CONTROLS - SYSTEM ARCHITECTURE

SHEET ID

M-801

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MODE SUMMARY - HANGAR BAY

	MODE	OFF	UNOCCUPIED	GENERAL MAINTENANCE	FUEL SYSTEM MAINTENANCE	LOC REPAIR*	EMERGENCY VENTILATION
ENVIRONMENTAL SETPOINTS	COOLING TEMPERATURE (°F)	N/A	VENTILATED	VENTILATED	VENTILATED	80	N/A
	HEATING TEMPERATURE (°F)	N/A	50	65	65	70	N/A
	RELATIVE HUMIDITY (%)	N/A	N/A	N/A	N/A	65	N/A
	MAU AIRFLOW (CFM)	N/A	6,500	3,250	10,300	10,300	N/A
	RETURN AIRFLOW (CFM)	N/A	3000	0	0	0 / 3000	N/A
	EXHAUST AIRFLOW (CFM)	N/A	1,000	4,000	11,000	4,000	15,400
	OUTSIDE AIRFLOW (CFM)	N/A	3,500	4,000	10,300	10300 / 7300	15,400
EQUIPMENT	MAKEUP AIR UNIT	OFF	OSA ≤ 50°F -ON OSA >50° F - OFF	OSA ≤ 65°F -ON OSA >65° F - OFF	OSA ≤ 65°F -ON OSA >65° F - OFF	ON	OSA ≤ 65°F -ON OSA >65° F - OFF
	MAKEUP AIR UNIT OSA LOUVER	CLOSED	OSA ≤ 50°F - OPEN OSA >50° F - CLOSED	OSA ≤ 65° F -OPEN OSA >65° F - CLOSED	OSA ≤ 65°F - OPEN OSA > 65° F - CLOSED	OPEN	OSA ≤ 65°F - OPEN OSA >65° F - CLOSED
	SUMMER VENTILATION LOUVERS	CLOSED	OSA ≤ 50°F - CLOSED OSA >50° F - OPEN	OSA ≤ 65°F - CLOSED OSA >65° F - OPEN	OSA ≤ 65°F - CLOSED OSA >65° F - OPEN	CLOSED	OSA ≤ 65°F - CLOSED OSA >65° F - OPEN
	MAU RETURN DAMPERS	CLOSED	OSA ≤ 50°F - OPEN OSA >50° F - CLOSED	CLOSED	CLOSED	OPEN IF SYSTEM CANT MEET SETPOINT	CLOSED
	PRIMARY EXHAUST FANS	OFF	OFF	LOW SPEED	HIGH SPEED	LOW SPEED	HIGH SPEED
	EMERGENCY EXHAUST FAN	OFF	LOW SPEED	OFF	OFF	OFF	HIGH SPEED

NOTE: PROVIDE 8.5"X11" PLAQUES OF THE MODE SUMMARY AND LOCATE ADJACENT TO EACH HANGAR BAY MODE SELECTION PANEL AND GRAPHICAL USER INTERFACE PANEL.

GENERAL HANGAR BAY OPERATIONS:

THE HOIST BAY AND WASH BAY WILL HAVE THE FOLLOWING MODES OF OPERATION: OFF, UNOCCUPIED, AND MULTIPLE DIFFERENT OCCUPIED MODES INCLUDING GENERAL MAINTENANCE, FUEL MAINTENANCE, AND EMERGENCY VENTILATION.

THE MAINTENANCE BAY WILL HAVE THE FOLLOWING MODES OF OPERATION: OFF, UNOCCUPIED, AND MULTIPLE DIFFERENT OCCUPIED MODES INCLUDING GENERAL MAINTENANCE, FUEL MAINTENANCE, LOC REPAIR AND EMERGENCY VENTILATION.

UNOCCUPIED MODE WILL BE DRIVEN BASED ON USER DEFINED SCHEDULE WITH A MANUAL OVERRIDE TO HOLD CURRENT MODE IN THE SPECIFED BAY UNTIL THE HOLD IS DISENGAGED.

THE OCCUPIED MODES ARE: GENERAL MAINTENANCE, FUEL MAINTENANCE, AND LOC REPAIR. THE DEFAULT WORK MODE WILL BE GENERAL MANITENANCE.
EACH MODE SHALL BE MANUALLY SELECTED BY A CONTROL PANEL LOCATED IN EACH BAY. WORK MODES WILL BE USER SELECTABLE BASED ON SCHEDULED TASKS.

THE SYSTEM STATUS WILL BE DISPLAYED ON A GRAPHICAL USER INTERFACE LOCATED IN THE COORIDOR AND MONITOR HVAC EQUIPMENT STATUS AND ASSOCIATED ANCILLARY COMPONENTS AS DESCRIBED BELOW.
VENTILATION SOURCE WILL BE EITHER THE MAU OR THE SUMMER VENTILATION LOUVERS BASED ON OUTDOOR TEMPERATURE. VENTILATION OVERRIDE WILL BE PROVIDED TO ENABLE MAU AND CLOSE SUMMER VENTILATION LOUVERS WHEN REQUIRED.

ANCILLARY EQUIPMENT CONTROL:

THE TRENCH DRAIN DIVERSION VALVE SHALL OPEN OR CLOSE TO DIVERT FLOW TO THE OIL WATER SEPARATOR OR TO A CONTAINMENT TANK.

COMPRESSED AIR PLANT SHALL BE ENABLED DURING ALL WORK MODES. COMPRESSED AIR PLANT SHALL BE DISABLED IN OFF AND UNOCCUPIED MODES.

PRE CONDITIONED AIR UNITS ARE CONTROLLED BY INDIVIDUAL DEDICATED CONTROL PANELS.

ENVIRONMENTAL CONTROL:
THE HVAC EQUIPMENT WILL BE CONTROLLED AS DESCRIBED IN THIS SEQUENCE AND THE INDIVIDUAL CONTROL SEQUENCES FOR MAU'S, EXHAUST FANS, AND LOUVERS TO MAINTAIN THE SETPOINTS AND OPERATIONS GIVEN IN THE MODE SUMMARY CHART.

MODES:

OFF:

HVAC EQUIPMENT: MAU SHALL BE OFF. EXHAUST FANS SHALL BE OFF. ALL LOUVERS SHALL BE CLOSED. OFF MODE WILL BE MANUALLY SELECTED FOR MAINTENANCE PURPOSES.

UNOCCUPIED:

GENERAL: THE HANGAR BAY IS VENTILATED AND HEATED WITH NO HUMIDITY CONTROL. EXHAUST IS DRAWN THROUGH THE EMERGENCY EXHAUST FAN. THE EXHAUST AIRFLOW IS A MINIMUM OF 1000 CFM. MAKEUP AIR IS PROVIDED THROUGH THE MAU OR THE VENTILATION LOUVERS SUBJECT TO OUTDOOR TEMPERATURE OR OVERRIDE. IN HEATING MODE RETURN DAMPERS OPEN AND AIR WILL RECIRCULATE. SUPPLY TEMPERATURE IS VARIED TO MAINTAIN SPACE SETPOINT AS REQUIRED.

HVAC EQUIPMENT: MAU'S SHALL BE IN UNOCCUPIED MODE. EXHAUST FANS SHALL BE IN UNNOCCUPIED MODE. EQUIPMENT OPERATION WILL BE AS SHOWN IN MODE SUMMARY TABLE

GENERAL MAINTENANCE MODE:

GENERAL: THE HANGAR BAY IS VENTILATED AND HEATED WITH NO HUMIDITY CONTROL. EXHAUST IS DRAWN THROUGH THE PRIMARY EXHAUST FANS. THE EXHAUST AIRFLOW IS A MINIMUM OF 4000 CFM. MAKEUP AIR IS PROVIDED THROUGH THE MAU OR THE VENTILATION LOUVERS SUBJECT TO OUTDOOR TEMPERATURE OR OVERRIDE. SUPPLY TEMPERATURE IS VARIED TO MAINTAIN SPACE SETPOINTAS REQUIRED.

HVAC EQUIPMENT: MAU'S WILL BE IN GENERAL MAINTENANCE MODE. EXHAUST FANS WILL BE IN GENERAL MAINTENANCE MODE. EQUIPMENT OPERATION WILL BE AS SHOWN IN MODE SUMMARY TABLE

FUEL MAINTENANCE MODE:

GENERAL: THE HANGAR BAY IS VENTILATED AND HEATED WITH NO HUMIDITY CONTROL. EXHAUST IS DRAWN THROUGH THE PRIMARY EXHAUST FANS. THE EXHAUST AIRFLOW IS A MINIMUM OF 11000 CFM. MAKEUP AIR IS PROVIDED THROUGH THE MAU OR THE VENTILATION LOUVERS SUBJECT TO OUTDOOR TEMPERATURE OR OVERRIDE. SUPPLY TEMPERATURE IS VARIED TO MAINTAIN SPACE SETPOINT AS REQUIRED.

HVAC EQUIPMENT: MAU'S SHALL BE IN FUEL MAINTENANCE MODE. EXHAUST FANS SHALL BE IN FUEL MAINTENANCE MODE. EQUIPMENT OPERATION WILL BE AS SHOWN IN MODE SUMMARY TABLE

LOC REPAIR MODE:

GENERAL: THE HANGAR BAY IS CONDITIONED TO MEET TEMPERATURE AND MAX HUMIDITY SETPOINT. HUMIDIFICATION IS NOT PROVIDED. EXHAUST IS DRAWN THROUGH THE PRIMARY EXHAUST FANS. THE EXHAUST AIRFLOW IS A MINIMUM OF 4000 CFM. MAKEUP AIR IS PROVIDED THROUGH THE MAU.

HVAC EQUIPMENT: MAU'S IN LOC REPAIR MODE. EXHAUST FANS IN LOC REPAIR MODE. SUPPLY AIR IS DEHUMIDIFIED AND REHEATED PER THE EQUIPMENT SEQUENCE TO MAINTAIN SPACE SETPOINT. EQUIPMENT OPERATION WILL BE AS SHOWN IN MODE SUMMARY TABLE

SAFETY CONTROLS:

BUILDING FIRE ALARM: WHEN FACP INDICATES A BUILDING FIRE ALARM CONDITION, DDC SYSTEM SHALL PLACE DOCK IN "OFF" MODE.
UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

HANGAR DOOR: IF THE HANGAR DOOR IS OPENED DURING LOC REPAIR MODE, BAY SHALL GO INTO UNOCCUPIED MODE AND SEND AN ALARM TO THE DDC SYSTEM.
EMERGENCY STOP BUTTON: IF ANY EMERGENCY STOP BUTTON IS ACTIVATED, DDC SYSTEM SHALL PLACE DOCK IN "OFF" MODE

FUEL SPILL BUTTON: IF BUTTON IS ACTIVATED IN ANY BAY THE TRENCH DRAIN DIVERSION VALVE WILL CLOSE, DIVERTING TRENCH DRAIN FLOW TO CONTAINMENT TANK. IF ANY BUTTON IS ACTIVATED THE MAKEUP AIR UNIT SUPPLY FANS, MAIN EXHAUST FANS, AND EMERGENCY EXHAUST FANS OF THE SUBJECT BAY SHALL RAMP UP TO FULL SPEED.

ALARMS:

HIGH FUEL VAPOR SETPOINT: IF ANY FUEL VAPOR SENSOR REACHES HIGH LEVEL SETPOINT, AN ALARM SHALL BE SENT TO THE DDC SYSTEM, A LOCAL "TROUBLE" ALARM STROBE SHALL BE ACTIVATED IN THE BAY WHERE THE HIGH FUEL VAPOR IS LOCATED, THE MAKEUP AIR UNIT SUPPLY FANS, MAIN EXHAUST FANS, AND EMERGENCY EXHAUST FANS OF THE SUBJECT BAY SHALL RAMP UP TO FULL SPEED.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: CHECKER
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
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ENGINEERING BRANCH

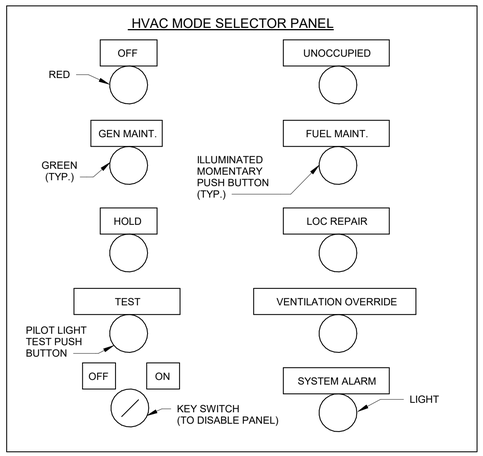
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PN: 512203

MECHANICAL CONTROLS - GENERAL SEQUENCE

SHEET ID
M-802

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K1 BAY HVAC MODE SELECTOR PANEL (EACH BAY)

NTS

GENERAL NOTES: GRAPHICAL USER INTERFACE

1. FACILITY GUI DISPLAY PANEL MUST BE A MINIMUM 20-INCH TOUCH SENSITIVE LCD MONITOR. GRAPHICS TO BE CUSTOMIZABLE, DEVELOPED BY CONTROLS CONTRACTOR, AND APPROVED BY USER PRIOR TO IMPLEMENTATION. PANEL IS LOCATED IN CORRIDOR. THE INTERFACE MUST DISPLAY ALL PERTITENT DATA FOR EACH BAY EITHER ON ONE SINGLE TAB OR ON SEPARATE SWITCHABLE TAB WITH WITH ALL FACILITY WIDE INFORMATION ON EACH TAB. DSPLAY ALARMS FOR ADMIN SECTION ON SEPARATE TAB.
2. MODE SELECTOR ICON BE BLACK TEXT WITH SHADED BACKGROUND. SWITCH SHALL GRAPHICALLY INDICATE DEPRESSED WHEN SELECTED.
3. INDICATE THE BAY MODE AND FOLLOWING PARAMETERS:
   MODE - GREY BACKGROUND
   "MODE CONDITIONS MET " - GREEN BACKGROUND
   "SWITCHING MODES" - FLASHING YELLOW BACKGROUND
   "SYSTEM TROUBLE" - YELLOW BACKGROUND
   "SYSTEM ALARM" - RED BACKGROUND
4. ALARM CONDITION SHALL INDICATE THE FOLLOWING PARAMETERS (SCROLL ALARM MESSAGES IF MULTIPLE ALARMS EXIST):
   "GENERAL TROUBLE" - YELLOW BACKGROUND
   "BREATHING AIR SYSTEM ALARM" - RED BACKGROUND
   "LOW AIRFLOW TROUBLE" - YELLOW BACKGROUND
   "LOW AIRFLOW ALARM" - RED FLASHING BACKGROUND
   "HIGH FVC TROUBLE" - YELLOW BACKGROUND
   "HIGH FVC ALARM" - RED FLASHING BACKGROUND
   "SWITCHBOARD POWER LOSS" - RED FLASHING BACKGROUND
5. MAU FILTER STATUS FROM PHOTOHELIC MANOMETERS SHALL INDICATE AS FOLLOWS:
   "IN TOLERANCE" - GREEN BACKGROUND
   "IN ALARM" - RED BACKGROUND
6. HANGAR TEMPERATURE AND RELATIVE HUMIDITY INDICATION IS THE AVERAGE OF THREE SENSORS.
7. HANGAR AIRFLOW IS DEFINED AS THE SUM OF THE FLOWS FROM ALL EXHAUST FANS.
8. FUEL VAPOR CONCENTRATION SHALL INDICATE AS FOLLOWS: READING FROM MAX SENSOR.
   FVC < 14 PPM - GREEN BACKGROUND
   FVC > 14 PPM - RED BACKGROUND
9. IF A MECHANICAL SYSTEM (CHILLED WATER, HEATING HOT WATER, PROCESS HOT WATER, STEAM BOILER, OR AIR COMPRESSOR) HAS ANY ALARMS, DISPLAY THE NAME OF THE SYSTEM IN ALARM WITH A RED BACKGROUND.

GENERAL NOTES: MODE SELECTOR PANEL

10. PROVIDE MODE SELECTOR PANEL IN EACH BAY THE PANEL WILL BE FABRICATE FROM STEEL WITH MOMENTARY PUSH BUTTONS.
11. WHEN MODE IS SELECTED THE BUTTON WILL BE ILLUMINATED.
12. IF VENTILATION OVERRIDE IS ACTIVATED BUTTON WILL REMAIN ILLUMINATED.
13. IF BAY SYSTEM ALARMS TEH ALARM LIGHT WILL ILLUMINATE. CAUSE WILL BE DISPLAYED ON GUI IN HALLWAY.
14. IF HOLD BUTTON IS PRESSED THE SYSTEM WILL HOLD THE CURRENT MODE UNTIL RESET.
15. WHEN PILOT TEST BUTTON IS PRESSED ALL PILOT LIGHTS ON PANEL WILL ILLUMINATE TO CONFIRM OPERATION

HOIST BAY | **MAINTENANCE BAY** | **WASH BAY** | **ADMIN**

MODE SELECTION (NOTE 2)

- OFF
- UNOCCUPIED
- GEN MAINT.
- FUEL MAINT.
- LOC REPAIR

VENTILATION OVERRIDE
ON / OFF

(NOTE 10)

BAY PARAMETERS

TEMPERATURE
ACTUAL: (NOTE 6) DEG F
SETPOINT: DEG F

RELATIVE HUMIDITY *MAINT. ONLY
ACTUAL: (NOTE 6) %RH
SETPOINT: %RH

HANGAR AIRFLOW
ACTUAL: (NOTE 7) CFM
SETPOINT: CFM

FUEL VAPOR
ACTUAL: (NOTE 8) PPM

HANGAR DOOR SWITCH
OPEN / CLOSED

INDUSTRIAL WASTE TANK LEVEL
ACTUAL:

TRENCH DRAIN DIVERTER VALVE
ON/OFF

MAU - XX FILTER dP
SECTION 1:
SECTION 2:
(NOTE 5)

STATUS	ALARM CONDITION	MECH SYSTEM ALARM
(NOTE 3)	(NOTE 4)	(NOTE 9)

	EQUIPMENT			DAMPER		DISCHARGE TEMP
	COMMAND	STATUS	AIRFLOW (CFM)	COMMAND	STATUS	
MAU-1	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	DEG F
EF-1	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
EF-2	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
EF-3	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
VL-10	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
VL-11	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
MAU-2	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	DEG F
EF-4	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
EF-5	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
EF-6	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
VL-12	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
VL-13	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
MAU-3	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	DEG F
EF-7	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
EF-8	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
EF-9	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
VL-14	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	
VL-15	ON/OFF	ON/OFF		OPEN / CLOSED	OPEN / CLOSED	

A1 BAY CONTROL GUI DISPLAY PANEL

12" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

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ENGINEERING BRANCH

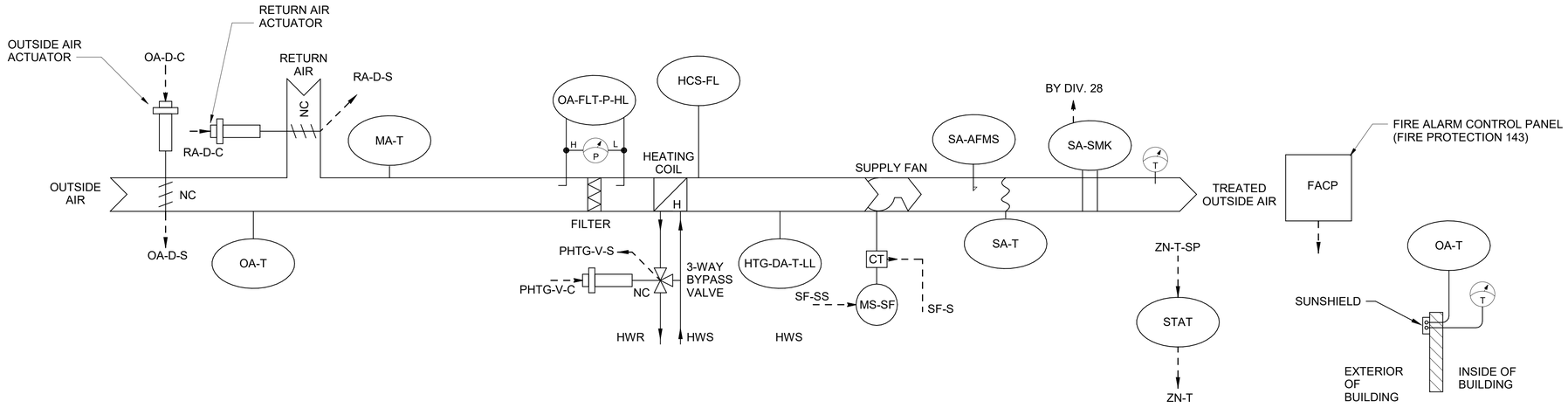
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MECHANICAL CONTROLS - USER INTERFACE

SHEET ID
M-803

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SEQUENCE OF OPERATION - HANGER BAY MAU-1 ,3

ASSOCIATED EQUIPMENT

MAU-1 - EF-1, EF-2, EF-3, MD-R1, MD-R2, MD-I9, MD-I10, MD-I11
MAU-3 - EF-7, EF-8, EF-9, MD-R5, MD-R6, MD-I7, MD-I14, MD-I15

GENERAL:
HANGAR BAY MODES ARE DEFINED IN THE GENERAL HANGAR OPERATION SEQUENCE, SETPOINTS AND EQUIPMENT STATUS CAN BE FOUND IN THE MODE SUMMARY TABLE.

MAU WILL NOT OPERATE IN ALL OCCUPIED MODES. MAU WILL OPERATE BASED ON SYSTEM MODE AND SCHEDULE. THE FOLLOWING CALLS FROM THE DDC SYSTEM. OFF, CALL FOR HEATING, AND VENTILATION OVERRIDE.

OFF:
THE MAU SUPPLY FAN IS OFF. OA INTAKE DAMPER IS CLOSED. THE HOT WATER VALVE IS CLOSED UNLESS CONTROLLED OTHERWISE DUE TO FREEZESTAT.

VENTILATION OVERRIDE:
MAU IS USED TO VENTILATE THE SPACE SO VENTILATION AIR WILL BE FILTERED. THE MAU SUPPLY FAN IS ON. OA INTAKE DAMPER IS OPEN. THE HOT WATER VALVE ISCLOSED UNLESS CONTROLLED OTHERWISE DUE TO FREEZESTAT.

NORMAL/OCCUPIED MODES:
MAU CALL TO OPERATE IS INITIATED BY THE CONTROLS SYSTEM.

FAN CONTROL: UPON PROOF OF EXHAUST FAN FLOW AND OA DAMPER STATUS MAU SUPPLY FAN IS ENABLED AND OPERATES AT CONSTANT SPEED.

HEATING :
HEAT CONTROL: HEATING COIL HOT WATER VALVE WILL MODULATE TO MAINTAIN THE COIL LEAVING AIR TEMPERATURE SETPOINT OF 80 DEGREES F. RESET LEAVING AIR TEMPERATURE BETWEEN 65 DEGREES F AND 92 DEGREES F (ADJ) TO MAINTAIN SPACE SETPOINT WITHIN 5 DEGREES PLUS OR MINUS OF SETPOINT.

UNOCCUPIED/NIGHTSET BACK MODE:
UNOCCUPIED MODE IS INITIATED BY THE CONTROLS SYSTEM. EQUIPMENT STATUS IN ACCORDANCE WITH THE MODE SUMMARY TABLE AND APPLICABLE OVERRIDES. OPERATION BASED ON OUTDOOR AIR TEMP AND SETPOINT. IF HEATING IS REQUIRED OSA DAMPER IS PARTIALLY OPEN AND RETURN DAMPERS ARE OPEN.

SAFETY CONTROLS AND ALARMS:

SMOKE DETECTOR: IF THE SUPPLY AIR SMOKE DETECTOR SENSES SMOKE IN THE DUCTWORK, THE FIRE ALARM SYSTEM SHALL DISABLE FANS AND SEND AN ALARM TO THE DDC SYSTEM AND THE UNIT SHALL GO INTO OFF MODE. UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

BUILDING FIRE ALARM CONDITION: IF BUILDING IS IN FIRE ALARM CONDITION, THE FIRE ALARM CONTROL PANEL SHALL DISABLE FANS AND SEND AN ALARM TO THE DDC SYSTEM AND UNIT SHALL GO INTO OFF MODE. UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

FREEZESTAT: IF THE LOW LIMIT AIR TEMPERATURE DROPS BELOW THE FREEZESTAT SETPOINT OF 35 DEGREES F (ADJ), THE UNIT SHALL GO INTO OFF MODE, THE HEATING VALVES WILL BE FULLY OPEN, AND AN ALARM SENT TO THE DDC SYSTEM. RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

DRAIN PAN SWITCH: IF DRAIN PAN SWITCH SENSES WATER POOLING IN THE PAN THE WATER VALVES WILL CLOSE AND AN ALARM SENT TO DDC SYSTEM.

HVAC SYSTEM EMERGENCY SHUTDOWN: WHEN THE HVAC SYSTEM EMERGENCY SHUTDOWN SWITCH IS PRESSED, DOAS SUPPLY FAN AND INTERLOCKED EXHAUST FAN SHALL STOP. UNIT SHALL GO INTO OFF MODE, AND AN ALARM SHALL BE SENT TO THE DDC PANEL. UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

FILTER MONITORING: IF THE PRESSURE DROP ACROSS A FILTER EXCEEDS THE ALARM SETPOINT AN ALARM SHALL BE SENT TO THE DDC SYSTEM INDICATING WHICH FILTER NEEDS TO BE CHANGED.

EMERGENCY VENTILATION MODE:
EMERGENCY VENTILATION MODE SHALL BE INITIATED BY THE DDC SYSTEM. ACTIVATE MAU SUPPLY FAN AT MAX SPEED. ALL EXHAUST FANS IN THE BAY WILL BE AT HIGH SPEED. OA DAMPER WILL BE OPEN. RA DAMPER WILL BE CLOSED. CHILLER SHALL BE OFF. THE PREHEAT, COOLING AND REHEAT HOT WATER VALVES SHALL BE CLOSED UNLESS CONTROLLED OTHERWISE DUE TO FREEZESTAT.

E1 MAKE-UP AIR UNIT CONTROL SCHEMATIC - MAU-1,3

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. RENDER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D

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MECHANICAL CONTROLS - MAU-1,3 SCHEMATIC AND SEQUENCE

SHEET ID

M-804

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MAU-1 & MAU-3 MAKE-UP AIR UNIT POINTS LIST

FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIG INFO
PROOFS & SAFETIES	SF-S	SUPPLY FAN STATUS	<___>	VARIABLE	0-100%	BI			V	V		SUPPLY FAN PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	<___>
	EF-S	EXHAUST FAN STATUS (EF-1,-2,-3 & EF-7,-8,-9)	<___>	VARIABLE	0-100%	BI			V	V		EXHAUST FAN PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	<___>
	SA-SMK	SUPPLY AIR SMOKE	<___>		ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	<___>
	EA-SMK	EXHAUST AIR SMOKE (EF-1,-2,-3 & EF-7,-8,-9)	<___>		ALM/NORMAL	BI		H				ALM			<___>	<___>	<___>		<___>			<___>	<___>
	HTG-DA-T-LL	HEATING COIL DISCHARGE TEMPERATURE LOW LIMIT SWITCH	<___>	[39 DEG F]	ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	<___>
	RST-BUT	SYSTEM RESET BUTTON (FOR SAFETIES)	<___>			BI		H							<___>	<___>	<___>						<___>
	HCS-FL	HEATING COIL FLOAT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]	<___>	<___>	<___>	<___>	<___>				<___>
	OA-FLT-P-HL	AIR FILTER PRESSURE HIGH LIMIT SWITCH	<___>	<___>	ALM/NORMAL	BI		H	V			[ALM]	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	<___>
	OA-FLT-P-HL	AIR FILTER PRESSURE HIGH LIMIT SWITCH	<___>	<___>	ALM/NORMAL	BI		H	V			[ALM]	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	<___>
																			<___>			<___>	<___>
START /STOP	SYS-OCC	OCCUPANCY INPUT (FROM SYSTEM SCHEDULER)	<___>		<___>	NET-IN			V	V					<___>	<___>	<___>		<___>			<___>	<___>
	SF-SS	SUPPLY FAN START/STOP	<___>		ON/OFF	BO	Y		VO	V					<___>	<___>	<___>	<___>	<___>				<___>
	EF-SS	EXHAUST FAN START/STOP (EF-1,-2,-3 & EF-7,-8,-9)	<___>		ON/OFF	BO	Y		VO	V					<___>	<___>	<___>	<___>	<___>				<___>
	UNIT STATUS	UNIT STATUS (SEE NOTE)	<___>		ON/OFF	NET-OUT			V						<___>	<___>	<___>						<___>
																			<___>			<___>	<___>
FAN CAPACITY CONTROL	SA-AFMS	SUPPLY AIR FLOW	<___>		<___>	AI					X				<___>	<___>	<___>		<___>	[___]	[___]	<___>	<___>
	EA-AFMS	EXHAUST AIR FLOW (AFMS)	<___>		<___>	AI					X				<___>	<___>	<___>		<___>	[___]	[___]		<___>
SUPPLY AIR TEMPERATURE	SA-T	SUPPLY AIR TEMPERATURE	<___>		<___>	AI			V		X	*SA-T MORE THAN 10 DEG F ABOVE OR BELOW SETPOINT	[info] [crit]	[___]	<___>	<___>	<___>			[___]	[___]	<___>	<___>
	SA-T-SP	SUPPLY AIR TEMPERATURE SETPOINT	<___>	80 F	72F-92F			C	VO	VO	Y				<___>	<___>	<___>	<___>	<___>			<___>	<___>
	OA-D-C	OUTSIDE AIR DAMPER COMMAND (EF-1,-2,-3 & EF-7,-8,-9)	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>	<___>				<___>
	EA-D-C	EXHAUST AIR DAMPER COMMAND (EF-1,-2,-3 & EF-7,-8,-9)	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>	<___>				<___>
	HTG-V-C	HEATING VALVE COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>	<___>				<___>
		HEATING VALVE PID LOOP SETTINGS	<___>	<___>				C							<___>	<___>	<___>						<___>
																			<___>				
OTHER POINTS	OA-T	OUTSIDE AIR TEMPERATURE	<___>		<___>	AI			V			[~]		[~]	<___>	<___>	<___>		<___>	[___]	[___]		<___>
	ZN-T (X3)	ZONE TEMPERATURE (3 PER BAY)	<___>	<___>	<___>	AI			V	V	X	** ZN-T LESS THAN 40 DEG F	INFO	[___]	<___>	<___>	<___>	[~]	<___>	[~]	[~]	<___>	<___>
	ZN-T-SP	ZONE TEMPERATURE SETPOINT		OCC ADJ	[60-70 DEG F]	AI		C	O	O	[~]	[~]	[~]	[___]	<___>	<___>	<___>			[~]	[~]		<___>

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS INDICATED IN THE SPECIFICATION AND IN ACCORDANCE WITH THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) UNIT STATUS: SERVES AS A MONITORED POINT AT THE M&C SOFTWARE (FRONT-END) AND AS A HEATING/COOLING REQUEST TO THE BOILER, HEAT EXCHANGER, AND/OR CHILLER SERVING THIS SYSTEM.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

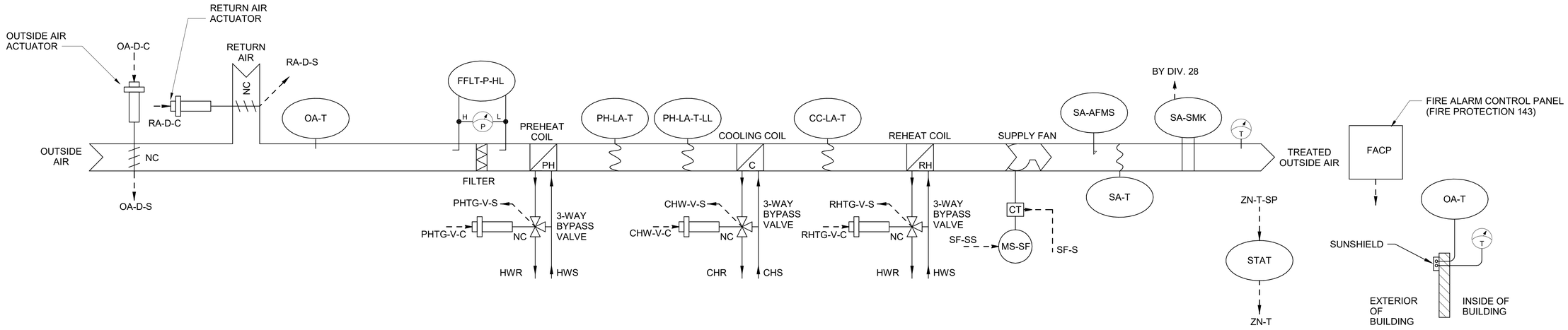
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EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MECHANICAL CONTROLS - MAU-1,3 POINTS LIST

SHEET ID
M-805

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



SEQUENCE OF OPERATION - HANGER BAY MAU-2

ASSOCIATED EQUIPMENT

MAU-2 - EF-4, EF-5, EF-6, RD-3, RD-4, MD-I8, MD-I13, MD-I14

GENERAL:
HANGAR BAY MODES ARE DEFINED IN THE GENERAL HANGAR OPERATION SEQUENCE, SETPOINTS AND EQUIPMENT STATUS CAN BE FOUND IN THE MODE SUMMARY TABLE.

MAU WILL NOT OPERATE IN ALL OCCUPIED MODES. MAU WILL OPERATE BASED ON SYSTEM MODE AND SCHEDULE. THE FOLLOWING CALLS FROM THE DDC SYSTEM. OFF, CALL FOR HEATING, CALL FOR COOLING AND HUMIDITY CONTROL, AND VENTILATION OVERRIDE.

OFF:
THE MAU SUPPLY FAN IS OFF. OA INTAKE DAMPER IS CLOSED. THE CHILLED WATER VALVE IS CLOSED. THE PREHEAT AND REHEAT HOT WATER VALVES ARE CLOSED UNLESS CONTROLLED OTHERWISE DUE TO FREEZESTAT.

VENTILATION OVERRIDE:
MAU IS USED TO VENTILATE THE SPACE SO VENTILATION AIR WILL BE FILTERED. THE MAU SUPPLY FAN IS ON. OA INTAKE DAMPER IS OPEN. THE CHILLED WATER VALVE IS CLOSED. THE PREHEAT AND REHEAT HOT WATER VALVES ARE CLOSED UNLESS CONTROLLED OTHERWISE DUE TO FREEZESTAT.

NORMAL/OCCUPIED MODES:
MAU CALL TO OPERATE IS INITIATED BY THE CONTROLS SYSTEM.

FAN CONTROL: UPON PROOF OF EXHAUST FAN FLOW AND OA DAMPER STATUS MAU SUPPLY FAN IS ENABLED AND OPERATES AT CONSTANT SPEED.

HEATING :
PREHEAT CONTROL: THE PREHEAT COIL HOT WATER VALVE WILL MODULATE TO MAINTAIN THE PREHEAT COIL LEAVING AIR TEMPERATURE SETPOINT OF 80 DEGREES F. RESET LEAVING AIR TEMPERATURE BETWEEN 65 DEGREES F AND 92 DEGREES F (ADJ) TO MAINTAIN SPACE SETPOINT WITHIN 5 DEGREES PLUS OR MINUS OF SETPOINT.

REHEAT CONTROL: REHEAT VALVE WILL BE CLOSED.

COOLING/HUMIDITY CONTROL:

PREHEAT CONTROL: THE PREHEAT HOT WATER VALVE SHALL BE FULLY CLOSED WHEN THE CHILLER IS ENABLED UNLESS THE FREEZESTAT IS ON.

COOLING CONTROL: THE CHILLED WATER VALVE SHALL MODULATE TO THE MAINTAIN COOLING COIL LEAVING AIR TEMPERATURE SETPOINT OF 55 DEGREES F (ADJ).

REHEAT CONTROL: THE REHEAT HOT WATER VALVE SHALL MODULATE TO MAINTAIN THE MAU SUPPLY AIR TEMPERATURE SETPOINT OF 73 DEGREES F (ADJ).

UNOCCUPIED/NIGHTSET BACK MODE:
UNOCCUPIED MODE SHALL BE INITIATED BY THE CONTROLS SYSTEM. EQUIPMENT STATUS IN ACCORDANCE WITH THE MODE SUMMARY TABLE AND APPLICABLE OVERRIDES. OPERATION BASED ON OUTDOOR AIR TEMP AND SETPOINT. IF HEATING IS REQUIRED OSA DAMPER IS PARTIALLY OPEN AND RETURN DAMPERS ARE OPEN.

SAFETY CONTROLS AND ALARMS:

SMOKE DETECTOR: IF THE SUPPLY AIR SMOKE DETECTOR SENSES SMOKE IN THE DUCTWORK, THE FIRE ALARM SYSTEM SHALL DISABLE FANS AND SEND AN ALARM TO THE DDC SYSTEM AND THE UNIT SHALL GO INTO OFF MODE. UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

BUILDING FIRE ALARM CONDITION: IF BUILDING IS IN FIRE ALARM CONDITION, THE FIRE ALARM CONTROL PANEL SHALL DISABLE FANS AND SEND AN ALARM TO THE DDC SYSTEM AND UNIT SHALL GO INTO OFF MODE. UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

FREEZESTAT: IF THE PREHEAT LOW LIMIT AIR TEMPERATURE DROPS BELOW THE FREEZESTAT SETPOINT OF 35 DEGREES F (ADJ), THE UNIT SHALL GO INTO OFF MODE, THE PREHEAT AND REHEAT VALVES SHALL BE FULLY OPEN, AND AN ALARM SHALL BE SENT TO THE DDC SYSTEM. UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

DRAIN PAN SWITCH: IF DRAIN PAN SWITCH SENSES WATER POOLING IN THE PAN THE WATER VALVES WILL CLOSE AND AN ALARM SENT TO DDC SYSTEM.

HVAC SYSTEM EMERGENCY SHUTDOWN: WHEN THE HVAC SYSTEM EMERGENCY SHUTDOWN SWITCH IS PRESSED, DOAS SUPPLY FAN AND INTERLOCKED EXHAUST FAN SHALL STOP. UNIT SHALL GO INTO OFF MODE, AND AN ALARM SHALL BE SENT TO THE DDC PANEL. UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

FILTER MONITORING: IF THE PRESSURE DROP ACROSS A FILTER EXCEEDS THE ALARM SETPOINT AN ALARM SHALL BE SENT TO THE DDC SYSTEM INDICATING WHICH FILTER NEEDS TO BE CHANGED.

EMERGENCY VENTILATION MODE:
EMERGENCY VENTILATION MODE SHALL BE INITIATED BY THE DDC SYSTEM. ACTIVATE MAU SUPPLY FAN AT MAX SPEED. ALL EXHAUST FANS IN THE BAY WILL BE AT HIGH SPEED. OA DAMPER WILL BE OPEN. RA DAMPER WILL BE CLOSED. CHILLER SHALL BE OFF. THE PREHEAT, COOLING AND REHEAT HOT WATER VALVES SHALL BE CLOSED UNLESS CONTROLLED OTHERWISE DUE TO FREEZESTAT.

E1 CONTROL SCHEMATIC - MAU-2
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. REINDER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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Plot Date: 10/20/2025 11:20:38 AM File Path: C:\Users\rbeciar\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
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TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL CONTROLS - MAU-2 SCHEMATIC AND SEQUENCE

SHEET ID
M-806

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

MAU-2 MAKE-UP AIR UNIT POINTS LIST

FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIG. INFO.
PROOFS & SAFETIES	SF-S	SUPPLY FAN STATUS	<___>		ON/OFF	BI			V	V		SUPPLY FAN PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	
	EF-S	EXHAUST FAN STATUS (EF-4,-5,-6)	<___>		ON/OFF	BI			V	V		EXHAUST FAN PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	
	OA-D-S	OUTDOOR AIR DAMPER STATUS	<___>		ON/OFF	BI			V	V		PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	
	EA-D-S	EXHAUST DAMPER STATUS (EF-4,-5,-6)	<___>		ON/OFF	BI			V	V		PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	
	PHTG-V-S	PRE-HEATING VALVE STATUS	<___>		ON/OFF	BI			V	V		PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	
	CHW-V-S	CHILLED WATER VALVE STATUS	<___>		ON/OFF	BI			V	V		PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>			[___]	[___]		
	RHTG-V-S	RE-HEATING VALVE STATUS	<___>		ON/OFF	BI			V	V		PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	
	SA-SMK	SUPPLY AIR SMOKE	<___>		ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]					<___>	[___]	[___]	<___>	
	PH-LA-T-LL	PRE-HEATING COIL LEAVING AIR TEMPERATURE LOW LIMIT SWITCH	<___>	[39 DEG F]	ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]	MSV <___>	<___>	<___>		<___>	[___]	[___]	<___>	
	RST-BUT	SYSTEM RESET BUTTON (FOR SAFETIES)				BI		H							<___>	<___>	<___>		<___>				
	PFLT-P-HL	PRE-FILTER PRESSURE HIGH LIMIT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]		
	PHCS-FL	PRE-HEAT COIL FLOAT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]	<___>	<___>	<___>			[___]	[___]		
	CCCS-FL	COOLING COIL FLOAT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]					<___>	[___]	[___]	<___>	
	RHCS-FL	RE-HEAT COIL FLOAT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	
	FFLT-P-HL	FINAL FILTER PRESSURE HIGH LIMIT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]	<___>	<___>	<___>			[___]	[___]		
START/STOP	SYS-OCC	OCCUPANCY INPUT (FROM SYSTEM SCHEDULER)	<___>		<___>	NET-IN			V	V					<___>	<___>	<___>						
	SF-SS	SUPPLY FAN START/STOP	<___>		ON/OFF	BO	[~]		VO	V					<___>	<___>	<___>	<___>	<___>			<___>	
	EF-SS	EXHAUST FAN START/STOP (EF-4,-5,-6)	<___>		ON/OFF	BO	[~]		VO	V					<___>	<___>	<___>	<___>					
	UNIT STATUS	UNIT STATUS (SEE NOTE)	<___>		ON/OFF	NET-OUT			V						<___>	<___>	<___>						
															<___>	<___>	<___>						
FAN CAPACITY CONTROL	SA-AFMS	SUPPLY AIR FLOW (AFMS)	<___>		<___>	AI					X				<___>	<___>	<___>			[___]	[___]		
	EA-AFMS	EXHAUST AIR FLOW (AFMS)	<___>		<___>	AI					X									[___]	[___]		
															<___>	<___>	<___>					<___>	
SUPPLY AIR TEMPERATURE	SA-T	SUPPLY AIR TEMPERATURE	<___>		<___>	AI			V		X	*SA-T MORE THAN 10 DEG F ABOVE OR BELOW SETPOINT	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	
	PH-LA-T	PRE-HEAT LEAVING AIR TEMPERATURE	<___>		<___>	AI			V		X	*SA-T MORE THAN 10 DEG F ABOVE OR BELOW SETPOINT	[info] [crit]	[___]	<___>	<___>	<___>			[___]	[___]		
	CC-LA-T	COOLING COIL LEAVING AIR TEMPERATURE	<___>		<___>	AI			V		X	*SA-T MORE THAN 10 DEG F ABOVE OR BELOW SETPOINT	[info] [crit]	[___]	<___>	<___>	<___>			[___]	[___]		
	PHTG-V-C	PRE-HEATING VALVE COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>					
	OA-D-C	OUTDOOR AIR DAMPER COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>					
	EA-D-C	EXHAUST AIR DAMPER COMMAND (EF-4,-5,-6)	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>					
	CHW-V-C	CHILLED WATER VALVE COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>					
		COOLING VALVE PID LOOP SETTINGS		<___>				C							<___>	<___>	<___>						<___>
	PHTG-V-C	PRE-HEAT VALVE COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>					
		PRE-HEAT VALVE PID LOOP SETTINGS		<___>				C							<___>	<___>	<___>		<___>			<___>	<___>
	REHTG-V-C	RE-HEAT VALVE COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>	<___>				
		RE-HEATING VALVE PID LOOP SETTINGS		<___>				C							<___>	<___>	<___>		<___>				<___>
																			<___>			<___>	
OTHER POINTS	OA-T	OUTSIDE AIR TEMPERATURE	<___>		<___>	AI			V			[~]				<___>	<___>	<___>	<___>	[___]	[___]		<___>
	ZN-T	ZONE TEMPERATURE	<___>	<___>	<___>	AI			V	V	X	**ZN-T IS MORE THAN 37 DEG F ABOVE OR BELOW ZN-T-SP	INFO	[___]		<___>	<___>	[~]	<___>	[~]	[~]	<___>	<___>
	ZN-T-SP	ZONE TEMPERATURE SETPOINT		OCC ADJ	[65-80 DEG F]	AI		C	O	O	[~]	[~]	[~]	[___]		<___>	<___>		<___>	[~]	[~]	<___>	<___>
																			<___>			<___>	

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS INDICATED IN THE SPECIFICATION AND IN ACCORDANCE WITH THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) UNIT STATUS: SERVES AS A MONITORED POINT AT THE M&C SOFTWARE (FRONT-END) AND AS A HEATING/COOLING REQUEST TO THE BOILER, HEAT EXCHANGER, AND/OR CHILLER SERVING THIS SYSTEM.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\rbscarr\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECR04R.rvt

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
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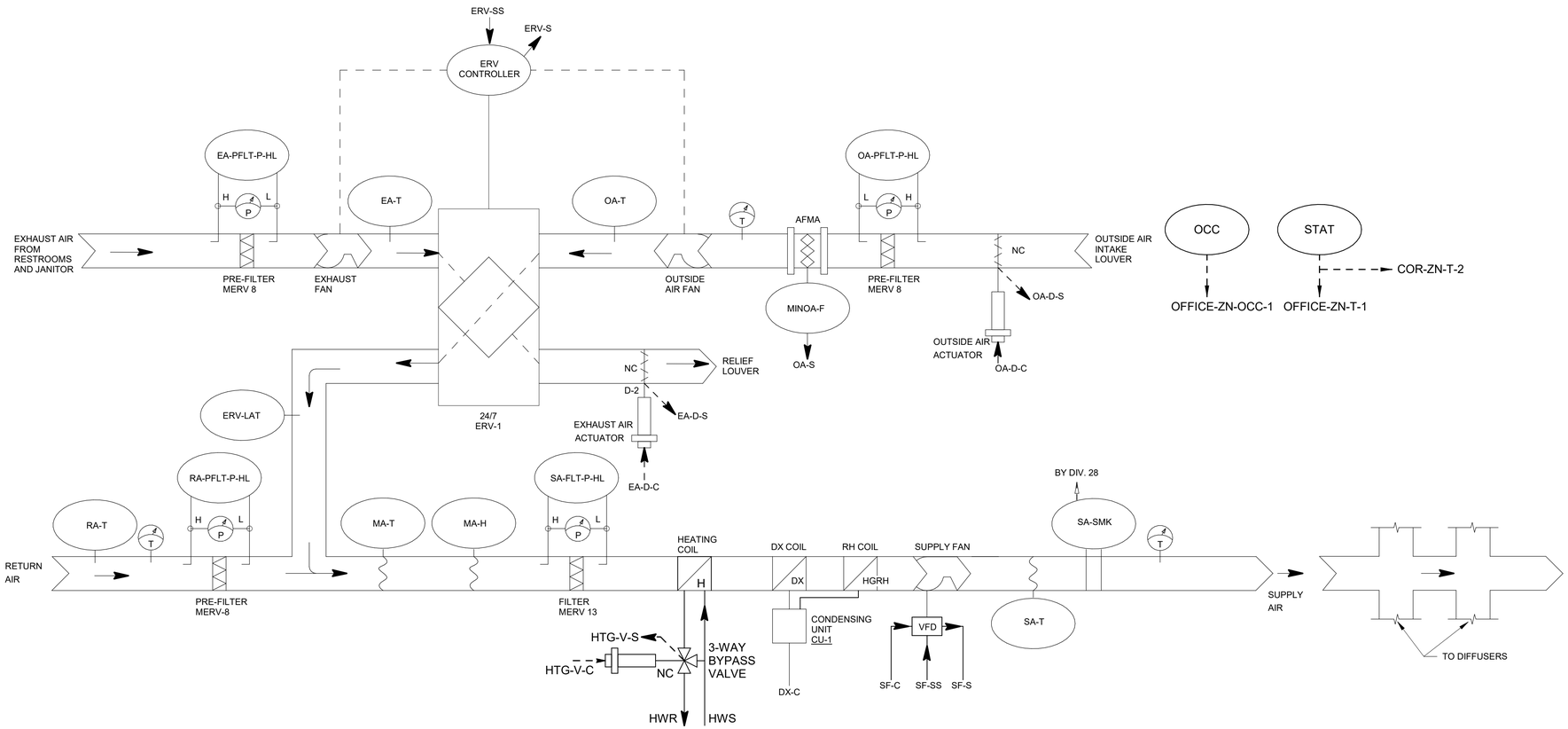
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB , ARKANSAS
F-35; 3 BAY HANGAR
PN: 512203

MECHANICAL CONTROLS - MAU-2 POINTS LIST

SHEET ID
M-807

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



SEQUENCE OF OPERATION - CONSTANT VOLUME AIR HANDLING UNIT WITH AN ERV
AHU-1, CU-1, & ERV-1

GENERAL:
THE HVAC SYSTEM SHALL HAVE THE FOLLOWING MODES OF OPERATION: OFF, UNOCCUPIED, WARM-UP, COOL-DOWN, AND OCCUPIED. THE EQUIPMENT WILL OPERATE BASED ON MANUFACTURER SUPPLIED CONTROLLER.

OFF:
THE AHU SUPPLY FAN AND CONDENSING UNIT SHALL BE OFF. OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL BE CLOSED.

UNOCUPPIED:
UNOCCUPIED MODE SHALL BE INITIATED BY THE DDC SYSTEM.

THE AHU SUPPLY FAN AND CONDENSING UNIT SHALL BE OFF SUBJECT TO ZONE TEMPERATURES.

IF THE AVERAGE ZONE TEMPERATURE FALLS BELOW THE UNOCCUPIED HEATING TEMPERATURE SETPOINT OR RISE ABOVE THE UNOCCUPIED COOLING TEMPERATURE SETPOINT, THE SUPPLY FAN SHALL ENERGIZE AND OPERATE AS DESCRIBED IN "OCCUPIED MODE." THE CONDENSING UNIT SHALL OPERATE AS DESCRIBED IN "OCCUPIED MODE" INCLUDING SUPPLY AIR TEMPERATURE RESET. ONCE ALL ZONE TEMPERATURES ARE SATISFIED, THE SUPPLY FAN AND CONDENSING UNIT SHALL DE-ENERGIZE.

OPTIMAL START:
AN OPTIMAL START PROGRAM SHALL START THE UNIT AT THE LATEST POSSIBLE TIME TO REACH THE DESIRED OCCUPIED SPACE TEMPERATURE SETPOINT AT OCCUPANCY TIME. AT THIS START TIME THE UNIT SHALL GO INTO WARM-UP OR COOL-DOWN MODE AS DESCRIBED BELOW.

WARM-UP:
IF THE AVERAGE ZONE TEMPERATURE IS BELOW THE OCCUPIED ZONE TEMPERATURE SETPOINT (DETERMINED BY TAKING THE AVERAGE OF BOTH THERMOSTATS), THE SUPPLY FAN SHALL BE ENERGIZED AND THE CONDENSING UNIT SHALL BE OFF. NO SUPPLY AIR TEMPERATURE SETPOINT SHALL BE MAINTAINED (I.E. SUPPLY AIR TEMPERATURE SHALL BE ALLOWED TO FLUCTUATE ABOVE 55 DEGREES F). THE SUPPLY FAN SHALL BE CONTROLLED AS DESCRIBED IN OCCUPIED MODE. WHEN AHU-1 HAS SATISFIED THE OCCUPIED ZONE TEMPERTURE SETPOINT THE UNIT SHALL GO INTO OCCUPIED MODE. WARM-UP SHALL OCCUR A MAXIMUM OF ONCE A DAY.

COOL-DOWN:
IF THE AVERAGE ZONE TEMERATURE IS ABOVE THE OCCUPIED ZONE TEMPERATURE SETPOINT (DETERMINED BY TAKING THE AVERAGE OF BOTH THERMOSTATS), THE SUPPLY FAN SHALL BE ENERGIZED AND BE CONTROLLED AS DESCRIBED IN "OCCUPIED" MODE. THE CONDENSING UNIT SHALL MODULATE TO MAINTAIN THE MINIMUM SUPPLY AIR TEMPERATURE SETPOINT OF 55 DEGREES F (ADJ). THE SUPPLY FAN SHALL BE CONTROLLED AS DESCRIBED IN OCCUPIED MODE. WHEN AHU-1 HAS SATISFIED THE OCCUPIED ZONE TEMPERATURE SETPOINT THE UNIT SHALL GO INTO OCCUPIED MODE. COOL-DOWN SHALL OCCUR A MAXIMUM OF ONCE A DAY.

OCCUPIED:
OCCUPIED MODE SHALL BE INITIATED BY THE CONTROL SYSTEM.

ERV: OUTSDIE AIR DAMPER AND EXHAUST DAMPER WILL OPEN. ERV WILL OPERATE BASED ON INTERNAL CONTROLS.

AHU: SUPPLY FAN SHALL ENABLE AND OPERATE AT CONSTANT SPEED WHEN ERV IS PROVEN ON. SYSTEM WILL MODULATE LEAVING AIR CONDITIONS TO MAINTAIN SPACE SETPOINTS.

COOLING CONTROL: THE CONDENSING UNIT SHALL MODULATE TO MAINTAIN LEAVING AIR TEMPERATURE REQUIRED FOR DEHUMIDIFICATION AND TEMPERATURTE CONTROL.

HOT GAS RE-HEAT: UNIT CONTROLS WILL MODULATE HOT GAS RE-HEAT COIL TO CONTROL LEAVING AIR CONDITIONS.

HEATING CONTROL: THE HOT WATER VALVE SHALL MODULATE TO MAINTAIN THE LEAVING AIR TEMPERATURE RANGE OF 65 TO 95 DEGREES F (ADJ). SPACE SETPOINT TO BE MAINTAINED BY MODULATING LEAVING AIR TEMP.

SUPPLY AIR TEMPERATURE RESET: WHEN OA TEMPERATURE IS LESS THAN 70 DEGRESS F, SA TEMPERATURE RESET SHALL BE ENABLED. THE CONTROL LOGIC SHALL BE SLOW-ACTING TO AVOID HUNTING.

OUTSIDE AIR FLOW MONITORING: OUTSIDE AIR FLOW SHALL BE MEASURED BY AN AIRFLOW MONITORING STATION LOCATED IN THE OUTSIDE AIR INLET. AN ALARM SHALL BE SENT TO THE DDC SYSTEM IF FLOW VARIES BY 10% OR MORE DESIGN.

FILTER MONITORING: IF THE PRESSURE DROP ACROSS A FILTER EXCEEDS THE ALARM SETPOINT AN ALARM SHALL BE SENT TO THE DDC SYSTEM INDICATING WHICH FILTER NEEDS TO BE CHANGED.

ENERGY RECOVERY VENTILATOR (ERV-1): ERV RUNS IN ALL OCCUPIED MODES TO PROVIDE POSITIVE PRESSURIZATION IN THE BUILDING. EXHAUST IS RUN THROUGH AN ENERGY RECOVERY CORE TO PROVIDE PRE-TREATED OA TO THE RETURN PLENUM OF AHU-1. PRE-TREATED OSA IS MIXED WITH RETURN AIR. ERV WILL OPERATE BASED ON INTERNAL CONTROLLS ADN SAFETIES.
TEST AND BALANCE WILL DETERMINE THE RETURN AIR DAMPER POSITION.

SAFETY CONTROLS:
SMOKE DETECTOR: IF THE SUPPLY AIR SMOKE DETECTOR SENSE SMOKE IN THE DUCTWORK, THE FIRE ALARM SYSTEM WILL DISABLE FANS AND SEND AN ALARM TO THE DDC SYSTEM AND THE UNIT SHALL GO INTO OFF MODE. UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

BUILDING FIRE ALARM CONDITION: IF BUILDING IS IN FIRE ALARM CONDITION, THE FIRE ALARM CONTROL PANEL SHALL DISABLE FANS AND SEND AN ALARM TO THE DDC SYSTEM
AND UNIT SHALL GO INTO "OFF" MODE. UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

HVAC SYSTEM EMERGENCY SHUTDOWN: WHEN THE HVAC SYSTEM EMERGENCY SHUTDOWN SWITCH IS PRESSED, AHU SUPPLY FAN, ERV AND INTERLOCKED EXHAUST FAN SHALL STOP, UNIT SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

B1 CONTROLS - AIR HANDLING UNIT WITH ERV
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PONTHIEX, P.E.
DRAWN BY:	R. READER
CHECKED BY:	CHECKER
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:20:40 AM File Path: C:\Users\rbeader\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL CONTROLS - CV AHU SCHEMATIC AND SEQUENCE

SHEET ID
M-808

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

AHU-1, UNITARY SYSTEM: SPLIT SYSTEM DX WITH AN ENERGY RECOVERY VENTILATOR

											ALARMING			PRIMARY POINT INFORMATION	NETWORK DATA EXCHANGE		OVERRIDES	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION			CONFIG. INFO.
FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARM CONDITION	ALARM PRIORITY	M&C ROUTING	OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	DATA FROM	DATA TO	OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE		ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	NOTIFICATION CLASS OBJECT INSTANCE NUMBER	EVENT ENROLLMENT OBJECT INSTANCE NUMBER	
PROOFS & SAFETIES		<UNIT MANUFACTURER'S SAFETIES> (SEE NOTES)	<___>	<___>	ALM/NORMAL	<BI>		C				ALM	[INFO] [CRIT]	[___]	<___>	<___>	<___>			<___>	<___>	<___>	<___>
	EA-PFLT-P-HL	EXHAUST FILTER PRESSURE HIGH LIMIT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[INFO] [CRIT]	[___]	<___>	<___>							
	OA-PFLT-P-HL	OUTSIDE AIR FILTER PRESSURE HIGH LIMIT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[INFO] [CRIT]	[___]	<___>	<___>							
	RA-PFLT-P-HL	RETURN AIR FILTER PRESSURE HIGH LIMIT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[INFO] [CRIT]	[___]	<___>	<___>							
	SA-PFLT-P-HL	SUPPLY AIR FILTER PRESSURE HIGH LIMIT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[INFO] [CRIT]	[___]	<___>	<___>							
	SA-P-HL	SUPPPLY AIR FILTER PRESSURE HIGH LIMIT SWITCH	<___>		ALM/NORMAL	BI		H				ALM	[INFO] [CRIT]	[___]	<___>	<___>							
	EA-D-S	EXHAUST DAMPER STATUS	<___>		ON/OFF	BI			V	V		PROOF FAILED	[INFO] [CRIT]	[___]	<___>	<___>							
	SF-S	SUPPLY FAN STATUS	<___>		ON/OFF	BI			V	V		PROOF FAILED	[INFO] [CRIT]	[___]	<___>	<___>							
	OA-S	AIR FLOW MONITOR STATUS	<___>		ON/OFF	BI			V	V		PROOF FAILED	[INFO] [CRIT]	[___]	<___>	<___>							
	OA-D-S	OUTSIDE AIR DAMPER STATUS	<___>		ON/OFF	BI			V	V		PROOF FAILED	[INFO] [CRIT]	[___]	<___>	<___>							
	MIN-OA-F	MINIMUM OUTSIDE AIR FLOW	<___>		<___>	AI					X				<___>	<___>							
	SA-SMK	SUPPLY AIR SMOKE	<___>		ALM/NORMAL	BI		H							<___>	<___>							
	RST-BUT	SYSTEM RESET BUTTON	<___>			[___]			[~][VO]						<___>	<___>							<___>
START/STOP	MODE-SEL	HEAT-OFF-COOL MODE SELECTION SWITCH INPUT	<___>		HEAT/OFF/COOL/ <EMERG>	<___>			[~]	[~]	[~]	[~]		[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	SYS-OCC	OCCUPANCY INPUT (FROM SCHEDULER)	<___>		<___>	NET-IN			VO	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	ZN-OCC	ZONE OCCUPANCY INPUT (OCCUPANCY SENSOR)	<___>		OCC/UNOCC	BI			[V]	[~]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	SF-SEL	SUPPLY FAN ON/AUTO SELECT SWITCH	<___>		ON/AUTO	BI			[~]	[~]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	UNIT STATUS	UNIT STATUS (SEE NOTES)	<___>		<HVAC_COOL/HVAC_ HEAT/HVAC_OFF> <___>	NET-OUT			V	[~]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
ZONE TEMPERATURE CONTROL	ZN-T	ZONE TEMPERATURE	<___>		<___>	AI			V	[V]	X	** ZN-T MORE THAN 77 DEG F OR BELOW 68 DEG F	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	ZN-T-SP	ZONE TEMPERATURE SETPOINT	<___>	OCCUPANT ADJUSTABLE	[68-78 DEG F]	AI		C	VO	[~]	X				<___>	<___>	<___>	<___>	<___>				<___>
		ZONE TEMPERATURE SETPOINT FOR UNOCC MODE	<___>	[68 DEG F FOR HEATING, 78 DEG F FOR COOLING]	[~]			C	VO	[~]	[~]				<___>	<___>	<___>	<___>	<___>				<___>
	SF-SS	SUPPLY FAN START/STOP COMMAND	<___>		ON/OFF	BO	[~]		VO	[~]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	SF-C	SUPPLY FAN COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>						<___>
	DX-C	DIRECT EXPANSION COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>						<___>
	EA-D-C	EXHAUST AIR DAMPER COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>						<___>
	OA-D-C	OUTSIDE AIR DAMPER COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>						<___>
OTHER POINTS	SA-T	SUPPLY AIR TEMPERATURE	<___>		<___>	AI			V			[~]		[~]	<___>	<___>							<___>
	OA-T	OUTSIDE AIR TEMPERATURE	<___>		<___>	AI			V			[~]		[~]	<___>	<___>							<___>
	EA-T	EXHAUST AIR TEMPERATURE	<___>		<___>	AI			V			[~]		[~]	<___>	<___>							<___>
	RA-T	RETURN AIR TEMPERATURE	<___>		<___>	AI			V			[~]		[~]	<___>	<___>							<___>
	MA-T	MIXING AIR TEMPERATURE	<___>		<___>	AI			V			[~]		[~]	<___>	<___>							<___>
	MA-H	MIXING AIR HUMIDITY	<___>																				
	ERV-S	ENERGY RECOVERY VENTILATOR FAN STATUS	<___>		ON/OFF	BI			V	V		ERV FAN PROOF FAILED	[INFO] [CRIT]	[___]	<___>	<___>							<___>
	ERV-SS	ENERGY RECOVERY VENTILATOR FAN START/STOP	<___>		ON/OFF	BO	[~]		VO	V					<___>	<___>	<___>						<___>
	ERV-FLT-P-HL	ERV AIR FILTER PRESSURE HIGH LIMIT SWITCH	<___>	<___>	ALM/NORMAL	BI		H	V			[ALM]	[INFO] [CRIT]	[___]	<___>	<___>							<___>
	ERV-LAT	ERV LEAVING AIR TEMPERATURE	<___>		<___>	AI			V			[~]		[~]	<___>	<___>							<___>

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS INDICATED IN THE SPECIFICATION AND IN ACCORDANCE WITH THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) UNIT STATUS: SERVES AS A MONITORED POINT AT THE M&C SOFTWARE (FRONT-END) AND AS A HEATING/COOLING REQUEST TO THE BOILER, HEAT EXCHANGER, AND/OR CHILLER SERVING THIS SYSTEM (IF APPLICABLE)
4) DDC HW ID FOR DEVICE CONTAINING TREND OBJECT FOR REMOTE TRENDING FOR THIS SYSTEM: <___>
5) DDC HW ID FOR DEVICE CONTAINING EVENT ENROLLMENT OBJECT FOR REMOTE ALARMING FOR THIS SYSTEM: <___>

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
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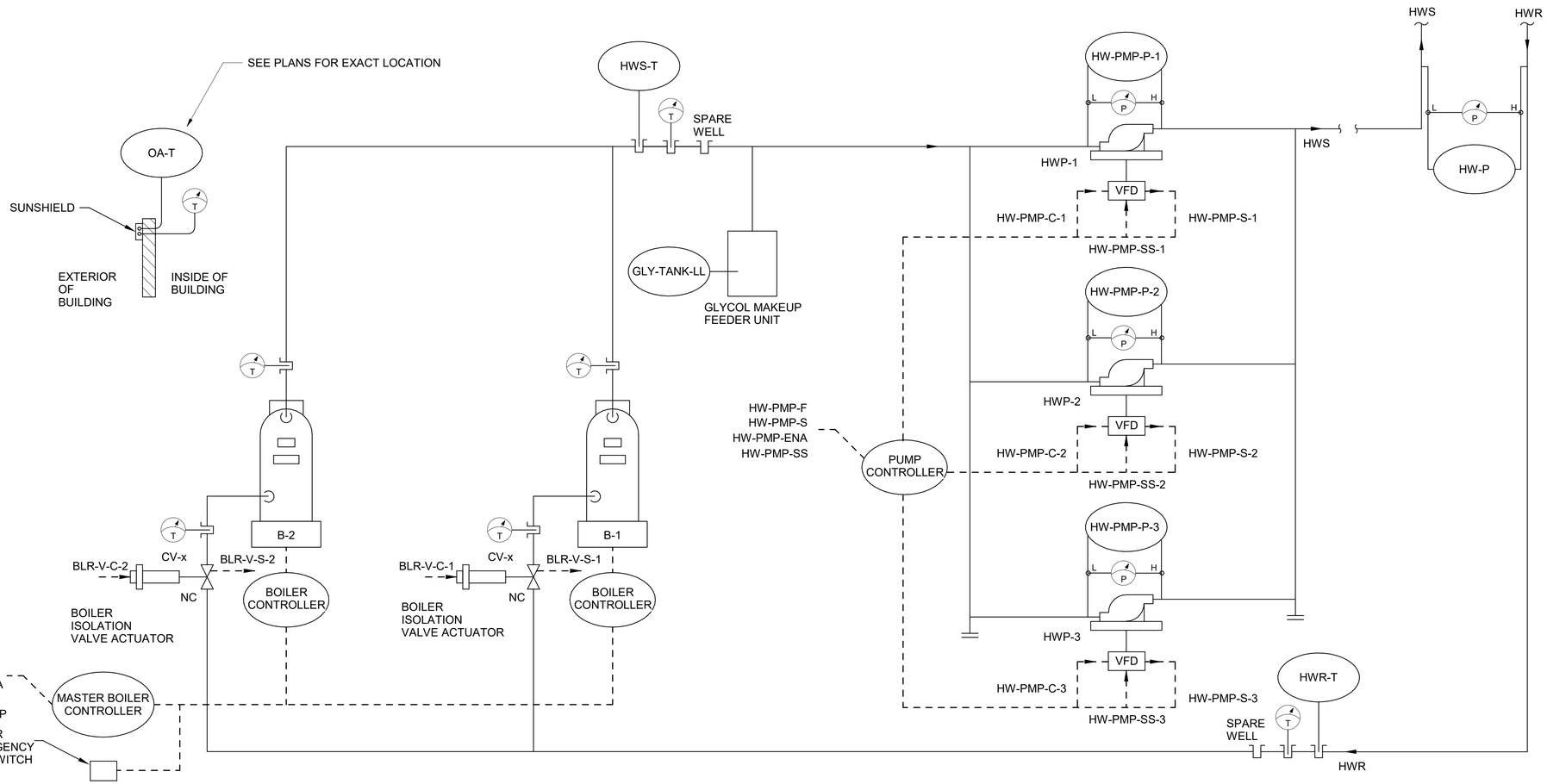
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
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MECHANICAL CONTROLS - CV AHU POINTS LIST

SHEET ID
M-809

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



SEQUENCE OF OPERATION HEATING HOT WATER SYSTEM WITH PRIMARY PUMPING

GENERAL:
HEATING HOT WATER SYSTEM CONSISTS OF 2 BOILERS AND A PUMP SKID (3 PUMPS) VARIABLE PRIMARY PUMPS. THE BOILERS ARE SIZED AT 65 PERCENT OF THE ENTIRE LOAD OF THE HANGERS. THE PUMPS ARE SIZED AT 50 PERCENT AND ONE PUMP ON STANDBY FOR N+1 OPERATION. THE BOILERS SHALL BE CONTROLLED BY A MASTER CONTROLLER SEQUENCING SYSTEM WHICH SHALL MONITOR, ENABLE/DISABLE AND CONTROL THE FIRING RATE OF EACH BOILER. THE MASTER CONTROLLER SHALL ALSO CONTROL THE ISOLATION VALVES AND PUMPS. BOILER CONTROL FUNCTIONS, SAFETY INTERLOCKS, ALARMS, AND MONITORED PARAMETERS SHALL BE MADE AVAILABLE TO AND MONITORED BY THE DDC SYSTEM.

SYSTEM ENABLE:
DDC SYSTEM WILL ENABLE THE HEATING HOT WATER SYSTEM WHEN EITHER THE OUTSIDE AIR TEMPERATURE IS BELOW THE HIGH LIMIT SET POINT OR A HANGER BAY MAKE-UP AIR HANDLING UNIT IS IN OCCUPIED MODE.

WHEN THIS SYSTEM IS ENABLED AND THE LEAD HOT WATER PUMP STARTS, BOILER CONTROL SHALL BE ENABLED.

TO PREVENT SHORT CYCLING, THE HEATING HOT WATER SYSTEM WILL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES, UNLESS SHUTDOWN ON SAFETIES.

HOT WATER PUMP CONTROL:
THE THREE HOT WATER PUMPS ARE EACH SIZED FOR 50% OF THE MAXIMUM FLOW (LEAD/STANDBY). LEAD PUMP SHALL START WHEN HEATING HOT WATER SYSTEM IS ENABLED. PUMP VARIABLE FREQUENCY DRIVE SHALL MODULATE TO MAINTAIN DIFFERENTIAL PRESSURE SETPOINT IN THE SYSTEM AS MEASURED BY HW-P. THE MINIMUM PUMP SPEED SHALL MATCH BOILER MINIMUM FLOW OR BE 30% (ADJ.) OF FULL LOAD SPEED.

DIFFERENTIAL PRESSURE SETPOINT RESET: THE MODULATING HEATING HOT WATER VALVES OF RUNNING UNITS (AHU'S, FCU'S, ETC.) ON THE ASSOCIATED PIPING LOOP SHALL BE POLLED FOR VALVE POSITION EVERY TWO MINUTES (ADJ). THE SETPOINT SHALL BE INCREASED AND DECREASED WITH A TRIM AND RESPOND CONTROL STRATEGY SUCH THAT AT LEAST ONE VALVE IS 90% (ADJ) OR GREATER OPEN.

IF ANY PUMP IS COMMANDED TO RUN AND ITS DIFFERENTIAL PRESSURE SENSOR DOES NOT INDICATE PROOF OF FLOW AFTER A 30 SECOND (ADJ.) DELAY, THE STANDBY PUMP SHALL BE COMMANDED ON IN ITS PLACE, THE FAILED PUMP SHALL BE DISABLED, AND AN ALARM SHALL BE SENT TO THE DDC SYSTEM.

THE PUMP DESIGNATIONS (LEAD/STANDBY) WILL BE ROTATED BY PUMP CONTROLLER AS LEAD PUMP RUNTIME EXCEEDS 200 HOURS (ADJ.)

WHEN THE HEATING HOT WATER SYSTEM IS DISABLED, THE DDC HARDWARE CAPACITY MODULATION OUTPUT TO THE VFDs SHALL BE ZERO PERCENT.

BOILER / HOT WATER TEMPERATURE CONTROL:
WHEN THIS LOOP IS ENABLED THE BOILER WITH THE LEAST AMOUNT OF RUNTIME WILL BE THE MASTER CONTROLLER. THE BOILERS HARDWARE SHALL MODULATE THE BOILER(S) TO MAINTAIN THE HOT WATER SUPPLY TEMPERATURE AT SETPOINT. THE MASTER BOILER CONTROLLER SHALL BE RESPONSIBLE FOR STARTING/STOPPING BOILERS. THE MASTER CONTROLLER SHALL ALSO DETERMINE THE NUMBER OF BOILERS OPERATING AND THE BOILER LOAD ALLOCATION TO MAXIMIZE OPERATING EFFICIENCY.

BOILERS WILL ROTATE BY THE BOILER CONTROLLER TO EQUALIZE BOILER RUNTIME.

UPON BEING ENABLED, THE BOILER ISOLATION VALVE SHALL OPEN. ONCE THE VALVE IS PROVED OPEN AND FLOW THROUGH THE LEAD PUMP IS PROVED, BOILER SHALL BE COMMANDED ON AND MODULATE TO MAINTAIN SUPPLY TEMPERATURE SETPOINT.

THE ISOLATION VALVE FOR DISABLED BOILERS SHALL BE CLOSED.

HOT WATER SUPPLY TEMPERATURE SETPOINT RESET:
THE HOT WATER SUPPLY TEMPERATURE SETPOINT SHALL BE RESET BASED ON OUTSIDE AIR TEMPERATURE. WHEN THE OUTSIDE AIR TEMPERATURE IS 20 DEGREES F (ADJ) OR LOWER THE SETPOINT SHALL BE 180 DEGREES F. WHEN THE OUTSIDE AIR TEMPERATURE IS 50 DEGREES F (ADJ) OR HIGHER THE SETPOINT SHALL BE 140 DEGREES F. THE SETPOINT SHALL BE RAMPED LINEARLY BETWEEN 180 AND 140 DEGREES F AT TEMPERATURES BETWEEN 20 AND 50 DEGREES F.

GLYCOL MAKEUP CONTROL:
THE GLYCOL MAKEUP FEEDER UNIT SHALL BE CONTROLLED BY A UNIT INTEGRAL CONTROLLER. WHEN THE PRESSURE IN THE GLYCOL FEED LINE DROPS BELOW THE CUT-IN PRESSURE, THE INTEGRAL PUMP SHALL CYCLE ON. WHEN THE PRESSURE IN THE GLYCOL FEED LINE DROPS BELOW THE CUT-OUT PRESSURE, THE INTEGRAL PUMP SHALL CYCLE OFF.
IF THE GLYCOL SOLUTION LEVEL IN THE TANK FALLS BELOW THE LOW LEVEL POINT, THE PUMP SHALL BE DISABLED FROM RUNNING AND AN ALARM SHALL BE SENT TO THE DDC SYSTEM.

SAFETY CONTROLS:
BOILERS SHALL RUN SUBJECT TO THEIR INTERNAL SAFETIES AND CONTROLS.

BOILER EMERGENCY OFF SWITCH:
ACTIVATION OF THE EMERGENCY OFF SWITCH SHALL IMMEDIATELY SHUT OFF FUEL SUPPLY TO ALL BOILERS IN THE ROOM, AND SEND AN ALARM TO THE DDC SYSTEM. UNIT(S) SHALL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.

A1 HEATING HOT WATER SYSTEM WITH PRIMARY ONLY PUMPING SCHEMATIC
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
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MECHANICAL CONTROLS - HEATING HOT WATER SCHEMATIC AND SEQUENCE

SHEET ID
M-810

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

HOT WATER BOILER POINTS LIST

												ALARMING			PRIMARY POINT INFORMATION	NETWORK DATA EXCHANGE		OVERRIDES	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION			CONFIG. INFO.
FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARM CONDITION	ALARM PRIORITY	M&C ROUTING	OBJECT TYPE & INSTANCE NUMBER (AND PROPERTY ID)	DATA FROM	DATA TO	OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE		ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	NOTIFICATION CLASS OBJECT INSTANCE NUMBER	EVENT ENROLLMENT OBJECT INSTANCE NUMBER	
PROOFS & SAFETIES	HW-PMP-S	HOT WATER PUMP STATUS	<___>		ON/OFF	BI			V	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	GLY-TANK-LL	GLYCOL TANK LOW LEVEL	<___>		ON/OFF	BI			V	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	BLR-V-S-1	BLR-1 HOT WATER VALVE STATUS	<___>		ON/OFF	BI			V	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	BLR-V-S-2	BLR-2 HOT WATER VALVE STATUS	<___>		ON/OFF	BI			V	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	BLR-S	BOILER STATUS	<___>		ON/OFF	BI			V	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	BLR-F	BOILER FLOW	<___>		ON/OFF	BI			V	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>		<___>	<___>		<___>
	HWP-F	HEATING WATER PUMP FLOW	<___>		0-100% OPEN	AI			V	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
																			<___>			<___>	
START/STOP	BLR-ENA	SYSTEM ENABLE	<___>		ENABLE/ DISABLE	NET-IN			VO	[~]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	HWP-ENA	HEATING WATER PUMP ENABLE	<___>		ENABLE/ DISABLE	NET-IN			VO	[~]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>		<___>
	BLR-SS	BOILER START/STOP	<___>		START/STOP	BO	[~]		VO	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>		<___>
	HW-PMP-SS	HOT WATER PUMP START/STOP	<___>		START/STOP	BO	[~]		VO	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>		<___>	<___>		<___>
	UNIT STATUS	HEATING MODE UNIT STATUS (SEE NOTES)	<___>		ON/OFF	NET-OUT			V	[~]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
																			<___>			<___>	
OTHER POINTS	HWS-T-SP	HOT WATER SUPPLY TEMPERATURE SETPOINT		[RESET]	<___>	<___>		C	VO	[V]	X				<___>	<___>	<___>	<___>					<___>
	HWS-T	HOT WATER SUPPLY TEMPERATURE	<___>		<___>	AI			V	[V]	X	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>		<___>	<___>		<___>
	OA-T	OUTSIDE AIR TEMPERATURE	<___>		<___>	AI			V	[V]	[~]	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>		<___>	<___>		<___>
	HWR-T	HOT WATER RETURN TEMPERATURE	<___>		<___>	AI			V	[V]	X	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	HW-P	HOT WATER PRESSURE SWITCH	<___>		<___>	AI			V	[V]	X	[~]	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>		<___>	<___>		<___>
	BLR-V-C-1	BOILER VALVE COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>					
	BLR-V-C-2	BOILER VALVE COMMAND	<___>		0-100% OPEN	AO	[~]		VO	V					<___>	<___>	<___>	<___>					

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS INDICATED IN THE SPECIFICATION AND IN ACCORDANCE WITH THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) UNIT STATUS: SERVES AS A MONITORED POINT AT THE M&C SOFTWARE (FRONT-END) AND AS A HEATING/COOLING REQUEST TO THE BOILER, HEAT EXCHANGER, AND/OR CHILLER SERVING THIS SYSTEM.

US Army Corps of Engineers ®

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ISSUE DATE: 5 DECEMBER 2025
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CONTRACT NO.:
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DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY:
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FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt
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MECHANICAL CONTROLS - HEATING HOT WATER POINTS LIST

SHEET ID
M-811

File Path: C:\Users\rbocan\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

Plot Date: 10/20/2025 11:20:43 AM

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SEQUENCE OF OPERATION AIR COOLED CHILLED WATER SYSTEM WITH VARIABLE PUMPING

GENERAL:
CHILLED WATER SYSTEM IS DESIGNED WITH ONE CHILLER AND TWO ONBOARD 100% CHILLED WATER PUMPS WITH BUFFER TANK AND EXPANSION TANK.

CHILLER CONTROL:
DDC SYSTEM SHALL ENABLE THE CHILLED WATER SYSTEM WHEN THERE IS A CALL FOR COOLING FROM MAU-2 AND THE OUTSIDE AIR TEMPERATURE IS ABOVE LOW LIMIT OPERATING TEMPERATURE.

THE AIR COOLED CHILLER SHALL BE ENABLED. THE LEAD CHILLED WATER PUMP SHALL BE ENABLED. ONCE PROOF OF FLOW IS VERIFIED BY THE CHILLED WATER FLOW SWITCH THE CHILLER SHALL BE COMMANDED TO START. THE CHILLER CONTROL PANEL SHALL CONTROL THE CHILLER TO MAINTAIN A CHILLED WATER SUPPLY TEMPERATURE SETPOINT.

CHILLER CONTROL FUNCTIONS, MINIMUM RUNTIMES, SAFETY INTERLOCKS, AND MAXIMUM STARTS PER HOUR SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

CHILLED WATER PUMP CONTROL:
THE TWO CHILLED WATER PUMPS SHALL OPERATE AS LEAD/STANDBY. LEAD PUMP SHALL START ENABLED AS DESCRIBED IN "CHILLER CONTROL." PUMP VARIABLE FREQUENCY DRIVE SHALL MODULATE TO MAINTAIN DIFFERENTIAL PRESSURE SETPOINT IN THE SYSTEM AS MEASURED BY CHW-P. THE MINIMUM PUMP SPEED WILL BE 40% (ADJ.) OF FULL LOAD SPEED OR CHILLER MINIMUM SPEED.

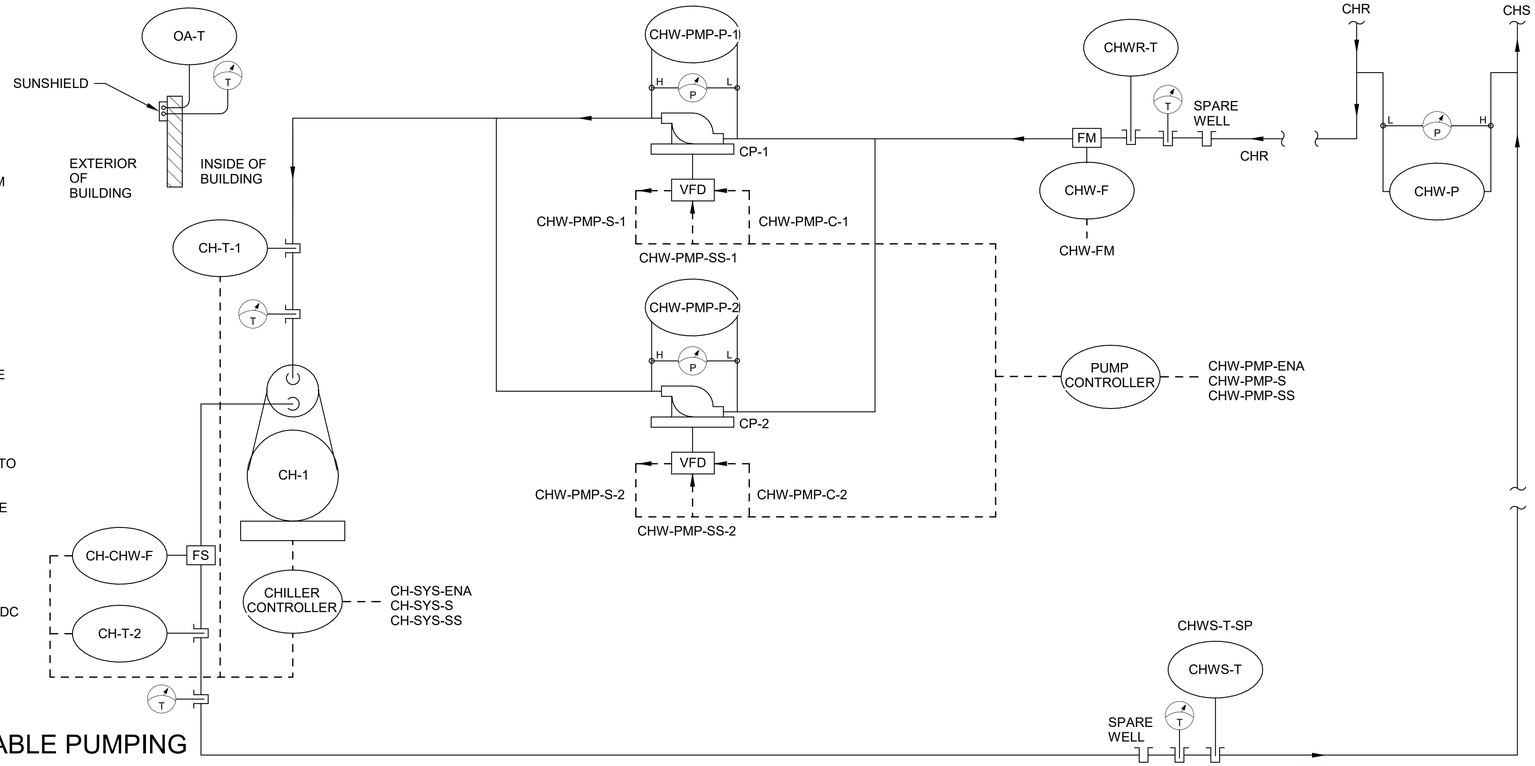
IF THE LEAD PUMP IS COMMANDED TO RUN AND ITS DIFFERENTIAL PRESSURE SENSOR DOES NOT INDICATE PROOF OF FLOW AFTER A 30 SECOND (ADJ.) DELAY, THE STANDBY PUMP SHALL BE COMMANDED ON IN ITS PLACE, THE FAILED PUMP SHALL BE DISABLED, AND AN ALARM SHALL BE SENT TO THE DDC SYSTEM.

THE PUMP DESIGNATIONS (LEAD/STANDBY) WILL BE ROTATED AUTOMATICALLY AS LEAD PUMP RUNTIME EXCEEDS 100 HOURS (ADJ.)

MISCELLANEOUS MONITORING:
THE CHILLED RETURN AND SUPPLY TEMPERATURES AT THE CHILLER SHALL BE MONITORED AND VIEWABLE ON THE DDC SYSTEM.

THE SYSTEM CHILLED WATER RETURN TEMPERATURE SHALL BE MONITORED AND VIEWABLE ON THE DDC SYSTEM.

FREEZE PROTECTION:
PUMP(S) SHALL BE ENERGIZED TO PROVIDE WATER FLOW THROUGH THE CHILLER FOR FREEZE PROTECTION, WHEN THE OUTSIDE AIR TEMPERATURE SENSOR/TRANSMITTER SENSES TEMPERATURE BELOW 32 DEG F (ADJUSTABLE).



AIR COOLED CHILLED WATER SYSTEM WITH VARIABLE PUMPING SCHEMATIC

G1

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: R. READER	SOLICITATION NO.: W912BV26RA004
CHECKED BY:	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO.: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:20:44 AM File Path: C:\Users\rbeader\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL CONTROLS - CHILLED WATER SCHEMATIC AND SEQUENCE

SHEET ID

M-812

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

AIR COOLED CENTRIFUGAL CHILLER INTERFACE

FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIG. INFO.
PROOFS & SAFTIES	CHLR-S	CHILLER STATUS	<___>		ON/OFF	BI			V	V		CHILLER STATUS NOT EQUAL TO COMMAND	[info] [crit]	[___]	<___>	<___>	<___>		[~]	[___]	[___]	[___]	
	CHLR-SS	CHILLER START-STOP (ON/OFF) COMMAND	<___>		ON/OFF	BO	[~]		V	V					<___>	<___>	<___>						
	CHLR-MOD	CHILLER MODE - OPERATIONAL CODE	<___>		ENABLE/DISABLE	NET-IN			V	V	[~]				<___>	<___>	<___>	<___>	<___>				
	CHLR-ALM	CHILLER ALARM/FAULT	<___>		ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]	<___>	<___>	<___>			[___]	[___]	[___]	
	CHLR-LOW-T	CHILLER LOW TEMP CUTOUT	<___>	[39 DEG F]	ALM/NORMAL	BI		H				ALM	[info] [crit]	[___]	<___>	<___>	<___>			[___]	[___]	[___]	
	CHLR-LO	SYSTEM 1 LOCKOUT	<___>		ON/OFF	NET-IN			V	V	[~]				<___>	<___>	<___>	<___>	<___>				
COMPRESSOR	COMP1-S	COMPRESSOR 1 RUN STATUS	<___>		ON/OFF	BI			V	V	X	COMPRESSOR PUMP PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		[~]	[___]	[___]	[___]	
	COMP2-S	COMPRESSOR 2 RUN STATUS	<___>		ON/OFF	BI			V	V	X	COMPRESSOR PUMP PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		[~]	[___]	[___]	[___]	
EVAPORATOR	EVAP-PMP-S	EVAPORATOR PUMP STATUS (FLOW PROOF)	<___>		ON/OFF	BI			V	V		EVAP PUMP PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		[~]	[___]	[___]	[___]	
CONDENSOR	COND-FANS-S	CONDENSER FAN STATUS	<___>		ON/OFF	NET-IN			V	V					<___>	<___>	<___>						
SYSTEM	LVG-WATER-T	CHILLED WATER TEMP LEAVING CHILLER	<___>		42	AI			V	V		[~]		[___]	<___>	<___>	<___>			[___]	[___]	[___]	
	RET-WATER-T	RETURN CHILLED WATER TEMPERATURE	<___>		54	AI			V	V	X				<___>	<___>	<___>	<___>	<___>				
	CONTMODE	CONTROL MODE - LOCAL OR REMOTE	<___>		LOCAL/REMOTE	NET-IN			V	V	[~]				<___>	<___>	<___>	<___>	<___>				
	CWS-T-SP	CHILLED WATER SUPPLY TEMP SETPOINT	<___>	[___DEG F]	[DEG F]	AO			VO	V	X				<___>	<___>	<___>	<___>	<___>				
	CHLR-RUN-H	CHILLER RUNTIME HOURS	<___>			AI			V	V													
OTHER POINTS	CHLR-CL	CURRENT LIMIT	<___>	[___ AMP]	[AMP]																		
	CHLR-SUC-T	SUCTION TEMPERATURE	<___>		[DEG F]	AI			V	V	X				<___>	<___>	<___>	<___>	<___>				
	CHLR-DIS-T	DISCHARGE TEMPERATURE	<___>		[DEG F]	AI			V	V	X				<___>	<___>	<___>	<___>	<___>				
	CHLR-OIL-T	OIL TEMPERATURE	<___>		[DEG F]	AI			V	V	X				<___>	<___>	<___>	<___>	<___>				
	CHLR-OIL-P	OIL PRESSURE	<___>		[PSI]	AI			V		X	<___>	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	[___]	
	CHLR-SUC-P	SUCTION PRESSURE	<___>		[PSI]	AI			V		X	<___>	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	[___]	
	CHLR-DIS-P	DISCHARGE PRESSURE	<___>		[PSI]	AI			V		X	<___>	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	[___]	
	CHLR-FL-AMP	FULL LOAD AMP	<___>		0 - <___> kVA				[~]		X				<___>	<___>	<___>		<___>				
	CHLR-SUCSH-T	SUCTION SUPERHEAT TEMPERATURE	<___>		[DEG F]	AI			V	V	X				<___>	<___>	<___>	<___>	<___>				
	CHLR-DISSH-T	DISCHARGE SUPERHEAT TEMPERATURE	<___>		[DEG F]	AI			V	V	X				<___>	<___>	<___>	<___>	<___>				
	OA-T	OUTSIDE AIR AMBIENT TEMPERATURE	<___>	[___DEG F]	[DEG F]	AI			V	V													

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS INDICATED IN THE SPECIFICATION AND IN ACCORDANCE WITH THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) UNIT STATUS: SERVES AS A MONITORED POINT AT THE M&C SOFTWARE (FRONT-END) AND AS A HEATING/COOLING REQUEST TO THE BOILER, HEAT EXCHANGER, AND/OR CHILLER SERVING THIS SYSTEM.
4) DDC HW ID FOR DEVICE CONTAINING TREND OBJECT FOR REMOTE TRENDING FOR THIS SYSTEM: <_____>
5) DDC HW ID FOR DEVICE CONTAINING EVENT ENROLLMENT OBJECT FOR REMOTE ALARMING FOR THIS SYSTEM: <_____>
6) DDC HW IF FOR DEVICE CONTAINING SIMPLE SCHEDULER OBJECT (OR SYSTEM SCHEDULER SEQUENCE OF OPERATIONS) FOR THIS SYSTEM: <_____>

CHILLED WATER PLANT VARIABLE PRIMARY PUMPING SYSTEM, IN CONJUNCTION WITH AIR COOLED CHILLER

FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	NETWORK DATA...: DATA FROM	NETWORK DATA...: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONF. INFO.
PROOFS & SAFETIES	CHW-PMP-S	CHILLED WATER PUMP STATUS	<___>		ON/OFF	BI			V	V		PRIAMARY PUMP PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	
	CH-SYS-S	CHILLER STATUS	<___>		ON/OFF	BI			V	V		PRIAMARY PUMP PROOF FAILED	[info] [crit]	[___]	<___>	<___>	<___>			[___]	[___]		
START/STOP	CH-SYS-ENA	CHILLER WATER SYSTEM ENABLE	<___>		ENABLE/DISABLE	NET-IN			VO						BV <___>	<___>	<___>	<___>	<___>			<___>	
	CHW-PMP-ENA	CHILLED WATER PUMP ENABLE	<___>		ENABLE/DISABLE	NET-IN			VO						BV <___>	<___>	<___>	<___>	<___>				
	CH-SYS-SS	CHILLER SYSTEM START/STOP	<___>		START/STOP	BO	[~]		VO	V					<___>	<___>	<___>	<___>					
	CHW-PMP-SS	CHILLED WATER PUMP START/STOP	<___>		START/STOP	BO	[~]		VO	V					<___>	<___>	<___>	<___>	<___>			<___>	
	UNIT STATUS	CHILLER UNIT STATUS (SEE NOTES)	<___>		ON/OFF	NET-OUT			V						<___>	<___>	<___>		<___>			<___>	
TEMPERATURE CONTROL	OA-T	OUTSIDE AIR TEMPERATURE	<___>		<___>	AI			V	V	X	[~]	[~]	[___]	<___>	<___>	<___>		<___>	[___]	[___]	<___>	
	CHWS-T	CHILLED WATER SUPPLY TEMPERATURE	<___>		<___>	AI			V	V	X	ChWS-T MORE THAN 5 DEG F ABOVE OR BELOW CHWS-T-SP, AFTER THE SYSTEM HAS BEEN...	[info] [crit]	[~]	<___>	<___>	<___>		<___>	[___]	[___]		
	CHWS-T-SP	CHILLED WATER SUPPLY TEMPERATURE SETPOINT		[RESET]	<___>			C	VO	V	X				<___>	<___>	<___>	<___>	<___>			<___>	<___>
FLOW CONTROL	CHW-PMP-C-1	CHILLED WATER PUMP COMMAND	<___>		0-100%	AO	[~]		VO	V	X				<___>	<___>	<___>	<___>	<___>				
	CHW-PMP-C-2	CHILLED WATER PUMP COMMAND	<___>		0-100%	AO	[~]		VO	V	X				<___>	<___>	<___>	<___>	<___>			<___>	
	CHW-P	CHILLED WATER PUMP LOOP PRESSURE	<___>		<___>	AI					X	*MORE THAN 20% ABOVE OR BELOW SETPOINT	[info] [crit]	[___]	<___>	<___>	<___>		<___>	[___]	[___]		
OTHER POINTS	CHWR-T	CHILLED WATER RETURN TEMPERATURE	<___>		<___>	AI			V	V	X				<___>	<___>	<___>			[___]	[___]		
	CHW-F	CHILLER FLOW	<___>		<___>	AI			V	V	X				<___>	<___>	<___>			[___]	[___]		
	CHW-FM	CHILLED WATER FLOW METER	<___>		<___>	AI			V	V	X				<___>	<___>	<___>			[___]	[___]		

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS INDICATED IN THE SPECIFICATION AND IN ACCORDANCE WITH THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) UNIT STATUS: SERVES AS A MONITORED POINT AT THE M&C SOFTWARE (FRONT-END) AND AS A COOLING/COOLING REQUEST TO THE BOILER, COOL EXCHANGER, AND/OR CHILLER SERVING THIS SYSTEM.
4) FOR LEAD/LAG PUMPS, FANS, OR CHILLERS, INSERT ADDITIONAL ROWS TO REPRESENT ALL DEVICES (E.G., CW-PMP1-S, CW-PMP2-S, ETC)

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
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TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MECHANICAL CONTROLS - CHILLED WATER POINTS LIST

SHEET ID
M-813

File Path: C:\Users\mbocanr\Desktop\Archive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECP0A81.rvt
Plot Date: 10/20/2025 11:20:46 AM

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SEQUENCE OF OPERATION -HANGAR EXHAUST FAN

EF-1 THROUGH 9

ASSOCIATED EQUIPMENT:
MAU-1 - EF-1, EF-2, EF-3, MD-E10, MD-E11, MD-E12, MD-I9,MD-I10, MD-I11
MAU-2 - EF-4, EF-5, EF-6, MD-E13, MD-E-14, MD-E16, MD-I8, MD-I13, MD-I14
MAU-3 - EF-7, EF-8, EF-9, MD-E8, MD-E9, MD-E15, MD-I7, MD-I14, MD-I15

GENERAL:

HANGAR BAY MODES ARE DEFINED IN THE GENERAL HANGAR OPERATION SEQUENCE, AND INCLUDE OFF, UNOCCUPIED, AND MULTIPLE DIFFERENT OCCUPIED MODES INCLUDING GENERAL MAINTENANCE, FUEL MAINTENANCE, LOC REPAIR AND EMERGENCY VENTILATION. SETPOINTS AND EQUIPMENT STATUS CAN BE FOUND IN THE MODE SUMMARY TABLE.

FAN CONTROL:
UPON PROOF OF THE EXHAUST AIR DAMPER BEING OPEN THE EXHAUST FAN SHALL BE ENERGIZED AND RUN AT A CONSTANT SPEED.

EXHAUST FANS WILL OPERATE AT ALL TIMES UNLESS THE SYSTEM IS IN THE OFF MODE. NUMBER AND VOLUME OF EXHAUST WILL BE BASED ON SYSTEM MODE AND SCHEDULE.

EF-1,2,4,5,7,8 ARE SIZED AT 50% OF THE TOTAL (11000) EXHAUST FLOWRATE REQUIRED FOR FUEL SYSTEM MAINTENANCE MODE. THEY OPERATE AT EITHER 5500 CFM EACH OR 2000 CFM EACH.

EF-3,6,9 ARE SIZED FOR ADDITIONAL EMERGENCY EXHAUST RATE OF 4,400 CFM. THEY WILL OPERATE AT 4,400 CFM OR 1,000 CFM.

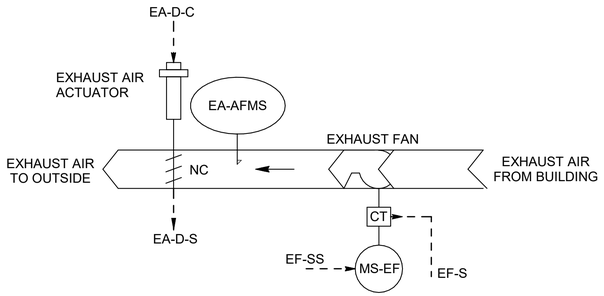
OFF:
ALL EXHAUST FANS ARE OFF. ALL EXHAUST AIR DAMPERS ARE CLOSED.

GENERAL MAINTENANCE, FUEL MAINTENANCE, LOC REPAIR AND EMERGENCY VENTILATION:
EXHAUST FANS EF-1,2,4,5,7,8 ARE ON RUNNING AT SPECIFIED SPEED FOR SYSTEM MODE; ASSOCIATED EA DAMPERS ARE OPEN. IF ONE FAN FAILS, AS SENSED BY THE EXHAUST FAN INLET CONE AIRFLOW SENSOR, SWITCH FAN INTO “OFF” MODE AND THE EMERGENCY FAN FOR THE BAY (EF-3,6,9) WILL TURN TO 100% CAPACITY PROVIDE EXHAUST AIRFLOW FROM THE HANGAR BAY. DDC WILL BE ALARMED.

EMERGENCY EXHAUST MODE:
ALL EXHAUST FANS ON AT FULL SPEED (EF-1 THROUGH EF-9); ASSOCIATED EA DAMPERS ARE OPEN.

UNOCCUPIED MODE:
EF-3,6,9 ON LOW SPEED (1,000) CFM ; ASSOCIATED EA DAMPERS ARE OPEN. EF-1,2,4,5,7,8 ARE OFF,ASSOCIATED EA DAMPERS ARE CLOSED.

SAFETY CONTROLS:
HVAC SYSTEM EMERGENCY SHUTDOWN: WHEN THE HVAC SYSTEM EMERGENCY SHUTDOWN SWITCH IS PRESSED DDC SYSTEM WILL STOP THE FAN, AND CLOSE EXHAUST DAMPER, EQUIPMENT WILL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.



HANGER EXHAUST FAN POINTS LIST

FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIG. INFO.
PROOFS & SAFETIES	EF-S	EXHAUST FAN STATUS	<___>	~	ON/OFF	BI	~		V	V	~	EXHAUST FAN PROOF FAILED	INFO	[___]	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	EA-D-S	EXHAUST DAMPER STATUS	<___>	~	OPEN /CLOSED	BI	~		V	V	~	DAMPER COMMANDED OPEN BUT STATUS CLOSED	INFO	[___]	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	EA-AFMS	EXHAUST AIR FLOW (AFMS)	<___>	VARIES	VARIES	AI			V	V	X	INCORRECT FLOW FOR MODE	CRIT		<___>	<___>						[___]	[___]
START /STOP	SYS-ON	SYSTEM ENABLE (FROM SYSTEM SCHEDULE)	<___>	~	<___>	POWER ON		OC	O	O	~	~	~	~	<___>	<___>	<___>	<___>	<___>	~	~	~	<___>
	EF-SS	EXHAUST FAN START STOP		~	ON/OFF	BO			V	O	~	~	~	~	<___>	<___>	<___>	~	~	~	~	~	<___>
	EF-C	EXHAUST FAN COMMAND	<___>	~	OPEN /CLOSED	BO	~		O	O	~	~	~	~	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	EA-D-C	EXHAUST AIR DAMPER COMMAND	<___>	~	OPEN /CLOSED	BO	~		O	O	~	~	~	~	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>

Notes:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS SPECIFIED AND AS DESCRIBED IN THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) SYS-ON: AS DESCRIBED IN THE POINTS SCHEDULE INSTRUCTIONS, IS ACCOMPLISHED THROUGH THE SYSTEM SCHEDULER.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL CONTROLS - HANGER BAY INTERLOCKED EXHAUST FAN SCHEMATIC, SEQUENCE AND POINTS LIST

SHEET ID
M-814

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SEQUENCE OF OPERATION - TEMPERATURE CONTROLLED EXHAUST FAN

TYPICAL FOR: EF-10 THROUGH 15

INTERLOCKS:
EF-10 THROUGH 15 MUST BE INTERLOCKED WITH ASSOCIATED OUTSIDE AIR DAMPER.

GENERAL:
THE HVAC SYSTEM WILL HAVE THE FOLLOWING MODES OF OPERATION: OFF AND ON.

OFF:
THE EXHAUST FAN SHALL BE DE-ENERGIZED. EXHAUST AND OUTSIDE AIR DAMPERS SHALL BE CLOSED.

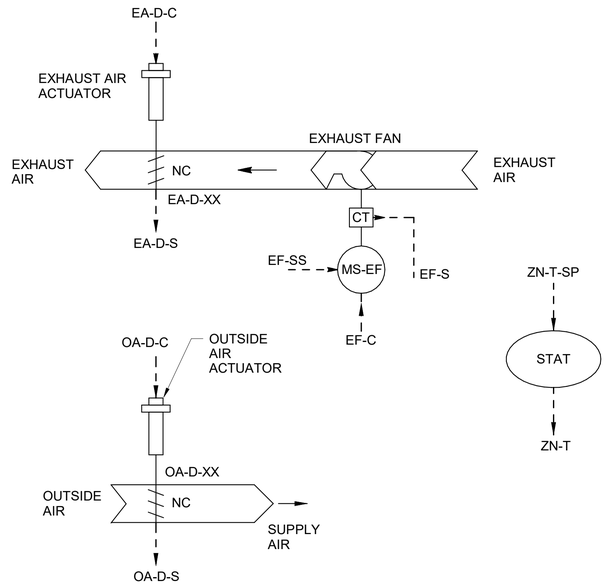
ON:
ON MODE IS INITIATED BY THE CONTROLS SYSTEM.

WHEN THE ZONE TEMPERATURE RISES ABOVE THE SETPOINT THE OUTSIDE AIR DAMPER WILL OPEN, THE EXHAUST AIR DAMPER WILL OPEN AND UPON PROOF OF THE EXHAUST AND OUTSIDE AIR DAMPERS BEING OPEN THE EXHAUST FAN MUST BE ENERGIZED AND RUN AT A CONSTANT SPEED.

SAFETY CONTROLS:

BUILDING FIRE ALARM CONDITION (FOR UNITS WITH SMOKE DETECTORS): IF BUILDING IS IN FIRE ALARM CONDITION, THE FIRE ALARM CONTROL PANEL SHALL DISABLE FANS AND SEND AN ALARM TO THE DDC SYSTEM AND UNITS SHALL GO INTO OFF MODE.

HVAC SYSTEM EMERGENCY SHUTDOWN: WHEN THE HVAC SYSTEM EMERGENCY SHUTDOWN SWITCH IS PRESSED DDC SYSTEM WILL STOP THE FAN, AND CLOSE EXHAUST DAMPER, EQUIPMENT WILL RETURN TO NORMAL OPERATION FOLLOWING A MANUAL RESET.



TEMPERATURE CONTROLLED EXHAUST FAN CONTROL SCHEMATIC AND SEQUENCE

H1 NTS

TEMPERATURE CONTROLLED EXHAUST FANS POINTS LIST

												ALARMING			PRIMARY POINT INFORMATION	NETWORK DATA EXCHANGE		OVERRIDES	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION			CONFIG. INFO.
FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARM CONDITION	ALARM PRIORITY	M&C ROUTING	OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	DATA FROM	DATA TO	OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE		ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	NOTIFICATION CLASS OBJECT INSTANCE NUMBER	EVENT ENROLLMENT OBJECT INSTANCE NUMBER	
PROOFS & SAFETIES	EF-S	EXHAUST FAN STATUS	<___>		ON/OFF	BI	~		V	V	~	EXHAUST FAN PROOF FAILED	INFO	[___]	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	OA-D-S	OUTSIDE AIR DAMPER STATUS	<___>		0-100%	BI	~		V	V	~	DAMPER COMMANDED OPEN BUT STATUS CLOSED	INFO	[___]	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	EA-D-S	EXHAUST DAMPER STATUS	<___>		0-100%	BI	~		V	V	~	DAMPER COMMANDED OPEN BUT STATUS CLOSED	INFO	[___]	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
START /STOP	SYS-ON	SYSTEM ENABLE (FROM SYSTEM SCHEDULE)	<___>		<___>	POWER ON		OC	O	O	~	~	~	~	<___>	<___>	<___>	<___>	<___>	~	~	~	<___>
	EF-SS	EXHAUST FAN START STOP			ON/OFF	BO			V	O	~	~	~	~	<___>	<___>	<___>	~	~	~	~	~	<___>
	EF-C	EXHAUST FAN COMMAND	<___>		OPEN /CLOSED	BO	~		O	O	~	~	~	~	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	OA-D-C	EXHAUST FAN COMMAND	<___>		OPEN /CLOSED	BO	~		O	O	~	~	~	~	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	EA-D-C	EXHAUST AIR DAMPER COMMAND	<___>		OPEN /CLOSED	BO	~		O	O	~	~	~	~	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
OTHER POINTS	ZN-T-SP	ZONE TEMPERATURE SETPOINT	<___>	OCC ADJ	[80 DEG F]	AI		C	VO	[*]	X				<___>	<___>	<___>	<___>		<___>	<___>		<___>
	ZN-T	ZONE TEMPERATURE	<___>		<___>	AI			V	[V]	X	** ZN-T LESS THAN 40 DEG F	[INFO] [CRIT]	[___]	<___>	<___>	<___>	<___>					<___>
	OA-T	OUTSIDE AIR TEMPERATURE	<___>		<___>	AI			V			[*]		[*]	<___>								<___>

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS SPECIFIED AND AS DESCRIBED IN THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) SYS-ON: AS DESCRIBED IN THE POINTS SCHEDULE INSTRUCTIONS, IS ACCOMPLISHED THROUGH THE SYSTEM SCHEDULER.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 11:20:49 AM File Path: C:\Users\rbeader\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECSHAR.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL CONTROLS - ELECTRICAL/MECHANICAL
ROOM EXHAUST FAN SCHEMATIC, SEQUENCE AND POINTS LIST

SHEET ID
M-815

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SEQUENCE OF OPERATION - COMM ROOM UNIT

TYPICAL FOR: MSHP-1

GENERAL:
THE MSHP IS CONTROLLED BY INTERNAL CONTROLLER. STATUS WILL BE MONITORED BY THE DDC SYSTEM WITH SETPOINT ADJUSTMENT CONTROL VIA A MSHP INTERFACE CONTROL PANEL OR WITH THE DDC SYSTEM. SPACE TEMP WILL BE MONITORED BY DDC SYSTEM. ALL ALARMS INDICATED TO THE DDC SYSTEM.

SYSTEM SHALL HAVE THE FOLLOWING MODES OF OPERATION: OFF AND ON.

OFF:
THE MSHP SUPPLY FAN SHALL BE DE-ENERGIZED. THE CONDENSING UNIT SHALL BE DE-ENERGIZED. THE ELECTRIC HEATING COIL SHALL BE DE-ENERGIZED.

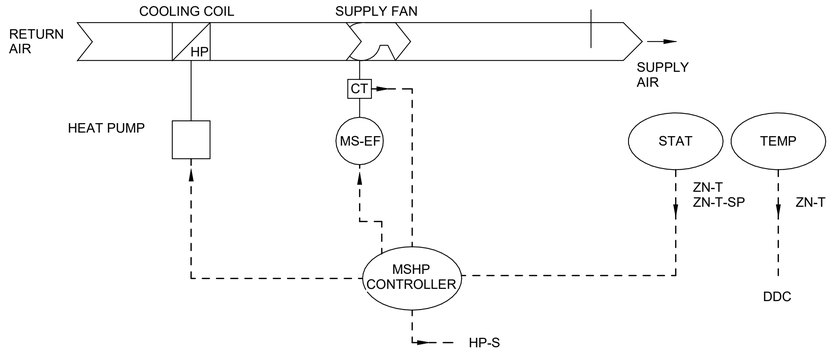
ON:
ON MODE SHALL BE INITIATED BY THE CONTROLS SYSTEM.

FAN CONTROL: THE SUPPLY FAN WILL CYCLE ON AND OFF TO MAINTAIN ZONE TEMPERATURE AT SETPOINT..

COOLING CYCLE: THE HEAT PUMP WILL CYCLE COOLING ON AND OFF TO MAINTAIN ZONE TEMPERATURE SETPOINT WITH A 2°F (ADJ) DEADBAND TO PREVENT RAPID CYCLING.

HEATING CYCLE: THE HEAT PUMP WILL CYCLE HEATING ON AND OFF TO MAINTAIN ZONE TEMPERATURE SETPOINT WITH A 2°F (ADJ) DEADBAND TO PREVENT RAPID CYCLING.

ALARMS: IF SPACE TEMPERATURE IS ABOVE OR BELOW THE SETPOINT BY 10°F THE DDC WILL ALARM.



K1 MINI-SPLIT HEAT PUMP CONTROL SCHEMATIC
NTS

MINI SPLIT HEAT PUMP POINTS LIST

												ALARMING			PRIMARY POINT INFORMATION	NETWORK DATA EXCHANGE		OVERRIDES	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION			CONFIG. INFO.
FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARM CONDITION	ALARM PRIORITY	M&C ROUTING	OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	DATA FROM	DATA TO	OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE		ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	NOTIFICATION CLASS OBJECT INSTANCE NUMBER	EVENT ENROLLMENT OBJECT INSTANCE NUMBER	
PROOFS & SAFETIES	ZN-T	ZONE TEMP MONITOR	<___>		45 - 90	AL			V	V	~	TEMP 10 DEGREES ABOVE OR BELOW	CRIT	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
START/STOP	HP-S	UNIT STATUS (HTG AND/OR CLG REQUEST) (SEE NOTE)	<___>		<HVAC_ COOL/HVAC_ HEAT/HVAC_ OFF> <___>	NET-OUT			V	[V]	[~]	NO RESPONSE	CRIT	[___]	<___>	<___>	<___>	<___>	<___>				<___>
ZONE TEMPERATURE CONTROL	ZN-T	ZONE TEMPERATURE	<___>		<___>	AI			V	[V]	X	** ZN-T IS MORE THAN 37 DEG F ABOVE OR BELOW ZN-T-SP	CRIT	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	ZN-T-SP	ZONE TEMPERATURE SETPOINT		[OCC ADJ]	[55-77 DEG F]	AI		C	VO	[V[O]]	[~]				<___>	<___>	<___>	<___>	<___>				<___>

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS INDICATED IN THE SPECIFICATION AND IN ACCORDANCE WITH THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) UNIT STATUS: SERVES AS A MONITORED POINT AT THE M&C SOFTWARE (FRONT-END) AND AS A HEATING/COOLING REQUEST TO THE BOILER, HEAT EXCHANGER, AND/OR CHILLER SERVING THIS SYSTEM.
4) DDC HW ID FOR DEVICE CONTAINING TREND OBJECT FOR REMOTE TRENDING FOR THIS SYSTEM: <___>
5) DDC HW ID FOR DEVICE CONTAINING EVENT ENROLLMENT OBJECT FOR REMOTE ALARMING FOR THIS SYSTEM: <___>
6) DDC HW IF FOR DEVICE CONTAINING SIMPLE SCHEDULER OBJECT (OR SYSTEM SCHEDULER SEQUENCE OF OPERATIONS) FOR THIS SYSTEM: <___>

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: C. CLARK
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
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PN: 512203

MECHANICAL CONTROLS - MINI-SPLIT HEAT PUMP SCHEMATIC, SEQUENCE AND POINTS LIST

SHEET ID
M-816

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

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SEQUENCE OF OPERATION - ELECTRIC UNIT HEATER

TYPICAL FOR: UH-2,4,9

GENERAL:
THE HVAC SYSTEM SHALL HAVE THE FOLLOWING MODES OF OPERATION: OFF AND ON.

UNIT HEATER DISABLED WHEN OUTSIDE AIR TEMPERATURE > 50 DEGREES F

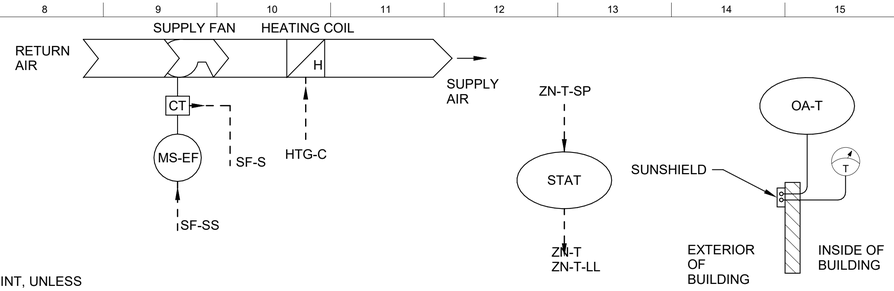
OFF:
THE UNIT HEATER SUPPLY FAN SHALL BE DE-ENERGIZED. ELECTRIC HEATING COIL SHALL BE DE-ENERGIZED.

ON:
ON MODE SHALL BE INITIATED BY THE CONTROLS SYSTEM.

FAN CONTROL: THE SUPPLY FAN SHALL RUN ANYTIME THE ZONE TEMPERATURE DROPS BELOW HEATING SETPOINT, UNLESS SHUTDOWN ON SAFETIES.

ZONE TEMPERATURE CONTROL: UPON A FALL IN ZONE TEMPERATURE BELOW HEATING SETPOINT, THE ELECTRIC HEATING COIL SHALL CYCLE ON UNTIL ZONE TEMPERATURE IS ABOVE SETPOINT. WHEN ZONE TEMPERATURE IS ABOVE SETPOINT ELECTRIC HEATING COIL SHALL CYCLE OFF. TO PREVENT SHORT CYCLING, ON/OFF TIME SHALL HAVE A MINIMUM RUNTIME.

SAFETY CONTROLS:
THE UNIT SHALL RUN SUBJECT TO THE UNIT MANUFACTURER'S SAFETIES.



L1 ELECTRIC UNIT HEATER CONTROL SCHEMATIC AND SEQUENCE
NTS

ELECTRIC UNIT HEATER POINTS LIST

FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIG. INFO.
PROOFS & SAFETIES	SF-S	SUPPLY FAN STATUS	<___>		ON/OFF	BI	~		V	V	~	[~]	INFO	[___]	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	ZN-T-LL	ZONE TEMPERATURE LOWER LIMIT ALARM	<___>	OCC ADJ	[40 DEG F]	BI		C	~	V	~	[~]	CRIT	[___]	<___>	<___>	<___>	~	~	~	~	~	<___>
START/STOP	SYS-ON	START-UP COMMAND (FROM SYSTEM SCHEDULER)	<___>		OCC/UNOCC	NET-IN			O	O	~	[~]	~	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	SF-SS	SUPPLY FAN START/STOP	<___>		ON/OFF	BO	~		V	O	~	[~]	~	[___]	<___>	<___>	<___>	<___>		<___>	<___>	<___>	<___>
ZONE TEMPERATURE CONTROL	ZN-T	ZONE TEMPERATURE	<___>	<___>	<___>	AI			V	V	X	** ZN-T LESS THAN 40 DEG F	INFO	[___]	<___>	<___>	<___>	<___>	<___>	~	~	~	<___>
	ZN-T-SP	ZONE TEMPERATURE SETPOINT		OCC ADJ	[50 DEG F]	AI		C	O	O	~	[~]	~	[___]	<___>	<___>	<___>	~	~	~	~	~	<___>
	HTG-C	HEATING COMMAND	<___>		ON/OFF	BO	~		V	O	~	[~]	~	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
OTHER POINTS	OA-T	OUTSIDE AIR TEMPERATURE	<___>		<___>	AI			V			[~]		[~]	<___>								<___>

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS SPECIFIED AND AS DESCRIBED IN THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) SYS-ON: AS DESCRIBED IN THE POINTS SCHEDULE INSTRUCTIONS, IS ACCOMPLISHED THROUGH THE SYSTEM SCHEDULER.
4) ALARM CONDITIONS MARKED WITH A DOUBLE ASTERISK (**) SHALL BE ACTIVE ONLY WHEN THE SYSTEM IS IN "ON" MODE AND HAS BEEN FOR MORE THAN 30 MINUTES.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
DESIGNED BY: J. PONTHEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt
SIZE: ANSI D
Plot Date: 10/20/2025 11:20:51 AM
File Path: C:\Users\rbecker\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_M_3BAYH_RVT22_MSECRAR.rvt

US ARMY CORPS OF ENGINEERS
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TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
PN: 512203

MECHANICAL CONTROLS - ELECTRIC UNIT HEATER SCHEMATIC, SEQUENCE AND POINTS LIST

SHEET ID
M-817

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SEQUENCE OF OPERATION - HOT WATER UNIT HEATER

TYPICAL FOR: UH-1, UH-3, UH-5, UH-6, UH-7, UH-8.

GENERAL:
THE HVAC SYSTEM SHALL HAVE THE FOLLOWING MODES OF OPERATION: OFF AND ON.

UNIT HEATER DISABLED WHEN OUTSIDE AIR TEMPERATURE > 50 DEGREES F

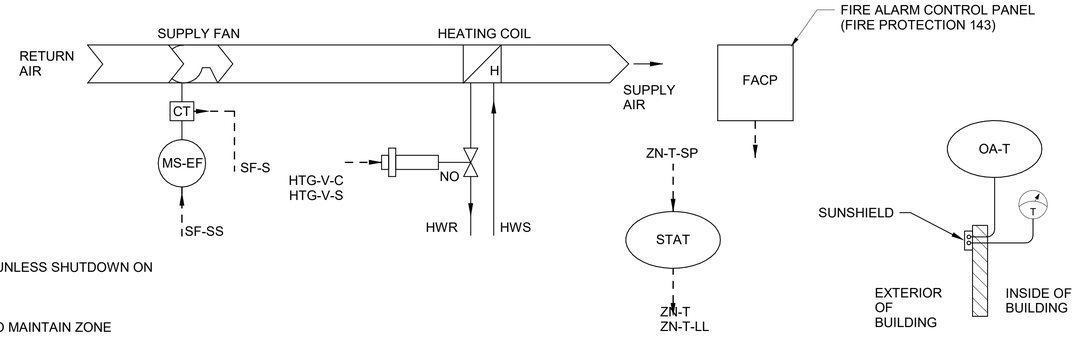
OFF:
THE UNIT HEATER SUPPLY FAN SHALL BE DE-ENERGIZED. HEATING VALVE SHALL BE CLOSED.

ON:
ON MODE SHALL BE INITIATED BY THE CONTROLS SYSTEM.

FAN CONTROL:
THE SUPPLY FAN SHALL RUN ANYTIME THE ZONE TEMPERATURE DROPS BELOW HEATING SETPOINT, UNLESS SHUTDOWN ON SAFETIES.

ZONE TEMPERATURE CONTROL:
UPON A FALL IN ZONE TEMPERATURE BELOW HEATING SETPOINT THE HEATING VALVE SHALL OPEN TO MAINTAIN ZONE TEMPERATURE SETPOINT.

SAFETY CONTROLS:
FIRE PROTECTION ROOM ONLY (UH-6). IF SPACE TEMPERATURE FALLS BELOW 40 DEGREES F, FACP WILL INITIATE A "LOW TEMPERATURE" ALARM. THIS ALARM SHALL INDICATE TO THE DDC SYSTEM.



K1 HOT WATER UNIT HEATER CONTROL SCHEMATIC AND SEQUENCE
NTS

HYDRONIC UNIT HEATER POINTS LIST

FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIG. INFO.
PROOFS & SAFETIES	SF-S	SUPPLY FAN STATUS	<___>		ON/OFF	BI	~		V	V	~	[~]	INFO	[___]	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
	HTG-V-S	HEATING VALVE POSITION...	<___>		0-100% OPEN	BI	~	C	V	V	~	[~]	~	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	ZN-T-LL	ZONE TEMPERATURE LOWER LIMIT ALARM	<___>	OCC ADJ	[40 DEG F]	BI		C	~	V	~	[~]	CRIT	[___]	<___>	<___>	<___>	~	~	~	~	~	<___>
START/STOP	SYS-ON	START-UP COMMAND (FROM SYSTEM SCHEDULER)	<___>		OCC/UNOCC	NET-IN			O	O	~	[~]	~	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
	SF-SS	SUPPLY FAN START/STOP	<___>		ON/OFF	BO	~		V	O	~	[~]	~	[___]	<___>	<___>	<___>	<___>		<___>	<___>	<___>	<___>
ZONE TEMPERATURE CONTROL	ZN-T	ZONE TEMPERATURE	<___>	<___>	<___>	AI			V	V	X	** ZN-T IS MORE THAN 37 DEG F ABOVE OR BELOW ZN-T-SP	INFO	[___]	<___>	<___>	<___>	<___>	<___>	~	~	~	<___>
	ZN-T-SP	ZONE TEMPERATURE SETPOINT		OCC ADJ	[68-77 DEG F]	AI		C	O	O	~	[~]	~	[___]	<___>	<___>	<___>	~	~	~	~	~	<___>
	HTG-V-C	HEATING VALVE COMMAND	<___>		0-100% OPEN	AO	~	C	O	O	X	[~]	~	[___]	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>
OTHER POINTS	OA-T	OUTSIDE AIR TEMPERATURE	<___>		<___>	AI			V			[~]		[~]	<___>								<___>

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS SPECIFIED AND AS DESCRIBED IN THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) SYS-ON: AS DESCRIBED IN THE POINTS SCHEDULE INSTRUCTIONS, IS ACCOMPLISHED THROUGH THE SYSTEM SCHEDULER.
4) ALARM CONDITIONS MARKED WITH A DOUBLE ASTERISK (**) SHALL BE ACTIVE ONLY WHEN THE SYSTEM IS IN "ON" MODE AND HAS BEEN FOR MORE THAN 30 MINUTES.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY:
SUBMITTED BY: A. BLANKENSHIP, P.E.
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ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35 3 BAY HANGAR
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MECHANICAL CONTROLS - HYDRONIC UNIT HEATER SCHEMATIC, SEQUENCE AND POINTS LIST

SHEET ID
M-818

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SEQUENCE OF OPERATION - SUMMER VENTILATION LOUVERS

TYPICAL FOR: MECHANICAL DAMPERS ASSOCIATED WITH IL-10 THROUGH IL-15

ASSOCIATED EQUIPMENT:
MD-I10 THROUGH MD-I15 ARE ASSOCIATED WITH HANGAR BAY EXHAUST FANS. REFER TO PLANS AND SCHEDULES FOR EQUIPMENT IDENTIFIERS AND LOCATIONS.

GENERAL:
THE HVAC SYSTEM SHALL HAVE THE FOLLOWING MODES OF OPERATION: OFF, UNOCCUPIED, GENERAL MAINTENANCE, FUEL MAINTENANCE, LOC REPAIR, AND EMERGENCY VENTILATION. DAMPER STATUS WILL BE OPEN OR CLOSED. REFER TO MODE SUMMARY TABLE FOR PARAMETERS.

OFF, LOC REPAIR, VENTILATION OVERRIDE:

OUTSIDE AIR DAMPERS WILL BE CLOSED.

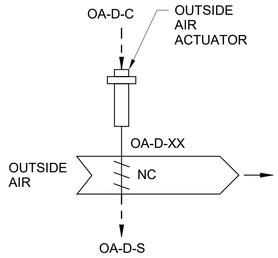
UNOCCUPIED, GENERAL MAINTENANCE, FUEL MAINTENANCE, LOC REPAIR, AND EMERGENCY VENTILATION:

DAMPER STATUS WIL BE OPEN OR CLOSED. REFER TO MODE SUMMARY TABLE FOR PARAMETERS.

SAFETY CONTROLS:

BUILDING FIRE ALARM CONDITION: IF BUILDING IS IN FIRE ALARM CONDITION, LOUVERS CLOSE.

HVAC SYSTEM EMERGENCY SHUTDOWN: WHEN THE HVAC SYSTEM EMERGENCY SHUTDOWN SWITCH IS PRESSED, LOUVERS WILL CLOSE.



J2 SUMMER VENTILATION CONTROL SCHEMATIC AND SEQUENCE
NTS

SUMMER VENTILATION DAMPER POINTS LIST

											ALARMING			PRIMARY POINT INFORMATION	NETWORK DATA EXCHANGE		OVERRIDES	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION			CONFIG. INFO.
FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARM CONDITION	ALARM PRIORITY	M&C ROUTING	OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	DATA FROM	DATA TO	OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE		ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	NOTIFICATION CLASS OBJECT INSTANCE NUMBER	EVENT ENROLLMENT OBJECT INSTANCE NUMBER	
PROOFS & SAFETIES	VA-D-S	VENTILATION DAMPER STATUS	<___>		OPEN/CLOSED	BO	~		V	V	~	DAMPER COMMANDED OPEN BUT STATUS CLOSED	INFO	[___]	<___>	<___>	<___>	<___>	~	<___>	<___>	<___>	<___>
START/STOP	EA-D-C	VENTILATION DAMPER COMMAND	<___>		OPEN/CLOSED	BI	~		O	O	~	~	~	~	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS SPECIFIED AND AS DESCRIBED IN THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) SYS-ON: AS DESCRIBED IN THE POINTS SCHEDULE INSTRUCTIONS, IS ACCOMPLISHED THROUGH THE SYSTEM SCHEDULER.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

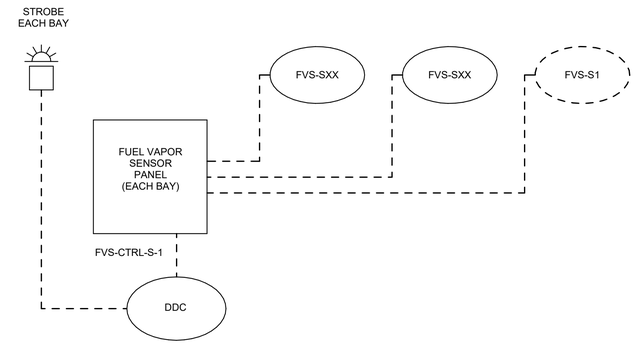
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PN: 512203

MECHANICAL CONTROLS - SUMMER VENTILATION

SHEET ID
M-819

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SEQUENCE OF OPERATION - FUEL VAPOR MONITOR

ALARMS:

IF ANY FUEL VAPOR SENSOR RETURNS A READING IN EXCESS OF 14 PPM THE DDC SYSTEM IS ALARMED, EMERGENCY EXHAUST IS ACTIVATED, AND THE STROBE IN THE SPACE IS ACTIVATED.

PROVIDE FUEL VAPOR MONITOR SYSTEM THAT ANNOUNCES WHICH SENSOR IS ALERTED. COORDINATE WITH SYSTEM MANUFACTURER TO DETERMINE NUMBER OF SENSORS TO PROVIDE COVERAGE.

K9 FUEL VAPOR ALARM SYSTEM SCHEMATIC

NTS

FUEL VAPOR ALARM

FUNCTION	NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	LDP VIEW AND OVRD	TREND REQ'D	ALARMING			PRIMARY POINT INFORMATION	NETWORK DATA EXCHANGE		OVERRIDES	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION			CONFIG. INFO.
												ALARM CONDITION	ALARM PRIORITY	M&C ROUTING	OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	DATA FROM	DATA TO	OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE		ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	NOTIFICATION CLASS OBJECT INSTANCE NUMBER	EVENT ENROLLMENT OBJECT INSTANCE NUMBER	
PROOFS & SAFTIES	FVS-CTRL-S-1	FUEL VAPOR MONITOR CONTROLLER 1	<___>	14 PPM	ALM/NORMAL	BO		H	V	V		HIGH FUEL VAPOR MONITOR	CRIT	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	
	FVS-CTRL-S-2	FUEL VAPOR MONITOR CONTROLLER 2	<___>	14 PPM	ALM/NORMAL	BO		H	V	V		HIGH FUEL VAPOR MONITOR	CRIT	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	
	FVS-CTRL-S-3	FUEL VAPOR MONITOR CONTROLLER 3	<___>	14PPM	ALM/NORMAL	BO		H	V	V		HIGH FUEL VAPOR MONITOR	CRIT	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	<___>	

NOTES:
1) THE CONTRACTOR SHALL COMPLETE THE POINTS SCHEDULE AS INDICATED IN THE SPECIFICATION AND IN ACCORDANCE WITH THE POINTS SCHEDULE INSTRUCTIONS DRAWING.
2) UNIT MANUFACTURERS PROOFS AND SAFETIES: THE CONTRACTOR SHALL SHOW EACH PROOF AND SAFETY AS A SEPARATE ROW.
3) UNIT STATUS: SERVES AS A MONITORED POINT AT THE M&C SOFTWARE (FRONT-END) AND AS A HEATING/COOLING REQUEST TO THE BOILER, HEAT EXCHANGER, AND/OR CHILLER SERVING THIS SYSTEM.
4) DDC HW ID FOR DEVICE CONTAINING TREND OBJECT FOR REMOTE TRENDING FOR THIS SYSTEM: <_____>
5) DDC HW ID FOR DEVICE CONTAINING EVENT ENROLLMENT OBJECT FOR REMOTE ALARMING FOR THIS SYSTEM: <_____>
6) DDC HW IF FOR DEVICE CONTAINING SIMPLE SCHEDULER OBJECT (OR SYSTEM SCHEDULER SEQUENCE OF OPERATIONS) FOR THIS SYSTEM: <_____>

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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MECHANICAL CONTROLS - FUEL VAPOR

SHEET ID

M-820

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

SEQUENCE OF OPERATIONS - HIGH VOLUME LOW SPEED FANS (DESTRATIFICATION FANS)
TYPICAL FOR: HVLS - (1- 2)

INTERLOCKS: EPO SWITCH, FIRE ALARM, OCCUPANCY SCHEDULE

GENERAL:
HIGH VOLUME LOW SPEED FANS : (HVLS) FAN PROVIDED WITH A WALL MOUNTED CONTROL PANEL, WITH A MANUAL SWITCH WITH THREE SPEEDS, USER ADJUSTABLE.

PROVIDE EACH BAY A SINGLE CONTROL PANEL.

THE HVLS FAN IS AUTOMATICALLY ENABLED BY THE MASTER CONTROLLER WHEN THE HOA SWITCH IS IN THE AUTOMATIC POSITION AND MANUALLY STARTED AND STOPPED BY THE HAND POSITION.

THE HVLS IS ENABLED BY THE MASTER CONTROLLER. IF ZONE TEMPERATURE IS ABOVE ZONE TEMPERATURE SETPOINT HVLS FANS SHALL BE ENABLED.

HVLS FANS DE-ENERGIZED WHEN AREA IS IN UN-OCCUPIED MODE UNLESS LOW TEMPERATURE ALARM ACTIVATES

OFF:
THE HVLS FAN SHALL BE DE-ENERGIZED.

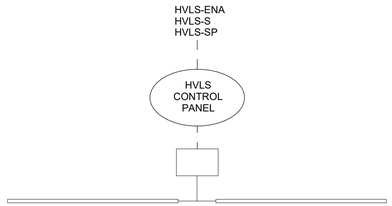
ON:
ON MODE SHALL BE INITIATED BY THE CONTROL SYSTEM.

SAFETY CONTROLS:

BUILDING FIRE ALARM CONDITION: IF BUILDING IS IN FIRE ALARM CONDITION, THE FIRE ALARM CONTROL PANEL WILL DISABLE FAN AND SEND AN ALARM TO THE DDC SYSTEM

FREEZESTAT: IF SPACE TEMP REACHES 38 DEGREES IN UN-OCCUPIED MODE THE SYSTEM WILL REVERT TO OCCUPIED SET POINTS AND HVLS FAN ENABLED TO CIRCULATED AIR IN THE SPACE.

HVAC SYSTEM EMERGENCY SHUTDOWN: WHEN THE HVAC SYSTEM EMERGENCY SHUTDOWN SWITCH IS PRESSED, ALL HVLS FAN GROUPS ARE DISABLED



H5 CONTROLS - HVLS FAN SCHEMATIC
NTS

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DESIGNED BY: J. PONTHIEX, P.E.
DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

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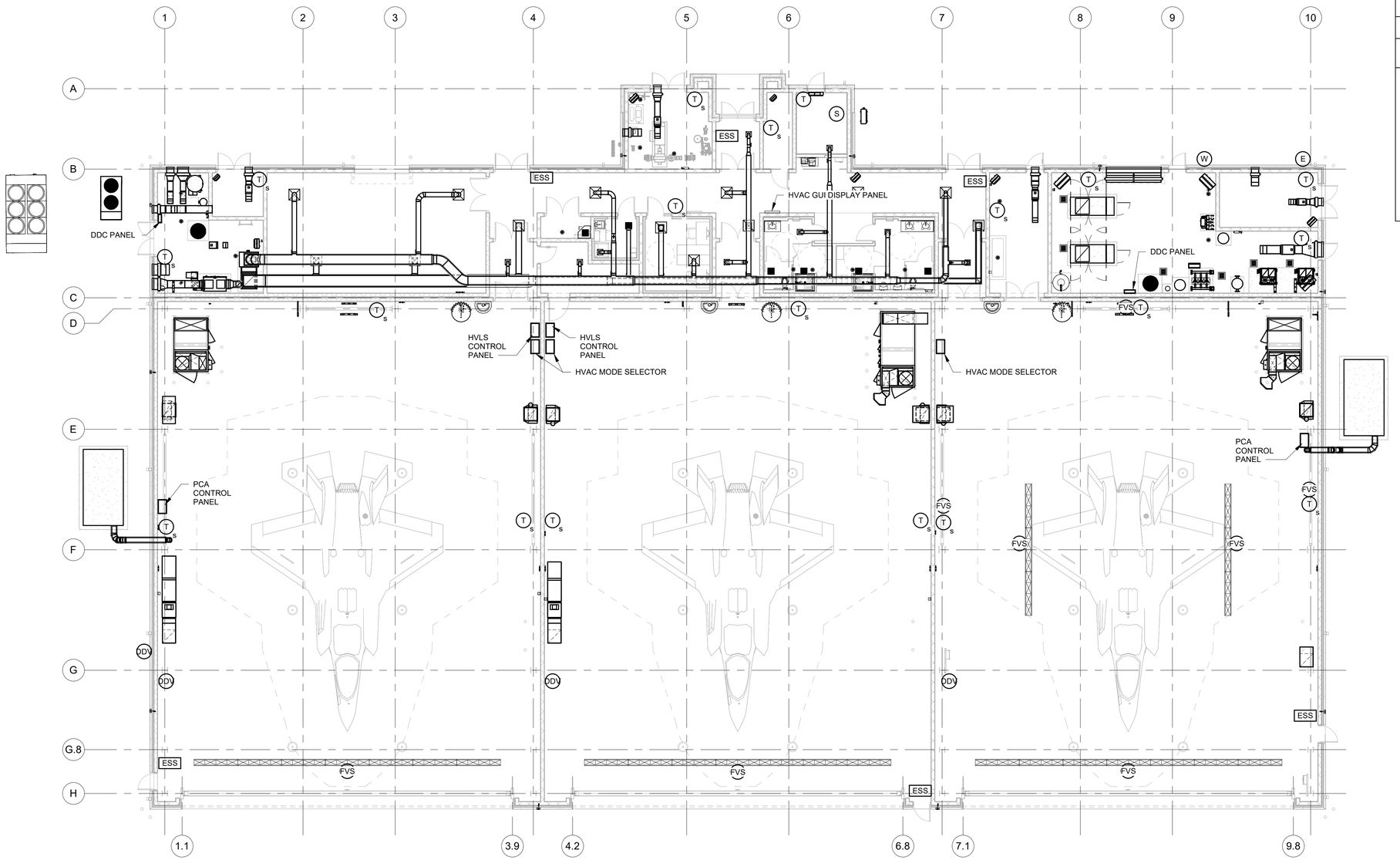
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MECHANICAL CONTROLS - HVLS FAN SCHEMATIC

SHEET ID
M-821

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A1 DDC CONTROL FLOOR PLAN

3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'

GENERAL CONTROL SYMBOLOGY

DDV	DRAINAGE DIVERTER VALVE
E	ELECTRIC METER
ESS	EMERGENCY STOP BUTTON
H	HUMIDISTAT
FVS	DIESEL/JET FUEL SENSOR
PS	DUCT PRESSURE SENSOR
S	STATUS
T	THERMOSTAT
T_S	TEMPERATURE SENSOR
W	WATER METER

GENERAL CONTROL NOTES

1. CONTROL LOCATIONS ARE APPROXIMATE. COORDINATE SENSOR LOCATIONS WITH OTHER ITEMS.
2. PROVIDE WATER METER CONNECTED TO UMCS. LOCATE METER ON BUILDING MAIN.

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DRAWN BY: R. READER
CHECKED BY:
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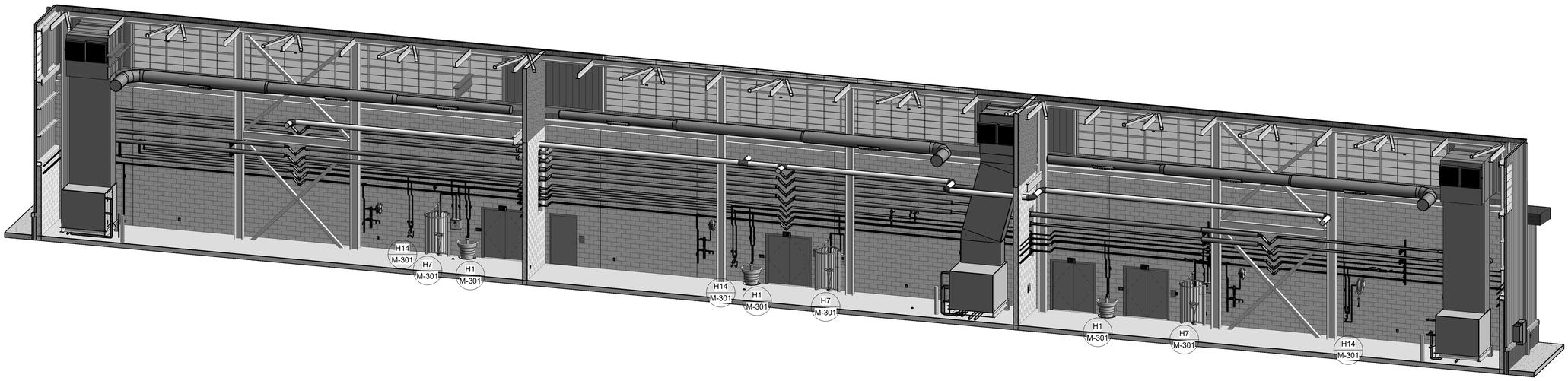
MECHANICAL CONTROLS - DDC SENSOR PLAN

SHEET ID

M-822

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H1 HANGAR HYDRONIC ISOMETRIC

B1 OVERALL HANGAR MECHANICAL ISOMETRIC

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J. PONTHIEX, P.E.	5 DECEMBER 2025
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R. REDDER	W912BV26RA004
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Checker	
SUBMITTED BY:	PROJECT NO.:
A. BLANKENSHIP, P.E.	512203
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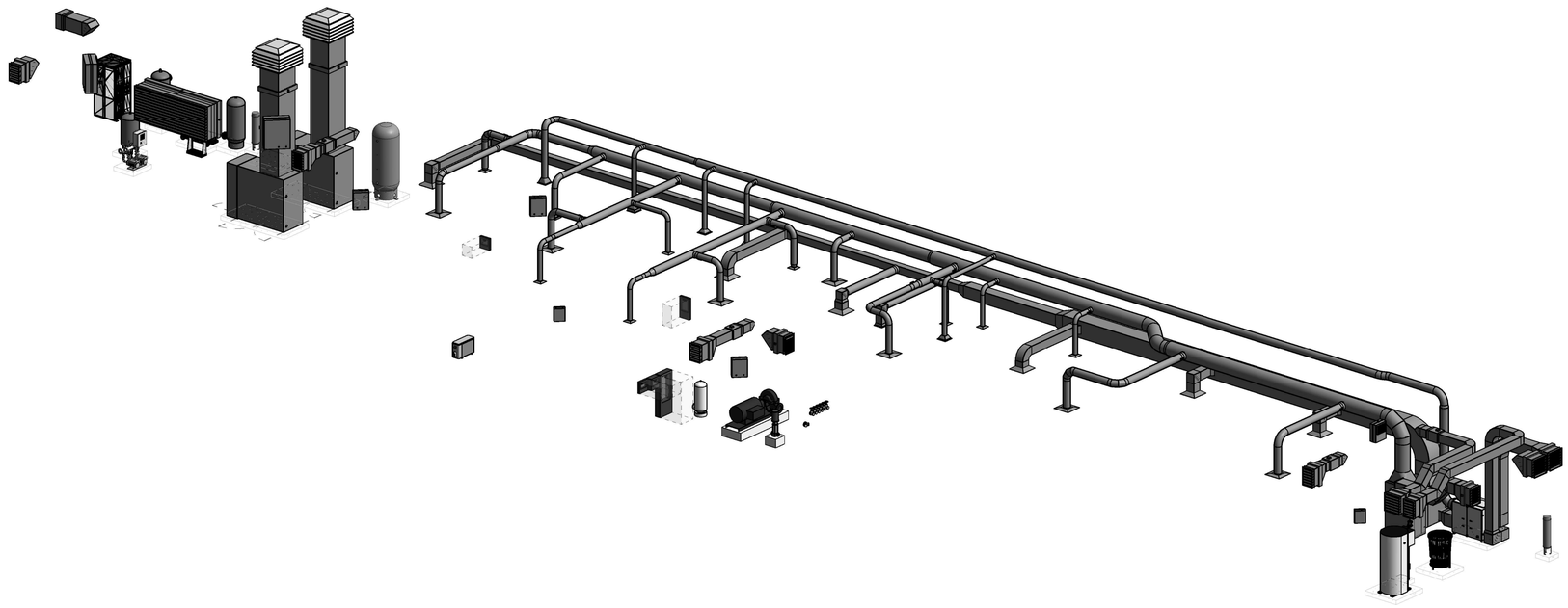
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MECHANICAL ISOMETRIC

SHEET ID

M-901

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B3 OVERALL ADMIN. MECHANICAL ISOMETRIC
NTS

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DESIGNED BY: J. PONTHIEX, P.E.	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: R. READER	SOLICITATION NO.: W912BV26RA004
CHECKED BY: Checker	CONTRACT NO.:
SUBMITTED BY: A. BLANKENSHIP, P.E.	PROJECT NO.: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_M_3BAYH_RVT22.rvt

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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

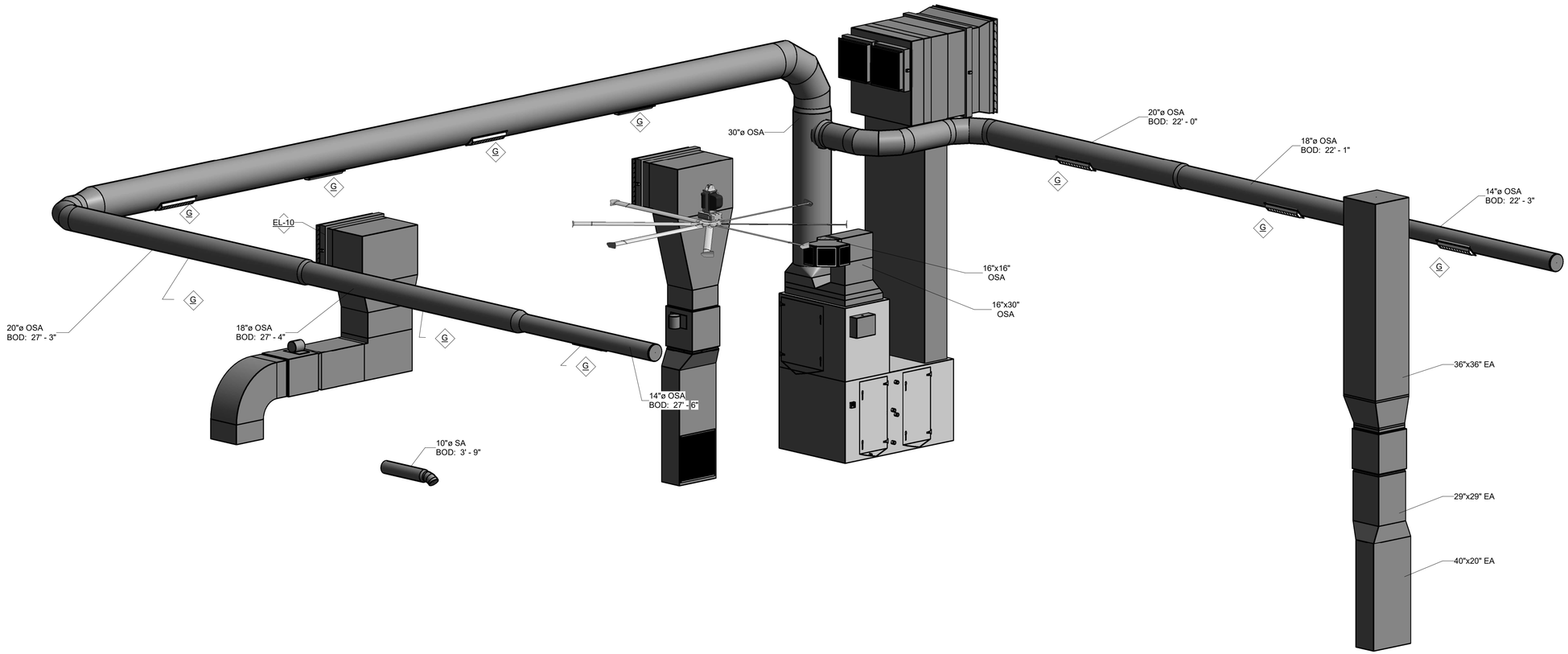
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MECHANICAL ISOMETRIC

SHEET ID

M-902

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B1 MAU-1 ISOMETRIC

NTS

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SUBMITTED BY:	A. BLANKENSHIP, P.E.
SIZE:	ANSI D

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SOLICITATION NO.: W912BV26RA004
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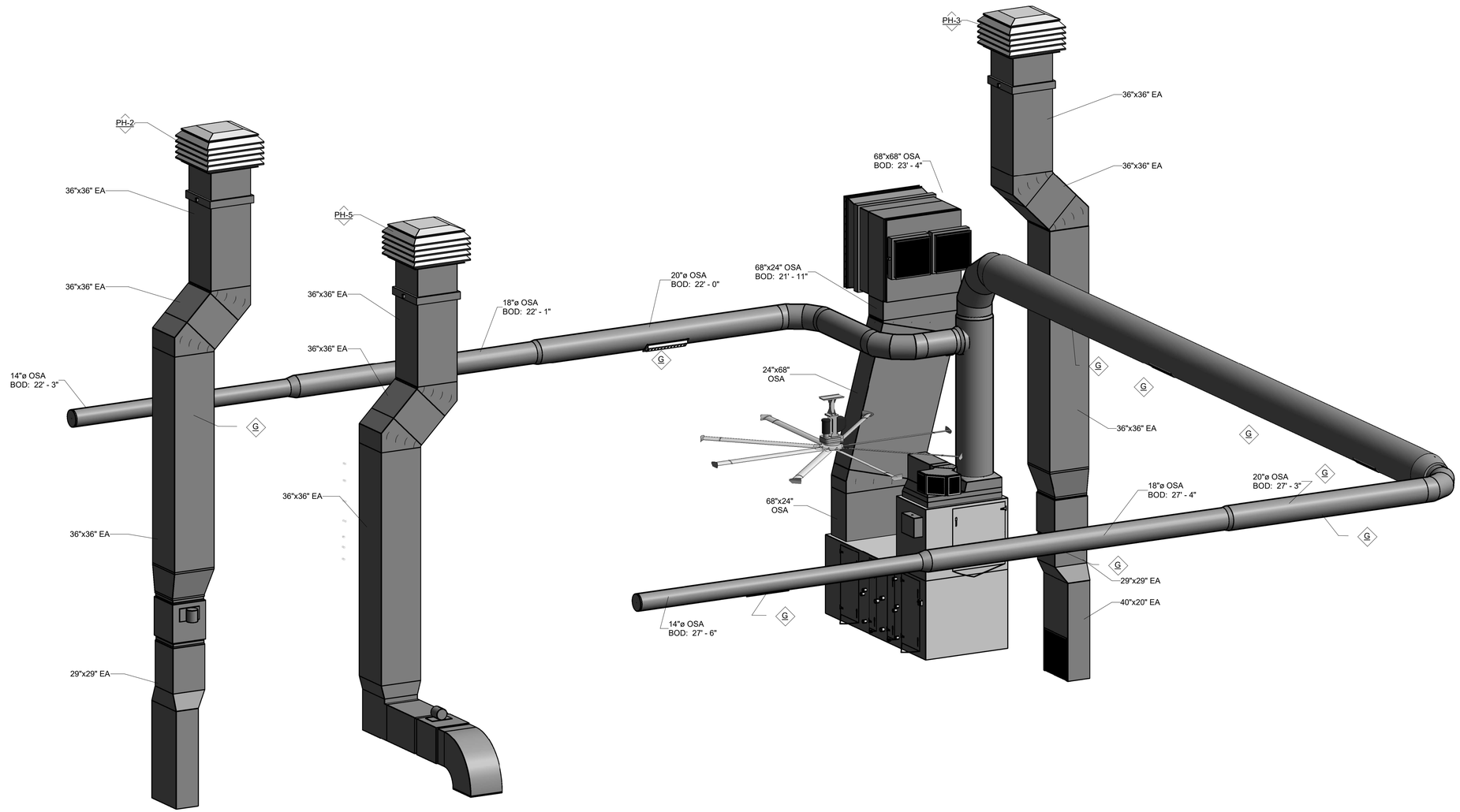
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MECHANICAL ISOMETRIC

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M-903

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B2 MAU-2 ISOMETRIC

NTS

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R. READER	W912BV26RA004
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A. BLANKENSHIP, P.E.	512203
SIZE:	FILE NAME:
ANSI D	EANG_512203_M_3BAYH_RVT22.rvt

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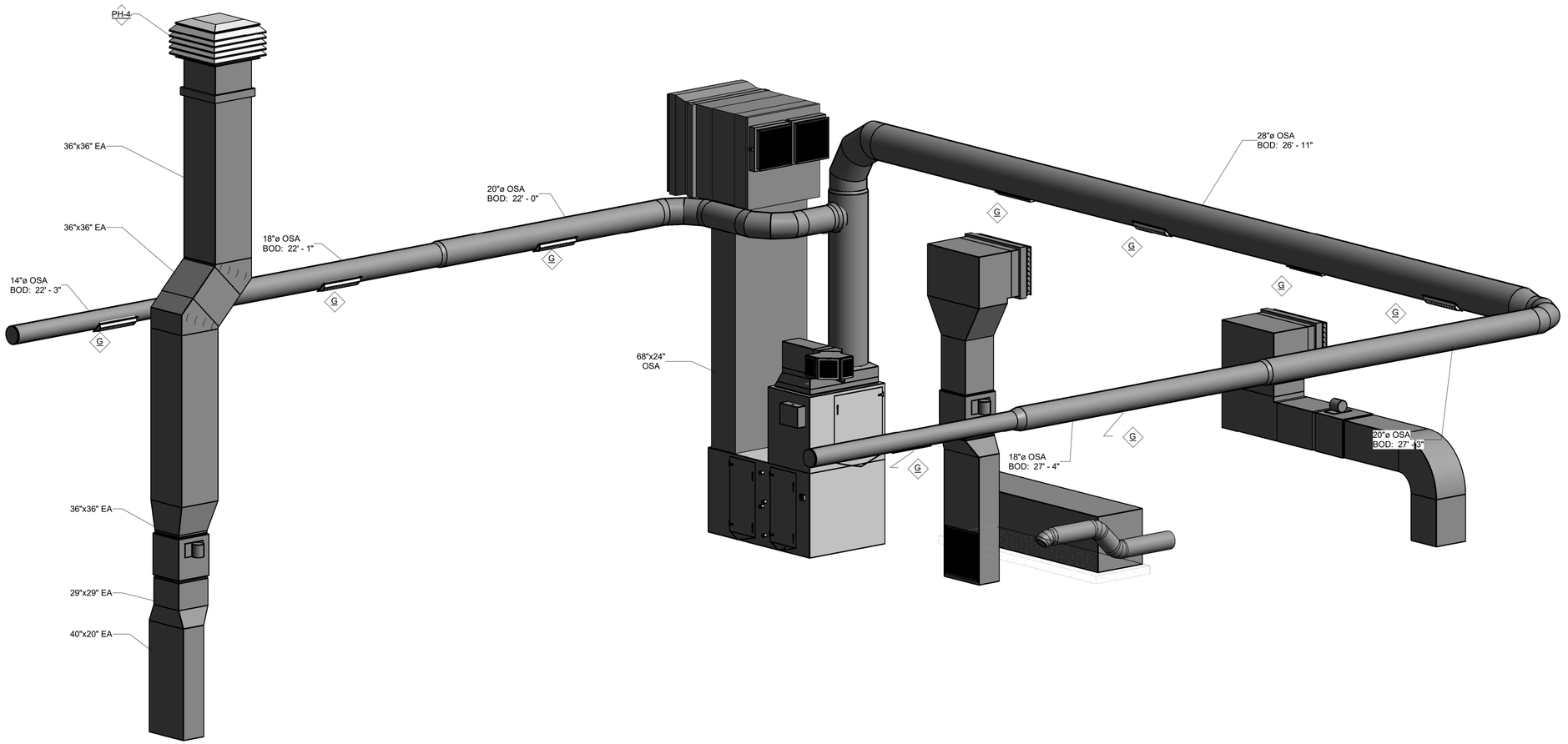
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MECHANICAL ISOMETRIC

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M-904

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B1 MAU-3 ISOMETRIC

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DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

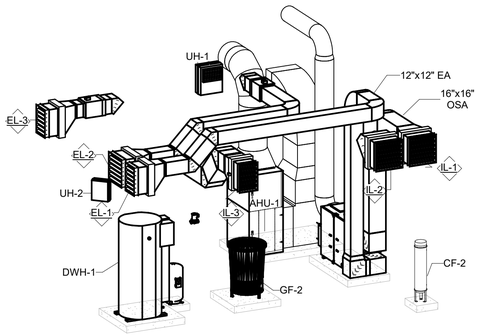
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PN: 512203

MECHANICAL ISOMETRIC

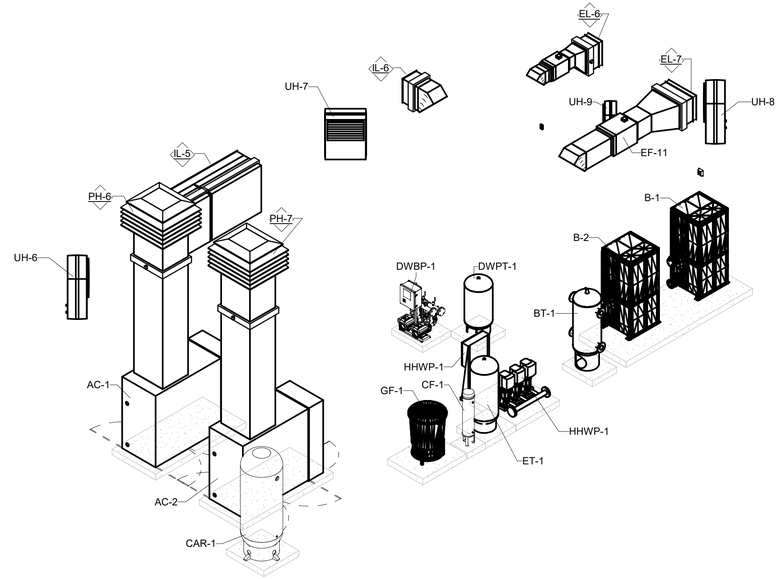
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M-905

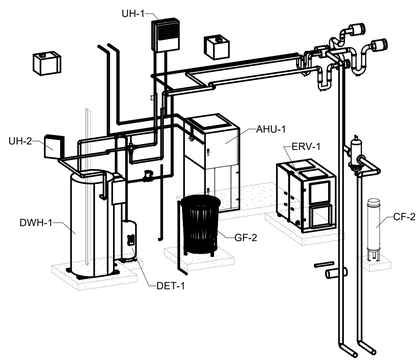
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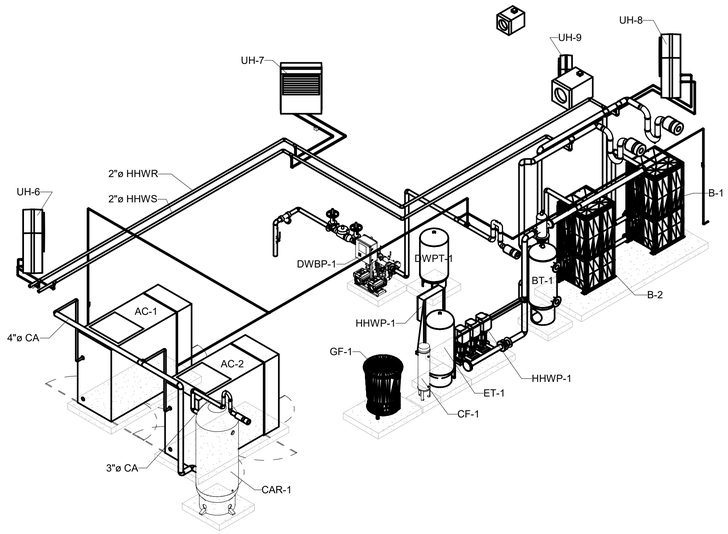
H2 MECHANICAL ROOM 105 ISO DUCT



H11 MECHANICAL ROOM 122 ISO DUCT



A2 MECHANICAL ROOM 105 ISO PIPE



A11 MECHANICAL ROOM 122 ISO PIPE

US Army Corps of Engineers ®

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DRAWN BY: R. READER
CHECKED BY: Checker
SUBMITTED BY: A. BLANKENSHIP, P.E.
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F-35 3 BAY HANGAR
PN: 512203

MECHANICAL ISOMETRIC

SHEET ID

M-906

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ELECTRICAL LEGEND AND SYMBOLS

(NOTE: NOT ALL SYMBOLS SHOWN HEREON ARE USED IN THESE DRAWINGS)

-GENERAL-

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	CONTROL FUSE
	FUSE WITH SWITCH
	SWITCH
TVSS	TVSS OR MISC EQUIPMENT
E	ENGINE GENERATOR
	TRANSFORMER
GB	GROUND BUS
M OR	MOTOR
	DELTA CONNECTION
	WYE CONNECTION
	GROUNDED WYE CONNECTION
METER	METERING DEVICE
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
K	KEY INTERLOCK
	CONTACT NORMALLY OPEN -TYPE a
	CONTACT NORMALLY CLOSED - TYPE b
	LIGHTNING ARRESTOR
	THERMAL ELEMENT, OVERLOAD RELAY
MH	MAN HOLE
HH	HAND HOLE
P	PEDESTAL
	PAD MOUNT SWITCH
	CONNECTION
	WOOD POLE
	15 KV UNDERGROUND PRIMARY
	480V UNDERGROUND SECONDARY
	BRANCH CIRCUIT HOME RUN TO PANELBOARD, DESIGNATION INDICATES PANEL AND CIRCUIT NUMBERS.

-GENERAL-

SYMBOL	DESCRIPTION
	CONTROL WIRING
	LIGHTING, ONE-LINE, AND POWER CIRCUITING
	LIGHTING, ONE-LINE, AND POWER CIRCUITING (UNDERGROUND)
	CONDUIT BREAK SYMBOL
	CONDUIT CAP
OR	CONDUIT
	CONDUIT CHANGE IN ELEVATION
	CONDUIT STUB DOWN (OUT OF DRAWING LIMITS)
	CONDUIT STUB UP (OUT OF DRAWING LIMITS)
J	JUNCTION BOX
	WALL MOUNTED JUNCTION BOX
J	FLOOR MOUNTED JUNCTION BOX
DS	DAY LIGHT SENSOR
PC	PHOTOCELL SENSOR
	PUSH BUTTON A = ABORT DA = DURESS ALARM EPO = EMERGENCY POWER OFF IC = INTERCOM ST = SHUNT TRIP
S X #	SWITCH SYMBOL SINGLE POLE (IF BLANK) 2 = DOUBLE POLE 3 = THREE-WAY 4 = FOUR-WAY D = DIMMER K = KEY OPERATED L = LOW VOLTAGE M = MOTOR RATED P = WITH PILOT LIGHT TO = THERMAL OVERLOAD VS = VARIABLE SPEED WP = WEATHERPROOF x = SMALL LETTER INDICATES LUMINAIRES CONTROLLED XP = EXPLOSION PROOF
OS	WALL MOUNTED OCCUPANCY SENSOR
OS	CEILING MOUNTED OCCUPANCY SENSOR
SS	DUAL SWITCH
XX	SPECIAL SYSTEMS SYMBOLS: B = BUZZER CH = CHIME CK = CARD READER/KEYPAD CR = CARD READER DA = DURESS ALARM PUSH-BUTTON DC = DOOR CONTACT DO = DOOR OPERATOR DS = DOOR STRIKE EL = ELECTRIC LOCK ES = ELECTRIC STRIKE GB = GLASSBREAK DETECTOR HC = HANDICAP PUSH-BUTTON HH = HAND HOLE IC = INTERCOM CALL STATION KP = KEYPAD MH = MANHOLE MD = MOTION DETECTOR ML = MAGNETIC LOCK PB = PULLBOX PM = POWER QUALITY METER PS = PRESSURE SWITCH R = REMOTE INDICATING LIGHT RT = REMOTE TEST STATION RX = REQUEST TO EXIT PUSH-BUTTON TC = TIME CLOCK VM = VIDEO MONITOR
XXX	MISCELLANEOUS SYSTEM COMPONENT: AMP = AMPLIFIER ANN = ANNUNCIATOR ASD = ADJUSTABLE SPEED DRIVE ATS = AUTOMATIC TRANSFER SWITCH BMS = BALANCED MAGNETIC STRIP CAM = CONTROL ADDRESSABLE MODULE DE = DELAYED EGRESS DMA = DOOR MANAGEMENT ALARM DTC = DATA TERMINAL CABINET DVR = DIGITAL VIDEO RECORDER EC = ELECTRICAL CONTACTOR FSD = FIRE SMOKE DAMPER IDS = INTRUSION DETECTION SYSTEM MAM = MONITOR ADDRESSABLE MODULE MNCP = MASS NOTIFICATION CONTROL PANEL PIR = PASSIVE INFRARED DETECTOR SAP = SECURITY ALARM PANEL SPD = SURGE PROTECTION DEVICE VFD = VARIABLE FREQUENCY DRIVE

-POWER-

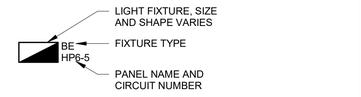
SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE D = DEDICATED DUPLEX GROUNDED RECEPTACLE IG = ISOLATED GROUND
GFCI	GFCI = GROUND FAULT CIRCUIT INTERRUPTER
WP/GFI	WP/GFI = WEATHER PROOF GROUND FAULT CIRCUIT INTERRUPTER
	FLOOR MOUNTED DUPLEX RECEPTACLE
	FLOOR MOUNTED FOURPLEX RECEPTACLE
	CEILING MOUNTED DUPLEX RECEPTACLE
	CEILING MOUNTED FOURPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
	SINGLE RECEPTACLE
	HALF-CONTROLLED RCPT (ASHRAE 90.1)
	RECEPTACLE MOUNTED ABOVE COUNTER
	SPECIAL PURPOSE RECEPTACLE
	DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	MOTOR STARTER
	COMBINATION MOTOR STARTER
	SWITCHBOARD, DISTRIBUTION PANELBOARD, OR PANELBOARD
	COMBINATION SWITCH AND RECEPTACLE
	CONDUIT SEAL OFF
	FIRE RATED POKE-THRU
	PARTITION CIRCUIT SPLIT
	POWER POLE
	SURFACE RACEWAY
	CONTROL RELAY
M OR METER	METER
TXX	TRANSFORMER XX = SIZE

SYMBOL	DESCRIPTION
	-GRAPHIC SYMBOLS-
#	KEYED NOTE
#	REVISION NUMBER
EF-1	MECHANICAL EQUIPMENT TAG (eg EF-1 = EXHAUST FAN #1) REFER TO MECHANICAL DOCUMENTATION FOR ABBREVIATIONS AND ACTUAL ELECTRICAL REQUIREMENTS.

-LIGHTING (REFER TO LUMINAIRE SCHEDULE)-

SYMBOL	DESCRIPTION
X x	FLUORESCENT OR LED LUMINAIRES X = UPPER CASE LETTER IS FIXTURE TYPE x = LOWER CASE LETTER IS SWITCH ID
EM	EM OR HALF SHADED INDICATES LUMINAIRE ON LIFE SAFETY / EMERGENCY POWER CIRCUIT BATTERY BACK-UP
EM	
	WALL MOUNTED LED OR HID LUMINAIRE
C CE	RECESSED DOWNLIGHT FLUORESCENT FIXTURE, LETTER INDICATES TYPE PER FIXTURE SCHEDULE, "E" INDICATES BATTERY BACK-UP.
	FLUORESCENT LUMINAIRE
	FLUORESCENT LUMINAIRE
	POLE MOUNTED LUMINAIRE
	LUMINAIRE
	WALL WASHER LUMINAIRE
	ADJUSTABLE LUMINAIRE
	PENDANT LUMINAIRE
	TRACK LIGHTING
	EXIT LIGHT (WITH FACES & DIRECTION ARROWS INDICATED)
	WALL MOUNTED EXIT LIGHT
	WALL MOUNTED BATTERY PACK EMERGENCY LIGHT
LSC L C L	LIGHTING SCENE CONTROL (5 SCENE)
	OBSTRUCTION LIGHTING

-LIGHT FIXTURE TAG-



-GROUNDING SYMBOLS-

SYMBOL	DESCRIPTION
	GROUND TEST WELL
	GROUNDING COUNTERPOISE (RING)
	ROOF OR DOWN CONDUCTOR
	LIGHTNING PROTECTION AIR TERMINAL
	BONDING POINT
MGB	MAIN GROUND BAR
PBB	PRIMARY BONDING BUSBAR
SBB	SECONDARY BONDING BUSBAR
	LIGHTNING PROTECTION SYSTEM MAST FOR CATENARY SYSTEM
	ELECTRICAL GROUND OR GROUND ROD
	PIGTAIL
	DOWN CONDUCTOR

- ABBREVIATIONS -

(PART)	PARTIAL CIRCUIT
+XX	MOUNTING HEIGHT IN INCHES. AFF UNO
A	AMP
AB	AMPS BRACING
AC	ABOVE COUNTER TOP
ACU	AUTONOMOUS CONTROL UNIT OR ASSOC. CONDENSING UNIT
AF	AMP FRAME
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPS INTERRUPTING CAPACITY
AS	AMPS SENSOR
AT	AMP TRIP
ATFP	ANTI-TERRORISM FORCE PROTECTION
ATS	AUTOMATIC TRANSFER SWITCH
BFC	BELOW FINISHED CEILING
C	CONDUIT
CAM	CONTROL ADDRESSABLE MODULE
CB	MOLDED CASE CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT T.V.
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CKT	CIRCUIT
CLG	CEILING
CMH	CERAMIC METAL HALIDE
COE	CORPS OF ENGINEERS
CU	COPPER
DMC	DUAL MODE CONTROLLER
DTC	DATA TERMINAL CABINET
E/G	ENGINE/GENERATOR
EC	EMPTY CONDUIT
EF	EXHAUST FAN
EGB	ELECTRICAL SYSTEM GROUND BAR
EGC	EQUIPMENT GROUNDING CONDUCTOR
ELEC	ELECTRIC
ELEV	ELEVATION
EMERG	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EWC	ELECTRIC WATER COOLER
EX	EXISTING
EXP	EXPLOSION PROOF
F	FUSE
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FAP	FIRE ALARM PANEL
FCU	FAN COIL UNIT
FIXT	FIXTURE
FLR	FLOOR
FLUOR	FLUORESCENT
FO	FIBER OPTIC (CABLE)
FTU	FAN TERMINAL UNIT
G	GROUND (EQUIPMENT)
GEC	GROUNDING ELECTRODE CONDUCTOR
GEN	GENERATOR
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GAF	GROUND ARC-FAULT INTERRUPTER
GND	GROUND (EQUIPMENT)
HG	HOSPITAL GRADE
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HT	HEAT TRACE
IAW	IN ACCORDANCE WITH
IC	INTERRUPTING CAPACITY
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
JB	JUNCTION BOX
K	THOUSAND
LP	LIGHT POLE
LTG	LIGHTING
LSIG	LONG TIME, SHORT TIME, INST., AND GROUND FAULT PROTECT.
LTS	LIGHTS
LV	LOW VOLTAGE
MAM	MONITOR ADDRESSABLE MODULE
MATV	MASTER ANTENNA TV
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCSW	MOLDED CASE SWITCH
MDF	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANEL
MH	MANHOLE
MLO	MAIN LUGS ONLY
MNCP	MASS NOTIFICATION CONTROL PANEL
MNS	MASS NOTIFICATION SYSTEM
MOP	MAXIMUM OVERCURRENT PROTECTION
MTP	MOUNTED
MTG	MOUNTING HEIGHT
MTS	MANUAL TRANSFER SWITCH
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NF	NON FUSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
OS	OCCUPANCY SENSOR
OSP	OUTSIDE PLANT
P	POLE
PB	PULL BOX
PNL	PANEL
PP	POWER POLE

- ABBREVIATIONS -

PWR	POWER
RCPT(S)	RECEPTACLE(S)
RMC	RIGID METAL CONDUIT
RP	RISER POLE
SBC	STRANDED BARE COPPER
SF	SUPPLY AIR FAN
SM	SINGLE MODE
SO	SPACE ONLY
SP	SPARE
SPDT	SINGLE POLE DOUBLE THROW
ST	SHUNT TRIP OR STRAIGHT TIP
SW	SWITCH
SWBD	SWITCHBOARD
T	TRANSFORMER
TEL	TELEPHONE
TF	TRANSFER FAN
TGB	TELECOM GROUNDING BUS
TGMB	TELECOM GROUNDING MAIN BUS
TRT	TRIPLE TUBE
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UF	UNDERFLOOR
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTAGE
VFD	VARIABLE FREQUENCY DRIVE
VV	VARIABLE VOLUME UNIT
W	WIRE
W/	WITH
WG	WIRE GUARD
WP	WEATHERPROOF
WT	WATERTIGHT
XFMR	TRANSFORMER

GENERAL NOTES

1. WORK SHALL BE IN ACCORDANCE WITH THE LATEST LOCAL BUILDING CODES, NFPA 70 NATIONAL ELECTRIC CODE (NEC) 2023, AND UFC 1-200-01 W/ CHANGE 4, 17 DEC 2024.

2. 120V AND 240 V BRANCH CIRCUITS SHALL HAVE A DEDICATED NEUTRAL UNLESS NOTED OTHERWISE.

3. PENETRATIONS OF FIRE RATED OR HAZARDOUS AREA WALLS SHALL BE SEALED TO MAINTAIN RATING.

4. JUNCTION BOXES FOR LUMINAIRES, RECEPTACLES, EQUIPMENT, ETC, ARE NOT SHOWN OR INDICATED HEREON. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE PROPER NUMBER AND LOCATION OF JUNCTION BOXES TO MEET LOCAL CODES AND NEC.

5. PROVIDE ONE (1) EMPTY 3/4" CONDUIT FROM PANEL TO AN ACCESSIBLE SPACE FOR EACH THREE (3) SPARES AND/OR SPACES IN FLUSH MOUNTED PANELBOARDS.

6. REFER TO SHEET EP117 FOR HAZARDOUS LOCATION CLASSIFICATIONS.

7. PROVIDE AN INSULATED, GREEN IN COLOR, SEPARATE EQUIPMENT GROUNDING CONDUCTOR FOR EACH CIRCUIT WITHIN THE RACEWAY.

8. PERMANENTLY LABEL ALL COVERS FOR JUNCTION BOXES AND COVER PLATES FOR WIRING DEVICES INCLUDING TOGGLE SWITCHES AND RECEPTACLES. MARK WIRING DEVICE COVER PLATES WITH THE SUPPLY PANEL AND CIRCUIT NUMBER OF THE SOURCE. USE SELF-ADHESIVE LABELS HAVING 6 MILLIMETER, 1/4 INCH EMBOSSED LETTERS. SIMILARLY, MARK DEVICE COVER PLATES AND RECEPTACLE COVER PLATES FOR RECEPTACLES OTHER THAN 125 VOLT, SINGLE PHASE, DUPLEX CONVENIENCE OUTLETS WITH THE SUPPLY PANEL AND CIRCUIT NUMBER, VOLTAGE, FREQUENCY, PHASING, AND AMPERAGE OF THE CIRCUIT.

9. CONTRACTORS ARE FREE TO USE ANY PRODUCT WHICH MEETS THE GOVERNMENT'S MINIMUM REQUIREMENTS AND NOT IN CONFLICT WITH OTHER CONTRACT PROVISIONS. UNLESS INDICATED OTHERWISE ON THE PLANS OR SPECIFICATIONS (E.G. SOLE-SOURCE), ALL LISTED MANUFACTURERS ARE THE BASIS OF DESIGN. FOR THESE BASIS OF DESIGN PRODUCTS, OTHER MANUFACTURERS MAY BE SUBSTITUTED AS LONG AS THE STANDARD OF QUALITY AND CHARACTERISTICS OF THE SUBSTITUTED MANUFACTURER MEET OR EXCEED THE STANDARD OF QUALITY AND CHARACTERISTICS OF THE BASIS OF DESIGN.

10. CONTRACTOR TO PROVIDE AND STRICTLY FOLLOW PERFORMANCE, WATTAGE, LUMEN PACKAGE AND SALIENT FEATURES OF ALL LIGHTING SPECIFIED ON LIGHTING SCHEDULE LOCATED ON SHEET EL601, TO INSURE PROPER LIGHT LEVELS DESIGNED FOR THIS PROJECT.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

File Path: C:\Users\mSinclair\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MECCREAR.rvt
Plot Date: 10/20/2025 2:25:34 PM

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2488 EAST 81ST ST
TULSA, OK 74137

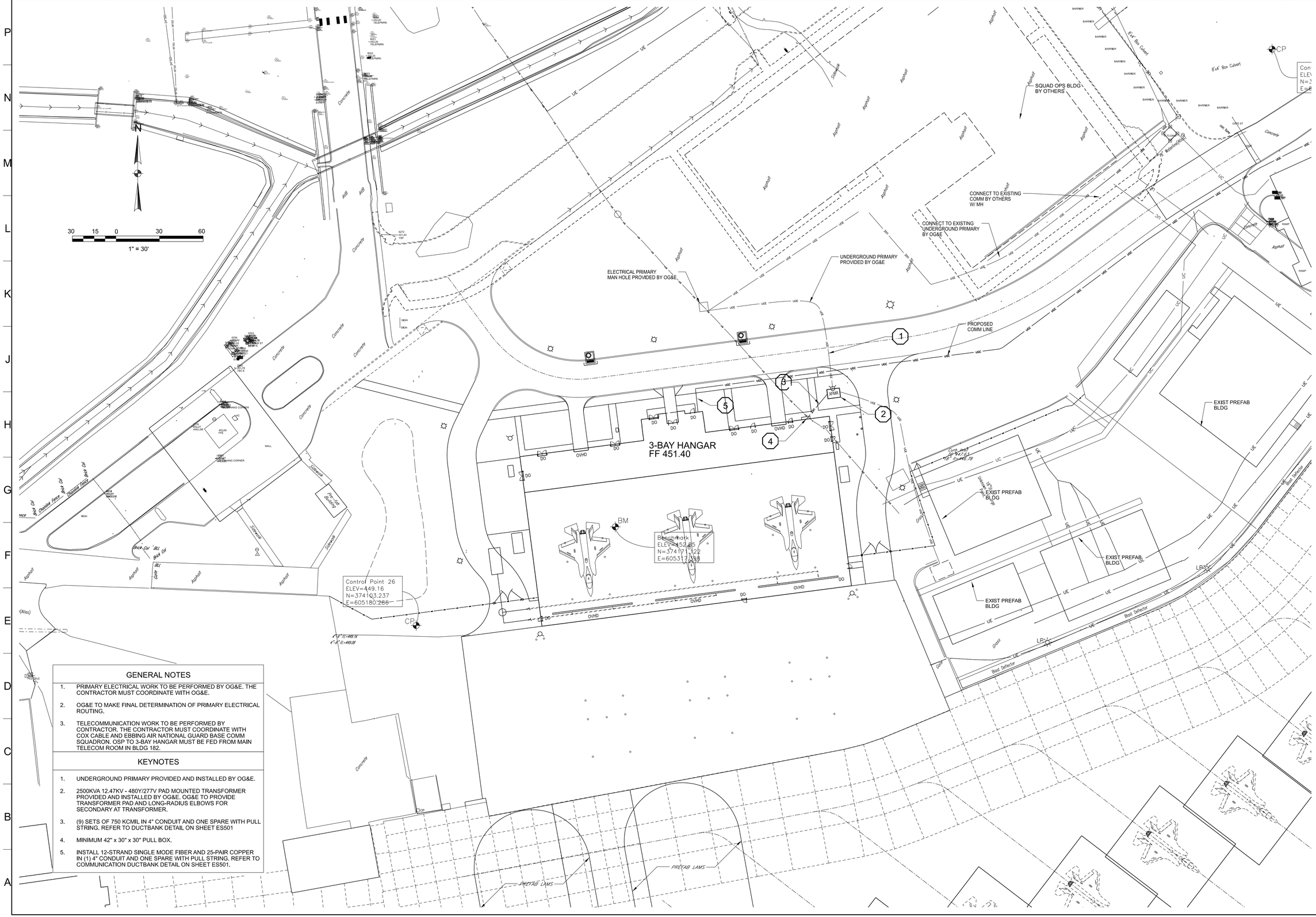
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

ELECTRICAL LEGEND AND SYMBOLS

SHEET ID
E-001

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



GENERAL NOTES

1. PRIMARY ELECTRICAL WORK TO BE PERFORMED BY OG&E. THE CONTRACTOR MUST COORDINATE WITH OG&E.
2. OG&E TO MAKE FINAL DETERMINATION OF PRIMARY ELECTRICAL ROUTING.
3. TELECOMMUNICATION WORK TO BE PERFORMED BY CONTRACTOR. THE CONTRACTOR MUST COORDINATE WITH COX CABLE AND EBBING AIR NATIONAL GUARD BASE COMM SQUADRON. OSP TO 3-BAY HANGAR MUST BE FED FROM MAIN TELECOM ROOM IN BLDG 182.

KEYNOTES

1. UNDERGROUND PRIMARY PROVIDED AND INSTALLED BY OG&E.
2. 2500KVA 12.47KV - 480Y/277V PAD MOUNTED TRANSFORMER PROVIDED AND INSTALLED BY OG&E. OG&E TO PROVIDE TRANSFORMER PAD AND LONG-RADIUS ELBOWS FOR SECONDARY AT TRANSFORMER.
3. (9) SETS OF 750 KCMIL IN 4" CONDUIT AND ONE SPARE WITH PULL STRING. REFER TO DUCTBANK DETAIL ON SHEET ES501
4. MINIMUM 42" x 30" x 30" PULL BOX.
5. INSTALL 12-STRAND SINGLE MODE FIBER AND 25-PAIR COPPER IN (1) 4" CONDUIT AND ONE SPARE WITH PULL STRING. REFER TO COMMUNICATION DUCTBANK DETAIL ON SHEET ES501.

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MARK	DESCRIPTION	DATE

DESIGNED BY:	C. VELOZ
DRAWN BY:	C. VELOZ
REVIEWED BY:	S. KUNAPULI, P.E.
SUBMITTED BY:	A. BLANKENSHIP, P.E.
SPEC. SECT.	ANSI D
ISSUE DATE:	15 OCTOBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	-
PROJECT NO:	512203
FILENAME:	

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 E. 81ST STREET
TULSA, OKLAHOMA

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING AIR NATIONAL GUARD, ARKANSAS
FACILITY 3-BAY HANGAR
FORT SMITH, AR
PN: -

UTILITY PLAN

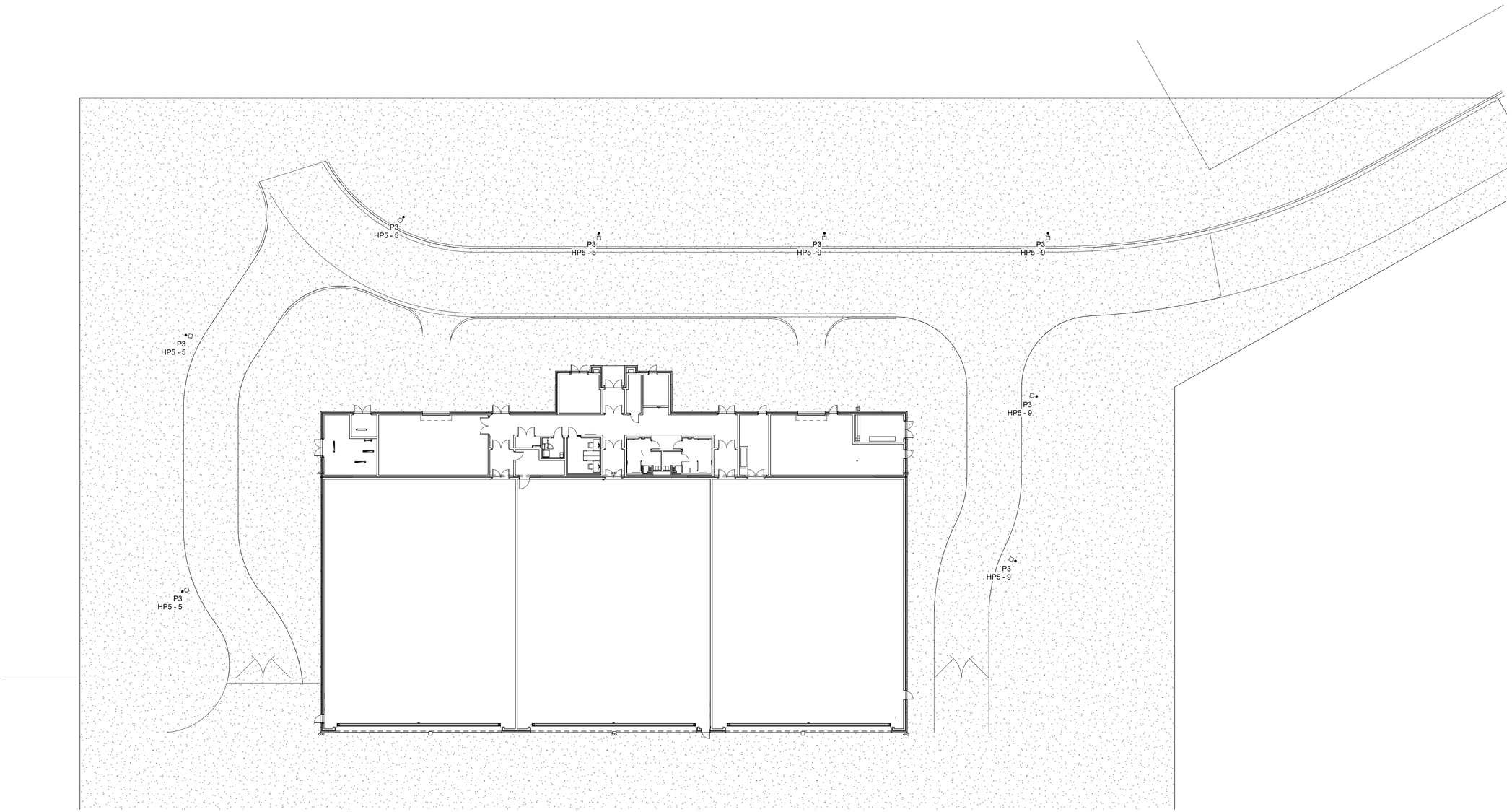
SHEET ID

ES101

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GENERAL NOTES

1. CONTRACTOR MUST PROVIDE NECESSARY PULL BOXES TO FACILITATE THE UNDERGROUND WIRING OF ROADWAY LIGHTING.
2. ALL WORK MUST COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), AND UTILITY COMPANY REQUIREMENTS.
3. COORDINATE WITH SAPF ROADWAY LIGHTING TO ENSURE AT LEAST 50 FEET SEPARATION DISTANCE BE MAINTAINED.
4. SEE SHEET ES501 FOR LIGHT POLE AND FOUNDATION DETAIL.
5. SEE SHEET EP602 FOR CONDUCTOR AND CONDUIT SIZING.
6. SEE SHEET EL502 FOR LIGHTING CONTROL DETAIL.



A1 LIGHTING SITE PLAN
1" = 20'-0"

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MARK	DESCRIPTION	DATE

DESIGNED BY: J.AMATYA	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: J.AMATYA	SOLICITATION NO.: W912BV26RA004
CHECKED BY: S. KUNAPULI, P.E.	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: ENG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING SITE PLAN

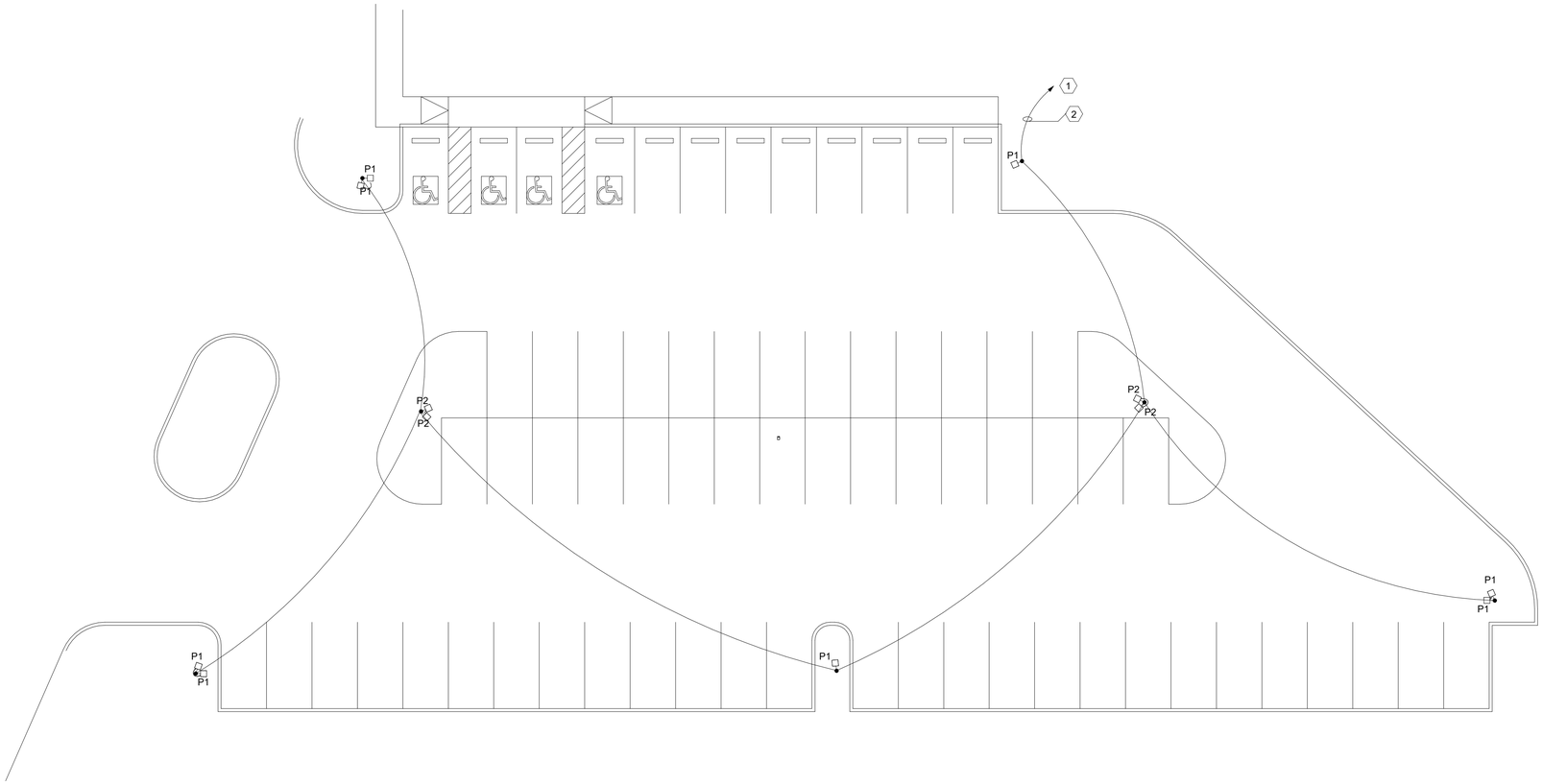
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ES102

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KEYNOTES

1	COORDINATE WITH OG&E TO CONFIRM THE FINAL HOMERUN LOCATION TO THE PANELBOARD. PANELBOARD AND METER RACK ARE ANTICIPATED TO BE ON THE NORTH SIDE OF THE PARKING LOT FEEDING OTHER BUILDINGS. THE NEW POWER CIRCUIT MUST BE FED FROM A DEDICATED BREAKER IN THE PANEL.
2	PROVIDE 3 # 10 CONDUCTOR IN 1 INCH CONDUIT SIZED FOR A 277V SYSTEM. CONDUCTOR SIZING IS BASED ON AN ESTIMATED 650 FOOT RUN. FINAL CIRCUIT LENGTHS MUST BE CONFIRMED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR MUST REVISE CONDUCTOR SIZING AS NECESSARY TO ENSURE A MAXIMUM 3% VOLTAGE DROP IS NOT EXCEEDED.



B2 WEST PARKING LOT LIGHTING PLAN

1/16" = 1'-0"

0 8' 16' 32'

PLAN NORTH

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MARK	DESCRIPTION	DATE

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DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
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ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING PLAN - WEST PARKING LOT

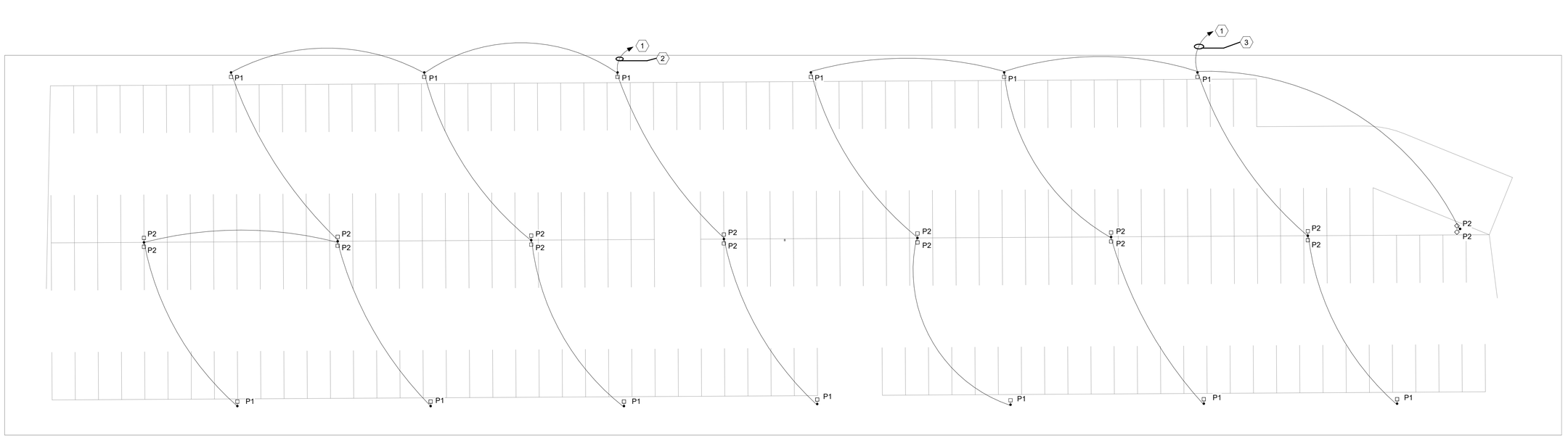
SHEET ID

ES103

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KEYNOTES

1	COORDINATE WITH OG&E TO CONFIRM THE FINAL HOMERUN LOCATION TO THE PANELBOARD. PANELBOARD AND METER RACK ARE ANTICIPATED TO BE ON THE NORTH SIDE OF THE PARKING LOT FEEDING OTHER BUILDINGS. THE NEW POWER CIRCUIT MUST BE FED FROM A DEDICATED BREAKER IN THE PANEL.
2	PROVIDE 3 #6 CONDUCTOR IN 1 INCH CONDUIT SIZED FOR A 277V SYSTEM. CONDUCTOR SIZING IS BASED ON AN ESTIMATED 1000 FOOT RUN. FINAL CIRCUIT LENGTHS MUST BE CONFIRMED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR MUST REVISE CONDUCTOR SIZING AS NECESSARY TO ENSURE A MAXIMUM 3% VOLTAGE DROP IS NOT EXCEEDED.
3	PROVIDE 3 #8 CONDUCTORS IN 1 INCH CONDUIT SIZED FOR A 277V SYSTEM. CONDUCTOR SIZING IS BASED ON AN ESTIMATED 750 FOOT RUN. FINAL CIRCUIT LENGTHS MUST BE CONFIRMED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR MUST REVISE CONDUCTOR SIZING AS NECESSARY TO ENSURE A MAXIMUM 3% VOLTAGE DROP IS NOT EXCEEDED.



B1 TEMPORARY PARKING LOT POWER PLAN

3/64" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: J. AMATYA	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: J. AMATYA	SOLICITATION NO.: W912BV26RA004
CHECKED BY: S. KUNAPULI, P.E.	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

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2488 EAST 81ST ST
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

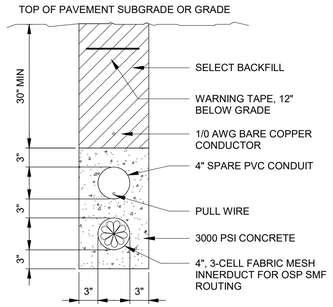
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

TEMPORARY PARKING LOT

SHEET ID

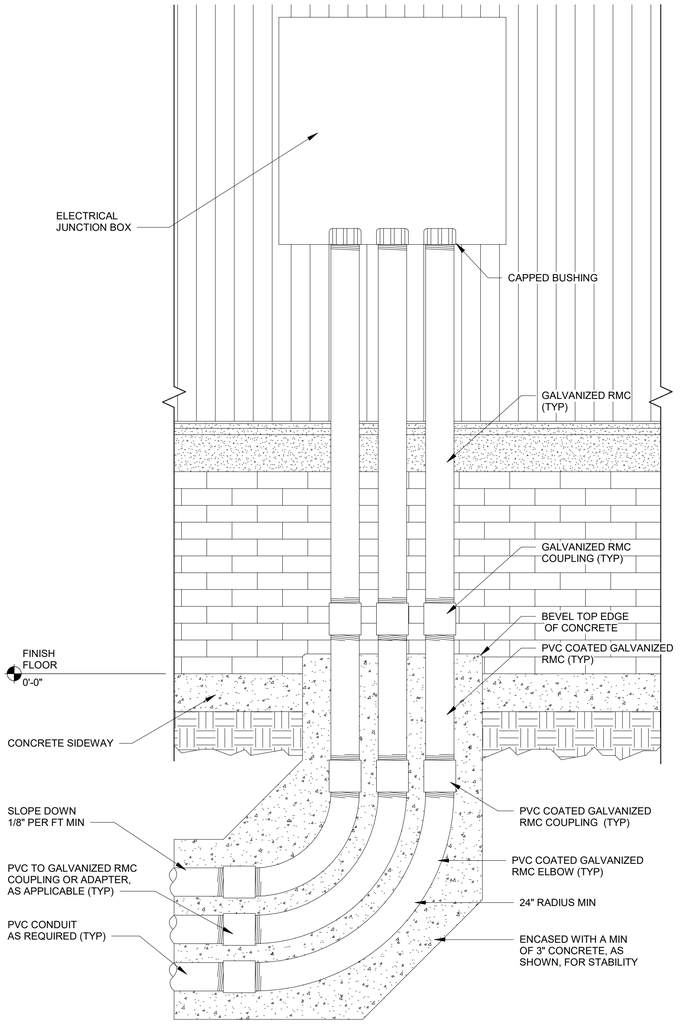
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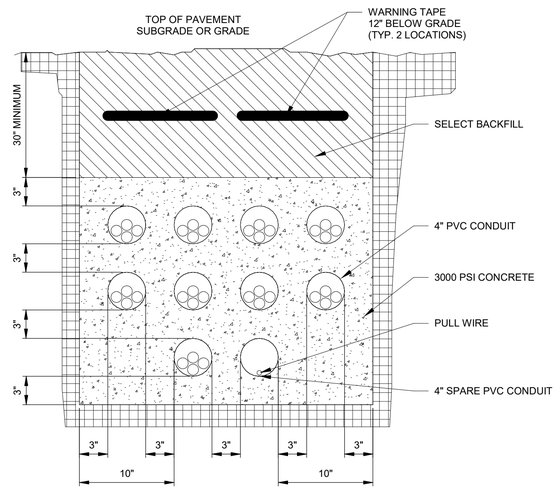
H1 COMMUNICATION DUCTBANK DETAIL

NTS



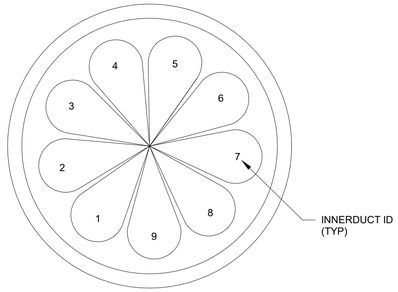
E7 TYPICAL STUBBED DUCTBANK RISER

NTS



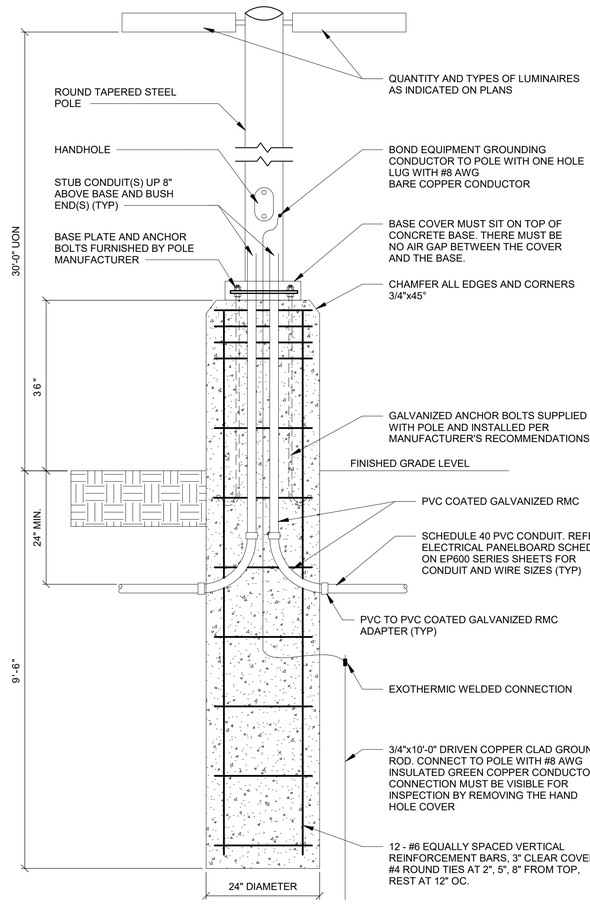
A1 SECONDARY SERVICE ENTRANCE DUCTBANK

NTS



A8 FABRIC MESH INNERDUCT DETAIL

NTS



NOTES:

1. BASE MUST BE HAND RUBBED FINISH UNLESS OTHERWISE SPECIFIED.
2. EQUIPMENT GROUNDING LUGS TO BE FACTORY INSTALLED.
3. TOP OF ANCHOR BOLTS MUST EXTEND AT LEAST 1/2" ABOVE THE TOP-MOST NUT TO PREVENT WATER ACCUMULATION.
4. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE MUST BE 4000 PSI AND REINFORCEMENT MUST COMPLY WITH ASTM A615.

A14 TYPICAL LIGHT POLE BASE

NTS

US Army Corps of Engineers ®

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DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

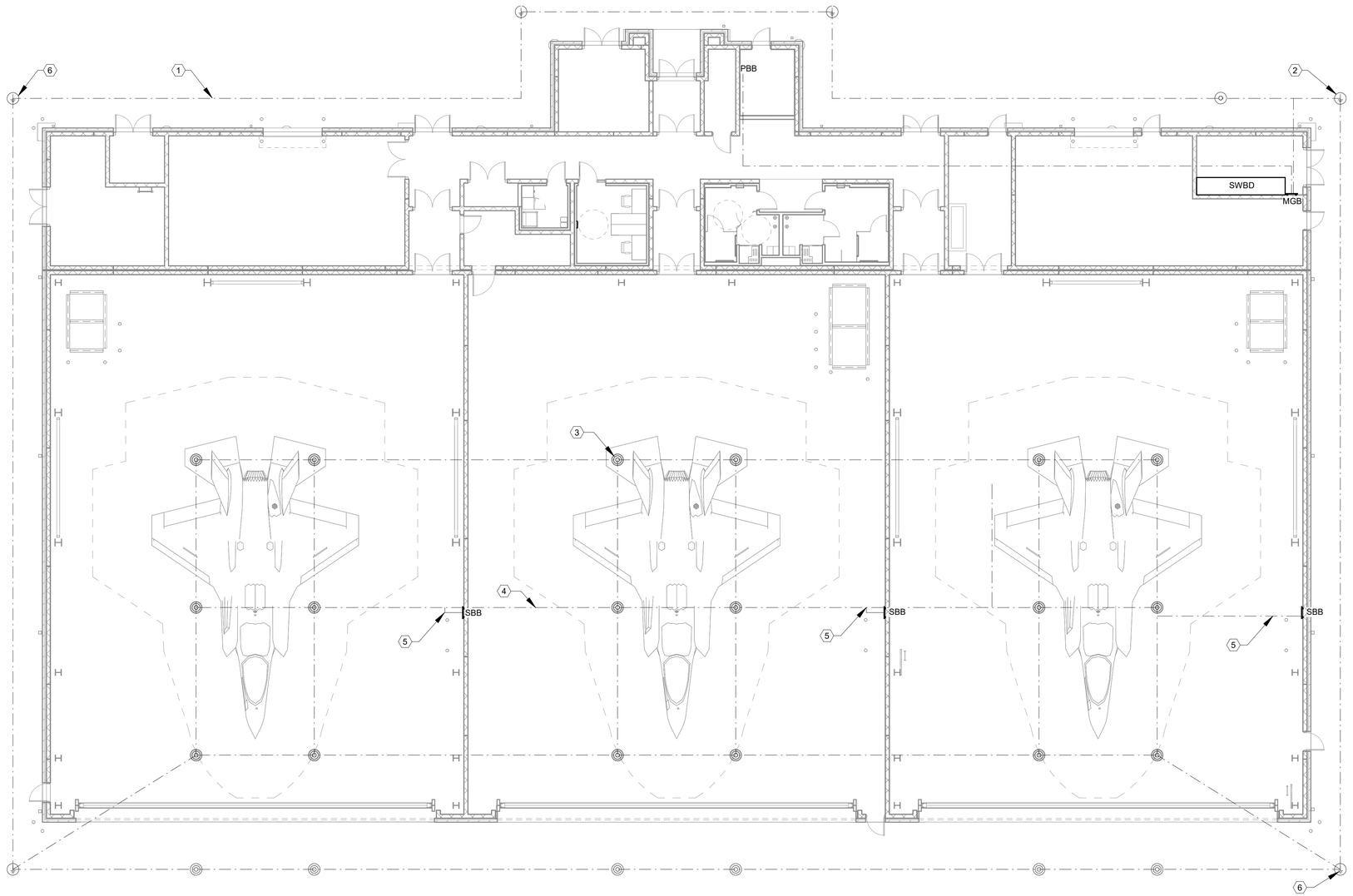
ELECTRICAL SITE DETAILS

SHEET ID
ES501

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GENERAL NOTES

1. REFER TO DRAWING E-001 FOR ABBREVIATIONS, LEGEND, AND GENERAL NOTES. REFER TO DRAWINGS EG501. EG-502 AND EG601 FOR GROUNDING DETAILS AND RISERS.
2. ELECTRICAL DISTRIBUTION GROUNDING MUST COMPLY WITH NEC ART. 250.
3. TELECOMMUNICATIONS GROUNDING SYSTEM MUST COMPLY WITH NEC ART. 800, AND TIA-607-D.
4. THIS DETAIL DOES NOT PRECLUDE THE REQUIREMENTS OF NEC ART. 250, ART. 800, OR NFPA 780.
5. ALL ELECTRICAL WORK IN HAZARDOUS AREAS MUST BE PER NEC ARTICLES 500, 501, AND 513 FOR EACH AREA WHERE WORK IS BEING PERFORMED.
6. BOND ALL METALLIC PIPES INCLUDING WATER, FIRE, GAS, SEWER, STORM, ETC. WHICH ENTER THE STRUCTURE TO THE NEAREST DOWNLEAD, GROUND ROD OR GROUND LOOP.
7. COORDINATE WITH OG&E FOR INSTALLATION OF GROUND RING WITH TRANSFORMER GROUNDING ROD. GROUND RING MUST MAINTAIN A MINIMUM OF 6' OF SEPARATION FROM TRANSFORMER GROUND ROD. GROUND RING MUST NOT CONNECT TO TRANSFORMER GROUND ROD.CONTRACTOR WILL BOND METAL BOLLARDS TO THE GROUND RING. REFER TO CIVIL DRAWINGS FOR BOLLARD LOCATIONS.
8. LOCATE AIRCRAFT GROUNDING RECEPTACLES A MINIMUM OF 24" FROM HANGAR FLOOR CONCRETE JOINTS.
9. GROUND BUILDING STEEL AROUND PERIMETER OF BUILDING AT EVERY OTHER COLUMN OR 60 FEET. BOND WITH #4/0 AWG BARE. REFER TO GROUNDING DETAIL SHEETS. TYPICAL LOCATIONS ARE SHOWN ON PLAN.
10. PROVIDE ELECTRODES FOR EACH AIRCRAFT SPACE APPROXIMATELY 10' FROM THE CENTERLINE OF THE AIRCRAFT SPACE INSTALLED AT 50' INTERVALS. SPACING OF ELECTRODES FROM WALL LINES OR COLUMNS MUST NOT EXCEED 50'.

KEYNOTES

1	#4/0 BARE COPPER GROUNDING CONDUCTOR FOR GROUND RING, BURIED A MINIMUM OF 30" BELOW FINISHED GRADE AND APPROXIMATELY 5' FROM FACILITY FOUNDATION.
2	3/4" X 10' COPPER CLAD GROUND ROD.
3	FLUSH-MOUNTED GROUND RECEPTACLE PER UFC 3-575-01. SEE DETAIL L7 ON SHEET EG502.
4	MINIMUM OF #1/0 BARE COPPER GROUNDING CONDUCTOR FOR HANGAR GROUND GRID SPACED AT A MAXIMUM OF 25' IN EACH DIRECTION AND BONDED TO GROUNDING GRID WITH #1/0 BARE COPPER CONDUCTOR.
5	#2/0 INSULATED COPPER GROUNDING CONDUCTOR IN 1" CONDUIT FROM GROUND GRID TO GROUNDING BAR IN HANGAR.
6	GROUND TEST WELL. SEE DETAIL L13 ON SHEET EG501.

A1 GROUNDING PLAN
3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'

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DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
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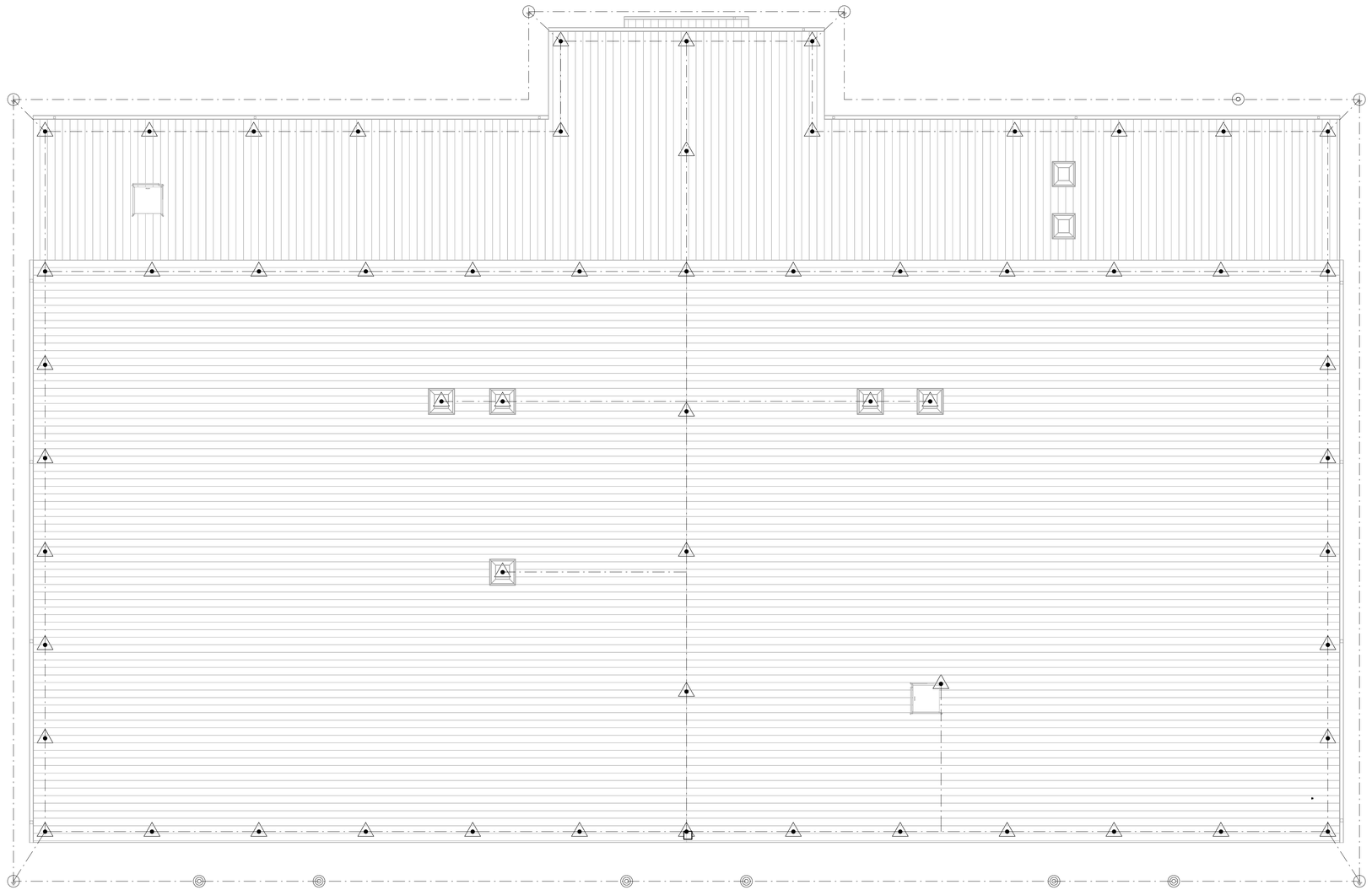
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GROUNDING PLAN

SHEET ID
EG101

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GENERAL NOTES

1. PROVIDE A FRANKLIN ROD TYPE LIGHTNING PROTECTION SYSTEM (LPS) IN ACCORDANCE WITH AFMAN 32-1065, NFPA 780 AND UFC 3-575-01. LIGHTNING PROTECTION INSTALLER (LPI) MUST DESIGN AND INSTALL THE LPS PER APPLICABLE STANDARDS AND SPECIFICATIONS.
2. ALL SYSTEM MATERIALS MUST BE UL LISTED FOR LPS. ALL CONDUCTORS MUST BE LABELED EVERY 10' WITH UL LISTING.
3. THE COMPLETED SYSTEM MUST BE CERTIFIED BY A THIRD-PARTY INSPECTOR IAW UFC 3-575-01 AND BEAR THE UL MASTER LABEL, WHICH MUST BE PROVIDED TO THE GOVERNMENT NO LATER THAN 30 DAYS AFTER BENEFICIAL OCCUPANCY.
4. SEE ARCHITECTURAL ROOF PLANS FOR ADDITIONAL BUILDING DETAILS.
5. LPS AND DOWN CONDUCTORS MUST NOT PENETRATE ROOFING SYSTEMS. COURSE DOWN CONDUCTORS ON THE EXTERIOR OF THE BUILDING,TIGHT TO BUILDING FEATURES AND GUTTER DOWN SPOUTS WHERE POSSIBLE TO MINIMIZE APPEARANCE OF CONDUCTORS.
6. COORDINATE THE LPS INSTALLATION WITH ROOFING CONTRACTOR PRIOR TO INSTALLATION. DISCREPANCIES BETWEEN THIS WORK AND OTHER TRADES MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER OF RECORD FOR A RESOLUTION.
7. LPS CONDUCTORS INSTALLED ON OR WITHIN PROXIMITY (10') OF CHILLER TYPE HVAC UNITS THAT MAY POSSIBLY EXPOSE THE CONDUCTORS TO WATER VAPORS MUST BE INSULATED TYPE. BARE CONDUCTORS MUST NOT BE ACCEPTABLE.
8. CONDUCTORS MUST INTERCONNECT ALL AIR TERMINALS AND MUST FORM A TWO-WAY PATH FROM EACH AIR TERMINAL HORIZONTALLY OR DOWNWARD TO CONNECTIONS WITH GROUND TERMINALS.
9. ALL LIGHTNING PROTECTION CONDUCTORS MUST BE FASTENED NOT MORE THAN 3'-0" MAXIMUM SPACING.
10. AIR TERMINALS MUST BE PLACED AT ALL UNPROTECTED OUTSIDE CORNERS AND LOCATED INTERMEDIATELY ON 25'-0" MAXIMUM SPACING AROUND THE ROOF PERIMETER AND WITHIN 2'-0" OF OUTSIDE EDGE UNLESS OTHERWISE NOTED. RIDGE-MOUNTED AIR TERMINALS MUST BE PLACED ON 50'-0" MAXIMUM SPACING. AIR TERMINALS AT HAZARDOUS EXHAUST LOCATIONS MUST BE A MINIMUM OF 5'-0".
11. BOND ALL METALLIC PIPES INCLUDING WATER, FIRE, GAS, SEWER, STORM, ETC. WHICH ENTER THE STRUCTURE TO THE NEAREST DOWN CONDUCTOR, GROUND ROD, OR GROUND LOOP.
12. ACTUAL JOB-SITE CONDITIONS MAY NECESSITATE SLIGHT ALTERATIONS IN AIR TERMINAL AND GROUND ROD LOCATIONS WITH FINAL APPROVAL FROM THE ENGINEER.
13. ALL CONDUIT, CONDUIT FASTENERS AND MISCELLANEOUS ACCESSORIES MUST BE FURNISHED AND INSTALLED BY THE LPI.
14. PROVIDE AS-BUILT LIGHTNING PROTECTION DRAWINGS CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER QUALIFIED TO PERFORM THE DESIGN FOR CONSTRUCTION.
15. ALUMINUM CONDUCTORS MUST BE CLASS 1 MATERIALS PER NFPA 780.
16. PROVIDE 4/0 STRANDED COPPER BURIED AT A DEPTH OF 2'-6" BELOW FINISHED GRADE A MINIMUM OF 5'-0" AWAY FROM BUILDING FOUNDATION.
17. METAL BODIES OF INDUCTANCE LOCATED ABOUT THE ROOF SUCH AS: METAL FLASHING, GRAVEL STOPS, ROOF DRAINS, SOIL PIPE VENTS, INSULATION VENTS, LOUVERS, AND DOOR FRAMES SITUATED WITHIN 6'-0" OF A LIGHTNING CONDUCTOR OR BONDED METAL BODY MUST BE INTERCONNECTED TO THE LPS.
18. UTILIZE STRUCTURAL COLUMN AS DOWN CONDUCTOR AND CONNECT TO BUILDING GROUND LOOP.
19. COORDINATE THE LPS DIRECTLY WITH THE WORK REQUIRED FOR THE FALL PROTECTION SYSTEM.

A1 LIGHTNING PROTECTION PLAN

3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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ENGINEERING & CONSTRUCTION DIVISION
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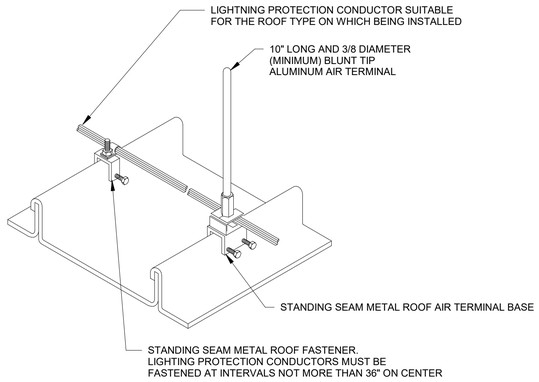
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LIGHTNING PROTECTION PLAN

SHEET ID

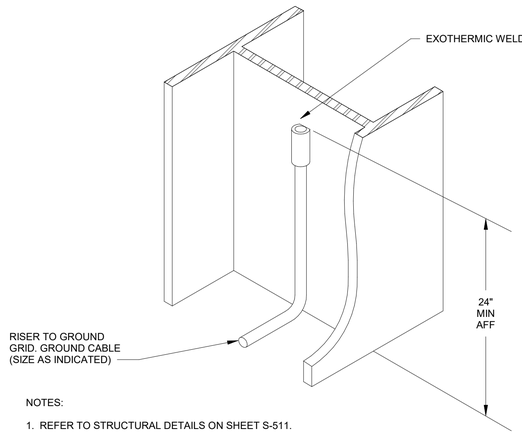
EG102

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K1 STANDING SEAM ROOF AIR TERMINAL

1 1/2" = 1'-0"

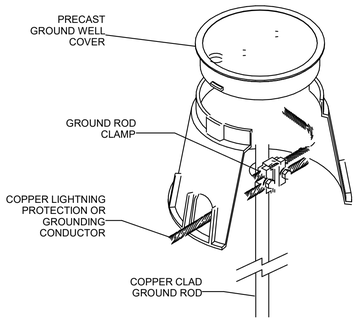


NOTES:

1. REFER TO STRUCTURAL DETAILS ON SHEET S-511.

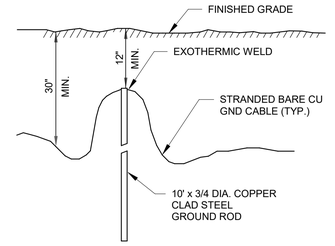
K6 COLUMN GROUND DETAIL

1" = 1'-0"



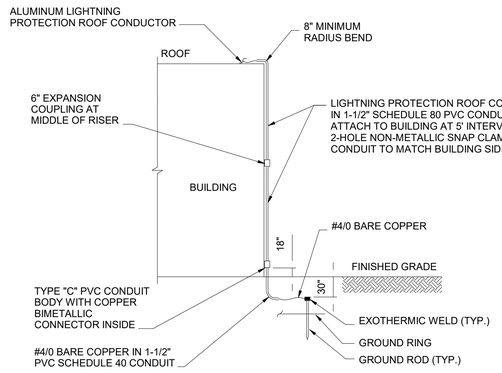
L13 GROUND TEST WELL DETAIL

NTS



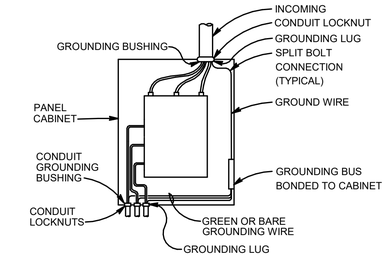
L17 GROUNDING ROD DETAIL

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F10 LIGHTNING PROTECTION DOWN CONDUCTOR

NTS

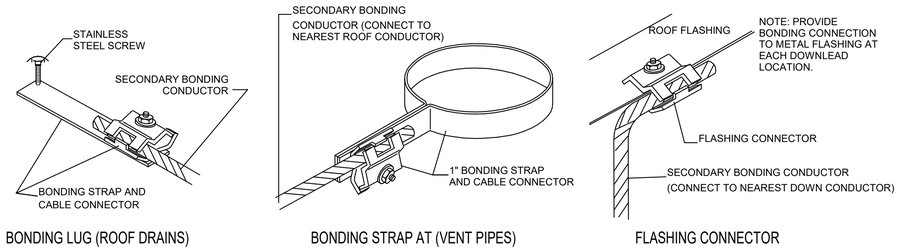


NOTES:

1. ALL WIRING TO BE NEATLY LACED.
2. AT THE POINT OF ATTACHMENT OF THE GROUNDING LUG TO THE CABINET, THE SURFACES SHALL BE FREE OF PAINT AND THOROUGHLY CLEANED FOR PROPER BONDING.
3. NEUTRAL CONDUCTOR NOT SHOWN.

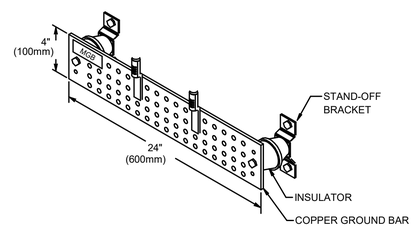
F16 TYPICAL PANEL GROUNDING

NTS



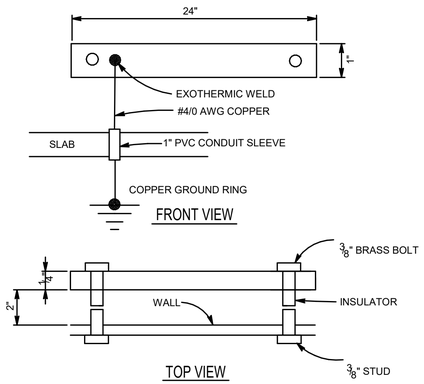
A1 GROUNDING CONNECTION DETAILS

NTS



B10 MAIN GROUND BAR (MGB) DETAIL

NTS



B15 MAIN GROUND BAR MOUNTING DETAIL

NTS

US Army Corps of Engineers ®

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DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
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ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
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GROUNDING DETAILS

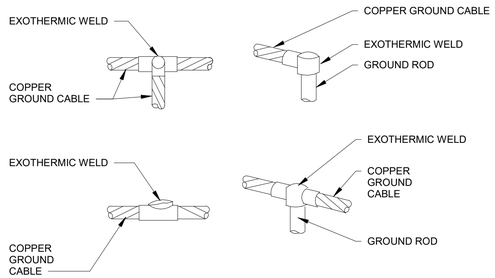
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EG501

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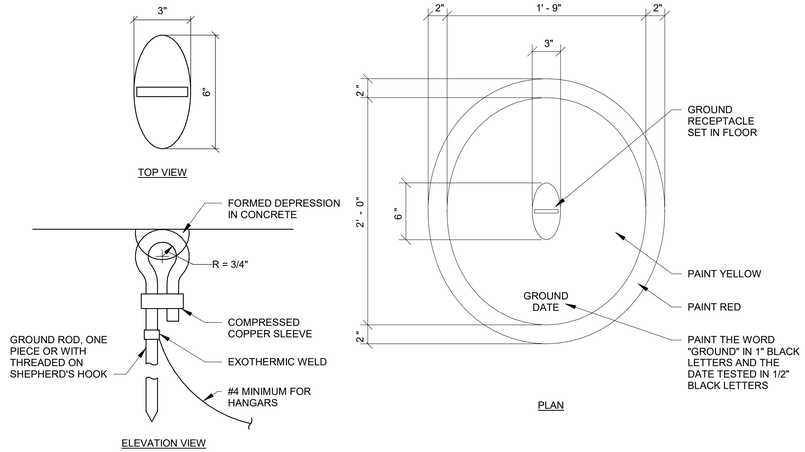
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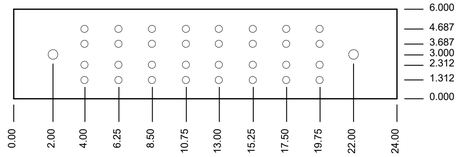
L1 TYPICAL EXOTHERMIC WELDS

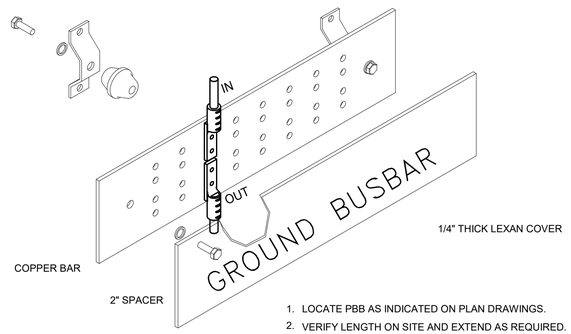
NTS



E7 SHEPHERD'S CROOK GROUND POINT

NTS





1. LOCATE PBB AS INDICATED ON PLAN DRAWINGS.
2. VERIFY LENGTH ON SITE AND EXTEND AS REQUIRED.
3. CONFIRM BOLT PATTERN PRIOR TO PURCHASE.
4. BUSBAR SHALL MEET ANSI/TIA/EIA-607 REQUIREMENTS.
5. LETTERS TO BE 1" TALL.
6 DIMENSIONS: 2'W X 4"H X 1/4"D

A1 TELECOMMUNICATION PRIMARY BONDING BUSBAR (PBB)

NTS

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DRAWN BY: C. VELOZ
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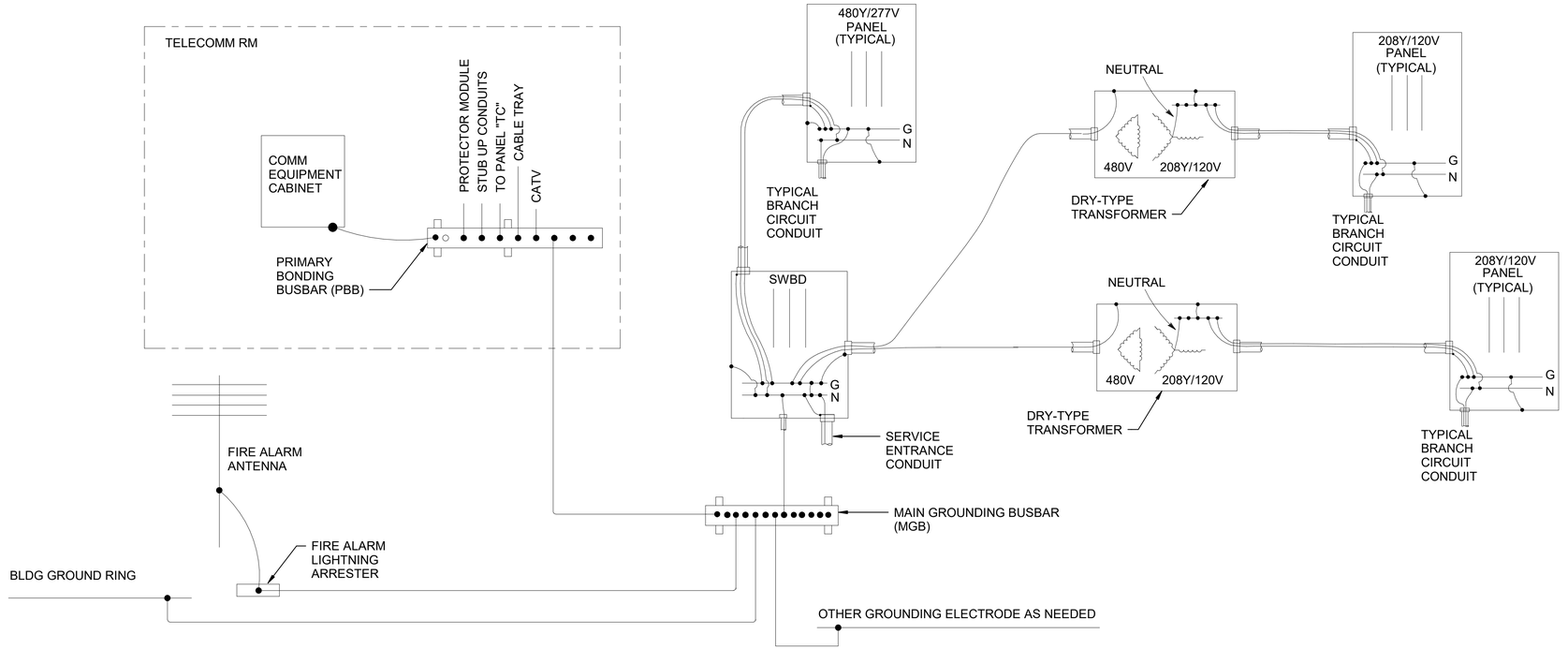
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H3 GROUNDING RISER DIAGRAM

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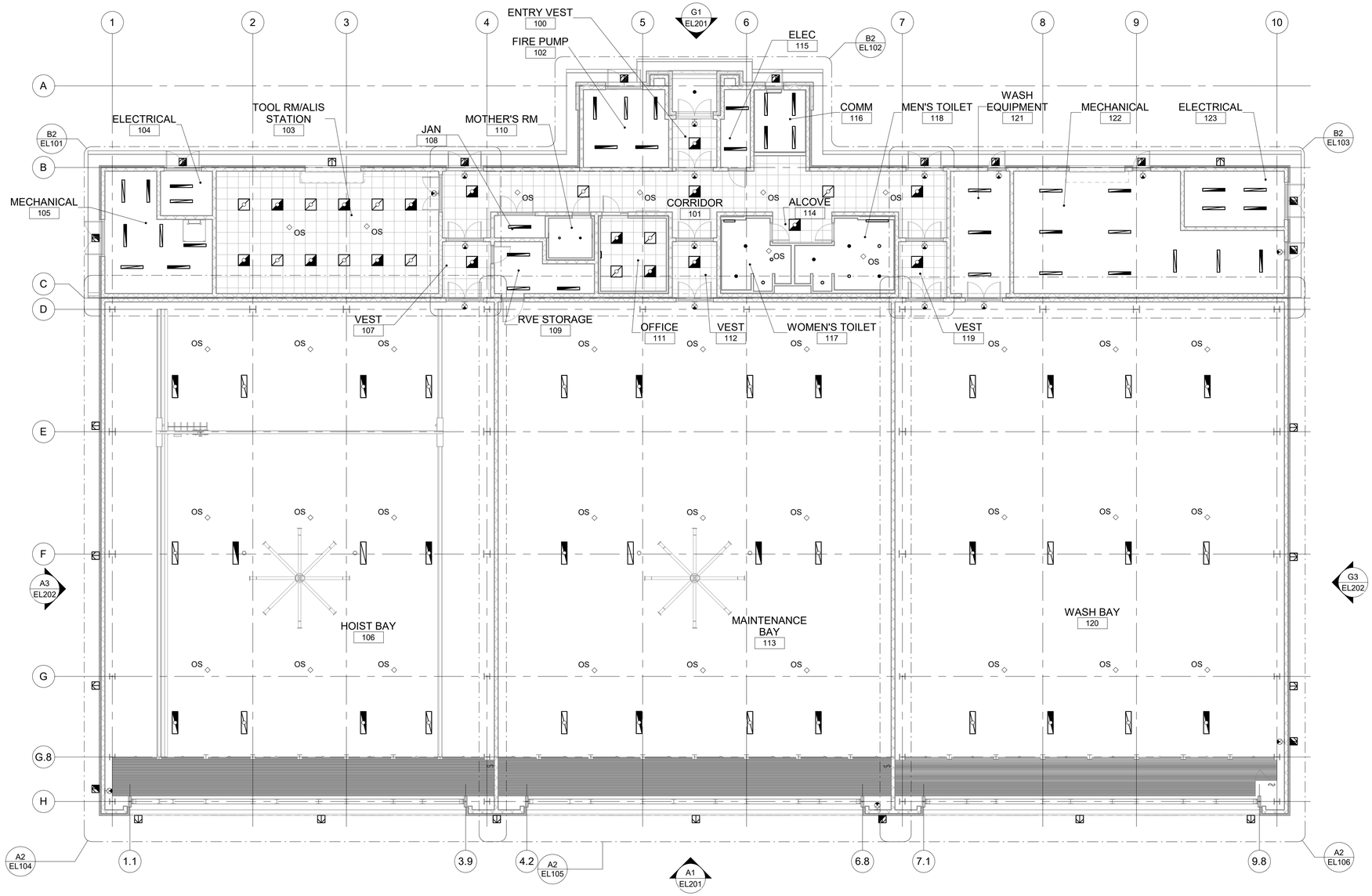
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TYPICAL GROUNDING RISER DIAGRAM

SHEET ID

EG601

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A1 OVERALL LIGHTING PLAN

3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'

GENERAL NOTES

1. REFER TO SHEET E-001 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. UNLESS SPECIFICALLY NOTED, RACEWAYS MUST BE INSTALLED CONCEALED IN ALL FINISHED AREAS AND EXPOSED IN UNFINISHED AREAS. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT FINISHES.
3. CONTRACTOR MUST BE RESPONSIBLE FOR PROVIDING WIRING, CABLING, CONDUIT, AND ANY ANCILLARY EQUIPMENT, INCLUDING PROGRAMMING OF CONTROL SYSTEMS REQUIRED FOR LIGHTING CONTROLS. THE INSTALLATION SHALL BE TESTED BY AN AUTHORIZED REPRESENTATIVE OR LIGHTING CONTROL SYSTEM MANUFACTURER AFTER INSTALLATION. THE REPRESENTATIVE SHALL CERTIFY THAT THE LIGHTING CONTROL SYSTEM IS INSTALLED AND TESTED TO THEIR FULL SATISFACTION.
4. FIELD ADJUST THE LIGHTING FIXTURE LAYOUT TO CLEAR ANY BEAMS, COLUMNS, PIPING, ETC THAT MIGHT BE IN THE WAY.
5. PROVIDE DAYLIGHT PHOTOCELL SENSOR. COORDINATE MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL TRANSLUCENT PANELS.
6. PROVIDE HIGH BAY OCCUPANCY SENSORS MOUNTED AT 30' AFF.
7. OCCUPANCY SENSORS SHOWN ARE DIAGRAMMATIC ONLY AND IMPLY SPACES TO BE CONTROLLED. ACTUAL QUANTITY AND LOCATIONS MUST BE PER MANUFACTURER'S INSTRUCTION FOR THE DEVICES SELECTED BY THE CONTRACTOR. SEE EL501 FOR TYPICAL LIGHTING CONTROL SCHEMATICS.
8. REFER TO SHEET EL601 FOR LUMINAIRE SCHEDULE.
9. PROVIDE UNCONTROLLED "HOT" CONDUCTOR FOR EMERGENCY LIGHTS UTILIZING LOCAL LIGHTING CIRCUIT AS INDICATED.
10. ALL CONDUIT PENETRATIONS THROUGH RATED WALL/SURFACES SEAL AND CAULK WITH A UL LISTED FIREPROOF MATERIAL.
11. THE CONTRACTOR MUST INSTALL ALL DEVICES AND CONDUITS ENTERING AND LEAVING THE HANGAR BAY PROVIDING SEALING FITTINGS WHERE REQUIRED PER NEC 513.9.
12. FINAL LOCATION OF LIGHTING FIXTURES IN SPACES CONTAINING MECHANICAL EQUIPMENT SHALL BE FIELD COORDINATED AND ADJUSTED TO AVOID CONFLICTS WITH MECHANICAL EQUIPMENT, DUCT WORK, AND PIPING. OBTAIN ENGINEER'S APPROVAL IF MAJOR LIGHTING FIXTURE RELOCATION OR DELETION IS REQUIRED.
13. ALL EMERGENCY LIGHTS MUST BE CIRCUITED TO UNSWITCHED LEG OF THE CONDUCTOR TO ENSURE CONTINUOUS POWER IN THE EVENT OF POWER OUTAGE.
14. PROVIDE BRACING FOR LIGHTS AROUND FAN TO PREVENT LIGHTS FROM SWINGING IN HOIST BAY 106 AND MAINTENENANCE BAY 113 RESPECTIVELY.

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SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

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OVERALL LIGHTING PLAN

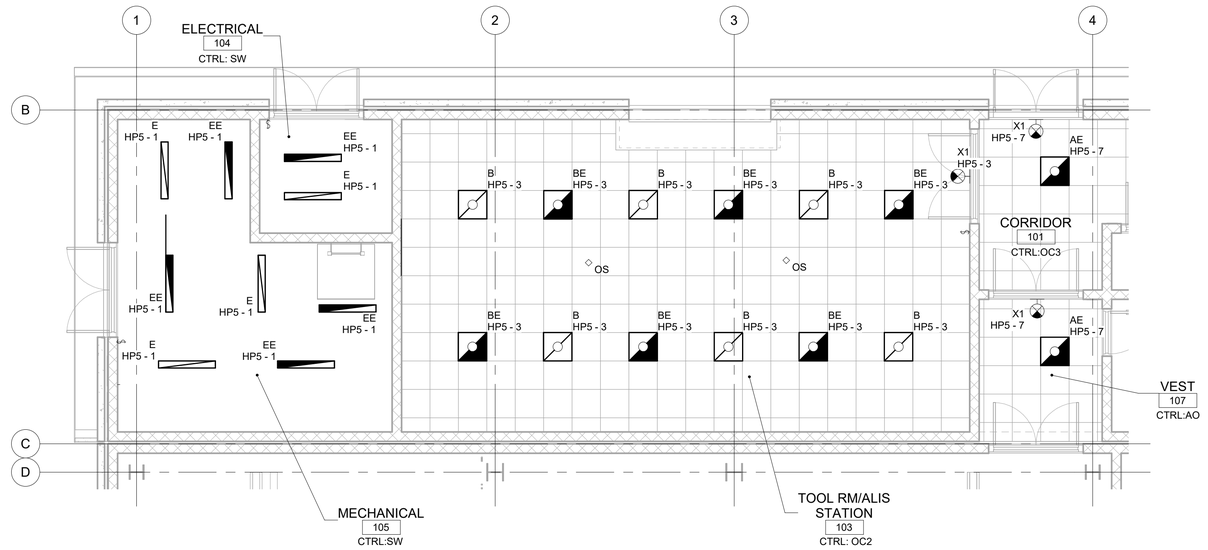
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EL100

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GENERAL NOTES

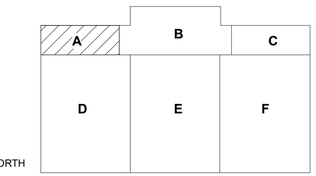
1. UNLESS SPECIFICALLY NOTED, RACEWAYS MUST BE INSTALLED CONCEALED IN ALL FINISHED AREAS AND EXPOSED IN UNFINISHED AREAS. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT FINISHES.
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3. FIELD ADJUST THE LIGHTING FIXTURE LAYOUT TO CLEAR ANY BEAMS, COLUMNS, PIPING, ETC THAT MIGHT BE IN THE WAY.
4. COORDINATE LIGHT SWITCH PLACEMENT WITH ARCHITECTURAL DOOR SWINGS.
5. INSTALL OCCUPANCY SENSORS IAW MANUFACTURER'S RECOMMENDATIONS. DO NOT PLACE OCCUPANCY SENSORS WHERE THEY WILL BE OBSTRUCTED. DO NOT PLACE SENSORS WITHIN 6' OF HVAC OUTLETS.
6. ALL EMERGENCY LIGHTS MUST BE CIRCUITED TO UNSWITCHED LEG OF THE CONDUCTOR TO ENSURE CONTINOUS POWER IN THE EVENT OF POWER OUTAGE.



B2 LIGHTING PLAN - AREA A

3/16" = 1'-0"

0 2' 4' 8' 16'



KEY PLAN

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING PLAN - AREA A

SHEET ID

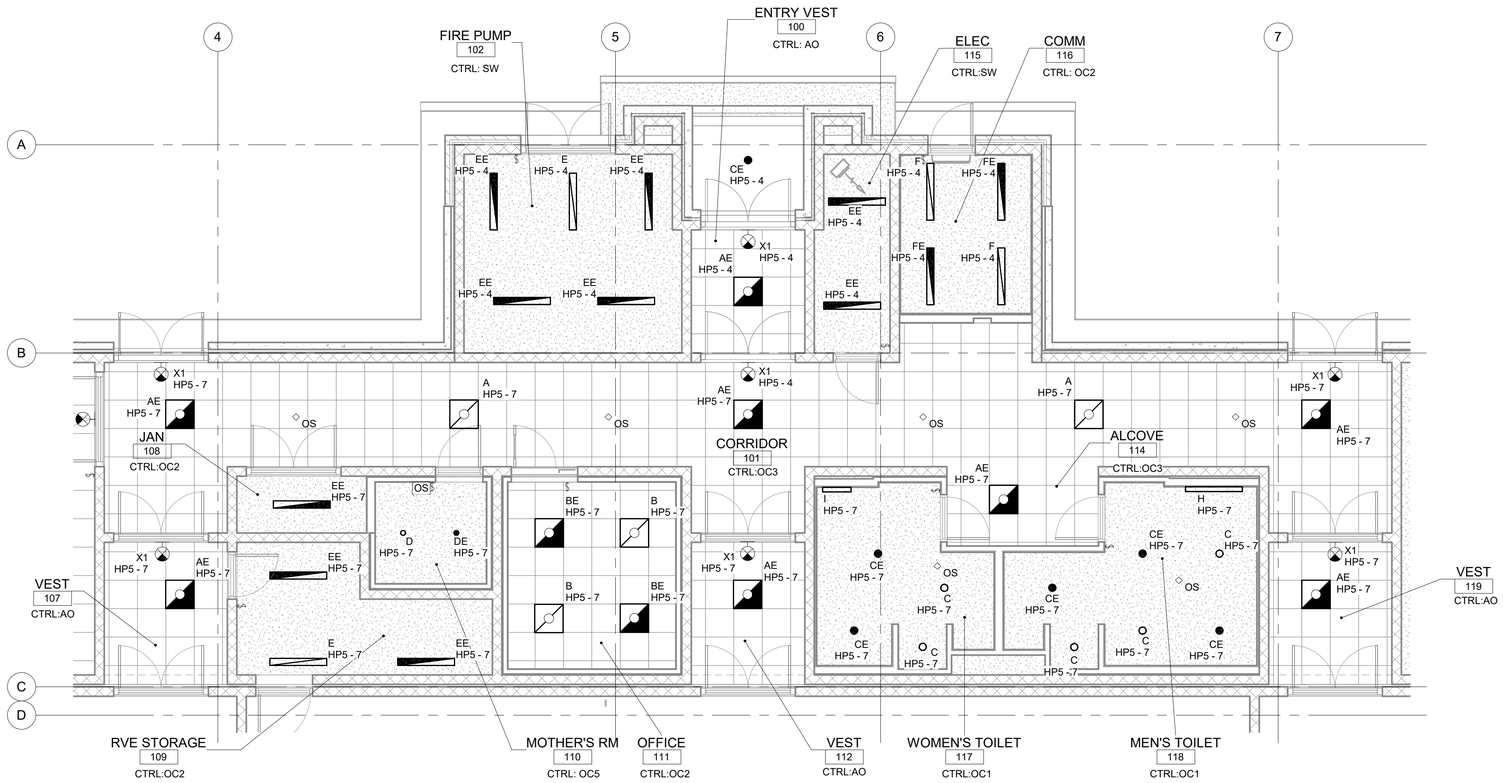
EL101

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4. COORDINATE LIGHT SWITCH PLACEMENT WITH ARCHITECTURAL DOOR SWINGS.
5. INSTALL OCCUPANCY SENSORS IAW MANUFACTURER'S RECOMMENDATIONS. DO NOT PLACE OCCUPANCY SENSORS WHERE THEY WILL BE OBSTRUCTED. DO NOT PLACE SENSORS WITHIN 6' OF HVAC OUTLETS.
6. ALL EMERGENCY LIGHTS SHALL BE CIRCUITED TO UNSWITCHED LEG OF THE CONDUCTOR TO ENSURE CONTINOUS POWER IN THE EVENT OF POWER OUTAGE.

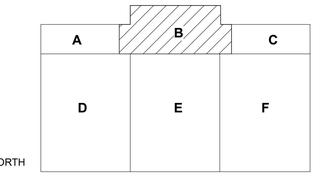


B2 LIGHTING PLAN - AREA B

3/16" = 1'-0"

0 2' 4' 8' 16'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENNG_512203_E_3BAYH_RVT22.rvt
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

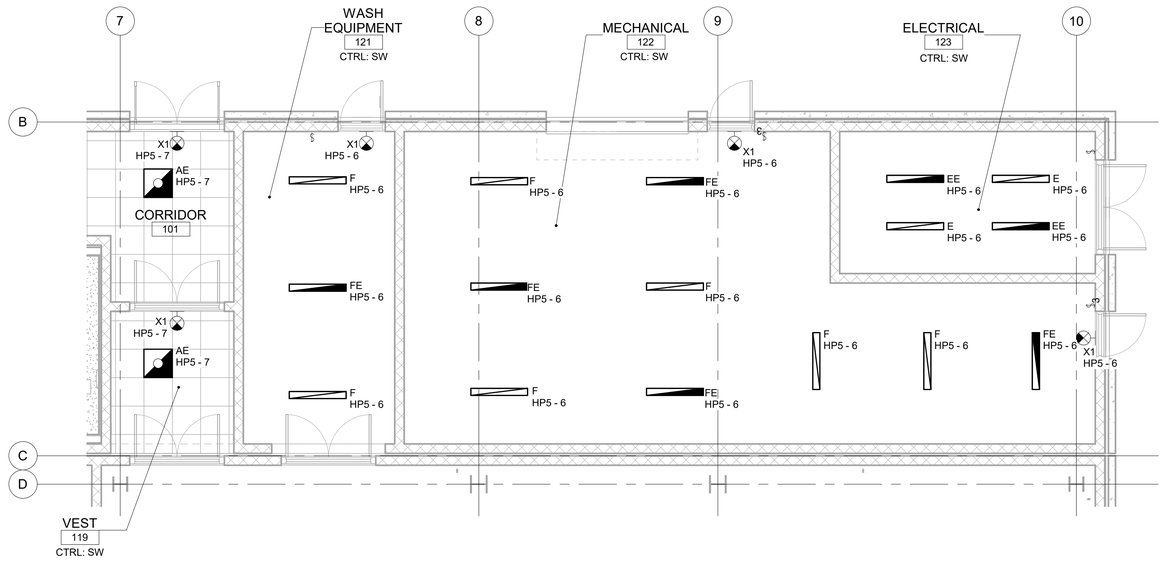
LIGHTING PLAN - AREA B

SHEET ID
EL102

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

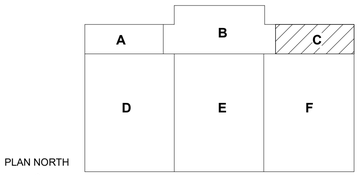
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4. COORDINATE LIGHT SWITCH PLACEMENT WITH ARCHITECTURAL DOOR SWINGS.
5. INSTALL OCCUPANCY SENSORS IAW MANUFACTURER'S RECOMMENDATIONS. DO NOT PLACE OCCUPANCY SENSORS WHERE THEY WILL BE OBSTRUCTED. DO NOT PLACE SENSORS WITHIN 6' OF HVAC OUTLETS.
6. ALL EMERGENCY LIGHTS SHALL BE CIRCUITED TO UNSWITCHED LEG OF THE CONDUCTOR TO ENSURE CONTINUOS POWER IN THE EVENT OF POWER OUTAGE.



B2 LIGHTING PLAN - AREA C

3/16" = 1'-0"

0 2' 4' 8' 16'



PLAN NORTH

KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

C:\Users\mSeidel\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MEECRAR.rvt

DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

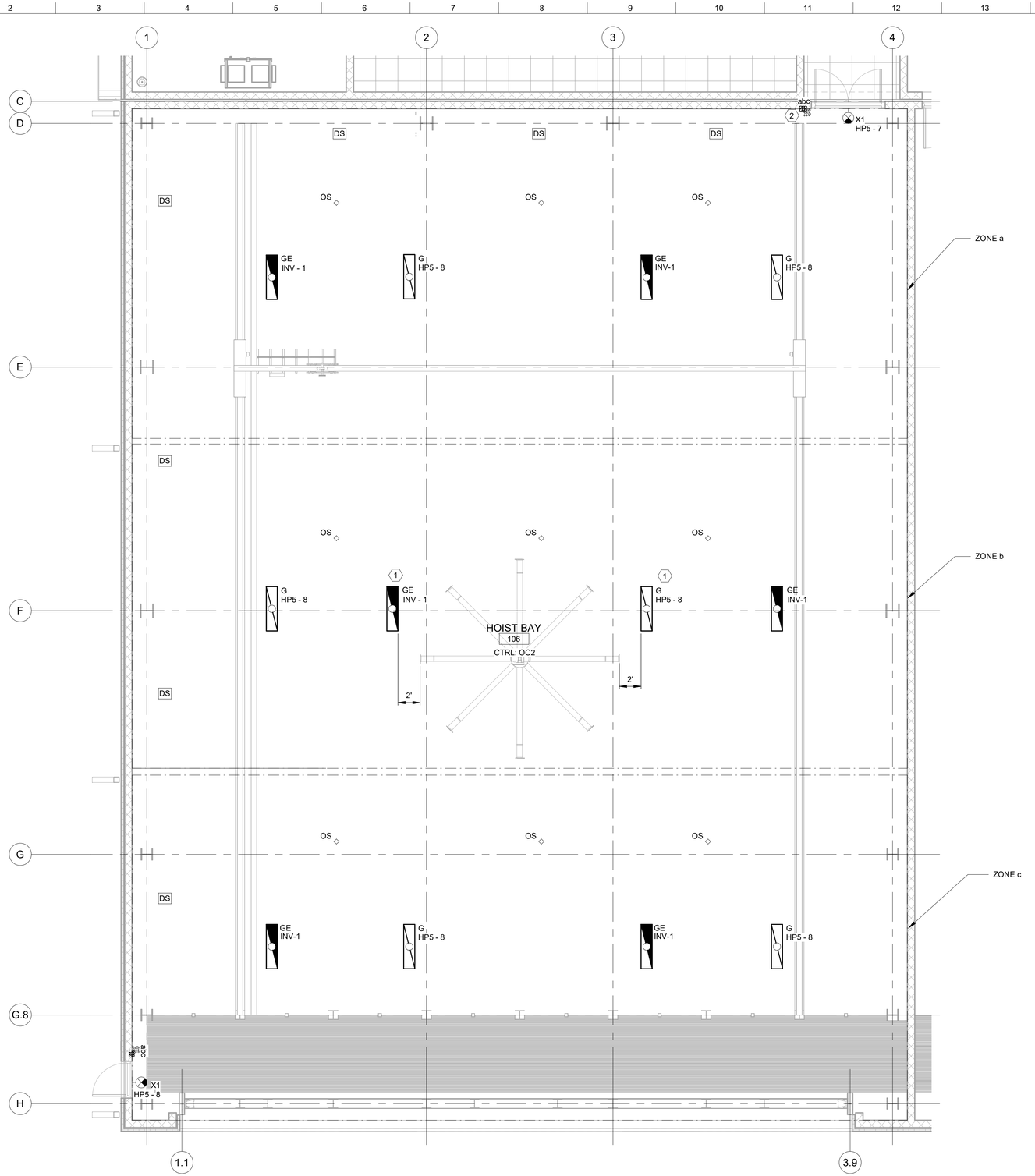
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING PLAN - AREA C

SHEET ID

EL103

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 LIGHTING PLAN - AREA D

3/16" = 1'-0"

0 2' 4' 8' 16'

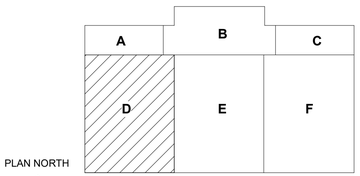
GENERAL NOTES

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3. FIELD ADJUST THE LIGHTING FIXTURE LAYOUT TO CLEAR ANY BEAMS, COLUMNS, PIPING, ETC THAT MIGHT BE IN THE WAY.
4. COORDINATE LIGHT SWITCH PLACEMENT WITH ARCHITECTURAL DOOR SWINGS.
5. INSTALL OCCUPANCY SENSORS IAW MANUFACTURER'S RECOMMENDATIONS. DO NOT PLACE OCCUPANCY SENSORS WHERE THEY WILL BE OBSTRUCTED. DO NOT PLACE SENSORS WITHIN 6' OF HVAC OUTLETS.
6. HIGH BAY EMERGENCY FIXTURES MUST UTILIZE 8KW CENTRAL INVERTER WITH BATTERY BACKUP LOCATED IN ELECTRICAL ROOM 115.
7. AS PER ASHRAE 90.1, SINCE EACH HANGAR BAY IS APPROXIMATELY 6300 SQUARE FEET, THE HOIST BAY 106 HAS BEEN DIVIDED INTO THREE SEPARATE CONTROL ZONES - ZONE A, ZONE B AND ZONE C. (2) THREE WAY SWITCH CONTROLLING EACH ZONE HAS BEEN PLACED AT THE NORTH AND SOUTH END OF THE BAY AS SHOWN IN THE PLAN.
8. ALL EMERGENCY LIGHTS SHALL BE CIRCUITED TO UNSWITCHED LEG OF THE CONDUCTOR TO ENSURE CONTINOUS POWER IN THE EVENT OF POWER OUTAGE.
9. BRACE LIGHTS AROUND FAN TO PREVENT LIGHTS FROM SWINGING.
10. ALL PENDANT MOUNT FIXTURES MUST HAVE SWIVEL TYPE MOUNT IN HANGAR PLUS FOUR ADEQUATELY SIZED SAFETY CHAINS AS SHOWN ON DETAIL A4 SHEET EL502.
11. PROVIDE DAYLIGHT PHOTOSENSOR. COORDINATE MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL TRANSLUCENT PANELS.
12. PROVIDE HIGH BAY OCCUPANCY SENSORS MOUNTED AT 30' AFF.

KEYNOTES

1	TO MITIGATE THE STROBING EFFECT OF LIGHT, MOUNT LIGHTS THAT ARE CLOSE TO THE CEILING FAN AT 24 INCHES AWAY FROM THE TIP OF FAN BLADES AND 12 INCHES BELOW FAN BLADES. SEE MOUNTING DETAIL A4 ON SHEET EL502.
2	FIELD COORDINATE FINAL LOCATION OF THREE-GANG SWITCHES WITH SCRUB SINK AND MANUAL PULL STATIONS.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
File Path: C:\Users\mSeidner\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MEECRAR.rvt
Plot Date: 10/20/2025 2:25:52 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

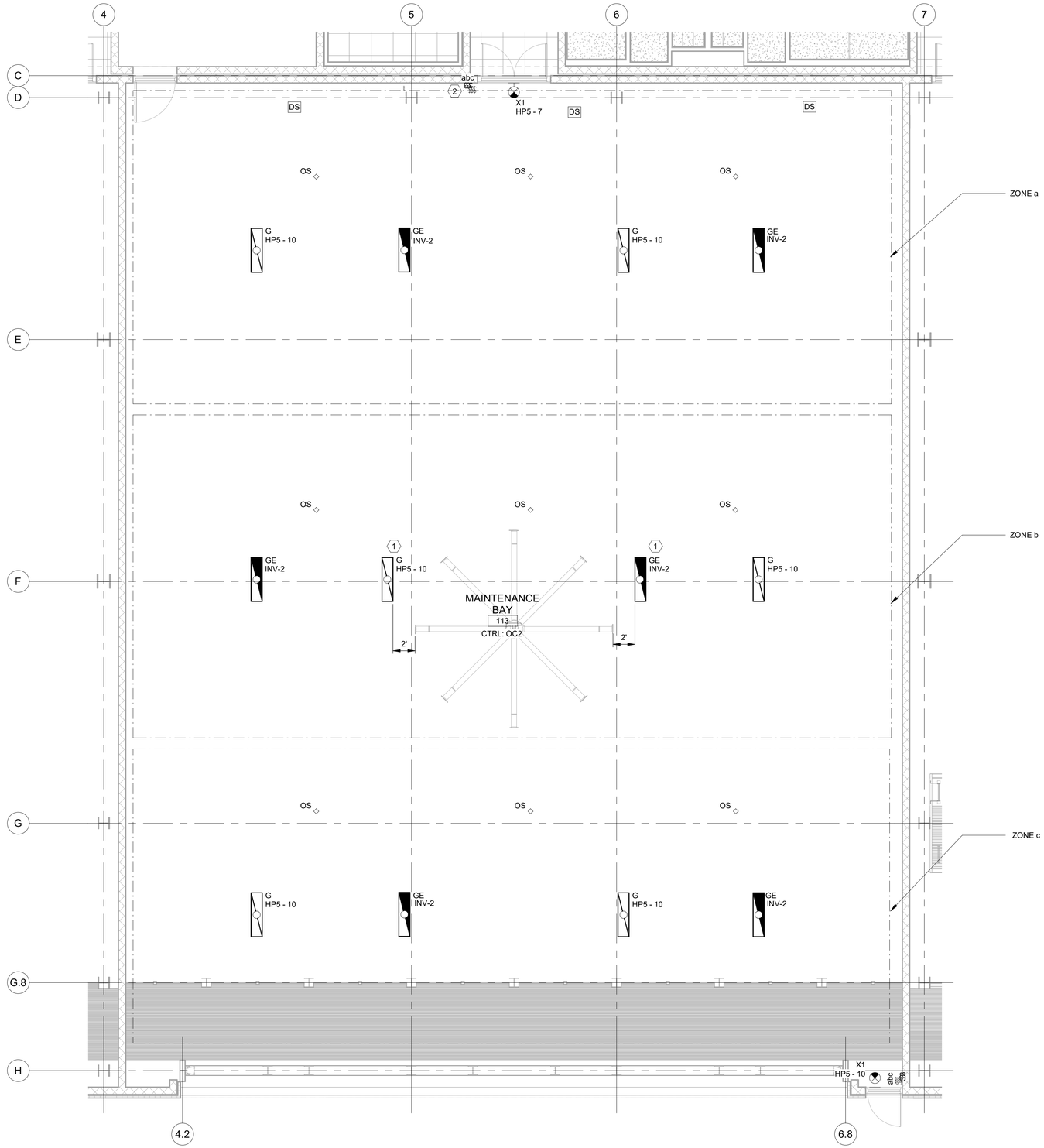
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING PLAN - AREA D

SHEET ID

EL104

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 LIGHTING PLAN - AREA E

3/16" = 1'-0"

0 2' 4' 8' 16'

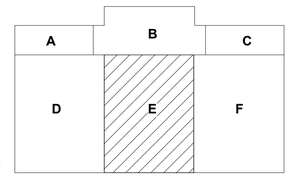
GENERAL NOTES

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4. COORDINATE LIGHT SWITCH PLACEMENT WITH ARCHITECTURAL DOOR SWINGS.
5. INSTALL OCCUPANCY SENSORS IAW MANUFACTURER'S RECOMMENDATIONS. DO NOT PLACE OCCUPANCY SENSORS WHERE THEY WILL BE OBSTRUCTED. DO NOT PLACE SENSORS WITHIN 6' OF HVAC OUTLETS.
6. HIGH BAY EMERGENCY FIXTURES MUST UTILIZE 8KW CENTRAL INVERTER WITH BATTERY BACKUP LOCATED IN ELECTRICAL ROOM 104.
7. AS PER ASHRAE 90.1, SINCE EACH BAY IS APPROXIMATELY 6300 SQUARE FEET, THE MAINTENANCE BAY 113 HAS BEEN DIVIDED INTO THREE SEPARATE CONTROL ZONES - ZONE A, ZONE B AND ZONE C. (2) THREE WAY SWITCH CONTROLLING EACH ZONE HAS BEEN PLACED AT NORTH AND SOUTH END OF THE BAY AS SHOWN IN THE PLAN.
8. ALL EMERGENCY LIGHTS SHALL BE CIRCUITED TO UNSWITCHED LEG OF THE CONDUCTOR TO ENSURE CONTINOUS POWER IN THE EVENT OF POWER OUTAGE.
9. BRACE LIGHTS AROUND FAN TO PREVENT LIGHTS FROM SWINGING.
10. ALL PENDANT MOUNT FIXTURES MUST HAVE SWIVEL TYPE MOUNT IN HANGAR PLUS FOUR ADEQUATELY SIZED SAFETY CHAINS AS SHOWN ON DETAIL A4 SHEET EL502.
11. PROVIDE DAYLIGHT PHOTOCELL SENSOR. COORDINATE MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL TRANSLUCENT PANELS.
12. PROVIDE HIGH BAY OCCUPANCY SENSORS MOUNTED AT 30' AFF.

KEYNOTES

1	TO MITIGATE THE STROBING EFFECT OF LIGHT, MOUNT LIGHTS THAT ARE CLOSE TO THE CEILING FAN AT 24 INCHES FROM TIP OF FAN BLADES AND 12 INCHES BELOW FAN BLADES. SEE MOUNTING DETAIL A4 ON SHEET EL502.
2	FIELD COORDINATE FINAL LOCATIONS OF THREE-GANG SWITCHES WITH SCRUB SINK AND MANUAL PULL STATIONS.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
SIZE: ANSI D
FILE NAME: ENNG_512203_E_3BAYH_RVT22.rvt
File Path: C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\ENNG_512203_E_3BAYH_RVT22_MEECRAR.rvt
Plot Date: 10/20/2025 2:25:54 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

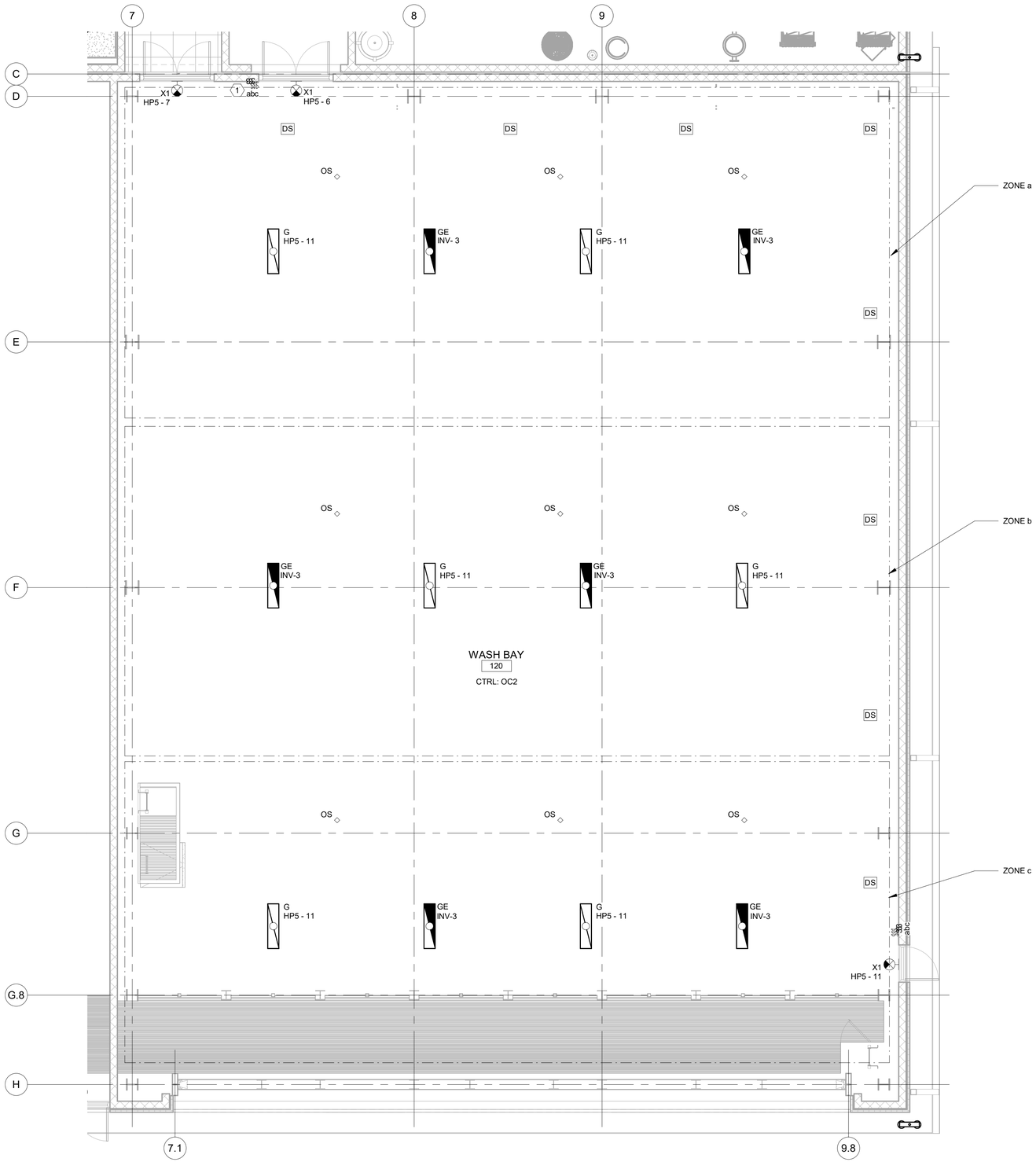
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING PLAN - AREA E

SHEET ID

EL105

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION



A2 LIGHTING PLAN - AREA F

3/16" = 1'-0"

0 2' 4' 8' 16'

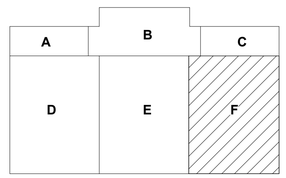
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6. HIGH BAY EMERGENCY FIXTURES MUST UTILIZE 8KW CENTRAL INVERTER WITH BATTERY BACKUP LOCATED IN ELECTRICAL ROOM 115.
7. AS PER ASHRAE 90.1, SINCE EACH BAY IS APPROXIMATELY 6300 SQUARE FEET, THE WASH BAY 120 HAS BEEN DIVIDED INTO THREE SEPARATE CONTROL ZONES - ZONE A, ZONE B AND ZONE C. (2) THREE WAY SWITCH CONTROLLING EACH ZONE HAS BEEN PLACED AT NORTH AND SOUTH END OF THE BAY AS SHOWN IN THE PLAN.
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10. PROVIDE DAYLIGHT PHOTOCELL SENSOR. COORDINATE MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL TRANSLUCENT PANELS.
11. PROVIDE HIGH BAY OCCUPANCY SENSORS MOUNTED AT 30' AFF.

KEYNOTES

1	FIELD COORDINATE FINAL LOCATION OF THREE-GANG SWITCHES WITH SCRUB SINK AND MANUAL PULL STATIONS.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

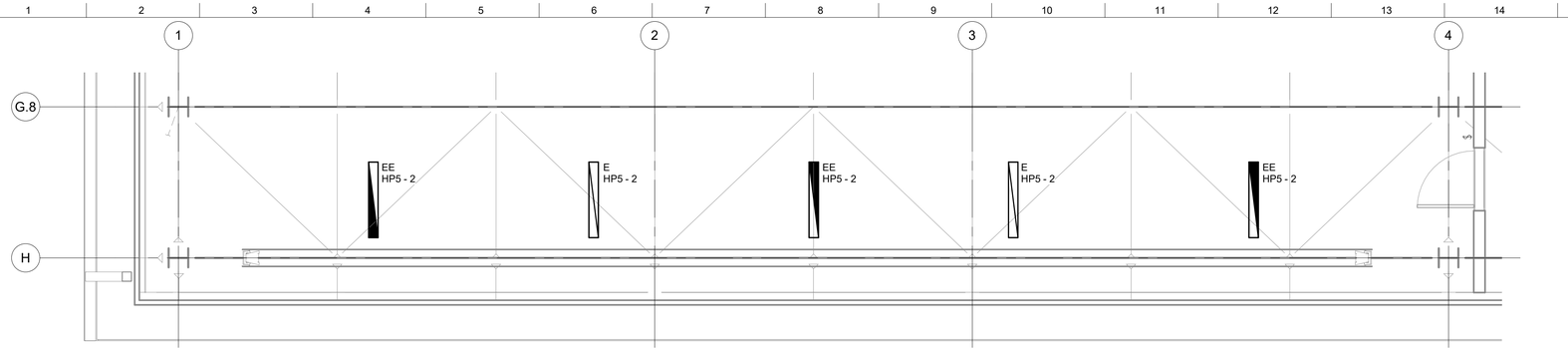
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING PLAN - AREA F

SHEET ID
EL106

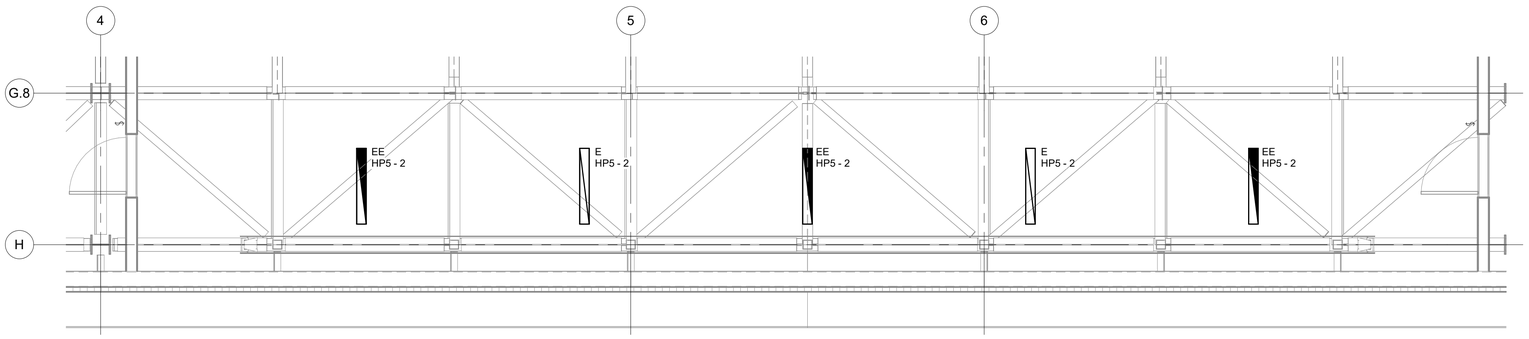
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L1 ACCESS CATWALK LIGHTING PLAN - AREA D

1/4" = 1'-0"

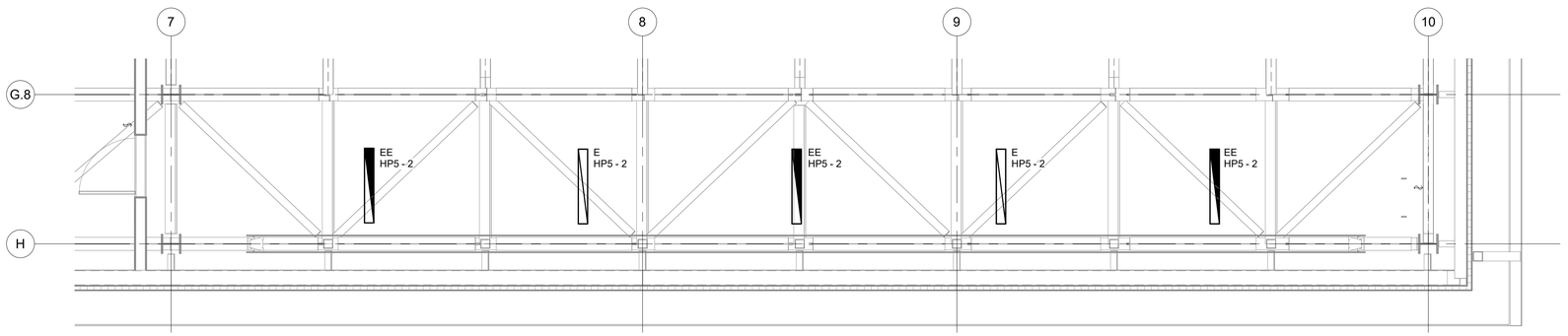
0 2' 4' 8'



F1 ACCESS CATWALK LIGHTING PLAN - AREA E

1/4" = 1'-0"

0 2' 4' 8'



A1 ACCESS CATWALK LIGHTING PLAN - AREA F

1/4" = 1'-0"

0 2' 4' 8'

GENERAL NOTES

1. PROVIDE THE LIGHTS ON THE HANGAR CATWALKS ARE TO BE CONTROLLED VIA A MANUAL LIGHT SWITCH.
2. PROVIDE THE LIGHT SWITCH ON THE WASH BAY TO BE LOCATED RIGHT ABOVE THE LADDER ENTRY TO THE CATWALK PLATFORM. PROVIDE THE LIGHT SWITCHES FOR MAINTENANCE BAY AND HOIST BAY CATWALK PLATFORM TO BE MOUNTED ON THE WALL BY THE ENTRY DOOR.
3. PROVIDE THE BOTTOM OF THE LIGHT FIXTURES TO BE MOUNTED AT 8'-5" FROM TOP OF CATWALK FINISHED GRADE.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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SIZE: ANSI D	FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 2:26:01 PM File Path:

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING PLANS - HANGAR CATWALKS

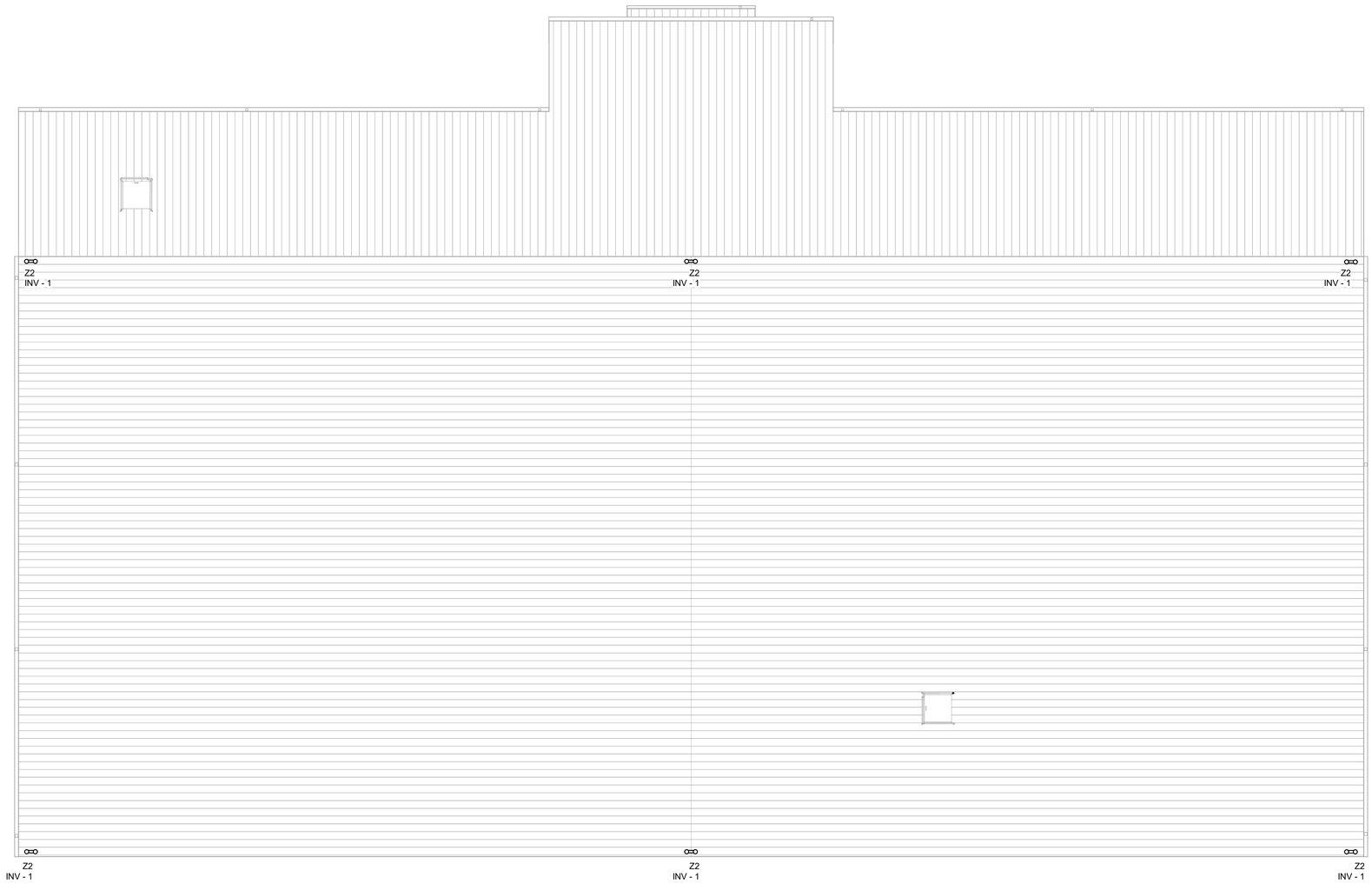
SHEET ID

EL107

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

1. PROVIDE ONE EACH L-810 INCANDESCENT DOUBLE HEAD RED OBSTRUCTION LIGHT AT EACH ROOF CORNER AND ONE EACH AT THE CENTER OF THE ROOF RIDGE.
2. PROVIDE POWER TO THE OBSTRUCTION LIGHTS FROM INV-4 CIRCUIT OF THE CENTRAL LIGHTING INVERTER. REFER TO PANEL SCHEDULE ON EP600 SERIES.



A1 OBSTRUCTION LIGHTING PLAN
3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MEECDRAR.rvt

File Path:

Plot Date: 10/20/2025 2:26:03 PM

DESIGNED BY: C.VELOZ
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING &
CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

OBSTRUCTION LIGHTING PLAN

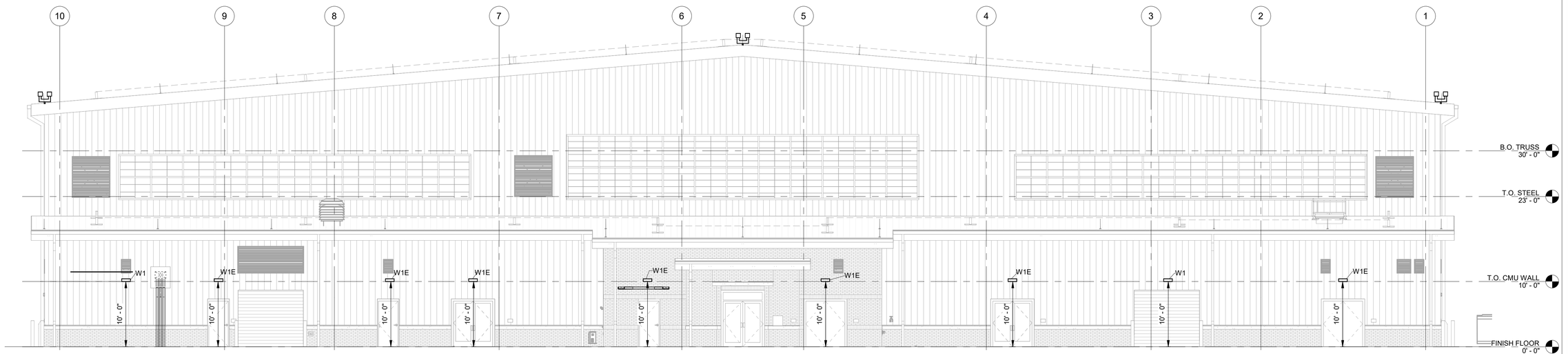
SHEET ID

EL108

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GENERAL NOTES

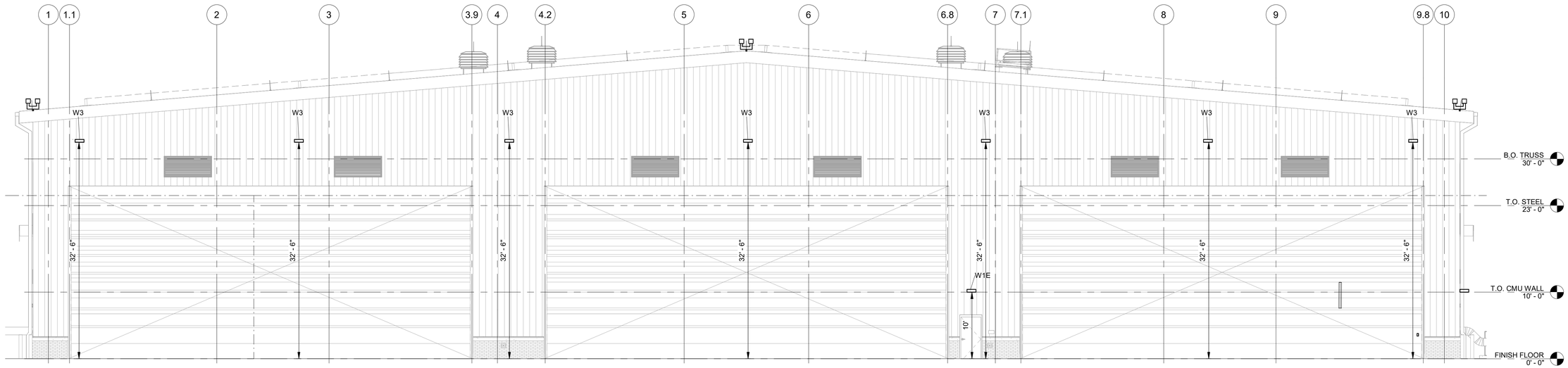
1. UNLESS SPECIFICALLY NOTED, RACEWAYS SHALL BE INSTALLED CONCEALED IN ALL FINISHED AREAS AND EXPOSED IN UNFINISHED AREAS. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT FINISHES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING WIRING, CABLING, CONDUIT, AND ANY ANCILLARY EQUIPMENT, INCLUDING PROGRAMMING OF CONTROL SYSTEMS REQUIRED FOR LIGHTING CONTROLS. THE INSTALLATION SHALL BE TESTED BY AN AUTHORIZED REPRESENTATIVE OR LIGHTING CONTROL SYSTEM MANUFACTURER AFTER INSTALLATION. THE REPRESENTATIVE SHALL CERTIFY THAT THE LIGHTING CONTROL SYSTEM IS INSTALLED AND TESTED TO THEIR FULL SATISFACTION.
3. FIELD ADJUST THE LIGHTING FIXTURE LAYOUT TO CLEAR ANY BEAMS, COLUMNS, PIPING, ETC THAT MIGHT BE IN THE WAY.
4. PROVIDE DAYLIGHT PHOTOCELL SENSOR. COORDINATE MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL TRANSLUCENT PANELS.



G1 NORTH EXTERIOR LIGHTING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



A1 SOUTH EXTERIOR LIGHTING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J.AMATYA	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: J.AMATYA	SOLICITATION NO.: W912BV26RA004
CHECKED BY: S. KUNAPULI, P.E.	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

EXTERIOR LIGHTING ELEVATIONS

SHEET ID

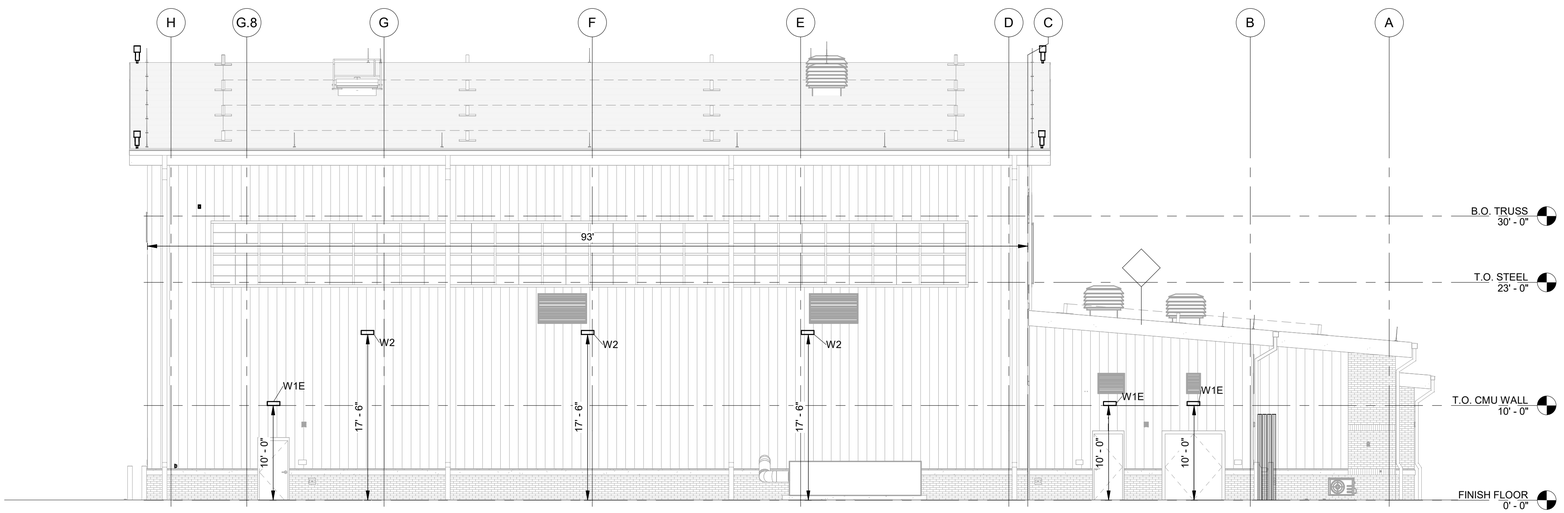
EL201

Plot Date: 10/20/2025 2:26:23 PM File Path: C:\Users\mSeidner\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MEECREAR.rvt

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GENERAL NOTES

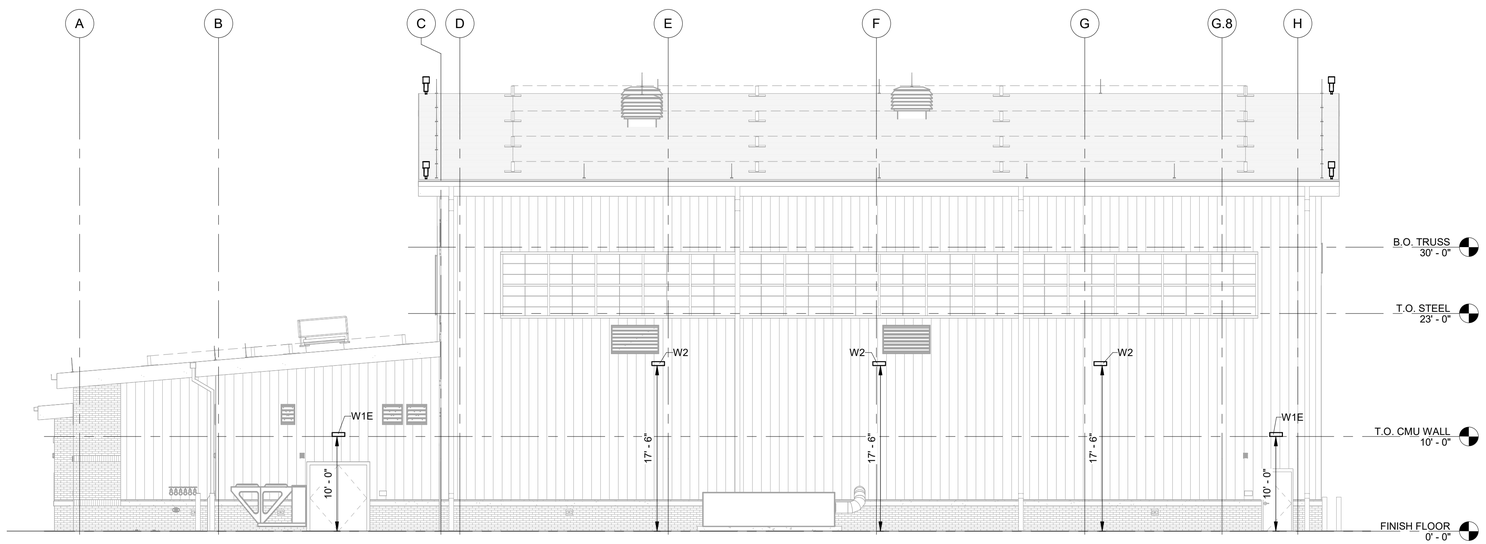
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3. FIELD ADJUST THE LIGHTING FIXTURE LAYOUT TO CLEAR ANY BEAMS, COLUMNS, PIPING, ETC THAT MIGHT BE IN THE WAY.
4. PROVIDE DAYLIGHT PHOTOCELL SENSOR. COORDINATE MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL TRANSLUCENT PANELS.



G3 EAST EXTERIOR LIGHTING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



A3 WEST EXTERIOR LIGHTING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

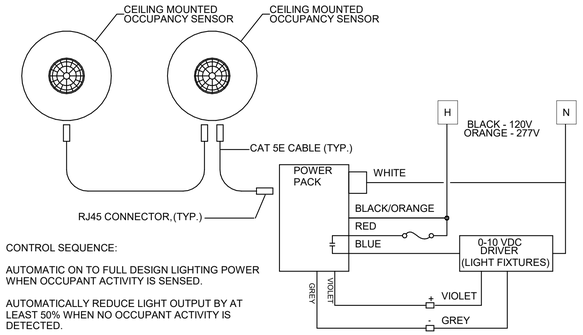
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

EXTERIOR LIGHTING ELEVATIONS

SHEET ID

EL202

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CONTROL SEQUENCE:

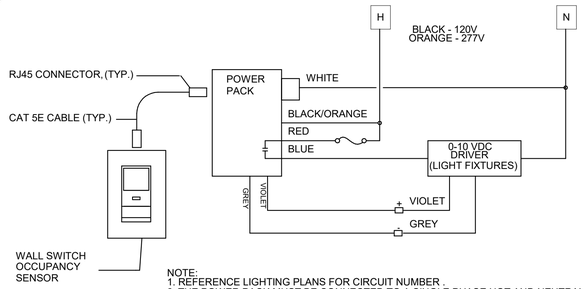
AUTOMATIC ON TO FULL DESIGN LIGHTING POWER WHEN OCCUPANT ACTIVITY IS SENSED.

AUTOMATICALLY REDUCE LIGHT OUTPUT BY AT LEAST 50% WHEN NO OCCUPANT ACTIVITY IS DETECTED.

NOTES:
1. REFERENCE LIGHTING PLANS FOR CIRCUIT NUMBER .
2. THE POWER PACK MUST BE CONNECTED TO A SINGLE PHASE HOT AND NEUTRAL SYSTEM.
3. FOR 120 VAC, CONNECT BLACK WIRE TO HOT, WHITE WIRE TO NEUTRAL, AND CAP OFF THE ORANGE/RED WIRE.
4. FOR 277 VAC, CONNECT ORANGE WIRE TO HOT, WHITE WIRE TO NEUTRAL, AND CAP OFF THE BLACK WIRE.

K1 CEILING OCCUPANCY SENSORS W/ POWER PACK - CORRIDORS

NTS



CONTROL SEQUENCE:

MANUAL ON TO NO MORE THAN 70% DESIGN LIGHTING POWER.

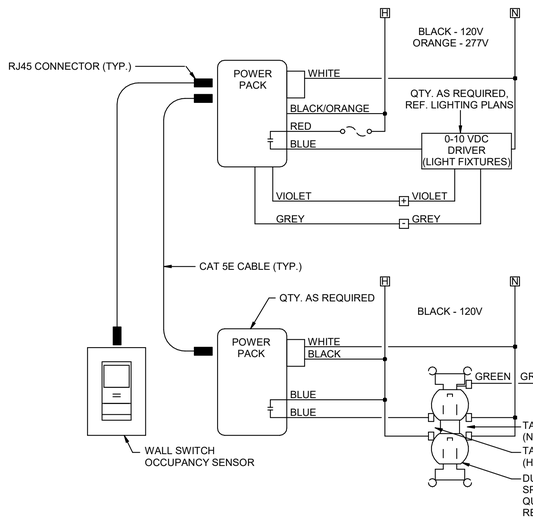
MANUAL DIMMER CONTROL.

AUTOMATIC OFF WITHIN 15 MINUTES OF NO OCCUPANT ACTIVITY SENSED.

NOTE:
1. REFERENCE LIGHTING PLANS FOR CIRCUIT NUMBER .
2. THE POWER PACK MUST BE CONNECTED TO A SINGLE PHASE HOT AND NEUTRAL SYSTEM.
3. FOR 120 VAC, CONNECT BLACK WIRE TO HOT, WHITE WIRE TO NEUTRAL, AND CAP OFF THE ORANGE/RED WIRE.
4. FOR 277 VAC, CONNECT ORANGE WIRE TO HOT, WHITE WIRE TO NEUTRAL, AND CAP OFF THE BLACK WIRE.

G1 WALL OCCUPANCY SENSOR W/ POWER PACK

NTS



CONTROL SEQUENCE:

MANUAL ON WHEN OCCUPANT ENTERS THE ROOM.

GENERAL LIGHTING IN DAYLIGHTED AREAS SEPARATELY CONTROLLED THROUGH MULTILEVEL PHOTOCONTROL (STEP DIMMING OR CONTINUOUS DIMMING) TO REDUCE LIGHT OUTPUT WHEN DAYLIGHT IS AVAILABLE, WITH AT LEAST ONE CONTROL STEP BETWEEN 50% AND 80% OF DESIGN LIGHTING POWER AND ONE CONTROL STEP THAT IS NO GREATER THAN 35% (INCLUDING OFF) OF DESIGN LIGHTING POWER.

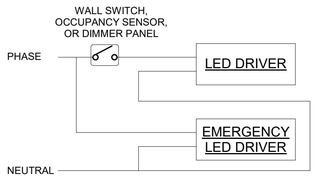
PROVIDE MANUAL CONTROL DEVICE TO INDEPENDENTLY CONTROL GENERAL LIGHTING WITH AT LEAST ONE CONTROL STEP BETWEEN 30% AND 80% OF DESIGN LIGHTING POWER IN ADDITION TO ALL OFF.

AUTOMATIC OFF WITHIN 15 MINUTES OF OCCUPANT LEAVING ROOM.

NOTES:
1. REFERENCE LIGHTING PLANS FOR CIRCUIT NUMBER .
2. THE POWER PACK MUST BE CONNECTED TO A SINGLE PHASE HOT AND NEUTRAL SYSTEM.
3. FOR 120 VAC, CONNECT BLACK WIRE TO HOT, WHITE WIRE TO NEUTRAL, AND CAP OFF THE ORANGE/RED WIRE.
4. FOR 277 VAC, CONNECT ORANGE WIRE TO HOT, WHITE WIRE TO NEUTRAL, AND CAP OFF THE BLACK WIRE.
5. NEVER CONNECT BOTH THE BLACK AND ORANGE WIRES.
6. REFERENCE RECEPTACLE PLANS FOR SPLIT YOKE RECEPTACLE CIRCUIT NUMBER.

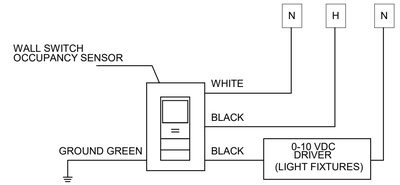
A1 WALL OCCUPANCY SENSOR W/ RECEPTACLE CONTROL

NTS



M9 EMERGENCY LED DRIVER WIRING DIAGRAM

NTS



CONTROL SEQUENCE:

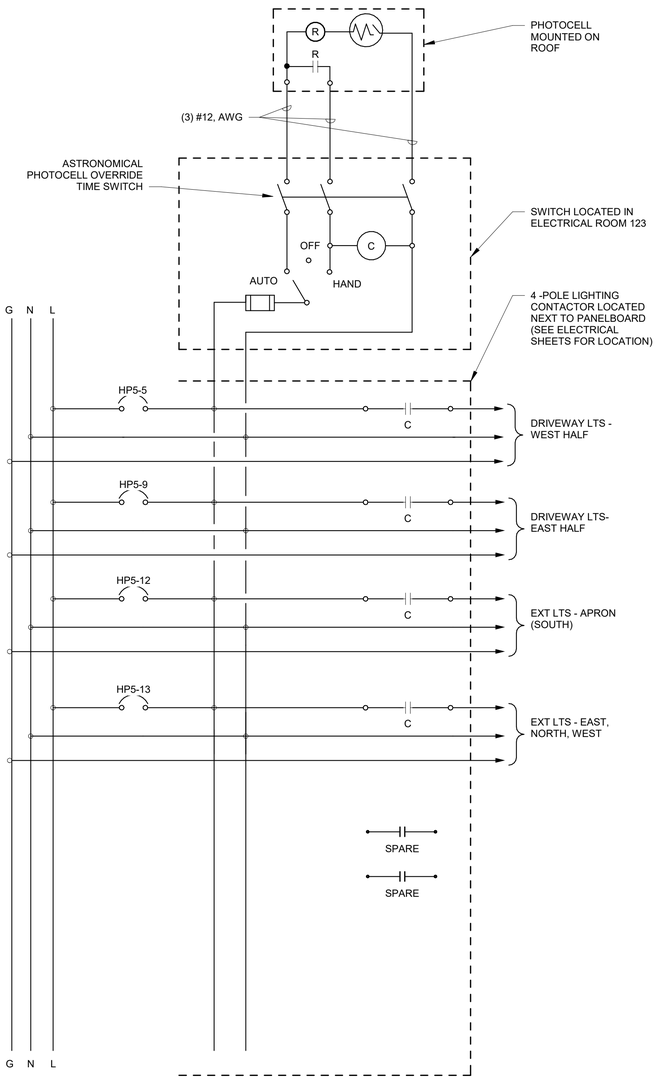
AUTOMATIC ON TO FULL DESIGN LIGHTING POWER WHEN OCCUPANT ACTIVITY IS SENSED.

AUTOMATIC OFF WITHIN 15 MINUTES OF NO OCCUPANT ACTIVITY SENSED.

NOTE:
REFERENCE LIGHTING PLANS FOR CIRCUIT NUMBER .

M13 WALL OCCUPANCY SENSOR

NTS



A10 LCP EXTERIOR LIGHTING CONTACTOR SCHEMATIC

12" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

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TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

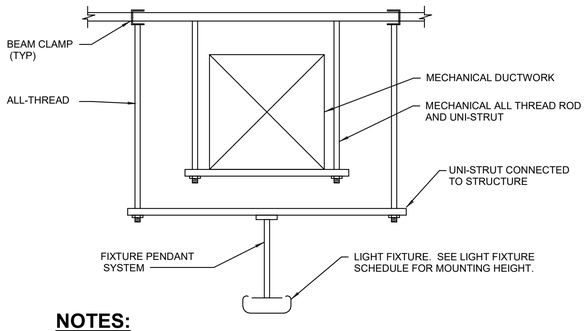
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING DETAILS

SHEET ID

EL501

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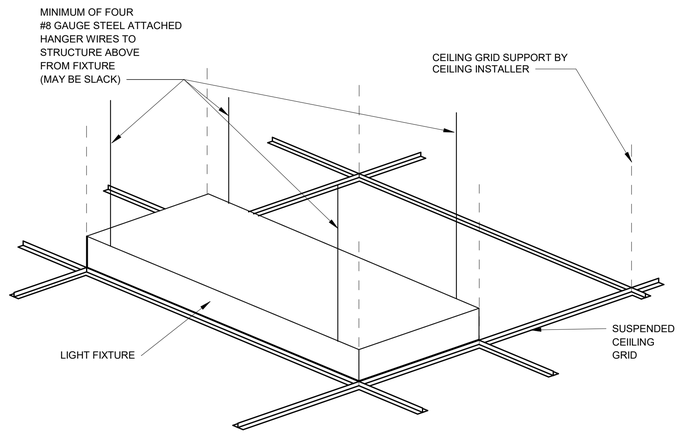


NOTES:

1. DETAIL IS FOR TYPICAL ROUTING. CONTRACTOR MUST ROUTE UNI-STRUT AND ALL THREAD ROD AS REQUIRED TO HANG LIGHT FROM STRUCTURE ABOVE.

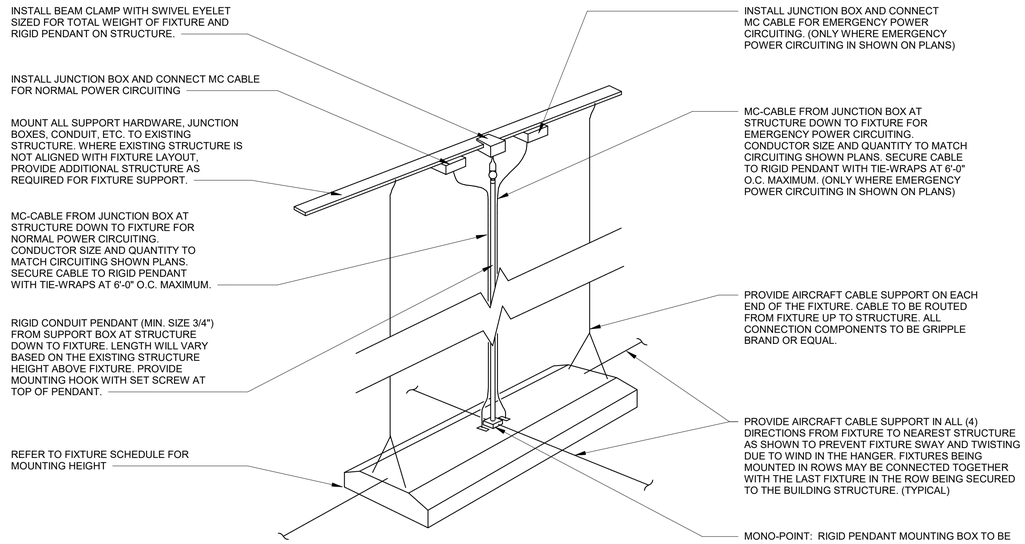
G1 LIGHT FIXTURE PENDANT MOUNTING DETAIL

NTS



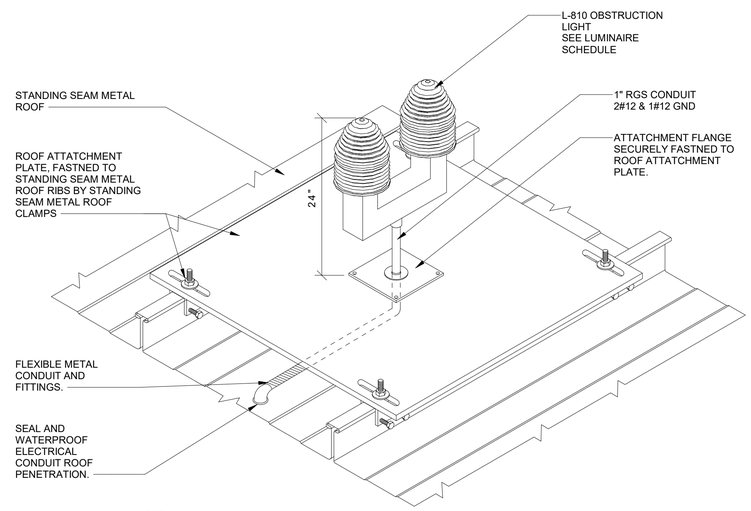
G7 TYPICAL RECESSED FIXTURE DETAIL

NTS



A4 HANGAR LIGHT FIXTURE SEISMIC MOUNTING DETAIL

NTS



NOTE:
LOCATE THE PENETRATION CENTERED ABOUT THE WIDTH OF THE PANEL, DO NOT PENETRATE THROUGH PANEL RIBS.

A13 OBSTRUCTION LIGHT MOUNTING DETAIL

1 1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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FILE NAME: E4NG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING DETAILS

SHEET ID

EL502

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LIGHTING FIXTURE SCHEDULE

TYPE	QUANTITY	DESCRIPTION	LAMP TYPE	WATTAGE	VOLTAGE	CCT	MIN CRI	NOMINAL FIXTURE...	MOUNTING STYLE	MOUNTING HEIGHT	REMARKS
A	2	RECESSED 2' X 2' TROFFER	LED	23 W	277V	4000 K	80	2275 lm	RECESSED	9'	
AE	8	RECESSED 2' X 2' TROFFER WITH EMERGENCY BATTERY BACKUP	LED	23 W	277V	4000 K	80	2275 lm	RECESSED	9'	
B	8	RECESSED 2' X 2' TROFFER	LED	30 W	277V	4000 K	80	2839 lm	RECESSED	9'	
BE	8	RECESSED 2' X 2' TROFFER WITH EMERGENCY BATTERY BACKUP	LED	30 W	277V	4000 K	80	2839 lm	RECESSED	9'	
C	5	4" RECESSED DOWNLIGHT	LED	10 W	277V	4000 K	80	574 lm	RECESSED	9'	
CE	6	4" RECESSED DOWNLIGHT WITH EMERGENCY BATTERY BACKUP	LED	10 W	277V	4000 K	80	574 lm	RECESSED	9'	
D	1	4" RECESSED DOWNLIGHT	LED	16 W	277V	4000 K	80	999 lm	RECESSED	9'	
DE	1	4" RECESSED DOWNLIGHT WITH EMERGENCY BATTERY BACKUP	LED	16 W	277V	4000 K	80	999 lm	RECESSED	9'	
E	14	4' INDUSTRIAL LINEAR PENDANT	LED	30 W	277V	4000 K	80	2045 lm	SUSPENDED	9'	REFER TO EL107 FOR MOUNTING HEIGHT AT CATWALK
EE	25	4' INDUSTRIAL LINEAR PENDANT WITH EMERGENCY BATTERY BACKUP	LED	30 W	277V	4000 K	80	2045 lm	SUSPENDED	9'	REFER TO EL107 FOR MOUNTING HEIGHT AT CATWALK
F	9	4' INDUSTRIAL LINEAR PENDANT	LED	48 W	277V	4000 K	80	4512 lm	SUSPENDED	9'	
FE	7	4' INDUSTRIAL LINEAR PENDANT WITH EMERGENCY BATTERY BACKUP	LED	48 W	277V	4000 K	80	4512 lm	SUSPENDED	9'	
G	18	INDUSTRIAL HIGH BAY	LED	357 W	277V	4000 K	80	58613 lm	SUSPENDED	29'-6"	
GE	18	INDUSTRIAL HIGH BAY WITH INVERTER BACKUP	LED	357W	277V	4000 K	80	58613 lm	SUSPENDED	29'-6"	
H	1	4' LINEAR WALL MOUNTED LED	LED	20 W	277V	4000 K	80	1900 lm	SURFACE	8'	
I	1	2' LINEAR WALL MOUNTED LED	LED	17 W	277V	4000 K	80	1700 lm	SURFACE	8'	
P1	21	POLE MOUNTED PARKING LOT LIGHT	LED	137 W	277V	3000 K	70	11640 lm	POLE	30'	
P2	20	POLE MOUNTED PARKING LOT LIGHT	LED	145 W	277V	3000 K	70	12317 lm	POLE	30'	
P3	8	POLE MOUNTED ROADWAY LIGHT	LED	143 W	277V	3000 K	70	12181 lm	POLE	30'	
W1	2	OUTDOOR LED WALL PACK	LED	23 W	277V	3000 K	70	2964 lm	WALL	10'	REFER TO EL201 &EL202
W1E	13	OUTDOOR LED WALL PACK WITH EMERGENCY BATTERY BACKUP	LED	23 W	277V	3000 K	70	2964 lm	WALL	10'	REFER TO EL201 &EL202
W2	6	OUTDOOR LED WALL PACK	LED	35 W	277V	3000 K	70	4287 lm	WALL	17.5'	
W3	7	WALL MOUNTED FLOOD LIGHT FULL VISOR	LED	163 W	277V	3000 K	70	23867 lm	WALL	32.5'	
X1	18	EDGE-LIT EXIT SIGNAGE	LED	5 W	277V	N/A	N/A	N/A	SURFACE	8'	
Z	6	DOUBLE AVIATION OBSTRUCTION LIGHT	INCANDESCENT	116 W	277V	N/A	N/A	N/A	ROOF	VARYING HEIGHT	38' ON EDGES, 46' ON CENTER

GENERAL USE GLOBAL ILLUMINANCE RESULTS

CALCULATION POINT NAME	ROOM NUMBER	AVERAGE	MAXIMUM	MINIMUM	AVG/MIN	MAX/MIN
ENTRY VESTIBULE	100	8 FC	9 FC	7 FC	1.1	1.3
CORRIDOR	101	8 FC	14 FC	4 FC	2.2	4
FIRE PUMP	102	29 FC	37 FC	17 FC	1.7	2.1
TOOL RM/ALIS STATION	103	26 FC	37 FC	11 FC	2.3	3.3
ELECTRICAL	104	29 FC	36 FC	20 FC	1.5	1.8
MECHANICAL	105	27 FC	37 FC	11 FC	2.5	3.3
HOIST BAY - AREA 1	106	65 FC	84 FC	39 FC	1.7	2.1
HOIST BAY - AREA 2	106	67 FC	84 FC	42 FC	1.6	2
HOIST BAY - AREA 3	106	77 FC	93 FC	54 FC	1.4	1.7
HOIST BAY - AREA 4	106	78 FC	93 FC	57 FC	1.4	1.6
HOIST BAY - AREA 5	106	65 FC	84 FC	40 FC	1.6	2
HOIST BAY - AREA 6	106	67 FC	84 FC	42 FC	1.6	2
VEST	107	9 FC	11 FC	6 FC	1.5	1.9
JAN	108	11 FC	12 FC	11 FC	1	1
RVE STORAGE	109	17 FC	19 FC	12 FC	1.4	1.5
MOTHER'S RM	110	23 FC	28 FC	18 FC	1.3	1.5
OFFICE	111	43 FC	52 FC	32 FC	1.3	1.5
VEST	112	10 FC	11 FC	8 FC	1.3	1.5
MAINTENANCE BAY - AREA 1	113	66 FC	84 FC	41 FC	1.6	2.1
MAINTENANCE BAY - AREA 2	113	67 FC	85 FC	41 FC	1.6	2.1
MAINTENANCE BAY - AREA 3	113	77 FC	93 FC	56 FC	1.4	1.7
MAINTENANCE BAY - AREA 4	113	77 FC	93 FC	55 FC	1.4	1.7
MAINTENANCE BAY - AREA 5	113	66 FC	85 FC	40 FC	1.6	2.1
MAINTENANCE BAY - AREA 6	113	66 FC	85 FC	40 FC	1.7	2.1
ALCOVE	114	10 FC	11 FC	8 FC	1.2	1.3
ELECTRICAL	115	24 FC	25 FC	23 FC	1.1	1.1
COMM	116	52 FC	63 FC	46 FC	1.1	1.4
WOMEN'S TOILET	117	10 FC	13 FC	4 FC	2.6	3.6
MEN'S TOILET	118	13 FC	17 FC	7 FC	1.8	2.4
VEST	119	9 FC	11 FC	6 FC	1.5	1.9
WASH BAY- AREA 1	120	68 FC	93 FC	39 FC	1.7	2.4
WASH BAY - AREA 2	120	68 FC	93 FC	38 FC	1.8	2.4
WASH BAY - AREA 3	120	80 FC	102 FC	53 FC	1.5	1.9
WASH BAY - AREA 4	120	79 FC	102 FC	52 FC	1.5	1.9
WASH BAY AREA 5	120	67 FC	92 FC	38 FC	1.8	2.4
WASH BAY - AREA 6	120	68 FC	92 FC	38 FC	1.8	2.4
WASH EQUIPMENT	121	28 FC	38 FC	21 FC	1.4	1.9
MECHANICAL	122	26 FC	36 FC	9 FC	2.7	3.8
ELECTRICAL	123	31 FC	43 FC	23 FC	1.4	1.9
EXTERIOR LTS - NORTH		3 FC	5 FC	2 FC	1.7	2.5
EXTERIOR LTS - WEST		3 FC	4 FC	2 FC	1.7	2.8
EXTERIOR LTS - EAST		2 FC	3 FC	1 FC	2	2.7
EXTERIOR LTS - SOUTH		6 FC	14 FC	2 FC	2.9	6.7
CATWALK - HOIST BAY		8 FC	12 FC	1 FC	5.6	8.3
CATWALK - MAINTENANCE BAY		6 FC	13 FC	1 FC	5.3	10.8
CATWALK - WASH BAY		7 FC	12 FC	1 FC	8.3	15
PARKING SPACE		2.0 FC	2.3 FC	0.88 FC	2.3	4.1
SITE PLAN - LIGHTING		2 FC	4 FC	0.4 FC	5.2	9.1
TEMP PARKING LOT		2.6 FC	3.7 FC	0.36 FC	7.3	10

EMERGENCY ILLUMINANCE RESULTS

CALCULATION POINT NAME	ROOM NUMBER	AVERAGE	MAXIMUM	MINIMUM	AVG/MIN	MAX/MIN
ENTRY VESTIBULE	100	8 FC	9 FC	7 FC	1.1	1.2
CORRIDOR	101	5 FC	10 FC	2 FC	3.3	5.9
FIRE PUMP	102	10 FC	13 FC	5 FV	2.1	2.8
TOOL RM/ALIS STATION	103	14 FC	25 FC	5 FC	2.8	4.9
ELECTRICAL	104	15 FC	20 FC	10 FC	1.4	1.9
MECHANICAL	105	5 FC	10 FC	2 FC	2.6	5
HOIST BAY - AREA 1	106	31 FC	39 FC	20 FC	1.6	2
HOIST BAY - AREA 2	106	28 FC	40 FC	13 FC	2.2	3.1
HOIST BAY - AREA 3	106	34 FC	45 FC	20 FC	1.7	2.2
HOIST BAY - AREA 4	106	37 FC	43 FC	26 FC	1.4	1.6
HOIST BAY - AREA 5	106	30 FC	38 FC	19 FC	1.6	2
HOIST BAY - AREA 6	106	28 FC	39 FC	12 FC	2.2	3.2
VEST	107	31 FC	43 FC	14 FC	2.2	3.1
JAN	108	7 FC	9 FC	5 FC	1.6	2.1
RVE STORAGE	109	9 FC	10 FC	7 FC	1.3	1.5
MOTHER'S RM	110	22 FC	27 FC	18 FC	1.3	1.5
OFFICE	111	7 FC	10 FC	5 FC	1.4	1.8
VEST	112	31 FC	43 FC	13 FC	2.3	3.2
MAINTENANCE BAY - AREA 1	113	28 FC	41 FC	12 FC	2.4	3.5
MAINTENANCE BAY - AREA 2	113	32 FC	40 FC	20 FC	1.6	2
MAINTENANCE BAY - AREA 3	113	37 FC	43 FC	26 FC	1.4	1.7
MAINTENANCE BAY - AREA 4	113	35 FC	45 FC	21 FC	1.7	2.1
MAINTENANCE BAY - AREA 5	113	27 FC	40 FC	11 FC	2.4	3.5
MAINTENANCE BAY - AREA 6	113	9 FC	10 FC	8 FC	1.1	1.2
ALCOVE	114	7 FC	10 FC	5 FC	1.6	2.1
ELECTRICAL	115	21 FC	22 FC	20 FC	1.1	1.1
COMM	116	7 FC	10 FC	5 FC	1.5	2
WOMEN'S TOILET	117	32 FC	44 FC	14 FC	2.3	3.1
MEN'S TOILET	118	7 FC	10 FC	2 FC	3.3	4.5
VEST	119	7 FC	14 FC	3 FC	3	5.4
WASH BAY - AREA 1	120	29 FC	43 FC	14 FC	2	3
WASH BAY - AREA 2	120	33 FC	44 FC	20 FC	1.7	2.2
WASH BAY - AREA 3	120	40 FC	47 FC	30 FC	1.3	1.6
WASH BAY - AREA 4	120	35 FC	49 FC	20 FC	1.8	2.5
WASH BAY - AREA 5	120	27 FC	44 FC	10 FC	2.7	4.3
WASH BAY - AREA 6	120	32	43 FC	17 FC	1.9	2.6
WASH EQUIPMENT	121	5 FC	13 FC	2 FC	2.4	6
MECHANICAL	122	12 FC	23 FC	3 FC	4	7
ELECTRICAL	123	8 FC	18 FC	1 FC	6.1	14
EXTERIOR LTS- NORTH		2 FC	4 FC	1 FC	2.8	4.6
EXTERIOR LTS - WEST		1.6 FC	3.4 FC	0.92 FC	1.7	3.6
EXTERIOR LTS - EAST		1 FC	2.2 FC	0.13 FC	7.5	17
EXTERIOR LTS - SOUTH		1.3 FC	2.4 FC	0.27 FC	4.6	8.8
CATWALK - HOIST BAY	106	4.7 FC	11 FC	1.2 FC	4	9.3
CATWALK - MAINTENANCE...	113	4.6 FC	11 FC	1 FC	4.5	11
CATWALK - WASH BAY	120	4.8 FC	10 FC	0.97 FC	4.9	11

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MARK	DESCRIPTION	DATE

C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MEECDRAFT.rvt

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
SIZE: ANSI D

DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:

File Path:
Plot Date: 10/20/2025 2:26:45 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

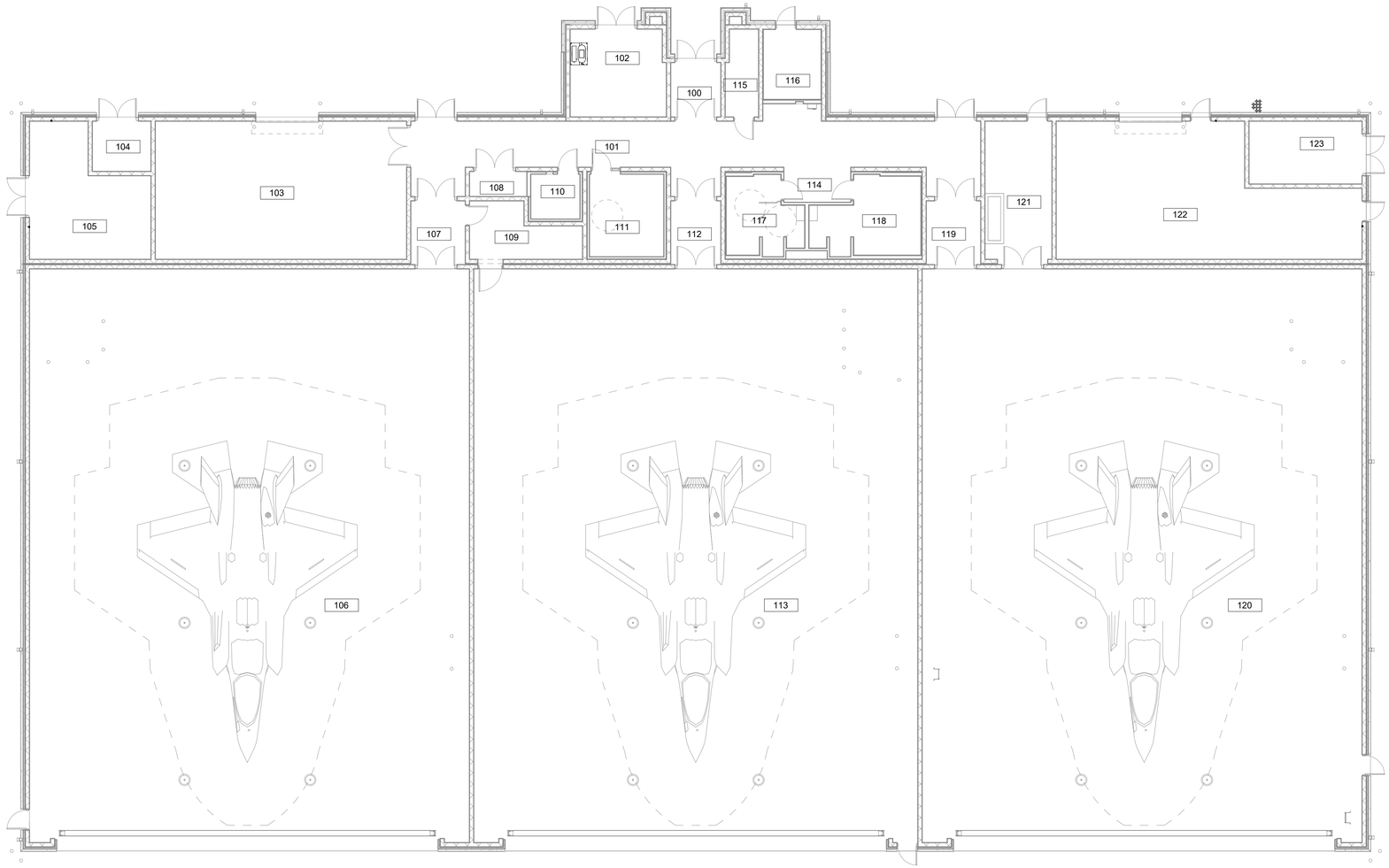
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING SCHEDULES

SHEET ID

EL601

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B1 LIGHTING CONTROL PLAN

3/32" = 1'-0"

GENERAL NOTES

1. CONTRACTOR MUST PREPARE SHOP DRAWINGS INDICATING QUANTITY AND LOCATIONS OF OCCUPANCY SENSORS PER MANUFACTURE'S RECOMMENDATION FOR THE SPACE BEING CONTROLLED.
2. SHOP DRAWINGS MUST INCLUDE SCHEMATICS OF THE PROPOSED LIGHTING CONTROLS FOR EACH TYPE OF CONTROL SCHEME. SCHEMATICS MUST INCLUDE WIRING DIAGRAMS AND COMPONENT PART NUMBERS.
3. SEE LIGHTING CONTROLS DETAILS ON SHEET EL 501 FOR ADDITIONAL INFORMATION.

LIGHTING CONTROL MATRIX SCHEME NOTES:

1. SPACES INDICATED WITH "OC1" MUST HAVE THE FOLLOWING FEATURES AND FUNCTIONS:
   A. CEILING MOUNTED OCCUPANCY SENSOR THAT TURNS LIGHTS ON AUTOMATICALLY TO 100% LEVEL. PLACE SENSOR SO IT MUST DETECT OCCUPANT WITHIN 5FT OF EACH ENTRY POINT OF DESIGNATED SPACE. SENSOR MUST BE PLACED THROUGH DESIGNATED SPACE TO ENSURE FULL COVERAGE.
   B. USER MUST HAVE CAPABILITY OF TURNING LIGHTS COMPLETELY OFF THROUGH LOCAL WALL SWITCH. LIGHTING MUST AUTOMATICALLY TURN OFF WHEN OCCUPANTS HAVE BEEN ABSENT FOR 20 MINUTES.
   C. EACH SPACE MUST HAVE A DEDICATED LOCAL CONTROL SCHEME USING STANDARD "OFF THE SHELF" COMPONENTS. A CENTRAL RELAY/CONTROL PANEL MUST NOT BE UTILIZED.
2. SPACES INDICATED WITH "OC2" MUST HAVE THE FOLLOWING FEATURES AND FUNCTIONS:
   A. CEILING MOUNTED OCCUPANCY SENSOR THAT TURNS LIGHTS ON AUTOMATICALLY TO 50% LEVEL. PLACE SENSOR SO IT MUST DETECT OCCUPANT WITHIN 5FT OF EACH ENTRY POINT OF DESIGNATED SPACE. SENSOR MUST BE PLACED THROUGH DESIGNED SPACE TO ENSURE FULL COVERAGE.
   B. EXPECT IN RVE STORAGE, JANITORS CLOSET AND STORAGE ROOM, USER MUST HAVE CAPABILITY OF MANUAL FULL RANGE DIMMING OF LIGHTS VIA LOCAL DIMMER SWITCH WITH RAISE/LOWER. INDIVIDUAL OFFICE SHALL HAVE LIGHTS DIMMED BETWEEN 30% TO 70% LEVEL. AUTOMATIC RESPONSIVE DAYLIGHT SHALL BE INCORPORATED IF DAYLIGHT IS PRESENT.
   C. USER MUST HAVE CAPABILITY OF TURNING LIGHTS COMPLETELY OFF THROUGH LOCAL WALL SWITCH. LIGHTS MUST AUTOMATICALLY TURN OFF WHEN OCCUPANTS HAVE BEEN ABSENT FOR 10 MINUTES IN STORAGE ROOMS AND LIGHTS MUST AUTOMATICALLY TURN OFF WHEN OCCUPANTS HAVE BEEN ABSENT FOR 20 MINUTES IN OFFICE SPACE.
   D. EACH SPACE MUST HAVE A DEDICATED LOCAL CONTROL SCHEME USING STANDARD "OFF THE SHELF" COMPONENTS. A CENTRAL RELAY/CONTROL PANEL MUST NOT BE UTILIZED.
3. SPACES INDICATED WITH "OC3" MUST HAVE THE FOLLOWING FEATURES AND FUNCTIONS:
   A. OCCUPANCY SENSOR TO BE MOUNTED AT EACH ENTRY POINT FOR CEILING MOUNTED OCCUPANCY SENSOR FOR CORRIDORS THAT TURNS LIGHTS ON TO 100% LEVEL AS OCCUPANT ENTERS THE AREA WITHIN 5 FT OF EACH ENTRY POINT.
   B. LIGHTING SHALL BE REDUCED TO 50% LEVEL WHEN OCCUPANTS HAVE BEEN ABSENT FOR 20 MINUTES.
   C. EACH SPACE MUST HAVE A DEDICATED LOCAL CONTROL SCHEME USING STANDARD "OFF THE SHELF" COMPONENTS. A CENTRAL RELAY/CONTRL PANEL MUST NOT BE UTILIZED.
4. SPACES INDICATD WITH "OC4" MUST HAVE THE FOLLOWING FEATURES AND FUNCTIONS:
   A. CEILING MOUNTED OCCUPANCY SENSOR THAT TURNS LIGHTS ON AUTOMATICALLY TO 100% . MANUAL ON SWITCHING WHEN OCCUPANT ENTERS THE HANGAR.
   B. AUTOMATIC DAYLIGHT DIMMING PER ZONE. HOIST BAY AND WASH BAY HAVE TRANSLUCENT PANELS ON THE FRONT (NORTH WALL) AND ON SIDE WALLS (EAST AND WEST) AND MIDDLE MAINTENANCE BAY HAS THE TRANSLUCENT PANEL ON THE FRONT (NORTH WALL). THE DAYLIGHT SENSOR SHALL COORDINATE WITH CEILING MOUNTED SENSORS TO DIM THE LIGHTS AT THESE ZONES.
   C. USER MUST HAVE THE CAPABILITY OF TURNING LIGHTS OFF COMPLETELY THROUGH WALL SWITCH. LIGHTS SHALL HAVE CAPABILITY OF DIMMING BETWEEN 30% AND 70% OF FULL LIGHTING POWER. SENSORS SHALL AUTOMATICALLY DIM THE LIGHTS BY AT LEAST 20% AFTER 20 MINUTES OF VACANCY.
   D. OCCUPANCY/VACANCY AUTOMATIC OFF IS NOT ALLOWED.
   E. EACH SPACE MUST HAVE A DEDICATED LOCAL CONTROL SCHEME USING STANDARD "OFF THE SHELF" COMPONENTS. A CENTRAL RELAY/CONTROL PANEL MUST NOT BE UTILIZED.
5. SPACES INDICATED WITH "OC5" MUST HAVE THE FOLLOWING FEATURES AND FUNCTIONS:
   A. WALL MOUNTED OCCUPANCY SENSOR THAT TURNS LIGHTS ON AUTOMATICALLY TO 50% LEVEL. PLACE SENSOR SO IT MUST DETECT OCCUPANT WITHIN 5 FT OF EACH ENTRY POINT OF DESIGNATED SPACE AND TO ENSURE FULL COVERAGE.
   B. USER MUST HAVE CAPABILITY OF MANUAL FULL RANGE DIMMING OF LIGHTS VIA LOCAL DIMMER SWITCH WITH RAISE/LOWER. MOTHER'S ROOM SHALL HAVE LIGHTS DIMMED BETWEEN 30% TO 50% LEVEL.
   C. USER MUST HAVE CAPABILITY OF TURNING LIGHTS COMPLETELY OFF THROUGH LOCAL WALL SWITCH. LIGHTS MUST AUTOMATICALLY TURN OFF WHEN OCCUPANTS HAVE BEEN ABSENT FOR 20 MINUTES IN MOTHER'S ROOM.
   D. EACH SPACE MUST HAVE A DEDICATED LOCAL CONTROL SCHEME USING STANDARD "OFF THE SHELF" COMPONENTS. A CENTRAL RELAY/CONTROL PANEL MUST NOT BE UTILIZED.
6. SPACES INDICATED WITH "SW" MUST HAVE THE FOLLOWING FEATURES AND FUNCTIONS:
   A. STANDARD LOCAL SNAP-SWITCH FOR COMPLETELY MANUAL CONTROL OF ON-OFF BY USER.
7. SPACES INDICATED WITH "AO" MUST NOT HAVE ANY CONTROL FUNCTIONS:
   A. LIGHTS MUST BE LEFT UNSWITCHED AND LEFT ON TO 100% LEVEL AT ALL TIMES.

LIGHTING CONTROLS MATRIX

NAME	ROOM...	CONTROLS	IES/UFC...	IES/UFC...
ENTRY VEST	100	AO	BUILDING ENTRY VESTIBULES	15 fc at floor
CORRIDOR	101	OC3	CORRIDOR	5 fc at floor
FIRE PUMP	102	SW	MECHANICAL	20 fc at 3'6" AFF
TOOL RM/ALIS STATION	103	OC2	OPEN OFFICE	30 fc at 2'6" AFF
ELECTRICAL	104	SW	MECHANICAL	20 fc at 3'6" AFF
MECHANICAL	105	SW	MECHANICAL	20 fc at 3'6" AFF
HOIST BAY	106	OC4	AIRCRAFT HANGER BAY	50 fc at 2'6" AFF
VEST	107	AO	SECONDARY BLDG ENTRANCE	10 fc at floor
JAN	108	OC2	STORAGE	10 fc at floor
RVE STORAGE	109	OC2	STORAGE	10 fc at floor
MOTHER'S RM	110	OC5	NURSING & LACTATION RM	20 fc at 2'6" AFF
OFFICE	111	OC2	INDIV. OFFICE	30 fc at 2'6" AFF
VEST	112	AO	SECONDARY BLG ENTRANCE	10 fc at floor
MAINTENANCE BAY	113	OC4	AIRCRAFT HANGER BAY	50 fc at 2'6" AFF
ALCOVE	114	AO	CORRIDOR	5 fc at floor
ELECTRICAL	115	SW	MECHANICAL	20 fc at 3'6" AFF
COMM	116	SW	TELECOMM	50 fc at 3'0" AFF
WOMEN'S TOILET	117	OC1	RESTROOMS	5 fc at foor
MEN'S TOILET	118	OC1	RESTROOMS	5 fc at floor
VEST	119	AO	SECONARDY BLDG ENTRANCE	10 fc at floor
WASH BAY	120	OC4	AIRCRAFT HANGER BAY	50 fc at 2'6" AFF
WASH EQUIPMENT	121	SW	MECHANICAL	20 fc at 3'6" AFF
MECHANICAL	122	SW	MECHANICAL	20 fc at 3'6" AFF
ELECTRICAL	123	SW	MECHANICAL	20 fc 3'6" AFF

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J.AMATYA
DRAWN BY: J.AMATYA
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

LIGHTING CONTROL PLAN

SHEET ID
EL602

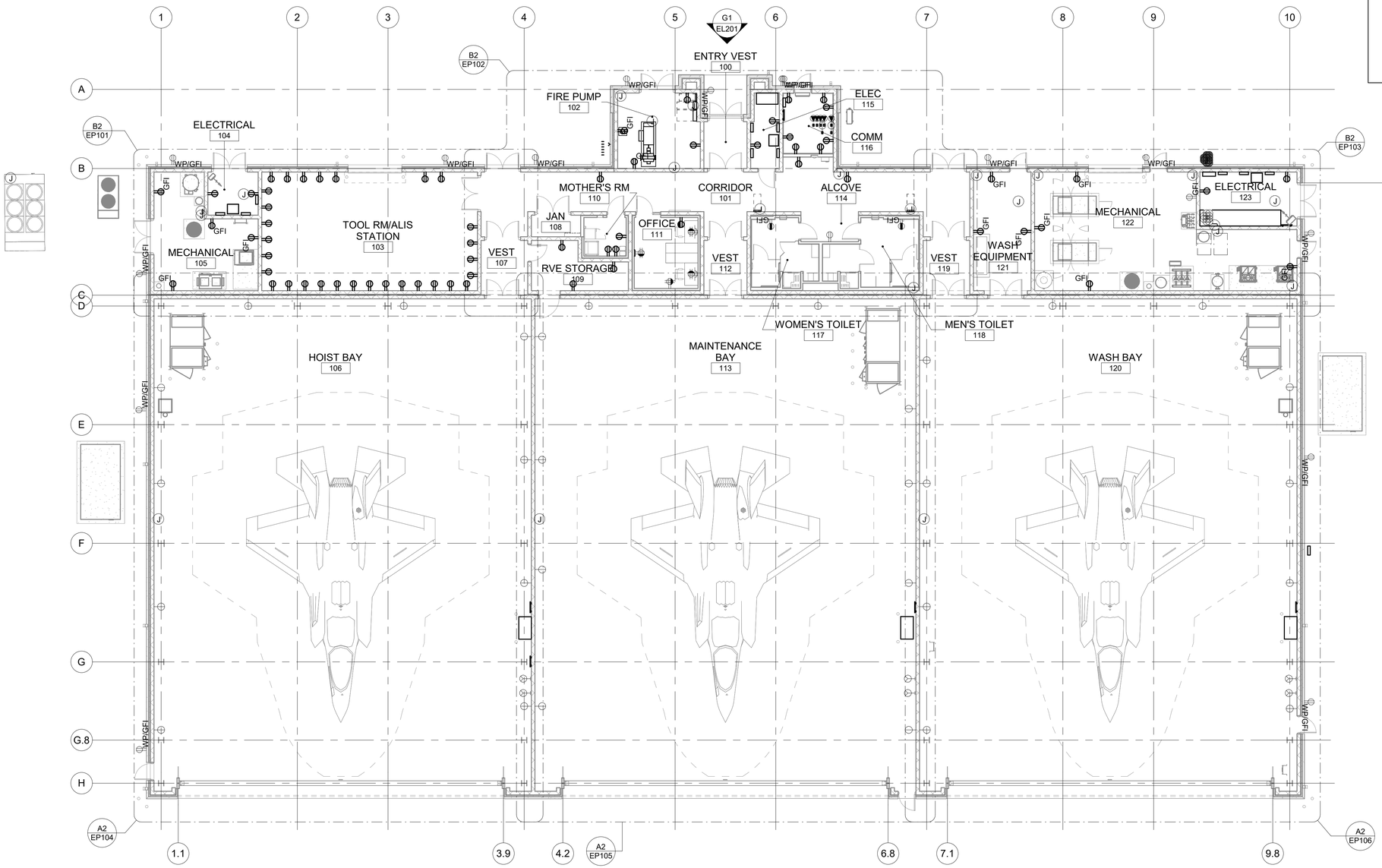
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GENERAL NOTES

1. ALL EXTERIOR OUTLETS SHALL BE GFCI AND WEATHER PROOF IN USE TYPE.
2. PROVIDE ON/OFF CONTROL FOR 50% OF RECEPTACLES IN ALL PRIVATE OFFICES, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR PRINTING AND/OR COPYING FUNCTIONS, BREAK ROOMS (TO EXCLUDE APPLIANCE CIRCUITS), CLASSROOMS, AND INDIVIDUAL WORKSTATIONS VIA ROOM OCCUPANCY SENSOR. SEE DETAIL D12 ON SHEET EL501.
3. ALL RECEPTACLES IN HANGAR BAYS MUST BE CLASS I DIVISION 2 RATED, NEMA 4X, AND MOUNTED AT 48" AFF.
4. PROVIDE ELECTRICAL EQUIPMENT SUITABLE FOR LOCATIONS WITH HAZARDOUS CLASSIFICATION. SEE SHEET EP117 FOR HAZARDOUS CLASSIFICATION PLAN.
5. REFER TO MECHANICAL POWER PLAN SHEETS FOR CIRCUITS FEEDING MECHANICAL AND PLUMBING EQUIPMENT.



A1 OVERALL POWER PLAN

3/32" = 1'-0"

PLAN NORTH

0 4' 8' 16' 32'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
SIZE: ANSI D

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:

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ENGINEERING & CONSTRUCTION DIVISION
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PN: 512203

OVERALL POWER PLAN

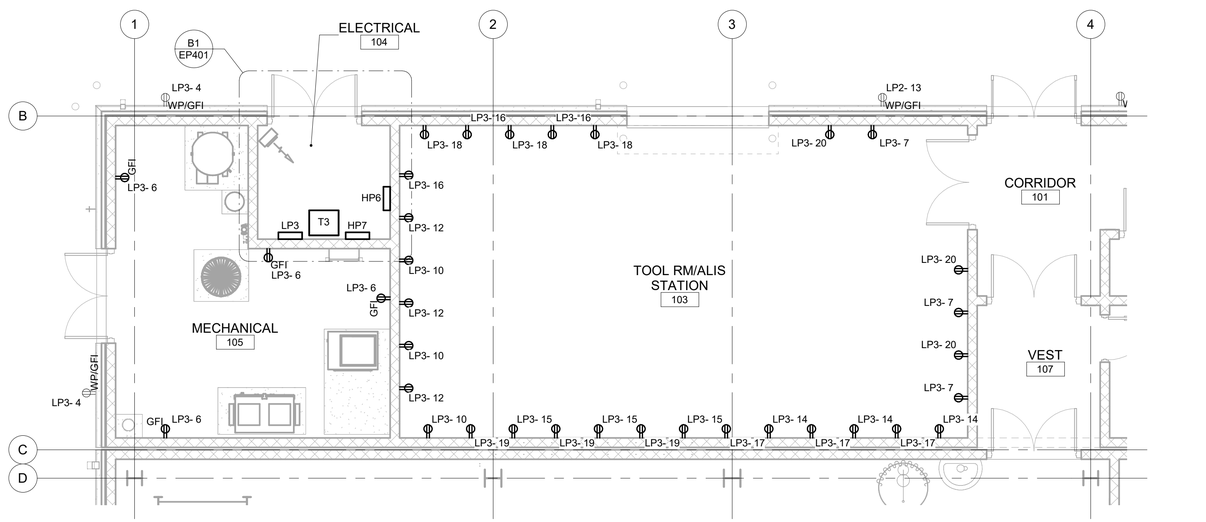
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EP100

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GENERAL NOTES

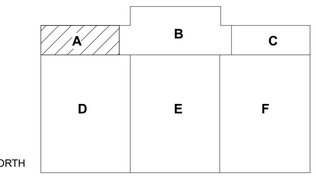
1. UNLESS SPECIFICALLY NOTED, RACEWAYS SHALL BE INSTALLED CONCEALED IN ALL FINISHED AREAS AND EXPOSED IN UNFINISHED AREAS. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT FINISHES.
2. COORDINATE ALL ITEMS TO BE INSTALLED WITH ARCHITECTURAL AND MECHANICAL PLANS AND INSTALL ALL ITEMS AND MATERIALS AS RECOMMENDED BY MANUFACTURER.
3. DO NOT LOCATE ELECTRICAL DEVICES BACK TO BACK IN ANY WALLS.
4. PROVIDE ON/OFF CONTROL FOR 50% OF RECEPTACLES IN ALL PRIVATE OFFICES, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR PRINTING AND/OR COPYING FUNCTIONS, BREAK ROOMS (TO EXCLUDE APPLIANCE CIRCUITS), CLASSROOMS, AND INDIVIDUAL WORKSTATIONS VIA ROOM OCCUPANCY SENSOR. SEE DETAIL D12 ON SHEET EL501.
5. ALL EXTERIOR OUTLETS MUST BE GFI AND WEATHER PROOF IN USE TYPE.
6. RECEPTACLES IN WASH EQUIPMENT ROOM 121 MUST BE INSTALLED 48" AFF.
7. EXTERIOR ELECTRICAL EQUIPMENT WEIGHING MORE THAN 8 LBS/SQFT MUST BE MOUNTED WITH FIELD FABRICATED STRUT CHANNEL RACK. EQUIPMENT MOUNTED TO EXTERIOR WALL MUST BE ATTACHED PER EXTERIOR METAL WALL PANEL MANUFACTURER'S RECOMMENDATION.



B2 POWER PLAN - AREA A

3/16" = 1'-0"

0 2' 4' 8' 16'



PLAN NORTH

KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: C. VELOZ	SOLICITATION NO.: W912BV26RA004
CHECKED BY: S. KUNAPULI, P.E.	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

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F-35: 3 BAY HANGAR
PN: 512203

POWER PLAN - AREA A

SHEET ID

EP101

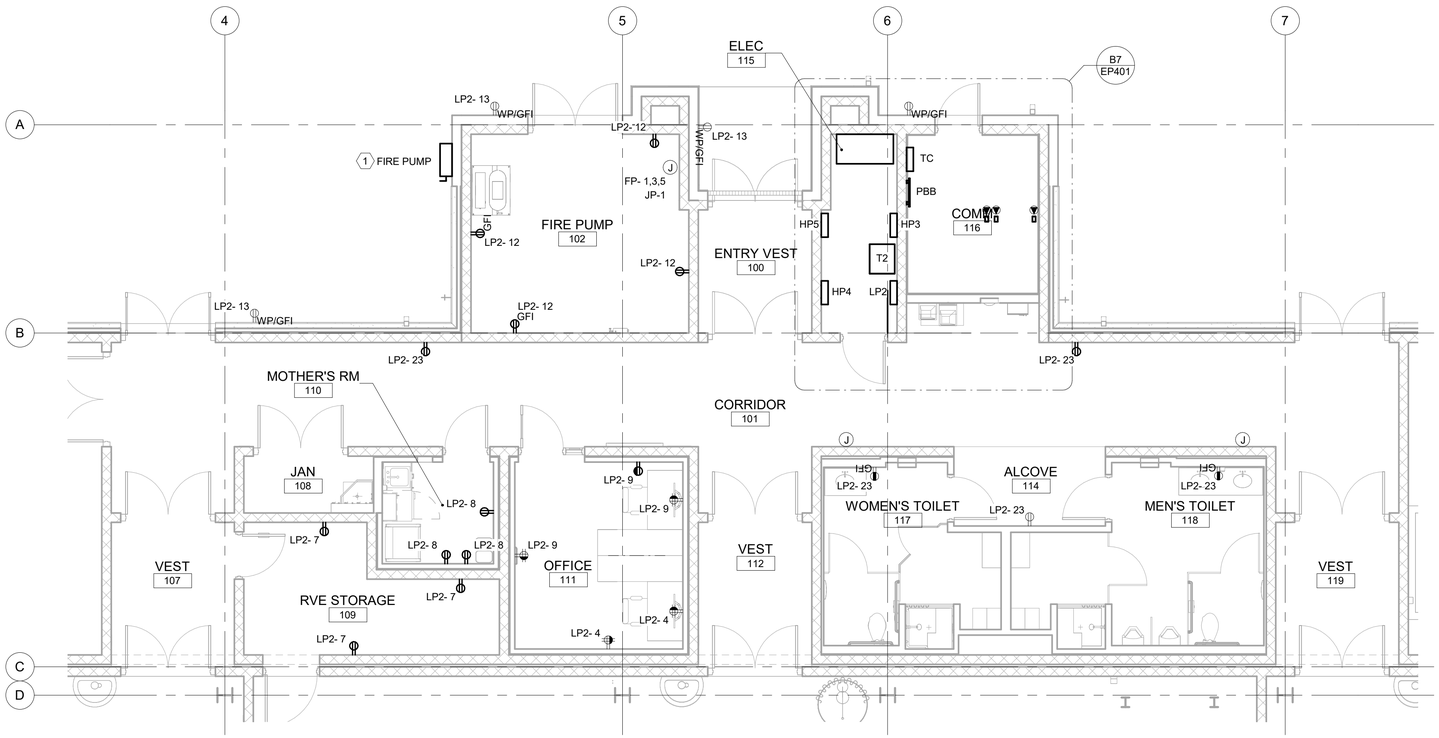
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GENERAL NOTES

1. UNLESS SPECIFICALLY NOTED, RACEWAYS SHALL BE INSTALLED CONCEALED IN ALL FINISHED AREAS AND EXPOSED IN UNFINISHED AREAS. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT FINISHES.
2. COORDINATE ALL ITEMS TO BE INSTALLED WITH ARCHITECTURAL AND MECHANICAL PLANS AND INSTALL ALL ITEMS AND MATERIALS AS RECOMMENDED BY MANUFACTURER.
3. DO NOT LOCATE ELECTRICAL DEVICES BACK TO BACK IN ANY WALLS.
4. PROVIDE ON/OFF CONTROL FOR 50% OF RECEPTACLES IN ALL PRIVATE OFFICES, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR PRINTING AND/OR COPYING FUNCTIONS, BREAK ROOMS (TO EXCLUDE APPLIANCE CIRCUITS), CLASSROOMS, AND INDIVIDUAL WORKSTATIONS VIA ROOM OCCUPANCY SENSOR. SEE DETAIL D12 ON SHEET EL501.
5. ALL EXTERIOR OUTLETS MUST BE GFI AND WEATHER PROOF IN USE TYPE.
6. RECEPTACLES IN WASH EQUIPMENT ROOM 121 MUST BE INSTALLED 48" AFF.
7. EXTERIOR ELECTRICAL EQUIPMENT WEIGHING MORE THAN 8 LBS/SQFT MUST BE MOUNTED WITH FIELD FABRICATED STRUT CHANNEL RACK. EQUIPMENT MOUNTED TO EXTERIOR WALL MUST BE ATTACHED PER EXTERIOR METAL WALL PANEL MANUFACTURER'S RECOMMENDATION.

KEYNOTES

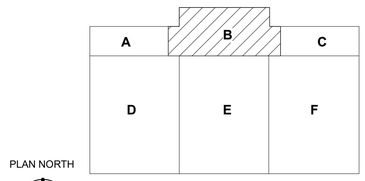
1	400A 600V 3PH HD DISCONNECT WITH 300A FUSES FOR FIRE PUMP SERVICE. REFER TO FIRE PROTECTION PLANS AND COORDINATE WITH FIRE PROTECTION CONTRACTOR FOR LOCATION OF FIRE PUMP CONTROLLER.



B2 POWER PLAN - AREA B

3/16" = 1'-0"

0 2' 4' 8' 16'



PLAN NORTH

KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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PROJECT NO: 512203
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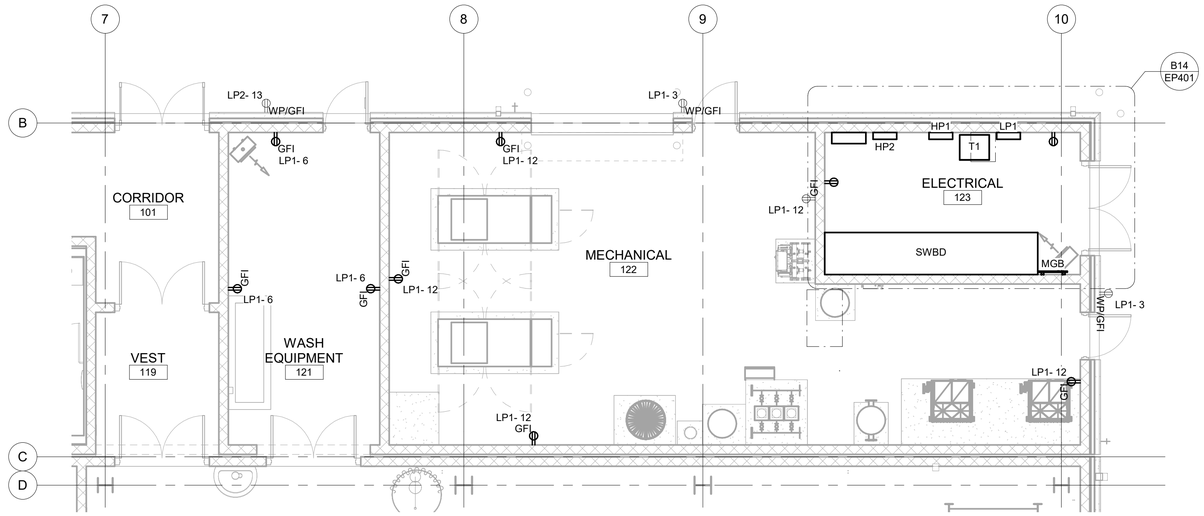
ENGINEERING & CONSTRUCTION DIVISION
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PN: 512203

POWER PLAN - AREA B

SHEET ID
EP102

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B2 POWER PLAN - AREA C

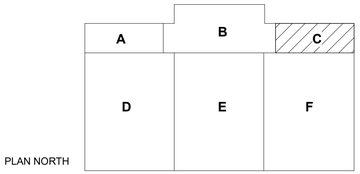
3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL NOTES

1. UNLESS SPECIFICALLY NOTED, RACEWAYS SHALL BE INSTALLED CONCEALED IN ALL FINISHED AREAS AND EXPOSED IN UNFINISHED AREAS. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT FINISHES.
2. COORDINATE ALL ITEMS TO BE INSTALLED WITH ARCHITECTURAL AND MECHANICAL PLANS AND INSTALL ALL ITEMS AND MATERIALS AS RECOMMENDED BY MANUFACTURER.
3. DO NOT LOCATE ELECTRICAL DEVICES BACK TO BACK IN ANY WALLS.
4. PROVIDE ON/OFF CONTROL FOR 50% OF RECEPTACLES IN ALL PRIVATE OFFICES, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR PRINTING AND/OR COPYING FUNCTIONS, BREAK ROOMS (TO EXCLUDE APPLIANCE CIRCUITS), CLASSROOMS, AND INDIVIDUAL WORKSTATIONS VIA ROOM OCCUPANCY SENSOR. SEE DETAIL D12 ON SHEET EL501.
5. ALL EXTERIOR OUTLETS MUST BE GFI AND WEATHER PROOF IN USE TYPE.
6. RECEPTACLES IN WASH EQUIPMENT ROOM 121 MUST BE INSTALLED 48" AFF.
7. EXTERIOR ELECTRICAL EQUIPMENT WEIGHING MORE THAN 8 LBS/SQFT MUST BE MOUNTED WITH FIELD FABRICATED STRUT CHANNEL RACK. EQUIPMENT MOUNTED TO EXTERIOR WALL MUST BE ATTACHED PER EXTERIOR METAL WALL PANEL MANUFACTURER'S RECOMMENDATION.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

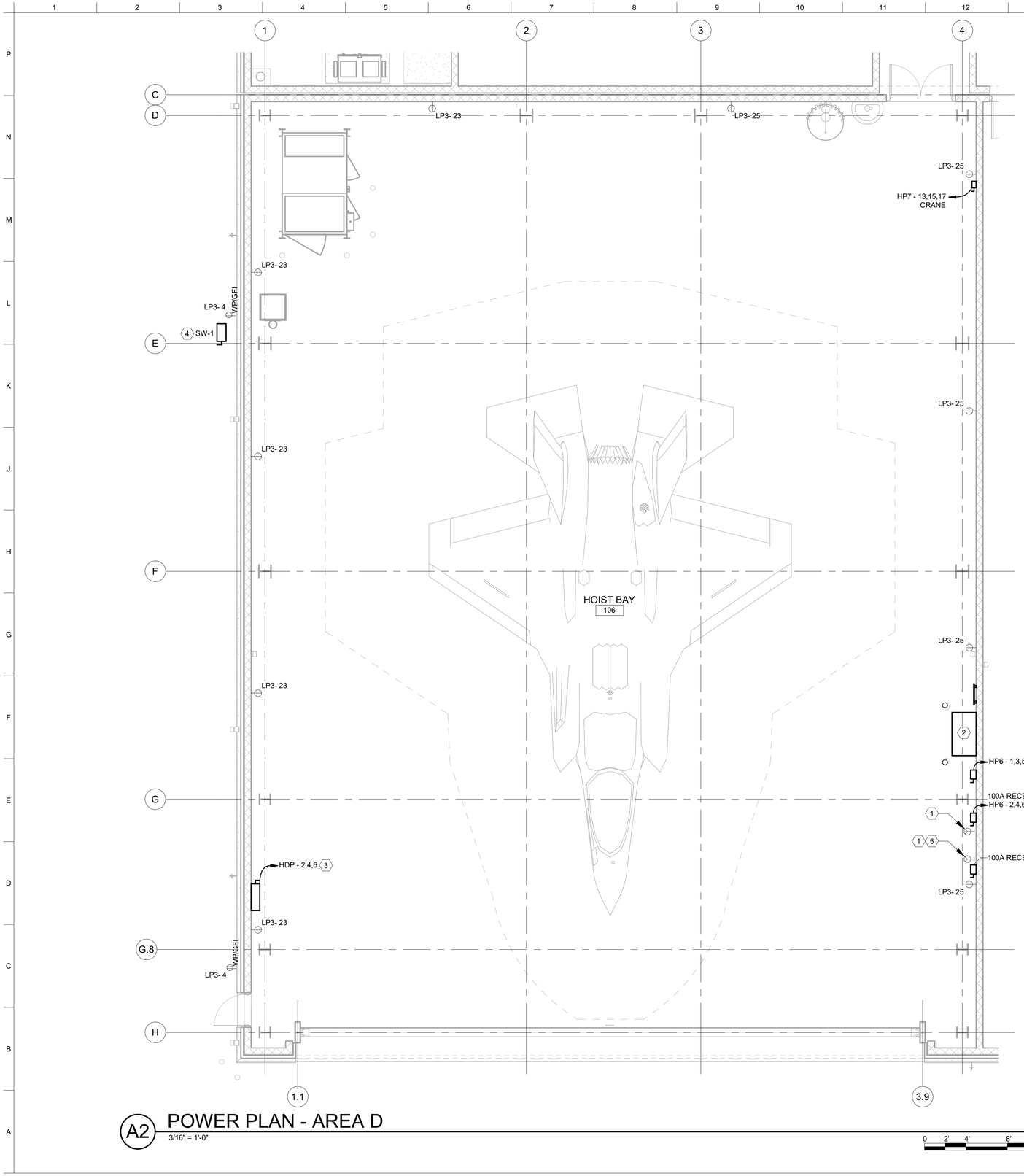
POWER PLAN - AREA C

SHEET ID

EP103

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A2 POWER PLAN - AREA D

3/16" = 1'-0"

0 2' 4' 8' 16'

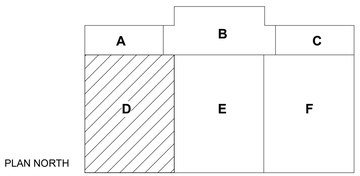
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3. DO NOT LOCATE ELECTRICAL DEVICES BACK TO BACK IN ANY WALLS.
4. ALL EXTERIOR OUTLETS MUST BE GFI AND WEATHER PROOF IN USE TYPE.
5. ALL RECEPTACLES IN HANGAR BAYS MUST BE CLASS I DIVISION 2 RATED, NEMA 4X, AND MOUNTED AT 48" AFF.
6. PROVIDE ELECTRICAL EQUIPMENT SUITABLE FOR LOCATIONS WITH HAZARDOUS CLASSIFICATION. SEE SHEET EP117 FOR HAZARDOUS CLASSIFICATION PLAN.
7. EXTERIOR ELECTRICAL EQUIPMENT WEIGHING MORE THAN 8 LBS/SQFT MUST BE MOUNTED WITH FIELD FABRICATED STRUT CHANNEL RACK. EQUIPMENT MOUNTED TO EXTERIOR WALL MUST BE ATTACHED PER EXTERIOR METAL WALL PANEL MANUFACTURER'S RECOMMENDATION.

KEYNOTES

1	PROVIDE 100A, 480V, 3PH MS27282-1 OUTLET MOUNTED 48" AFF.
2	PROVIDE 72KW 270VDC FLOOR MOUNTED POWER SUPPLY WITH 6" HOUSE PAD.
3	HANGAR DOOR MAIN CONTROL PANEL. COORDINATE WITH HANGAR DOOR MANUFACTURER.
4	"SW-1": REFER TO SHEET EP114 FOR ADDITIONAL CIRCUIT AND DESCRIPTION DETAILS.
5	CONNECT TO LOAD SIDE OF SPDT SW-1. REFER SHEET EP114 AND EP600.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

POWER PLAN - AREA D

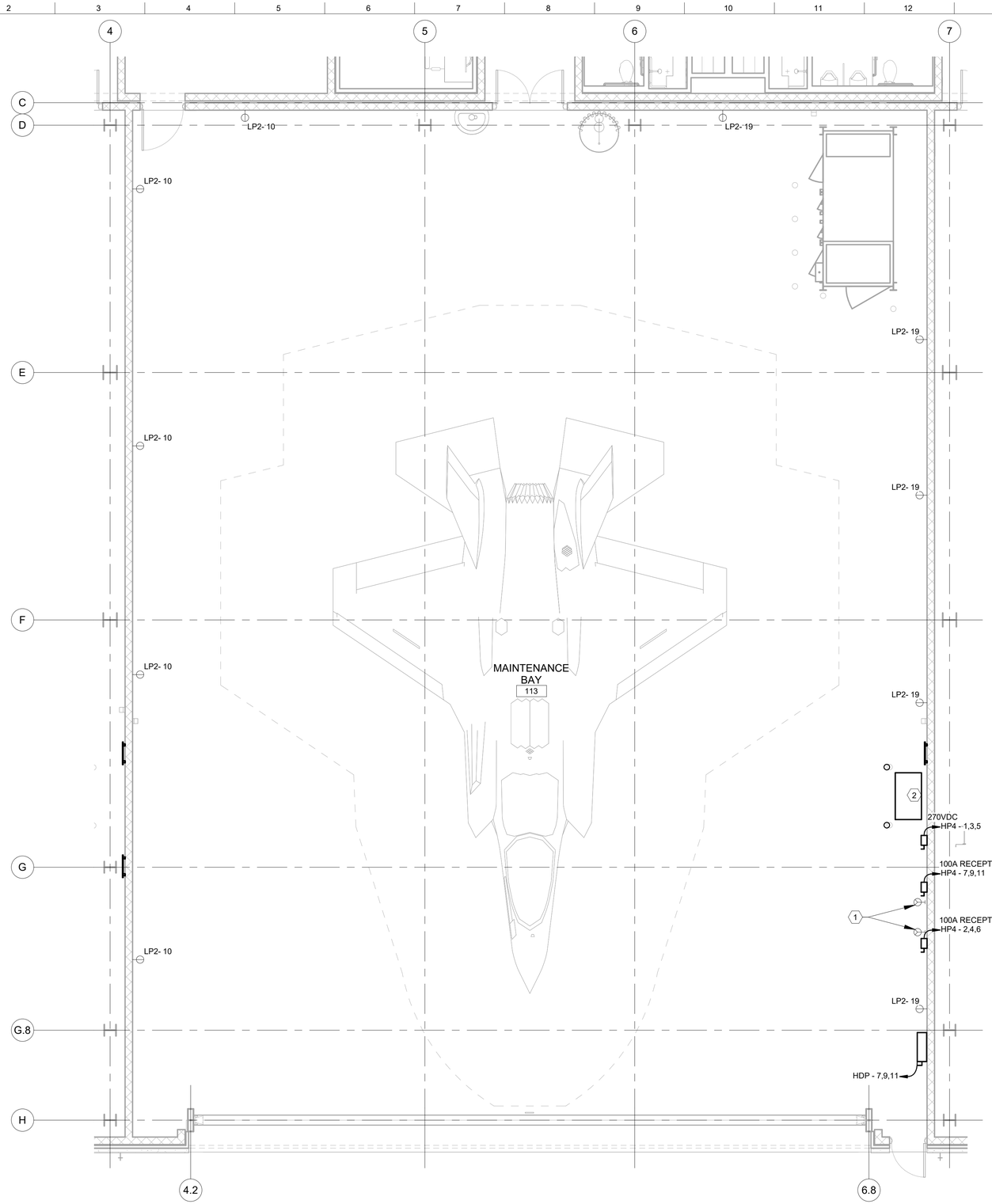
SHEET ID

EP104

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Plot Date: 10/20/2025 2:27:56 PM



A2 POWER PLAN - AREA E

3/16" = 1'-0"

0 2' 4' 8' 16'

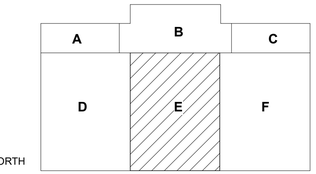
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KEYNOTES

1	PROVIDE 100A, 480V, 3PH MS27282-1 OUTLET MOUNTED 48" AFF.
2	PROVIDE 72KW 270VDC FLOOR MOUNTED POWER SUPPLY WITH 6" HOUSE PAD.
3	HANGAR DOOR MAIN CONTROL PANEL. COORDINATE WITH HANGAR DOOR MANUFACTURER.
4	"SW-1": REFER TO SHEET EP114 FOR ADDITIONAL CIRCUIT AND DESCRIPTION DETAILS.
5	CONNECT TO LOAD SIDE OF SPDT SW-1. REFER SHEET EP114 AND EP600.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: ENNG_512203_E_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

POWER PLAN - AREA E

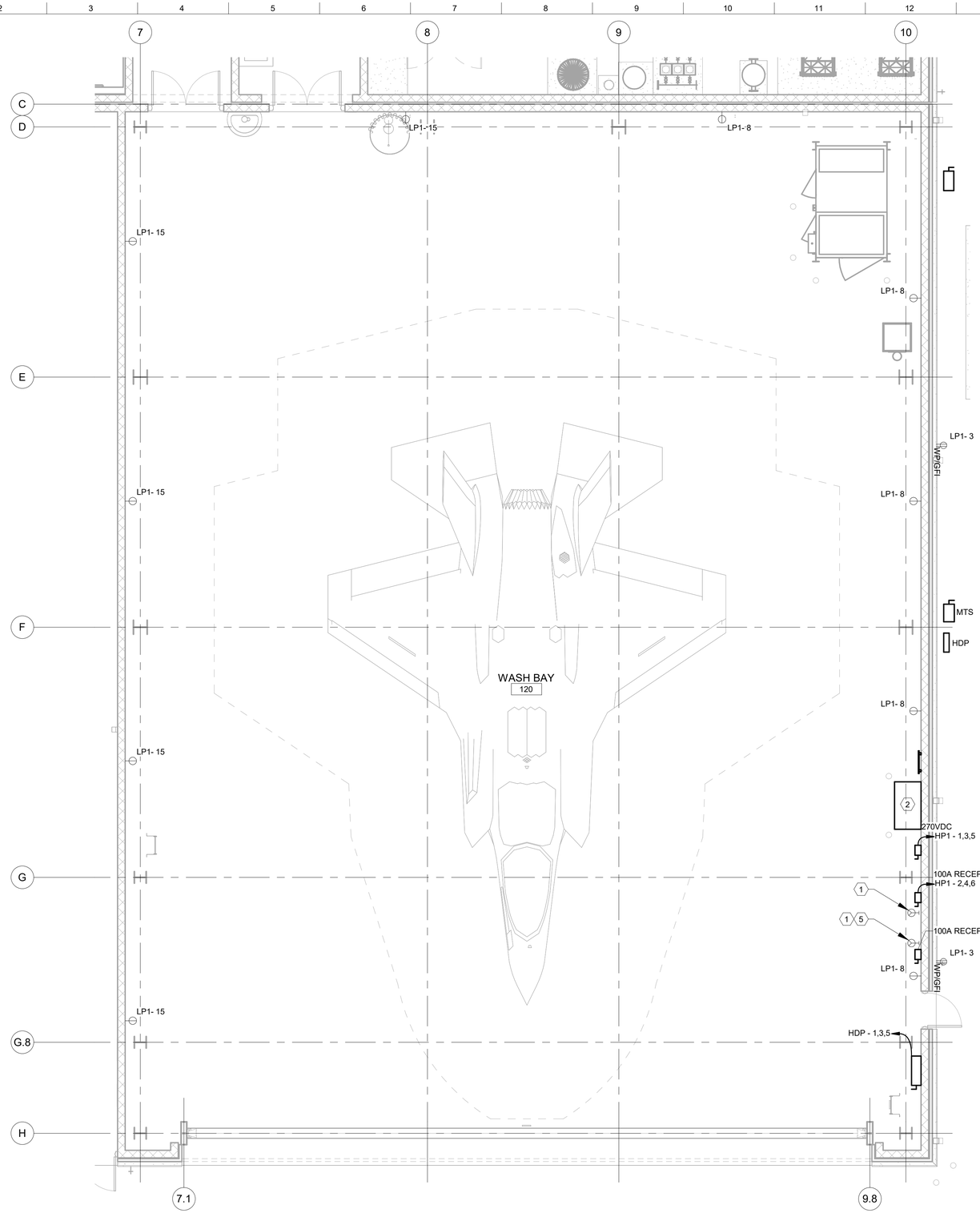
SHEET ID

EP105

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Plot Date: 10/20/2025 2:27:58 PM

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A2 POWER PLAN - AREA F

3/16" = 1'-0"

0 2' 4' 8' 16'

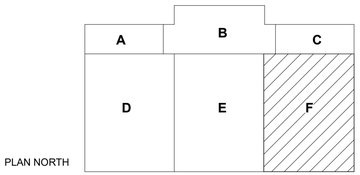
GENERAL NOTES

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KEYNOTES

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2	PROVIDE 72KW 270VDC FLOOR MOUNTED POWER SUPPLY WITH 6" HOUSE PAD.
3	HANGAR DOOR MAIN CONTROL PANEL. COORDINATE WITH HANGAR DOOR MANUFACTURER.
4	"SW-2": REFER TO SHEET EP114 FOR ADDITIONAL CIRCUIT AND DESCRIPTION DETAILS.
5	CONNECT TO LOAD SIDE OF SPDT SW-2. REFER TO SHEET EP116 AND EP600.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

File Path: C:\Users\mSinclair\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MEECREAR.rvt

Plot Date: 10/20/2025 2:28:01 PM

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TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

POWER PLAN - AREA F

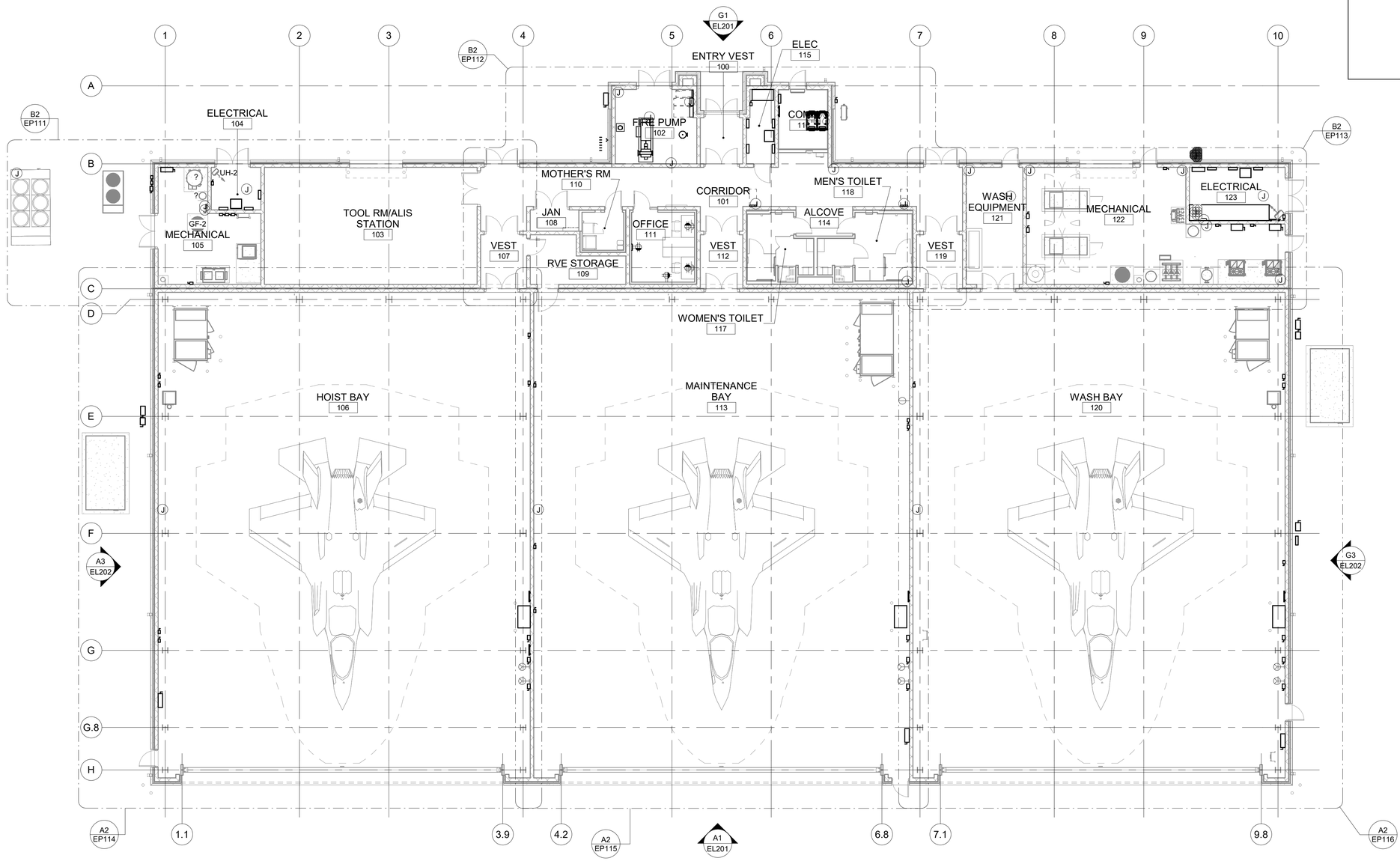
SHEET ID

EP106

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

GENERAL NOTES

1. COORDINATE POWER FOR MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR. SEE EQUIPMENT SCHEDULE ON SHEET EP605 FOR BRANCH CIRCUIT INFORMATION.



A1 OVERALL MECHANICAL POWER PLAN

3/32" = 1'-0"

0 4' 8' 16' 32'

PLAN NORTH

MARK	DESCRIPTION	DATE

US Army Corps of Engineers ®

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

Plot Date: 10/20/2025 2:28:59 PM File Path: C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MEECDRAR.rvt

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

OVERALL MECHANICAL POWER PLAN

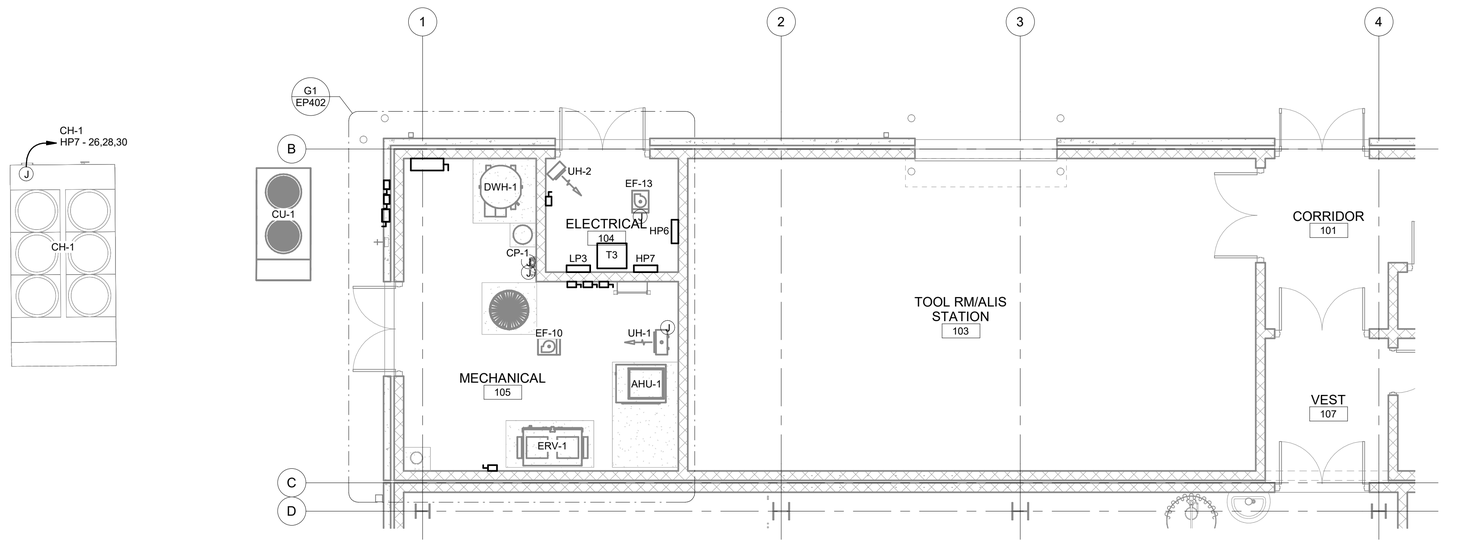
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EP110

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GENERAL NOTES

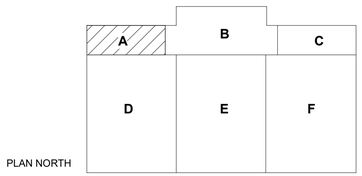
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4. REFER TO MECHANICAL AND PLUMBING PLANS AND SPECIFICATIONS FOR CONTROL REQUIREMENTS.
5. PROVIDE CLEARLY LABELED MOTOR RATED SNAP SWITCHES FOR 1PH 120V FRACTIONAL HORSEPOWER EXHAUST FANS AND NATURAL GAS UNIT HEATERS.
6. EXTERIOR ELECTRICAL EQUIPMENT WEIGHING MORE THAN 8 LBS/SQFT MUST BE MOUNTED WITH FIELD FABRICATED STRUT CHANNEL RACK. EQUIPMENT MOUNTED TO EXTERIOR WALL MUST BE ATTACHED PER EXTERIOR METAL WALL PANEL MANUFACTURER'S RECOMMENDATION.



B2 MECHANICAL POWER PLAN - AREA A

3/16" = 1'-0"

0 2' 4' 8' 16'



PLAN NORTH

KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MECHANICAL POWER PLAN - AREA A

SHEET ID

EP111

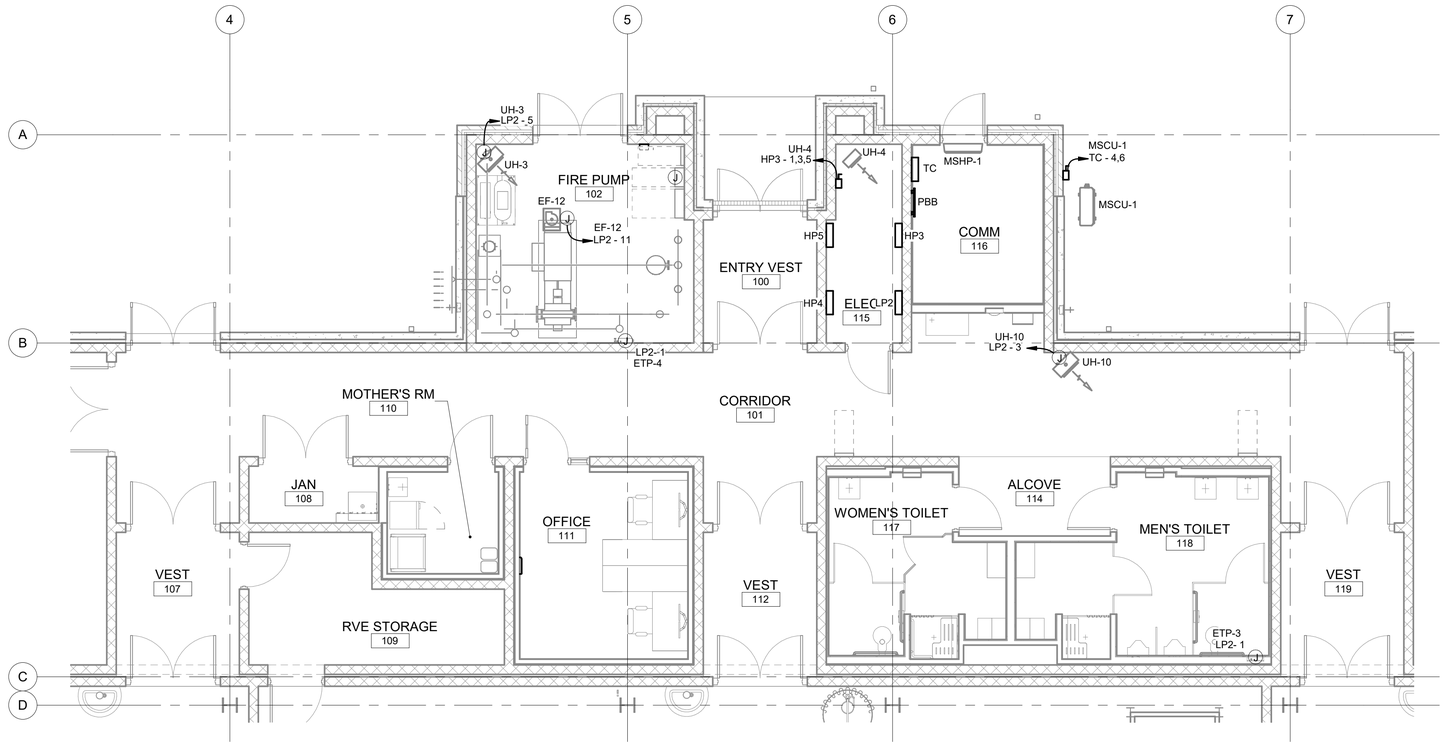
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GENERAL NOTES

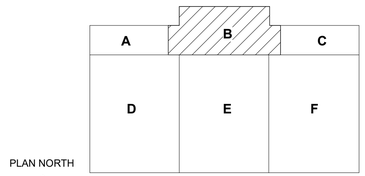
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B2 MECHANICAL POWER PLAN - AREA B

3/16" = 1'-0"

0 2' 4' 8' 16'



PLAN NORTH

KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
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Plot Date: 10/20/2025 2:29:13 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MECHANICAL POWER PLAN - AREA B

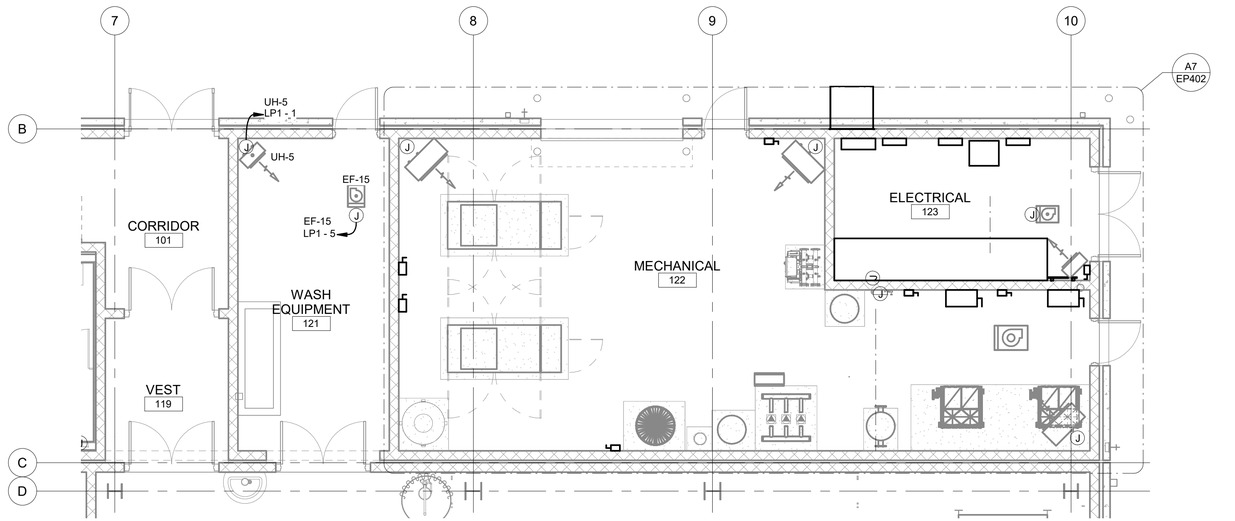
SHEET ID

EP112

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GENERAL NOTES

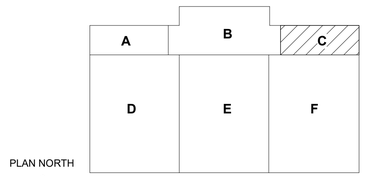
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B2 MECHANICAL POWER PLAN - AREA C

3/16" = 1'-0"

0 2' 4' 8' 16'



PLAN NORTH

KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: C. VELOZ	SOLICITATION NO.: W912BV26RA004
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

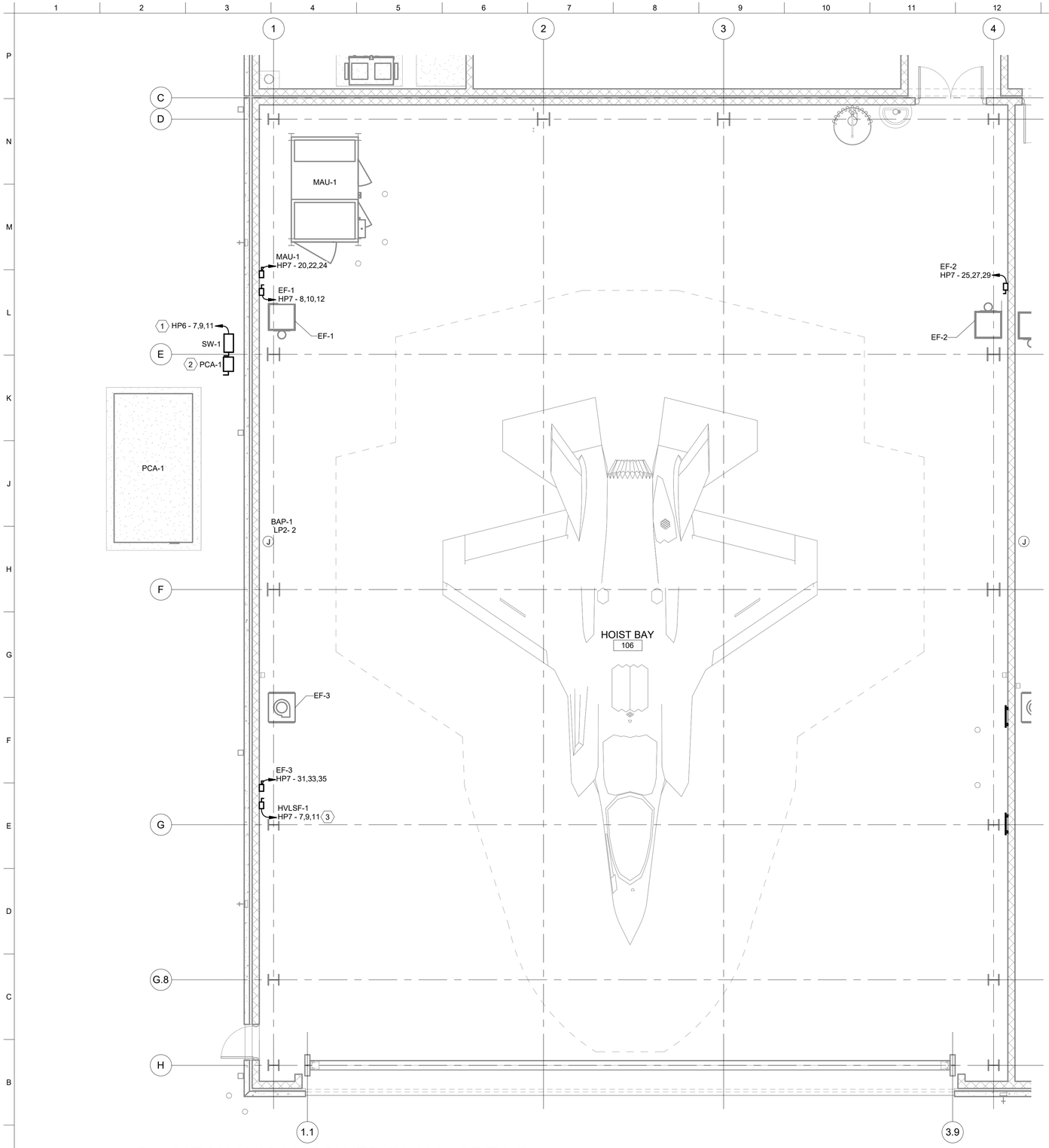
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MECHANICAL POWER PLAN - AREA C

SHEET ID

EP113

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A2 MECHANICAL POWER PLAN - AREA D

3/16" = 1'-0"

0 2' 4' 8' 16'

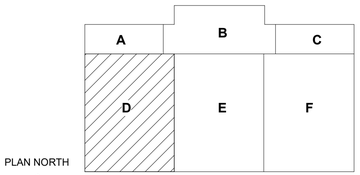
GENERAL NOTES

1. UNLESS SPECIFICALLY NOTED, RACEWAYS SHALL BE INSTALLED CONCEALED IN ALL FINISHED AREAS AND EXPOSED IN UNFINISHED AREAS. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT FINISHES.
2. COORDINATE ALL ITEMS TO BE INSTALLED WITH ARCHITECTURAL AND MECHANICAL PLANS AND INSTALL ALL ITEMS AND MATERIALS AS RECOMMENDED BY MANUFACTURER.
3. REFER TO SHEET EP605 FOR EQUIPMENT CIRCUIT DETAILS. COORDINATE ALL REQUIREMENTS WITH MECHANICAL, PLUMBING, AND OTHER EQUIPMENT PROVIDERS AS REQUIRED. PROVIDE ALL ELECTRICAL CONNECTIONS, DEVICES, CONDUIT, AND CONDUCTORS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. COORDINATE ALL POWER REQUIREMENTS AND LOCATIONS PRIOR TO ROUGH-IN.
4. REFER TO MECHANICAL AND PLUMBING PLANS AND SPECIFICATIONS FOR CONTROL REQUIREMENTS.
5. PROVIDE CLEARLY LABELED MOTOR RATED SNAP SWITCHES FOR 1PH 120V FRACTIONAL HORSEPOWER EXHAUST FANS AND NATURAL GAS UNIT HEATERS.
6. EXTERIOR ELECTRICAL EQUIPMENT WEIGHING MORE THAN 8 LBS/SQFT MUST BE MOUNTED WITH FIELD FABRICATED STRUT CHANNEL RACK. EQUIPMENT MOUNTED TO EXTERIOR WALL MUST BE ATTACHED PER EXTERIOR METAL WALL PANEL MANUFACTURER'S RECOMMENDATION.

KEYNOTES

1	"SW-1": 200A 600V 3PH HD NEMA 3R SPDT SAFETY SWITCH. PROVIDES POWER FROM ONE SOURCE TO EITHER PCA-1 OR 100A RECEPTACLE IN HOIST BAY 106 IDENTIFIED ON SHEET EP104, BUT NOT BOTH SIMULTANEOUSLY. REFER TO ELECTRICAL ONE-LINE DIAGRAM ON SHEET EP600.
2	200A 600V 3PH HD NEMA 3R SAFETY SWITCH FOR PCA-1. REFER TO ELECTRICAL ONE-LINE DIAGRAM ON SHEET EP600.
3	HVLSF-1 DISCONNECT. REFER TO MECHANICAL PLANS FOR FAN LOCATION.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MECHANICAL POWER PLAN - AREA D

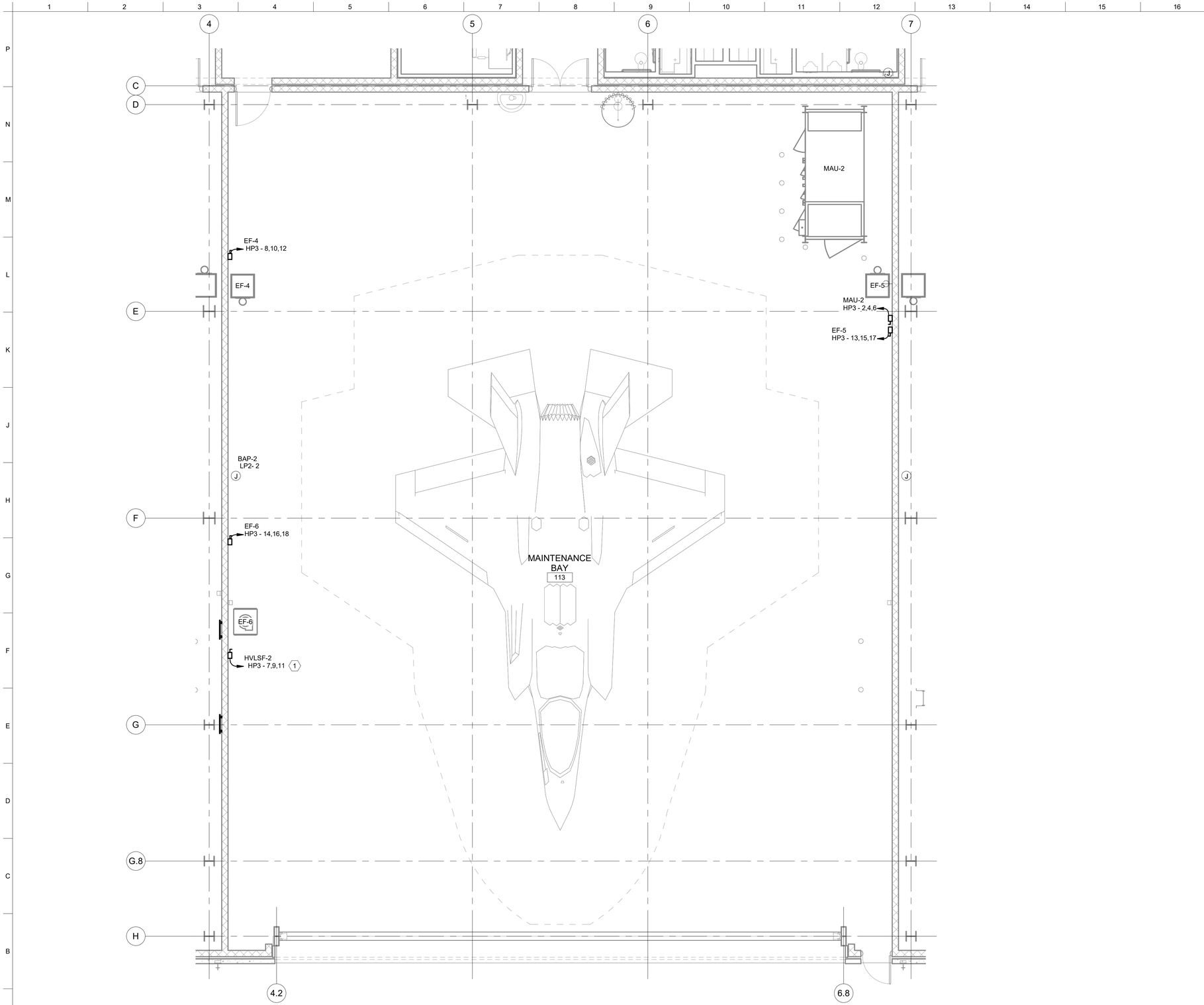
SHEET ID

EP114

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A2 MECHANICAL POWER PLAN - AREA E

3/16" = 1'-0"

0 2' 4' 8' 16'

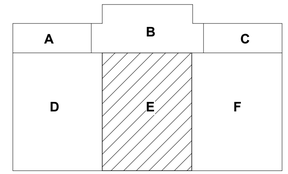
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KEYNOTES

1	HVLSF-2 DISCONNECT. REFER TO MECHANICAL PLANS FOR FAN LOCATION.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

MECHANICAL POWER PLAN - AREA E

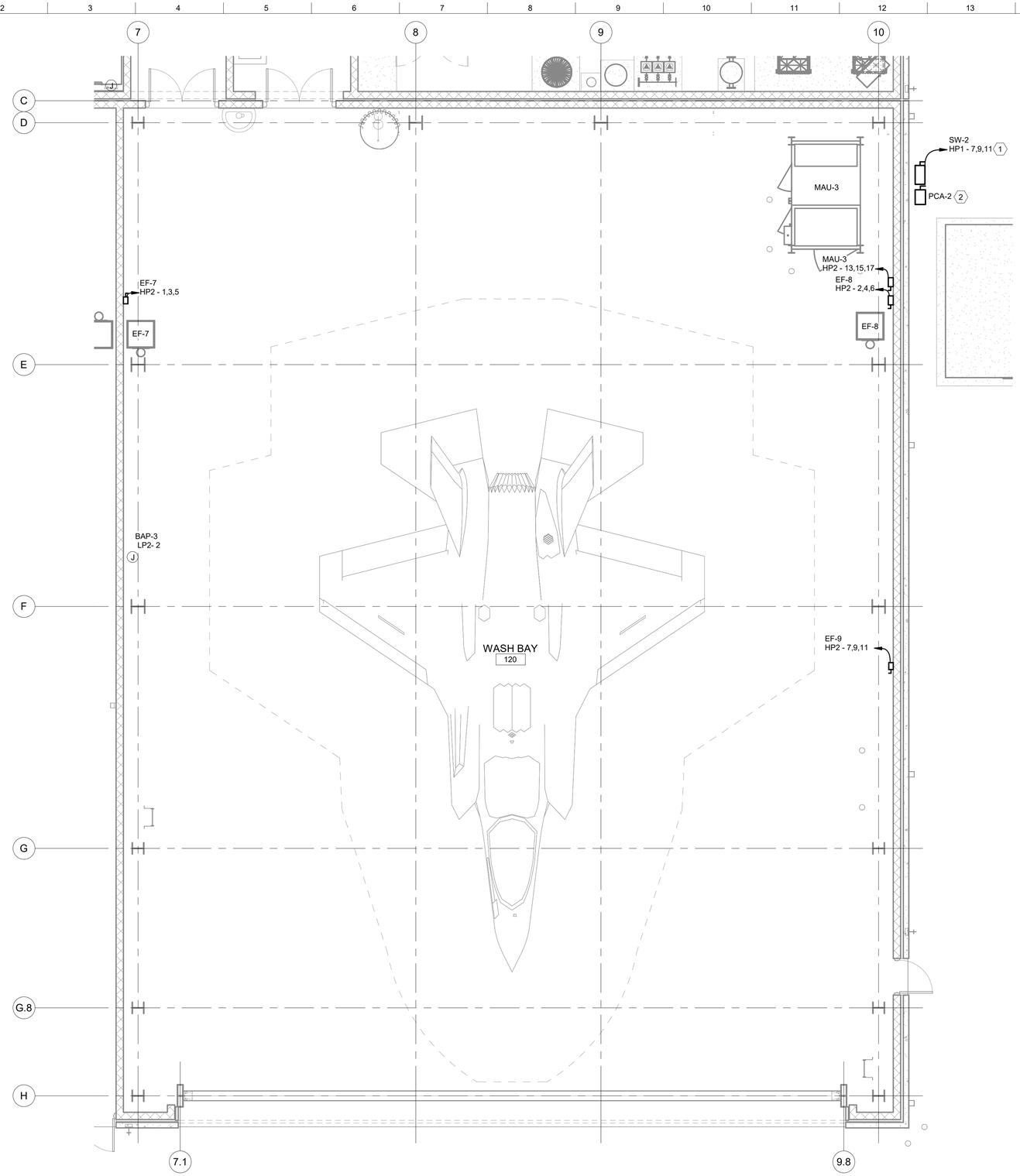
SHEET ID

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A2 MECHANICAL POWER PLAN - AREA F

3/16" = 1'-0"

0 2' 4' 8' 16'

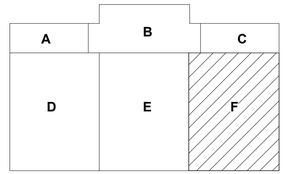
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KEYNOTES

1	"SW-2": 200A 600V 3PH HD NEMA 3R SPDT SAFETY SWITCH. PROVIDES POWER FROM ONE SOURCE TO EITHER PCA-2 OR 100A RECEPTACLE IN WASH BAY 120 IDENTIFIED ON SHEET EP106, BUT NOT BOTH SIMULTANEOUSLY. REFER TO ELECTRICAL ONE-LINE DIAGRAM ON SHEET EP600.
2	200A 600V 3PH HD NEMA 3R SAFETY SWITCH FOR PCA-2. REFER TO ELECTRICAL ONE-LINE DIAGRAM ON SHEET EP600.

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
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TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35; 3 BAY HANGAR
PN: 512203

MECHANICAL POWER PLAN - AREA F

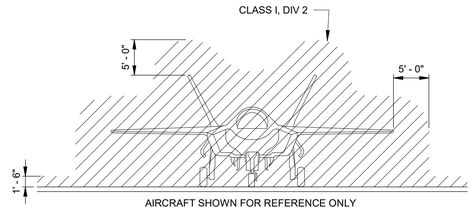
SHEET ID

EP116

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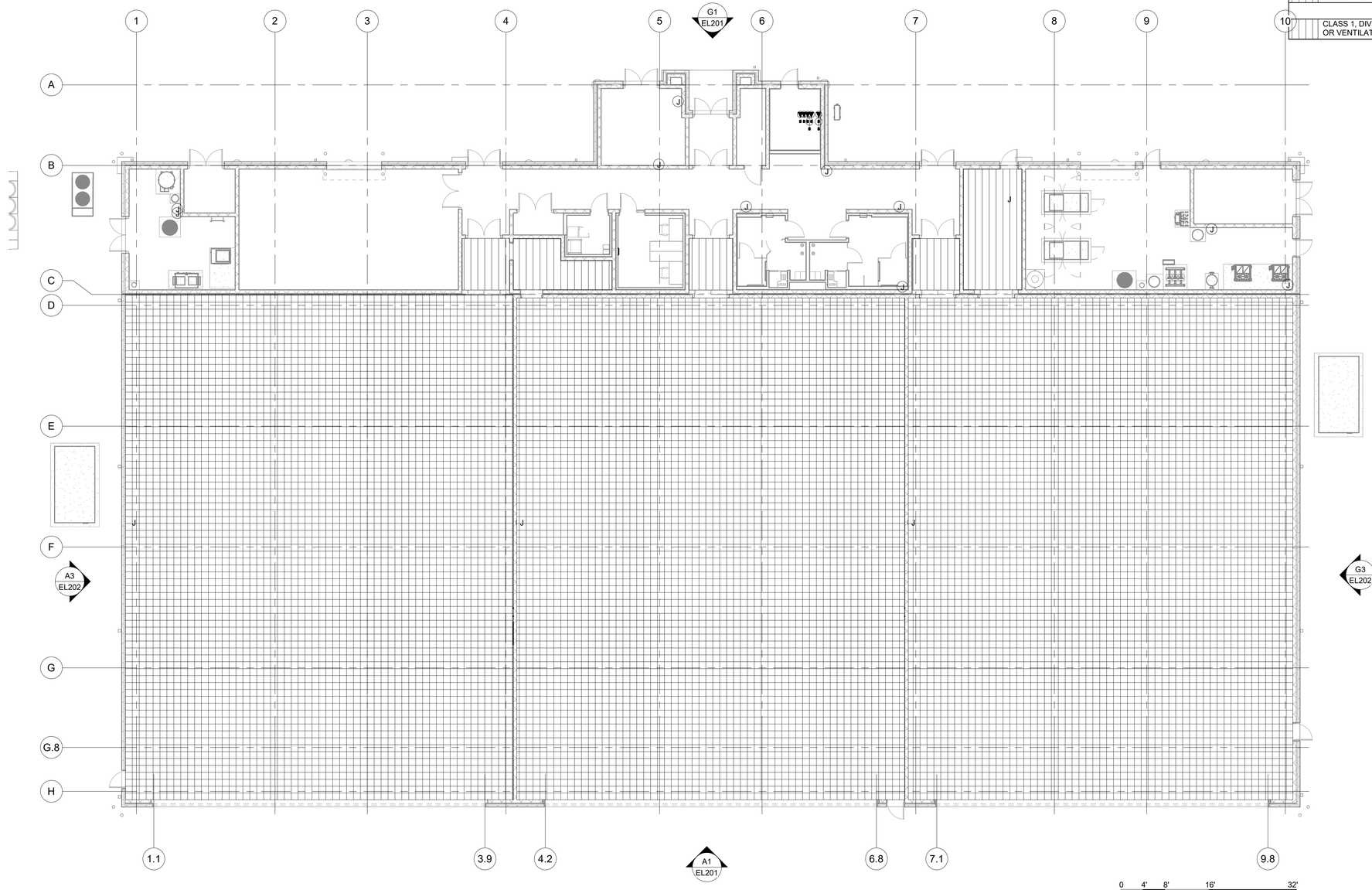
M11 HAZARDOUS LOCATION ELEVATION
NTS

GENERAL NOTES

1. HAZARDOUS CLASSIFICATION OF LOCATIONS MUST BE IAW NFPA 70.
2. HANGAR BAY SLAB AND BELOW MUST BE CLASS 1 DIVISION 1, TO INCLUDE UNDERGROUND WIRING.
3. PROVIDE SIGNAGE IN ALL HAZARDOUS CLASSIFIED ROOMS STATING THE FOLLOWING:
   "THIS ROOM IS CLASS 1 DIVISION 2 HAZARDOUS AREA, UP TO 18" ABOVE FINISHED FLOOR. SPECIAL CARE MUST BE TAKEN SUCH THAT NO MECHANICAL AND ELECTRICAL DEVICES THAT CAN CAUSE A SPARK (MOTORS, COMPUTERS, FANS, ETC.) MUST BE STORED AND/OR MOUNTED A MINIMUM OF 24" ABOVE THE FLOOR."
4. ALL ELECTRICAL ITEMS MOUNTED IN HANGAR BAYS BELOW 20' HIGH MUST BE NEMA 4 RATED TO PROTECT FROM WATER.
5. ALL CONDUITS FEEDING EQUIPMENT DEVICES IN CLASSIFIED AREAS MUST HAVE CONDUIT SEALS BEFORE ENTERING PANELS.

HAZARDOUS CLASSIFICATION LEGEND

	CLASS 1, DIVISION 1 AT AND BELOW HANGAR SLAB. CLASS 1, DIVISION 2 18" ABOVE FINISHED FLOOR AND 5' AROUND AIRCRAFT.
	CLASS 1, DIVISION 2 18" ABOVE FINISHED FLOOR. AREA NOT SUITABLE CUTOFF OR VENTILATED



A1 HAZARDOUS CLASSIFICATION PLAN
3/32" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
File Path: C:\Users\mSeidner\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MECDRAR.rvt
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US ARMY CORPS OF ENGINEERS
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TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

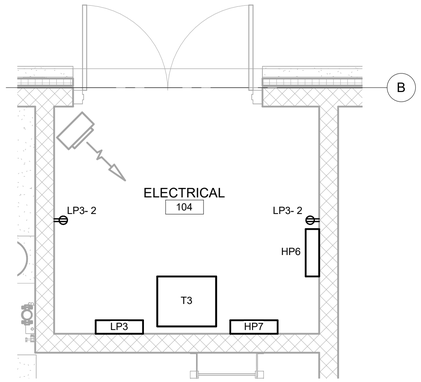
HAZARDOUS CLASSIFICATION PLAN

SHEET ID
EP117

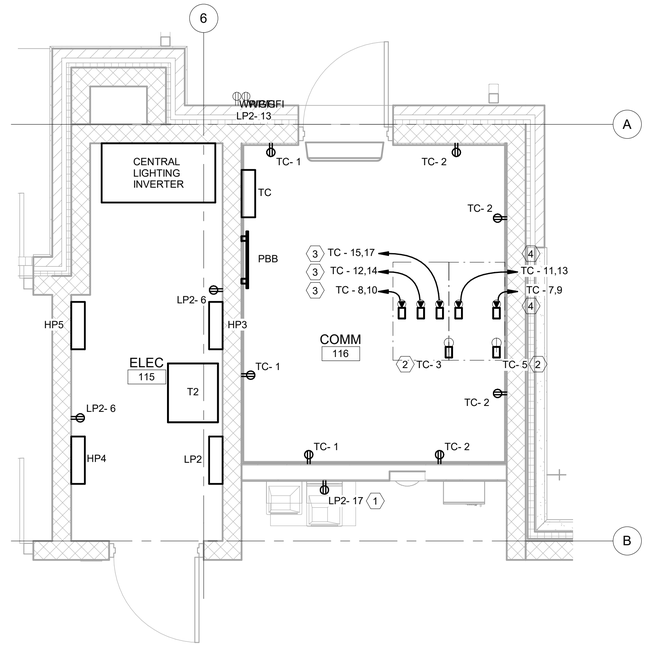
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KEYNOTES

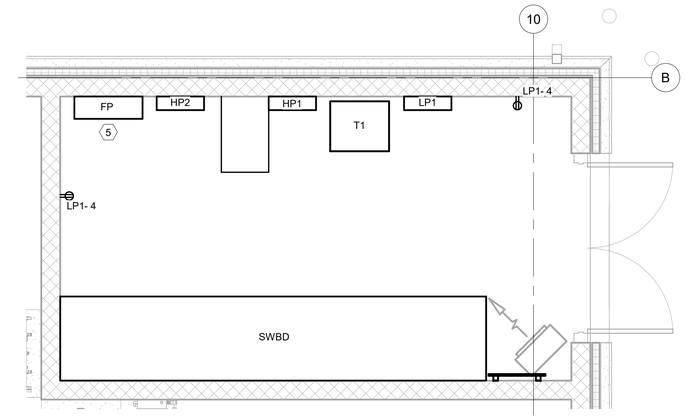
1	COORDINATE RECEPTACLE HEIGHT WITH ELECTRIC WATER COOLER MANUFACTURER AND PLUMBING CONTRACTOR. CIRCUIT MUST BE PROTECTED VIA GFI BREAKER.
2	PROVIDE L5-20R.
3	PROVIDE L6-20R.
4	PROVIDE L6-30R.
5	PROVIDE UNIT SUBSTATION WITH ENCAPSULATED 15KVA 480-208Y/120V TRANSFORMER AND 40A 18CIRCUIT 208Y/120V PANEL FOR FIRE PANEL.



B1 ELECTRICAL ROOM 104
3/8" = 1'-0"
0 1' 2' 4' 6'



B7 ELEC 115 AND COMM ROOM 116
3/8" = 1'-0"
0 1' 2' 4' 6'



B14 ELECTRICAL ROOM 123
3/8" = 1'-0"
0 1' 2' 4' 6'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

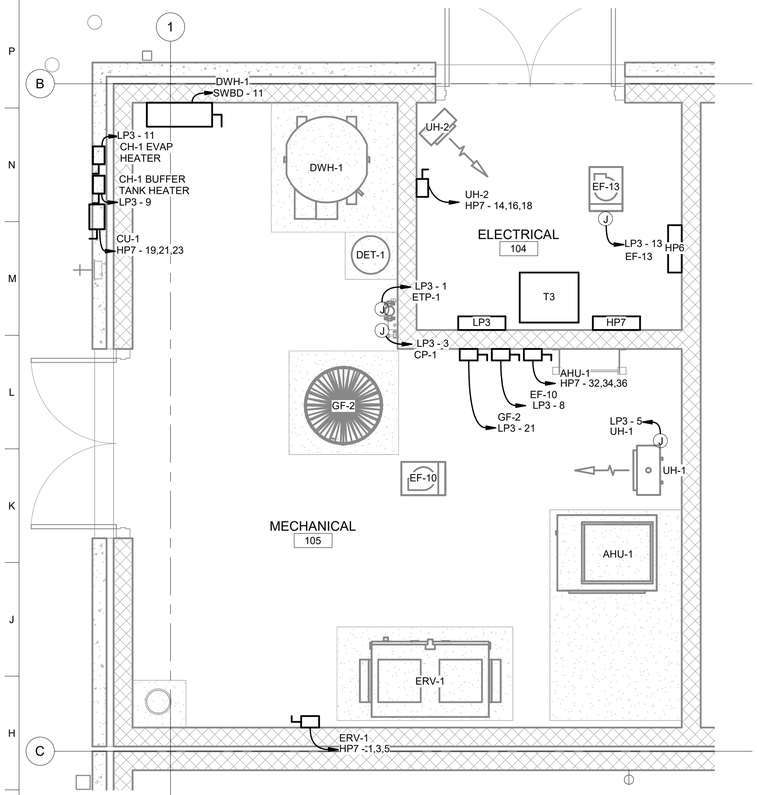
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

ENLARGED POWER PLAN

SHEET ID
EP401

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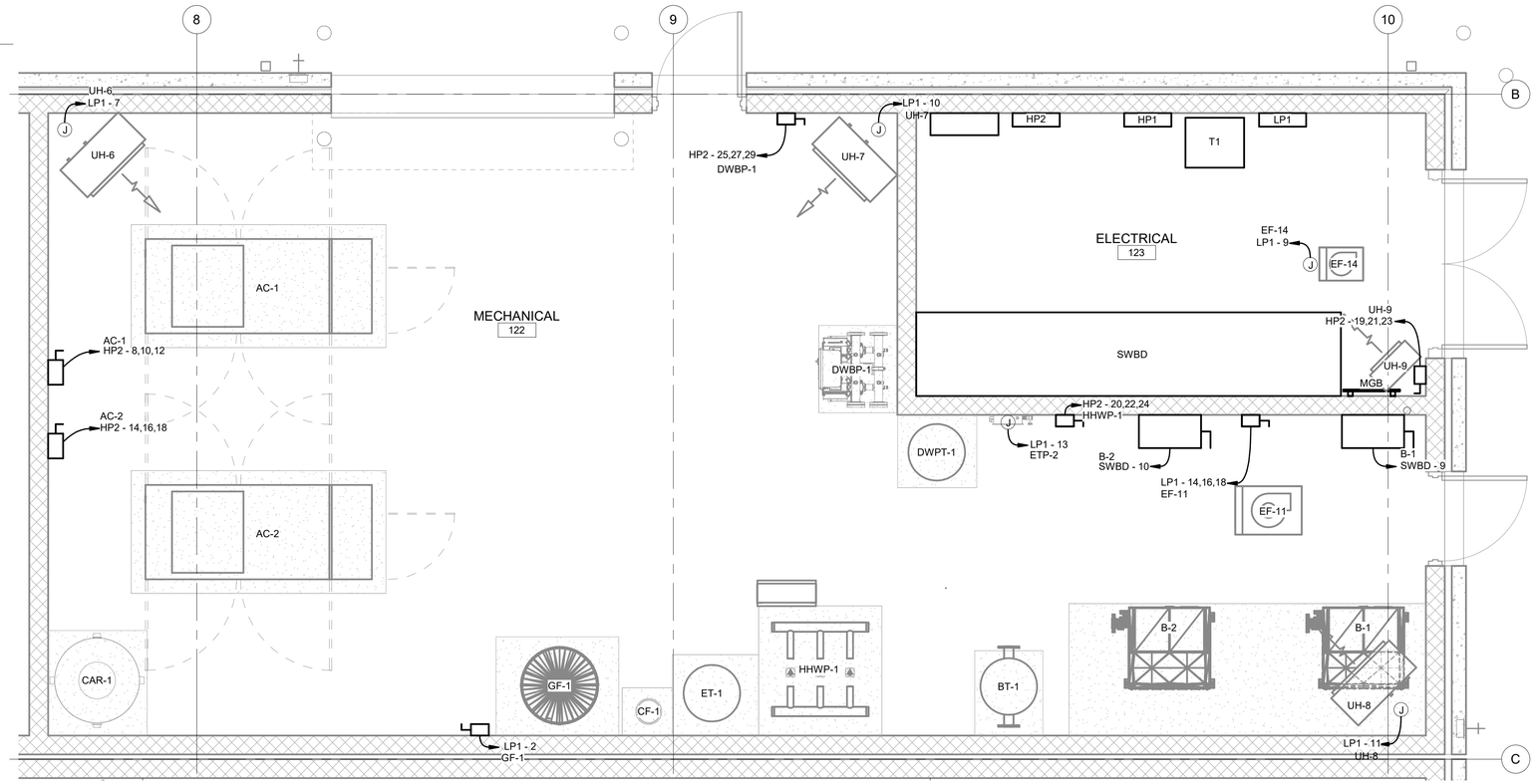
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G1 MECHANICAL ROOM 105

3/8" = 1'-0"

0 1' 2' 4' 6'



A7 MECHANICAL ROOM 121

3/8" = 1'-0"

0 1' 2' 4' 6'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
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SUBMITTED BY:
SIZE: ANSI D
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CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
Plot Date: 10/20/2025 2:32:16 PM
File Path:

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

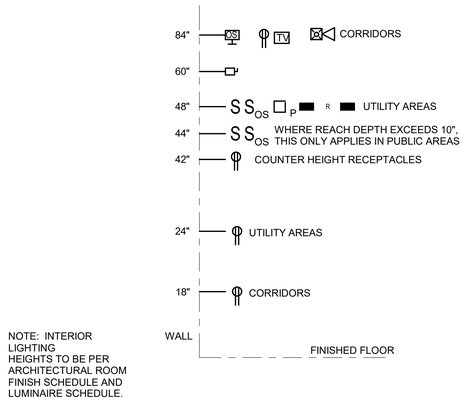
EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

ENLARGED MECHANICAL POWER PLAN

SHEET ID

EP402

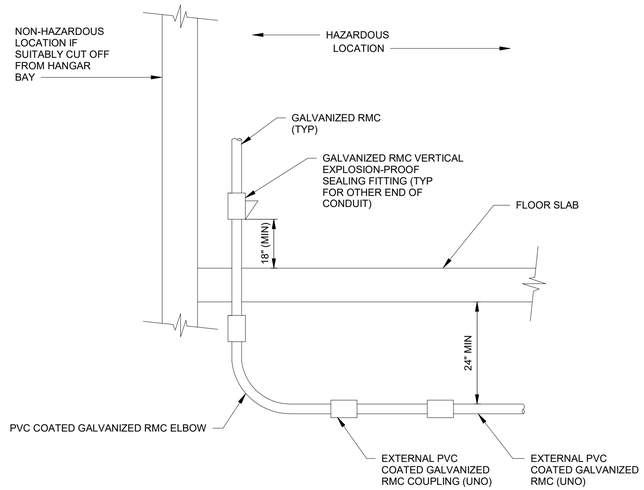
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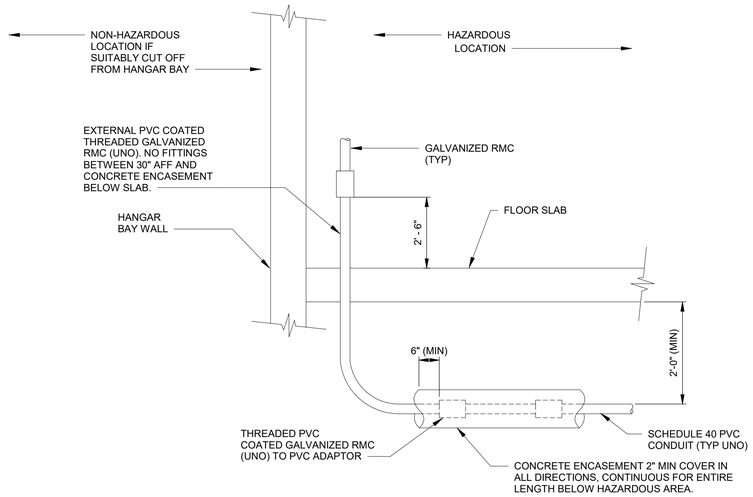


NOTE: INTERIOR LIGHTING HEIGHTS TO BE PER ARCHITECTURAL ROOM FINISH SCHEDULE AND LUMINAIRE SCHEDULE.

J1 TYPICAL ELECTRICAL DEVICE MOUNTING HEIGHTS

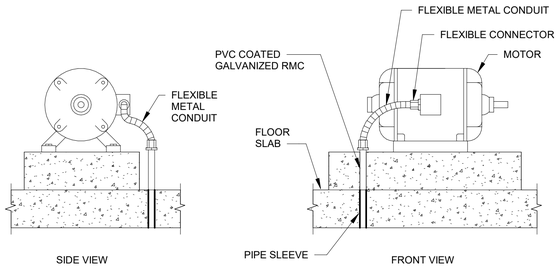
NTS





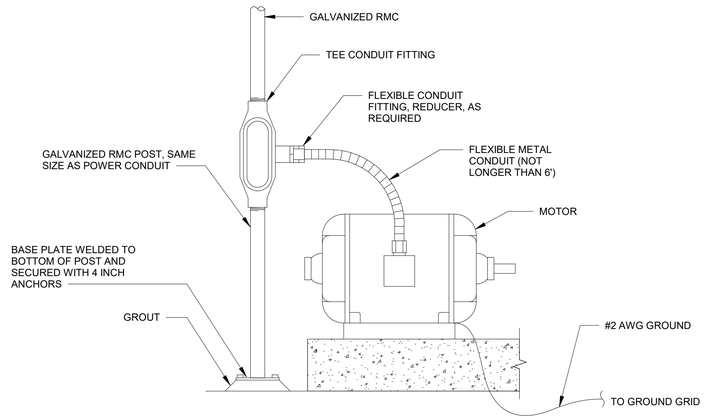
J7 TYPICAL CONDUITS BELOW HAZARDOUS LOCATION FLOOR SLAB

3/8" = 1'-0"



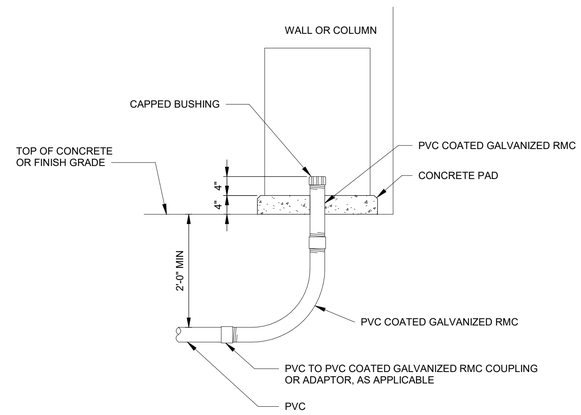
F1 TYPICAL FLOOR-FED CONDUIT SERVICE FOR MOTORS

1/4" = 1'-0"



A1 TYPICAL OVERHEAD CONDUIT SERVICE FOR SMALL AND MEDIUM SIZE 480V MOTORS

3/8" = 1'-0"



A9 TYPICAL STUBBED CONDUIT RISER INTO EQUIPMENT

3/4" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_E_3BAYH_RVT22.rvt

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137
ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

POWER DETAILS

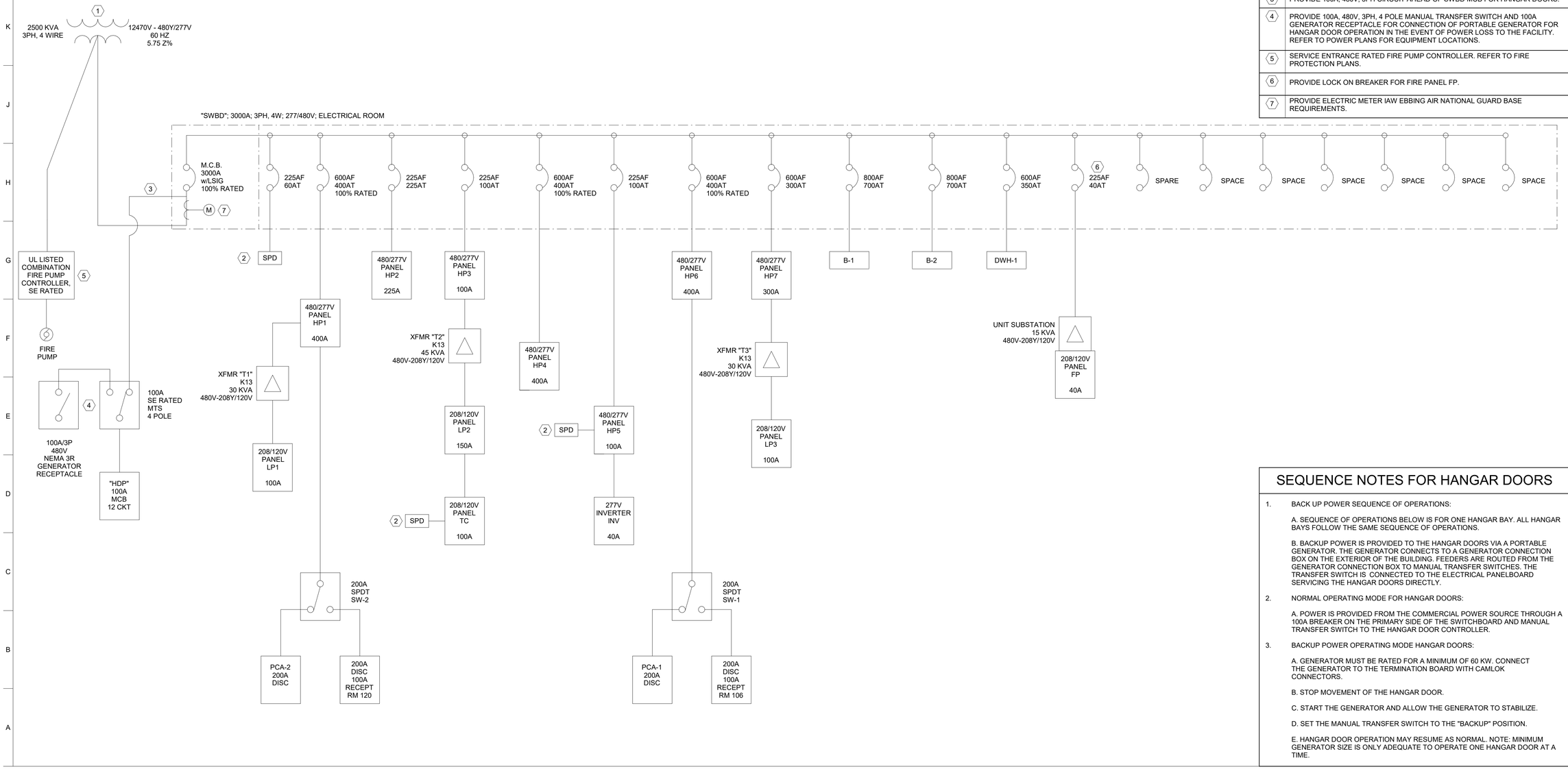
SHEET ID

EP501

File Path: C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_E_3BAYH_RVT22_MEECREAR.rvt

Plot Date: 10/20/2025 2:32:17 PM

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GENERAL NOTES

1. REFER TO SHEET EP605 FOR FEEDER AND EQUIPMENT SCHEDULES.
2. REFER TO SWITCHBOARD SCHEDULE ON SHEET EP601 FOR SPARES AND SPACES.
3. REFER TO GROUNDING PLANS AND DIAGRAMS FOR SERVICE GROUND.
4. GROUND CURRENT DETECTION MUST ALLOW FOR A MINIMUM NOMINAL CONTINUOUS 500 MILLIAMPERES AC OF GROUND CURRENT DUE TO THE SUPPORT EQUIPMENT CARTS', WHICH CONNECT TO THE 100A RECEPTACLES, ELECTROMAGNETIC INTERFERENCE FILTER SYSTEMS PROVIDING CONTINUOUS NOMINAL GROUND CURRENT DURING OPERATION.

KEYNOTES

1	PAD MOUNT TRANSFORMER PROVIDED AND INSTALLED BY OG&E. REFER TO ELECTRICAL SITE PLAN.
2	PROVIDE EXTERNALLY MOUNTED SURGE PROTECTIVE DEVICE. MOUNT DIRECTLY ADJACENT TO PANELBOARD/SWITCHBOARD, WITHIN 3'-0". PROVIDE CIRCUIT BREAKER AND CONDUCTORS SIZED AS RECOMMENDED BY SPD MANUFACTURER. INSTALL CONDUCTORS IN CONDUIT BETWEEN SPD AND EQUIPMENT TERMINATION AS SHORT AND STRAIGHT AS POSSIBLE AND IAW MANUFACTURER'S RECOMMENDATIONS. CONDUCTORS MUST BE TWISTED.
3	PROVIDE 100A, 480V, 3PH CIRCUIT AHEAD OF SWBD MCB FOR HANGAR DOORS.
4	PROVIDE 100A, 480V, 3PH, 4 POLE MANUAL TRANSFER SWITCH AND 100A GENERATOR RECEPTACLE FOR CONNECTION OF PORTABLE GENERATOR FOR HANGAR DOOR OPERATION IN THE EVENT OF POWER LOSS TO THE FACILITY. REFER TO POWER PLANS FOR EQUIPMENT LOCATIONS.
5	SERVICE ENTRANCE RATED FIRE PUMP CONTROLLER. REFER TO FIRE PROTECTION PLANS.
6	PROVIDE LOCK ON BREAKER FOR FIRE PANEL FP.
7	PROVIDE ELECTRIC METER IAW EBBING AIR NATIONAL GUARD BASE REQUIREMENTS.

SEQUENCE NOTES FOR HANGAR DOORS

1. BACK UP POWER SEQUENCE OF OPERATIONS:

   A. SEQUENCE OF OPERATIONS BELOW IS FOR ONE HANGAR BAY. ALL HANGAR BAYS FOLLOW THE SAME SEQUENCE OF OPERATIONS.

   B. BACKUP POWER IS PROVIDED TO THE HANGAR DOORS VIA A PORTABLE GENERATOR. THE GENERATOR CONNECTS TO A GENERATOR CONNECTION BOX ON THE EXTERIOR OF THE BUILDING. FEEDERS ARE ROUTED FROM THE GENERATOR CONNECTION BOX TO MANUAL TRANSFER SWITCHES. THE TRANSFER SWITCH IS CONNECTED TO THE ELECTRICAL PANELBOARD SERVICING THE HANGAR DOORS DIRECTLY.

2. NORMAL OPERATING MODE FOR HANGAR DOORS:

   A. POWER IS PROVIDED FROM THE COMMERCIAL POWER SOURCE THROUGH A 100A BREAKER ON THE PRIMARY SIDE OF THE SWITCHBOARD AND MANUAL TRANSFER SWITCH TO THE HANGAR DOOR CONTROLLER.

3. BACKUP POWER OPERATING MODE HANGAR DOORS:

   A. GENERATOR MUST BE RATED FOR A MINIMUM OF 60 KW. CONNECT THE GENERATOR TO THE TERMINATION BOARD WITH CAMLOK CONNECTORS.

   B. STOP MOVEMENT OF THE HANGAR DOOR.

   C. START THE GENERATOR AND ALLOW THE GENERATOR TO STABILIZE.

   D. SET THE MANUAL TRANSFER SWITCH TO THE "BACKUP" POSITION.

   E. HANGAR DOOR OPERATION MAY RESUME AS NORMAL. NOTE: MINIMUM GENERATOR SIZE IS ONLY ADEQUATE TO OPERATE ONE HANGAR DOOR AT A TIME.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENNG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

ONE-LINE DIAGRAM

SHEET ID

EP600

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

File Path: C:\Users\mfoster\OneDrive - US Army Corps of Engineers\Documents\ENNG_512203_E_3BAYH_RVT22_MEECRAR.rvt

Plot Date: 10/20/2025 2:32:18 PM

Switchboard: SWBD

Location: ELECTRICAL 123
Supply From: UTILITY XFMR
Mounting: FLOOR
Enclosure: NEMA 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65,000
Mains Type: MCB
Mains Rating: 3000 A
MCB Rating: 3000 A

Notes:
MAIN BREAKER MUST BE 100% RATED WITH LSIG ELECTRONIC TRIP UNIT

CKT	Circuit Description	Poles	Frame Size	Trip Rating	Load	Wire Size
1	SPD	3	225 A	60 A	0 VA	3-#4, 1-#4, 1-#10
2	PANEL - HP1	3	600 A	400 A	251689 VA	3-#600, 1-#600, 1-#3
3	PANEL - HP2	3	225 A	225 A	150840 VA	3-#4/0, 1-#4/0, 1-#4
4	PANEL - HP3	3	225 A	100 A	66088 VA	3-#1, 1-#1, 1-#8
5	PANEL - HP4	3	400 A	400 A	244002 VA	3-#600, 1-#600, 1-#3
6	PANEL - HP5	3	225 A	100 A	19751 VA	3-#1, 1-#1, 1-#8
7	PANEL - HP6	3	600 A	400 A	244002 VA	3-#600, 1-#600, 1-#3
8	PANEL - HP7	3	600 A	400 A	174740 VA	3-#600, 1-#600, 1-#3
9	BOILER - B-1	3	800 A	700 A	450600 VA	2 runs of 3-#500, 1-#1/0
10	BOILER - B-2	3	800 A	700 A	450600 VA	2 runs of 3-#500, 1-#1/0
11	DHW-1	3	600 A	350 A	217818 VA	3-#500, 1-#3
12	PANEL - FP	3	225 A	40 A	4820 VA	3-#8, 1-#8, 1-#10
13	Spare	1	225 A	100 A	0 VA	--
14	Spare	1	225 A	225 A	0 VA	--
15	Space	1	--	--	--	--
16	Space	1	--	--	--	--
17	Space	1	--	--	--	--
18	Space	1	--	--	--	--
				Total Conn. Load:	2273970 VA	
				Total Amps:	2735 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Cooling	103755 VA	80.00%	83004 VA		
HVAC	167900 VA	80.00%	134320 VA	**Total Conn. Load:**	2273970 VA
Heating	914640 VA	80.00%	731712 VA	**Total Est. Demand:**	1980766 VA
Motor	236981 VA	80.00%	189585 VA	**Total Conn.:**	2735 A
Receptacle	27100 VA	68.45%	18550 VA	**Total Est. Demand:**	2382 A
Power	570004 VA	100.00%	570004 VA		
Lighting	19751 VA	100.00%	19751 VA		
Water Heater	217818 VA	100.00%	217818 VA		
Telecom Rack	17000 VA	100.00%	17000 VA		
SPD	0 VA	0.00%	0 VA		

Notes:

Branch Panel: HP1

Location: ELECTRICAL 123
Supply From: SWBD
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 35,000
Mains Type: MLO
Mains Rating: 400 A

Notes:

CKT	Trip	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	Trip	CKT
1	125	3	270VDC CONVERTER RM 120	3-#1, 1-#1, 1-#6 6	27000	27000					3-#1, 1-#1, 1-#6	100A 480V 3PH RECEPT RM 120	3	125	2
3	--	--	--	--			27000	27000			--	--	--	--	4
5	--	--	--	--					27000	27000	--	--	--	--	6
7	125	3	SPDT SW-2 - PCA-2/100A RECEPT	3-#1, 1-#1, 1-#6 6	27000	2767					3-#4, 1-#10	XFMR - T1	3	60	8
9	--	--	--	--			27000	3231			--	--	--	--	10
11	--	--	--	--					27000	2691	--	--	--	--	12
13	20	1	Spare	--	0	0					--	Spare	1	20	14
15	20	1	Spare	--			0	--			--	Space	1	--	16
17	--	1	Space	--					--	--	--	Space	1	--	18
				Total Load:	83767 VA		84231 VA		83691 VA						
				Total Amps:	302 A		304 A		302 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	81000 VA	80.00%	64800 VA		
Heating	940 VA	80.00%	752 VA	**Total Connected Load:**	251689 VA
Motor	3429 VA	80.00%	2743 VA	**Total Estimated Demand Load:**	234615 VA
Receptacle	4320 VA	100.00%	4320 VA	**Total Connected Current:**	303 A
Power	162000 VA	100.00%	162000 VA	**Total Estimated Demand...**	282 A

Branch Panel: HDP

Location: EXTERIOR
Supply From:
Mounting: Surface
Enclosure: Type 3R

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 42,000
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

Notes:

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	40	3	HANGAR DOOR - RM 120	3-#10, 1-#10	5825	5825					3-#10, 1-#10	HANGAR DOOR - RM 106	3	40	2
3	--	--	--	--			5825	5825			--	--	--	--	4
5	--	--	--	--					5825	5825	--	--	--	--	6
7	40	3	HANGAR DOOR - RM 113	3-#10, 1-#10	5825	0						Spare	1	20	8
9	--	--	--	--			5825	0				Spare	1	20	10
11	--	--	--	--					5825	0		Spare	1	20	12
				Total Load:	17475 VA		17475 VA		17475 VA						
				Total Amps:	63 A		63 A		63 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	52425 VA	80.00%	41940 VA		
				Total Connected Load:	52425 VA
				Total Estimated Demand Load:	41940 VA
				Total Connected Current:	63 A
				Total Estimated Demand...	50 A

Branch Panel: HP2

Location: ELECTRICAL 123
Supply From: SWBD
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 35,000
Mains Type: MLO
Mains Rating: 225 A

Notes:

CKT	Trip	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	Trip	CKT
1	15	3	EF-7	3-#12, 1-#12	1330	1330					3-#12, 1-#12	EF-8	3	15	2
3	--	--	--	--			1330	1330			--	--	--	--	4
5	--	--	--	--					1330	1330	--	--	--	--	6
7	15	3	EF-9	3-#12, 1-#12	1330	16630					3-#3, 1-#8	AC-1	3	100	8
9	--	--	--	--			1330	16630			--	--	--	--	10
11	--	--	--	--					1330	16630	--	--	--	--	12
13	30	3	MAU-3	3-#12, 1-#12	3603	16630					3-#3, 1-#8	AC-2	3	100	14
15	--	--	--	--			3603	16630			--	--	--	--	16
17	--	--	--	--					3603	16630	--	--	--	--	18
19	20	3	UH-9	3-#12, 1-#12	2085	5432					3-#10, 1-#10	HHWP-1	3	25	20
21	--	--	--	--			2085	5432			--	--	--	--	22
23	--	--	--	--					2085	5432	--	--	--	--	24
25	12	3	DWBP-1	3-#12, 1-#12, 1-#12	1910	0					--	Spare	1	20	26
27	--	--	--	--			1910	0			--	Spare	1	20	28
29	--	--	--	--					1910	0	--	Spare	1	20	30
31	20	1	Spare	--	0	0					--	Spare	1	20	32
33	20	1	Spare	--			0	--			--	Space	1	--	34
35	--	1	Space	--					--	--	--	Space	1	--	36
37	--	1	Space	--	--	--					--	Space	1	--	38
39	--	1	Space	--			--	--			--	Space	1	--	40
41	--	1	Space	--					--	--	--	Space	1	--	42
				Total Load:	50280 VA		50280 VA		50280 VA						
				Total Amps:	182 A		182 A		182 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Heating	6255 VA	80.00%	5004 VA		
Motor	144585 VA	80.00%	115668 VA	**Total Connected Load:**	150840 VA
				Total Estimated Demand Load:	120672 VA
				Total Connected Current:	181 A
				Total Estimated Demand...	145 A

GENERAL NOTES

1. PROVIDE ONE SPARE CONDUIT, MINIMUM OF 3/4", FOR EVERY THREE SPARE CIRCUIT BREAKERS AND FOR EVERY THREE EMPTY POLE POSITIONS. ROUND UP THE SUM OF SPARE BREAKERS AND EMPTY POLE POSITIONS TO THE NEAREST MULTIPLE OF THREE.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENNG_512203_E_3BAYH_RVT22.rvt
SIZE: ANSI D

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:

File Path: C:\Users\mSeztar\OneDrive - US Army Corps of Engineers\Documents\ENNG_512203_E_3BAYH_RVT22_MEECRAR.rvt
Plot Date: 10/20/2025 2:32:19 PM

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

PANEL SCHEDULES

SHEET ID
EP601

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

Branch Panel: HP3

Location: ELEC 115
Supply From: SWBD
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 25,000
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

Notes:

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	15	3	UH-4	3-#12, 1-#12	1055	4160					3-#12, 1-#12	MAU-2	3	35	2
3	--	--	--	--			1055	4160			--	--	--	--	4
5	--	--	--	--					1055	4160	--	--	--	--	6
7	10	3	HVLSF-2	3-#12, 1-#12	1140	1330					3-#12, 1-#12	EF-4	3	15	8
9	--	--	--	--			1140	1330			--	--	--	--	10
11	--	--	--	--					1140	1330	--	--	--	--	12
13	15	3	EF-5	3-#12, 1-#12	1330	1330					3-#12, 1-#12	EF-6	3	15	14
15	--	--	--	--			1330	1330			--	--	--	--	16
17	--	--	--	--					1330	1330	--	--	--	--	18
19	90	3	XFMR - T2	3-#2, 1-#8	11712	0					--	Spare	1	20	20
21	--	--	--	--			11720	0			--	Spare	1	20	22
23	--	--	--	--					11624	0	--	Spare	1	20	24
25	20	1	Spare	--	0	0					--	Spare	1	20	26
27	--	1	Space	--			--	--			--	Space	1	--	28
29	--	1	Space	--					--	--	--	Space	1	--	30
				Total Load:	22057 VA		22065 VA		21967 VA						
				Total Amps:	80 A		80 A		79 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	3200 VA	80.00%	2560 VA		
Heating	3165 VA	80.00%	2532 VA	**Total Connected Load:**	66088 VA
Motor	28944 VA	80.00%	23155 VA	**Total Estimated Demand Load:**	57136 VA
Receptacle	13780 VA	86.28%	11890 VA	**Total Connected Current:**	79 A
Telecom Rack	17000 VA	100.00%	17000 VA	**Total Estimated Demand...**	69 A

Branch Panel: HP4

Location: ELEC 115
Supply From: SWBD
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 25,000
Mains Type: MCB
Mains Rating: 400 A
MCB Rating: 400 A

Notes:
100% RATED MCB WITH LSI ELECTRONIC TRIP UNIT

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	125	3	270VDC CONVERTER	3-#1/0, 1-#1/0, 1-#6	27334	27000					3-#1/0, 1-#1/0, 1-#6	100A 480V 3PH RECEPT	3	125	2
3	--	--	--	--			27334	27000			--	--	--	--	4
5	--	--	--	--					27334	27000	--	--	--	--	6
7	125	3	100A 480V 3PH RECEPT	3-#1/0, 1-#1/0, 1-#6	27000	0					--	Spare	1	20	8
9	--	--	--	--			27000	0			--	Spare	1	20	10
11	--	--	--	--					27000	0	--	Spare	1	20	12
13	--	1	Space	--	--	--					--	Space	1	--	14
15	--	1	Space	--			--	--			--	Space	1	--	16
17	--	1	Space	--					--	--	--	Space	1	--	18
				Total Load:	81334 VA		81334 VA		81334 VA						
				Total Amps:	294 A		294 A		294 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	244002 VA	100.00%	244002 VA		
				Total Connected Load:	244002 VA
				Total Estimated Demand Load:	244002 VA
				Total Connected Current:	293 A
				Total Estimated Demand...	293 A

Branch Panel: HP5

Location: ELEC 115
Supply From: SWBD
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 25,000
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

Notes:

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	20	1	LTS- RMS 104 & 105	1-#12, 1-#12, 1-#12	284	474					1-#12, 1-#12, 1-#12	CATWALK LTS - RMS 106,113, 120	1	20	2
3	20	1	LTS - RM 103	1-#12, 1-#12, 1-#12			384	468			1-#12, 1-#12, 1-#12	LTS - RMS 100, 102, 115, 116	1	20	4
5	20	1	DRIVEWAY LTS - WEST HALF	1-#12, 1-#12, 1-#12					602	754	1-#12, 1-#12, 1-#12	LTS - RMS 121, 122, 123	1	20	6
7	20	1	LTS-101,107-109,111,112,117,118	1-#12, 1-#12, 1-#12	700	2260					1-#10, 1-#10, 1-#10	HIGH BAY LTS - RM 106	1	20	8
9	20	1	DRIVEWAY LTS - EAST HALF	1-#12, 1-#12, 1-#12			602	2260			1-#12, 1-#12, 1-#12	HIGH BAY LTS - RM 113	1	20	10
11	20	1	HIGH BAY LTS - RM 120	1-#10, 1-#10, 1-#10					2337	1225	1-#12, 1-#12, 1-#12	EXT LTS - APRON (SOUTH)	1	20	12
13	20	1	EXT LIGHT - EAST, NORTH, WEST	1-#12, 1-#12, 1-#12	560	2331					3-#8, 1-#8, 1-#10	CENTRAL LIGHTING INVERTER	3	40	14
15	20	1	Spare	--			0	2255			--	--	--	--	16
17	20	1	Spare	--					0	2255	--	--	--	--	18
19	20	1	Spare	--	0	0					--	Spare	1	20	20
21	20	1	Spare	--			0	--			--	Space	1	--	22
23	--	1	Space	--					--	--	--	Space	1	--	24
25	--	1	Space	--	--	--					--	Space	1	--	26
27	--	1	Space	--			--	--			--	Space	1	--	28
29	--	1	Space	--					--	--	--	Space	1	--	30
				Total Load:	6608 VA		5969 VA		7173 VA						
				Total Amps:	24 A		22 A		26 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	19751 VA	100.00%	19751 VA		
				Total Connected Load:	19751 VA
				Total Estimated Demand Load:	19751 VA
				Total Connected Current:	24 A
				Total Estimated Demand...	24 A

Branch Panel: HP6

Location: ELECTRICAL 104
Supply From: SWBD
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 25,000
Mains Type: MCB
Mains Rating: 400 A
MCB Rating: 400 A

Notes:
100% RATED MCB

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	125	3	270VDC CONVERTER	3-#1/0, 1-#1/0, 1-#6	27334	27000					3-#1/0, 1-#1/0, 1-#6	100A 480V 3PH RECEPT	3	125	2
3	--	--	--	--			27334	27000			--	--	--	--	4
5	--	--	--	--					27334	27000	--	--	--	--	6
7	125	3	SPDT SW-1 - PCA-1/100A RECEPT	3-#1/0, 1-#1/0, 1-#6	27000	0					--	Spare	1	20	8
9	--	--	--	--			27000	0			--	Spare	1	20	10
11	--	--	--	--					27000	0	--	Spare	1	20	12
13	--	1	Space	--	--	--					--	Space	1	--	14
15	--	1	Space	--			--	--			--	Space	1	--	16
17	--	1	Space	--					--	--	--	Space	1	--	18
				Total Load:	81334 VA		81334 VA		81334 VA						
				Total Amps:	294 A		294 A		294 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	81000 VA	80.00%	64800 VA		
Power	163002 VA	100.00%	163002 VA	**Total Connected Load:**	244002 VA
				Total Estimated Demand Load:	227802 VA
				Total Connected Current:	293 A
				Total Estimated Demand...	274 A

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\mSeidner\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MEECRAVI.rvt

Plot Date: 10/20/2025 2:32:20 PM

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

PANEL SCHEDULES

SHEET ID

EP602

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

Branch Panel: HP7

Location: ELECTRICAL 104
Supply From: SWBD
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 35,000
Mains Type: MCB
Mains Rating: 400 A
MCB Rating: 300 A

Notes:

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	15	3	ERV-1	3-#12, 1-#12	500	5036					3-#4, 1-#10	XFMR - T3	3	60	2
3	--	--	--	--			500	5080			--	--	--	--	4
5	--	--	--	--					500	4985	--	--	--	--	6
7	10	3	HVLSF-1	3-#12, 1-#12	1140	1330					3-#12, 1-#12	EF-1	3	15	8
9	--	--	--	--			1140	1330			--	--	--	--	10
11	--	--	--	--					1140	1330	--	--	--	--	12
13	30	3	CRANE	3-#10, 1-#10, 1-#10	3000	1055					3-#12, 1-#12	UH-2	3	15	14
15	--	--	--	--			3000	1055			--	--	--	--	16
17	--	--	--	--					3000	1055	--	--	--	--	18
19	25	3	CU-1	3-#12, 1-#12	4440	3603					3-#12, 1-#12	MAU-1	3	30	20
21	--	--	--	--			4440	3603			--	--	--	--	22
23	--	--	--	--					4440	3603	--	--	--	--	24
25	15	3	EF-2	3-#12, 1-#12	1330	34585					3-2/0, 1-#6	CH-1	3	200	26
27	--	--	--	--			1330	34585			--	--	--	--	28
29	--	--	--	--					1330	34585	--	--	--	--	30
31	15	3	EF-3	3-#12, 1-#12	1330	900					3-#12, 1-#12	AHU-1	3	15	32
33	--	--	--	--			1330	900			--	--	--	--	34
35	--	--	--	--					1330	900	--	--	--	--	36
37	20	1	Spare	--	0	0					--	Spare	1	20	38
39	20	1	Spare	--			0	0			--	Spare	1	20	40
41	20	1	Spare	--					0	0	--	Spare	1	20	42
				Total Load:	58249 VA		58293 VA		58198 VA						
				Total Amps:	210 A		210 A		210 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Cooling	103755 VA	80.00%	83004 VA		
HVAC	2700 VA	80.00%	2160 VA	**Total Connected Load:**	174740 VA
Heating	3080 VA	80.00%	2464 VA	**Total Estimated Demand Load:**	141592 VA
Motor	56205 VA	80.00%	44964 VA	**Total Connected Current:**	210 A
Receptacle	9000 VA	100.00%	9000 VA	**Total Estimated Demand...**	170 A

Branch Panel: LP1

Location: ELECTRICAL 123
Supply From: T1
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22,000
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

Notes:
200% RATED NEUTRAL

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	15	1	UH-5	1-#12, 1-#12, 1-#12	120	900					1-#12, 1-#12, 1-#12	GF-1	1	20	2
3	20	1	RECEPT - EXTERIOR	1-#10, 1-#10, 1-#10			720	360			1-#12, 1-#12, 1-#12	RECEPT RM 123	1	20	4
5	15	1	EF-15	1-#12, 1-#12, 1-#12					420	540	1-#12, 1-#12, 1-#12	RECEPT RM 121	1	20	6
7	15	1	UH-6	1-#12, 1-#12, 1-#12	410	900					1-#10, 1-#10, 1-#10	RECEPT RM 120	1	20	8
9	15	1	EF-14	1-#12, 1-#12, 1-#12			420	410			1-#12, 1-#12, 1-#12	UH-7	1	15	10
11	15	1	UH-8	1-#12, 1-#12, 1-#12					410	900	1-#12, 1-#12, 1-#12	RECEPT RM 122	1	20	12
13	20	1	TRAP PRIMER (ETP-2) - RM 122	1-#12, 1-#12, 1-#12	16	421					3-#12, 1-#12	EF-11	3	15	14
15	20	1	RECEPT RM 120	1-#8, 1-#8, 1-#8			900	421			--	--	--	--	16
17	20	1	Spare	--					0	421	--	--	--	--	18
19	20	1	Spare	--	0	0					--	Spare	1	20	20
21	20	1	Spare	--			0	0			--	Spare	1	20	22
23	--	1	Space	--					--	--	--	Space	1	--	24
25	--	1	Space	--	--	--					--	Space	1	--	26
27	--	1	Space	--			--	--			--	Space	1	--	28
29	--	1	Space	--					--	--	--	Space	1	--	30
				Total Load:	2767 VA		3231 VA		2691 VA						
				Total Amps:	23 A		27 A		22 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Heating	940 VA	80.00%	752 VA		
Motor	3429 VA	80.00%	2743 VA	**Total Connected Load:**	8689 VA
Receptacle	4320 VA	100.00%	4320 VA	**Total Estimated Demand Load:**	7815 VA
				Total Connected Current:	24 A
				Total Estimated Demand...	22 A

Branch Panel: LP2

Location: ELEC 115
Supply From: T2
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22,000
Mains Type: MCB
Mains Rating: 225 A
MCB Rating: 150 A

Notes:

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	20	1	ETP-3, ETP-4 - RMS 102, 118	1-#12, 1-#12, 1-#12	32	360					1-#12, 1-#12, 1-#12	BAP-1 - RMS 108, 113, 120	1	20	2
3	15	1	UH-10	1-#12, 1-#12, 1-#12			140	1200			1-#12, 1-#12, 1-#12	RECEPT - RM 111	1	20	4
5	15	1	UH-3	1-#12, 1-#12, 1-#12					140	360	1-#12, 1-#12, 1-#12	RECEPT - RM 115	1	20	6
7	20	1	RECEPT - RM 109	1-#12, 1-#12, 1-#12	540	540					1-#12, 1-#12, 1-#12	RECEPT - RM 110	1	20	8
9	20	1	RECEPT - RM 111	1-#10, 1-#10, 1-#10			1380	900			1-#8, 1-#8, 1-#8	RECEPT - RM 113	1	20	10
11	15	1	EF-12	1-#12, 1-#12, 1-#12					500	720	1-#12, 1-#12, 1-#12	RECEPT - RM 102	1	20	12
13	20	1	RECEPT - EXTERIOR	1-#10, 1-#10, 1-#10	1080	8260					3-#1, 1-#1, 1-#8	PANEL TC	3	100	14
15	20	1	Spare	--			0	8100			--	--	--	--	16
17	20	1	ELECTRIC WATER COOLER	1-#12, 1-#12, 1-#12					1000	8100	--	--	--	--	18
19	20	1	E WALL RECEPT - RM 113	1-#8, 1-#8, 1-#8	900	0					--	Spare	1	20	20
21	20	1	Spare	--			0	0			--	Spare	1	20	22
23	20	1	RECEPT - RMS 101, 114, 117-118	1-#12, 1-#12, 1-#12					900	0	--	Spare	1	20	24
25	--	1	Space	--	--	--					--	Space	1	--	26
27	--	1	Space	--			--	--			--	Space	1	--	28
29	--	1	Space	--					--	--	--	Space	1	--	30
				Total Load:	11712 VA		11720 VA		11624 VA						
				Total Amps:	98 A		98 A		97 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	3200 VA	80.00%	2560 VA		
Motor	1113 VA	80.00%	891 VA	**Total Connected Load:**	35053 VA
Receptacle	13780 VA	86.28%	11890 VA	**Total Estimated Demand Load:**	32308 VA
Telecom Rack	17000 VA	100.00%	17000 VA	**Total Connected Current:**	97 A
				Total Estimated Demand...	90 A

Branch Panel: LP3

Location: MECHANICAL 105
Supply From: T3
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22,000
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

Notes:

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	20	1	TRAP PRIMER (ETP-1) - RM 105	1-#12, 1-#12, 1-#12	16	360					1-#12, 1-#12, 1-#12	RECEPT - RM 105	1	20	2
3	15	1	CP-1	1-#12, 1-#12, 1-#12			300	720			1-#10, 1-#10, 1-#10	RECEPT - EXTERIOR	1	20	4
5	15	1	UH-1	1-#12, 1-#12, 1-#12					205	720	1-#12, 1-#12, 1-#12	RECEPT - RM 106	1	20	6
7	20	1	RECEPT - RM 104 (NE SIDE A)	1-#12, 1-#12, 1-#12	540	800					1-#12, 1-#12, 1-#12	EF-10	1	15	8
9	20	1	CH-1 BUFFER TANK HEATER	1-#12, 1-#12, 1-#12			1540	540			1-#12, 1-#12, 1-#12	RECEPT - RM 104 (W SIDE A)	1	20	10
11	20	1	CH-1 EVAP HEATER	1-#12, 1-#12, 1-#12					1540	540	1-#12, 1-#12, 1-#12	RECEPT - RM 104 (W SIDE B)	1	20	12
13	15	1	EF-13	1-#12, 1-#12, 1-#12	800	540					1-#12, 1-#12, 1-#12	RECEPT - RM 104 (S SIDE D)	1	20	14
15	20	1	RECEPT - RM 104 (S SIDE B)	1-#12, 1-#12, 1-#12			540	540			1-#12, 1-#12, 1-#12	RECEPT - RM 104 (NW SIDE A)	1	20	16
17	20	1	RECEPT - RM 104 (S SIDE C)	1-#12, 1-#12, 1-#12					540	540	1-#12, 1-#12, 1-#12	RECEPT - RM 104 (NW SIDE B)	1	20	18
19	20	1	RECEPT - RM 104 (S SIDE A)	1-#12, 1-#12, 1-#12	540	540					1-#12, 1-#12, 1-#12	RECEPT - RM 104 (NE SIDE B)	1	20	20
21	20	1	GF-2	1-#12, 1-#12, 1-#12			900	0			--	Spare	1	20	22
23	20	1	N WALL RECEPT - RM 106	1-#10, 1-#10, 1-#10					900	0	--	Spare	1	20	24
25	20	1	E WALL RECEPT - RM 106 (A)	1-#8, 1-#8, 1-#8	900	0					--	Spare	1	20	26
27	20	1	Spare	--			0	0			--	Spare	1	20	28
29	--	1	Space	--					--	--	--	Space	1	--	30
				Total Load:	5036 VA		5080 VA		4985 VA						
				Total Amps:	42 A		42 A		42 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Heating	3080 VA	80.00%	2464 VA		
Motor	3021 VA	80.00%	2417 VA	**Total Connected Load:**	15101 VA
Receptacle	9000 VA	100.00%	9000 VA	**Total Estimated Demand Load:**	13881 VA
				Total Connected Current:	42 A
				Total Estimated Demand...	39 A

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DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_E_3BAYH_RVT22.rvt

File Path: C:\Users\mSeidner\OneDrive - US Army Corps of Engineers\Documents\ENG_512203_E_3BAYH_RVT22_MEECRAVI.rvt
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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

PANEL SCHEDULES

SHEET ID

EP603

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

Branch Panel: TC

Location: COMM 116
Supply From: LP2
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 14,000
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A

Notes:
200% NEUTRAL

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	20	1	RECEPTS - RM 116	1-#12, 1-#12, 1-#12	540	720					1-#12, 1-#12, 1-#12	RECEPTS - RM 116	1	20	2
3	20	1	L5-20R - TELECOM RACK	1-#12, 1-#12, 1-#12			1500	1600			2-#10, 1-#10	MSHP-1/MSCU-1	2	25	4
5	20	1	L5-20R - TELECOM RACK	1-#12, 1-#12, 1-#12					1500	1600	--	--	--	--	6
7	30	2	L6-30R - TELECOM RACK	2-#10, 1-#10	2000	1500					2-#12, 1-#12	L6-20R - TELECOM RACK	2	20	8
9	--	--	--	--			2000	1500			--	--	--	--	10
11	30	2	L6-30R - TELECOM RACK	2-#10, 1-#10					2000	1500	2-#12, 1-#12	L6-20R - TELECOM RACK	2	20	12
13	--	--	--	--	2000	1500					--	--	--	--	14
15	20	2	L6-20R - TELECOM RACK	2-#12, 1-#12			1500	0			--	Spare	1	20	16
17	--	--	--	--					1500	0	--	Spare	1	20	18
19	20	1	Spare	--	0	0					--	Spare	1	20	20
21	20	1	Spare	--			0	--			--	Space	1	--	22
23	--	1	Space	--					--	--	--	Space	1	--	24
25	--	1	Space	--	--	--					--	Space	1	--	26
27	--	1	Space	--			--	--			--	Space	1	--	28
29	--	1	Space	--					--	--	--	Space	1	--	30
				Total Load:	8260 VA		8100 VA		8100 VA						
				Total Amps:	69 A		68 A		68 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	3200 VA	80.00%	2560 VA		
Receptacle	4260 VA	100.00%	4260 VA	**Total Connected Load:**	24460 VA
Telecom Rack	17000 VA	100.00%	17000 VA	**Total Estimated Demand Load:**	23820 VA
				Total Connected Current:	68 A
				Total Estimated Demand...	66 A

Branch Panel: FP

Location: ELECTRICAL 123
Supply From: UNIT SUBSTATION
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22,000
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 40 A

Notes:

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	25	3	JOCKEY PUMP - JP-1	3-#10, 1-#10	1273	500					1-#12, 1-#12, 1-#12	FACU	1	20	2
3	--	--	--	--			1273	500			1-#12, 1-#12, 1-#12	LOC	1	20	4
5	--	--	--	--					1273	0	--	Spare	1	20	6
7	20	1	Spare	--	0	0					--	Spare	1	20	8
9	--	1	Space	--			--	0			--	Spare	1	20	10
11	--	1	Space	--					--	0	--	Spare	1	20	12
13	--	1	Space	--	--	0					--	Spare	1	20	14
15	--	1	Space	--			--	0			--	Spare	1	20	16
17	--	1	Space	--					--	0	--	Spare	1	20	18
				Total Load:	1773 VA		1773 VA		1273 VA						
				Total Amps:	15 A		15 A		11 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	3820 VA	80.00%	3056 VA		
Power	1000 VA	100.00%	1000 VA	**Total Connected Load:**	4820 VA
				Total Estimated Demand Load:	4056 VA
				Total Connected Current:	13 A
				Total Estimated Demand...	11 A

Branch Panel: INV

Location: ELEC 115
Supply From: HP5
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 14,000
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 40 A

Notes:

CKT	T...	P	Circuit Description	Wire Size	A		B		C		Wire Size	Circuit Description	P	T...	CKT
1	20	1	OBSTRUCTION LTS	1-#12, 1-#12, 1-#12	76	2255					1-#12, 1-#12, 1-#12	HIGH BAY LTS - 113	1	20	2
3	20	1	HIGH BAY LTS - RM 106	1-#10, 1-#10, 1-#10			2255	0			--	Spare	1	20	4
5	20	1	HIGH BAY LTS - RM 120	1-#10, 1-#10, 1-#10					2255	0	--	Spare	1	20	6
7	--	1	Space	--	--	--					--	Space	1	--	8
9	--	1	Space	--			--	--			--	Space	1	--	10
11	--	1	Space	--					--	--	--	Space	1	--	12
				Total Load:	2331 VA		2255 VA		2255 VA						
				Total Amps:	8 A		8 A		8 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	6840 VA	100.00%	6840 VA		
				Total Connected Load:	6840 VA
				Total Estimated Demand Load:	6840 VA
				Total Connected Current:	8 A
				Total Estimated Demand...	8 A

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MARK	DESCRIPTION	DATE

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DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

PANEL SCHEDULES

SHEET ID

EP604

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FEEDER SCHEDULE

FROM EQUIPMENT / LOCATION	TO EQUIPMENT / LOCATION	CONDUCTORS	RACEWAY
UTILITY SERVICE XFMR / SITE	SWBD / ROOM 123	9 SETS, (4) 750 KCMIL XHHW, CU	10 X 4" C
UTILITY SERVICE XFMR / SITE	FIRE PUMP DISCONNECT / EXTERIOR	(4) #4 AWG XHHW, CU	2 X 1" C
UTILITY SERVICE XFMR / SITE	HANGAR DOOR MTS / EXTERIOR	(4) 1/0 AWG XHHW & (1) #6 AWG EGC, CU	1 X 2" C
SWBD / ROOM 123	HP1 / ROOM 123	(4) 600 KCMIL THWN & (1) #3 AWG EGC, CU	1 X 3-1/2" C
SWBD / ROOM 123	HP2 / ROOM 123	(4) 4/0 AWG THWN & (1) #4 AWG EGC, CU	1 X 2-1/2" C
SWBD / ROOM 123	HP3 / ROOM 115	(4) #1 AWG THWN & (1) #8 AWG EGC, CU	1 X 1-1/2" C
SWBD / ROOM 123	HP4 / ROOM 115	(4) 600 KCMIL THWN & (1) #3 AWG EGC, CU	1 X 3-1/2" C
SWBD / ROOM 123	HP5 / ROOM 115	(4) #1 AWG THWN & (1) #8 AWG EGC, CU	1 X 1-1/2" C
SWBD / ROOM 123	HP6 / ROOM 104	(4) 600 KCMIL THWN & (1) #3 AWG EGC, CU	1 X 3-1/2" C
SWBD / ROOM 123	HP7 / ROOM 104	(4) 600 KCMIL THWN & (1) #3 AWG EGC, CU	1 X 3-1/2" C
HANGAR DOOR MTS / EXTERIOR	HDP / EXTERIOR	(4) #1 AWG THWN & (1) #8 AWG EGC, CU	1 X 1-1/2" C
SWBD / ROOM 123	FP / ROOM 123	(3) #10 AWG THWN & (1) #10 EGC	1 X 3/4" C
HP1 / ROOM 123	T1 / ROOM 123	(3) #4 AWG THWN & (1) #10 AWG EGC, CU	1 X 1-1/2" C
HP3 / ROOM 115	T2 / ROOM 115	(3) #2 AWG THWN & (1) #8 AWG EGC, CU	1 X 1-1/4" C
HP7 / ROOM 104	T3 / ROOM 104	(3) #4 AWG THWN & (1) #10 AWG EGC, CU	1 X 1" C
T1 / ROOM 123	LP1 / ROOM 123	(4) #1 AWG THWN & (1) #6 AWG SSBJ, CU	1 X 1-1/2" C
T2 / ROOM 115	LP2 / ROOM 115	(4) 1/0 AWG THWN & (1) #6 AWG SSBJ, CU	1 X 2" C
T3 / ROOM 104	LP3 / ROOM 104	(4) #1 AWG THWN & (1) #6 AWG SSBJ, CU	1 X 1-1/2" C
LP2 / ROOM 115	TC / ROOM 116	(4) #1 AWG THWN & (1) #6 AWG SSBJ, CU	1 X 1-1/2" C

EQUIPMENT SCHEDULE

DESCRIPTION		ELECTRICAL DATA						CONDUCTORS AND CONDUIT				DISCONNECT			
EQUIPMENT NAME	LOCATION	VOLTAGE	POLE	HP	FLA	MCA	MOCP	# OF SETS	WIRE SIZE	EGC	CONDUIT SIZE	SIZE	FUSE	TYPE	NOTES
100A 480V 3PH RECEPT	ROOM 106	480 V	3	N/A	97 A	122 A	125 A	1	1/0	#6	2"	200A	NF	NEMA 4X	NO NEUTRAL
100A 480V 3PH RECEPT	ROOM 113	480 V	3	N/A	97 A	122 A	125 A	1	1/0	#6	2"	200A	NF	NEMA 4X	NO NEUTRAL
100A 480V 3PH RECEPT	ROOM 120	480 V	3	N/A	97 A	122 A	125 A	1	1/0	#6	2"	200A	NF	NEMA 4X	NO NEUTRAL
270VDC CONVERTER	ROOM 106	480 V	3	N/A	97 A	122 A	125 A	1	1/0	#6	2"	200A	NF	NEMA 4X	NO NEUTRAL
270VDC CONVERTER	ROOM 113	480 V	3	N/A	97 A	122 A	125 A	1	1/0	#6	2"	200A	NF	NEMA 4X	NO NEUTRAL
270VDC CONVERTER	ROOM 120	480 V	3	N/A	97 A	122 A	125 A	1	1/0	#6	2"	200A	NF	NEMA 4X	NO NEUTRAL
AC-1	ROOM 122	480 V	3	40 HP	60 A	76 A	100 A	1	#3	#8	1-1/2"	100 A	100 A	NEMA 1	CLASS J FUSE, COORDINATE WITH MANUFACTURER.
AC-2	ROOM 122	480 V	3	40 HP	60 A	76 A	100 A	1	#3	#8	1-1/2"	100 A	100 A	NEMA 1	CLASS J FUSE, COORDINATE WITH MANUFACTURER.
AHU-1	ROOM 105	480 V	3	2.8 HP	3.2 A	4 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
B-1	ROOM 122	480 V	3	N/A	542 A	678 A	700 A	2	500 KCMIL	1/0	3"	700 A	NF	NEMA 1	
B-2	ROOM 122	480 V	3	N/A	542 A	678 A	700 A	2	500 KCMIL	1/0	3"	700 A	NF	NEMA 1	
BAP-1	ROOMS 106, 113, 120	120 V	1	N/A	3	3.75 A	20 A	1	#12	#12	3/4"	N/A	N/A	N/A	
CH-1	EXTERIOR	480 V	3	7.5 HP	125 A	156 A	200 A	1	2/0	#6	2"	200 A	NF	NEMA 3R	UNIT MOUNTED DISCONNECT. COORDINATE WITH...
CH-1 EVAP HEATER	EXTERIOR	120 V	1	N/A	12.8 A	16 A	20 A	1	#12	#12	3/4"	30 A	20A	NEMA 3R	COORDINATE WITH MECHANICAL.
CH-1 BUFFER TANK HEATER	EXTERIOR	120 V	1	N/A	12.8 A	16 A	20 A	1	#12	#12	3/4"	30 A	20A	NEMA 3R	COORDINATE WITHMECHANICAL.
CP-1	ROOM 105	120 V	1	FRACTIONAL	2.5 A	3.1 A	15 A	1	#12	#12	3/4"	N/A	N/A	N/A	
CRANE	ROOM 106	480 V	3	10 HP	14 A	17.5 A	30 A	1	#10	#10	3/4"	30 A	N/A	NEMA 4X	COORDINATE WITH CRANE MANUFACTURER.
CU-1	EXTERIOR	480 V	3	N/A	16 A	20 A	25 A	1	#12	#12	3/4"	30 A	NF	NEMA 3R	
DWH-1	ROOM 105	480 V	3	N/A	262 A	328 A	350 A	1	500 KCMIL	#3	3"	400 A	NF	NEMA 1	
DWBP-1	ROOM 122	480 V	3	3 HP	6.9 A	8.6	12A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
EF-1	ROOM 106	480 V	3	3 HP	4.8 A	6 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
EF-2	ROOM 106	480 V	3	3 HP	4.8 A	6 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
EF-3	ROOM 106	480 V	3	3 HP	4.8 A	6 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
EF-4	ROOM 113	480 V	3	3 HP	4.8 A	6 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
EF-5	ROOM 113	480 V	3	3 HP	4.8 A	6 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
EF-6	ROOM 113	480 V	3	3 HP	4.8 A	6 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
EF-7	ROOM 120	480 V	3	3 HP	4.8 A	6 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
EF-8	ROOM 120	480 V	3	3 HP	4.8 A	6 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
EF-9	ROOM 120	480 V	3	3 HP	4.8 A	6 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
EF-10	ROOM 105	120V	1	1/2 HP	6.6 A	8.2 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
EF-11	ROOM 122	208 V	3	3/4 HP	3.5 A	4.4 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
EF-12	ROOM 102	120 V	1	1/2 HP	4.1 A	5.1 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
EF-13	ROOM 104	120 V	1	1/2 HP	6.6 A	8.2 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
EF-14	ROOM 123	120 V	1	1/2 HP	3.5 A	4.4 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
EF-15	ROOM 121	120 V	1	1/2 HP	3.5 A	4.4 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
ERV-1	ROOM 105	480 V	3	N/A	2.2 A	2.7 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
ETP-1	ROOM 105	120 V	1	N/A	0.25 A	0.3 A	20 A	1	#12	#12	3/4"	N/A	N/A	N/A	
ETP-2	ROOM 122	120 V	1	N/A	0.25 A	0.3 A	20 A	1	#12	#12	3/4"	N/A	N/A	N/A	
ETP-3	ROOM 118	120 V	1	N/A	0.25 A	0.3 A	20 A	1	#12	#12	3/4"	N/A	N/A	N/A	
ETP-4	ROOM 102	120 V	1	N/A	0.25 A	0.3 A	20 A	1	#12	#12	3/4"	N/A	N/A	N/A	
FIRE PUMP	EXTERIOR	480 V	3	3 HP	10.6 A	65 A	300 A	1	#4	#4	1-1/4"	400 A	300A	NEMA 3R	
GF-1	ROOM 122	120 V	1	1/3 HP	7.2 A	9 A	20 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
GF-2	ROOM 105	120 V	1	1/3 HP	7.2 A	9 A	20 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
HANGAR DOORS	ROOMS 106, 113, 120	480 V	3	13.4 HP	17.7 A	21 A	40 A	1	#10	#10	3/4"	30 A	NF	NEMA 4X	COORDINATE WITH HANGAR DOOR MANUFACTURER.
HHWP-1	ROOM 122	480 V	3	10 HP	19.6 A	24.5 A	25 A	1	#10	#10	3/4"	30 A	NF	NEMA 1	
HVLSF-1	ROOM 106	480 V	3	2.5 HP	4.1 A	5.1 A	10 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
HVLSF-2	ROOM 113	480 V	3	2.5 HP	4.1 A	5.1 A	10 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
JP-1	ROOM 102	208 V	3	3 HP	10.6 A	13.3 A	25 A	1	#10	#10	3/4"	30A	NF	NEMA 1	
MAU-1	ROOM 106	480 V	3	11 HP	13 A	15 A	30 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
MAU-2	ROOM 113	480 V	3	13 HP	15 A	17 A	35 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
MAU-3	ROOM 120	480 V	3	11 HP	13 A	15 A	30 A	1	#12	#12	3/4"	30 A	NF	NEMA 4X	
MSHP-1/MSCU-1	ROOM 116/EXTERIOR	208 V	1	N/A	15.4 A	19 A	25 A	1	#10	#10	3/4"	30 A	NF	NEMA 3R	
PCA-1	EXTERIOR	480 V	3	N/A	73 A	91 A	125 A	1	#2	#6	1-1/4"	200 A	NF	NEMA 3R	
PCA-2	EXTERIOR	480 V	3	N/A	73 A	91 A	125 A	1	#2	#6	1-1/4"	200 A	NF	NEMA 3R	
SPDT SW-1	EXTERIOR	480 V	3	N/A	97.4 A	122 A	125A	1	1/0	#6	2"	200 A	NF	NEMA 3R	SINGLE POLE, DOUBLE THROW SWITCH.
SPDT SW-2	EXTERIOR	480 V	3	N/A	97.4 A	122 A	125A	1	1/0	#6	2"	200 A	NF	NEMA 3R	SINGLE POLE, DOUBLE THROW SWITCH.
UH-1	ROOM 105	120 V	1	FRACTIONAL	1.7 A	2.09 A	15 A	1	#12	#12	3/4"	N/A	N/A	N/A	
UH-2	ROOM 104	480 V	3	FRACTIONAL	3.8 A	4.7 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
UH-3	ROOM 102	120 V	1	FRACTIONAL	1 A	1.2 A	15 A	1	#12	#12	3/4"	N/A	N/A	N/A	
UH-4	ROOM 115	480 V	3	FRACTIONAL	3.8 A	4.7 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
UH-5	ROOM 121	120 V	1	FRACTIONAL	1 A	1.2 A	15 A	1	#12	#12	3/4"	N/A	N/A	N/A	
UH-6	ROOM 122	120 V	1	FRACTIONAL	3.4 A	4.25 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
UH-7	ROOM 122	120 V	1	FRACTIONAL	3.4 A	4.25 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
UH-8	ROOM 122	120 V	1	FRACTIONAL	3.4 A	4.25 A	15 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
UH-9	ROOM 123	480 V	3	FRACTIONAL	7.5 A	9.4 A	20 A	1	#12	#12	3/4"	30 A	NF	NEMA 1	
UH-10	ROOM 101	120 V	1	FRACTIONAL	1 A	1.2 A	15 A	1	#12	#12	3/4"	N/A	N/A	N/A	

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US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
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TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

FEEDER AND EQUIPMENT SCHEDULES

SHEET ID

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TELECOMMUNICATION LEGEND AND SYMBOLS

(NOTE: NOT ALL SYMBOLS SHOWN HEREON ARE USED IN THESE DRAWINGS)

SYMBOL	DESCRIPTION
	-GENERAL-
	COMBINATION TELEPHONE/DATA OUTLET
	DATA OUTLET MOUNTED +18" AFF UNO
	TELEPHONE OUTLET WITH LUGGED FACEPLATE MOUNTED +54" AFF UNO
TV	CATV OUTLET MOUNTED AT +84" AFF UNO
	FLOOR MOUNTED DATA OUTLET
	FLOOR MOUNTED TELEPHONE/DATA OUTLET
	FLOOR MOUNTED TELEPHONE OUTLET
	CEILING MOUNTED DATA OUTLET
AV	AUDIO / VIDEO SYSTEM AND OUTLET
TTB	TELEPHONE TERMINAL BOARD
DTB	DATA TERMINAL BOARD
M	MICROPHONE OUTLET
DC	DOOR CONTACT
S	CEILING MOUNTED SPEAKER WITH INTEGRAL VOLUME CONTROL
S	WALL MOUNTED SPEAKER
V	WALL MOUNTED VOLUME CONTROL
C	CLOCK RECEPTACLE OUTLET
	SECURITY CAMERA
T	THERMOSTAT
J	JUNCTION BOX
	WALL MOUNTED JUNCTION BOX
	FLOOR MOUNTED JUNCTION BOX
	CONDUIT STUB DOWN (OUT OF DRAWING LIMITS)
	CONDUIT STUB UP (OUT OF DRAWING LIMITS)
XX	SPECIAL SYSTEMS SYMBOLS: B = BUZZER CH = CHIME CK = CARD READER/KEYPAD CR = CARD READER DA = DURESS ALARM PUSH-BUTTON DC = DOOR CONTACT DO = DOOR OPERATOR DS = DOOR STRIKE EL = ELECTRIC LOCK ES = ELECTRIC STRIKE GB = GLASSBREAK DETECTOR HC = HANDICAP PUSH-BUTTON HH = HAND HOLE IC = INTERCOM CALL STATION KP = KEYPAD MH = MANHOLE MD = MOTION DETECTOR ML = MAGNETIC LOCK OS = OCCUPANCY SENSOR PB = PULLBOX PM = POWER QUALITY METER PS = PRESSURE SWITCH R = REMOTE INDICATING LIGHT RT = REMOTE TEST STATION RX = REQUEST TO EXIT PUSH-BUTTON TC = TIME CLOCK VM = VIDEO MONITOR
XXX	MISCELLANEOUS SYSTEM COMPONENT: AMP = AMPLIFIER ANN = ANNUNCIATOR ASD = ADJUSTABLE SPEED DRIVE ATS = AUTOMATIC TRANSFER SWITCH BMS = BALANCED MAGNETIC STRIP CAM = CONTROL ADDRESSABLE MODULE DE = DELAYED EGRESS DMA = DOOR MANAGEMENT ALARM DTC = DATA TERMINAL CABINET DVR = DIGITAL VIDEO RECORDER EC = ELECTRICAL CONTACTOR FSD = FIRE SMOKE DAMPER IDS = INTRUSION DETECTION SYSTEM MAM = MONITOR ADDRESSABLE MODULE MNCP = MASS NOTIFCATION CONTROL PANEL PIR = PASSIVE INFRARED DETECTOR SAP = SECURITY ALARM PANEL SPD = SURGE PROTECTIVE DEVICE VFD = VARIABLE FREQUENCY DRIVE

SYMBOL	DESCRIPTION
	-GROUNDING SYMBOLS-
	GROUND TEST WELL
	GROUNDING COUNTERPOISE (RING)
	ROOF OR DOWN CONDUCTOR
	LIGHTNING PROTECTION AIR TERMINAL
	BONDING POINT
MGB	MAIN GROUND BAR
TMGB	TELECOMMUNICATIONS MAIN GROUND BAR
TGB	TELECOMMUNICATIONS GROUND BAR
	LIGHTNING PROTECTION SYSTEM MAST FOR CATENARY SYSTEM ELECTRICAL GROUND OR GROUND ROD
	PIGTAIL
	DOWN CONDUCTOR

	-ABBREVIATIONS-
+XX	MOUNTING HEIGHT IN INCHES. AFF UNO
AC	ABOVE COUNTER TOP
ACU	AUTONOMOUS CONTROL UNIT OR ASSOCIATED CONDENSING UNIT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
C	CONDUIT
CAM	CONTROL ADDRESSABLE MODULE
CCTV	CLOSED CIRCUIT T.V.
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CLG	CEILING
COE	CORPS OF ENGINEERS
CR	CARD READER
CU	COPPER
DMC	DUAL MODE CONTROLLER
DTC	DATA TERMINAL CABINET
EC	EMPTY CONDUIT
ELEV	ELEVATION
EX	EXISTING
FLR	FLOOR
FO	FIBER OPTIC (CABLE)
G	GROUND (EQUIPMENT)
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GND	GROUND (EQUIPMENT)
IAW	IN ACCORDANCE WITH
IG	ISOLATED GROUND
JB	JUNCTION BOX
K	THOUSAND
MAM	MONITOR ADDRESSABLE MODULE
MATV	MASTER ANTENNA TV
MNCP	MASS NOTIFICATION CONTROL PANEL
MNS	MASS NOTIFICATION SYSTEM
MTD	MOUNTED
MTG	MOUNTING HEIGHT
NIC	NOT IN CONTRACT
OSP	OUTSIDE PLANT
P	POLE
PB	PULL BOX
PNL	PANEL
SBC	STRANDED BARE COPPER
SM	SINGLE MODE
TEL	TELEPHONE
TGB	TELECOM GROUNDING BUS
TGMB	TELECOM GROUNDING MAIN BUS
TRT	TRIPLE TUBE
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TYP.	TYPICAL
UF	UNDERFLOOR
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
VV	VARIABLE VOLUME UNIT
W/	WITH
WP	WEATHERPROOF
WT	WATERTIGHT

SYMBOL	DESCRIPTION
	-GRAPHIC SYMBOLS-
#	KEYED NOTE
#	REVISION NUMBER
EF-1	MECHANICAL EQUIPMENT TAG (eg EF-1 = EXHAUST FAN #1) REFER TO MECHANICAL DOCUMENTATION FOR ABBREVIATIONS AND ACTUAL ELECTRICAL REQUIREMENTS.

GENERAL NOTES

1. WORK SHALL BE IN ACCORDANCE WITH THE LATEST UFC 3-580-01.
2. MINIMUM CONDUIT SIZE FOR TELECOMMUNICATION RACEWAYS IS 1".
3. BACKBONE CABLING MUST BE INSTALLED IN AREA CABLE TRAYS AND BACKBONE CONDUITS AS SHOWN. BACKBONE CABLING MUST NOT BE INSTALLED USING J-HOOKS OR ANY OTHER METHOD.
4. HORIZONTAL CABLING THROUGHOUT THE FACILITY MUST NOT EXCEED 295 FEET PER EIA/TIA GUIDELINES. CONTRACTOR MUST ROUTE PATHWAYS AND CABLES TO ENSURE THIS DISTANCE IS NOT EXCEEDED. CONTRACTOR MUST NOTIFY COR PRIOR TO PATHWAY AND CABLE INSTALLATION IF THERE ARE AREAS WHERE THE EXPECTED DISTANCE MAY BE EXCEEDED.
5. HORIZONTAL CABLING SERVING WALL MOUNTED COMMUNICATIONS OUTLETS IN STANDARD WALLS MUST BE ROUTED FROM COMMUNICATIONS OUTLET IN MINIMUM 1" CONDUIT FROM EACH COMMUNICATIONS OUTLET TO AREA CABLE TRAY, AND IN AREA CABLE TRAY TO DESIGNATED COMMUNICATION ROOM.
6. ALL CONDUITS MUST BE CONCEALED UNLESS OTHERWISE NOTED ON PLAN. CONDUITS INSTALLED IN EXISTING SPACES WITH CONCRETE OR CMU WALLS MUST BE SURFACE MOUNTED AND PAINTED TO MATCH WALL FINISH. SEE ARCHITECTURAL PLANS FOR WALL FINISHES.
7. ALL CABLING MUST BE LABELED IN ACCORDANCE WITH EIA/TIA-606-C, LABELING STANDARD FOR NETWORKS.
8. ALL ELECTRICAL WORK MUST COMPLY WITH NEC (NFPA 70) v2020, NFPA 72 v2022, NFPA 101 v2021, UFC 3-580-01 v2016, AND UNIFORM FACILITY CRITERIA, OR TECHNICAL LETTERS, IN ADDITION TO LOCAL CODES AND ORDINANCES INCLUDING THE TAFB ELECTRICAL STANDARD v2020.
9. USE WIDE BEND RADIUS CONDUITS FOR ALL CONDUITS CONTAINING COMMUNICATIONS CABLING TO FACILITATE CABLE PULLING.
10. ALL COMMUNICATION EQUIPMENT AND OUTLET INSTALLATION LOCATIONS MUST BE COORDINATED WITH FURNITURE INSTALLATION.
11. COORDINATE PENETRATIONS IN FIRE RATED WALLS WITH DETAILS SHOWN ON SHEET A 510.
12. ALL PENETRATIONS IN WALLS, INCLUDING FIRE-RATED WALLS, MUST CONFORM TO THE ARCHITECTURAL PENETRATION DETAILS ON SHEET A-510.

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SOLICITATION NO.: W912BV26RA004
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PROJECT NO: 512203
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TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

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PN: 512203

SYSTEMS LEGEND

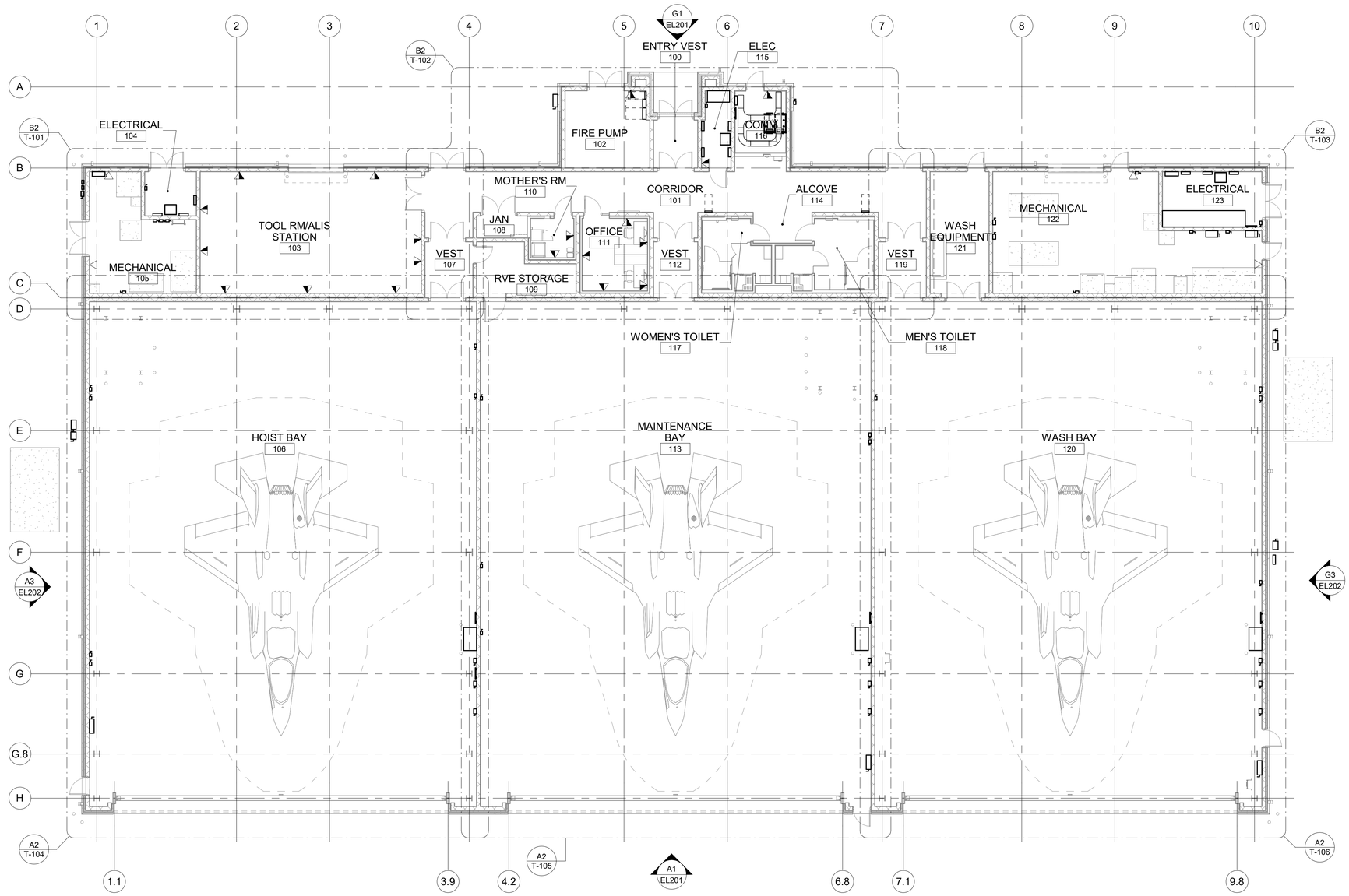
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A1 FIRST FLOOR TELECOM PLAN

3/32" = 1'-0"

PLAN NORTH

GENERAL NOTES

1. CCTV CAMERAS SHALL COMPLY WITH SECTION 889 OF THE JOHN S. McCAIN NATIONAL DEFENSE AUTHORIZATION ACT.
2. FIBER SHALL BE RAN FROM THE COMMUNICATION ROOM TO THE FIBER TO COPPER CONVERSION CABINET AS DETAILED ON SHEET ?-###.
3. WAP/WAN LOCATIONS ARE SHOWN DIAGRAMATICALY. EXACT WAP/WAN LOACTION STALL BE FROM HEAT MAP FROM BASE COMMUNICATIONS.

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OVERALL TELECOMMUNICATIONS PLAN

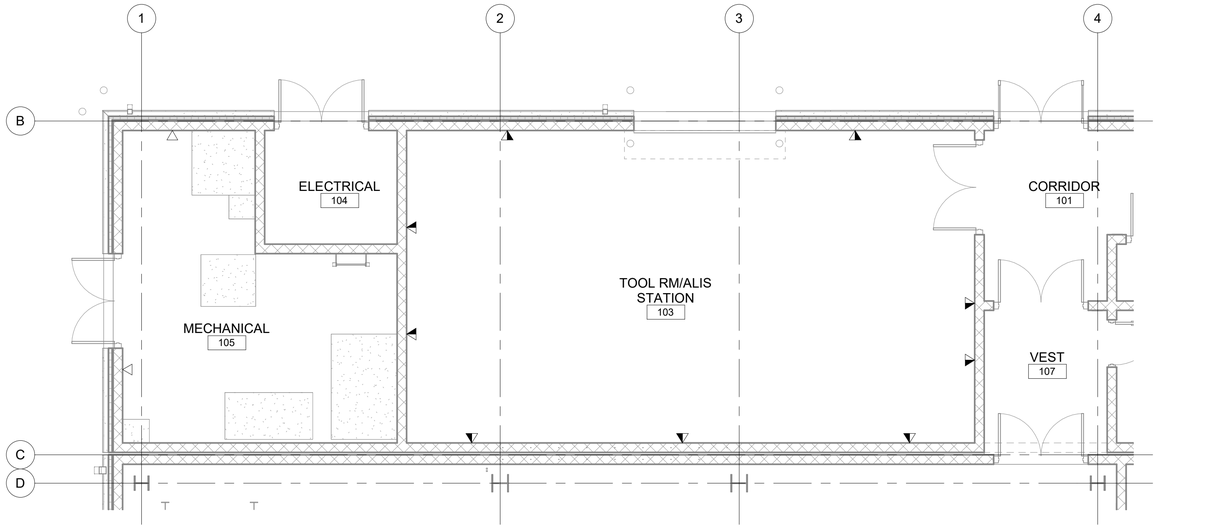
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T-100

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GENERAL NOTES

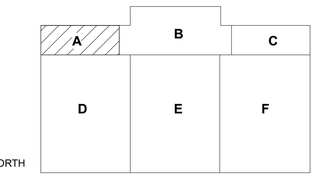
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2. SEE SHEET T-**401** FOR TELECOM CABLE TRAY PLACEMENT.



B2 TELECOMMUNICATION PLAN - AREA A

3/16" = 1'-0"

0 2' 4' 8' 16'



PLAN NORTH

KEY PLAN

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TELECOMMUNICATION PLAN - AREA A

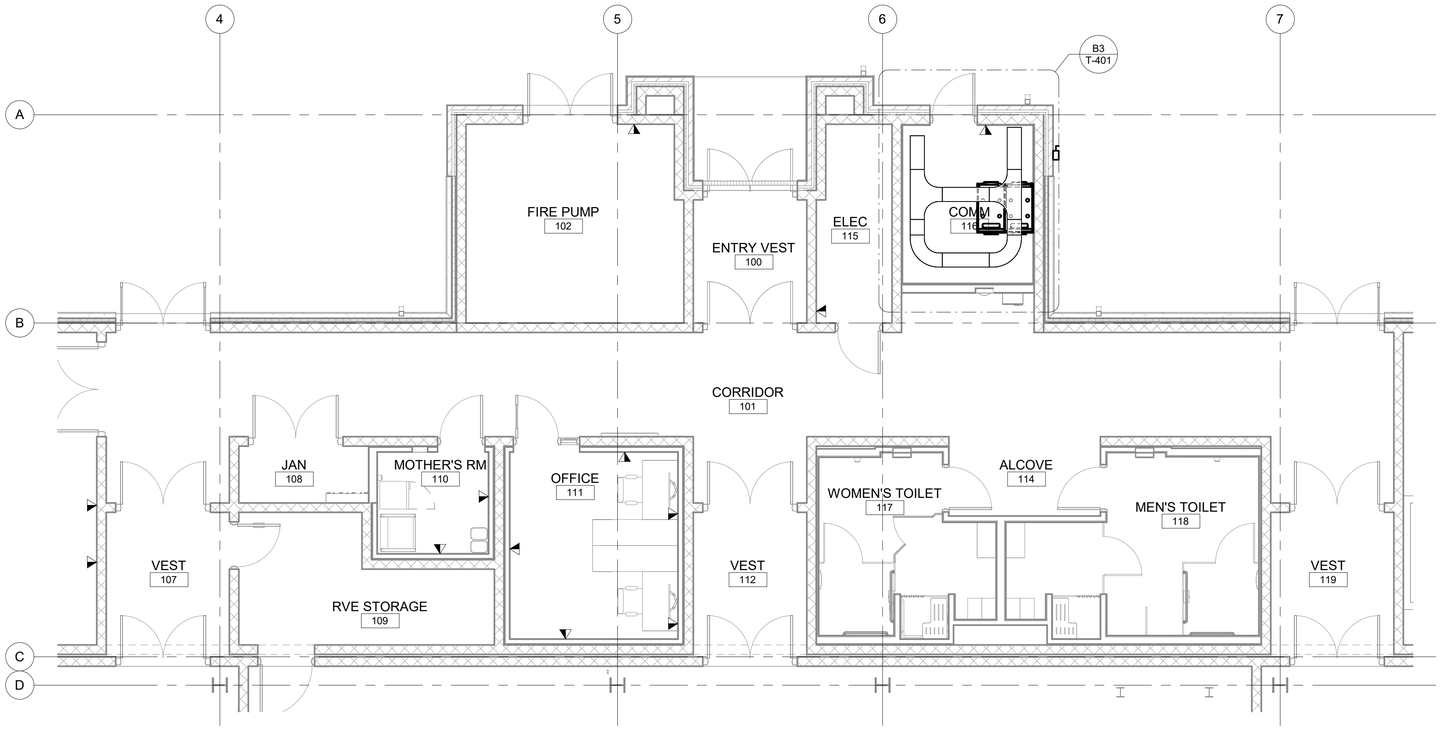
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GENERAL NOTES

1. CONTRACTOR TO PROVIDE BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL (BICSI) REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) STAMPED SHOP DRAWINGS SUBMITTED FOR APPROVAL.
2. SEE SHEET T-**401** FOR TELECOM CABLE TRAY PLACEMENT.

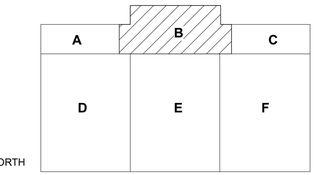


B2 TELECOMMUNICATION PLAN - AREA B

3/16" = 1'-0"

0 2' 4' 8' 16'

PLAN NORTH



KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: ENG_512203_E_3BAYH_RVT22.rvt
SIZE: ANSI D

DESIGNED BY: C. VELOZ
DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

TELECOMMUNICATION PLAN - AREA B

SHEET ID

T-102

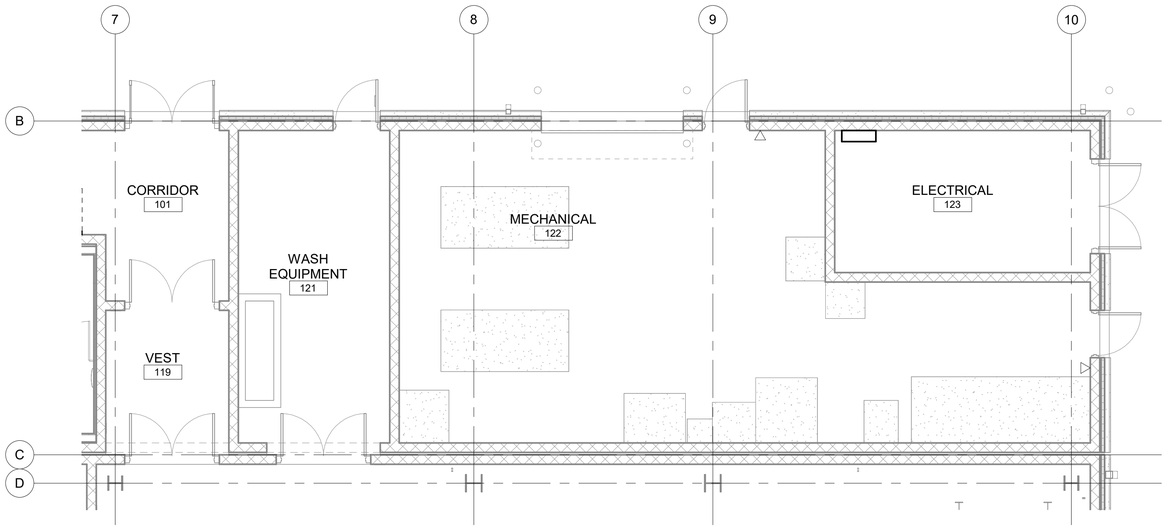
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Plot Date: 10/20/2025 2:45:16 PM

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GENERAL NOTES

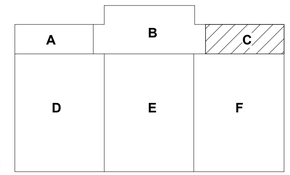
1. CONTRACTOR TO PROVIDE BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL (BICSI) REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) STAMPED SHOP DRAWINGS SUBMITTED FOR APPROVAL.
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B2 TELECOMMUNICATION PLAN - AREA C

3/16" = 1'-0"

0 2' 4' 8' 16'



PLAN NORTH

KEY PLAN

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: C. VELOZ	SOLICITATION NO.: W912BV26RA004
CHECKED BY: S. KUNAPULI, P.E.	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

TELECOMMUNICATION PLAN - AREA C

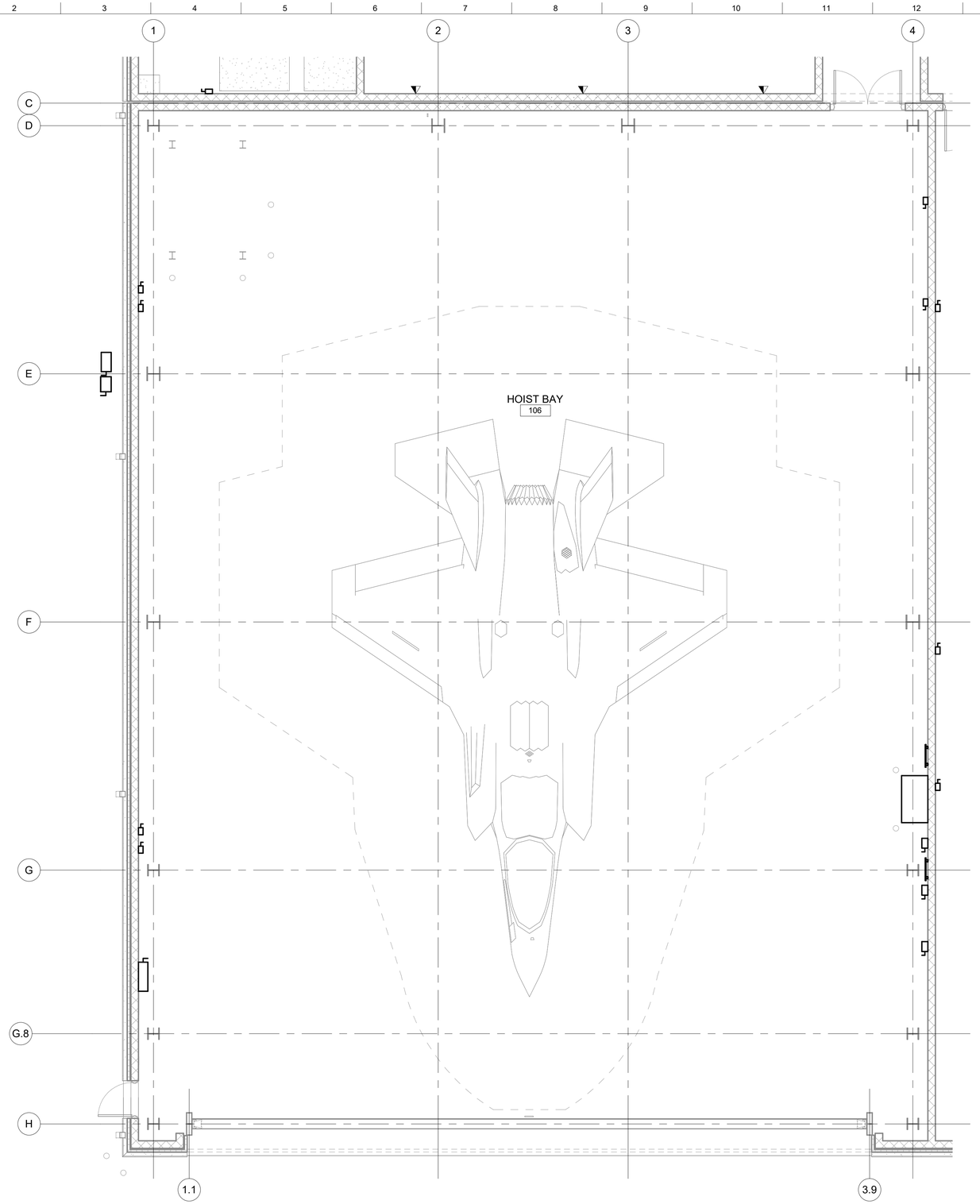
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T-103

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A2 TELECOMMUNICATION PLAN - AREA D

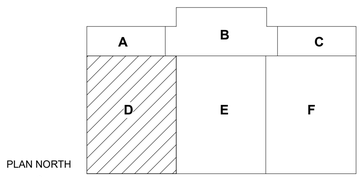
3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL NOTES

1. CONTRACTOR TO PROVIDE BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL (BICSI) REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) STAMPED SHOP DRAWINGS SUBMITTED FOR APPROVAL.
2. SEE SHEET T-**401** FOR TELECOM CABLE TRAY PLACEMENT.

PLAN NORTH



KEY PLAN

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CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203

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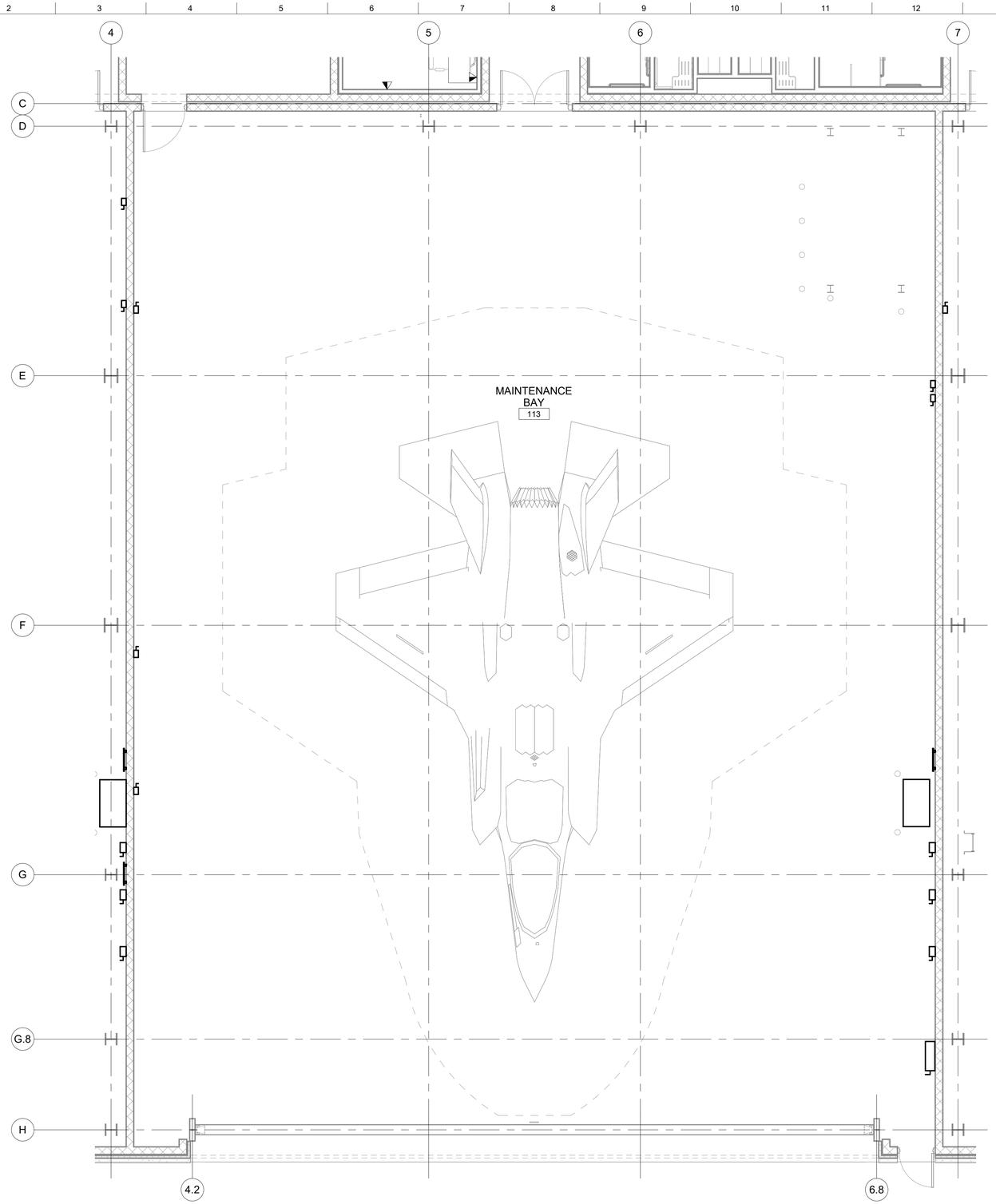
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F-35: 3 BAY HANGAR
PN: 512203

TELECOMMUNICATION PLAN - AREA D

SHEET ID

T-104

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A2 TELECOMMUNICATION PLAN - AREA E

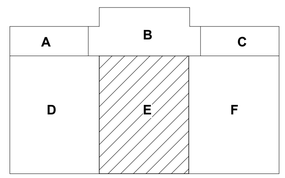
3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL NOTES

1. CONTRACTOR TO PROVIDE BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL (BICSI) REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER (RCDD) STAMPED SHOP DRAWINGS SUBMITTED FOR APPROVAL.
2. SEE SHEET T-**401** FOR TELECOM CABLE TRAY PLACEMENT.

PLAN NORTH



KEY PLAN

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CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
File Path: C:\Users\mSecker\OneDrive - US Army Corps of Engineers\Documents\EANG_512203_E_3BAYH_RVT22_MEECDRAR.rvt
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ENGINEERING BRANCH

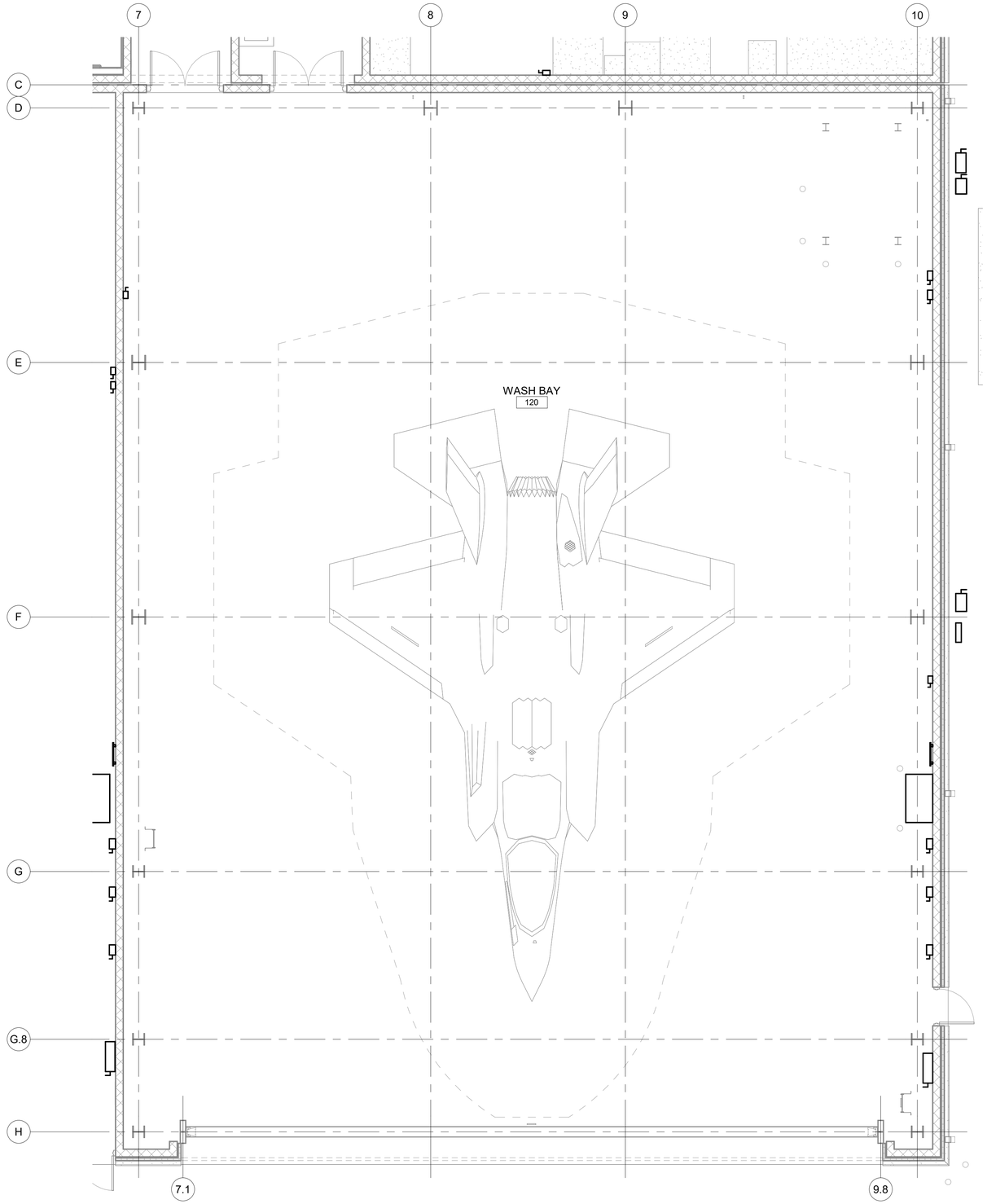
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F-35: 3 BAY HANGAR
PN: 512203

TELECOMMUNICATION PLAN - AREA E

SHEET ID

T-105

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A2 TELECOMMUNICATION PLAN - AREA F

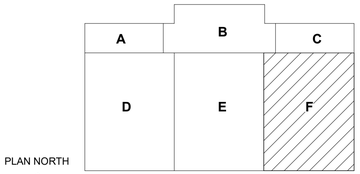
3/16" = 1'-0"

0 2' 4' 8' 16'

GENERAL NOTES

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PLAN NORTH



KEY PLAN

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MARK	DESCRIPTION	DATE

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SUBMITTED BY:
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ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

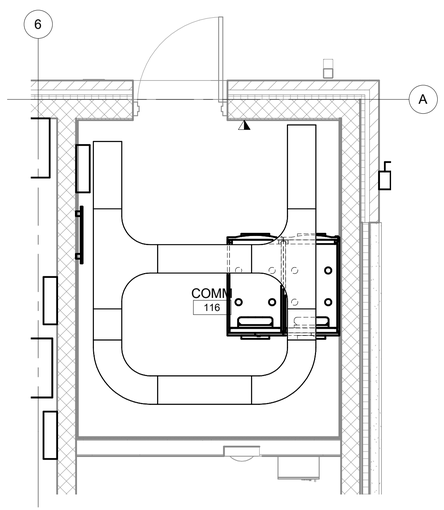
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F-35: 3 BAY HANGAR
PN: 512203

TELECOMMUNICATION PLAN - AREA F

SHEET ID

T-106

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B3 TELECOMMUNICATIONS ROOM 116

3/8" = 1'-0"

0 1' 2' 4' 6'

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MARK	DESCRIPTION	DATE

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DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

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ENGINEERING & CONSTRUCTION DIVISION
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F-35: 3 BAY HANGAR
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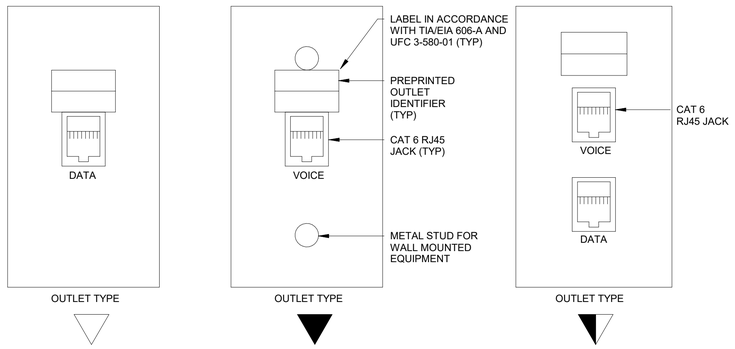
ENLARGED TELECOMMUNICATIONS PLAN

SHEET ID

T-401

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K1 TELECOMMUNICATION OUTLETS DETAILS

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. VELOZ	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: C. VELOZ	SOLICITATION NO.: W912BV26RA004
CHECKED BY: S. KUNAPULI, P.E.	CONTRACT NO.:
SUBMITTED BY:	PROJECT NO: 512203
SIZE: ANSI D	FILE NAME: EANG_512203_E_3BAYH_RVT22.rvt

US ARMY CORPS OF ENGINEERS
TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

EBBING ANGB - ARKANSAS
F-35: 3 BAY HANGAR
PN: 512203

TELECOMMUNICATION DETAILS

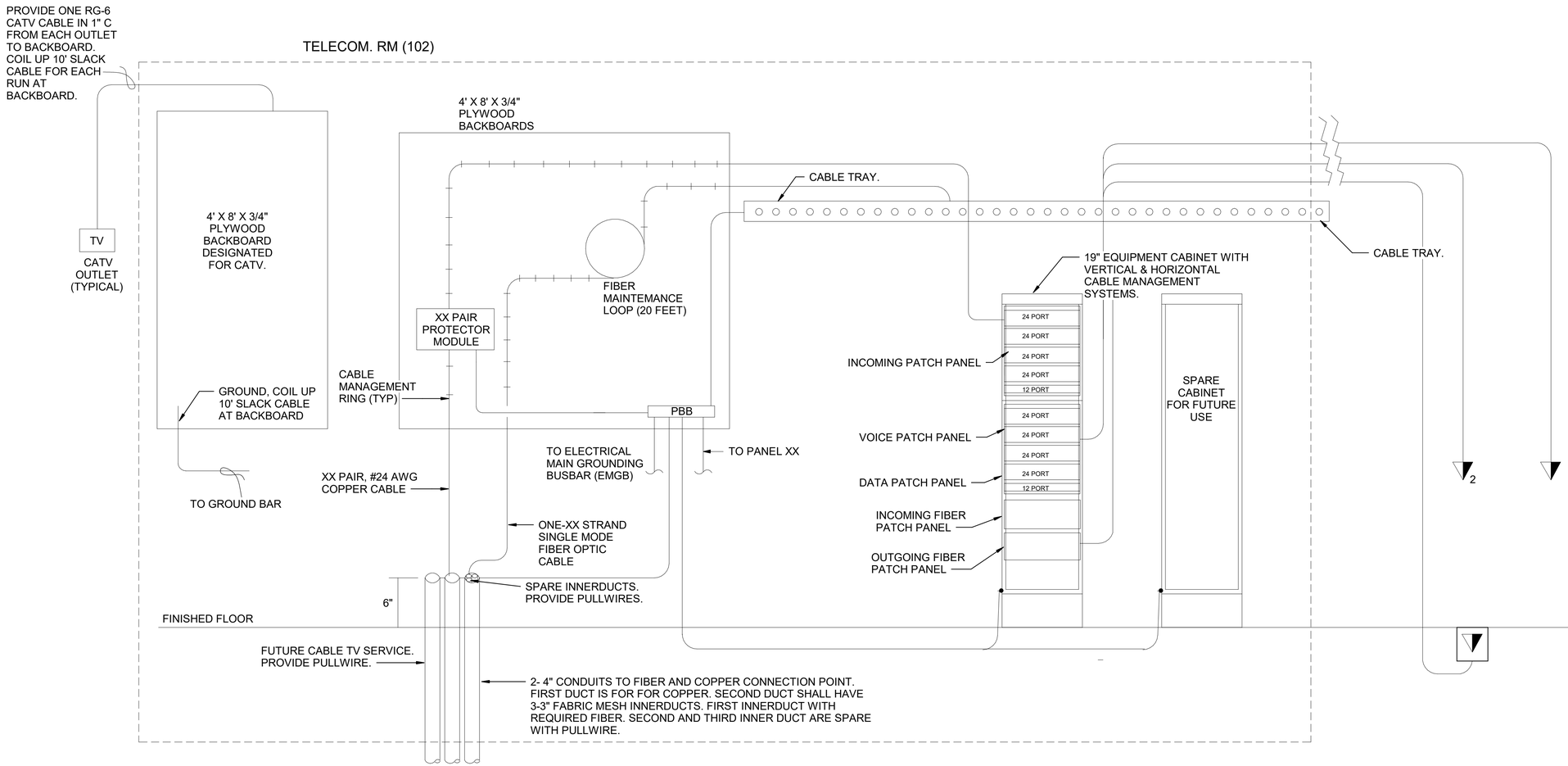
SHEET ID

T-501

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E1 TELECOMMUNICATIONS DIAGRAMS

NTS

US Army Corps of Engineers ®

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DRAWN BY: C. VELOZ
CHECKED BY: S. KUNAPULI, P.E.
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO: 512203
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Plot Date: 10/20/2025 2:45:22 PM

US ARMY CORPS OF ENGINEERS
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ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

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F-35: 3 BAY HANGAR
PN: 512203

SYSTEMS RISERS

SHEET ID

T-601

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GENERAL PLAN SYMBOLS

- REVISION
- DETAIL NUMBER ON SHEET
- SHEET NUMBER WHERE DETAIL IS PLACED
- SECTION NUMBER ON SHEET
- SHEET NUMBER WHERE SECTION IS PLACED
- KEYNOTE SYMBOL
- CONSTRUCTION NOTE SYMBOL
- DEMOLITION NOTE SYMBOL
- CONTINUATION SYMBOL
- POINT WHERE NEW CONNECTS TO EXISTING
- POINT WHERE DEMOLITION ENDS
- ROOM NAME / NUMBER
- AREA BEING DEMOLISHED
- AREA NOT IN CONTRACT

CONSTRUCTION PHASING
(TYPICAL ALL SYMBOLS AND EQUIPMENT)

- EXISTING
- EXISTING TO BE DEMOLISHED
- NEW

TELECOMMUNICATION ABBREVIATIONS

ABB	DESCRIPTION
_____ A _____	
&	AND
8P8C	8 POSITION, 8 CONTACT CONNECTOR
110	110 PUNCHDOWN BLOCKS
@	AT
ABV	ABOVE
AC	ABOVE COUNTER
ACS	ACCESS CONTROL SYSTEM
ADA	AMERICANS WITH DISABILITIES ACT
ADDL	ADDITIONAL
ADO	AUTOMATIC DOOR OPENER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECT OR ARCHITECTURAL
AUTO	AUTOMATIC
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
_____ B _____	
BATT	BATTERY
BBC	BACKBONE BONDING CONDUCTOR
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
BT	BASKET TRAY
_____ C _____	
C	CONDUIT
CAB	CABINET
CAT6	CATEGORY 6 CABLE
CATV	COMMUNITY ANTENNA TELEVISION (CABLE)
CCTV	CLOSED CIRCUIT TELEVISION
CF/CI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CL	CLASSIFIED
CLG	CEILING
COMM	COMMUNICATION
CONST	CONSTRUCTION
CP	CONTROL PANEL
CR	CARD READER
CTR	CENTER
CU	COPPER
_____ D _____	
DDC	DIRECT DIGITAL CONTROL
DIA	DIAMETER
DIST	DISTRIBUTION
DS	DOOR POSITION SWITCH
DTL	DETAIL
DWG	DRAWING
_____ E _____	
EA	EACH
EF	ENTRANCE FACILITY
EH	ELECTRIC HINGE
EL	ELECTRIC LOCK
ELEC	ELECTRICAL
ELEV	ELEVATION, ELEVATOR
EMS	EMERGENCY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NONMETALLIC TUBING
EQUIP	EQUIPMENT
ER	EQUIPMENT ROOM
ES	ELECTRIC STRIKE
EXIST	EXISTING
_____ F _____	
F/UTP	FOILED UNSHIELDED TWISTED PAIR
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FDU	FIBER OPTIC DISTRIBUTION UNIT
FMC	FLEXIBLE METAL CONDUIT
FO	FIBER OPTIC
FOC	FIBER OPTIC CABLE
_____ G _____	
GA	GAUGE
GFGI	GOVERNMENT FURNISHED/GOVERNMENT INSTALLED
GRC	GALVANIZED RIGID CONDUIT
_____ H _____	
HD	HIGH DEFINITION
HDPE	HIGH-DENSITY POLYETHYLENE
HP	HORSEPOWER
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
_____ I _____	
IAW	IN ACCORDANCE WITH
IMC	INTERMEDIATE METAL CONDUIT
IMC	INTERMEDIATE METAL CONDUIT
IP10	INGRESS PROTECTION
IR	INFRARED
_____ J _____	
J-BOX	JUNCTION BOX
_____ K _____	
KVA	KILOVOLT-AMPERE
_____ L _____	
LA	LOCAL ALARM
LV	LOW VOLTAGE
_____ M _____	
MAG	MAGNETIC LOCK
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MM	MULTIMODE
MT,MTD	MOUNT/MOUNTED
MT,MTD	MOUNT/MOUNTED
_____ N _____	
N/A,NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
_____ O _____	
OH	OVERHEAD
ON	ON CENTER
OSP	OUTSIDE PLANT
_____ P _____	
PA	PUBLIC ADDRESS
PB	PUSHBUTTON
PBB	PRIMARY BONDING BUSBAR
PDS	PROTECTIVE DISTRIBUTION SYSTEM
PED	PEDESTAL
PET	PROTECTED ENTANCE TERMINALS
PH	PHASE
PNL	PANEL
POE	POWER OVER ETHERNET
PP	POWER POLE
PTZ	PAN-TILT-ZOOM
PVC	POLYVINYL CHLORIDE (CONDUIT)
PWR	POWER
_____ Q _____	
QC	QUALITY CONTROL
QTY	QUANTITY
_____ R _____	
RCDD	REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RCPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL CONDUIT
RM	ROOM
RMC	RIGID METAL CONDUIT
RX	REQUEST TO EXIT
_____ S _____	
SBB	SECONDARY BONDING BUSBAR
SCHD	SCHEDULE
SCP	SERVICE CONTROL POINT
SM	SINGLE-MODE FIBER OPTIC
SPEC	SPECIFY, SPECIFIED OR SPECIFICATIONS
STR	STRAND
SYS	SYSTEM
_____ T _____	
TBD	TO BE DETERMINED
TEF	TELECOMMUNICATIONS ENTRANCE FACILITY
TELECOM	TELECOMMUNICATION
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TMH	TELECOMMUNICATIONS MANHOLE
TP	TWISTED PAIR
TR	TELECOMMUNICATIONS ROOM
TV	TELEVISION
TYP	TYPICAL
_____ U _____	
UC	UNDER COUNTER
UCL	UNCLASSIFIED
UF	UNDERFLOOR
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
_____ V _____	
V/D	VOICE & DATA
VA	VOLT-AMPERES
VERT	VERTICAL
VOL	VOLUME
_____ W _____	
W	WALL PHONE, WATT
W/O	WITHOUT

SECURITY SYMBOL LEGEND

SECURITY SYMBOLS

- SECURITY CAMERA FIXED UNO
  PTZ: PAN/TILT/ZOOM
  180: 180 DEGREE CAMERA
  360: 360 DEGREE CAMERA
- K — SECURITIY SYSTEM KEYPAD
- TS — TAMPER SWITCH
- FS — FLOW SWITCH
- CR — CARD READER
- CK — CARD READER WITH KEYPAD
- GB — GLASS BREAK DETECTOR
- J — JUNCTION BOX
- PB — PUSH BUTTON DOOR CONTROL
- SAT — SATELLITE / CABLE DROP
- HDMI — HDMI
- SL — STACKLIGHT
- TV (CC) — CLOSED CIRCUIT TV OUTLET
- DC — DOOR CONTACT
- BMS — BALANCED MAGNETIC SWITCH
- ES — ELECTRIC STRIKE
- IC — INTERCOM
  MST: MASTER
  STA: STATION
- ML — MAGNETIC LOCK
- RX — REQUEST TO EXIT BUTTON
- REX — REQUEST TO EXIT SENSOR
- MD — MOTION DETECTOR
- KP — KEYPAD
- XXX — SECURITY CONTROL UNIT
  SCP: SECURITY CONTROL PANEL
  SPS: SECURITY POWER SUPPLY UNIT
  ACP: ACCESS CONTROL PANEL
  IDCP: INTRUSION DETECTION CONTROL PANEL
- S — SPEAKER WALL MOUNTED
- S — SPEAKER CEILING MOUNTED
- M — MICROPHONE WALL MOUNTED
- M — MICROPHONE CEILING MOUNTED
- PBB — BONDING BUSBAR
  PBB: PRIMARY BUSBAR
  SBB: SECONDARY BUSBAR

CABLE TRAY

- BASKET TRAY
- LADDER TRAY

TELECOMMUNICATION GENERAL NOTES

1. THIS IS A STANDARD LEGEND SHEET. NOT ALL SYMBOLS OR ABBREVIATIONS MAY APPEAR ON DRAWINGS.
2. TELECOMMUNICATIONS CABLING SYSTEM SHALL COMPLY WITH ALL APPLICABLE UFC, TIA, AND OWNERS STANDARD REQUIREMENTS.
3. ALL CABLING SHALL BE SUPPORTED BY AN APPROVED METHOD WITH EITHER J-HOOKS OR CABLE TRAY AS REQUIRED BY TIA-568-C AND UFC 3-580-01. LAYING CABLE ACROSS CEILING GRID IS NOT ACCEPTABLE.
4. CAT-6 AND OTHER LOW VOLTAGE CABLING MUST BE ROUTED IN CONDUIT IN AREAS WITH EXPOSED STRUCTURE. J-HOOKS ARE NOT ALLOWED. J-HOOKS ARE PERMITTED IN THE FOLLOWING SPACES ONLY.
   A. ABOVE ACCESSIBLE
   B. MECHANICAL OR ELECTRICAL
   C. STORAGE
5. VELCRO STRAPS SHALL BE UTILIZED FOR CABLE BUNDLING. CABLE TIES OR ZIP TIES SHALL NOT BE USED.
6. CEILING MOUNTED DEVICES SHALL BE CENTERED IN CEILING TILE WHERE INSTALLED IN ACOUSTICAL CEILING TILE.
7. RACEWAY, JUNCTION BOX, PULL AND OTHER OPENINGS AROUND PENETRATIONS THROUGH FIRE-RESISTANT RATED WALLS, PARTITIONS, FLOORS, OR CEILINGS SHALL BE FIRE STOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE-RESISTANCE RATING OF THE WALL OR FLOOR ASSEMBLY.
8. ALL CABLING WITHIN TELECOMMUNICATIONS SPACE SHALL BE SUPPORTED BY CABLE TRAYS OR 'D' RINGS IF MOUNTED ON THE WALL.
9. TELECOMMUNICATIONS AND LOW VOLTAGE CABLING SHALL NOT BE PAINTED. CABLING THAT HAS BEEN PAINTED SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
10. ALL CONDUIT THAT IS LEFT EMPTY SHALL INCLUDE A PULL STRING THROUGHOUT LENGTH WITH AN ADDITIONAL 12" AT EACH END.
11. COORDINATE FINAL ROUGH-IN OF ALL FLOOR BOXES WITH FINAL FURNISHING PLANS AND SUBMIT PRIOR TO ROUGH IN.
12. CONTRACTOR SHALL PROVIDE ALL NECESSARY SLEEVES THROUGH WALLS AS REQUIRED FOR ROUTING OF TELECOMMUNICATIONS, DATA, SECURITY, AND OTHER LOW VOLTAGE SYSTEMS AS SHOWN.
13. ALL FIBER TERMINATIONS SHALL BE DUPLEX TYPE LC CONNECTORS TERMINATED WITH FUSION SPLICED PIGTAILS UNLESS OTHERWISE NOTED.
14. FIBER OPTIC DISTRIBUTION PANELS/FIBER PATCH PANELS SHALL BE COMPATIBLE WITH EXISTING FIBER OPTIC INFRASTRUCTURE AND BASE STANDARDS.
15. GROUNDING: THE CONTRACTOR SHALL GROUND ALL CABLES, SPLICE CASES, AND UNDERGROUND DISTRIBUTION SYSTEM MH/HH COMPONENTS IN ACCORDANCE WITH NFPA 70 AND NEC. CONDUITS, CABLE TRAYS AND ALL OTHER RACEWAYS SHALL BE GROUNDED/ BONDED IN ACCORDANCE WITH THE NEPA 70 AND NEC. GROUNDING HARDWARE SUCH AS CORROSION RESISTANT WIRE, BONDING RIBBON, CLAMPS, GROUND ROD, ETC. NECESSARY TO PROPERLY BOND/GROUND THE CABLE IN MH/HHS SHALL BE PROVIDED.
16. MOUNTING HEIGHTS, UNLESS OTHERWISE NOTED, ARE TO CENTER LINE OF DEVICE.
17. THE MAXIMUM PERMANENT HORIZONTAL LINK DISTANCE SHALL BE 295 FEET AND THE MAXIMUM HORIZONTAL CHANNEL (LINK PLUS WORKSTATION CABLES AND PATCH CORDS) SHALL BE 325 FEET.
18. ALL HORIZONTAL VOICE AND DATA CABLING SHALL BE INSTALLED IN A MINIMUM 1 INCH CONDUIT FROM TELECOMM OUTLET LOCATIONS TO THE BASKET TRAY. INSTALL A MINIMUM OF 0.75 INCH CONDUIT FOR WALL PHONES.
19. LABEL ALL CABLE TERMINATIONS AND BOTH ENDS OF ALL CABLES IN ACCORDANCE WITH TIA-606-C-1.
20. PROVIDE CABLE SLACK WHICH IS 10 FEET IN THE TELECOMMUNICATIONS ROOM, 3 FEET AT THE BASKET TRAY/CONDUIT TRANSITION, AND 1 FOOT AT THE OUTLET FOR ALL CAT 6 HORIZONTAL CABLING. COIL CABLE IN A FIGURE-8 OR OBLONG CIRCLE TO PREVENT EMI INTERFERENCE.

* NOTE *
ALL GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

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MARK	DESCRIPTION	DATE

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10/9/2025 2:26:50 PM

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
CONTRACT NO.:
PROJECT NO.: 512203

DESIGNED BY:	A. DWYER
DRAWN BY:	M. RICHARDS
CHECKED BY:	M. CULLAM
SUBMITTED BY:	A. DWYER
SIZE:	ANSI D

Plot Date: 10/9/2025 2:26:50 PM

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TULSA DISTRICT
2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
ENGINEERING BRANCH

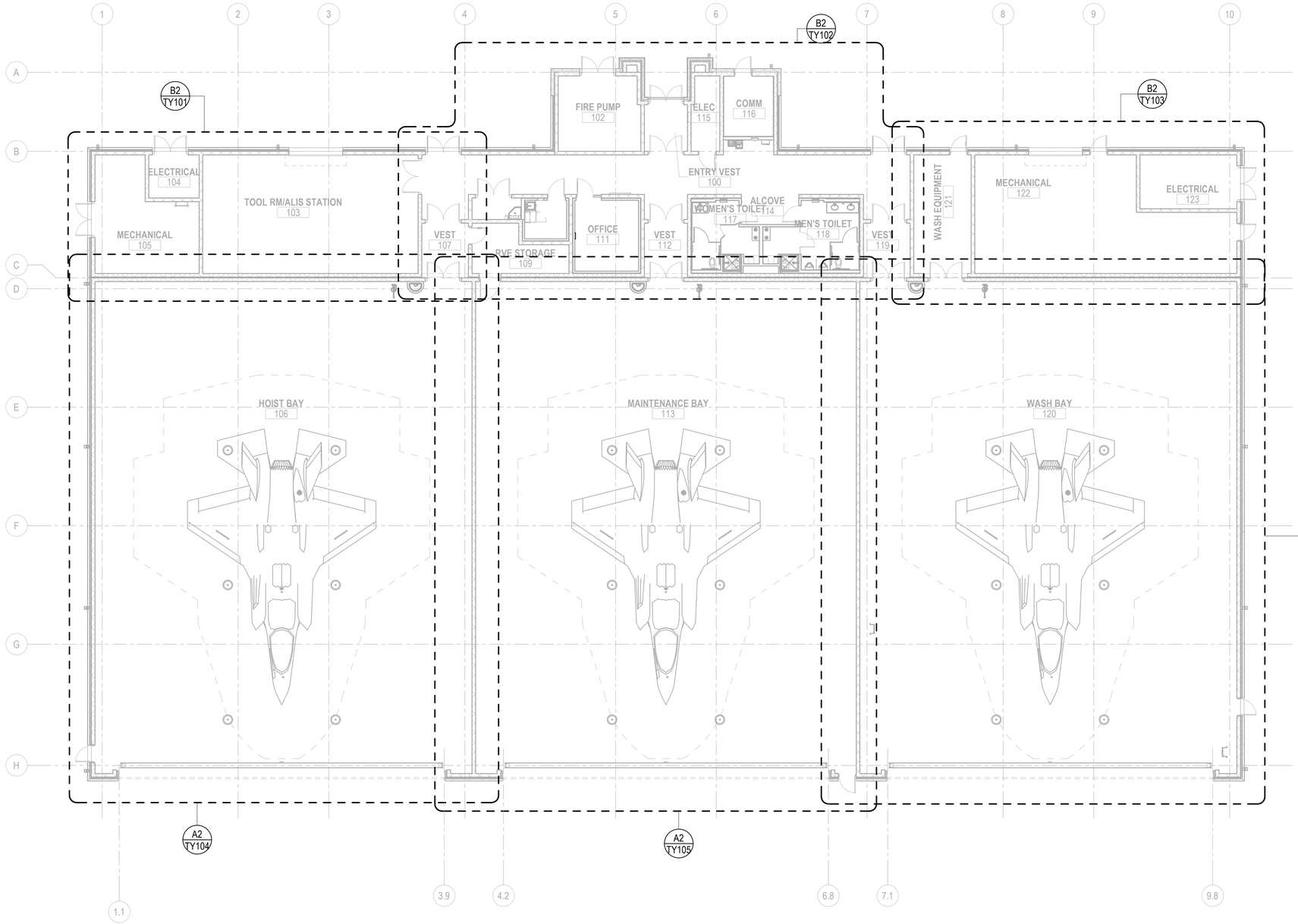
EBBING ANGB - ARKANSAS
F-35 3-BAY HANGAR
PN: 512203

SECURITY - SYMBOLS, ABBREVIATIONS & GENERAL NOTES

SHEET ID

TY001

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A1 OVERALL SECURITY PLAN

3/32" = 1'-0"

0 8'-0" 16'-0" 32'-0"

SCALE: 3/32" = 1'-0"

PLAN NORTH

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A. DWYER	
DRAWN BY:	
M. RICHARDS	
CHECKED BY:	
M. CULLAM	
SUBMITTED BY:	
A. DWYER	
SIZE:	
ANSI D	

ISSUE DATE: 5 DECEMBER 2025
SOLICITATION NO.: W912BV26RA004
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F-35, 3-BAY HANGAR
PN: 512203

OVERALL SECURITY PLAN

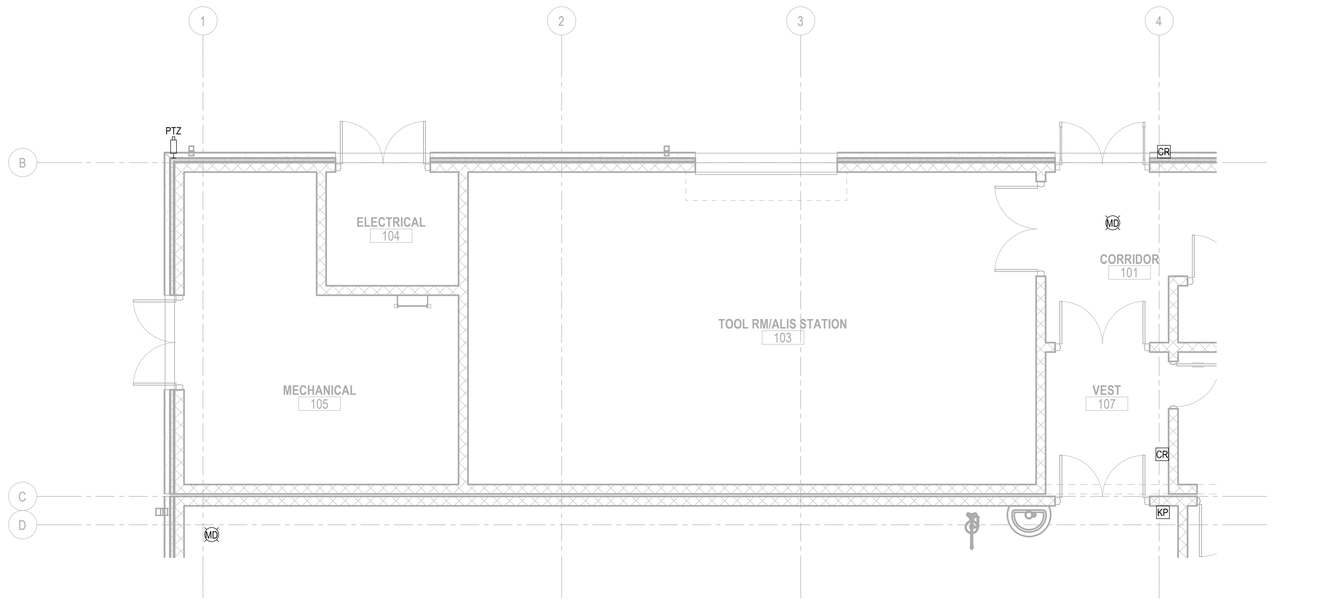
SHEET ID

TY100

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PLAN NOTES

1. SEE TY001 FOR SECURITY NOTES, SYMBOLS AND ABBREVIATIONS.
2. PROVIDE INFRASTRUCTURE ONLY (CONDUIT, BACKBOXES AND PULL STRING) FOR SECURITY SYSTEMS. ALL FIELD DEVICES WILL GFGI.



B2 SECURITY PLAN - AREA A
3/16" = 1'-0"

0 4'-0" 8'-0" 16'-0"
SCALE: 3/16" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: A. DWYER	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: M. RICHARDS	SOLICITATION NO.: W912BV26RA004
CHECKED BY: M. CULLAM	CONTRACT NO.:
SUBMITTED BY: A. DWYER	PROJECT NO.: 512203
SIZE: ANSI D	

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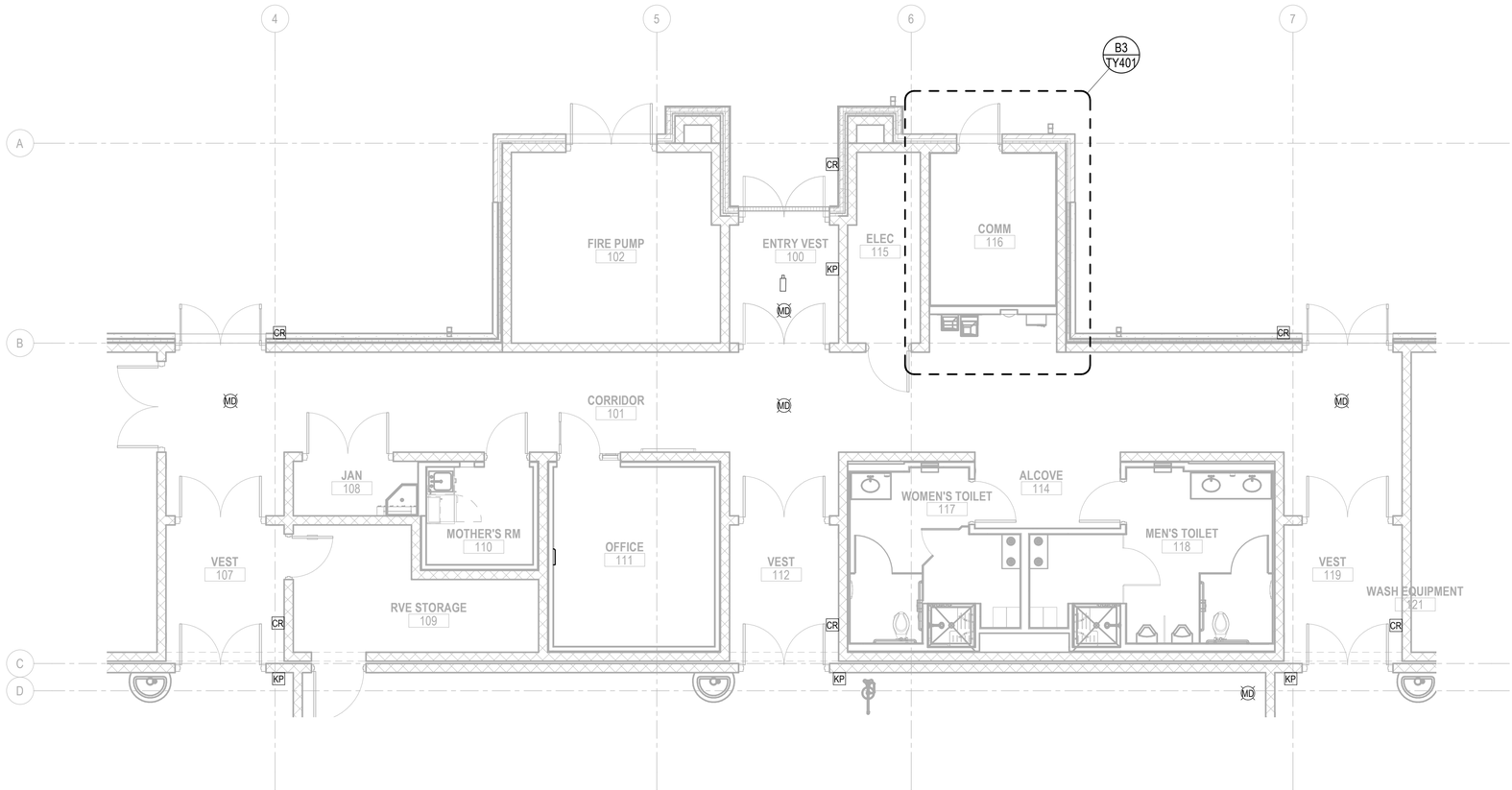
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PN: 512203

SECURITY PLAN - AREA A

SHEET ID
TY101

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B2 SECURITY PLAN - AREA B

3/16" = 1'-0"

0 4'-0" 8'-0" 16'-0"

SCALE: 3/16" = 1'-0"

PLAN NORTH

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DESIGNED BY: A. DWYER	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: M. RICHARDS	SOLICITATION NO.: W912BV26RA004
CHECKED BY: M. CULLAM	CONTRACT NO.:
SUBMITTED BY: A. DWYER	PROJECT NO.: 512203
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SECURITY PLAN - AREA B

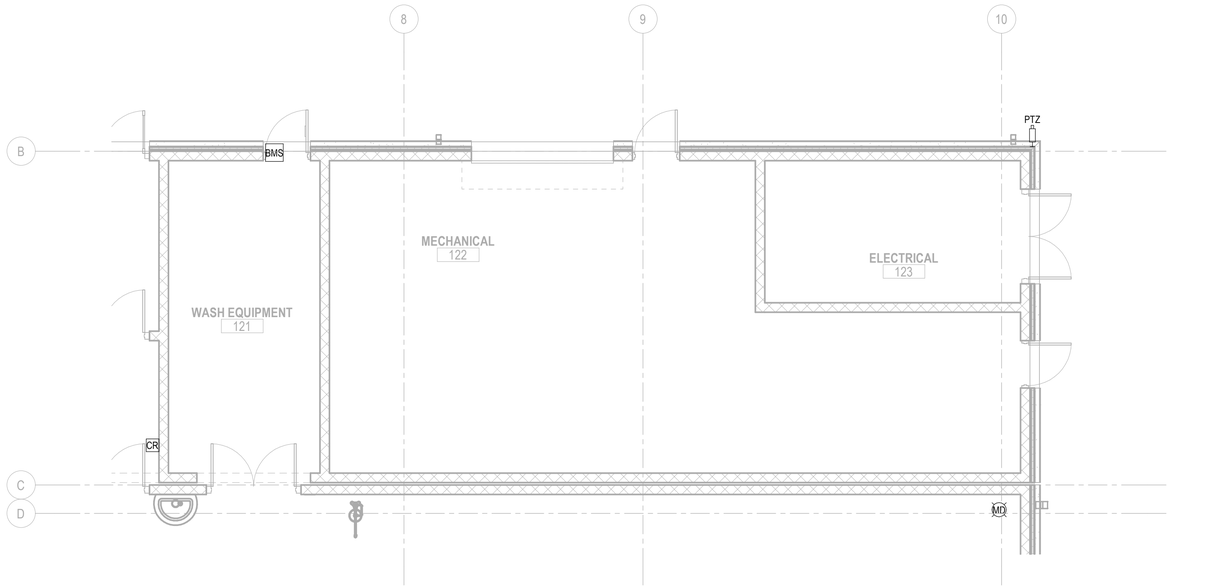
SHEET ID

TY102

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION

PLAN NOTES

1. SEE TY001 FOR SECURITY NOTES, SYMBOLS AND ABBREVIATIONS.
2. PROVIDE INFRASTRUCTURE ONLY (CONDUIT, BACKBOXES AND PULL STRING) FOR SECURITY SYSTEMS. ALL FIELD DEVICES WILL GFGI.



B2 SECURITY PLAN - AREA C
3/16" = 1'-0"

0 4'-0" 8'-0" 16'-0"
SCALE: 3/16" = 1'-0"

PLAN NORTH N

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY:	A. DWYER
DRAWN BY:	M. RICHARDS
CHECKED BY:	M. CULLAM
SUBMITTED BY:	A. DWYER
SIZE:	ANSI D
ISSUE DATE:	5 DECEMBER 2025
SOLICITATION NO.:	W912BV26RA004
CONTRACT NO.:	
PROJECT NO.:	512203

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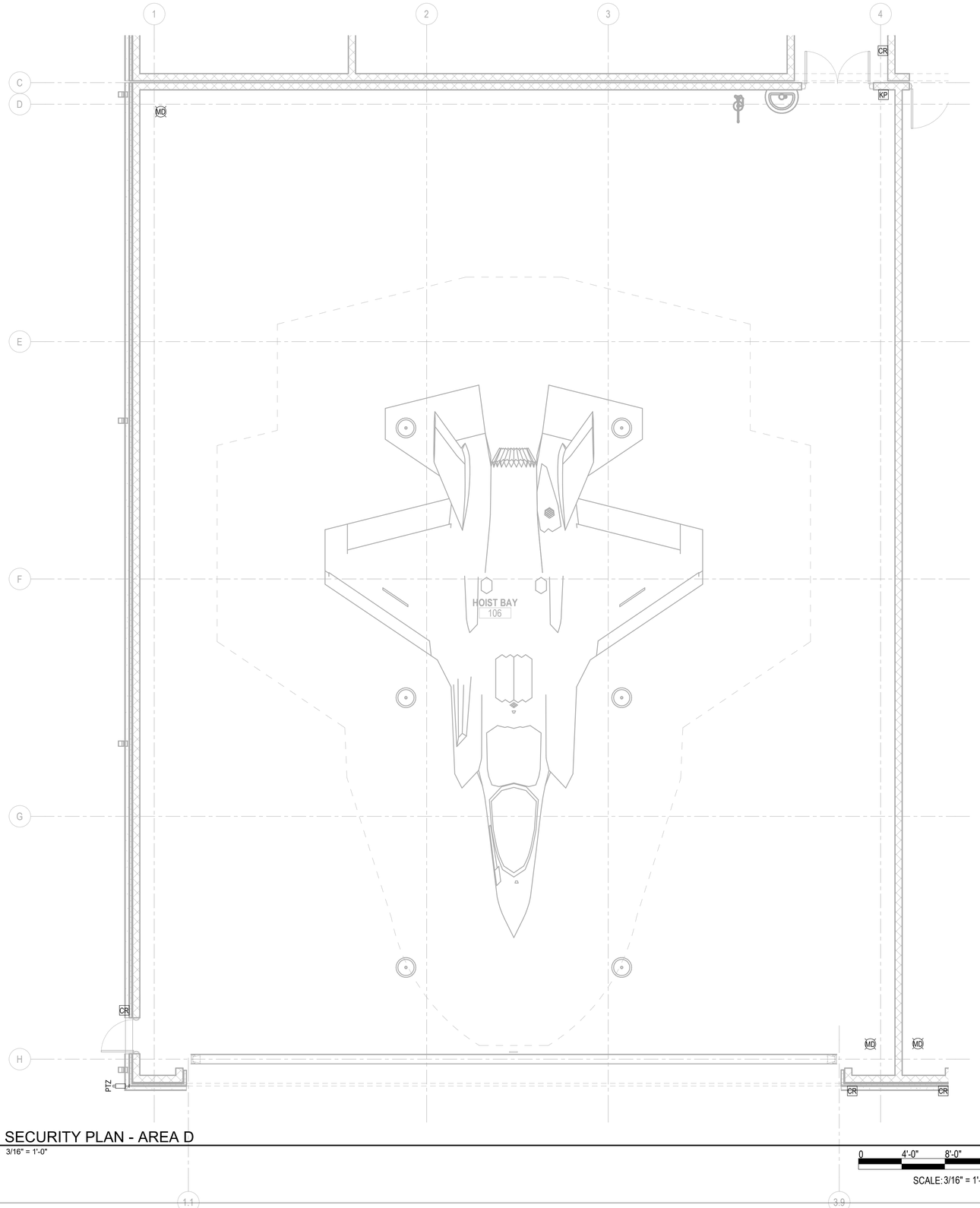
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SECURITY PLAN - AREA C

SHEET ID
TY103

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A2 SECURITY PLAN - AREA D
3/16" = 1'-0"

0 4'-0" 8'-0" 16'-0"
SCALE: 3/16" = 1'-0"

PLAN NOTES

1. SEE TY001 FOR SECURITY NOTES, SYMBOLS AND ABBREVIATIONS.
2. PROVIDE INFRASTRUCTURE ONLY (CONDUIT, BACKBOXES AND PULL STRING) FOR SECURITY SYSTEMS. ALL FIELD DEVICES WILL GFGI.

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DESIGNED BY:	ISSUE DATE:
A. DWYER	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
M. RICHARDS	W912BV26RA004
CHECKED BY:	CONTRACT NO.:
M. CULLAM	
SUBMITTED BY:	PROJECT NO.:
A. DWYER	512203
SIZE:	
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PN: 512203

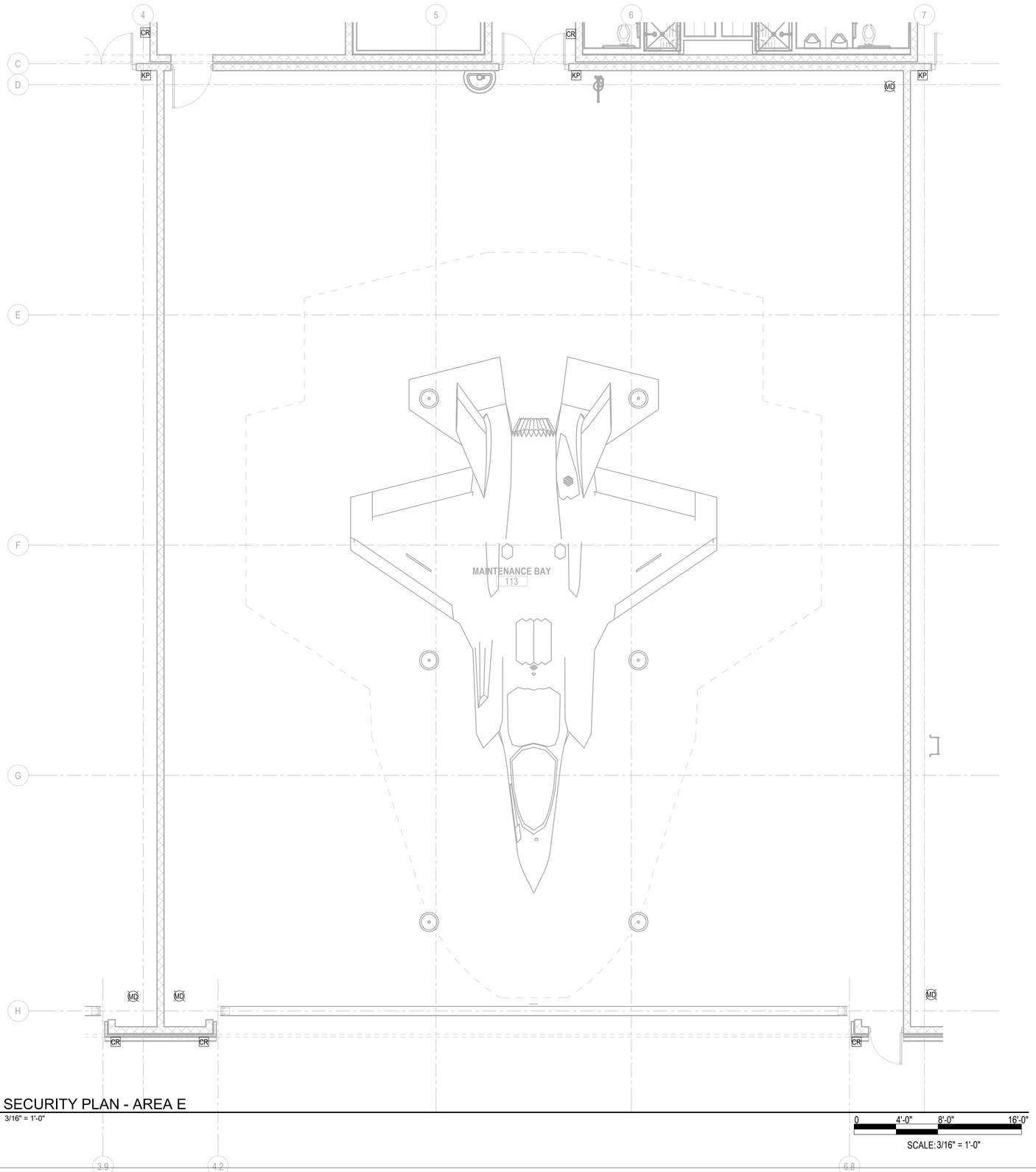
SECURITY PLAN - AREA D

SHEET ID

TY104

PLAN NORTH

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A2 SECURITY PLAN - AREA E

3/16" = 1'-0"

SCALE: 3/16" = 1'-0"

0 4'-0" 8'-0" 16'-0"

PLAN NORTH

PLAN NOTES

1. SEE TY001 FOR SECURITY NOTES, SYMBOLS AND ABBREVIATIONS.
2. PROVIDE INFRASTRUCTURE ONLY (CONDUIT, BACKBOXES AND PULL STRING) FOR SECURITY SYSTEMS. ALL FIELD DEVICES WILL GFGI.

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MARK	DESCRIPTION	DATE

DESIGNED BY: A. DWYER
DRAWN BY: M. RICHARDS
CHECKED BY: M. CULLAM
SUBMITTED BY: A. DWYER
SIZE: ANSI D

ISSUE DATE: 5 DECEMBER 2025
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PROJECT NO.: 512203

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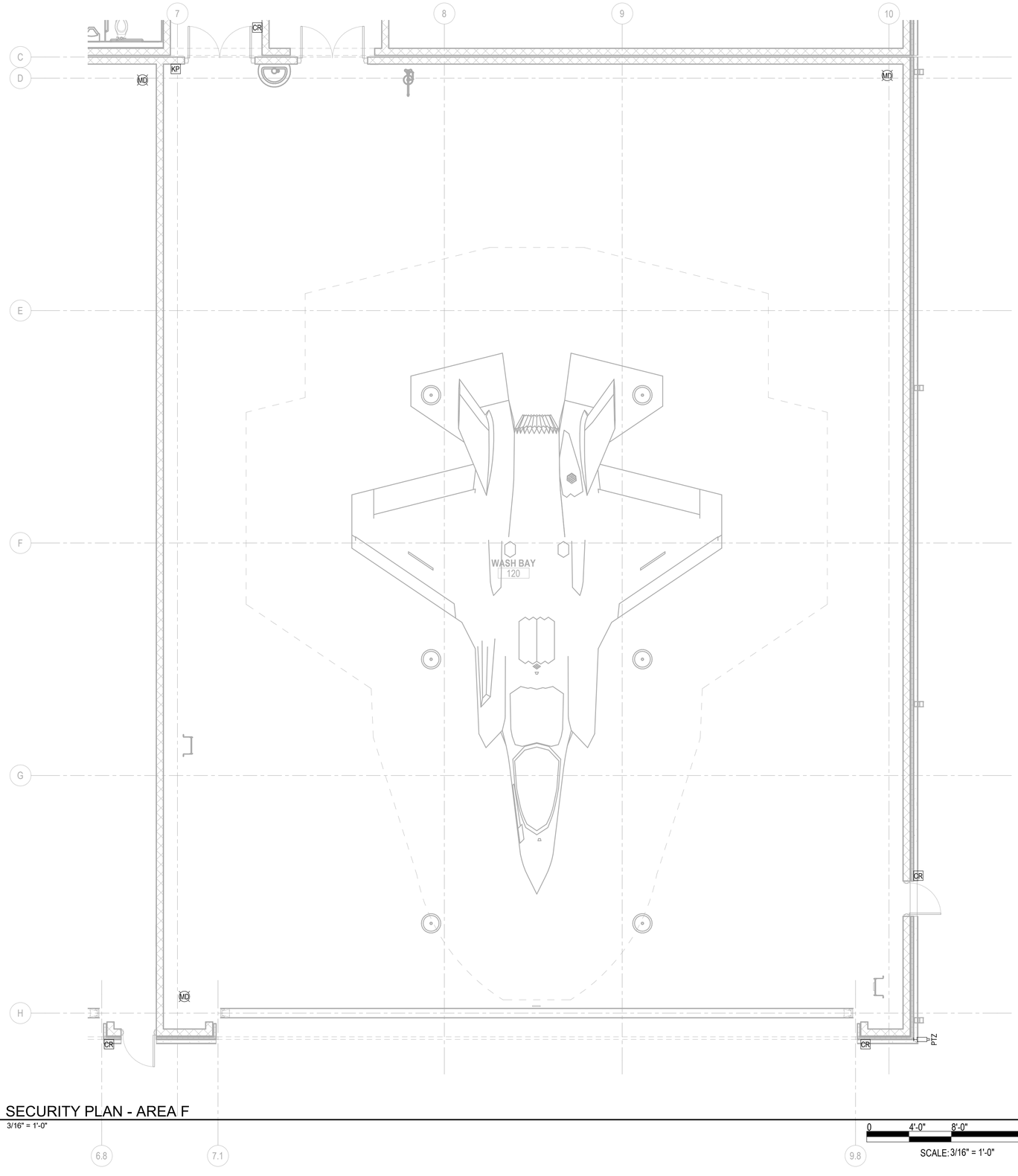
SECURITY PLAN - AREA E

SHEET ID

TY105

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PLAN NOTES

1. SEE TY001 FOR SECURITY NOTES, SYMBOLS AND ABBREVIATIONS.
2. PROVIDE INFRASTRUCTURE ONLY (CONDUIT, BACKBOXES AND PULL STRING) FOR SECURITY SYSTEMS. ALL FIELD DEVICES WILL GFGI.

A2 SECURITY PLAN - AREA F
3/16" = 1'-0"

0 4'-0" 8'-0" 16'-0"
SCALE: 3/16" = 1'-0"

PLAN NORTH

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MARK	DESCRIPTION	DATE

DESIGNED BY: A. DWYER	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: M. RICHARDS	SOLICITATION NO.: W912BV26RA004
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SUBMITTED BY: A. DWYER	PROJECT NO.: 512203
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PN: 512203

SECURITY PLAN - AREA F

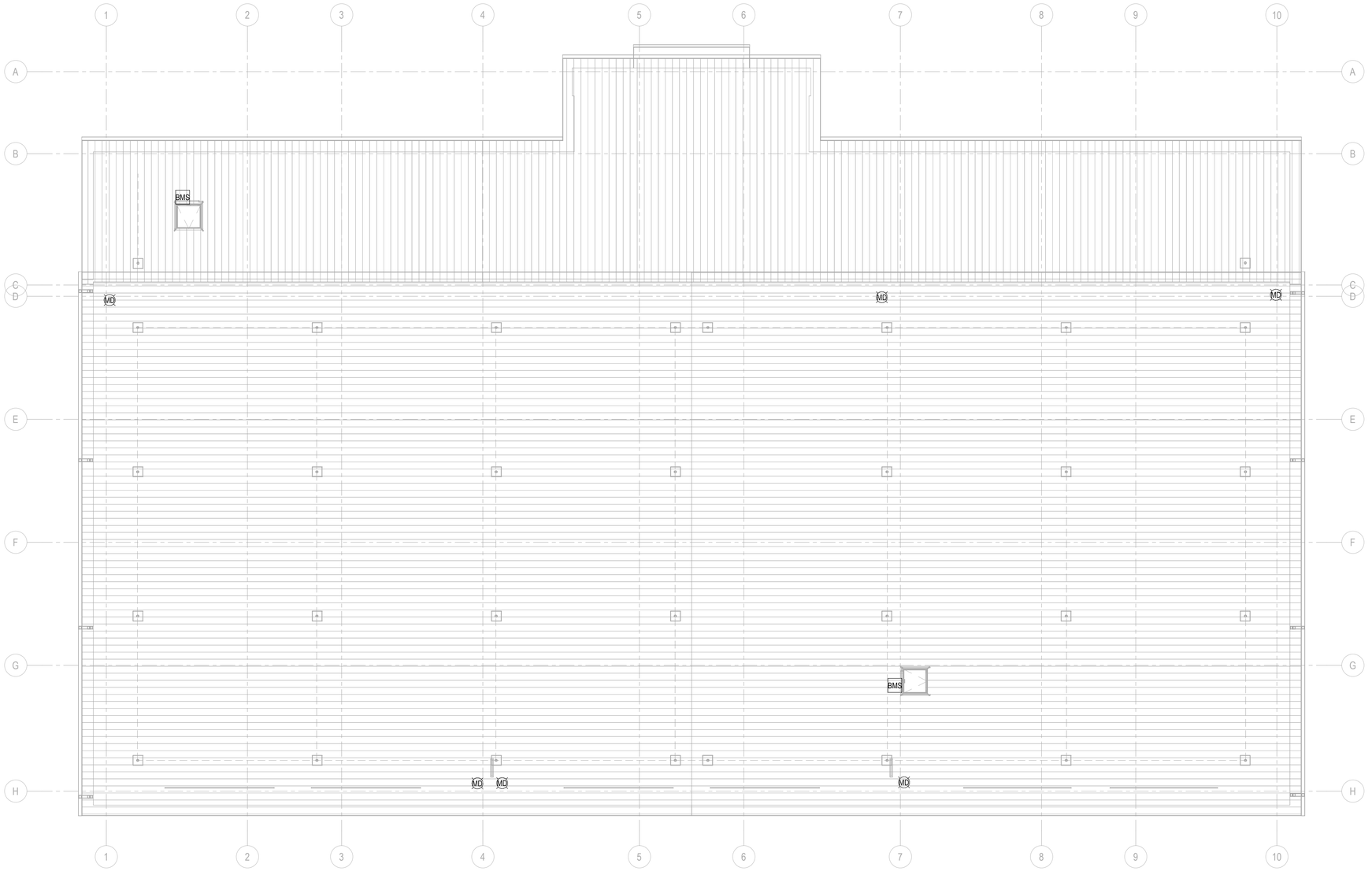
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PLAN NOTES

1. SEE TY001 FOR SECURITY NOTES, SYMBOLS AND ABBREVIATIONS.
2. PROVIDE INFRASTRUCTURE ONLY (CONDUIT, BACKBOXES AND PULL STRING) FOR SECURITY SYSTEMS. ALL FIELD DEVICES WILL GFGI.



A1 OVERALL SECURITY ROOF PLAN

3/32" = 1'-0"

0 8'-0" 16'-0" 32'-0"

SCALE: 3/32" = 1'-0"

PLAN NORTH

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MARK	DESCRIPTION	DATE

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DESIGNED BY: A. DWYER	ISSUE DATE: 5 DECEMBER 2025
DRAWN BY: M. RICHARDS	SOLICITATION NO.: W912BV26RA004
CHECKED BY: M. CULLAM	CONTRACT NO.:
SUBMITTED BY: A. DWYER	PROJECT NO.: 512203
SIZE: ANSI D	

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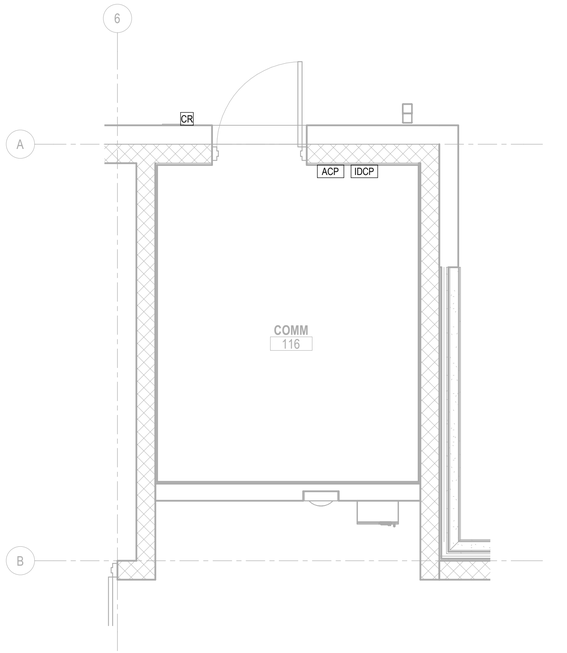
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OVERALL SECURITY ROOF PLAN

SHEET ID

TY107

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B3 TELECOMMUNICATIONS ROOM 102

3/8" = 1'-0"

0 2'-0" 4'-0" 8'-0"

SCALE: 3/8" = 1'-0"

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A. DWYER	
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M. RICHARDS	
CHECKED BY:	
M. CULLAM	
SUBMITTED BY:	
A. DWYER	
SIZE:	
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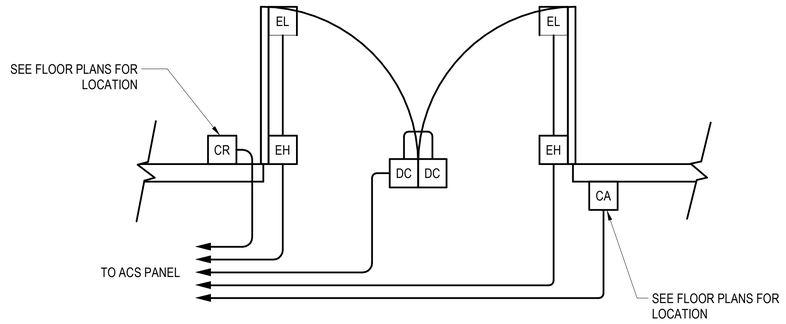
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F-35 3-BAY HANGAR
PN: 512203

ENLARGED SECURITY PLAN

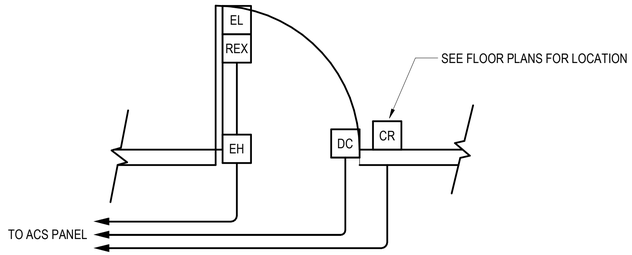
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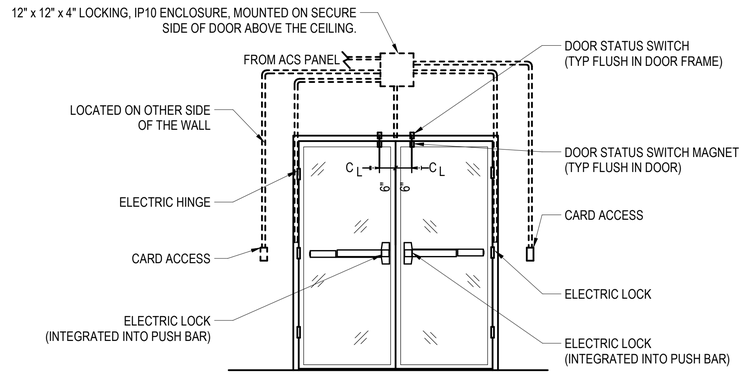
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PLAN VIEW DT-202



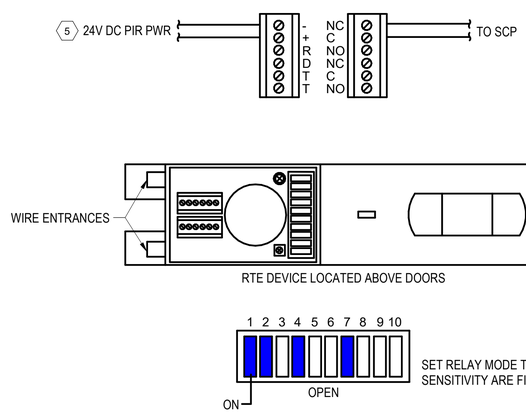
PLAN VIEW DT-101



SECURE SIDE ELEVATION VIEW

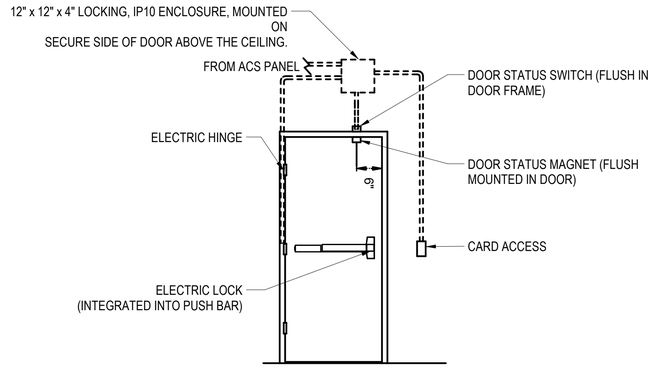
E1 DOUBLE DOOR CARD READER IN/OUT PANIC

NTS



A1 REQUEST-TO-EXIT

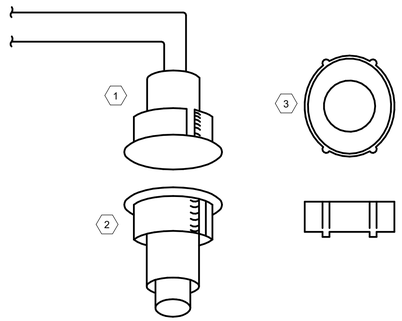
NTS



SECURE SIDE ELEVATION VIEW

E11 SINGLE DOOR CARD READER IN/OUT PANIC

NTS



KEY NOTES:

1. DOOR CONTACT (NORMALLY CLOSED), MOUNTS IN DOOR FRAME. MATCH COLOR OF THE DOOR FRAME.
2. MAGNET FOR METAL DOORS. MATCH COLOR OF THE DOOR FRAME.
3. RARE EARTH MAGNET FOR USE IN DOORS WITH TOP CHANNEL.
4. RARE EARTH MAGNET FOR USE IN WOOD DOORS.
5. MOTION DETECTOR NOT TO GO TO CLOSE MODE WHEN POWERED DOWN.

A11 RECESSED DOOR CONTACT

NTS

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Plot Date: 10/9/2025 2:26:53 PM

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DESIGNED BY:	A. DWYER
DRAWN BY:	M. RICHARDS
CHECKED BY:	M. GILLIAM
SUBMITTED BY:	A. DWYER
SIZE:	ANSI D

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2488 EAST 81ST ST
TULSA, OK 74137

ENGINEERING & CONSTRUCTION DIVISION
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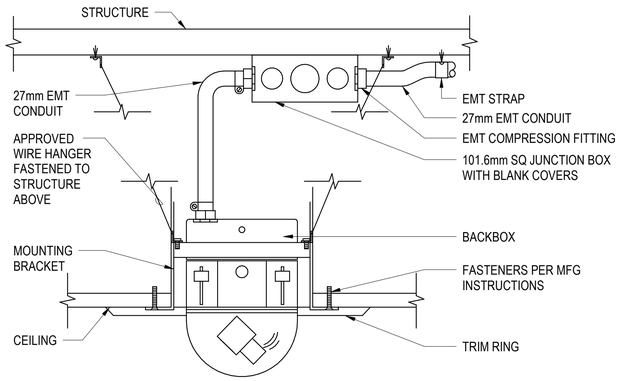
EBBING ANGB, ARKANSAS
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PN: 512203

ACCESS CONTROL DETAILS

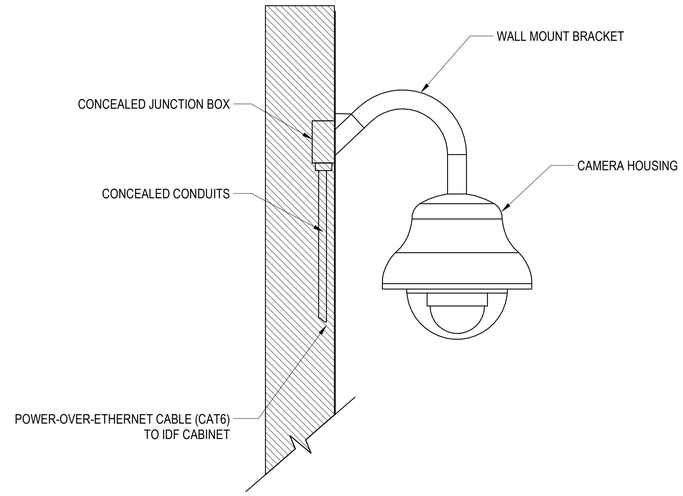
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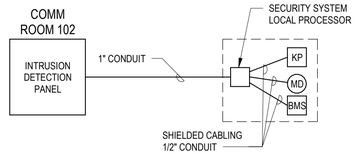
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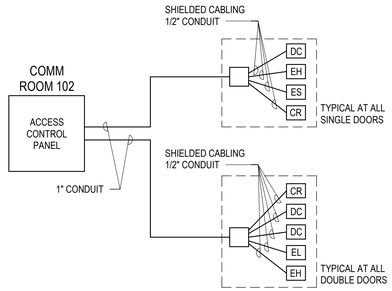
K1 DETAIL - INTERIOR CEILING MOUNTED CAMERA
NTS



K8 DETAIL - PTZ WALL MOUNT CAMERA
NTS



K15 TYPICAL INTRUSION DETECTION RISER DIAGRAM
NTS



F1 TYPICAL ACCESS CONTROL RISER DIAGRAM
12" = 1'-0"

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A. DWYER	5 DECEMBER 2025
DRAWN BY:	SOLICITATION NO.:
M. RICHARDS	W912BV26RA004
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EBBING ANGB - ARKANSAS
F-35 3-BAY HANGAR
PN: 512203

CCTV DETAILS

SHEET ID

TY502

100% READY TO ADVERTISE - NOT FOR CONSTRUCTION