CYL - HUB1

PRE ENGINEERED METAL BUILDING

TULSA COUNTY, OK

COMPLETED LOCALIZATION/QC

08/29/2025

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PRE-ENGINEERED METAL BUILDING SHOP DRAWINGS

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STATE OF OKLAHOMA SCOTT D. SHEFFMILLER 24260 LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

COVER SHEET & SHEET INDEX - P.E.M.B.

SCALE: 12" = 1'-0"

SHEET NUMBER: G0.01

PHASE: BUILDING PERMIT DOCUMENTS

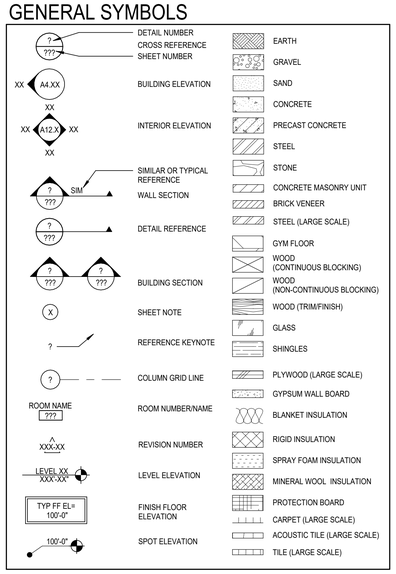
GENERAL ABBREVIATIONS

#	NUMBER
&	AND
@	AT
ADA	AMERICANS WITH DISABILITY ACT
ADDN	ADDITION OR ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
BLDG	BUILDING
BSMT	BASEMENT
CL	CENTER LINE
CLG	CEILING
CM	CENTIMETER
CONC	CONCRETE
CONN(S)	CONNECTION(S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACT(OR)
CTR	CENTER
D	DEPTH
DEG	DEGREE
DEMO	DEMOLISH OR DEMOLITION
DIA	DIAMETER
DIM	DIMENSION
DIV	SPECIFICATION DIVISION
DN	DOWN
DTL	DETAIL
DWG(S)	DRAWING(S)
E	EAST
EA	EACH
EC	ELECTRICAL CONTRACTOR
EL	ELEVATION
ELEC	ELECTRICAL
ENG	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
EXST	EXISTING
EXT	EXTERIOR
FIN	FINISHED
FL	FLOOR
FT	FEET
FUT	FUTURE
GC	GENERAL CONTRACTOR
GOVT	GOVERNMENT
H	HEIGHT
HORIZ	HORIZONTAL
HT	HEIGHT
i.e.	THAT IS
IBC	INTERNATIONAL BUILDING CODE
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
M	THOUSAND
M	METER
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MM	MILLIMETER
N	NORTH
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OPP	OPPOSITE
OVHD	OVERHEAD
PAR	PARALLEL
PENT	PENTHOUSE
PLYWD	PLYWOOD
QTY	QUANTITY
REQ(D)	REQUIRE(D)
REV	REVISION(S)
RM	ROOM
RND	ROUND
S	SOUTH
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION(S)
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SYM	SYMETRICAL
TEMP	TEMPORARY
TYP	TYPICAL
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
W	WEST
W/	WITH
W/O	WITHOUT

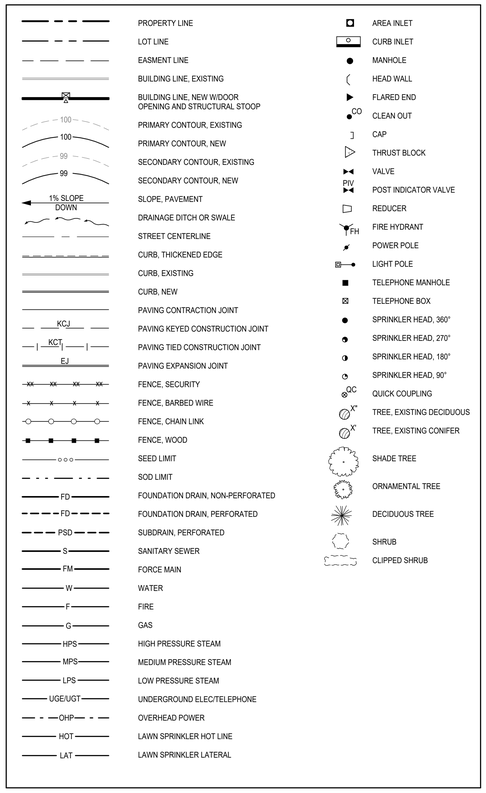
ARCHITECTURAL ABBREVIATIONS

A/E	ARCHITECT/ENGINEER
AB	AIR BARRIER
ABS	ASBESTOS
ACC	ADA ACCESSIBLE
ACR	ACRYLIC
ACT	ACOUSTIC CEILING TILE
AD	ACCESS DOOR
ADJ	ADJUSTABLE
ADJT	ADJACENT
ADMIN	ADMINISTRATION
AEC	AUTOMATED EXTERNAL DEFIBRILLATORS
AL	ALUMINUM
ALUM	ALUMINUM
AP	ACCESS PANEL
APC	ACOUSTIC PANEL CEILING
ASPH	ASPHALT
AUTO	AUTOMATIC
AVG	AVERAGE
AWP	ACOUSTIC WALL PANEL
B.O.	BOTTOM OF
BBPK	BLOOD-BORNE PATHOGEN KIT
BCS	BABY CHANGING STATION
BD	BOARD
BLK	BLOCK
BLKG	BLOCKING
BLKHD	BULKHEAD
BM(S)	BEAM(S)
BOT	BOTTOM
BRDG	BRIDGING
BRG	BEARING
BRKT	BRACKET
BT	BATHTUB
BTWN	BETWEEN
CAB	CABINET
CBD	CHALKBOARD
CER	CERAMIC
CF	CUBIC FEET
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFMF	COLD-FORMED METAL FRAMING
CG	CLEAR FLOAT GLASS
CI	CAST IRON
CIG	CLEAR INSULATING GLASS
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJA	CONTROL JOINT ABOVE
CLO	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMM	COMMUNICATIONS
COMPR	COMPRESSIBLE
CONF	CONFERENCE
CONFIG	CONFIGURATION
CORR	CORRIDOR
CP	COVER PLATE
CPT	CARPET
CR	CHAIR RAIL
CS	COUNTERSINK
CSTJ	CONSTRUCTION JOINT
CSWK	CASEWORK
CT	CERAMIC TILE
CTG	CLEAR TEMPERED FLOAT GLASS
CTIG	CLEAR TEMPERED INSULATING GLASS
CU	COPPER
CU	COMBINATION UNIT
CV	CONDOM VENDOR
CY	CUBIC YARD
CYL	CYLINDER
DB	DECIBEL
DBL	DOUBLE
DC	DUST COLLECTOR
DEPR	DEPRESS(ION)(ED)
DEPT	DEPARTMENT
DET	DETENTION
DF	DRINKING FOUNTAIN
DG	DOOR GRILLE
DIAG	DIAGONAL
DPFG	DAMPROOFING
DR	DOOR
DS	DOWNSPOUT
DW	DISHWASHER
DWL(S)	DOWEL(S)
DWR	DRAWER
(E)	EXISTING
EB	EXPANSION BOLT
EE	EACH END
EEW	EMERGENCY EYE WASH
EEWS	EMERGENCY EYE WASH SHOWER
EFF	EFFICIENCY
EJ	EXPANSION JOINT
ELAS	ELASTOMERIC
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENTR	ENTRANCE
ERF	EPOXY RESIN FLOORING
EUI	ENERGY USE INTENSITY
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXP	EXPANSION
EXP	EXPOSED
F	FABRIC
F.O.	FACE OF
FAB	FABRICATE(D)
FB	FACE BRICK
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIG	FIGURE
FIX	FIXTURE
FLASH	FLASHING
FLEX	FLEXIBLE
FLG	FLOORING
FLM	FULL LENGTH MIRROR
FLUOR	FLUORESCENT
FO	FINISH OPENING
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FP	FIREPROOFING
FR	FIRE RESISTANT
FRP	FIBERGLASS REINFORCED PANEL
FRT	FIRE RESISTANCE TREATED
FS	FLOOR SINK
FSS	FOLDING SHOWER SEAT
FTG	FOOTING
FVC	FIRE VALVE CABINET
FWC	FABRIC WALL COVERING
G	GROUT
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR
GD	GARBAGE DISPOSAL
GEN	GENERAL
GFA	GROSS FLOOR AREA
GL	GLUE LAMINATED
GL	GLASS
GMP	GUARANTEED MAXIMUM PRICE
GR	GUARD RAIL
GR	GRADE
GRS	GALVANIZED RIGID STEEL
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
HC	HOLLOW CORE
HD	HAND DRYER
HDF	HIGH DENSITY FIBERBOARD
HDR	HEADER
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HR	HOUR
HR	HANDRAIL
HS	HARDWARE SET
HSS	HOLLOW STRUCTURAL SHAPE
HVAC	HEATING VENTILATING AND AIR CONDITIONING
IAW	IN ACCORDANCE WITH
ID	INSIDE DIAMETER
IF	INSIDE FACE
IIP	INSULATED INFILL PANEL GLASS
IJ	ISOLATION JOINT
IJS	IN JOIST SPACE
INC	INCLUDE(ING)
INSUL	INSULATION
ISP	INSULATED SPANDREL GLASS
JAN	JANITOR
JBE	JOIST BEARING ELEVATION
JCT	JUNCTION
JFB	JOINT FILLER BOARD
JST	JOIST
JT	JOINT
KCJ	KEYED CONSTRUCTION JOINT
KD	KNOCKDOWN
KH	KITCHEN HOOD
KIT	KITCHEN
L	ANGLE
LAB	LABORATORY
LAM	LAMINATED
LAV	LAVATORY
LBR	LUMBER
LDG	LOADING
LF	LINEAR FOOT
LG	LENGTH (LONG)
LG	LAMINATED GLASS
LIN	LINEAR
LINO	LINOLEUM
LKR	LOCKER
LOC	LOCATION
LONG	LONGITUDINAL
LSC	LIFE SAFETY CODE
LTG	LIGHTING
LV	LOUVER
LVT	LUXURY VINYL TILE
MAG	MAGNETIC
MAINT	MAINTENANCE
MAN	MANUAL
MAS	MASONRY
MATL	MATERIAL
MB	MOP BASIN
MBD	MARKER BOARD
MBH	MOP/BROOM HOLDER
MC	MEDICINE CABINET
MEMB	MEMBRANE
MH	MANHOLE
MR/S	MIRROR WITH SHELF
MT	MASS TIMBER
MTG	MOUNTING
MUL	MULLION
(N)	NEW
NC	NOISE CRITERIA
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NOM	NOMINAL
O to O	OUT TO OUT
OA	OVERALL
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFF	OFFICE
OFOI	OWNER FURNISHED OWNER INSTALLED
OH	OPPOSITE HAND
OPG(S)	OPENING(S)
OSHA	OPERATIONAL SAFETY AND HEALTH ADMINISTRATION
OTB	OPEN TO BELOW
OVFL	OVERFLOW
P.	PAINT
PAN B	PANIC BOLT
PB	PARTICLE BOARD
PC	PRECAST CONCRETE
PCD	PAPER CUP DISPENSER
PCT	PORCELAIN CERAMIC TILE
PD	PANIC DEVICE
PEMB	PRE-ENGINEERED METAL BUILDING
PERF	PERFORATED
PERP	PERPENDICULAR
PG	PATTERN GLASS
PIC	PORTABLE INSTRUMENT CONNECTION
PIG	PATTERN INSULATING GLASS
PL	PLATE
PL	PROPERTY LINE
PL	PLASTIC LAMINATE
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PR	PAIR
PREFAB	PREFABRICATED
PROJ	PROJECT(OR) (ION)
PS	PROJECTION SCREEN
PT	POINT
PT	POINT OF TANGENCY
PTD	PAPER TOWEL DISPENSER
PTD/R	COMBINATION TOWEL DISPENSER/RECEPTACLE
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
PWL	SOUND POWER LEVEL
QT	QUARRY TILE
QTR RND	QUARTER ROUND
R	RISER
RAD	RADIUS
RB	RUBBER BASE
RC	REMOTE CONTROL
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFERENCE
REFL	REFLECTED
REM	REMOVABLE
RESIL	RESILIENT
RF	RESILIENT FLOORING
RF	RUBBER FLOOR
RFM	RECESSED FLOOR MAT
RH	ROBE HOOK
RI&C	ROUGH IN AND CONNECT
S	SINK
SAT	SPRAYED ACOUSTIC TREATMENT
SAW	SOUND ABSORBING WALL UNITS
SB	SPLASH BLOCK
SC	SOLID CORE
SC	SHOWER CURTAIN
SCD	SEAT COVER DISPENSER
SCH	SHOWER CURTAIN HOOK
SCR	SHOWER CURTAIN ROD
SCT	STRUCTURAL CLAY TILE
SD	SOAP DISPENSER
SECY	SECRETARY
SF	SQUARE FEET
SGL	SINGLE
SH	SHOWER
SHM	SECURITY HOLLOW METAL
SLNT	SEALANT
SM	SHEET METAL
SND	SANITARY NAPKIN DISPOSAL
SNV	SANITARY NAPKIN VENDOR
SOG	SLAB ON GRADE
SP	SPANDREL GLASS
SPL	SOUND PRESSURE LEVEL
SQ	SQUARE
SS	SOLID SURFACE
SSA	STORM SHELTER AREA
SSS	STAINLESS STEEL SHELF
SST	STAINLESS STEEL
ST	STONE
ST	STAIR
STAG'D	STAGGERED
STC	SOUND TRANSMISSION CLASS
STGR	STRINGER
SUBFL	SUBFLOOR
SURF	SURFACE
SUSP	SUSPENDED
SVF	SHEET VINYL FLOORING
T	TREAD
T&G	TONGUE AND GROOVE
T.O.	TOP OF
TAN	TANGENT
TB	TOWEL BAR
TBD	TACK BOARD
TCP	TOILET COMPARTMENT PARTITION
TERR	TERRAZZO
TFG	TINTED FLOAT GLASS
TG	TEMPERED GLASS
TH	THRESHOLD
THK	THICK(NESS)
TI	TENANT IMPROVEMENT
TIG	TINTED INSULATING GLASS
TMR	TILT MIRROR UNIT
TOIL	TOILET
TOP	TOP OF PAVING
TRANS	TRANSVERSE
TT	TERRAZZO TILE
TTD	TOILET TISSUE DISPENSER
TTG	TINTED TEMPERED FLOAT GLASS
TTIG	TINTED TEMPERED INSULATING GLASS
TW	TACK WALL
UL	UNDERWRITERS LABORATORIES
UR	URINAL
US	UTILITY SHELF
UTIL	UTILITY
VB	VAPOR BARRIER
VB	VINYL BASE
VCB	VENTED COVE BASE
VF	VINYL FLOOR
VOC	VOLITILE ORGANIC COMPOUND
VOL	VOLUME
VP	VENEER PLASTER
VT	VINYL TILE
VWC	VINYL WALL COVERING
W	WIDE
WB	WALL BASE
WC	WATER CLOSET
WC	WALL COVERING
WCL	WATER CLOSET/LAVATORY COMBINATION
WD	WOOD
WDF	WOOD FLOORING
WDW	WINDOW
WG	POLISHED WIRE GLASS
WI	WROUGHT IRON
WOM	WALK OFF MAT
WR	WASTE RECEPTACLE
WRB	WEATHER RESISTANT BARRIER
WW	WARM WHITE
WWF	WELDED WIRE FABRIC
YD	YARD

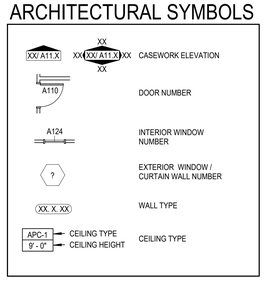
GENERAL SYMBOLS



SITE SYMBOLS



ARCHITECTURAL SYMBOLS



GENERAL NOTES

A. GENERAL NOTES APPLY TO ALL SHEETS.
B. DIMENSIONS ARE ACTUAL AND ARE TO FACE OF STUDS, AND CENTERLINE OF COLUMNS, UNLESS NOTED OTHERWISE.
C. THE TENANT SHALL COORDINATE ALL TENANT-FURNISHED ITEMS WITH THE CONTRACTOR.
D. ARCHITECTURAL FINISH FLOOR ELEVATION 0'-0" EQUALS ACTUAL SITE REFERENCE ELEVATION OF FINISH FLOOR 657.50 FEET.
E. SEE CODE PLANS FOR LOCATION OF WALLS OF FIRE-RESISTANCE-RATED CONSTRUCTION. ALL WALLS OF FIRE-RESISTANCE-RATED CONSTRUCTION SHALL EXTEND TO UNDERSIDE OF ROOF DECK ABOVE.
F. ALL PENETRATIONS THROUGH WALLS SHALL BE SEALED WITH PENETRATION FIRE STOPPING MATERIAL AS REQUIRED TO ACHIEVE THE RESPECTIVE FIRE-RESISTANCE RATING AND SMOKE STOPPAGE. SEE SPECIFICATION SECTION 078413.
G. COORDINATE WITH MECHANICAL AND ELECTRICAL CONTRACTORS THE SIZE AND LOCATION OF EQUIPMENT PADS SHOWN ON PLANS.
H. CONSTRUCTION DOCUMENTS ARE COMPLEMENTARY. SEE DRAWING FOR QUANTITIES AND LOCATION OF WORK. SEE SPECIFICATIONS FOR QUALITIES AND CONDITIONS OF WORK.
I. WORK: ALL ASPECTS OF THE WORK AND ITEMS NOT SPECIFICALLY MENTIONED, BUT NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED AND INDICATED IN THE CONTRACTOR'S BID.
J. GENERAL SHEET NOTES ONLY APPLY TO PARTICULAR DRAWING OR SERIES OF DRAWINGS.
K. NO ASBESTOS OR PCB CONTAINING MATERIALS SHALL BE USED ON THIS PROJECT.
L. DO NOT SCALE DRAWINGS. DIMENSIONS NOTED PREVAIL. NOTIFY ARCHITECT IN CASE OF DISCREPANCY
M. HORIZONTAL AND VERTICAL DIMENSIONS ARE MINIMUM DIMENSIONS. CLEARANCES ARE GIVEN TO FINISH SURFACES. GC TO VERIFY ALL CLEARANCES. NOTIFY ARCHITECT IN CASE OF DISCREPANCY.

GENERAL ARCHITECTURAL NOTES

1. WALL TYPES SHALL BE DESIGNATED ON FLOOR PLANS THUS: (XX_X_XX); SEE SHEET A0.2 FOR WALL TYPES. ALL INTERIOR PARTITIONS ARE WALL TYPE SA-3-41 UNLESS NOTED OTHERWISE.
2. ALL INTERIOR STUD WALLS SHALL EXTEND TO UNDERSIDE OF ROOF STRUCTURE ABOVE UNLESS NOTED OTHERWISE. SEE REFLECTED CEILING PLAN NOTES AND A0.2 FOR DETAILS.
3. PROVISIONS SHALL BE MADE AT ALL FULL HEIGHT NON-BEARING WALLS FOR 1-INCH VERTICAL MOVEMENT OF THE BUILDING STRUCTURE WITHOUT TRANSFER OF COMPRESSIVE LOADS TO WALL. FILL IRREGULARITIES BETWEEN TOP OF WALL AND DECK ABOVE WITH MINERAL WOOL INSULATION OR FIRE STOPPING MATERIALS AS REQUIRED TO MEET FIRE RATING OF RESPECTIVE WALLS. SEE DETAILS ON SHEET A0.2
4. FURNISH AND INSTALL FIRE-TREATED WOOD BLOCKING OR METAL BACKING PLATE IN METAL STUD PARTITIONS FOR THE PROPER ANCHORAGE OF ALL WALL ATTACHED ITEMS; I.E. TOILET ACCESSORIES -DASEWORK, MILLWORK, WALL-MOUNTED FIXTURES, MARKER BOARDS, TACK BOARDS, DOOR STOPS, AUDIO VISUAL BRACKETS, AND OTHER WALL ATTACHED ITEMS. SEE SHEET A11.2 FOR TYPICAL BLOCKING DETAILS.
5. GYPSUM BOARD SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS AS DESCRIBED IN THE SPECIFICATIONS.
6. SCRIBE GYPSUM WALL BOARD OF WALLS AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND ALL PENETRATIONS.
7. LOCATE INTERIOR DOOR FRAMES 4" FROM INSIDE CORNER, TYP. UNO.
8. SEE EXTERIOR ELEVATIONS FOR WINDOW TYPES AND DIMENSIONS OF WINDOWS AND METAL PANELS.

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LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRVD: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

SCALE: As indicated

SHEET NUMBER:
G1.01

PHASE: BUILDING PERMIT DOCUMENTS

PROJECT DESCRIPTION
SINGLE STORY OFFICE BUILDING. PRIMARY USE OF BUILDING WILL BE OPEN OFFICE SPACE, CONFERENCE ROOMS, AND A MICRO-KITCHEN TO SUPPORT THE TENANT.

PROJECT ADDRESS
TBD TULSA COUNTY, OK

BUILDING CODE EDITIONS
IBC 2018, ICC A117.1, 2018 IFGC, 2018 IMC, 2018 IPC, 2020 NEC, 2018 IFC

OCCUPANCY CLASSIFICATION GROUP(S):	B BUSINESS
OCCUPANCY SEPARATION: (PER 508.4)	1 HR SPRINKLERED

CONSTRUCTION TYPE USED	TYPE V-B	
	CODE MAXIMUM GSF SPRINKLERED	PROPOSED
BUILDING HEIGHT	60'	14'-0"
NO. OF STORIES	2	1
FLOOR AREA (B)	36,000 SF	29,400 SF
SPRINKLERS USED		YES

TABLE 601

BUILDING ELEMENT TYPE V-B	RATING REQUIRED	RATING PROVIDED
STRUCTURAL FRAME	0-HR	0-HR
BEARING WALLS - EXTERIOR* BEARING WALLS - INTERIOR	0-HR 0-HR	0-HR 0-HR
NON-BEARING WALLS & PARTITIONS - EXTERIOR	SEE BELOW- TABLE 602 (2018 IBC)	
NON-BEARING WALLS & PARTITIONS - INTERIOR	0-HR	0-HR
FLOOR CONSTRUCTION & SECONDARY MEMBERS	0-HR	N/A
ROOF CONSTRUCTION & SECONDARY MEMBERS	0-HR	0-HR

*NOT LESS THAN THE FIRE-RESISTANCE RATING BASED ON FIRE SEPARATION DISTANCE (SEE TABLE 602).

704.10 EXTERIOR STRUCTURAL MEMBERS: **LOAD-BEARING STRUCTURAL MEMBERS LOCATED WITHIN THE *EXTERIOR WALLS*** OR ON THE OUTSIDE OF A BUILDING OR STRUCTURE SHALL BE PROVIDED WITH THE HIGHEST *FIRE-RESISTANCE RATING* AS DETERMINED IN ACCORDANCE WITH THE FOLLOWING:
1. AS REQUIRED BY TABLE 601 FOR THE TYPE OF BUILDING ELEMENT BASED ON THE TYPE OF CONSTRUCTION OF THE BUILDING.
2. AS REQUIRED BY TABLE 601 FOR EXTERIOR BEARING WALLS BASED ON THE TYPE OF CONSTRUCTION.
3. AS REQUIRED BY TABLE 602 (2018 IBC) FOR *EXTERIOR WALLS* BASED ON THE *FIRE SEPARATION DISTANCE*.

TABLE 602 (2018 IBC)

FIRE-RESISTANCE RATING FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE (TABLE 602):	CONSTRUCTION TYPE	OCCUPANCY GROUPS A & B
X <5':	V-B	1-HR
5' ≤ X < 10':	V-B	1-HR
10' ≤ X < 30':	V-B	0-HR
X ≥ 30':	V-B	0-HR

TABLE 705.8 - OPENINGS

	0-3'	>3'-5'	>5'-10'	>10'-15'	>15'-20'	>20'-25'	>25-30'	>30'
UNPROTECTED, SPRINKLERED	NOT PERMITTED	15%	25%	45%	75%	NO LIMIT	NO LIMIT	NO LIMIT

OCCUPANCY GROUP	B	TOTAL GSF
AREA A	11,781	28,385 GSF
AREA B	10,396	
AREA C	6,208	

	PROVIDED	REQUIRED PER	TYPE/CLASS/AREAS OF COVERAGE
AUTOMATIC SPRINKLER SYSTEM:	YES	903.2.1.2 & 506.2	NFPA 13, THROUGHOUT
STANDPIPE SYSTEM:	NO	905.3.1	
MANUAL FIRE ALARM BOX	NO	907.2	
SMOKE ALARMS	YES	907.2.10.3 & 907.2.10.4	COOKING AREAS & SHOWERS
AUDIBLE ALARMS:	YES	907.5.2.1	THROUGHOUT
VISIBLE ALARMS:	YES	907.5.2.3	THROUGHOUT
FIRE EXTINGUISHERS	YES	906	NOTED ON PLANS, 75' MAX & 2-A RATED

TABLE 1017

OCCUPANCY GROUP	EXIT ACCESS TRAVEL DISTANCE WITHOUT SPRINKLERS	EXIT ACCESS TRAVEL DISTANCE WITH SPRINKLERS
B	200 FT	300 FT

CLIMATE ZONE: ZONE 3

BUILDING ELEMENT	**REQUIREMENT PER 502.2**
ROOF INSULATION - METAL BUILDING	R-19 + R-10
WALLS ABOVE GRADE, METAL BUILDING	R-13
SLAB-ON-GRADE FLOORS - UNHEATED SLABS	NR
	REQUIREMENT PER 502.3
FIXED FENESTRATION U-FACTOR	0.60
ENTRANCE DOOR FENESTRATION U-FACTOR	0.90
FENESTRATION (PROJECTION FACTOR <0.25) SHGC	0.25

SEE STRUCTURAL FOR SPECIAL INSPECTION AND STRUCTURAL OBSERVATION REQUIREMENTS.

TOTAL OCCUPANT LOAD, FIXTURES

Occupancy Group	OCCUPANT LOAD
A	228
B	493

TABLE 2902.1

OCCUPANCY TYPE	WATER CLOSETS (URINALS SEE SECTION 424.2 OF THE INTERNATIONAL PLUMBING CODE)		LAVATORIES		DRINKING FOUNTAINS	OTHER
	MALE	FEMALE	MALE	FEMALE		
ASSEMBLY (FOOD COURT)	1 PER 75*	1 PER 75*	1 PER 200		1 PER 500	1 SERVICE SINK
BUSINESS	1 PER 25 FOR THE FIRST 50 AND 1 PER 50 FOR THE REMAINDER EXCEEDING 50		1 PER 40 FOR THE FIRST 80 AND 1 PER 80 FOR THE REMAINDER EXCEEDING 80		1 PER 100	1 SERVICE SINK

	ASSEMBLY NUMBER REQUIRED	BUSINESS NUMBER REQUIRED	**TOTAL NUMBER PROVIDED**	ASSEMBLY NUMBER REQUIRED	BUSINESS NUMBER REQUIRED	**TOTAL NUMBER PROVIDED**	ASSEMBLY NUMBER REQUIRED	BUSINESS NUMBER REQUIRED	**TOTAL NUMBER PROVIDED**	ASSEMBLY NUMBER REQUIRED	BUSINESS NUMBER REQUIRED	**TOTAL NUMBER PROVIDED**
AREAS A+B+C	4	11	**15**	2	8	**11**	1	5	**6+MK EQUIP****	1	1	**2**

*RESTROOMS AND LAVATORIES ARE ALL-GENDER:
IBC 2902.1.2 Single-user toilet facility and bathing room fixtures. The plumbing fixtures located in single-user toilet facilities and bathing rooms, including family or assisted-use toilet and bathing rooms that are required by Section 1109.2, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. Single-user toilet facilities and bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified for use by either sex.

**WATER BOTTLE FILLERS
IPC 410.1 Approval. Drinking fountains shall conform to ASME A112.19.1M, ASME A112.19.2M or ASME A112.19.9M and water coolers shall conform to ARI 1010. Drinking fountains and water coolers shall conform to NSF 61, Section 9. Where water is served in restaurants, drinking fountains shall not be required. In other occupancies, where drinking fountains are required, water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required drinking fountains.

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REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRVD: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

CODE SUMMARY

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

SHEET NUMBER:
CP0.01

PHASE: BUILDING PERMIT DOCUMENTS

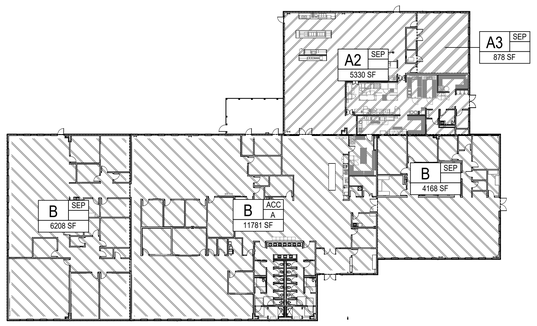
GROSS AREA SCHEDULE

BUILDING AREA	NAME	OCCUPANCY GROUP	AREA
A	BUSINESS AREAS	B	11781 SF
B	ASSEMBLY - CAFETERIA	A2	5330 SF
B	ASSEMBLY - LECTURE HALL	A3	878 SF
B	BUSINESS AREAS	B	4168 SF
C	BUSINESS AREAS	B	6208 SF
			28365 SF

OCCUPANT LOAD TABLE

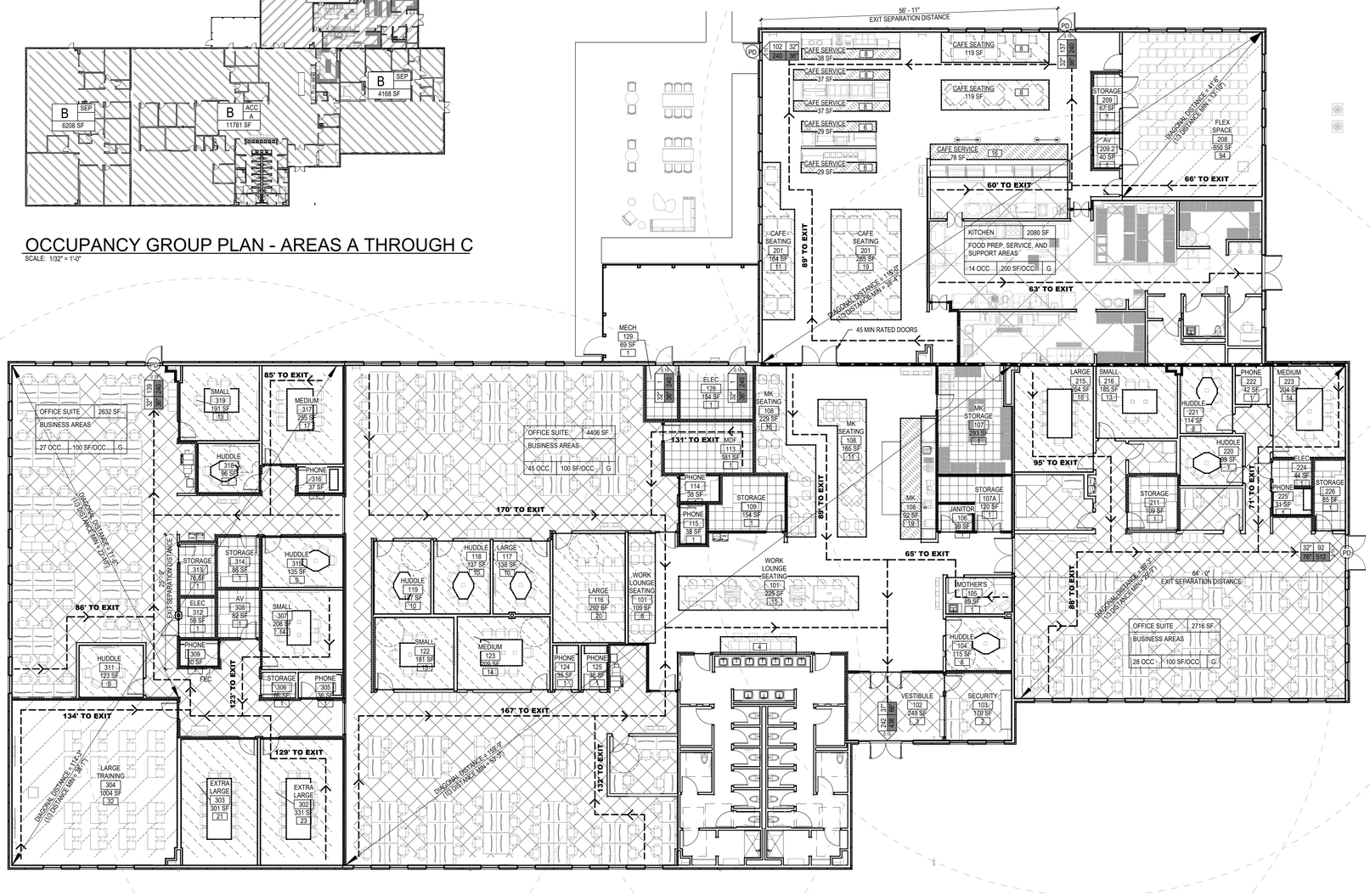
NAME	NUMBER	FUNCTION OF SPACE	AREA	GROSS/ NET	OLF	OCCUPANT LOAD
JANITOR	106	ACCESSORY STORAGE, MECH EQUIP ROOMS	39 SF	GROSS	300	1
MK STORAGE	107	ACCESSORY STORAGE, MECH EQUIP ROOMS	293 SF	GROSS	300	1
STORAGE	107A	ACCESSORY STORAGE, MECH EQUIP ROOMS	120 SF	GROSS	300	1
STORAGE	109	ACCESSORY STORAGE, MECH EQUIP ROOMS	154 SF	GROSS	300	1
MDF	113	ACCESSORY STORAGE, MECH EQUIP ROOMS	181 SF	GROSS	300	1
ELEC	128	ACCESSORY STORAGE, MECH EQUIP ROOMS	154 SF	GROSS	300	1
MECH	129	ACCESSORY STORAGE, MECH EQUIP ROOMS	69 SF	GROSS	300	1
MK	108	ASSEMBLY - STANDING	92 SF	NET	5	19
MOTHER'S	105	ASSEMBLY FIXED SEATING	89 SF	NET		1
PHONE	114	ASSEMBLY FIXED SEATING	38 SF	NET		1
PHONE	115	ASSEMBLY FIXED SEATING	38 SF	NET		1
PHONE	124	ASSEMBLY FIXED SEATING	35 SF	NET		1
PHONE	125	ASSEMBLY FIXED SEATING	36 SF	NET		1
WORK LOUNGE SEATING	101	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	49 SF	NET	15	4
WORK LOUNGE SEATING	101	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	109 SF	NET	15	8
WORK LOUNGE SEATING	101	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	225 SF	NET	15	15
HUDDLE	104	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	115 SF	NET	15	8
MK SEATING	108	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	165 SF	NET	15	11
MK SEATING	108	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	229 SF	NET	15	16
LARGE	116	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	292 SF	NET	15	20
LARGE	117	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	138 SF	NET	15	10
HUDDLE	118	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	137 SF	NET	15	10
HUDDLE	119	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	137 SF	NET	15	10
SMALL	122	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	181 SF	NET	15	13
MEDIUM	123	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	209 SF	NET	15	14
VESTIBULE	102	BUSINESS AREAS	249 SF	GROSS	100	3
SECURITY	103	BUSINESS AREAS	170 SF	GROSS	100	2
OFFICE SUITE	112	BUSINESS AREAS	4406 SF	GROSS	100	45
						220
STORAGE	209	ACCESSORY STORAGE, MECH EQUIP ROOMS	67 SF	GROSS	300	1
AV	209.2	ACCESSORY STORAGE, MECH EQUIP ROOMS	40 SF	GROSS	300	1
STORAGE	211	ACCESSORY STORAGE, MECH EQUIP ROOMS	109 SF	GROSS	300	1
ELEC	224	ACCESSORY STORAGE, MECH EQUIP ROOMS	44 SF	GROSS	300	1
STORAGE	226	ACCESSORY STORAGE, MECH EQUIP ROOMS	85 SF	GROSS	300	1
CAFE SERVICE	201	ASSEMBLY - STANDING	29 SF	NET	5	6
CAFE SERVICE	201	ASSEMBLY - STANDING	29 SF	NET	5	6
CAFE SERVICE	201	ASSEMBLY - STANDING	37 SF	NET	5	8
CAFE SERVICE	201	ASSEMBLY - STANDING	37 SF	NET	5	8
CAFE SERVICE	201	ASSEMBLY - STANDING	38 SF	NET	5	8
CAFE SERVICE	201	ASSEMBLY - STANDING	78 SF	NET	5	16
FLEX SPACE	208	ASSEMBLY FIXED SEATING	850 SF	NET		94
PHONE	222	ASSEMBLY FIXED SEATING	42 SF	NET		1
PHONE	225	ASSEMBLY FIXED SEATING	31 SF	NET		1
CAFE SEATING	201	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	119 SF	NET	15	8
CAFE SEATING	201	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	119 SF	NET	15	8
CAFE SEATING	201	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	164 SF	NET	15	11
CAFE SEATING	201	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	285 SF	NET	15	19
LARGE	215	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	264 SF	NET	15	18
SMALL	216	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	185 SF	NET	15	13
HUDDLE	220	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	99 SF	NET	15	7
HUDDLE	221	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	114 SF	NET	15	8
MEDIUM	223	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	204 SF	NET	15	14
OFFICE SUITE	210	BUSINESS AREAS	2716 SF	GROSS	100	28
KITCHEN	203	KITCHENS, COMMERCIAL	2080 SF	GROSS	200	14
						301
STORAGE	306	ACCESSORY STORAGE, MECH EQUIP ROOMS	66 SF	GROSS	300	1
AV	308	ACCESSORY STORAGE, MECH EQUIP ROOMS	82 SF	GROSS	300	1
ELEC	312	ACCESSORY STORAGE, MECH EQUIP ROOMS	59 SF	GROSS	300	1
STORAGE	313	ACCESSORY STORAGE, MECH EQUIP ROOMS	76 SF	GROSS	300	1
STORAGE	314	ACCESSORY STORAGE, MECH EQUIP ROOMS	86 SF	GROSS	300	1
LARGE TRAINING	304	ASSEMBLY FIXED SEATING	1004 SF	NET		32
PHONE	305	ASSEMBLY FIXED SEATING	36 SF	NET		1
PHONE	309	ASSEMBLY FIXED SEATING	30 SF	NET		1
PHONE	316	ASSEMBLY FIXED SEATING	37 SF	NET		1
EXTRA LARGE	302	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	331 SF	NET	15	23
EXTRA LARGE	303	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	301 SF	NET	15	21
SMALL	307	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	208 SF	NET	15	14
HUDDLE	311	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	123 SF	NET	15	9
HUDDLE	315	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	135 SF	NET	15	9
MEDIUM	317	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	255 SF	NET	15	17
HUDDLE	318	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	96 SF	NET	15	7
SMALL	319	ASSEMBLY W/O FIXED SEATS (UNCONCENTRATED)	191 SF	NET	15	13
OFFICE SUITE	310	BUSINESS AREAS	2632 SF	GROSS	100	27
						180
						701

= CALCULATED OCCUPANT LOAD OVERRIDEN DUE TO FUNCTION OF SPACE SUPPORTED BY FURNITURE AND DOOR HARDWARE



OCCUPANCY GROUP PLAN - AREAS A THROUGH C

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



CODE PLAN - AREAS A THROUGH C

SCALE: 1" = 10'-0"

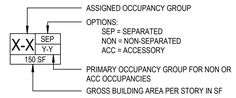
OCCUPANCY GROUP PATTERNS

B BUSINESS

A2 ASSEMBLY

A3 ASSEMBLY

LEGEND - OCCUPANCY GROUP PLANS



TOTAL OCCUPANT LOAD	
BUILDING AREA	TOTAL OCCUPANTS PER AREA
A	220
B	301
C	180
	701

OCCUPANCY LOAD FACTOR PATTERNS

5 NET SF

15 NET SF

100 GROSS SF

300 GROSS SF

OCCUPANT LOAD DETERMINED BY SEAT COUNT

SYMBOL LEGEND

OCCUPANT LOAD TAG (GROSS)
- SEE PATTERN FOR APPLIED LOAD FACTOR

AREA NAME	XXX SF
SPACE FUNCTION	
XXX OCC	XXX SF/OCC G

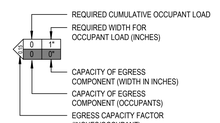
OCCUPANT LOAD TAG (NET)

XXX — AREA NAME
XXX — ROOM NUMBER
XXX SF — AREA (SF)
— OCCUPANT LOAD

PD — PANIC DEVICE(S)
XX MIN — DOOR FIRE RATING

-1 HOUR RATED WALL

FE(C) — FIRE EXTINGUISHER (CABINET) & 75' RADIUS



GENERAL NOTES

1. EXIT SIGN LOCATION WILL BE ON ELECTRICAL SET OF DRAWINGS, RCPS, AND SPECIFICATION.
2. ALL DOOR WIDTHS AND HARDWARE ARE ON DOOR SCHEDULE AND SPECIFICATION.

9/18/2025 1:09:20 AM Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_AR_2025.rvt

HDR, ENGINEERING INC.
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CA-0443

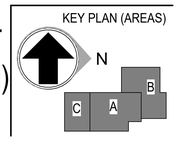
DLR GROUP
6457 FRANCES ST., STE. 200
OMAHA, NE 68106
(402) 742-4200

KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

STATE OF OKLAHOMA SCOTT D. SHEFFERMILLER A19560 LICENCED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

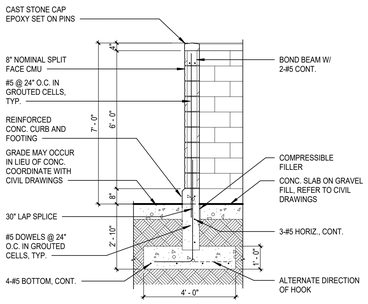
PROJ. NO. 43-25105-00

CODE PLAN

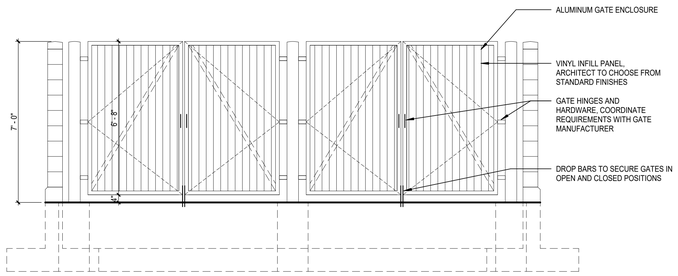
SCALE: As indicated

SHEET NUMBER:
CP1.01

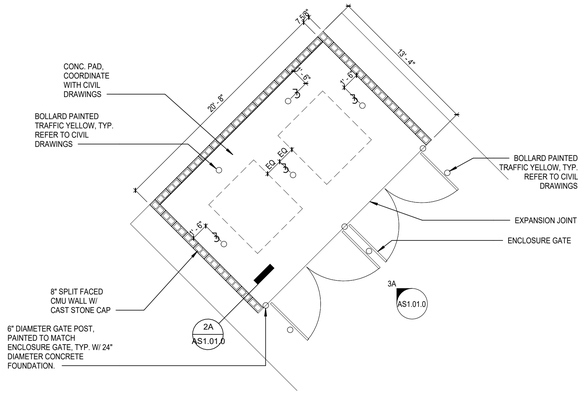
PHASE: BUILDING PERMIT DOCUMENTS



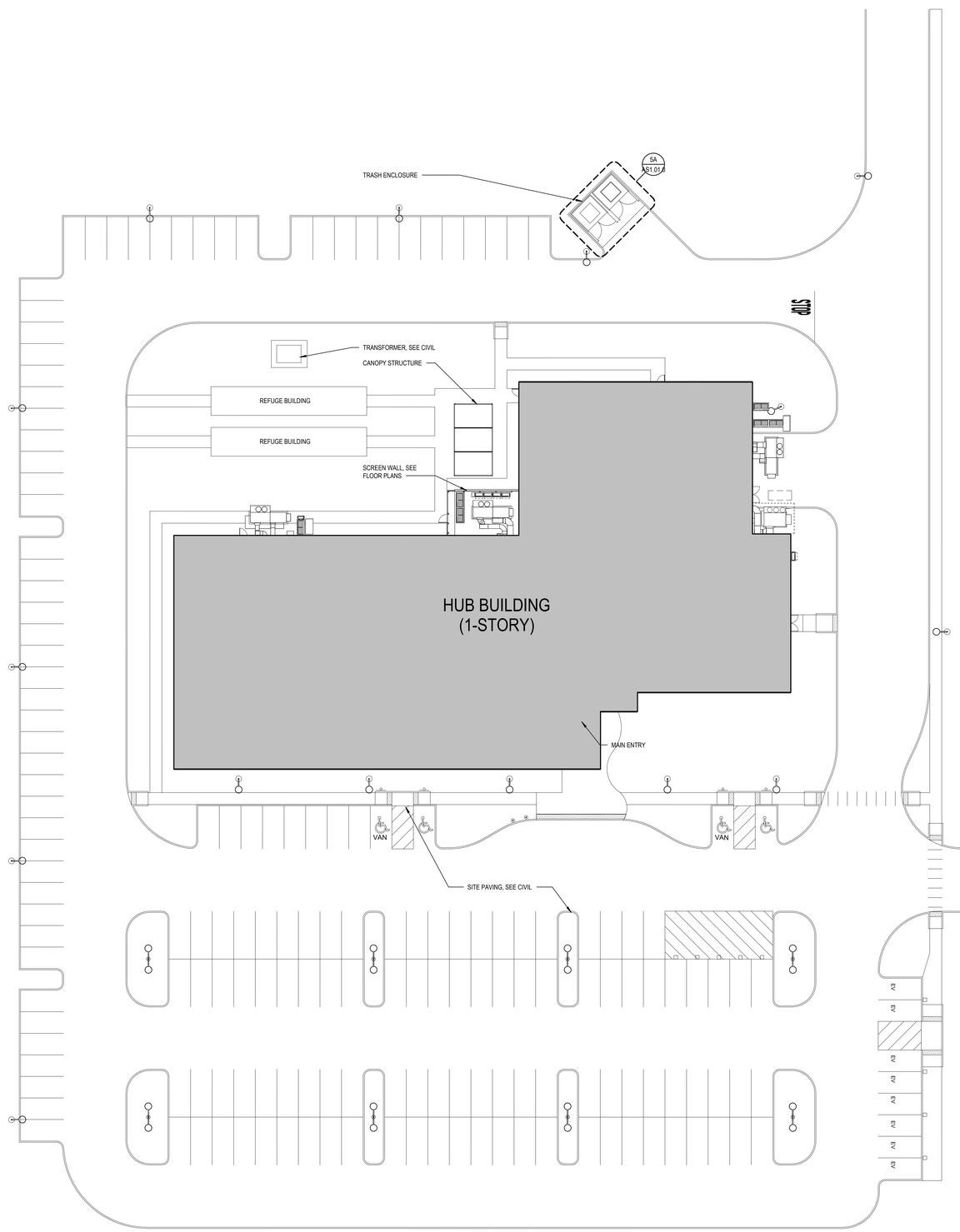
2A AS1.01.0 TYP. TRASH ENCLOSURE WALL SECTION
SCALE: 3/8" = 1'-0"



3A AS1.01.0 TRASH ENCLOSURE ELEVATION
SCALE: 3/8" = 1'-0"



5A AS1.01.0 ENLARGED TRASH ENCLOSURE PLAN
SCALE: 3/16" = 1'-0"



N ARCHITECTURAL SITE PLAN (PLACEHOLDER)
SCALE: 3/64" = 1'-0"

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STATE OF OKLAHOMA SCOTT D. SHIFFERMILLER A08960 LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)
N
A
B
C

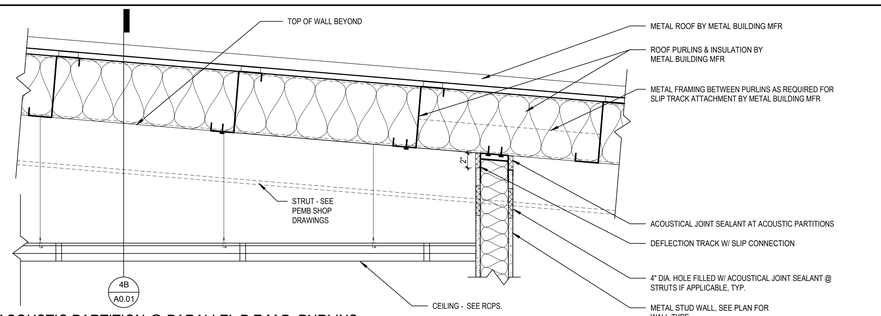
REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

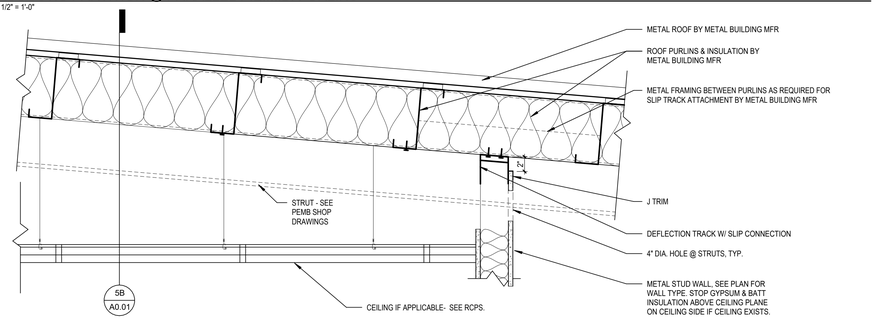
ARCHITECTURAL SITE PLAN
SCALE: As indicated

SHEET NUMBER:
AS1.01.0
PHASE: BUILDING PERMIT DOCUMENTS



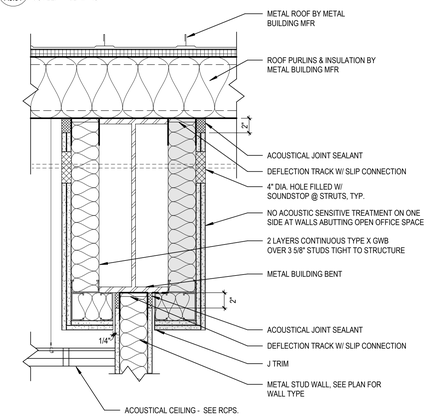
1A A0.01 T.O. ACOUSTIC PARTITION @ PARALLEL P.E.M.B. PURLINS

SCALE: 1 1/2" = 1'-0"



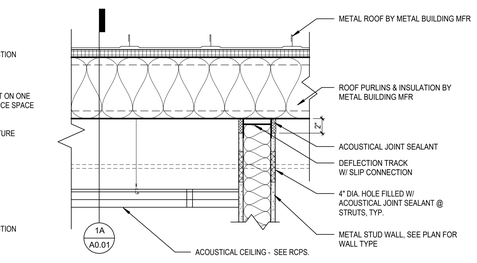
2A A0.01 T.O. NON-ACOUSTIC PARTITION @ PARALLEL P.E.M.B. PURLINS

SCALE: 1 1/2" = 1'-0"



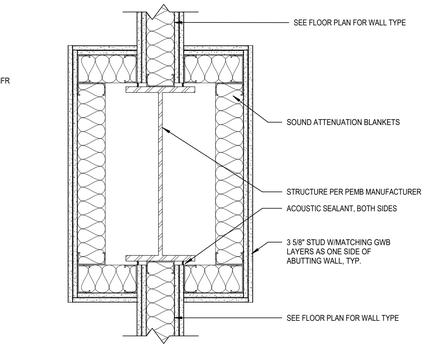
4A A0.01 T.O. ACOUSTIC PARTITION @ PRIMARY STEEL

SCALE: 1 1/2" = 1'-0"



4B A0.01 T.O. ACOUSTIC PARTITION @ PERP P.E.M.B. PURLINS

SCALE: 1 1/2" = 1'-0"

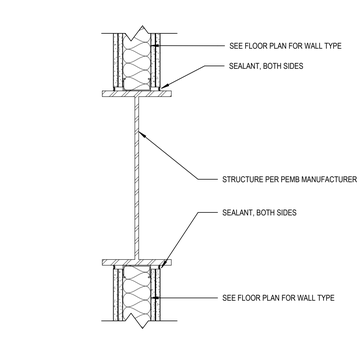


4C A0.01 ACOUSTIC WALL @ P.E.M.B. COLUMN

SCALE: 1 1/2" = 1'-0"

5C A0.01 ACOUSTIC WALL @ P.E.M.B. COLUMN END WALL

SCALE: 1 1/2" = 1'-0"

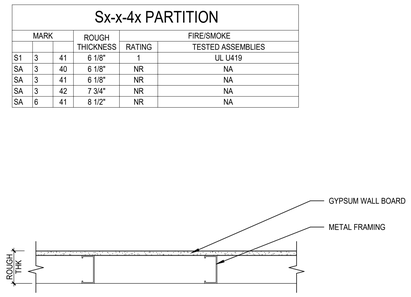


4D A0.01 NON-ACOUSTIC WALL @ P.E.M.B. COLUMN

SCALE: 1 1/2" = 1'-0"

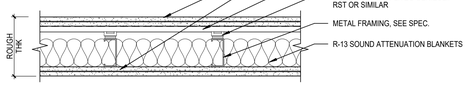
5D A0.01 NON-ACOUSTIC WALL @ P.E.M.B. COLUMN END WALL

SCALE: 1 1/2" = 1'-0"



Sx-x-4x PARTITION

MARK			ROUGH THICKNESS	FIRE/SMOKE RATING	FIRE/SMOKE TESTED ASSEMBLIES
S1	3	41	6 1/8"	1	UL U419
SA	3	40	6 1/8"	NR	NA
SA	3	41	6 1/8"	NR	NA
SA	3	42	7 3/4"	NR	NA
SA	6	41	8 1/2"	NR	NA

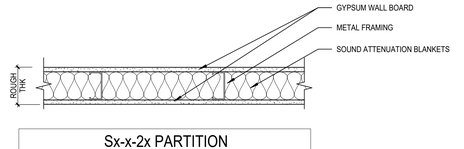


SA-3-42 PARTITION

MARK			ROUGH THICKNESS	FIRE/SMOKE RATING	FIRE/SMOKE TESTED ASSEMBLIES
SA	3	42	7 3/4"	NR	NA

Sx-x-1x PARTITION

MARK			ROUGH THICKNESS	FIRE/SMOKE RATING	FIRE/SMOKE TESTED ASSEMBLIES
SA	3	10	4 1/4"	NR	NA
SB	3	10	4 1/4"	NR	NA

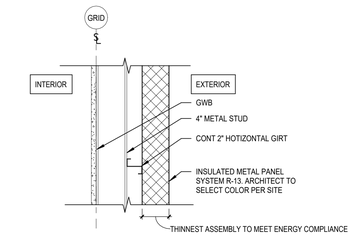


Sx-x-2x PARTITION

MARK			ROUGH THICKNESS	FIRE/SMOKE RATING	FIRE/SMOKE TESTED ASSEMBLIES
SA	3	20	4 7/8"	NR	NA
SA	6	20	7 1/4"	NR	NA
SB	3	20	4 7/8"	NR	NA
SB	6	20	7 1/4"	NR	NA
SD	3	23	4 7/8"	NR	NA

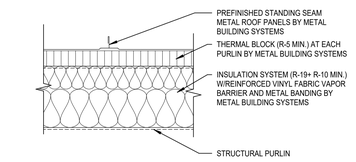
GENERAL NOTES

A. SEE CODE PLAN SHEETS FOR LOCATIONS OF FIRE/SMOKE RATED WALLS.
B. CONSTRUCT FIRE RATED GWB PARTITIONS ACCORDING TO THE FIRE RATED ASSEMBLIES INDICATED ON THE WALL TYPE.
C. AT WALLS WITH 2 LAYERS OF GWB ON ONE SIDE, LOCATE DOUBLE LAYER WITH ROOM INTERIOR, SINGLE LAYER IS AT CORRIDOR.
D. THE PERIMETER OF ALL SOUND WALLS SHALL BE SEALED WITH ACOUSTICAL SEALANT. REFER TO PARTITION TYPE SCHEDULES FOR ACOUSTIC CONDITION.
E. BATT INSULATION WITHIN WALLS TO BE SOUND BATT.
F. WHERE DIFFERENT WALL TYPES OF THE SAME STUD THICKNESS JOIN, PROVIDE FURRING OR EXTRA LAYERS OF GWB TO ALIGN FINISHED SURFACE WITHIN EACH ROOM OR WALL PLANE.
G. WHERE CERAMIC TILE OCCURS, PLACE GLASS-MAT WATER-RESISTANT BACKING BOARD IN LIEU OF GWB, REFER TO FINISH PLANS AND SCHEDULE FOR CERAMIC TILE LOCATIONS.
H. WHERE STRUCTURAL ELEMENTS PENETRATE FINISHED WALLS, CONTRACTOR SHALL INFILL W/ GWB, SEAL JOINTS AND PAINT TO MATCH SURROUNDING WALL.
I. SEE CLIENT STANDARD FOR EXPECTED STC AND/OR NIC PERFORMANCE CRITERIA.



TYPICAL EXTERIOR WALL ASSEMBLY

SCALE: 1 1/2" = 1'-0"



ENTIRETY OF ROOF ASSEMBLY PROVIDED BY P.E.M.B. MANUFACTURER. FINAL ASSEMBLY PROVIDED BY SELECTED BIDDER.

TYPICAL P.E.M.B. ROOF ASSEMBLY

SCALE: 1 1/2" = 1'-0"

PARTITION TYPES DESCRIPTIONS

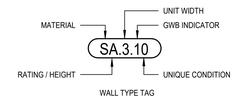
MATERIAL DESCRIPTION
S = STEEL (METAL STUDS)
W = WOOD STUDS
H = SHAFT WALLS
M = MASONRY
C = CONCRETE

RATING / HEIGHT
A = FULL HEIGHT / UNDERSIDE OF STRUCT (NOT RATED)
B = 6" ABOVE CEILING (NOT RATED)
C = UNDERSIDE OF CEILING (NOT RATED)
D = PARTIAL HEIGHT (NOT RATED)
X = VARIABLE HEIGHT (NOT RATED)
S = SMOKE PARTITION (NOT RATED)
0 = 0 HOUR RATED (CORRIDOR)
5 = 0.5 HOUR RATED
1 = 1 HOUR RATED
2 = 2 HOUR RATED
3 = 3 HOUR RATED
4 = 4 HOUR RATED

UNIT WIDTH / CONFIGURATION
F = FURRING STRIPS / CHANNELS
1 = 1 5/8" METAL
2 = 2 1/2" METAL / 1 1/2" WOOD
3 = 3 5/8" METAL
4 = 4" METAL / 3 1/2 WOOD / 3 5/8" CMU
6 = 6" METAL / 5 1/2" WOOD / 5 5/8" CMU / 6" CONC
8 = 8" METAL / 7 1/2" WOOD / 7 5/8" CMU / 8" CONC
10 = 10" CONC
12 = 11 5/8" CMU / 12" CONC
X = NON-STANDARD WIDTH, SEE DETAILS
D = DOUBLE STUD FRAMING
S = STAGGERED STUD FRAMING

GYPSUM WALLBOARD INDICATOR
(NOT INCLUDING SHAFT LINER)
0 = NO GWB
1 = ONE LAYER, ONE SIDE
2 = ONE LAYER, EACH SIDE
3 = TWO LAYERS ONE SIDE, ONE LAYER OTHER
4 = TWO LAYERS. EACH SIDE
5 = TWO LAYERS ONE SIDE, NO GWB OTHER
6 = THREE LAYERS, EACH SIDE

UNIQUE CONDITION (SEE SCHEDULE)
0 = NON-ACOUSTIC CONDITION (SEE NON-ACOUSTIC DETAILS ON THIS SHEET)
1 = ACOUSTIC CONDITION (SEE ACOUSTIC DETAILS ON THIS SHEET)
2 = TEMPORARY, 8'-0" HEIGHT, (1) LAYER OF OSB, ONE SIDE
3 = 3'-8" HEIGHT



WALL TYPE TAG

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STATE OF OKLAHOMA SCOTT D. SHIFFERMILLER A08560 LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

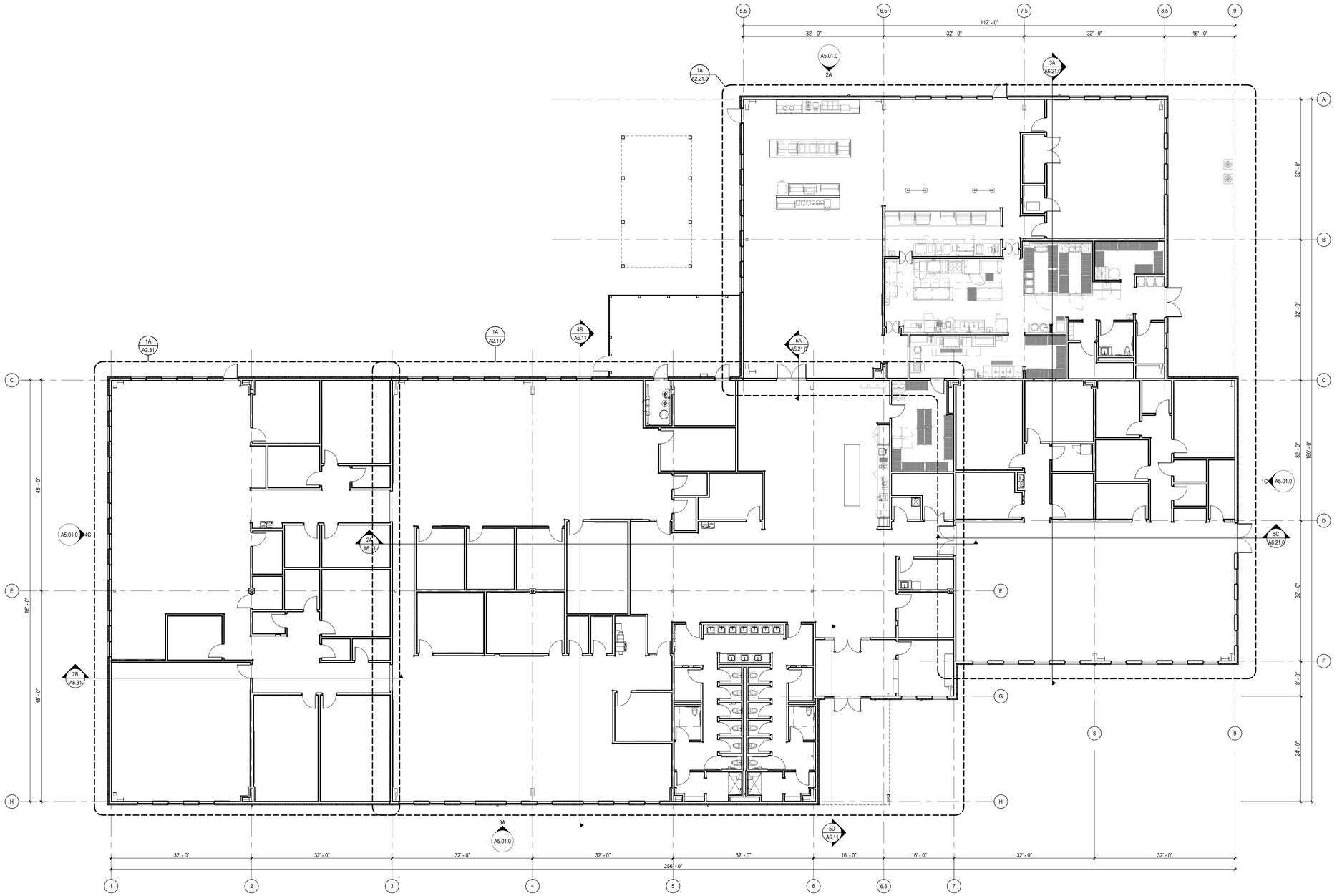
PROJ. NO. 43-25105-00

CONSTRUCTION ASSEMBLIES

SCALE: As indicated

SHEET NUMBER: A0.01

PHASE: BUILDING PERMIT DOCUMENTS



OVERALL FLOOR PLAN

SCALE: 1" = 10'-0"

GENERAL ARCHITECTURAL NOTES

1. WALL TYPES SHALL BE DESIGNATED ON FLOOR PLANS THUS: (XX.X.XX) SEE SHEET A0.2 FOR WALL TYPES. ALL INTERIOR PARTITIONS ARE WALL TYPE 5A-3-41 UNLESS NOTED OTHERWISE.
2. ALL INTERIOR STUD WALLS SHALL EXTEND TO UNDERSIDE OF ROOF STRUCTURE ABOVE UNLESS NOTED OTHERWISE. SEE REFLECTED CEILING PLAN NOTES AND A0.2 FOR DETAILS.
3. PROVISIONS SHALL BE MADE AT ALL FULL HEIGHT NON-BEARING WALLS FOR 1-INCH VERTICAL MOVEMENT OF THE BUILDING STRUCTURE WITHOUT TRANSFER OF COMPRESSIVE LOADS TO WALL. FILL IRREGULARITIES BETWEEN TOP OF WALL AND DECK ABOVE WITH MINERAL WOOL INSULATION OR FIRE STOPPING MATERIALS AS REQUIRED TO MEET FIRE RATING OF RESPECTIVE WALLS. SEE DETAILS ON SHEET A0.2
4. FURNISH AND INSTALL FIRE-TREATED WOOD BLOCKING OR METAL BACKING PLATE IN METAL STUD PARTITIONS FOR THE PROPER ANCHORAGE OF ALL WALL ATTACHED ITEMS; I.E. TOILET ACCESSORIES, CASEWORK, MILLWORK, WALL-MOUNTED FIXTURES, MARKER BOARDS, TACK BOARDS, DOOR STOPS, AUDIO VISUAL BRACKETS, AND OTHER WALL ATTACHED ITEMS. SEE SHEET A11.2 FOR TYPICAL BLOCKING DETAILS.
5. GYPSUM BOARD SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS AS DESCRIBED IN THE SPECIFICATIONS.
6. SCRIBE GYPSUM WALL BOARD OF WALLS AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND ALL PENETRATIONS.
7. LOCATE INTERIOR DOOR FRAMES 4" FROM INSIDE CORNER, TYP, UNO.
8. SEE EXTERIOR ELEVATIONS FOR WINDOW TYPES AND DIMENSIONS OF WINDOWS AND METAL PANELS.

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KIMLEY-HORN & ASSOC, INC.
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(918) 380-8868

STATE OF OKLAHOMA
SCOTT D. SHEFFEL MILLER
A08960
LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)

N

C A B

REVISIONS		
NO.	DATE	DESCRIPTION

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APPRV'D: Approver

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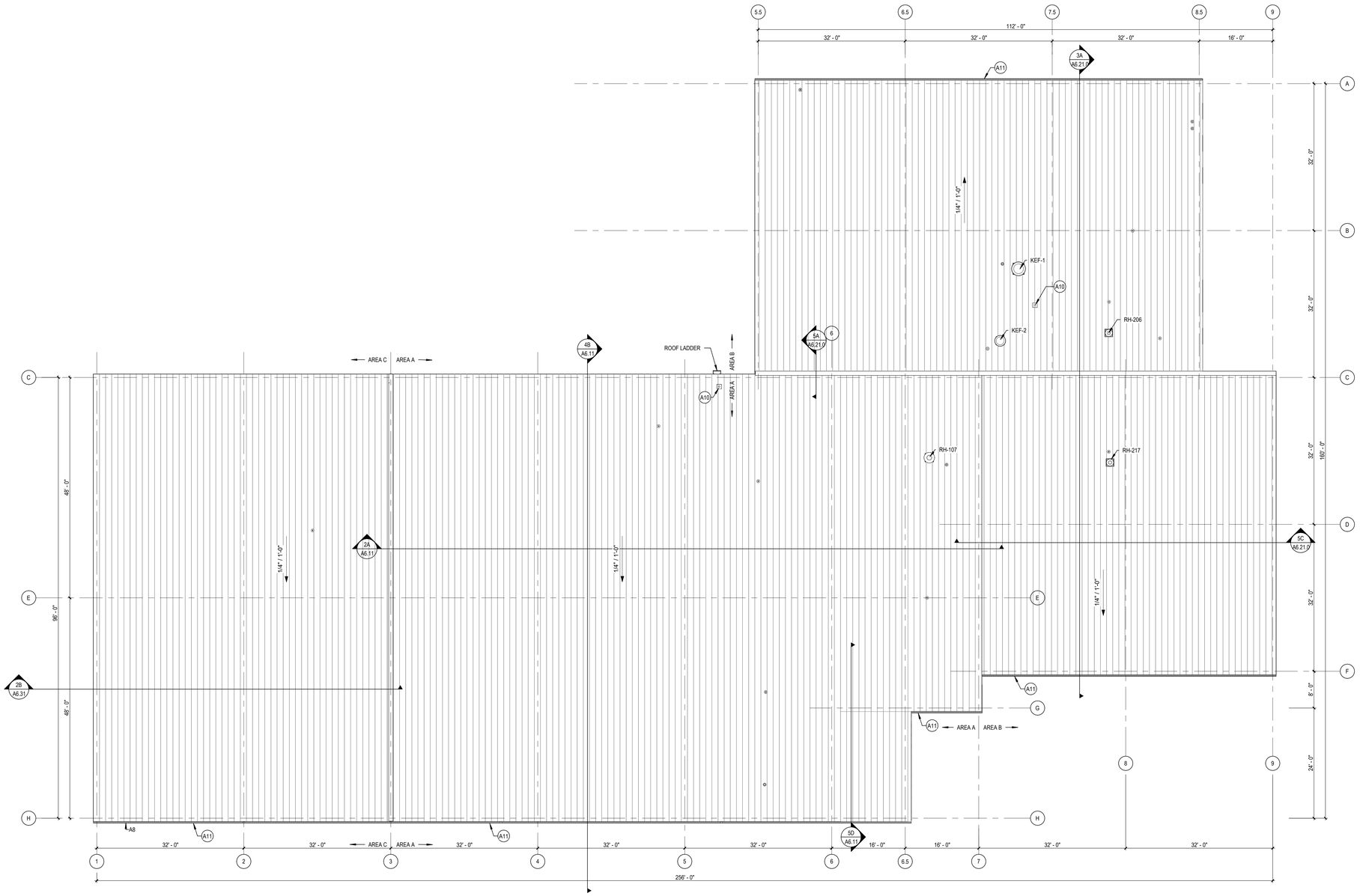
PROJ. NO. 43-25105-00

OVERALL FLOOR PLAN

SCALE: As indicated

SHEET NUMBER:
A1.01.0

PHASE: BUILDING PERMIT DOCUMENTS



OVERALL ROOF PLAN

SCALE: 1" = 10'-0"

ROOF PLAN GENERAL NOTES

A. ROOF PLAN GENERAL NOTES APPLY TO ALL ROOF PLAN SHEETS.
B. SEE SHEET A0.2 FOR ROOF ASSEMBLY PERTAINING TO PRIMARY STRUCTURAL SYSTEM.
C. ROOF SLOPES ARE CREATED BY SLOPING THE ROOF STRUCTURE UNLESS NOTED OTHERWISE. SEE STRUCTURAL DRAWINGS FOR ELEVATIONS OF THE HIGH AND LOW POINTS.
D. SEE STRUCTURAL DRAWINGS FOR FRAMING AROUND ROOF PENETRATIONS.
E. COORDINATE THE SIZE AND LOCATION OF ROOF PENETRATIONS FOR MECHANICAL AND ELECTRICAL EQUIPMENT. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR PENETRATIONS NOT SHOWN ON THIS DRAWING.
F. FLASH DRAINS, CURBS, VENTS AND STACKS PER MANUFACTURER'S RECOMMENDATIONS IF DETAIL NOT SHOWN ON DRAWINGS.

PLAN NOTES

A10 ROOF STANCHION FALL PROTECTION DEVICE SHOWN FOR REFERENCE ONLY TO ACCESS ROOFTOP EQUIPMENT. FINAL LOCATION AND STRUCTURAL DESIGN TO BE PROVIDED AND COORDINATED BY P.E.M.B. OR FALL PROTECTION SUPPLIER.
A11 GUTTER; 1/8":12" MIN SLOPE

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KEY PLAN (AREAS)

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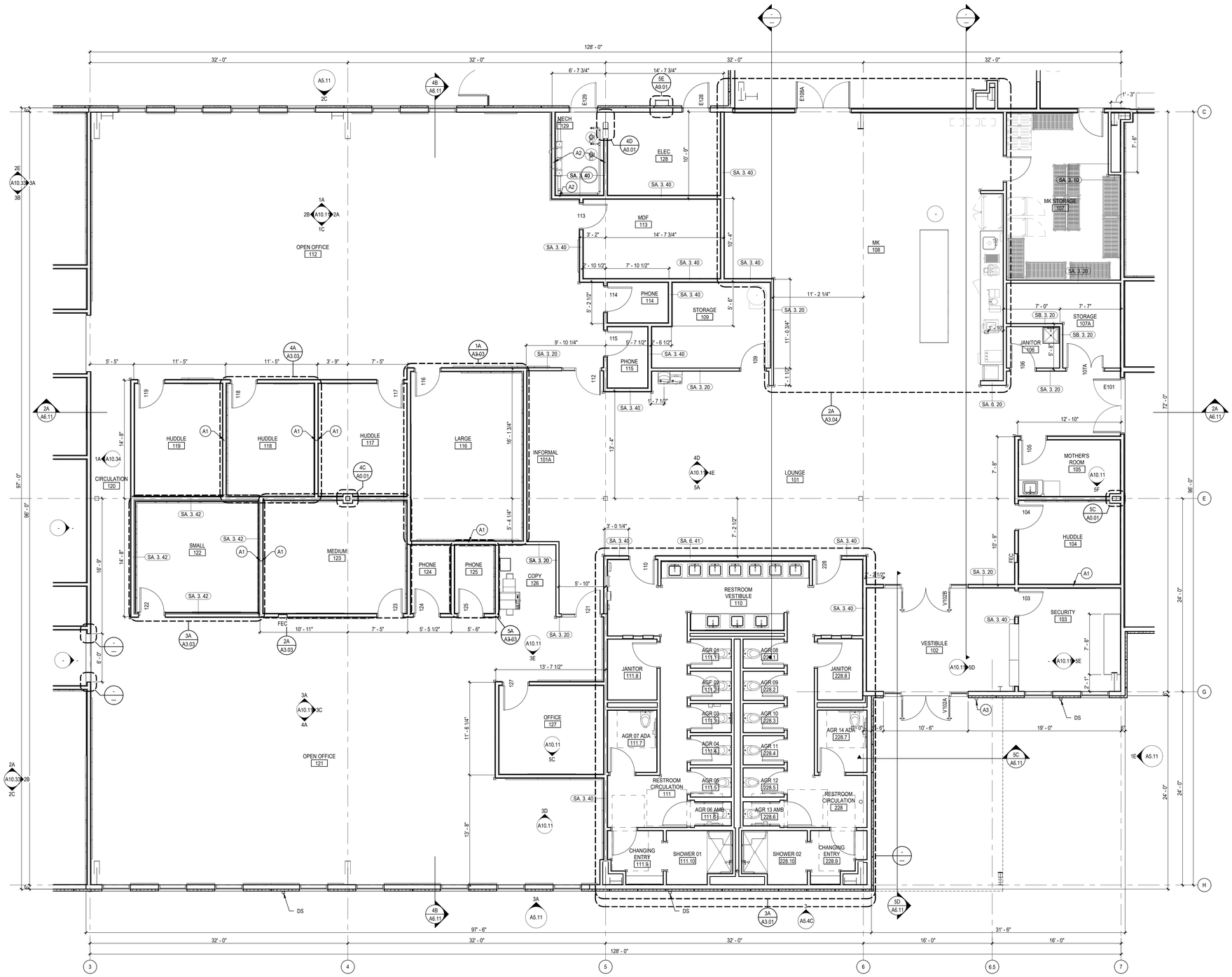
PROJ. NO. 43-25105-00

OVERALL ROOF PLAN

SCALE: As indicated

SHEET NUMBER:
A1.02.0

PHASE: BUILDING PERMIT DOCUMENTS



ENLARGED FLOOR PLAN - AREA A

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

GENERAL ARCHITECTURAL NOTES

1. WALL TYPES SHALL BE DESIGNATED ON FLOOR PLANS THUS: (XX.X.XX) SEE SHEET A0.2 FOR WALL TYPES. ALL INTERIOR PARTITIONS ARE WALL TYPE SA-3-41 UNLESS NOTED OTHERWISE.
2. ALL INTERIOR STUD WALLS SHALL EXTEND TO UNDERSIDE OF ROOF STRUCTURE ABOVE UNLESS NOTED OTHERWISE. SEE REFLECTED CEILING PLAN NOTES AND A0.2 FOR DETAILS.
3. PROVISIONS SHALL BE MADE AT ALL FULL HEIGHT NON-BEARING WALLS FOR 1-INCH VERTICAL MOVEMENT OF THE BUILDING STRUCTURE WITHOUT TRANSFER OF COMPRESSIVE LOADS TO WALL. FILL IRREGULARITIES BETWEEN TOP OF WALL AND DECK ABOVE WITH MINERAL WOOL INSULATION OR FIRE STOPPING MATERIALS AS REQUIRED TO MEET FIRE RATING OF RESPECTIVE WALLS. SEE DETAILS ON SHEET A0.2
4. FURNISH AND INSTALL FIRE-TREATED WOOD BLOCKING OR METAL BACKING PLATE IN METAL STUD PARTITIONS FOR THE PROPER ANCHORAGE OF ALL WALL ATTACHED ITEMS; I.E. TOILET ACCESSORIES, CASEWORK, MILLWORK, WALL-MOUNTED FIXTURES, MARKER BOARDS, TACK BOARDS, DOOR STOPS, AUDIO VISUAL BRACKETS, AND OTHER WALL ATTACHED ITEMS. SEE SHEET A11.2 FOR TYPICAL BLOCKING DETAILS.
5. GYPSUM BOARD SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS AS DESCRIBED IN THE SPECIFICATIONS.
6. SCRIBE GYPSUM WALL BOARD OF WALLS AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND ALL PENETRATIONS.
7. LOCATE INTERIOR DOOR FRAMES 4" FROM INSIDE CORNER, TYP, UNO.
8. SEE EXTERIOR ELEVATIONS FOR WINDOW TYPES AND DIMENSIONS OF WINDOWS AND METAL PANELS.

PLAN NOTES

A1 CFMF TO COORDINATE WALL BLOCKING AND SUPPORT DETAILS WITH AV EQUIPMENT PROVIDER; SEE SHEET A11.2 FOR TYIPCAL BLOCKING DETAILS.

A2 6" CONC CURB AT PARTITION BASE; SEE DETAIL 5D/A11.3.

A3 PROVIDE MINERAL WOOL BATT INSULATION WITHIN WALL CAVITY BEHIND RECESSED EXT. FIXTURE(S).

FEC SEE DETAIL 4B/A11.3

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STATE OF OKLAHOMA SCOTT D SHEFFMILLER A08960 LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
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2025-09-22

KEY PLAN (AREAS)

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A
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C

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PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

ENLARGED FLOOR PLAN - AREA A

SCALE: As indicated

SHEET NUMBER:
A2.11

PHASE: BUILDING PERMIT DOCUMENTS

GENERAL ARCHITECTURAL NOTES

1. WALL TYPES SHALL BE DESIGNATED ON FLOOR PLANS THUS: (XX.X.XX) SEE SHEET A0.2 FOR WALL TYPES. ALL INTERIOR PARTITIONS ARE WALL TYPE 5A-3-41 UNLESS NOTED OTHERWISE.
2. ALL INTERIOR STUD WALLS SHALL EXTEND TO UNDERSIDE OF ROOF STRUCTURE ABOVE UNLESS NOTED OTHERWISE. SEE REFLECTED CEILING PLAN NOTES AND A0.2 FOR DETAILS.
3. PROVISIONS SHALL BE MADE AT ALL FULL HEIGHT NON-BEARING WALLS FOR 1-INCH VERTICAL MOVEMENT OF THE BUILDING STRUCTURE WITHOUT TRANSFER OF COMPRESSIVE LOADS TO WALL. FILL IRREGULARITIES BETWEEN TOP OF WALL AND DECK ABOVE WITH MINERAL WOOL INSULATION OR FIRE STOPPING MATERIALS AS REQUIRED TO MEET FIRE RATING OF RESPECTIVE WALLS. SEE DETAILS ON SHEET A0.2.
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6. SCRIBE GYPSUM WALL BOARD OF WALLS AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND ALL PENETRATIONS.
7. LOCATE INTERIOR DOOR FRAMES 4" FROM INSIDE CORNER, TYP, UNO.
8. SEE EXTERIOR ELEVATIONS FOR WINDOW TYPES AND DIMENSIONS OF WINDOWS AND METAL PANELS.

PLAN NOTES

A1 CFMF TO COORDINATE WALL BLOCKING AND SUPPORT DETAILS WITH AV EQUIPMENT PROVIDER; SEE SHEET A11.2 FOR TYIPCAL BLOCKING DETAILS.

A14 Install opaque film on exterior side of glazing.

ENLARGED FLOOR PLAN - AREA B

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

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STATE OF OKLAHOMA — SCOTT O. SHEFFERMILLER — A08960 — LICENCED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)

REVISIONS		
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PROJECT ADDRESS:
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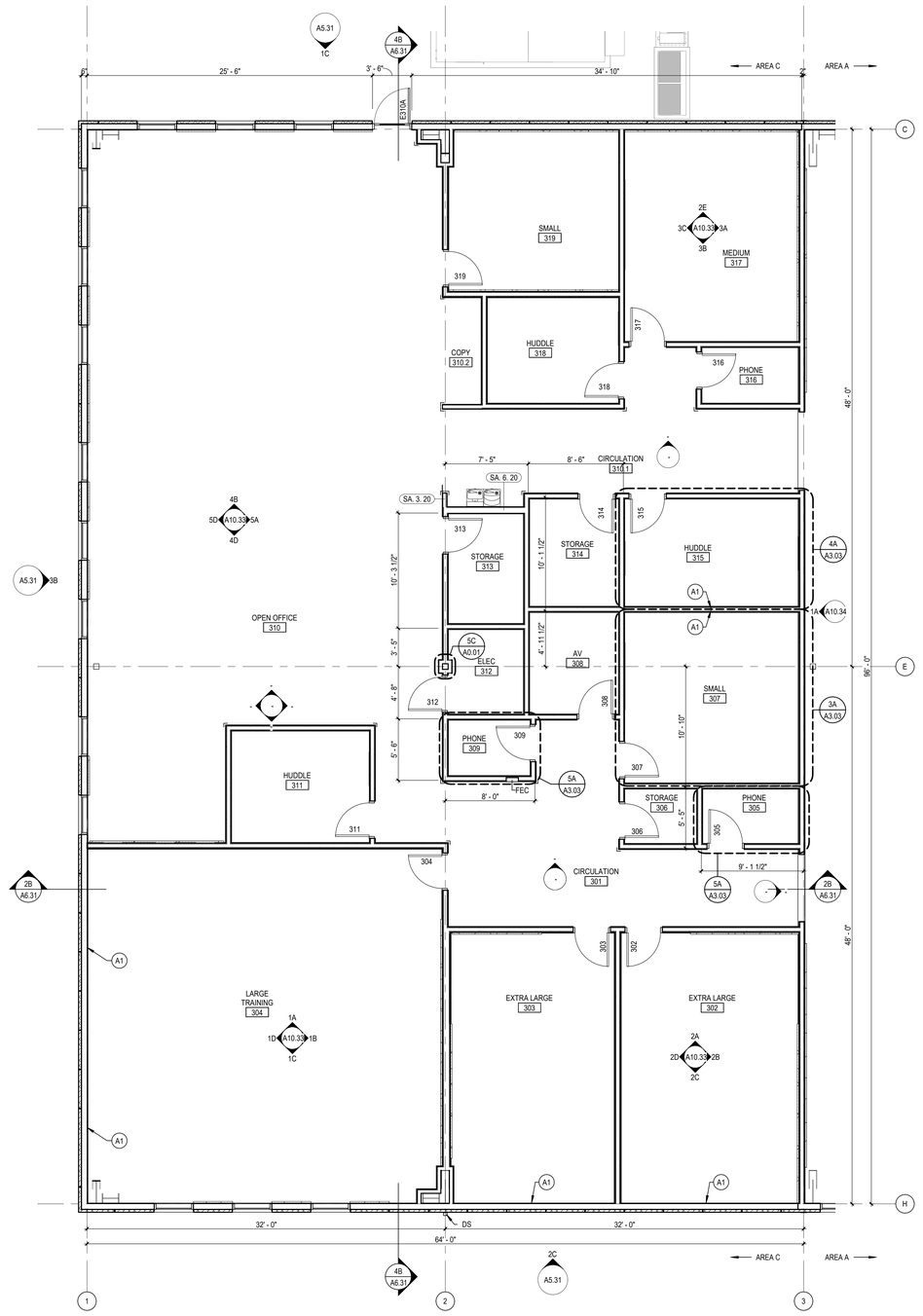
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ENLARGED FLOOR PLAN - AREA B

SCALE: As indicated

SHEET NUMBER:
A2.21.0

PHASE: BUILDING PERMIT DOCUMENTS



ENLARGED FLOOR PLAN - AREA C

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

GENERAL ARCHITECTURAL NOTES

1. WALL TYPES SHALL BE DESIGNATED ON FLOOR PLANS THUS: (XX. X. XX) SEE SHEET A0.2 FOR WALL TYPES. ALL INTERIOR PARTITIONS ARE WALL TYPE 5A-3-41 UNLESS NOTED OTHERWISE.
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PLAN NOTES

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FEC SEE DETAIL 4B/A11.3

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STATE OF OKLAHOMA
SCOTT D SHEFFERMILLER
A08960
LICENCED ARCHITECT

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2025-09-22

KEY PLAN (AREAS)

N

B C A

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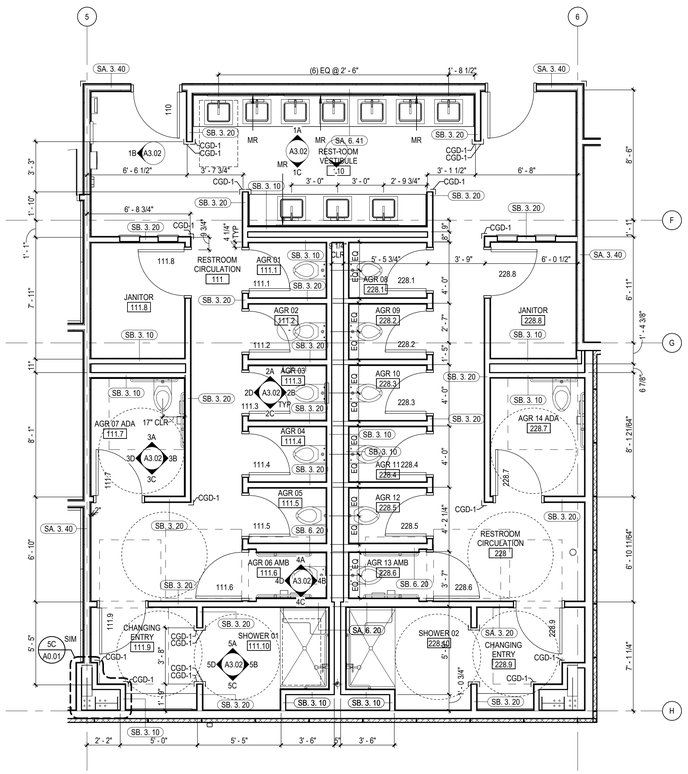
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ENLARGED FLOOR PLAN - AREA C

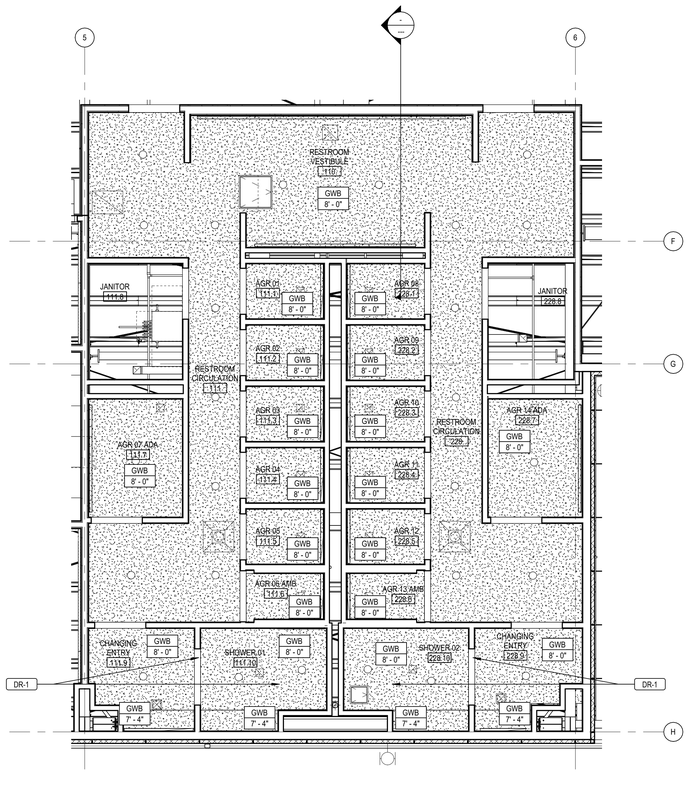
SCALE: As indicated

SHEET NUMBER:
A2.31

PHASE: BUILDING PERMIT DOCUMENTS



3A A3.01 ENLARGED FLOOR PLAN - ALL GENDER RESTROOMS
SCALE: 1/4" = 1'-0"



3B A3.01 ENLARGED RCP - ALL GENDER RESTROOMS
SCALE: 1/4" = 1'-0"

GENERAL ARCHITECTURAL NOTES

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8. SEE EXTERIOR ELEVATIONS FOR WINDOW TYPES AND DIMENSIONS OF WINDOWS AND METAL PANELS.

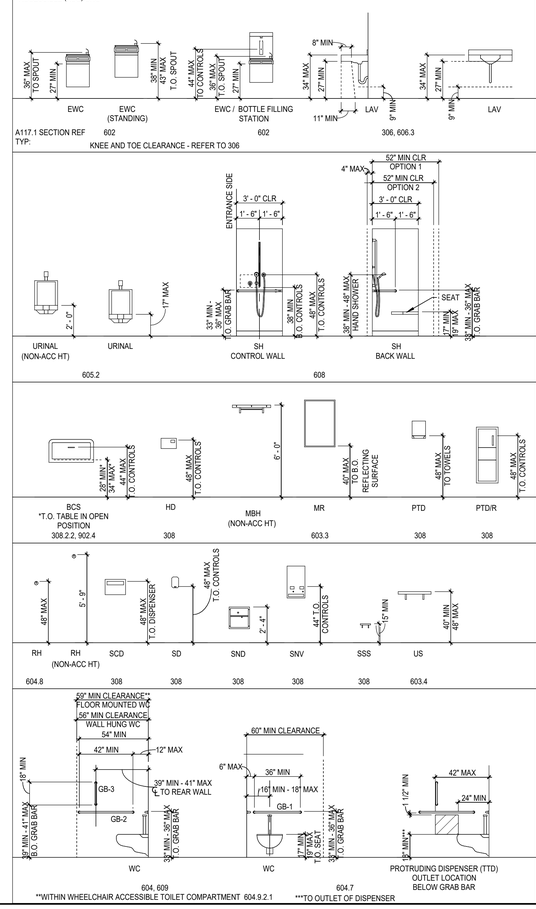
TOILET ACCESSORIES ABBREVIATIONS

ABBREV	DESCRIPTION
ACC	ADA ACCESSIBLE
AED	AUTOMATED EXTERNAL DEFIBRILLATOR
BBPK	BLOOD-BORNE PATHOGEN KIT
BCS	BABY CHANGING STATION
EWC	ELECTRIC WATER COOLER
FAK	FIRST AID KIT
GB-1	GRAB BAR (BACK WALL)
GB-2	GRAB BAR (SIDE WALL)
GB-3	GRAB BAR (VERTICAL)
GB-4	GRAB BAR (AMBULATORY STALL)
GB-5	GRAB BAR (SHOWER)
HD	HAND DRYER
LAV	LAVATORY
MBH	MOP/BROOM HOLDER
MR	MIRROR
MR/S	MIRROR WITH SHELF
PTD	PAPER TOWEL DISPENSER
PTD/R	COMBINATION TOWEL DISPENSER/RECEPTACLE
RH	ROBE HOOK
SC	SHARPS CONTAINER
SCD	SEAT COVER DISPENSER
SCR	SHOWER CURTAIN ROD
SD	SOAP DISPENSER
SND	SANITARY NAPKIN DISPOSAL
SNV	SANITARY NAPKIN VENDOR
SSS	STAINLESS STEEL SHELF
TTD	TOILET TISSUE DISPENSER
US	UTILITY SHELF
WC	WATER CLOSET
WR	WASTE RECEPTACLE

SEE A12.0 FOR EQUIPMENT SPECIFICATION

ADULT MOUNTING HEIGHTS - 2017 ICC A117.1

ACCESSIBLE (ACC) UNO



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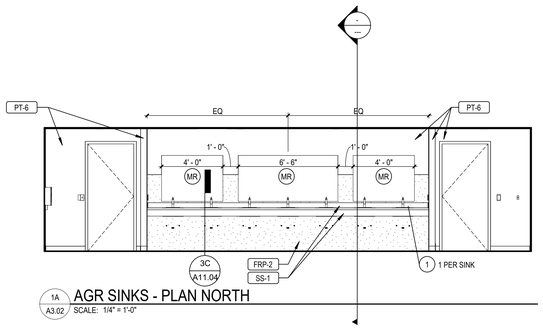
REVISIONS		
NO.	DATE	DESCRIPTION

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APPRV'D: Approver

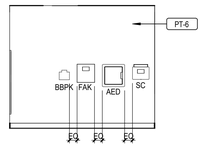
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PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

ENLARGED PLANS & ELEVATIONS (AGRs + SHOWERS)
SCALE: As indicated

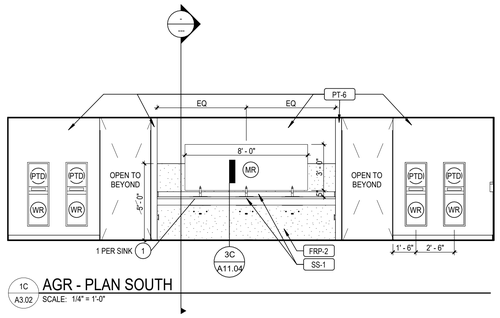
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PHASE: BUILDING PERMIT DOCUMENTS



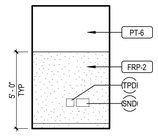
1A A3.02 AGR SINKS - PLAN NORTH
SCALE: 1/4" = 1'-0"



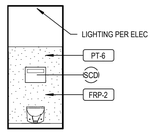
1B A3.02 AGR ENTRY - PLAN WEST
SCALE: 1/4" = 1'-0"



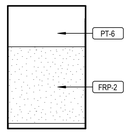
1C A3.02 AGR - PLAN SOUTH
SCALE: 1/4" = 1'-0"



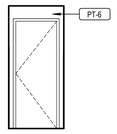
2A A3.02 AGR STALL - ELEVATION A
SCALE: 1/4" = 1'-0"



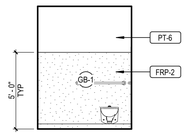
2B A3.02 AGR STALL - ELEVATION B
SCALE: 1/4" = 1'-0"



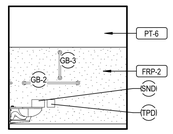
2C A3.02 AGR STALL - ELEVATION C
SCALE: 1/4" = 1'-0"



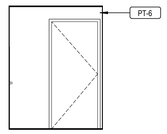
2D A3.02 AGR STALL - ELEVATION D
SCALE: 1/4" = 1'-0"



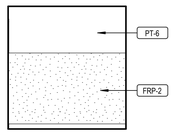
3A A3.02 AGR ADA - ELEVATION A
SCALE: 1/4" = 1'-0"



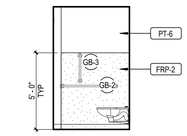
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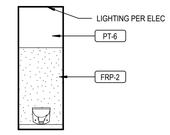
3C A3.02 AGR ADA - ELEVATION C
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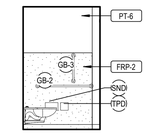
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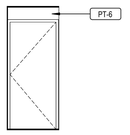
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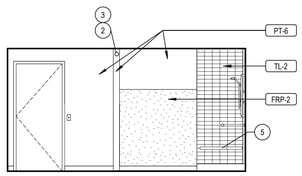
4B A3.02 AMBULATORY AGR - ELEVATION B
SCALE: 1/4" = 1'-0"



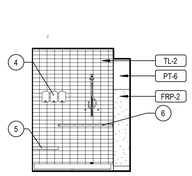
4C A3.02 AMBULATORY AGR - ELEVATION C
SCALE: 1/4" = 1'-0"



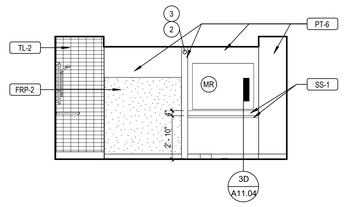
4D A3.02 AMBULATORY AGR - ELEVATION D
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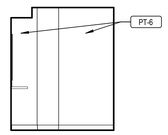
5A A3.02 SHOWER/CHANGING - ELEVATION A
SCALE: 1/4" = 1'-0"



5B A3.02 SHOWER/CHANGING - ELEVATION B
SCALE: 1/4" = 1'-0"



5C A3.02 SHOWER/CHANGING - ELEVATION C
SCALE: 1/4" = 1'-0"



5D A3.02 SHOWER/CHANGING - ELEVATION D
SCALE: 1/4" = 1'-0"

GENERAL ARCHITECTURAL NOTES

1. WALL TYPES SHALL BE DESIGNATED ON FLOOR PLANS THUS: (XX_X_XX) SEE SHEET A0.2 FOR WALL TYPES. ALL INTERIOR PARTITIONS ARE WALL TYPE SA-3-41 UNLESS NOTED OTHERWISE.
2. ALL INTERIOR STUD WALLS SHALL EXTEND TO UNDERSIDE OF ROOF STRUCTURE ABOVE UNLESS NOTED OTHERWISE. SEE REFLECTED CEILING PLAN NOTES AND A0.2 FOR DETAILS.
3. PROVISIONS SHALL BE MADE AT ALL FULL HEIGHT NON-BEARING WALLS FOR 1-INCH VERTICAL MOVEMENT OF THE BUILDING STRUCTURE WITHOUT TRANSFER OF COMPRESSIVE LOADS TO WALL. FILL IRREGULARITIES BETWEEN TOP OF WALL AND DECK ABOVE WITH MINERAL WOOL INSULATION OR FIRE STOPPING MATERIALS AS REQUIRED TO MEET FIRE RATING OF RESPECTIVE WALLS. SEE DETAILS ON SHEET A0.2.
4. FURNISH AND INSTALL FIRE-TREATED WOOD BLOCKING OR METAL BACKING PLATE IN METAL STUD PARTITIONS FOR THE PROPER ANCHORAGE OF ALL WALL ATTACHED ITEMS; I.E. TOILET ACCESSORIES, CASEWORK, MILLWORK, WALL-MOUNTED FIXTURES, MARKER BOARDS, TACK BOARDS, DOOR STOPS, AUDIO VISUAL BRACKETS, AND OTHER WALL ATTACHED ITEMS. SEE SHEET A11.2 FOR TYPICAL BLOCKING DETAILS.
5. GYPSUM BOARD SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS AS DESCRIBED IN THE SPECIFICATIONS.
6. SCRIBE GYPSUM WALL BOARD OF WALLS AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND ALL PENETRATIONS.
7. LOCATE INTERIOR DOOR FRAMES 4" FROM INSIDE CORNER, TYP. UNO.
8. SEE EXTERIOR ELEVATIONS FOR WINDOW TYPES AND DIMENSIONS OF WINDOWS AND METAL PANELS.

TOILET ACCESSORIES ABBREVIATIONS

ABBREV	DESCRIPTION
ACC	ADA ACCESSIBLE
AED	AUTOMATED EXTERNAL DEFIBRILLATOR
BBPK	BLOOD-BORNE PATHOGEN KIT
BCS	BABY CHANGING STATION
EWC	ELECTRIC WATER COOLER
FAK	FIRST AID KIT
GB-1	GRAB BAR (BACK WALL)
GB-2	GRAB BAR (SIDE WALL)
GB-3	GRAB BAR (VERTICAL)
GB-4	GRAB BAR (AMBULATORY STALL)
GB-5	GRAB BAR (SHOWER)
HD	HAND DRYER
LAV	LAVATORY
MBH	MOP/BROOM HOLDER
MR	MIRROR
MR/S	MIRROR WITH SHELF
PTD	PAPER TOWEL DISPENSER
PTD/R	COMBINATION TOWEL DISPENSER/RECEPTACLE
RH	ROBE HOOK
SC	SHARPS CONTAINER
SCD	SEAT COVER DISPENSER
SCR	SHOWER CURTAIN ROD
SD	SOAP DISPENSER
SND	SANITARY NAPKIN DISPOSAL
SNV	SANITARY NAPKIN VENDOR
SSS	STAINLESS STEEL SHELF
TTD	TOILET TISSUE DISPENSER
US	UTILITY SHELF
WC	WATER CLOSET
WR	WASTE RECEPTACLE

SEE A12.0 FOR EQUIPMENT SPECIFICATION

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LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
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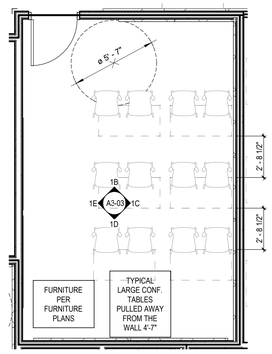
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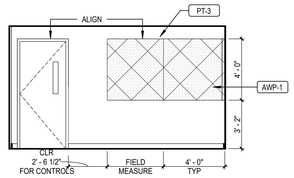
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TULSA COUNTY, OK
PROJ. NO. 43-25105-00

ENLARGED PLANS & ELEVATIONS (AGRs + SHOWERS)
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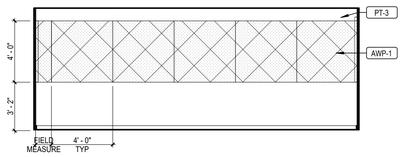
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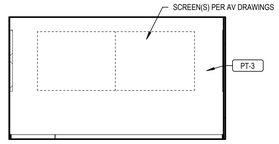
1A A3.03 TYPICAL LARGE CONFERENCE ROOM
SCALE: 1/4" = 1'-0"



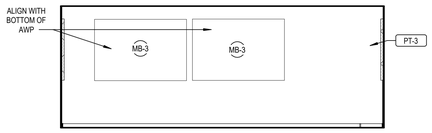
1B A3.03 LARGE ELEVATION A
SCALE: 1/4" = 1'-0"



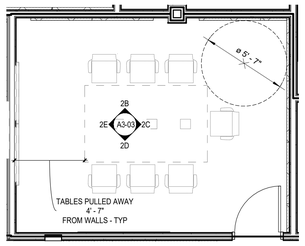
1C A3.03 LARGE ELEVATION B
SCALE: 1/4" = 1'-0"



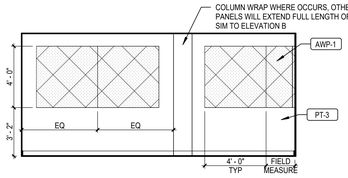
1D A3.03 LARGE ELEVATION C
SCALE: 1/4" = 1'-0"



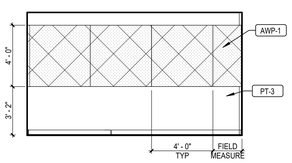
1E A3.03 LARGE ELEVATION D
SCALE: 1/4" = 1'-0"



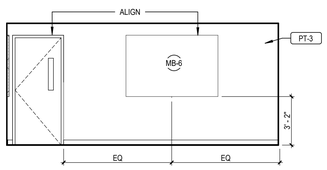
2A A3.03 TYPICAL MEDIUM CONFERENCE ROOM
SCALE: 1/4" = 1'-0"



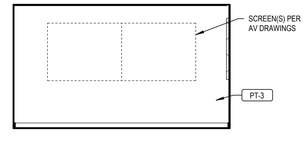
2B A3.03 MEDIUM ELEVATION A
SCALE: 1/4" = 1'-0"



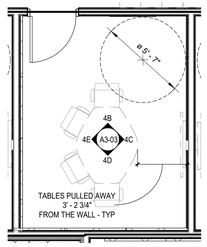
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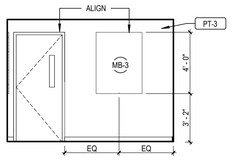
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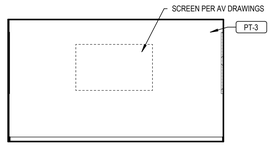
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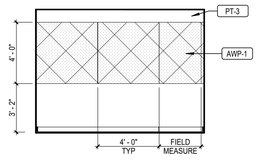
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SCALE: 1/4" = 1'-0"



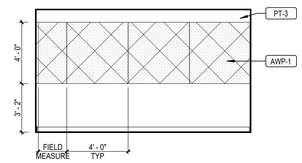
4B A3.03 HUDDLE ELEVATION A
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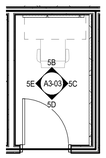
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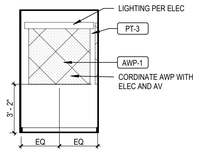
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SCALE: 1/4" = 1'-0"



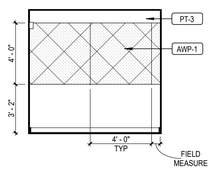
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SCALE: 1/4" = 1'-0"



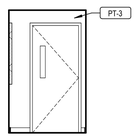
5A A3.03 TYPICAL PHONE ROOM
SCALE: 1/4" = 1'-0"



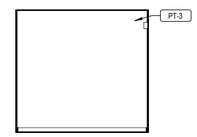
5B A3.03 PHONE ELEVATION A
SCALE: 1/4" = 1'-0"



5C A3.03 PHONE ELEVATION B
SCALE: 1/4" = 1'-0"



5D A3.03 PHONE ELEVATION C
SCALE: 1/4" = 1'-0"



5E A3.03 PHONE ROOM ELEVATION D
SCALE: 1/4" = 1'-0"

CONFERENCING GENERAL NOTES

A. REFERENCE A11.2/2A FOR TYPICAL MOUNTING HEIGHTS.
B. ACOUSTIC WALL PANELING (AWP): TYPICAL THROUGHOUT ALL CONFERENCE ROOMS ON TWO ADJACENT WALLS FOR THE WHOLE WALL SPAN, UNO
C. ENSURE 18" OF CLEARANCE FOR LIGHTING/TEMPERATURE CONTROLS TO LEFT OF THE DOOR ENTRY
D. ALL FURNITURE SHOWN TO BE FF&E, INCLUDING PHONE ROOM TABLES
E. AVOID AWP ON WALLS WITH WINDOWS WHERE POSSIBLE. WHEN NECESSARY TO MAINTAIN 2 ADJACENT WALLS OF AWP, LEAVE 4" OF CLEARANCE TO ALLOW FOR WINDOW TO BE FILLED IN WHEN ADDITIONAL PHASES ARE ADDED; NOT APPLICABLE FOR PHASES 3 AND 4.
F. FUTRNITURE SHOWN FOR REFERENCE ONLY. REFER TO FURNITURE PLANS.
G. ***OPPORTUNITY FOR WALL COVERING ON A WALL OR WALLS PER LOCATION FOR LOCALIZATION.***

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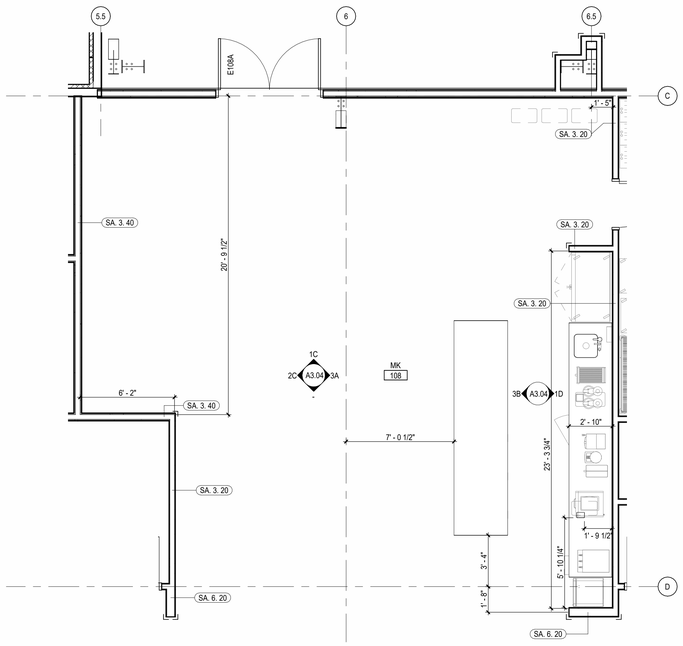
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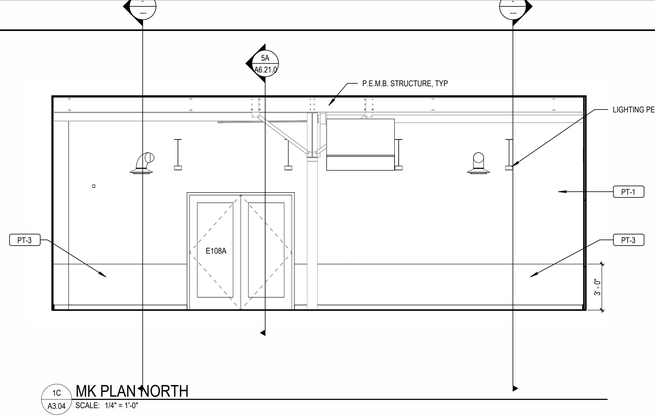
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PROJ. NO. 43-25105-00

ENLARGED PLANS & ELEVATIONS (CONFERENCE ROOMS)
SCALE: As indicated

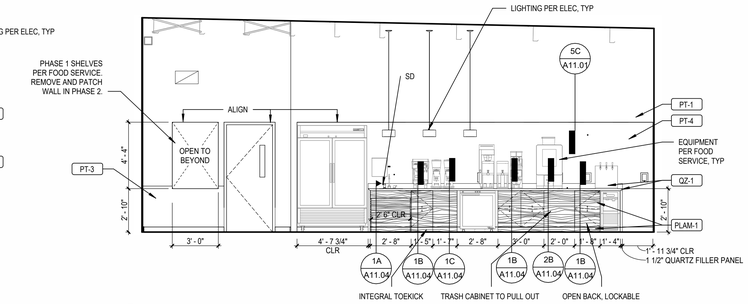
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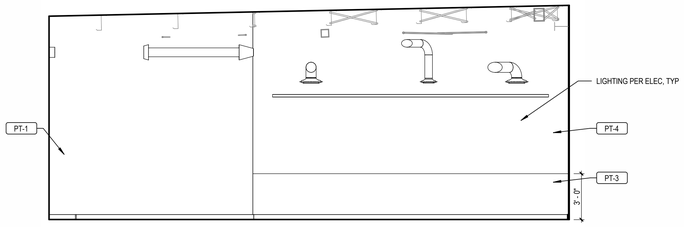
2A A3.04 MICROKITCHEN ENLARGED PLAN
SCALE: 1/4" = 1'-0"



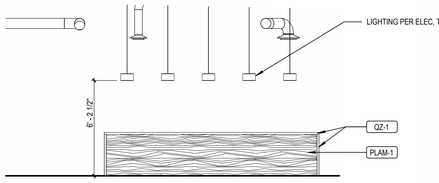
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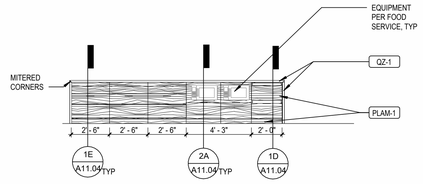
1D A3.04 MK PLAN EAST / BACK WALL CASEWORK
SCALE: 1/4" = 1'-0"



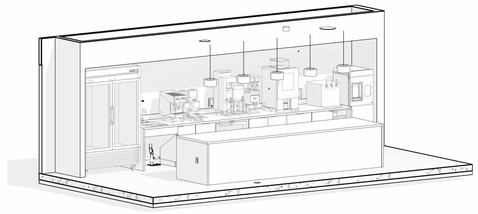
2C A3.04 MK PLAN WEST
SCALE: 1/4" = 1'-0"



3A A3.04 MK FRONT OF ISLAND
SCALE: 1/4" = 1'-0"



3B A3.04 MK ISLAND CASEWORK ELEVATION
SCALE: 1/4" = 1'-0"



3E A3.04 MK AXON - FOR REFERENCE ONLY
SCALE:

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STATE OF OKLAHOMA
SCOTT D. SHIEFERMILLER
A08560
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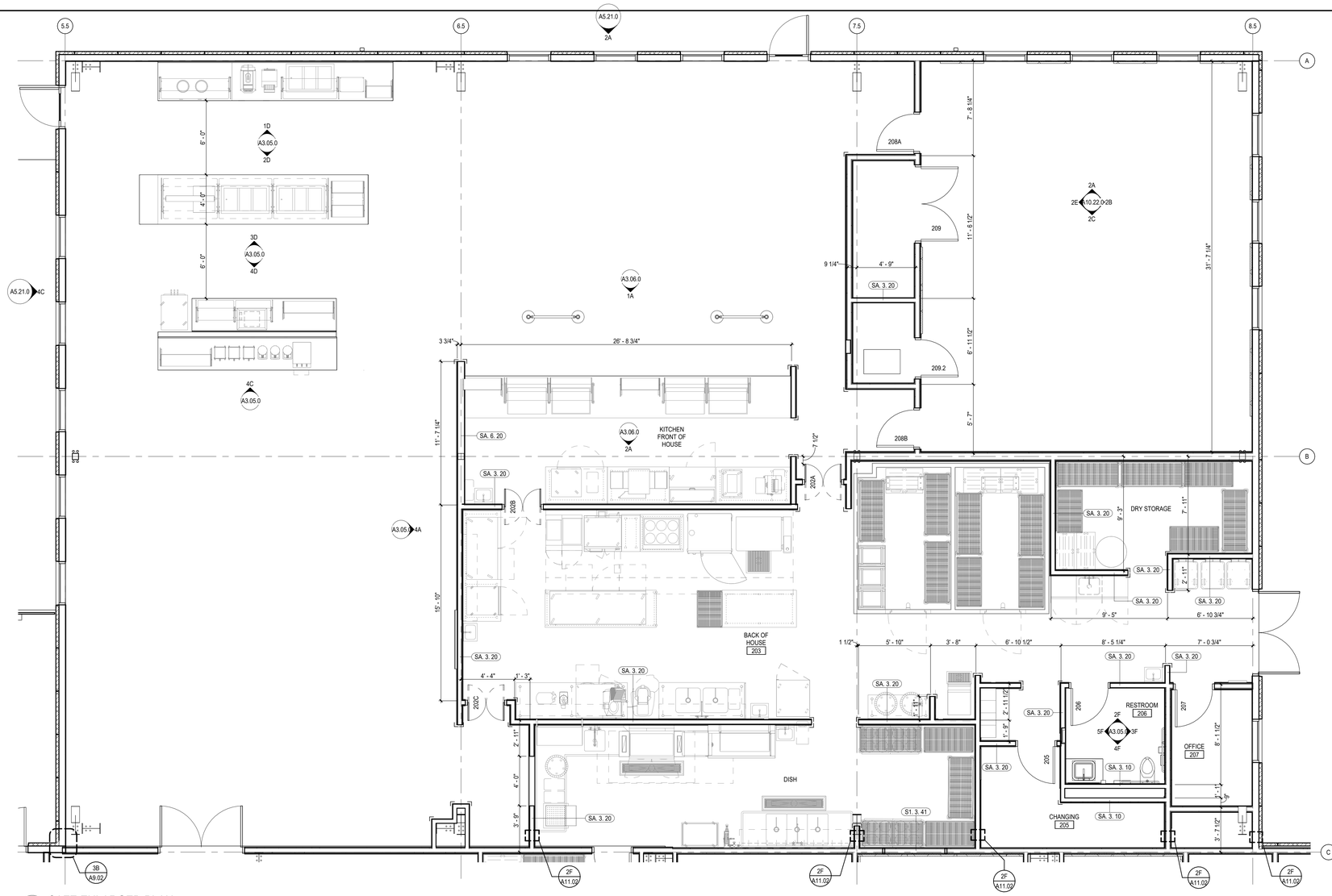
REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

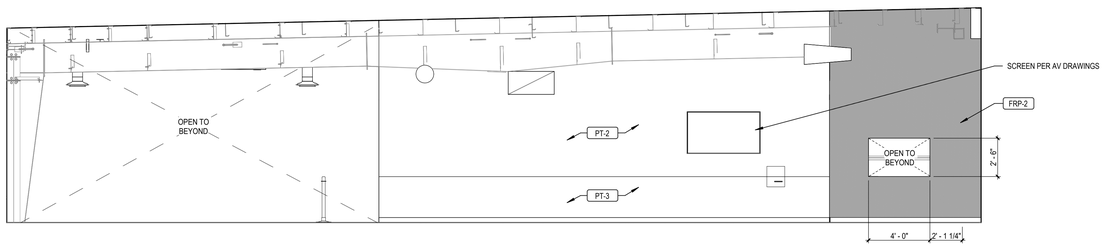
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PROJ. NO. 43-25105-00

ENLARGED PLANS & ELEVATIONS (MICROKITCHEN)
SCALE: 1/4" = 1'-0"

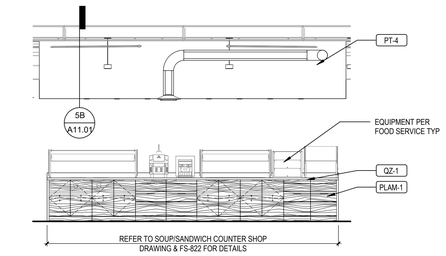
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A3.04
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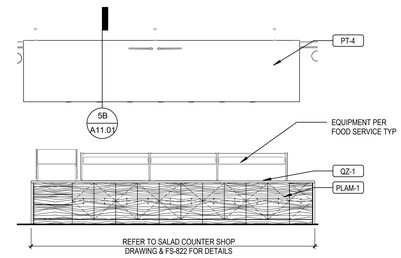
3A A3.05.0 CAFE ENLARGED PLAN
SCALE: 1/4" = 1'-0"



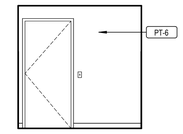
4A A3.05.0 CHEF'S SPECIAL AND DISH DROP
SCALE: 1/4" = 1'-0"



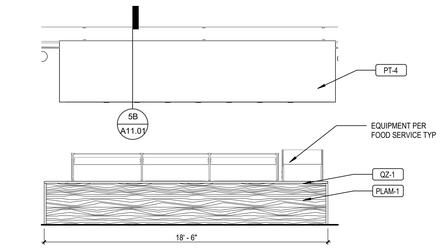
1D A3.05.0 SOUP / SANDWICH COUNTER
SCALE: 1/4" = 1'-0"



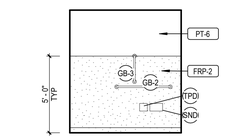
2D A3.05.0 SALAD COUNTER - PLAN NORTH
SCALE: 1/4" = 1'-0"



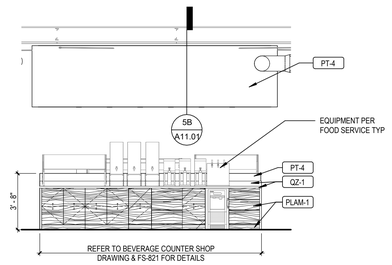
2F A3.05.0 BOH RESTROOM - PLAN NORTH
SCALE: 1/4" = 1'-0"



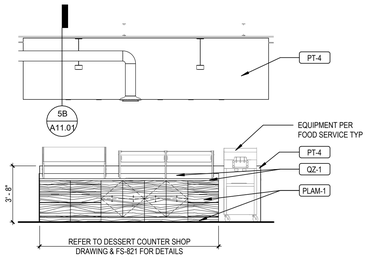
3D A3.05.0 SALAD COUNTER - PLAN SOUTH
SCALE: 1/4" = 1'-0"



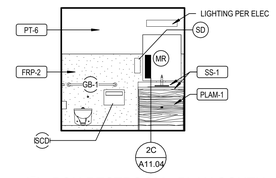
3F A3.05.0 BOH RESTROOM - PLAN EAST
SCALE: 1/4" = 1'-0"



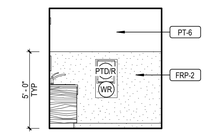
4C A3.05.0 BEVERAGE COUNTER
SCALE: 1/4" = 1'-0"



4D A3.05.0 DESSERT COUNTER
SCALE: 1/4" = 1'-0"



4F A3.05.0 BOH RESTROOM - PLAN SOUTH
SCALE: 1/4" = 1'-0"



5F A3.05.0 BOH RESTROOM - PLAN WEST
SCALE: 1/4" = 1'-0"

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A08960
LICENSED ARCHITECT

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2025-09-22

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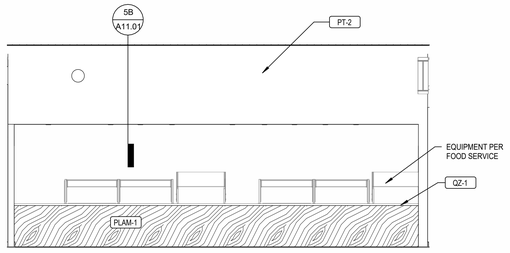
PROJ. NO. 43-25105-00

ENLARGED PLANS & ELEVATIONS (CAFE & VITALITY)

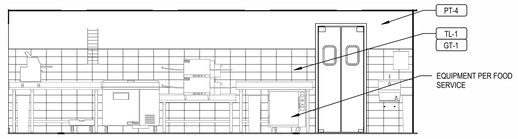
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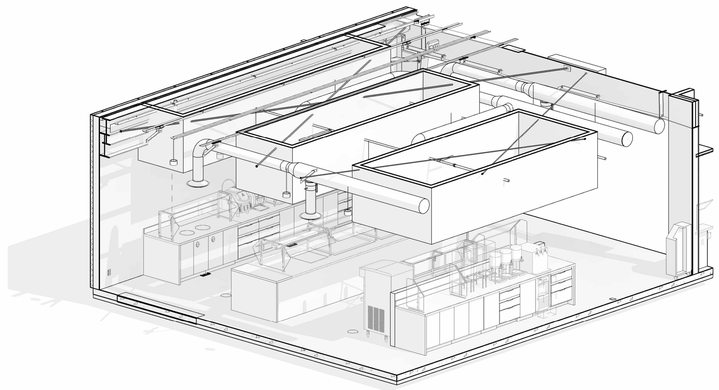
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1A A3.06.0 MAIN SERVERY
SCALE: 1/4" = 1'-0"



2A A3.06.0 KITCHEN FRONT OF HOUSE - PLAN SOUTH
SCALE: 1/4" = 1'-0"



4C A3.06.0 SERVING ISLAND AXON - FOR REFERENCE ONLY
SCALE:

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CYL HUB1-1-3 PERMIT SET
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2025-09-22

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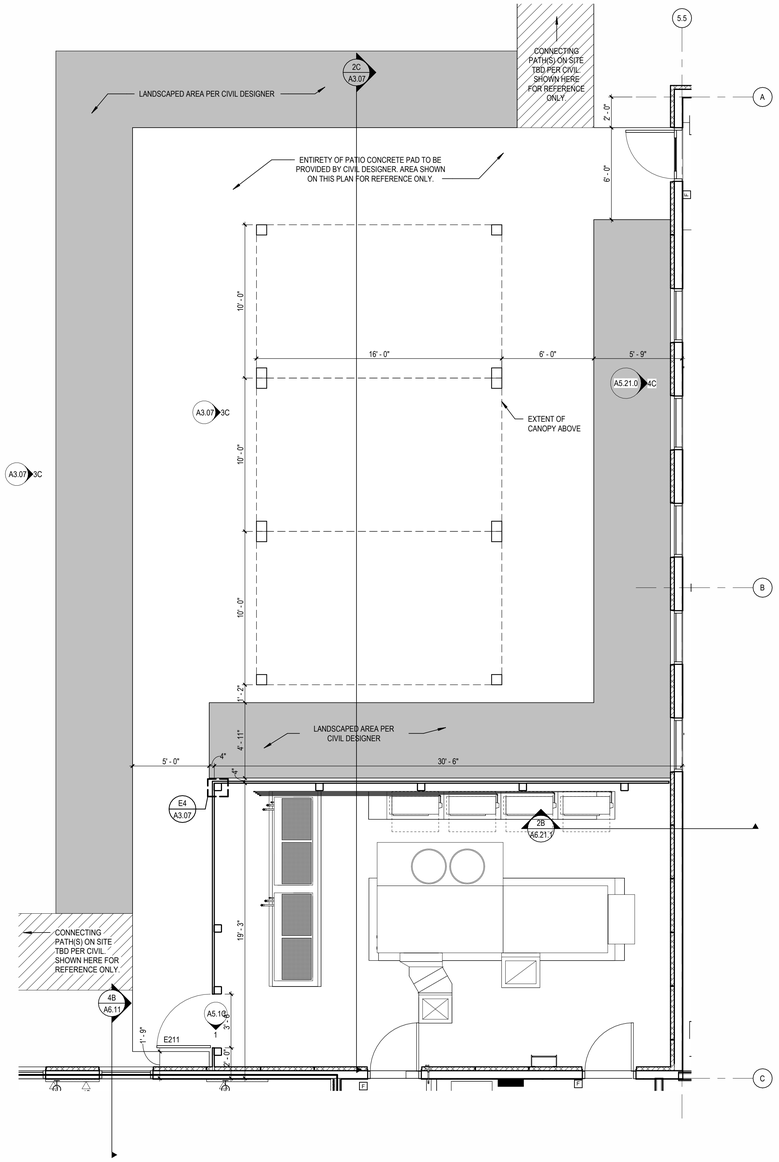
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ENLARGED PLANS & ELEVATIONS (CAFE & VITALITY)

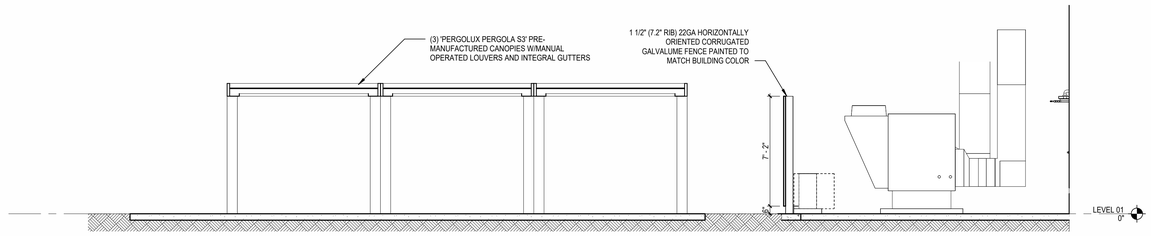
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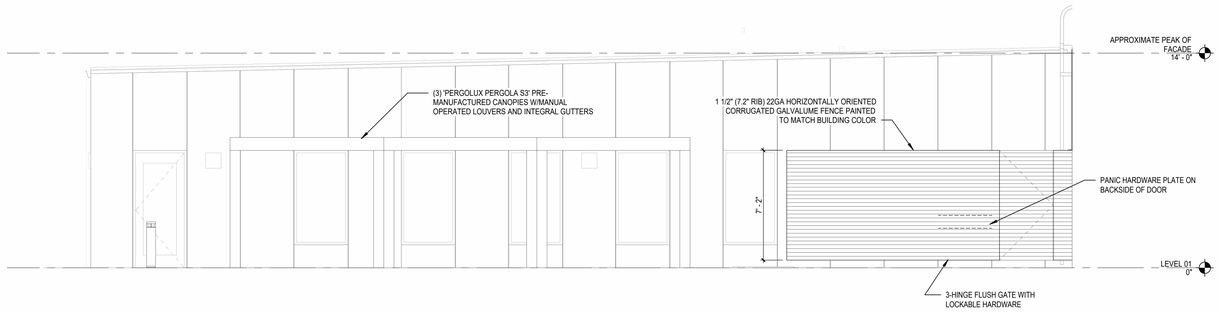
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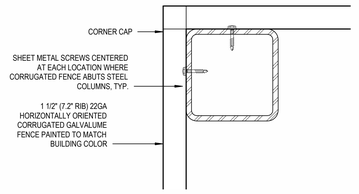
4A A3.07 ENLARGED PLAN - OUTDOOR AMENITY SPACE
SCALE: 1/4" = 1'-0"



2C A3.07 OUTDOOR AMENITY SPACE SECTION
SCALE: 1/4" = 1'-0"



3C A3.07 OUTDOOR AMENITY SPACE ELEVATION
SCALE: 1/4" = 1'-0"



E4 A3.07 MECHANICAL SCREEN STEEL ATTACHMENT
SCALE: 3" = 1'-0"

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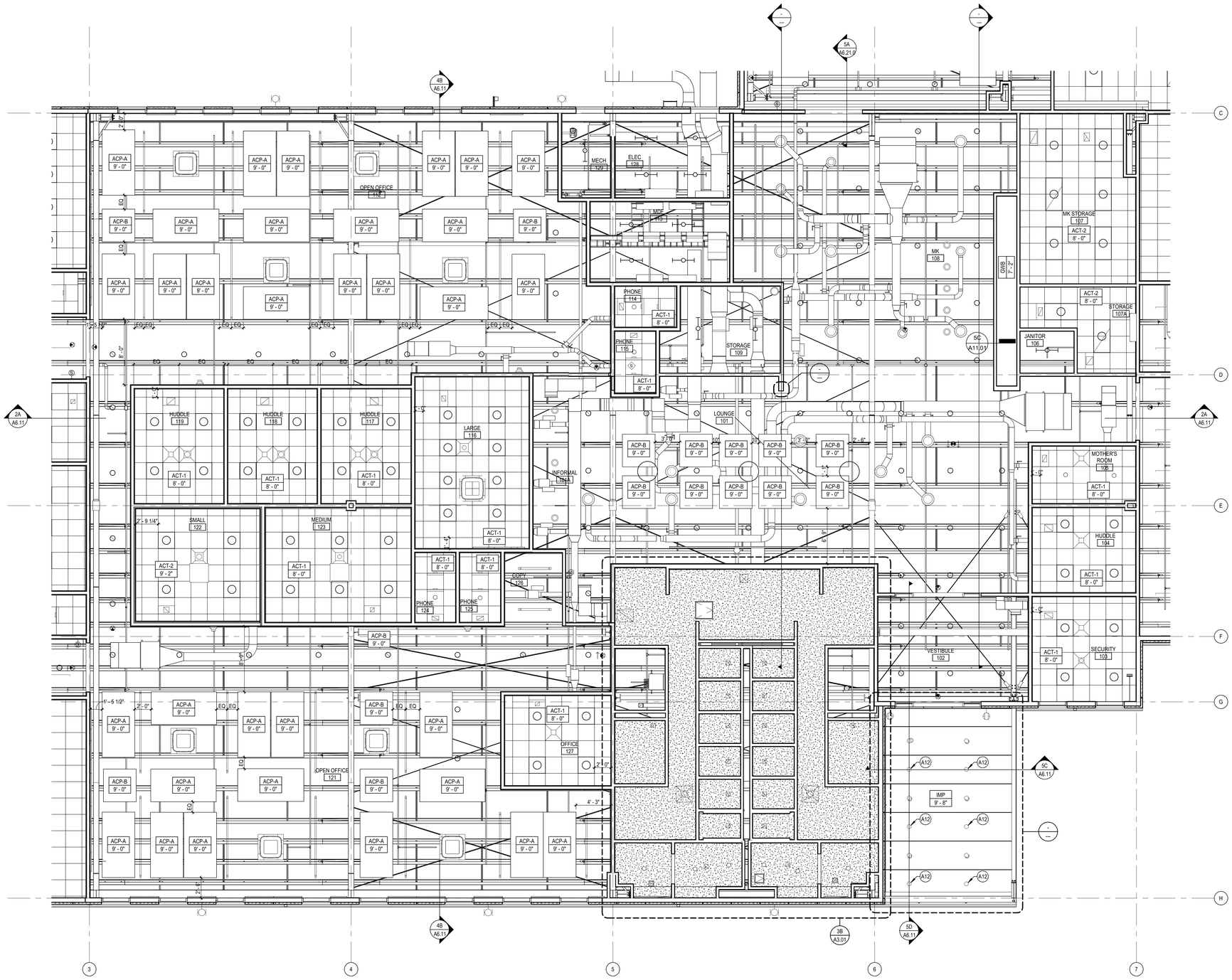
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ENLARGED PLANS & ELEVATIONS (OUTDOOR AMENITY SPACE)
SCALE: As indicated

SHEET NUMBER:
A3.07
PHASE: BUILDING PERMIT DOCUMENTS



REFLECTED CEILING PLAN - AREA A

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

REFLECTED CEILING PLAN GENERAL NOTES

A. REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS.
B. ALL CEILING GRIDS/PANELS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE.
C. CEILING HEIGHTS ARE NOTED ON THE REFLECTED CEILING PLANS ARE MEASURED FROM THE FINISH FLOOR OF THE ROOM.
D. ALL ELECTRICAL FIXTURES, SPEAKERS, SMOKE AND THERMAL DETECTORS, MECHANICAL GRILLES, SPRINKLER HEADS, AND OTHER CEILING MOUNTED DEVICES, SHALL BE CENTERED BETWEEN CEILING GRIDS UNLESS NOTED OTHERWISE. SPRINKLER HEADS SHALL BE WITHIN A 3-INCH RADIUS CENTERED BETWEEN CEILING GRIDS.
E. PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES. AT ACOUSTICAL PANEL CEILINGS.
F. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE ACTUAL AND ARE TO THE FOLLOWING UNLESS NOTED OTHERWISE:
   a. FACE OF FINISHED WALL
   b. FACE OF FINISHED BULKHEADS
   c. CENTERLINE OF COLUMNS
   d. CENTERLINE OF TEES
G. IN AREAS WITH EXPOSED STRUCTURE CEILINGS, COORDINATE EXACT LOCATIONS OF MECHANICAL GRILLES, DIFFUSERS, DUCTWORK AND ELECTRICAL FIXTURES WITH EACH REPRESENTATIVE SUBCONTRACTOR.
H. ALL METAL STUDS EXTEND TO UNDERSIDE OF ROOF STRUCTURE.
I. PROVIDE SEISMIC BRACING FOR SUSPENDED CEILINGS IF NEEDED.
J. ALL CONFERENCE ROOM CEILING MOUNTED LIGHTING FIXTURES TO BE CENTERED OVER THE TABLES.
K. CEILINGS ARE OPEN TO STRUCTURE UNO
L. ALL STRUCTURE, SUB-STRUCTURE (INCLUDING PURLINS), MEP, AND UNISTRUT WILL BE PAINTED OUT PER FINISH SCHEDULE
M. ALL ACP TO BE HUNG VIA AIRCRAFT CABLE, ATTACHED TO UNISTRUT MOUNTED TO UNDERSIDE OF PURLINS.

REFLECTED CEILING PLAN NOTES

A12 SOFFIT VENT, 6" DIA. FINISH TO MATCH IMP SOFFIT.

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KEY PLAN (AREAS)

N
B
C
A

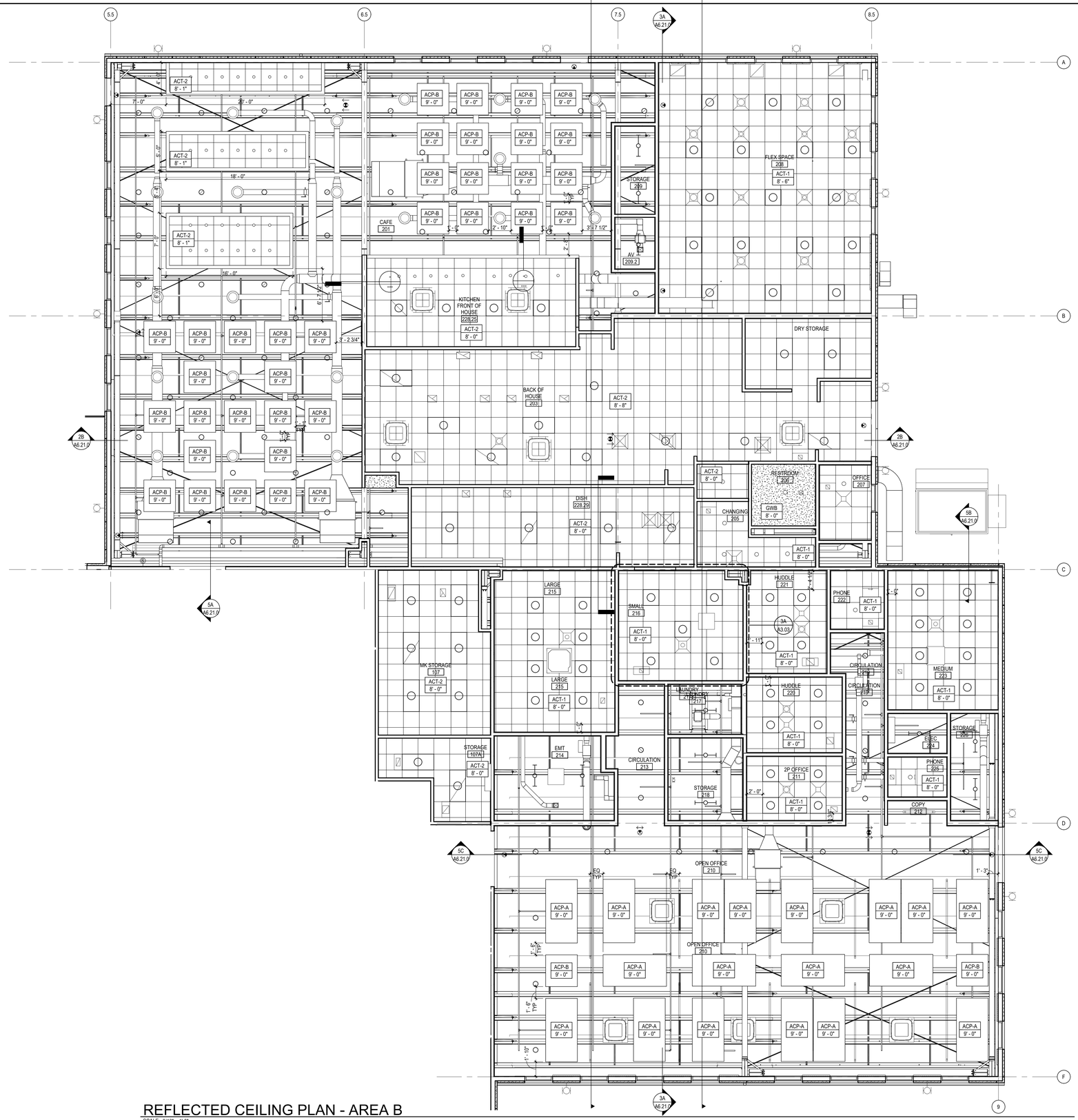
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ENLARGED REFLECTED CEILING PLAN - AREA A
SCALE: As indicated

SHEET NUMBER:
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PHASE: BUILDING PERMIT DOCUMENTS



REFLECTED CEILING PLAN - AREA B

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

REFLECTED CEILING PLAN GENERAL NOTES

A. REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS.
B. ALL CEILING GRIDS/PANELS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE.
C. CEILING HEIGHTS ARE NOTED ON THE REFLECTED CEILING PLANS ARE MEASURED FROM THE FINISH FLOOR OF THE ROOM.
D. ALL ELECTRICAL FIXTURES, SPEAKERS, SMOKE AND THERMAL DETECTORS, MECHANICAL GRILLES, SPRINKLER HEADS, AND OTHER CEILING MOUNTED DEVICES, SHALL BE CENTERED BETWEEN CEILING GRIDS UNLESS NOTED OTHERWISE. SPRINKLER HEADS SHALL BE WITHIN A 3-INCH RADIUS CENTERED BETWEEN CEILING GRIDS.
E. PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES. AT ACOUSTICAL PANEL CEILINGS.
F. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE ACTUAL AND ARE TO THE FOLLOWING UNLESS NOTED OTHERWISE:
   a. FACE OF FINISHED WALL
   b. FACE OF FINISHED BULKHEADS
   c. CENTERLINE OF COLUMNS
   d. CENTERLINE OF TEES
G. IN AREAS WITH EXPOSED STRUCTURE CEILINGS, COORDINATE EXACT LOCATIONS OF MECHANICAL GRILLES, DIFFUSERS, DUCTWORK AND ELECTRICAL FIXTURES WITH EACH REPRESENTATIVE SUBCONTRACTOR.
H. ALL METAL STUDS EXTEND TO UNDERSIDE OF ROOF STRUCTURE.
I. PROVIDE SEISMIC BRACING FOR SUSPENDED CEILINGS IF NEEDED.
J. ALL CONFERENCE ROOM CEILING MOUNTED LIGHTING FIXTURES TO BE CENTERED OVER THE TABLES.
K. CEILINGS ARE OPEN TO STRUCTURE UNO
L. ALL STRUCTURE, SUB-STRUCTURE (INCLUDING PURLINS), MEP, AND UNISTRUT WILL BE PAINTED OUT PER FINISH SCHEDULE
M. ALL ACP TO BE HUNG VIA AIRCRAFT CABLE, ATTACHED TO UNISTRUT MOUNTED TO UNDERSIDE OF PURLINS.

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KEY PLAN (AREAS)

N

B
C A

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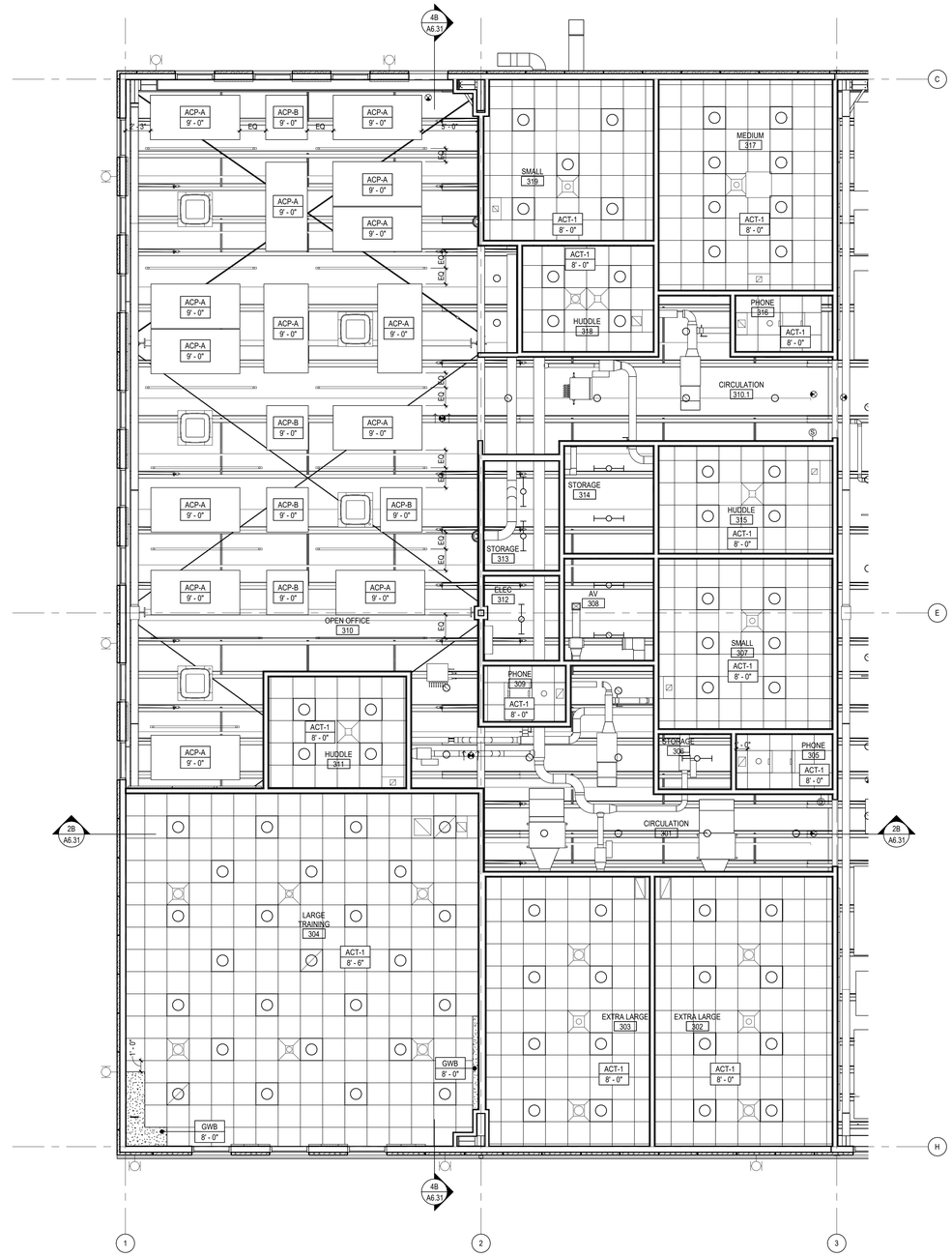
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ENLARGED REFLECTED CEILING PLAN - AREA B

SCALE: As indicated

SHEET NUMBER:
A4.21.0

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REFLECTED CEILING PLAN - AREA C

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

REFLECTED CEILING PLAN GENERAL NOTES

A. REFLECTED CEILING PLAN GENERAL NOTES APPLY TO ALL REFLECTED CEILING PLAN SHEETS.
B. ALL CEILING GRIDS/PANELS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE.
C. CEILING HEIGHTS ARE NOTED ON THE REFLECTED CEILING PLANS ARE MEASURED FROM THE FINISH FLOOR OF THE ROOM.
D. ALL ELECTRICAL FIXTURES, SPEAKERS, SMOKE AND THERMAL DETECTORS, MECHANICAL GRILLES, SPRINKLER HEADS, AND OTHER CEILING MOUNTED DEVICES, SHALL BE CENTERED BETWEEN CEILING GRIDS UNLESS NOTED OTHERWISE. SPRINKLER HEADS SHALL BE WITHIN A 3-INCH RADIUS CENTERED BETWEEN CEILING GRIDS.
E. PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, AND OTHER CEILING MOUNTED DEVICES. AT ACOUSTICAL PANEL CEILINGS.
F. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE ACTUAL AND ARE TO THE FOLLOWING UNLESS NOTED OTHERWISE:
   a. FACE OF FINISHED WALL
   b. FACE OF FINISHED BULKHEADS
   c. CENTERLINE OF COLUMNS
   d. CENTERLINE OF TEES
G. IN AREAS WITH EXPOSED STRUCTURE CEILINGS, COORDINATE EXACT LOCATIONS OF MECHANICAL GRILLES, DIFFUSERS, DUCTWORK AND ELECTRICAL FIXTURES WITH EACH REPRESENTATIVE SUBCONTRACTOR.
H. ALL METAL STUDS EXTEND TO UNDERSIDE OF ROOF STRUCTURE.
I. PROVIDE SEISMIC BRACING FOR SUSPENDED CEILINGS IF NEEDED.
J. ALL CONFERENCE ROOM CEILING MOUNTED LIGHTING FIXTURES TO BE CENTERED OVER THE TABLES.
K. CEILINGS ARE OPEN TO STRUCTURE UNO
L. ALL STRUCTURE, SUB-STRUCTURE (INCLUDING PURLINS), MEP, AND UNISTRUT WILL BE PAINTED OUT PER FINISH SCHEDULE
M. ALL ACP TO BE HUNG VIA AIRCRAFT CABLE, ATTACHED TO UNISTRUT MOUNTED TO UNDERSIDE OF PURLINS.

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CA-0443

DLR GROUP
6457 FRANCES ST., STE. 200
OMAHA, NE 68106
(402) 742-4200

KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

STATE OF OKLAHOMA
SCOTT D SHEFFEMILLER
A08960
LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)

N
B
C
A

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

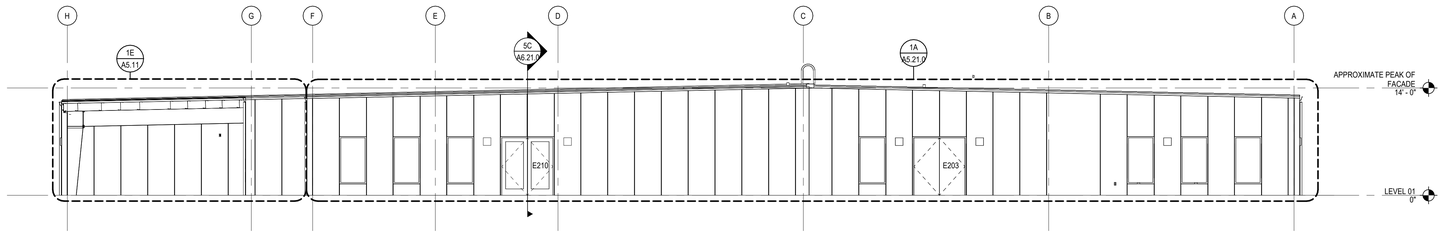
PROJ. NO. 43-25105-00

ENLARGED REFLECTED CEILING PLAN - AREA C

SCALE: As indicated

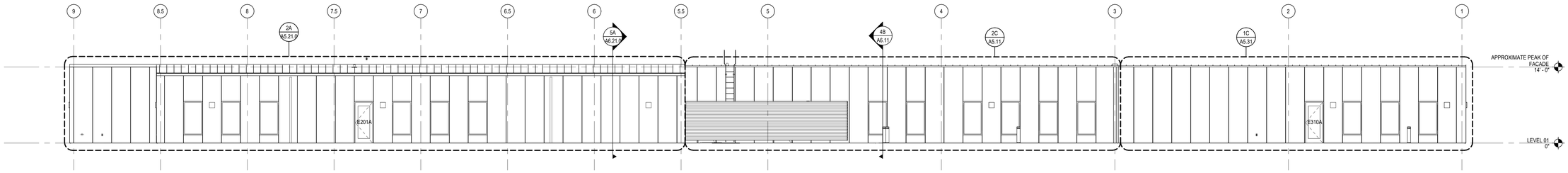
SHEET NUMBER:
A4.31

PHASE: BUILDING PERMIT DOCUMENTS



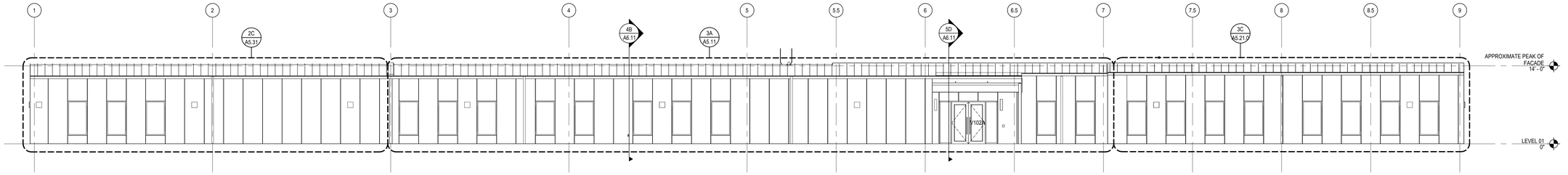
1C A5.01.0 EXTERIOR ELEVATION - PLAN EAST

SCALE: 1/8" = 1'-0"



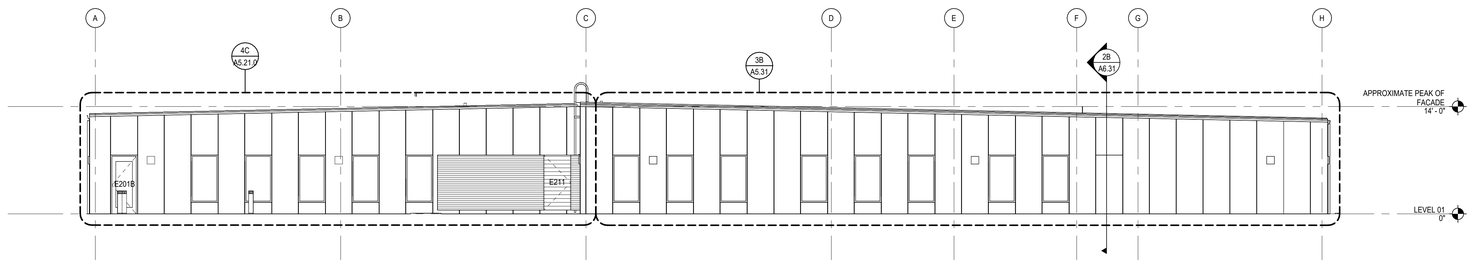
2A A5.01.0 EXTERIOR ELEVATION - PLAN NORTH

SCALE: 1/8" = 1'-0"



3A A5.01.0 EXTERIOR ELEVATION - PLAN SOUTH

SCALE: 1/8" = 1'-0"



4C A5.01.0 EXTERIOR ELEVATION - PLAN WEST

SCALE: 1/8" = 1'-0"

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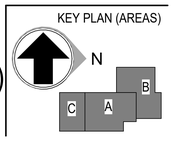
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KEY PLAN (AREAS)



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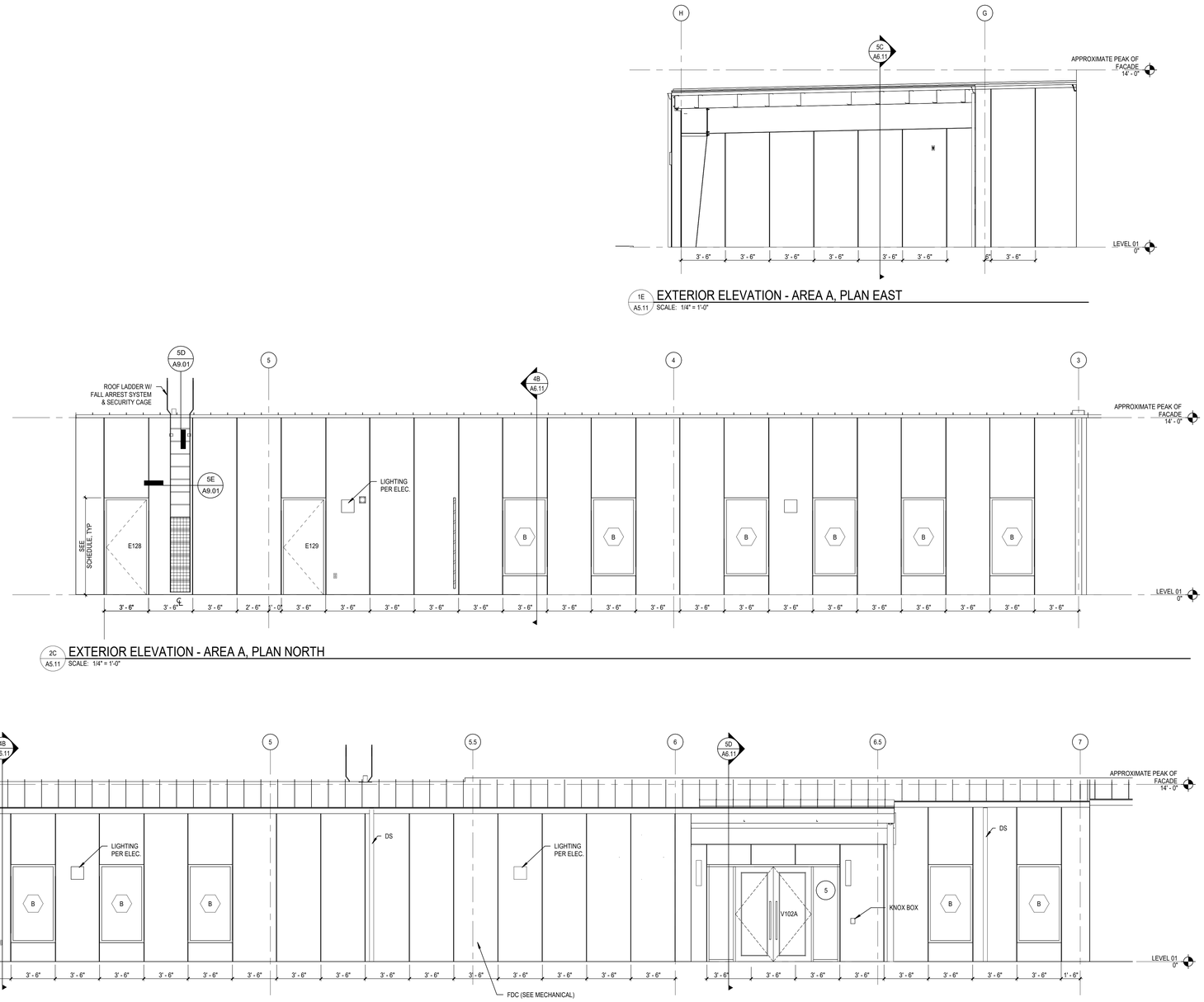
PROJ. NO. 43-25105-00

OVERALL EXTERIOR ELEVATIONS

SCALE: 1/8" = 1'-0"

SHEET NUMBER:
A5.01.0

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1E / A5.11 EXTERIOR ELEVATION - AREA A, PLAN EAST
SCALE: 1/4" = 1'-0"

2C / A5.11 EXTERIOR ELEVATION - AREA A, PLAN NORTH
SCALE: 1/4" = 1'-0"

3A / A5.11 EXTERIOR ELEVATION - AREA A, PLAN SOUTH
SCALE: 1/4" = 1'-0"

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KEY PLAN (AREAS)
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PROJECT ADDRESS:
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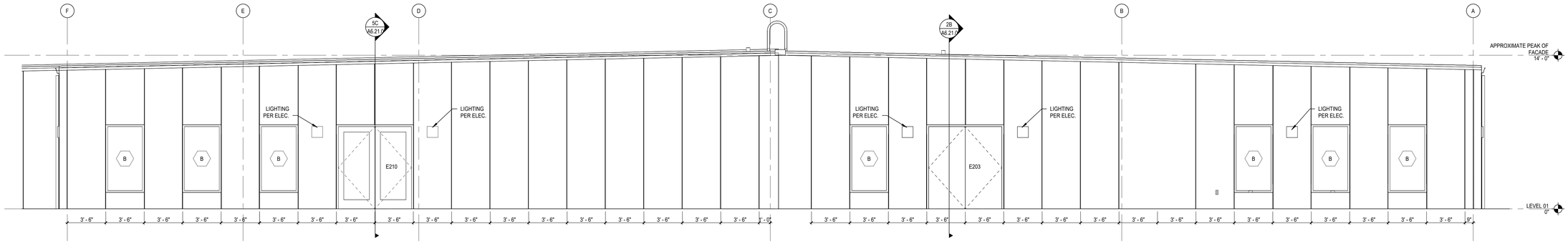
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EXTERIOR ELEVATIONS - AREA A

SCALE: 1/4" = 1'-0"

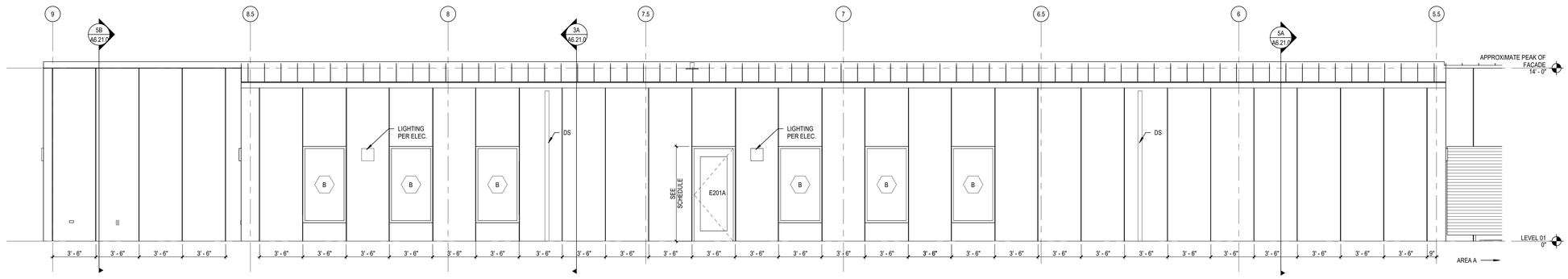
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A5.11

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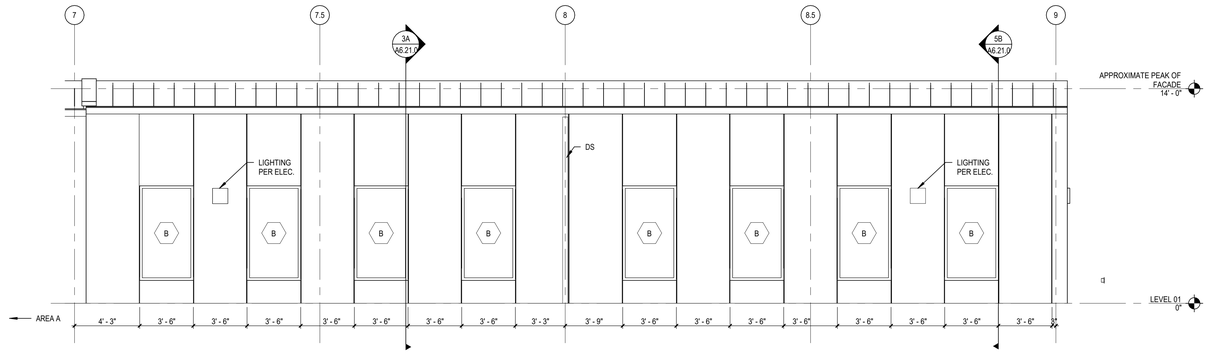
1A A5.21.0 EXTERIOR ELEVATION - AREA B, PLAN EAST

SCALE: 1/4" = 1'-0"



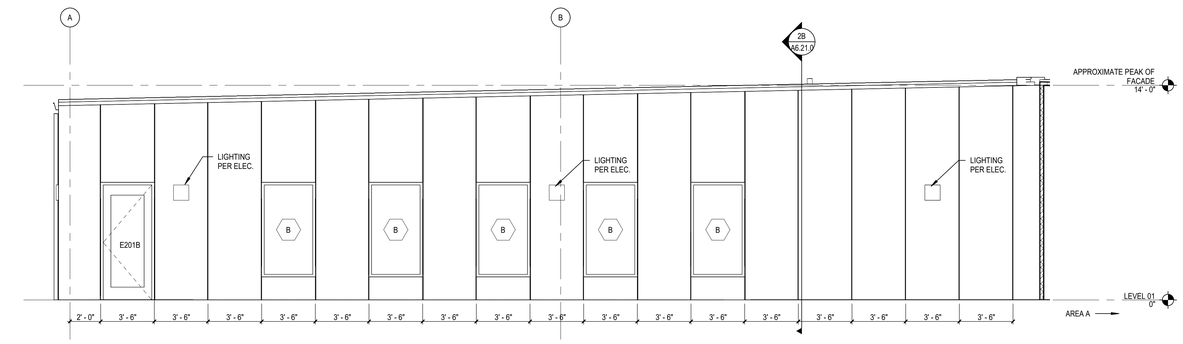
2A A5.21.0 EXTERIOR ELEVATION - AREA B, PLAN NORTH

SCALE: 1/4" = 1'-0"



3C A5.21.0 EXTERIOR ELEVATION - AREA B, PLAN SOUTH

SCALE: 1/4" = 1'-0"



4C A5.21.0 EXTERIOR ELEVATION - AREA B, PLAN WEST

SCALE: 1/4" = 1'-0"

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STATE OF OKLAHOMA
SCOTT D. SHEFFERMILLER
A28560
LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET (NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)

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REVISIONS		
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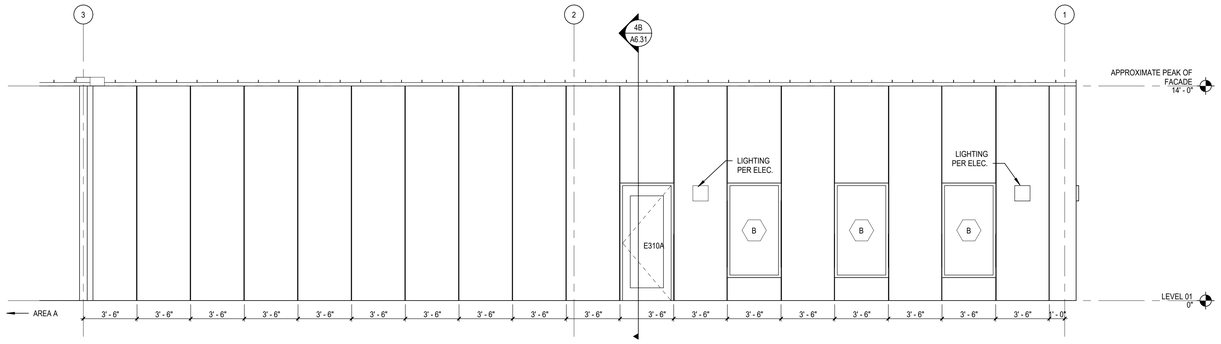
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EXTERIOR ELEVATIONS - AREA B

SCALE: 1/4" = 1'-0"

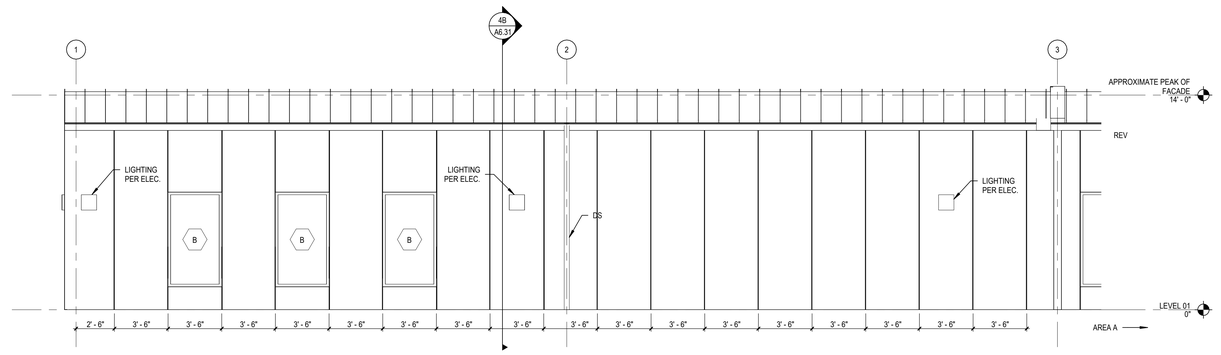
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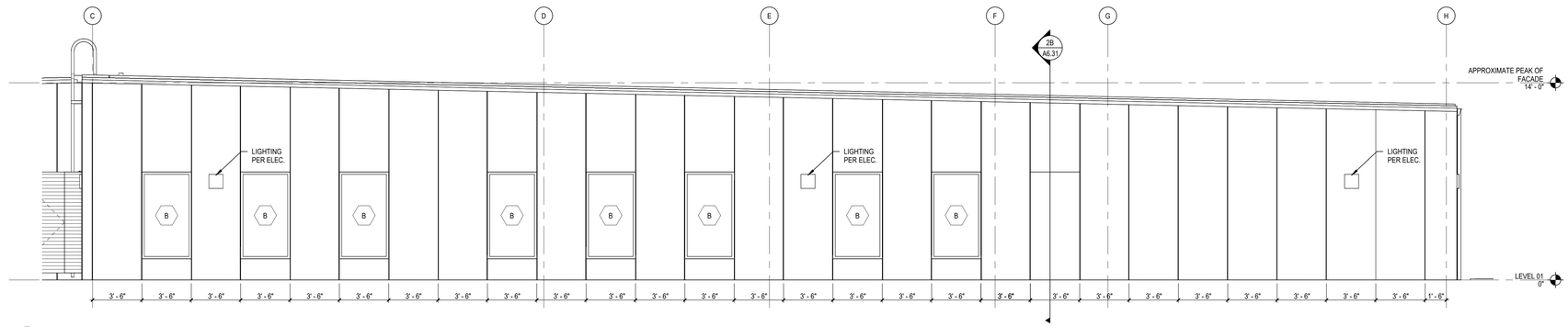
1C A5.31 EXTERIOR ELEVATION - AREA C, PLAN NORTH

SCALE: 1/4" = 1'-0"



2C A5.31 EXTERIOR ELEVATION - AREA C, PLAN SOUTH

SCALE: 1/4" = 1'-0"



3B A5.31 EXTERIOR ELEVATION - AREA C, PLAN WEST

SCALE: 1/4" = 1'-0"

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STATE OF OKLAHOMA
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A18560
LICENSED ARCHITECT

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PROJECT ADDRESS:
TULSA COUNTY, OK

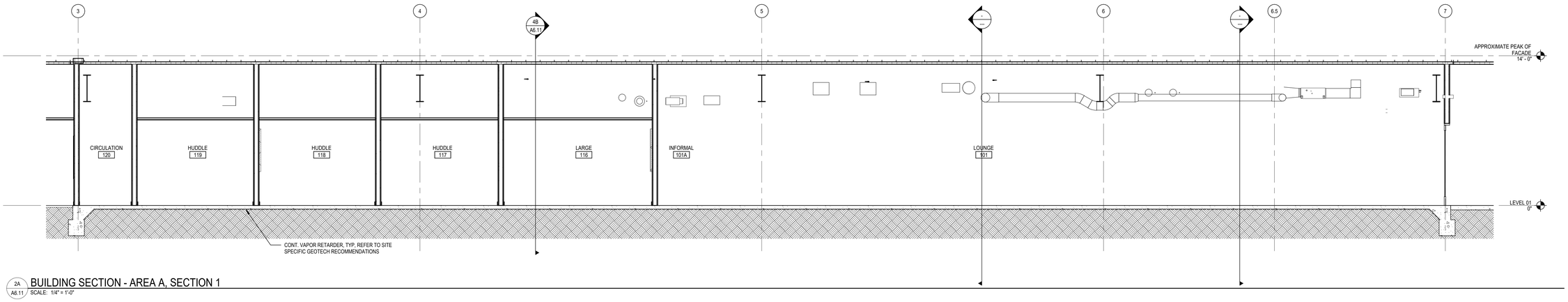
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EXTERIOR ELEVATIONS - AREA C

SCALE: 1/4" = 1'-0"

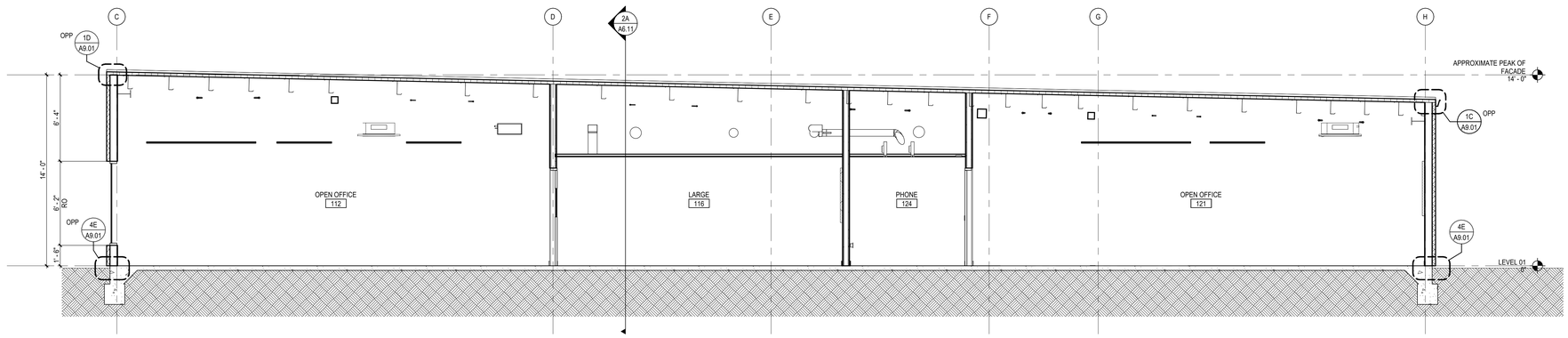
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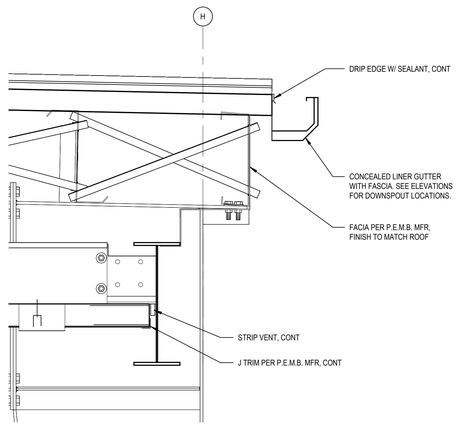
2A A6.11 BUILDING SECTION - AREA A, SECTION 1

SCALE: 1/4" = 1'-0"



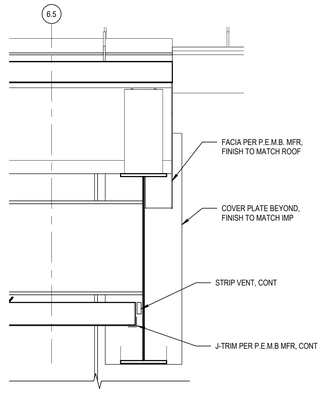
4B A6.11 BUILDING SECTION - AREA A, SECTION 2

SCALE: 1/4" = 1'-0"



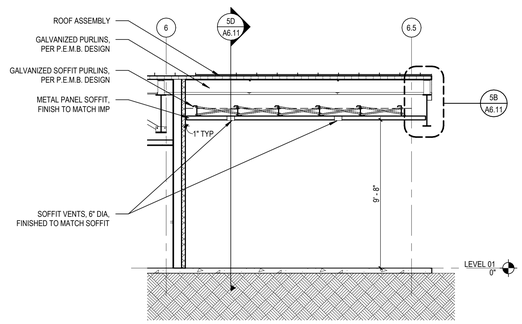
5A A6.11 CANOPY EDGE @ GUTTER

SCALE: 1 1/2" = 1'-0"



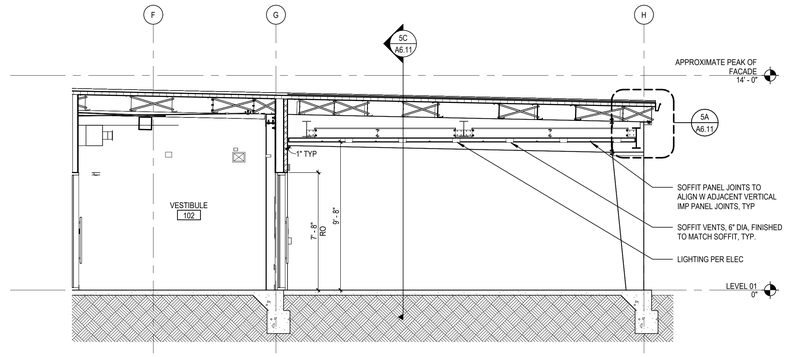
5B A6.11 CANOPY EDGE @ SLOPE

SCALE: 1 1/2" = 1'-0"



5C A6.11 BUILDING SECTION - AREA A, SECTION 3

SCALE: 1/4" = 1'-0"



5D A6.11 BUILDING SECTION - AREA A, SECTION 4

SCALE: 1/4" = 1'-0"

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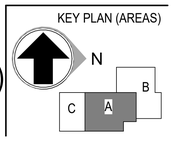
DLR GROUP
6457 FRANCES ST., STE. 200
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KIMLEY-HORN & ASSOC, INC.
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STATE OF OKLAHOMA
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A18960
LICENCED ARCHITECT

CYL HUB1-1-3 PERMIT SET (NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS

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DRAWN: Author
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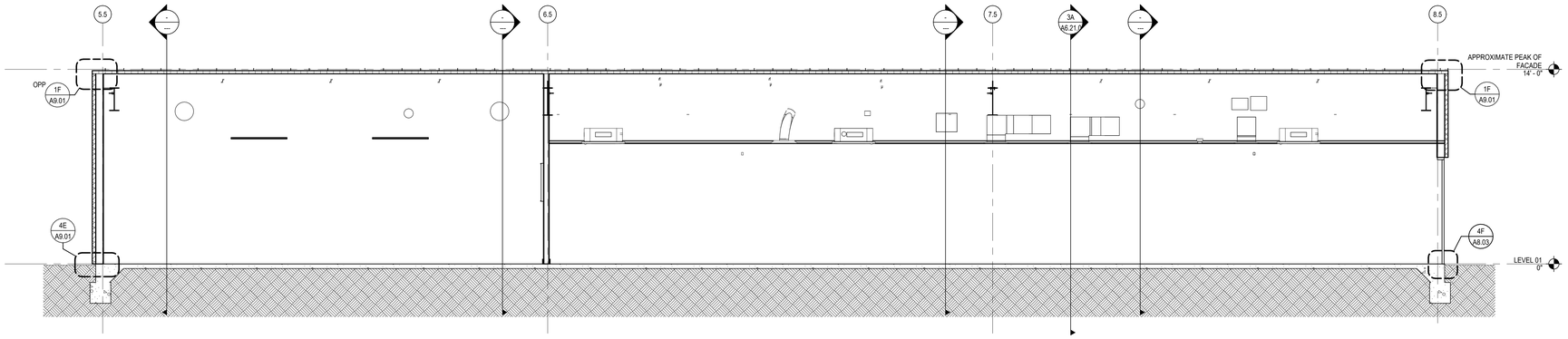
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BUILDING SECTIONS - AREA A

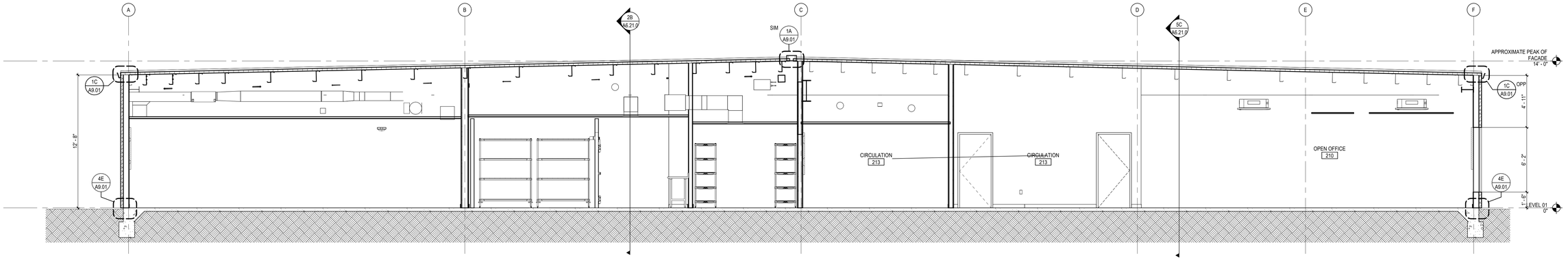
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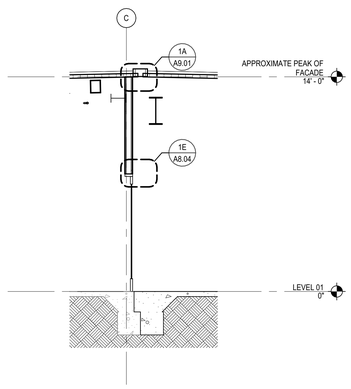
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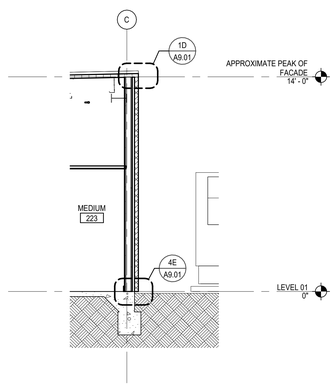
2B A6.21.0 BUILDING SECTION - AREA B, SECTION 1
SCALE: 1/4" = 1'-0"



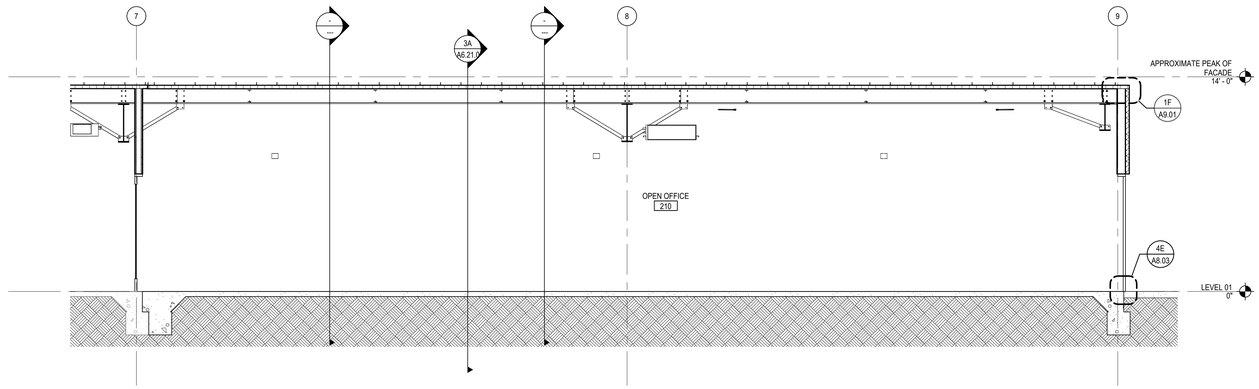
3A A6.21.0 BUILDING SECTION - AREA B, SECTION 2
SCALE: 1/4" = 1'-0"



5A A6.21.0 BUILDING SECTION - AREA B, SECTION 3
SCALE: 1/4" = 1'-0"



5B A6.21.0 BUILDING SECTION - AREA B, SECTION 4
SCALE: 1/4" = 1'-0"



5C A6.21.0 BUILDING SECTION - AREA B, SECTION 5
SCALE: 1/4" = 1'-0"

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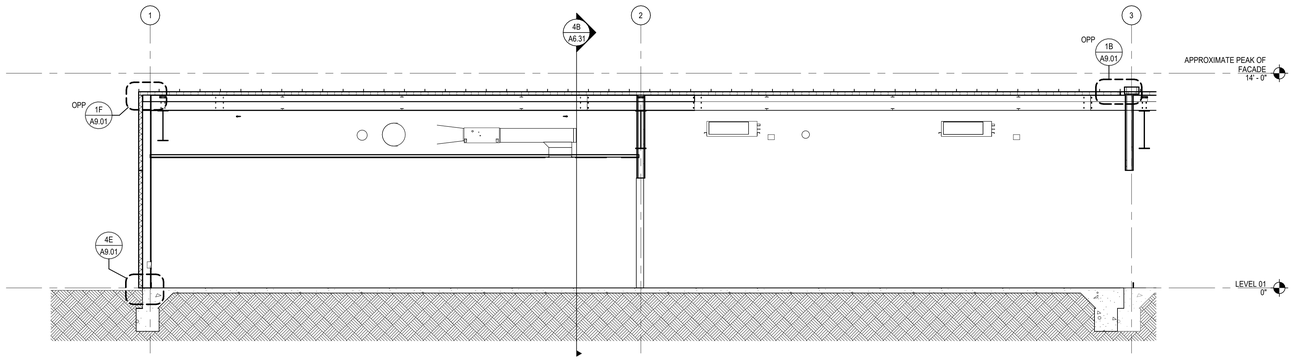
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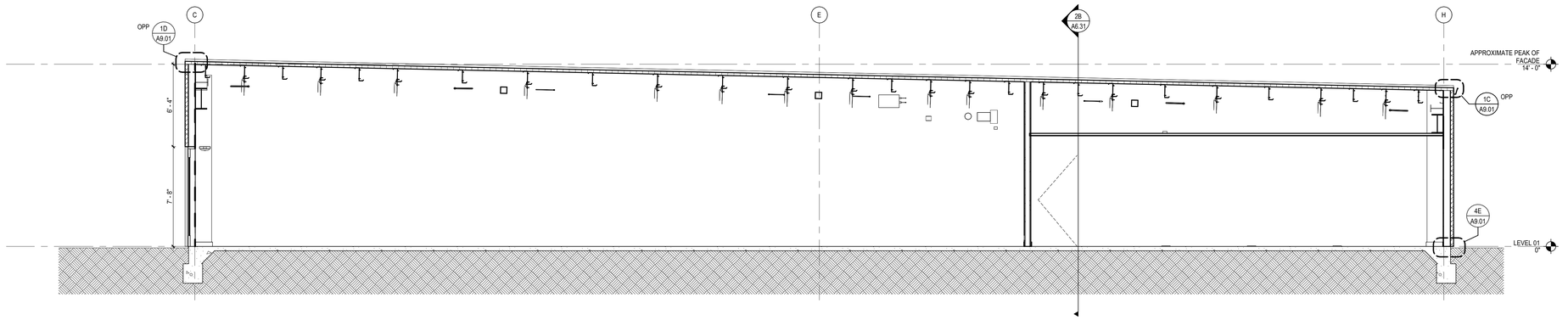
BUILDING SECTIONS - AREA B
SCALE: 1/4" = 1'-0"

SHEET NUMBER:
A6.21.0
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2B / A6.31 BUILDING SECTION - AREA C, SECTION 1
SCALE: 1/4" = 1'-0"



4B / A6.31 BUILDING SECTION - AREA C, SECTION 2
SCALE: 1/4" = 1'-0"

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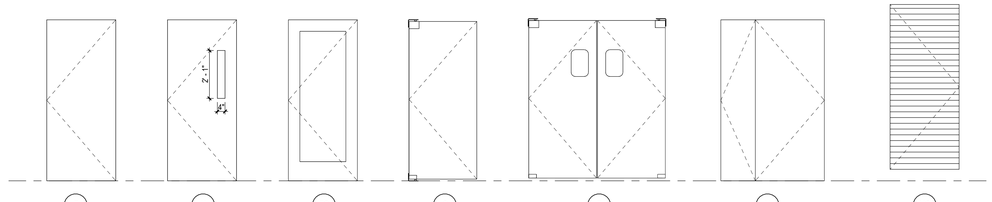
DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

BUILDING SECTIONS - AREA C
SCALE: 1/4" = 1'-0"

SHEET NUMBER:
A6.31
PHASE: BUILDING PERMIT DOCUMENTS

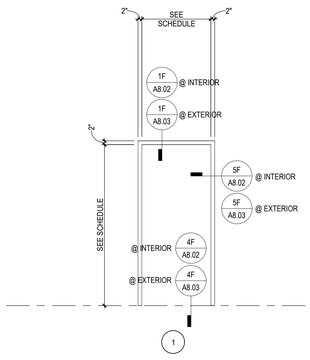
DOOR AND FRAME SCHEDULE

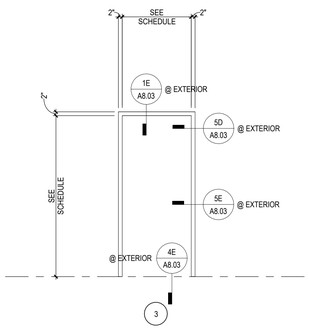
NUMBER	PANEL NO. OF PANELS	PANEL WIDTH	PANEL HEIGHT	PANEL THICKNESS	PANEL MATERIAL	PANEL GLASS	PANEL TYPE	FRAME MATERIAL	FRAME TYPE	FIRE RATING	HARDWARE SET	COMMENTS
103	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		21.0	
104	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
105	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		20.0	
106	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		12.0	
107A	2	3' - 0"(1' - 6")	7' - 0"	1 3/4"	WD-1		U	HM	1		10.0	
107C	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		13.0	
109	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		12.0	
110	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		1.0	
111.1	1	2' - 8"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
111.2	1	2' - 8"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
111.3	1	2' - 8"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
111.4	1	2' - 8"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
111.5	1	2' - 8"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
111.6	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		3.0	
111.7	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
111.8	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		12.0	
111.9	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.1	
112	1	3' - 0"	7' - 0"	1/2"	GL-1	CTG-1	G	ALUM	4		9.0	1/2" GLASS
113	1	3' - 0"	7' - 2"	1 3/4"	HM			HM			22.0	
114	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
115	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
116	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
117	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
118	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
119	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
121	1	3' - 0"	7' - 0"	1/2"	GL-1	CTG-1	G	ALUM	4		9.0	1/2" GLASS
122	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
123	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
124	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
125	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
127	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		6.0	
202A	2	1' - 6"	7' - 0"	1"	SS		T	HM			5.0	
202B	2	1' - 6"	7' - 0"	1"	SS		T	HM			5.0	
202C	2	1' - 6"	7' - 0"	1"	SS		T	HM			5.0	
204	1	3' - 0"	7' - 0"	1 3/4"	HM	CTG-1	N	HM	1	45 MIN.	14.0	
205	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		2.0	
206	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		2.0	
207	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		6.0	
208A	1	3' - 0"	7' - 0"	1 3/4"	HM	CTG-1	N	HM	1		8.0	
208B	1	3' - 0"	7' - 0"	1 3/4"	HM	CTG-1	N	HM	1		8.0	
209	2	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		16.0	
209.2	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		23.0	
211	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		6.0	
214	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		21.0	
215	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
216	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
217	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		7.0	
218	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		12.0	
220	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
221	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
222	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
223	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
224	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		15.0	
225	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
226	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		12.0	
228	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		1.0	
228.1	1	2' - 8"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
228.2	1	2' - 8"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
228.3	1	2' - 8"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
228.4	1	2' - 8"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
228.5	1	2' - 8"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
228.6	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		3.1	
228.7	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.0	
228.8	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		12.0	
228.9	1	3' - 0"	7' - 0"	1 3/4"	WD-1		F	HM	1		2.1	
302	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
303	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
304	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
305	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
306	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		12.0	
307	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
308	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		21.0	
309	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
311	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
312	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		15.0	
313	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		12.0	
314	1	3' - 0"	7' - 0"	1 3/4"	HM		F	HM	1		12.0	
315	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTIG-1	N	HM	1		4.0	
316	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
317	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
318	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
319	1	3' - 0"	7' - 0"	1 3/4"	WD-1	CTG-1	N	HM	1		4.0	
E101	2	3' - 4"	7' - 6"	1 3/4"	ALUM	CTIG-1	FG	ALUM	3		11.0	
E108A	2	3' - 4"	7' - 6"	1 3/4"	ALUM	CTIG-1	FG	ALUM	3	45 MIN.	11.1	FIRE-PROTECTIVE GLAZING
E128	1	3' - 2"	7' - 6"	1 3/4"	HM		F	HM	1		26.0	
E129	1	3' - 2"	7' - 6"	1 3/4"	HM		F	HM	1		26.0	
E201A	1	3' - 2"	7' - 6"	1 3/4"	ALUM	CTIG-1	FG	ALUM	3		17.0	
E201B	1	3' - 2"	7' - 6"	1 3/4"	ALUM	CTIG-1	FG	ALUM	3		27.0	
E203	2	3' - 4"	7' - 6"	1 3/4"	HM		F	HM	1		24.0	
E210	2	3' - 4"	7' - 6"	1 3/4"	ALUM	CTIG-1	FG	ALUM	3		18.1	
E211	1	3' - 6"	7' - 2"	1 3/4"	CORRUGATED METAL FENCE		MG	STL			30.0	
E310A	1	3' - 2"	7' - 6"	1 3/4"	ALUM	CTIG-1	FG	ALUM	3		17.0	
V102A	2	3' - 0"	7' - 6"	1 3/4"	ALUM	CTIG-1	FG	ALUM	5		28.0	
V102B	2	3' - 0"	7' - 6"	1 3/4"	ALUM	CTIG-1	FG	ALUM	5		29.0	

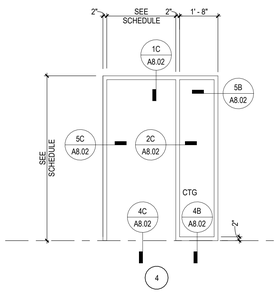


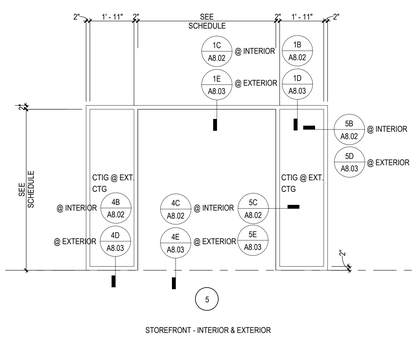
DOOR PANEL TYPES

SCALE: 3/8" = 1'-0"



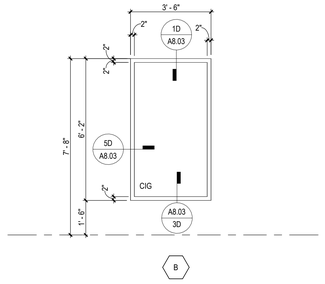






FRAME ELEVATIONS

SCALE: 3/8" = 1'-0"



WINDOW TYPE

SCALE: 3/8" = 1'-0"

DOOR AND FRAME SCHEDULE GENERAL NOTES

A. ALL EXTERIOR HOLLOW METAL FRAMES SHALL BE FILLED WITH INSULATION.
B. ALL HOLLOW METAL FRAMES SET IN METAL STUD WALLS SHALL BE FILLED WITH MINERAL WOOL BLANKET INSULATION.
C. ALL EXTERIOR FRAMES SHALL BE INSTALLED WITH 1/4" SHIM AND SEALANT AROUND PERIMETER OF FRAME.
D. MASONRY LINTELS AND STEEL LINTELS ARE SHOWN ON STRUCTURAL DRAWINGS.
E. GLASS TYPES FOR DOORS ARE INDICATED IN THE DOOR GLAZING COLUMN OF THE DOOR AND FRAME SCHEDULE. GLASS TYPES FOR FRAMES ARE INDICATED ON THE FRAME ELEVATIONS.
F. FOR COILING DOORS, GRILLES AND SECTIONAL DOORS, WIDTH AND HEIGHT DIMENSIONS SHOWN IN DOOR AND FRAME SCHEDULE REPRESENT FINISHED OPENING SIZE. CONTRACTOR TO COORDINATE EXACT SIZE OF DOOR WITH MANUFACTURER.
G. FRAME MANUFACTURER SHALL COORDINATE LOCATIONS OF ALL CONCEALED CONDUIT AND J-BOXES REQUIRED FOR SECURITY SYSTEM HARDWARE PRIOR TO MANUFACTURING OF HOLLOW METAL FRAMES AND COORDINATE WITH SECURITY HARDWARE AND DEVICES.
H. PROVIDE HEAD RECEIVERS AT ALUMINUM STOREFRONTS AND CURTAIN WALLS AS REQUIRED FOR STRUCTURAL DEFLECTION ALLOWANCE.
I. SEE SPECIFICATIONS HARDWARE SECTION FOR HARDWARE SETS NOTED IN DOOR AND FRAME SCHEDULE.

DOOR PANEL TYPE DESCRIPTIONS

DG	DUAL LITE GLASS
F	FLUSH PANEL
FG	FULL LITE GLASS
FL	FULL LOUVERED
G	HALF LITE GLASS
GL	HALF LITE GLASS & LOUVERED
L	LOUVERED (BOTTOM)
LL	LOUVERED (TOP & BOTTOM)
MG	METAL GATE
N	NARROW LITE GLASS
NL	NARROW LITE GLASS & LOUVERED
TL	LOUVERED (TOP)
T	TRAFFIC
V	VISION LITE GLASS (10" SQUARE)
VL	VISION LITE GLASS & LOUVERED

GLAZING TYPE DESCRIPTIONS

CG	CLEAR FLOAT GLASS
CIG	CLEAR INSULATING GLASS
CTG	CLEAR TEMPERED FLOAT GLASS
CTIG	CLEAR TEMPERED INSULATING GLASS
GL	GLASS
IIP	INSULATED INFILL PANEL GLASS
ISP	INSULATED SPANDREL GLASS
LG	LAMINATED GLASS
PG	PATTERN GLASS
PIG	PATTERN INSULATING GLASS
SP	SPANDREL GLASS
TFG	TINTED FLOAT GLASS
TG	TEMPERED GLASS
TIG	TINTED INSULATING GLASS
TTG	TINTED TEMPERED FLOAT GLASS
TTIG	TINTED TEMPERED INSULATING GLASS
WG	POLISHED WIRE GLASS

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HDR, ENGINEERING INC.
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TULSA, OK 74119
(918) 380-8868

STATE OF OKLAHOMA SCOTT D. SHEFFERMILLER A19560 LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

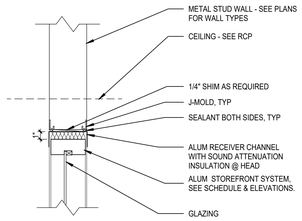
REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

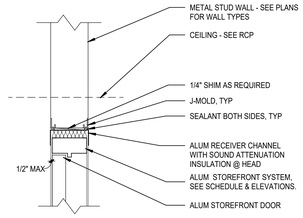
DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

DOOR & WINDOW SCHEDULES & TYPES
SCALE: As indicated

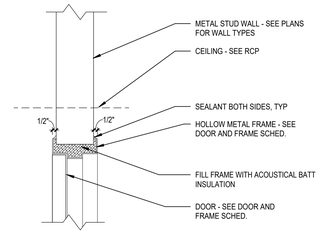
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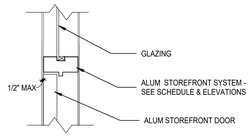
1B A8.02 INTERIOR STOREFRONT HEAD
SCALE: 1 1/2" = 1'-0"



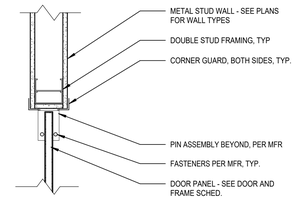
1C A8.02 INTERIOR STOREFRONT DOOR HEAD
SCALE: 1 1/2" = 1'-0"



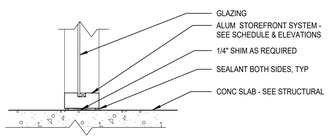
1F A8.02 INTERIOR DOOR HEAD
SCALE: 1 1/2" = 1'-0"



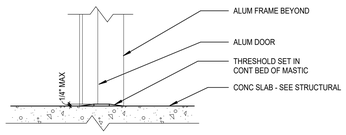
2C A8.02 INTERIOR STOREFRONT DOOR JAMB @ SIDELIGHT
SCALE: 1 1/2" = 1'-0"



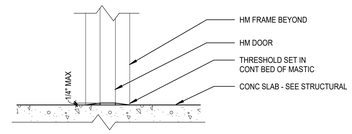
2F A8.02 INTERIOR SWING TRAFFIC DOOR JAMB
SCALE: 1 1/2" = 1'-0"



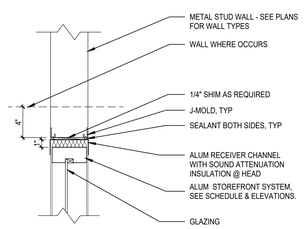
4B A8.02 INTERIOR STOREFRONT SILL
SCALE: 1 1/2" = 1'-0"



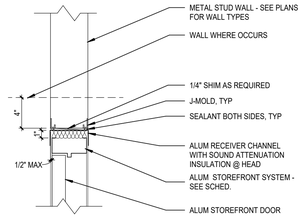
4C A8.02 INTERIOR STOREFRONT DOOR SILL
SCALE: 1 1/2" = 1'-0"



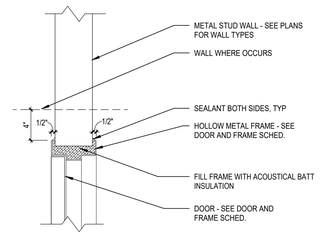
4F A8.02 INTERIOR DOOR SILL
SCALE: 1 1/2" = 1'-0"



5B A8.02 INTERIOR STOREFRONT JAMB
SCALE: 1 1/2" = 1'-0"



5C A8.02 INTERIOR STOREFRONT DOOR JAMB
SCALE: 1 1/2" = 1'-0"



5F A8.02 INTERIOR DOOR JAMB
SCALE: 1 1/2" = 1'-0"

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STATE OF OKLAHOMA
SCOTT D. SHIEFERMILLER
A08560
LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK

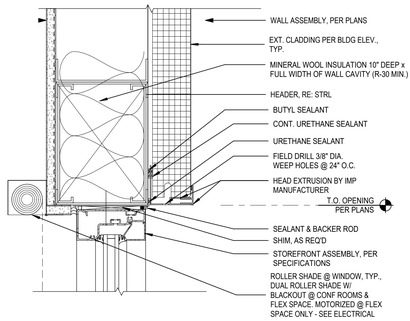
PROJ. NO. 43-25105-00

INTERIOR DOOR & STOREFRONT DETAILS

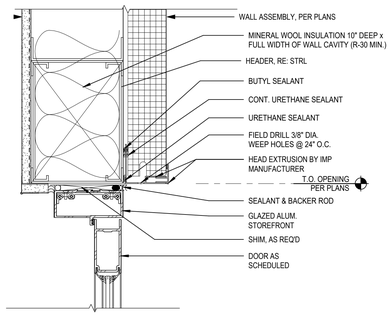
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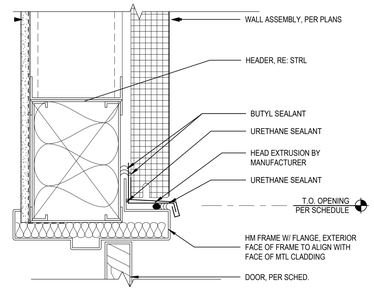
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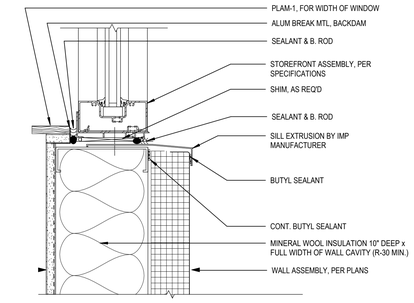
1D A8.03 EXTERIOR STOREFRONT/WINDOW HEAD
SCALE: 3" = 1'-0"



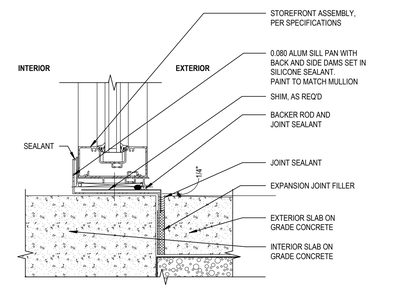
1E A8.03 EXTERIOR STOREFRONT DOOR HEAD
SCALE: 3" = 1'-0"



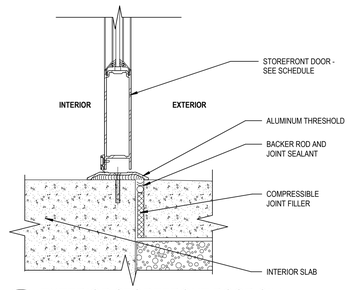
1F A8.03 EXTERIOR DOOR HEAD
SCALE: 3" = 1'-0"



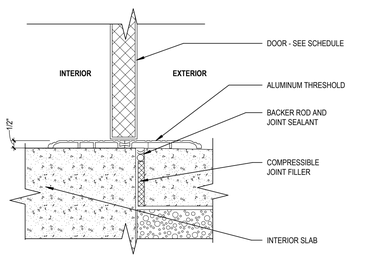
3D A8.03 EXTERIOR WINDOW SILL
SCALE: 3" = 1'-0"



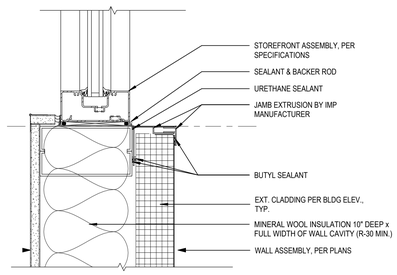
4D A8.03 EXTERIOR STOREFRONT SILL
SCALE: 3" = 1'-0"



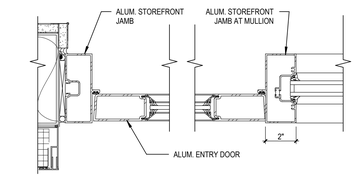
4E A8.03 EXTERIOR STOREFRONT DOOR SILL
SCALE: 3" = 1'-0"



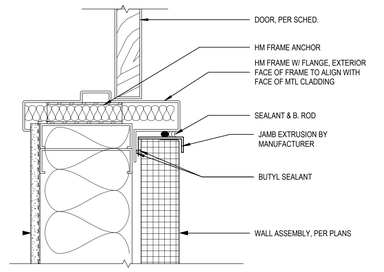
4F A8.03 EXTERIOR DOOR SILL
SCALE: 3" = 1'-0"



5D A8.03 EXTERIOR STOREFRONT/WINDOW JAMB
SCALE: 3" = 1'-0"



5E A8.03 EXTERIOR STOREFRONT DOOR JAMB
SCALE: 3" = 1'-0"



5F A8.03 EXTERIOR DOOR JAMB
SCALE: 3" = 1'-0"

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STATE OF OKLAHOMA
SCOTT D. SHEFFMILLER
A08960
LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

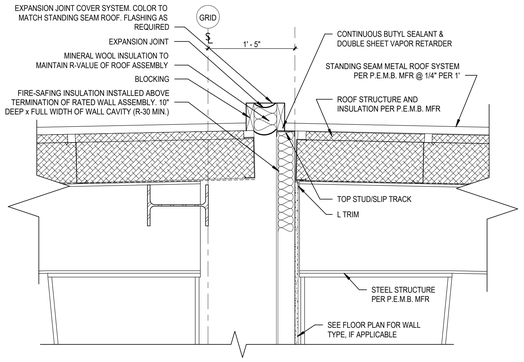
PROJ. NO. 43-25105-00

EXTERIOR DOOR & WINDOW DETAILS

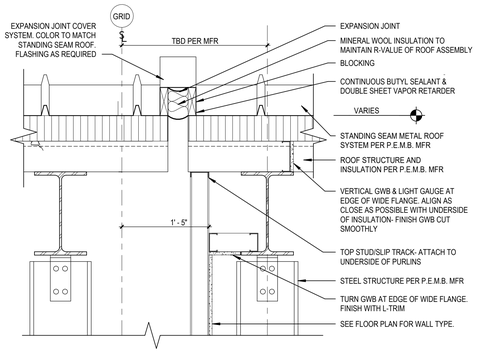
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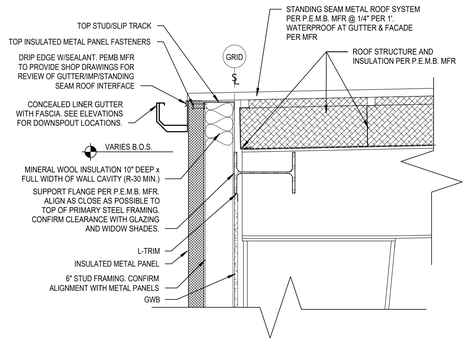
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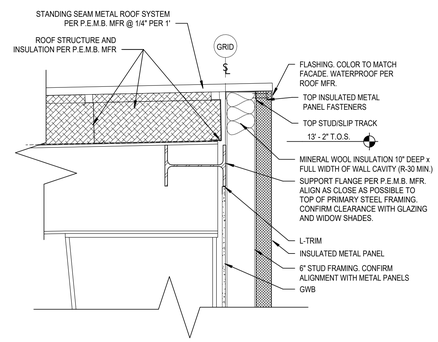
1A A9.01 P.E.M.B. ROOF ASSEMBLY @ ENDWALL EXPANSION JOINT
SCALE: 1" = 1'-0"



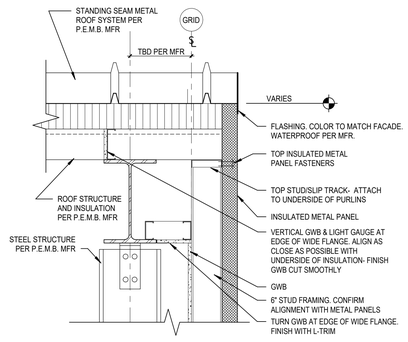
1B A9.01 P.E.M.B. ROOF ASSEMBLY @ SIDEWALL EXPANSION JOINT
SCALE: 1" = 1'-0"



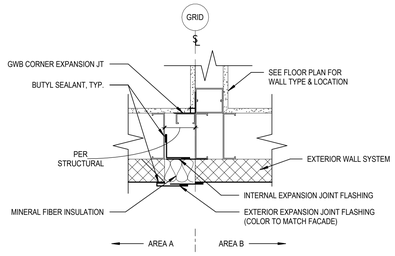
1C A9.01 P.E.M.B. ROOF ASSEMBLY & GUTTER @ ENDWALL LOW SIDE
SCALE: 1" = 1'-0"



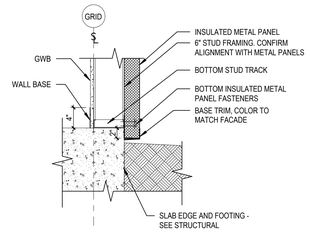
1D A9.01 P.E.M.B. ROOF ASSEMBLY @ ENDWALL HIGH SIDE
SCALE: 1" = 1'-0"



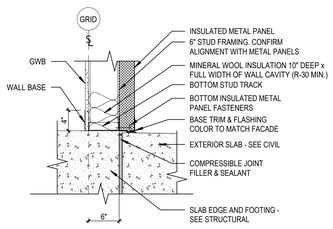
1F A9.01 P.E.M.B. ROOF ASSEMBLY @ SIDEWALL
SCALE: 1" = 1'-0"



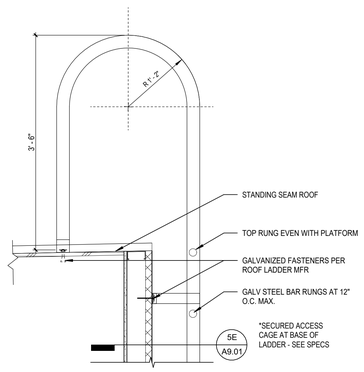
4A A9.01 EXTERIOR WALL EXPANSION JOINT ASSEMBLY @ NEW AREA (COPLANAR)
SCALE: 1 1/2" = 1'-0"



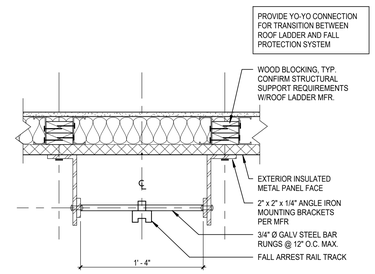
4E A9.01 EXTERIOR WALL BASE DETAIL @ GRADE
SCALE: 1" = 1'-0"



4F A9.01 EXTERIOR WALL BASE DETAIL @ CONCRETE
SCALE: 1" = 1'-0"



5D A9.01 ROOF LADDER SECTION
SCALE: 1" = 1'-0"



5E A9.01 ROOF ACCESS LADDER PLAN
SCALE: 1 1/2" = 1'-0"

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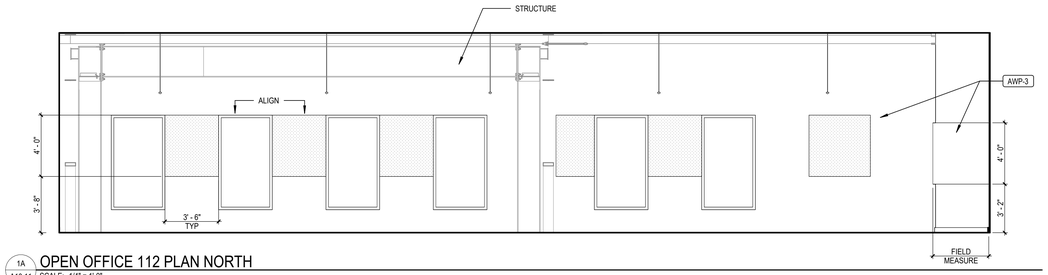
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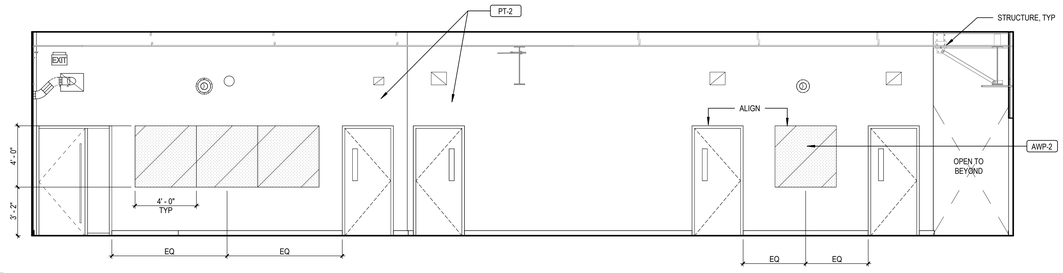
EXTERIOR DETAILS
SCALE: As indicated

SHEET NUMBER:
A9.01
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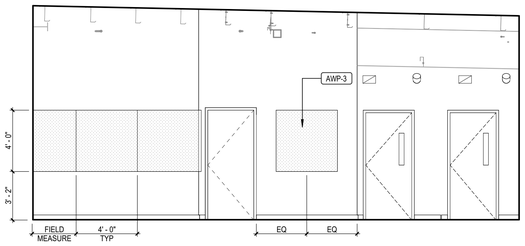
NOTE: REFER TO 2/AA11.2 FOR TYPICAL MOUNTING HEIGHTS



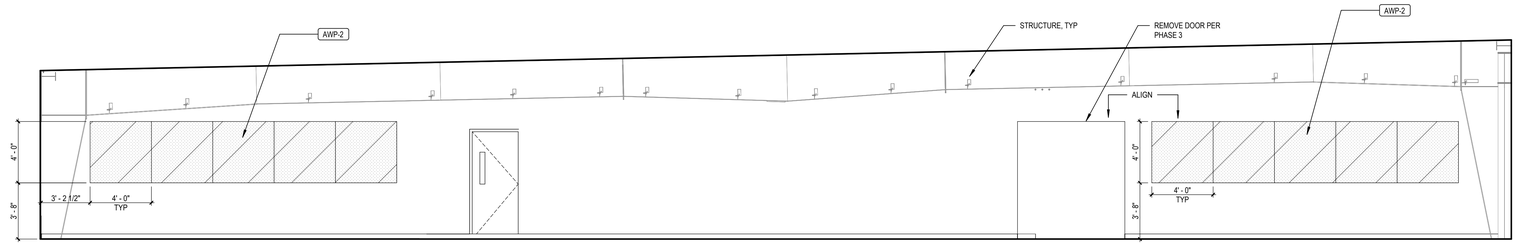
1A A10.11 OPEN OFFICE 112 PLAN NORTH
SCALE: 1/4" = 1'-0"



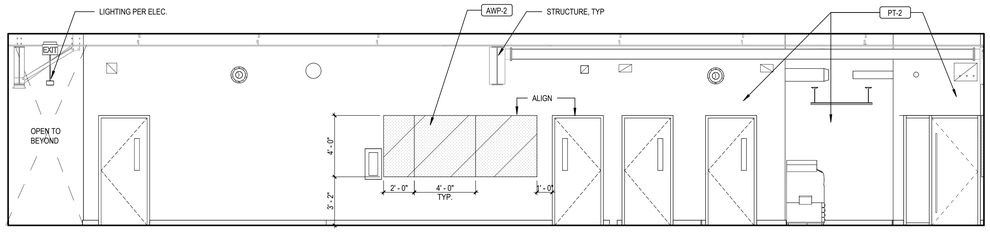
1C A10.11 OPEN OFFICE 112 PLAN SOUTH
SCALE: 1/4" = 1'-0"



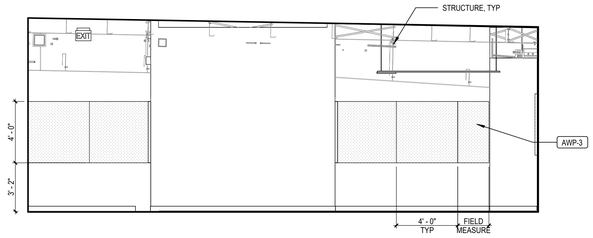
2A A10.11 OPEN OFFICE 112 PLAN EAST
SCALE: 1/4" = 1'-0"



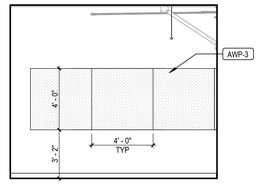
2B A10.11 OPEN OFFICE 112/121 PLAN WEST
SCALE: 1/4" = 1'-0"



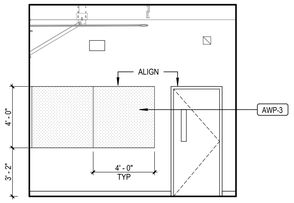
3A A10.11 OPEN OFFICE 121 PLAN NORTH
SCALE: 1/4" = 1'-0"



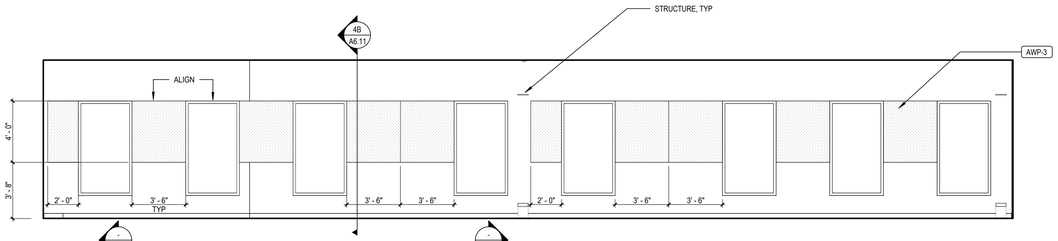
3C A10.11 OPEN OFFICE 121 - PLAN EAST
SCALE: 1/4" = 1'-0"



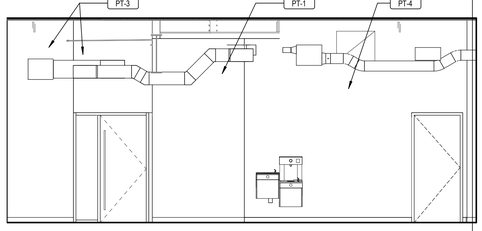
3D A10.11 OPEN OFFICE 121 - PLAN NORTH B
SCALE: 1/4" = 1'-0"



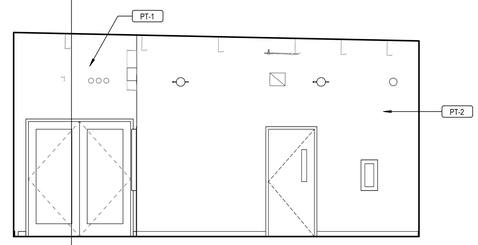
3E A10.11 OPEN OFFICE 121 - PLAN SOUTH B
SCALE: 1/4" = 1'-0"



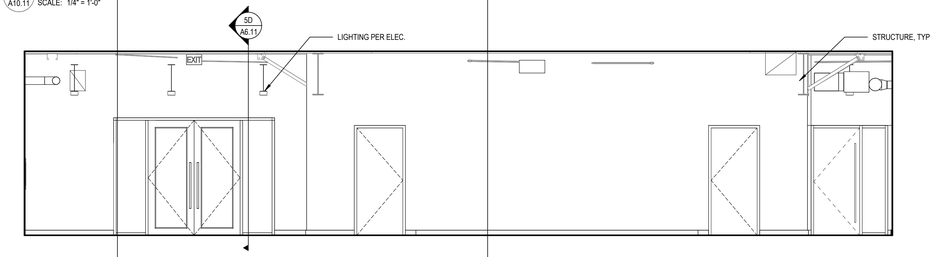
4A A10.11 OPEN OFFICE 121 - PLAN SOUTH
SCALE: 1/4" = 1'-0"



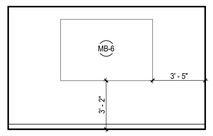
4D A10.11 LOUNGE 101 PLAN NORTH
SCALE: 1/4" = 1'-0"



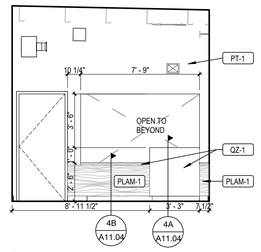
4E A10.11 LOUNGE 101 PLAN EAST
SCALE: 1/4" = 1'-0"



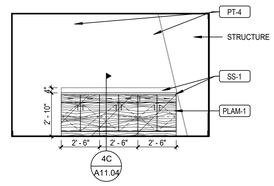
5A A10.11 LOUNGE 101 PLAN SOUTH
SCALE: 1/4" = 1'-0"



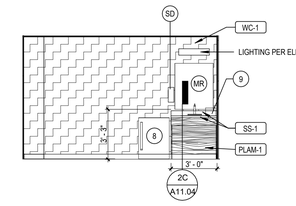
5C A10.11 OFFICE 127 PLAN SOUTH
SCALE: 1/4" = 1'-0"



5D A10.11 VESTIBULE PLAN EAST
SCALE: 1/4" = 1'-0"



5E A10.11 SECURITY PLAN EAST
SCALE: 1/4" = 1'-0"



5F A10.11 MOTHER'S ROOM - PLAN SOUTH
SCALE: 1/4" = 1'-0"

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STATE OF OKLAHOMA
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A18960
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CYL HUB1-1-3 PERMIT SET (NOT FOR CONSTRUCTION) 2025-09-22

REVISIONS		
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DRAWN: Author
APPRVD: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

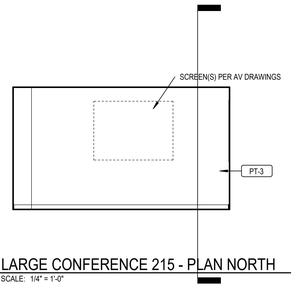
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INTERIOR ELEVATIONS - AREA A

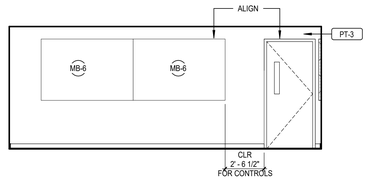
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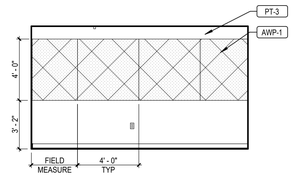
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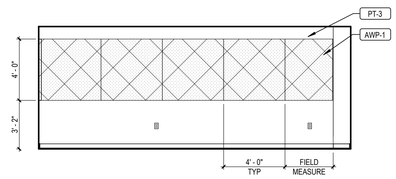
1A A10.21 LARGE CONFERENCE 215 - PLAN NORTH
SCALE: 1/4" = 1'-0"



1B A10.21 LARGE CONFERENCE 215 - PLAN EAST
SCALE: 1/4" = 1'-0"



1C A10.21 LARGE CONFERENCE 215 - PLAN SOUTH
SCALE: 1/4" = 1'-0"



1D A10.21 LARGE CONFERENCE 215 - PLAN WEST
SCALE: 1/4" = 1'-0"

2A A10.21 HUDDLE 221 - PLAN NORTH
SCALE: 1/4" = 1'-0"

2B A10.21 HUDDLE 221 - PLAN EAST
SCALE: 1/4" = 1'-0"

2C A10.21 HUDDLE 221 - PLAN SOUTH
SCALE: 1/4" = 1'-0"

2D A10.21 HUDDLE 221 - PLAN WEST
SCALE: 1/4" = 1'-0"

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CA-0443

DLR GROUP
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KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
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(918) 380-8868

STATE OF OKLAHOMA
SCOTT D. SHIEFERMILLER
A08560
LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

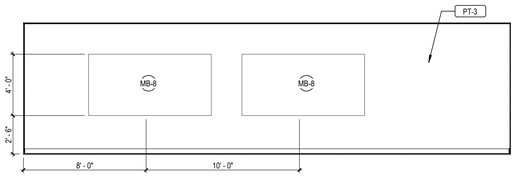
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NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

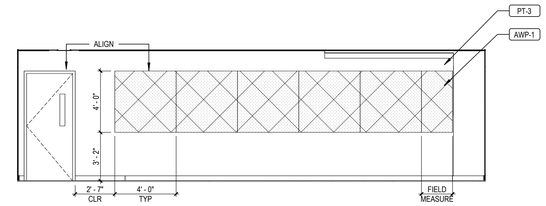
DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

INTERIOR ELEVATIONS - AREA B
SCALE: 1/4" = 1'-0"

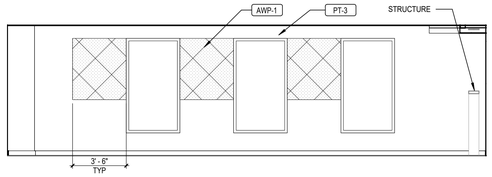
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A10.21
PHASE: BUILDING PERMIT DOCUMENTS



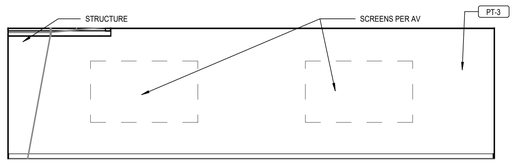
1A A10.33 LARGE TRAINING PLAN NORTH - PHASE 3
SCALE: 1/4" = 1'-0"



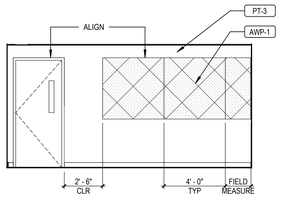
1B A10.33 LARGE TRAINING PLAN EAST - PHASE 3
SCALE: 1/4" = 1'-0"



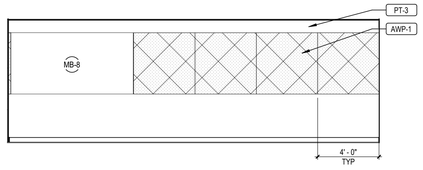
1C A10.33 LARGE TRAINING PLAN SOUTH - PHASE 3
SCALE: 1/4" = 1'-0"



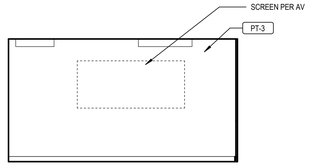
1D A10.33 LARGE TRAINING PLAN WEST - PHASE 3
SCALE: 1/4" = 1'-0"



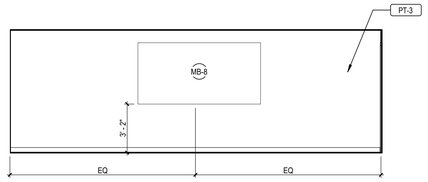
2A A10.33 EXTRA LARGE PLAN NORTH - PAHSE 3
SCALE: 1/4" = 1'-0"



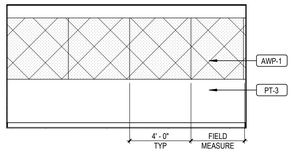
2B A10.33 EXTRA LARGE ACOUSTICS/MARKERBOARD WALL - PHASE 3
SCALE: 1/4" = 1'-0"



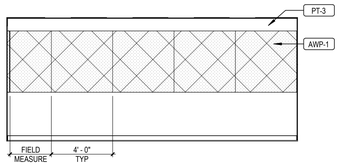
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SCALE: 1/4" = 1'-0"



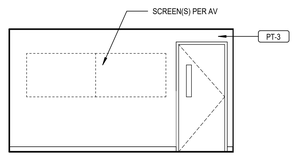
2D A10.33 EXTRA LARGE MARKERBOARD WALL - PHASE 3
SCALE: 1/4" = 1'-0"



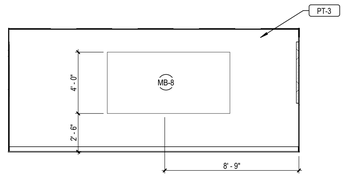
2E A10.33 MEDIUM PLAN NORTH - PHASE 3
SCALE: 1/4" = 1'-0"



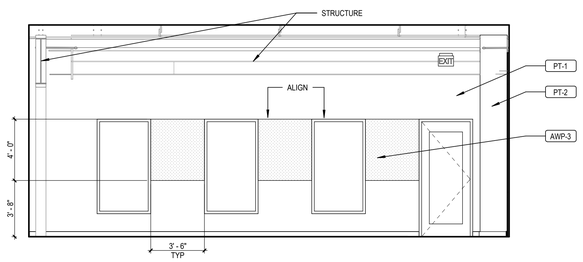
3A A10.33 MEDIUM PLAN EAST - PHASE 3
SCALE: 1/4" = 1'-0"



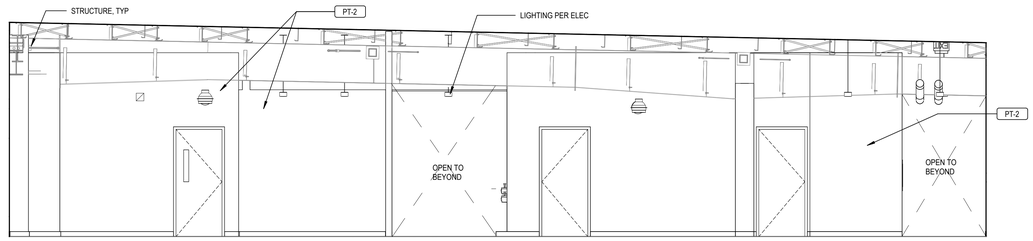
3B A10.33 MEDIUM PLAN SOUTH - PHASE 3
SCALE: 1/4" = 1'-0"



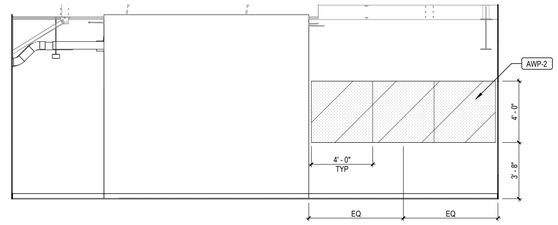
3C A10.33 MEDIUM PLAN WEST - PHASE 3
SCALE: 1/4" = 1'-0"



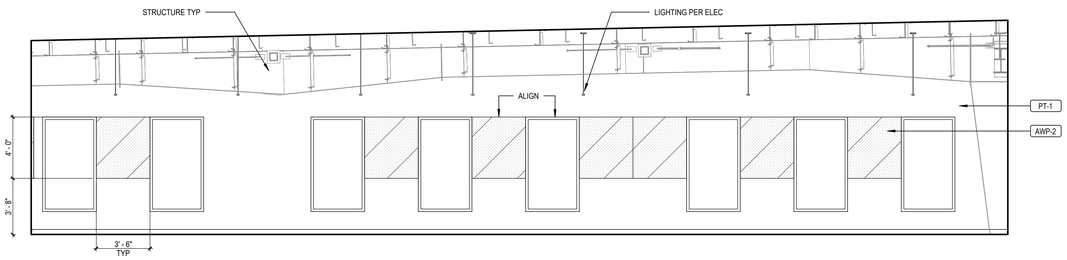
4B A10.33 OPEN OFFICE 310 - PLAN NORTH - PHASE 3
SCALE: 1/4" = 1'-0"



5A A10.33 OPEN OFFICE 310 PLAN EAST - PHASE 3
SCALE: 1/4" = 1'-0"



4D A10.33 OPEN OFFICE 310 - PLAN SOUTH - PHASE 3
SCALE: 1/4" = 1'-0"



5D A10.33 OPEN OFFICE 310 - PLAN WEST - PHASE 3
SCALE: 1/4" = 1'-0"

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STATE OF OKLAHOMA
SCOTT D. SHEFFERMILLER
A19560
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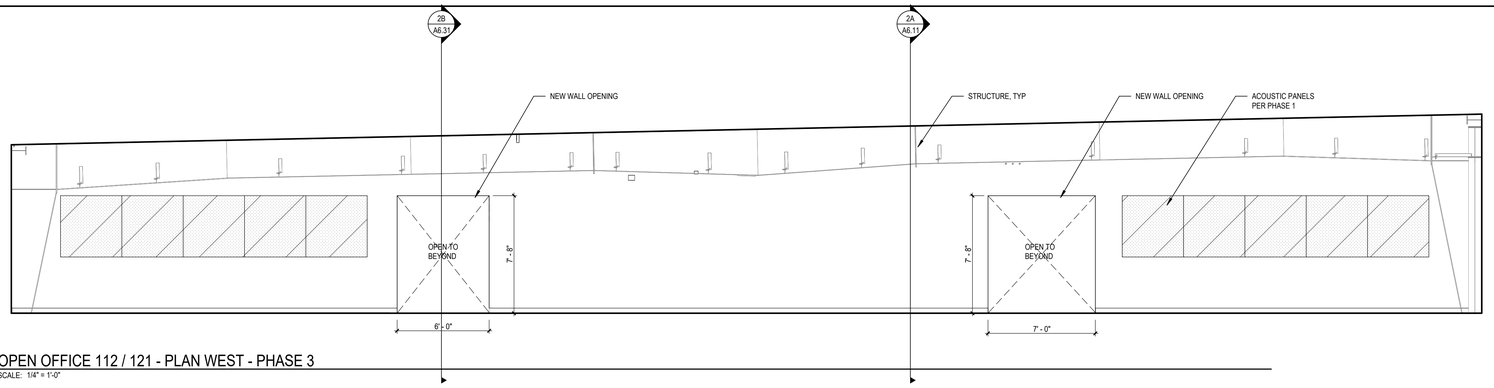
REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

INTERIOR ELEVATIONS - AREA C
SCALE: 1/4" = 1'-0"

SHEET NUMBER:
A10.33
PHASE: BUILDING PERMIT DOCUMENTS



1A / A10.34 OPEN OFFICE 112 / 121 - PLAN WEST - PHASE 3

SCALE: 1/4" = 1'-0"

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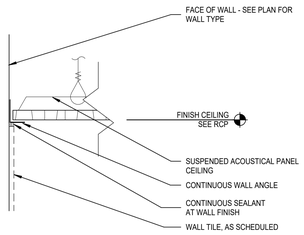
PROJ. NO. 43-25105-00

INTERIOR ELEVATIONS - AREA C

SCALE: 1/4" = 1'-0"

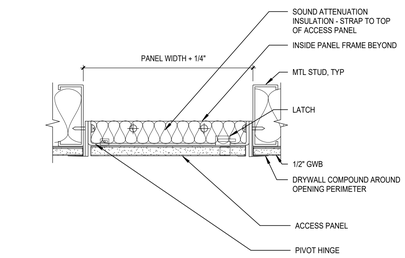
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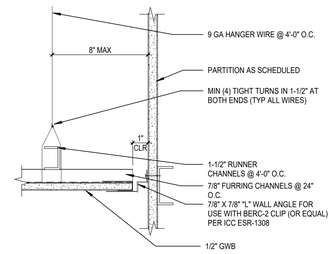


4A A11.01 APC PERIMETER @ WALL TILE
SCALE: 3" = 1'-0"

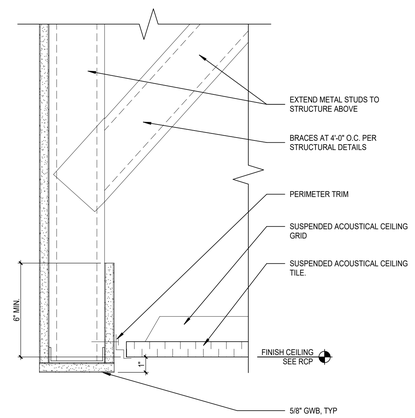
4B A11.01 TYP SUSP GWB PERIMETER JOINT
SCALE: 1 1/2" = 1'-0"



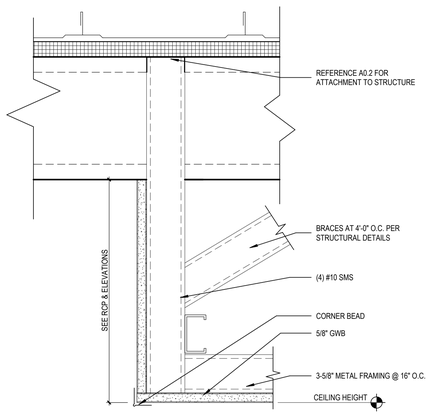
4C A11.01 CEILING ACCESS PANEL @ GYP. BD.
SCALE: 3" = 1'-0"



4D A11.01 GYP. BD. CEILING AT PERIMETER WALL
SCALE: 3" = 1'-0"



5B A11.01 GYPSUM BULKHEAD TO ACT CEILING
SCALE: 3" = 1'-0"



5C A11.01 GYP. BD. SOFFIT
SCALE: 3" = 1'-0"

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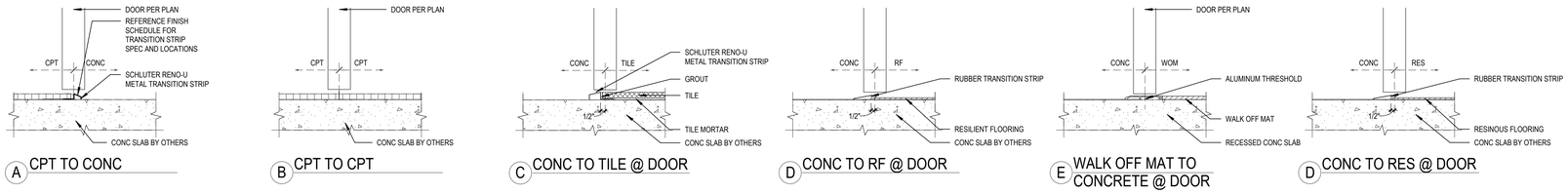
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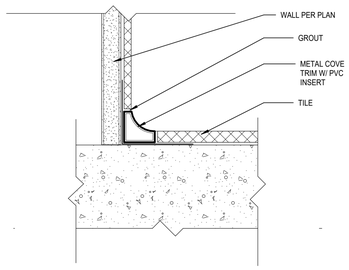
DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

CEILING DETAILS
SCALE: As indicated

SHEET NUMBER:
A11.01
PHASE: BUILDING PERMIT DOCUMENTS

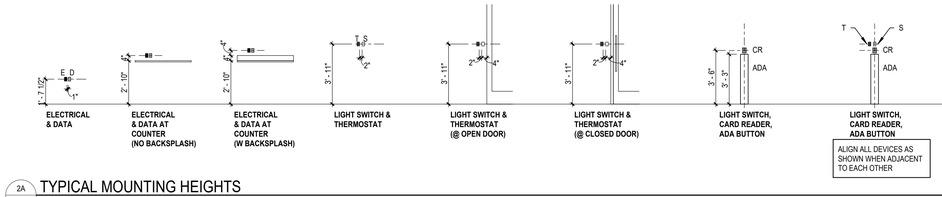


1A A11.02 TYP FLOORING TRANSITIONS
SCALE: 1 1/2" = 1'-0"

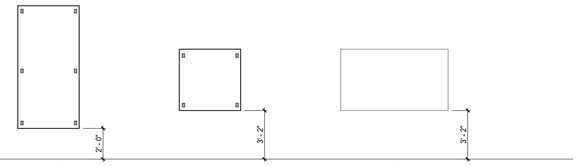


1E A11.02 CERAMIC TILE - COVED BASE AT SHOWERS
SCALE: 6" = 1'-0"

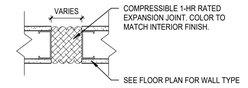
ELECTRICAL & DATA MOUNTING HEIGHTS



CONFERENCING AND OPEN OFFICE MOUNTING HEIGHTS



2A A11.02 TYPICAL MOUNTING HEIGHTS
SCALE: 1/4" = 1'-0"



2F A11.02 EXPANSION JOINT/1-HR FIRE BARRIER
SCALE: 1 1/2" = 1'-0"

5D A11.02 TYPICAL BLOCKING IN FRAME WALLS
SCALE: 1 1/2" = 1'-0"

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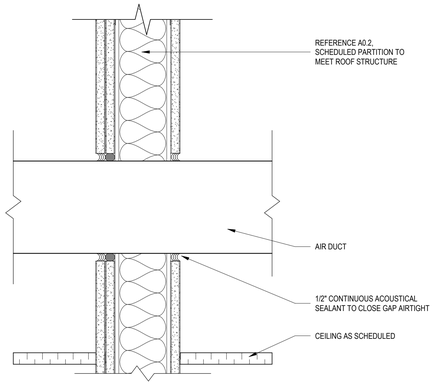
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

INTERIOR DETAILS
SCALE: As indicated

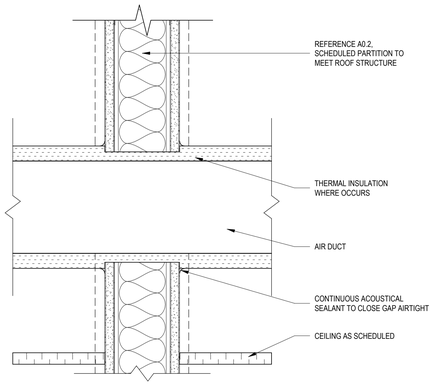
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A11.02
PHASE: BUILDING PERMIT DOCUMENTS



NOTES

1. PENETRATIONS OF ACOUSTICAL PARTITIONS BY DUCTWORK SHALL BE ACOUSTICALLY SEALED AS SHOWN.
2. ANY GAP LARGER THAN 1/2" SHALL BE COVERED WITH GYPSUM BOARD, LAPPED A MINIMUM OF 2" AND SCREWED BEFORE USING ACOUSTICAL SEALANT.
3. NO RIGID CONTACT BETWEEN SHEET METAL AND GYPSUM BOARD OR WALL FRAMING

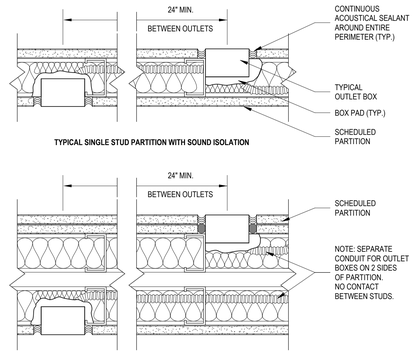
1A DUCT PENETRATION SINGLE STUD WALL (TYP.)
A11.03 SCALE: 3" = 1'-0"



NOTES

1. PENETRATIONS OF ACOUSTICAL PARTITIONS BY DUCTWORK SHALL BE ACOUSTICALLY SEALED AS SHOWN.
2. ANY GAP LARGER THAN 1/2" SHALL BE COVERED WITH GYPSUM BOARD, LAPPED A MINIMUM OF 2" AND SCREWED BEFORE USING ACOUSTICAL SEALANT.
3. NO RIGID CONTACT BETWEEN SHEET METAL AND GYPSUM BOARD OR WALL FRAMING

1B DUCT PENETRATION SINGLE STUD WALL (TYP.)
A11.03 SCALE: 3" = 1'-0"



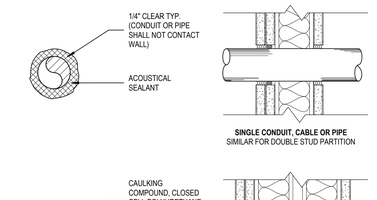
TYPICAL SINGLE STUD PARTITION WITH SOUND ISOLATION

TYPICAL DOUBLE STUD PARTITION WITH SOUND ISOLATION (SIMILAR FOR STAGGERED STUDS) APPLIES TO POWER, PHONE, LOW VOLTAGE, COMMUNICATIONS, ETC.

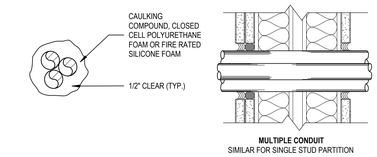
NOTES

1. PLACE OUTLET BOXES IN SEPARATE STUD SPACES.
2. BACK-TO-BACK OUTLETS NOT PERMITTED.
3. PLUG ALL UNUSED KNOCK-OUTS IN OUTLET BOXES WITH KNOCK-OUT CAPS.
4. PROVIDE BACKING EQUIVALENT TO "LOWRY'S" OUTLET BOX PADS (HARRY A. LOWRY & ASSOCIATES INC. (800) 225-8231)
5. DEPTH OF OUTLET BOX MUST BE COMPATIBLE WITH STUD SIZE IN ORDER TO ACCOMMODATE BOX PAD.
6. ACOUSTICAL BOX PAD REQUIREMENT APPLIES TO ALL PARTITIONS WITH ACOUSTICAL INSULATION.
7. USE OF MUD RINGS WITHOUT ELECTRICAL BOXES SHOULD NOT BE ALLOWED.
8. BOX PAD SHALL BE: MANUFACTURED BY 3M, NELSON, OR EQUAL AND PROVIDE A 2 HOUR RATING. ACCORDANCE WITH: UL 263 & US 1479 ASTM E814

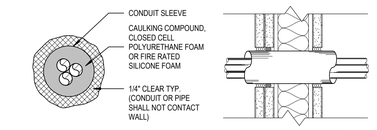
1C BACKBOXES IN A STUD PARTITION
A11.03 SCALE: 3" = 1'-0"



SINGLE CONDUIT, CABLE OR PIPE
SIMILAR FOR DOUBLE STUD PARTITION



MULTIPLE CONDUIT
SIMILAR FOR SINGLE STUD PARTITION

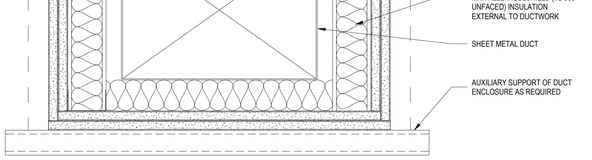


SLEEVE W/ MULTIPLE CABLES

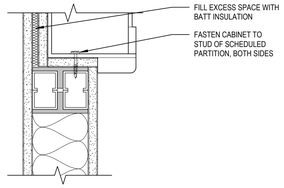
NOTES

1. PENETRATIONS OF ACOUSTICAL PARTITIONS BY, CONDUIT, CABLE, PIPES ETC. SHALL BE ACOUSTICALLY SEALED AS SHOWN. ANY GAP LARGER THAN 1/2" SHALL BE COVERED WITH GYPSUM BOARD, LAPPED A MINIMUM OF 2" AND SCREWED BEFORE USING ACOUSTICAL SEALANT. CABLE TRAYS SHOULD NOT PENETRATE SLAB-TO-SLAB PARTITIONS. A CONDUIT SLEEVE SHOULD BE USED AT SUCH PENETRATIONS AND SEALED AS SHOWN ON THIS DETAIL.
2. FLEXIBLE DUCT, PIPE, CONDUIT, ETC. CONNECTIONS SHOULD BE INCORPORATED BETWEEN ROOMS WHERE RESILIENTLY ISOLATED FLOORS, WALLS OR CEILING LIDS OCCUR.

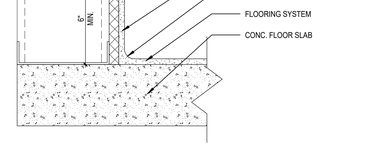
1D CABLE PENETRATIONS THROUGH STUD WALL
A11.03 SCALE: 3" = 1'-0"



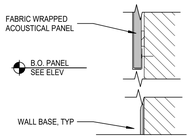
4A DUCT ENCLOSURE
A11.03 SCALE: 3" = 1'-0"



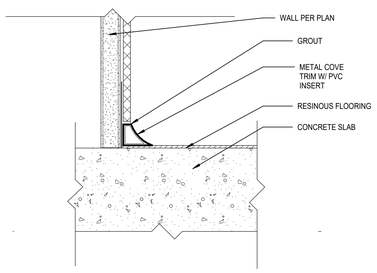
4B SEMI-RECESSED FIRE EXTINGUISHER
A11.03 SCALE: 3" = 1'-0"



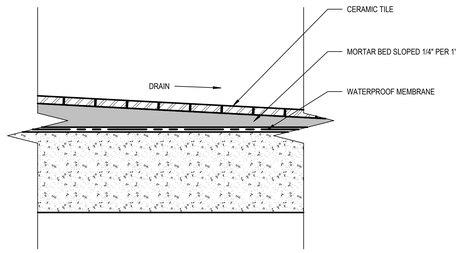
4C RESINOUS FLOOR COVE DETAIL
A11.03 SCALE: 3" = 1'-0"



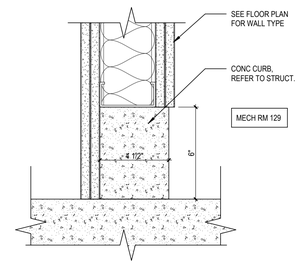
4D TYPICAL ACOUSTICAL PANEL MOUNTING DETAIL
A11.03 SCALE: 1 1/2" = 1'-0"



5A TILE - COVED TO RESINOUS FLOOR
A11.03 SCALE: 6" = 1'-0"



5B SLOPED MORTAR @ SHOWER DRAINS
A11.03 SCALE: 3" = 1'-0"



5D PARTITION BASE W/ CONC CURB DETAIL
A11.03 SCALE: 3" = 1'-0"

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STATE OF OKLAHOMA SCOTT D. SHEFFERMILLER A08960 LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

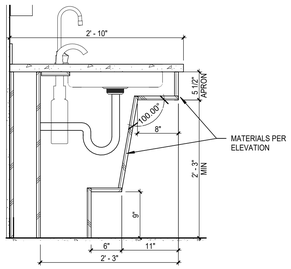
REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

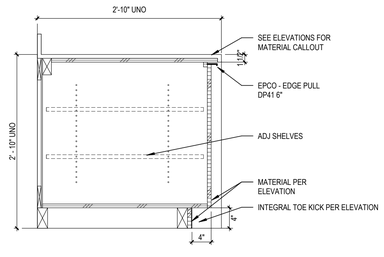
DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

INTERIOR DETAILS
SCALE: As indicated

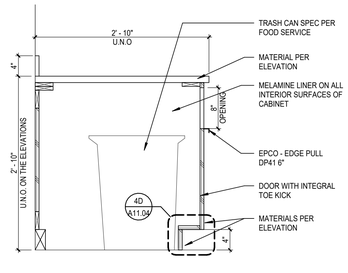
SHEET NUMBER:
A11.03
PHASE: BUILDING PERMIT DOCUMENTS



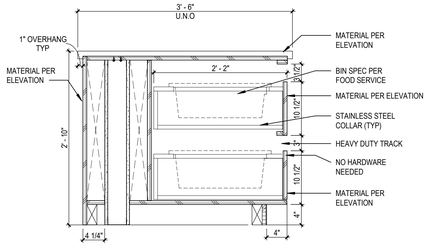
1A A11.04 MK COUNTER AT ADA SINK
SCALE: 1" = 1'-0"



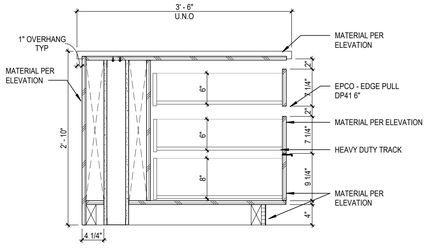
1B A11.04 TYP. ADJUSTABLE SHELF - CASEWORK
SCALE: 1" = 1'-0"



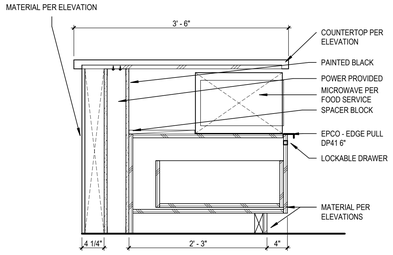
1C A11.04 MK BASE CABINET W/ TRASH BIN
SCALE: 1" = 1'-0"



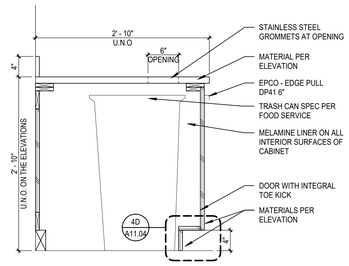
1D A11.04 MK BUSPAN DRAWER
SCALE: 1" = 1'-0"



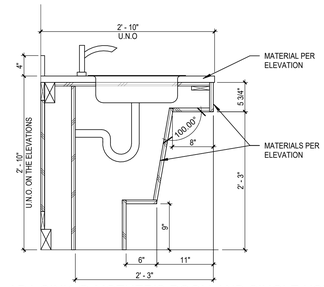
1E A11.04 TYP. SNACK/CUP DRAWER AT ISLAND
SCALE: 1" = 1'-0"



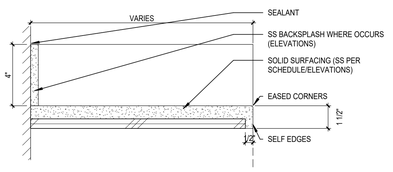
2A A11.04 TYP MK ISLAND @ MICROWAVE
SCALE: 1" = 1'-0"



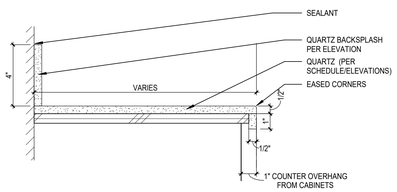
2B A11.04 MK BASE CABINET W/ TRASH BIN @ COFFEE MACHINE
SCALE: 1" = 1'-0"



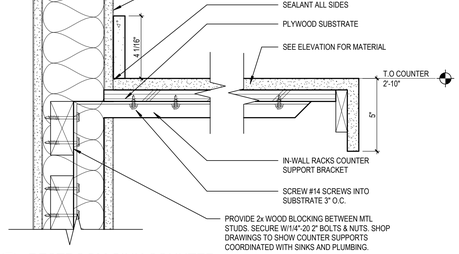
2C A11.04 ADA SINK @ MOTHER'S ROOM AND SINGLE USER RR
SCALE: 1" = 1'-0"



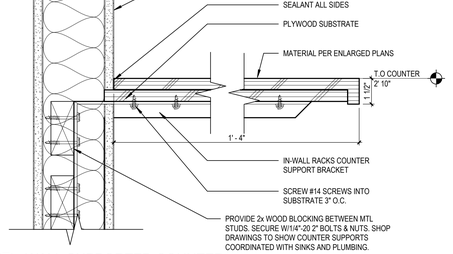
3A A11.04 SOLID SURFACE COUNTER - CHANGING ROOM
SCALE: 3" = 1'-0"



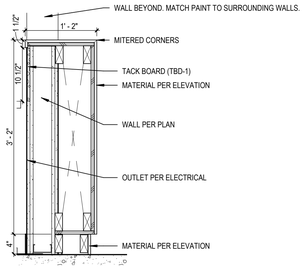
3B A11.04 QUARTZ COUNTER - TYP FOOD SPACE COUNTER
SCALE: 3" = 1'-0"



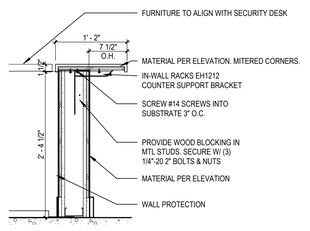
3C A11.04 RESTROOM SINK COUNTER
SCALE: 3" = 1'-0"



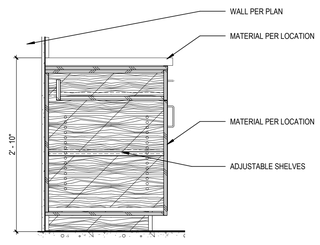
3D A11.04 WALL SUPPORTED COUNTER
SCALE: 3" = 1'-0"



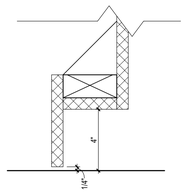
4A A11.04 SECURITY DESK - TRANSACTION COUTNER
SCALE: 1" = 1'-0"



4B A11.04 SECURITY DESK
SCALE: 1" = 1'-0"



4C A11.04 CABINET WITH DRAWER
SCALE: 1" = 1'-0"



4D A11.04 INTEGRATED TOE KICK @ BASE CABINET
SCALE: 3" = 1'-0"

CASEWORK & MILLWORK GENERAL NOTES

A. CASEWORK AND MILLWORK GENERAL NOTES APPLY TO ALL CASEWORK/MILLWORK SHEETS.
B. SEE ENLARGED MICRO KITCHEN SHEETS FOR EXTENTS OF CASEWORK.
C. ELEVATIONS DENOTED AS MILLWORK ARE SPECIFIED UNDER DIVISION 06. ALL OTHERS SHALL BE SPECIFIED UNDER DIVISION 12 SECTION, UNLESS NOTED OTHERWISE.
D. ALL BASE CABINETS TO BE 2'-0" DEEP UNITS, UNLESS NOTED OTHERWISE.
E. ALL SHELVING IN CASEWORK TO BE ADJUSTABLE SHELVING, UNLESS NOTED OTHERWISE.
F. WHERE PLUMBING OR ELECTRICAL DEVICES ARE LOCATED IN CASEWORK, CASEWORK CONTRACTOR SHALL PROVIDE OPENINGS. COORDINATE LOCATION AND QUANTITY WITH THE PLUMBING OR ELECTRICAL CONTRACTOR.
G. PROVIDE SEALANT AT ALL PERIMETER JOINTS WHERE COUNTERTOPS, BACK AND SIDE SPLASHES, CASEWORK AND MILLWORK ABUT WALLS.
H. FIELD VERIFY ALL DIMENSIONS OF CABINET LOCATIONS IN THE BUILDING PRIOR TO FABRICATION.
I. PROVIDE LOCKS WHERE INDICATED AT DOORS AND DRAWERS.
J. PROVIDE FINISHED ENDS AT ALL EXPOSED ENDS OF CASEWORK AND MILLWORK.
K. ALL EXPOSED SURFACES IN OPEN SHELVING SHALL BE PLASTIC LAMINATE COVERED.
L. SEE DETAIL 3/A11.4 FOR TYPICAL COUNTERTOP DETAIL.
M. SEE SHEET A12.0 FOR EQUIPMENT SCHEDULES

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STATE OF OKLAHOMA SCOTT D SHEFFMILLER A08960 LICENSED ARCHITECT

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRVD: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

CASEWORK DETAILS
SCALE: As indicated

SHEET NUMBER: A11.04
PHASE: BUILDING PERMIT DOCUMENTS

FINISH SCHEDULE - MASTER

TAG	DESCRIPTION	MANUFACTURER	PRODUCT	COLOR/FINISH	SIZE	COMMENTS
064116 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS						
PLAM-1	TYPICAL PLASTIC LAMINATE	FORMICA	WOODGRAIN HPL	MILENNIUM OAK - WOODBRUSH FINISH		
066400 PLASTIC PANELING						
FRP-1	BOH WALL PROTECTION	MARLITE STANDARD	FRP PANELING	S 100G WHITE	4' x 8'	UP TO 8' AFF @ KITCHEN BOH , FULL HEIGHT @ MK STORAGE
FRP-2	RR WET WALL & CAFE DISH DROP WALL PROTECTION	MARLITE STANDARD	FRP PANELING	S 490N LIGHT GREY	4' x 8'	UP TO 5' AFF, UNO
TR-3	METAL EDGING STRIP	SCHLUTER	SCHIENE	STAINLESS STEEL		FOR USE WITH FRP-1 AND FRP2 @ FRP TO PAINTED GYP TRANSITION
081416 FLUSH WOOD DOORS						
WD-1	TYPICAL WOOD		FINISH GRADE WHITE OAK	TO MATCH CONTROL SAMPLE		CONFIRM WOOD SOURCING PER DIV 01 81 17
093013 CERAMIC TILING						
GT-1	TILE GROUT	LATICRETE	PERMACOLOR GROUT	34 SANDSTONE		
TL-1	WALL TILE - FOODSPACE	FIRECLAY	ORIGINAL CERAMIC	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY	3" X 6"	UP TO 5' 6" AFF
TL-2	WALL TILE - SHOWERS	DALTILE	COLOR WHEEL CLASSIC	0100 WHITE	3" X 6" ; 5/16" THICKNESS	
TL-3	FLOOR TILE - SHOWERS	DALTILE	KEYSTONES	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY	1"X1" OR 2"X2"	
TR-2	METAL EDGING STRIP	SCHLUTER	JOLLY	STAINLESS STEEL		FOR USE WITH TL-1 AND TL-2
095113 ACOUSTICAL PANEL CEILINGS						
ACT-1	STANDARD CEILING TILE	ARMSTRONG CEILINGS	LYRA PB	WHITE	24" X 24"	
ACT-2	KITCHEN ACOUSTIC CEILING TILES	ARMSTRONG CEILINGS	ULTIMA HEALTHZONE	WHITE	24" X 24"	
096513 RESILIENT BASE AND ACCESSORIES						
RB-1	TYPICAL RESILIENT BASE	JOHNSONITE	BASEWORKS RUBBER BASE	29 MOON ROCK	4"	
096516 RESILIENT SHEET FLOORING						
RF-1	RESILIENT FLOORING	NORTHWEST RUBBER	ULTIMATE SERIES	COCOA/EGGSHELL	8MM THICK	
096723 RESINOUS FLOORING						
CONC-2	CONCRETE FINISHING	UNITED STATIC CONTROL PRODUCTS	ELECTRASEAL STATIC CONTROL CONCRETE SEALER			
RES-1	BOH RESINOUS FLOORING AND COVE BASE	STONHARD	LIQUID ELEMENTS	PEWTER-GATE		
096813 TILE CARPETING						
CPT-1	STUDIO CARPET	INTERFACE	MODULAR CARPET TILE, BACKING: CQUESTBIO	TOKYO TEXUTRE ; SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY	25CM X1M, MONOLITHIC INSTALLATION	
CPT-2	OFFICE/CONFERENCE ROOM CARPET	INTERFACE	MODULAR CARPET TILE, BACKING: CQUESTBIO	SASHIKO STITCH ; SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY	25CM X 1M, MONOLITHIC INSTALLATION	
TR-1	METAL TRANSITION STRIP	SCHLUTER	RENO-U	STAINLESS STEEL		FOR USE AT TRANSITION FROM CONC TO ADJACENT FLOORING
WOM-1	MODULAR WALK OFF MAT TILE AT TYPICAL OUTDOOR ENTRIES	INTERFACE	STEP REPEAT COLLECTION SR699	GRANITE 104931	50CMX50XM - .348" THICK	
097200 WALL COVERING						
WC-1	WALL COVERING @ MOTHERS ROOM	WOLF GORDON	HUGO - VINYL WALLCOVERING	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY	52" WIDTH	REVERSE HANG, RANDOM MATCH
098400 ACOUSTIC ROOM COMPONENTS						
ACP-A	ACOUSTIC CEILING PANELS	FSORB	FLOATING CEILING PANELS	TAN	4' X 8' X 2"	
ACP-B	ACOUSTIC CEILING PANELS	FSORB	FLOATING CEILING PANELS	TAN	4' X 4' X 2"	
098433 SOUND-ABSORBING WALL UNITS						
AWP-1	ACOUSTIC WALL PANEL - CONFERENCE	FSORB	1/2" PANEL	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY	4' X 8' X 1/2"	CUT TO SIZE PER ELEVATION
AWP-2	ACOUSTIC WALL PANEL - OPEN OFFICE	FSORB	1/2" PANEL	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY	4' X 8' X 1/2"	CUT TO SIZE PER ELEVATION
AWP-3	ACOUSTIC WALL PANEL - OPEN OFFICE	FSORB	1/2" PANEL	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY	4' X 8' X 1/2"	CUT TO SIZE PER ELEVATION
099123 INTERIOR PAINTING						
PT-1	FIELD PAINT	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	CLOUD COVER OC-25 ; EGGSHELL FINISH (OR SATIN)		
PT-2	FIELD PAINT 2	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY ; EGGSHELL FINISH (OR SATIN)		
PT-3	CONFERENCE ROOM PAINT	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY ; EGGSHELL FINISH (OR SATIN)		
PT-4	ACCENT PAINT	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY ; EGGSHELL FINISH (OR SATIN)		ADD ADDITIONAL ACCENT PAINTS PER LOCATION IF DESIRED
PT-5	FOOD SAFE PAINT - BOH	BENJAMIN MOORE	V341 Corotech Waterborne Epoxy	CLOUD COVER OC-25		
PT-6	RESTROOM PAINT	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY ; EGGSHELL FINISH (OR SATIN)		
PT-7	HM DOORS AND TRIM	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	IRON MOUNTAIN 2134-30 ; EGGSHELL FINISH (OR SATIN)		
099600 HIGH-PERFORMANCE COATINGS						
CONC-1	CONCRETE FINISHING	PROSOCO	LS SEALER			
101100 VISUAL DISPLAY SURFACES						
TBD-1	TACKABLE SURFACE - SECURITY DESK	FORBO	BULLETIN BOARD	2206 OYSTER SHELL	.24" THICK	FOR USE AT SECURITY DESK
102600 WALL AND DOOR PROTECTION						
CGD-1	TYPICAL CORNER GUARD	INPRO	1 1/2" STAINLESS STEEL CORNER GUARD	STAINLESS STEEL	.5" THICK ; 5' TALL	
102800 TOILET, BATH, AND LAUNDRY ACCESSORIES						
DR-1	SHOWER CURTAIN	MAHARAM	MIST	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY		
122413 ROLLER WINDOW SHADES						
DR-2	WINDOW SHADES	MERMET	E SCREEN - 3% OPENNESS	PEARL/PEARL	FIELD MEASURE	
DR-3	WINDOW SHADES	MERMET	FLOCKE - BLACKOUT	CHARTREUX	FIELD MEASURE	FOR USE AT PHASE 2 FLEX SPACE
123661.16 SOLID SURFACING COUNTERTOPS						
SS-1	SOLID SURFACE AT RESTROOM SINKS AND MOTHER'S ROOM	CORIAN	SOLID SURFACE	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY		
123661.19 QUARTZ AGGLOMERATE COUNTERTOPS						
QZ-1	QUARTZ COUNTERS AT MK, CAFE, AND SECURITY	CAMBRIA	NATURAL QUARTZ	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY		

EQUIPMENT SCHEDULE_TI

TAG	EQUIPMENT	MNFR + MODEL	DIMS (W X D X H)	PLUMBING	RECEPTACLE	NOTES	PHASE 01	PHASE 02
1	SOAP DISPENSER - COUNTER MOUNTED	RUBBERMAID FG402241 ONE SHOT			•	RESTROOMS AND MOTHER'S ROOM SINK. RIGHT SIDE OF EACH SINK. DISTANCE FROM SINK PER MNFR. TO BE ORDERED WITH A/C ADAPTER.	•	•
2	SHOWER CURTAIN HOOKS	BOBRICK B-204-1				STAINLESS STEEL	•	•
3	SHOWER CURTAIN ROD	BRADLEY 9539				REFER TO ENLARGED PLAN FOR LENGTH	•	•
4	SHOWER DISPENSERS	DIAL HYGIENE SERIES, 1000mL	5.25" x 4" x 12.5"			3 PER SHOWER, 1" SPACING	•	•
5	SHOWER SEAT	TEAKWORKS4U TBFZ-300225W	30" x 22" x 18"			MOUNTED AT 18" AFF. REFER TO PLANS FOR LEFT OR RIGHT-HAND MODEL.	•	•
6	GRAB BAR - TWO WALL SHOWER UNIT - W/ SNAP FLANGE	BOBRICK B-6861	1-1/2" DIA.			SS SATIN	•	•
7	LAUNDRY LOCKER	MAXI LAUNDRY TOWEL DROP - LF-LDM-GRY	24" x 24" x 81"			LOCKER ROOMS	•	•
8	MOTHER'S ROOM REFRIGERATOR	SUMMIT AL652BKBISSTB			•	SS SATIN	•	
9	MOTHER'S ROOM TABLETOP TOWEL DISPENSER	H-4450W				WHITE	•	
10	WASHER / DRYER - STACKABLE	CROSSOVER WDSEM ELECTRIC		•	•	ABLE TO HAVE NON-COIN OPERATED USE (OR SIMILAR)		•
11	LAUNDRY FOLDING TABLE	SOLOMATIC TFD-245 (OR SIMILAR)	24" X 60"			WHITE		•
GB-1	GRAB BAR - HORIZONTAL - W/ SNAP FLANGE	BOBRICK B-6806x36	1-1/2" DIA.			SS SATIN	•	•
GB-2	GB-2: GRAB BAR - HORIZONTAL - W/ SNAP FLANGE	BOBRICK B-6806x42	1-1/2" DIA.			SS SATIN	•	•
GB-3	GRAB BAR - VERTICAL - W/ SNAP FLANGE	BOBRICK B-6806x18	1-1/2" DIA.			SS SATIN	•	•
MB-3	WALL MOUNT WHITEBOARD	CLARIDGE LCS DELUXE PORCELAIN WHITEBOARD	36"W x 48"H			MAGNETIC WITH FRAME AND MOUNTING HARDWARE	•	•
MB-6	WALL MOUNT WHITEBOARD	CLARIDGE LCS DELUXE PORCELAIN WHITEBOARD	72"W x 48"H			MAGNETIC WITH FRAME AND MOUNTING HARDWARE	•	•
MB-8	WALL MOUNT WHITEBOARD	CLARIDGE LCS DELUXE PORCELAIN WHITEBOARD	96"W x 48"H			MAGNETIC WITH FRAME AND MOUNTING HARDWARE	•	•
MR	FRAMELESS MIRROR	VITRO PLATIA MIRRORED GLASS	36" H			REFER TO ELEVATIONS FOR LENGTH	•	•
PTD	AUTOMATIC PAPER TOWEL DISPENSER	GEORGIA PACIFIC 59466	13.5" x 7.75" x 16.48"			MKS AND RESTROOMS	•	•
PTD/R	RECESSED PAPER TOWEL DISPENSER / WASTE RECEPTACLE	BOBRICK B-369	14" x 28" x 4" MIN			BOH RESTROOM		•
RH	ROBE HOOK	BOBRICK B-671				2 PER SHOWER, MOUNTED ON SAME WALL AS SHOWER HEAD	•	•
SCD	TOILET COVER DISPENSER - RECESSED	BOBRICK B-3013				STAINLESS STEEL	•	•
SD	SOAP DISPENSER - WALL MOUNTED	RUBBERMAID AUTOFOAM WITH LUMECEL	5-7/8" x 5-7/8" x 12"			MKS RECHARGABLE ENERGY CELL	•	•
SND	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL	BOBRICK B-254				STAINLESS STEEL	•	•
SNDR	RECESSED SANITARY NAPKIN DISPOSAL	BOBRICK B-35303				STAINLESS STEEL	•	•
TPD	TOILET PAPER DISPENSER	GEORGIA PACIFIC COMPACT 2-ROLL SIDE-BY-SIDE CORELESS HIGH CAPACITY				COMPACT 2-ROLL SIDE-BY-SIDE CORELESS HIGH CAPACITY TPD	•	•
WR	RECESSED TRASH UNIT (PAIRED W RECESSED PAPER TOWEL DISPENSER)	GEORGIA PACIFIC 59491	17.25" x 8" x 56"			PAIRED WITH AUTOMATIC PAPER TOWEL DISPENSER (KEYNOTE 13)	•	•

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STATE OF OKLAHOMA
SCOTT D. SHEFFER MILLER
A08960
LICENSED ARCHITECT
SCOTT D.

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

INTERIORS SCHEDULES, SPECIFICATIONS, & NOTES - MASTER SCHEDULE
SCALE:

SHEET NUMBER:
A12.01
PHASE: BUILDING PERMIT DOCUMENTS

FINISH SCHEDULE E

TAG	DESCRIPTION	MANUFACTURER	PRODUCT	COLOR/FINISH	SIZE	COMMENTS
064116 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS						
PLAM-1	TYPICAL PLASTIC LAMINATE	FORMICA	WOODGRAIN HPL	MILENNIUM OAK - WOODBRUSH FINISH		
066400 PLASTIC PANELING						
FRP-1	BOH WALL PROTECTION	MARLITE STANDARD	FRP PANELING	S 100G WHITE	4' x 8'	UP TO 8' AFF @ KITCHEN BOH , FULL HEIGHT @ MK STORAGE
FRP-2	RR WET WALL & CAFE DISH DROP WALL PROTECTION	MARLITE STANDARD	FRP PANELING	S 490N LIGHT GREY	4' x 8'	UP TO 5' AFF, UNO
TR-3	METAL EDGING STRIP	SCHLUTER	SCHIENE	STAINLESS STEEL		FOR USE WITH FRP-1 AND FRP2 @ FRP TO PAINTED GYP TRANSITION
081416 FLUSH WOOD DOORS						
WD-1	TYPICAL WOOD		FINISH GRADE WHITE OAK	TO MATCH CONTROL SAMPLE		CONFIRM WOOD SOURCING PER DIV 01 81 17
093013 CERAMIC TILING						
GT-1	TILE GROUT	LATICRETE	PERMACOLOR GROUT	34 SANDSTONE		
TL-1	WALL TILE - FOODSPACE	FIRECLAY	ORIGINAL CERAMIC	RED ROCK	3" X 6"	UP TO 5' 6" AFF
TL-2	WALL TILE - SHOWERS	DALTILE	COLOR WHEEL CLASSIC	0100 WHITE	3" X 6" ; 5/16" THICKNESS	
TL-3	FLOOR TILE - SHOWERS	DALTILE	KEYSTONES	SEE PALETTE OPTION FINISH SCHEDULES FOR COLORWAY	1"X1" OR 2"X2"	
TR-2	METAL EDGING STRIP	SCHLUTER	JOLLY	STAINLESS STEEL		FOR USE WITH TL-1 AND TL-2
095113 ACOUSTICAL PANEL CEILINGS						
ACT-1	STANDARD CEILING TILE	ARMSTRONG CEILINGS	LYRA PB	WHITE	24" X 24"	
ACT-2	KITCHEN ACOUSTIC CEILING TILES	ARMSTRONG CEILINGS	ULTIMA HEALTHZONE	WHITE	24" X 24"	
096513 RESILIENT BASE AND ACCESSORIES						
RB-1	TYPICAL RESILIENT BASE	JOHNSONITE	BASEWORKS RUBBER BASE	29 MOON ROCK	4"	
096516 RESILIENT SHEET FLOORING						
RF-1	RESILIENT FLOORING	NORTHWEST RUBBER	ULTIMATE SERIES	COCOA/EGGSHELL	8MM THICK	
096723 RESINOUS FLOORING						
CONC-2	CONCRETE FINISHING	UNITED STATIC CONTROL PRODUCTS	ELECTRASEAL STATIC CONTROL CONCRETE SEALER			
RES-1	BOH RESINOUS FLOORING AND COVE BASE	STONHARD	LIQUID ELEMENTS	PEWTER-GATE		
096813 TILE CARPETING						
CPT-1	STUDIO CARPET	INTERFACE	MODULAR CARPET TILE, BACKING: CQUESTBIOX	TOKYO TEXUTRE ; 106625 SHADE	25CM X1M, HERRINGBONE INSTALLATION	
CPT-2	OFFICE/CONFERENCE ROOM CARPET	INTERFACE	MODULAR CARPET TILE, BACKING: CQUESTBIO	SASHIKO STITCH ; 106617 POPPY	25CM X 1M, ASHLAR INSTALLATION	
TR-1	METAL TRANSITION STRIP	SCHLUTER	RENO-U	STAINLESS STEEL		FOR USE AT TRANSITION FROM CONC TO ADJACENT FLOORING
WOM-1	MODULAR WALK OFF MAT TILE AT TYPICAL OUTDOOR ENTRIES	INTERFACE	STEP REPEAT COLLECTION SR699	GRANITE 104931	50CMX50XM - .348" THICK	
097200 WALL COVERING						
WC-1	WALL COVERING @ MOTHERS ROOM	WOLF GORDON	HUGO - VINYL WALLCOVERING	HUG 3317 TAWNY	52" WIDTH	REVERSE HANG, RANDOM MATCH
098400 ACOUSTIC ROOM COMPONENTS						
ACP-A	ACOUSTIC CEILING PANELS	FSORB	FLOATING CEILING PANELS	TAN	4' X 8' X 2"	
ACP-B	ACOUSTIC CEILING PANELS	FSORB	FLOATING CEILING PANELS	TAN	4' X 4' X 2"	
098433 SOUND-ABSORBING WALL UNITS						
AWP-1	ACOUSTIC WALL PANEL - CONFERENCE	FSORB	1/2" PANEL	FS-690 OCEAN BLUE	4' X 8' X 1/2"	
AWP-2	ACOUSTIC WALL PANEL - OPEN OFFICE	FSORB	1/2" PANEL	FS-160 GREY	4' X 8' X 1/2"	
AWP-3	ACOUSTIC WALL PANEL - OPEN OFFICE	FSORB	1/2" PANEL	FS-810 CHESTNUT	4' X 8' X 1/2"	
099123 INTERIOR PAINTING						
PT-1	FIELD PAINT	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	CLOUD COVER OC-25 ; EGGSHELL FINISH (OR SATIN)		
PT-2	FIELD PAINT 2	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	COUGAR BROWN 2106-40		
PT-3	CONFERENCE ROOM PAINT	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	SIENNA 2092-20		
PT-4	ACCENT PAINT	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	SLATE BLUE 1648		ADD ADDITIONAL ACCENT PAINTS PER LOCATION IF DESIRED
PT-5	FOOD SAFE PAINT - BOH	BENJAMIN MOORE	V341 Corotech Waterborne Epoxy	CLOUD COVER OC-25		
PT-6	RESTROOM PAINT	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	BAKER'S DOZEN 1216		
PT-7	HM DOORS AND TRIM	BENJAMIN MOORE	ULTRA SPEC 500 PAINT	IRON MOUNTAIN 2134-30 ; EGGSHELL FINISH (OR SATIN)		
099600 HIGH-PERFORMANCE COATINGS						
CONC-1	CONCRETE FINISHING	PROSOCO	LS SEALER			
101100 VISUAL DISPLAY SURFACES						
TBD-1	TACKABLE SURFACE - SECURITY DESK	FORBO	BULLETIN BOARD	2206 OYSTER SHELL	.24" THICK	FOR USE AT SECURITY DESK
102600 WALL AND DOOR PROTECTION						
CGD-1	TYPICAL CORNER GUARD	INPRO	1 1/2" STAINLESS STEEL CORNER GUARD	STAINLESS STEEL	.5" THICK ; 5' TALL	
102800 TOILET, BATH, AND LAUNDRY ACCESSORIES						
DR-1	SHOWER CURTAIN	MAHARAM	MIST	511524-021 SPOUT		
122413 ROLLER WINDOW SHADES						
DR-2	WINDOW SHADES	MERMET	E SCREEN - 3% OPENNESS	PEARL/PEARL	FIELD MEASURE	
DR-3	WINDOW SHADES	MERMET	FLOCKE - BLACKOUT	CHARTREUX	FIELD MEASURE	FOR USE AT PHASE 2 FLEX SPACE
123661.16 SOLID SURFACING COUNTERTOPS						
SS-1	SOLID SURFACE AT RESTROOM SINKS AND MOTHER'S ROOM	CORIAN	SOLID SURFACE	JUNIPER		
123661.19 QUARTZ AGGLOMERATE COUNTERTOPS						
QZ-1	QUARTZ COUNTERS AT MK, CAFE, AND SECURITY	CAMBRIA	NATURAL QUARTZ	CARRICK		

EQUIPMENT SCHEDULE_TI

TAG	EQUIPMENT	MNFR + MODEL	DIMS (W X D X H)	PLUMBING	RECEPTACLE	NOTES	PHASE 01	PHASE 02
1	SOAP DISPENSER - COUNTER MOUNTED	RUBBERMAID FG402241 ONE SHOT			•	RESTROOMS AND MOTHER'S ROOM SINK. RIGHT SIDE OF EACH SINK. DISTANCE FROM SINK PER MNFR. TO BE ORDERED WITH A/C ADAPTER.	•	•
2	SHOWER CURTAIN HOOKS	BOBRICK B-204-1				STAINLESS STEEL	•	•
3	SHOWER CURTAIN ROD	BRADLEY 9539				REFER TO ENLARGED PLAN FOR LENGTH	•	•
4	SHOWER DISPENSERS	DIAL HYGIENE SERIES, 1000mL	5.25" x 4" x 12.5"			3 PER SHOWER, 1" SPACING	•	•
5	SHOWER SEAT	TEAKWORKS4U TBF2-300225W	30" x 22" x 18"			MOUNTED AT 18" AFF. REFER TO PLANS FOR LEFT OR RIGHT-HAND MODEL.	•	•
6	GRAB BAR - TWO WALL SHOWER UNIT - W/ SNAP FLANGE	BOBRICK B-6861	1-1/2" DIA.			SS SATIN	•	•
7	LAUNDRY LOCKER	MAXI LAUNDRY TOWEL DROP - LF-LDM-GRY	24" x 24" x 81"			LOCKER ROOMS	•	•
8	MOTHER'S ROOM REFRIGERATOR	SUMMIT AL652BKBISSTB			•	SS SATIN	•	
9	MOTHER'S ROOM TABLETOP TOWEL DISPENSER	H-4450W				WHITE	•	
10	WASHER / DRYER - STACKABLE	CROSSOVER WDSEM ELECTRIC		•	•	ABLE TO HAVE NON-COIN OPERATED USE (OR SIMILAR)		•
11	LAUNDRY FOLDING TABLE	SOLOMATIC TFD-245 (OR SIMILAR)	24" X 60"			WHITE		•
GB-1	GRAB BAR - HORIZONTAL - W/ SNAP FLANGE	BOBRICK B-6806x36	1-1/2" DIA.			SS SATIN	•	•
GB-2	GB-2: GRAB BAR - HORIZONTAL - W/ SNAP FLANGE	BOBRICK B-6806x42	1-1/2" DIA.			SS SATIN	•	•
GB-3	GRAB BAR - VERTICAL - W/ SNAP FLANGE	BOBRICK B-6806x18	1-1/2" DIA.			SS SATIN	•	•
MB-3	WALL MOUNT WHITEBOARD	CLARIDGE LCS DELUXE PORCELAIN WHITEBOARD	36"W x 48"H			MAGNETIC WITH FRAME AND MOUNTING HARDWARE	•	•
MB-6	WALL MOUNT WHITEBOARD	CLARIDGE LCS DELUXE PORCELAIN WHITEBOARD	72"W x 48"H			MAGNETIC WITH FRAME AND MOUNTING HARDWARE	•	•
MB-8	WALL MOUNT WHITEBOARD	CLARIDGE LCS DELUXE PORCELAIN WHITEBOARD	96"W x 48"H			MAGNETIC WITH FRAME AND MOUNTING HARDWARE	•	•
MR	FRAMELESS MIRROR	VITRO PLATIA MIRRORED GLASS	36" H			REFER TO ELEVATIONS FOR LENGTH	•	•
PTD	AUTOMATIC PAPER TOWEL DISPENSER	GEORGIA PACIFIC 59466	13.5" x 7.75" x 16.48"			MKS AND RESTROOMS	•	•
PTD/R	RECESSED PAPER TOWEL DISPENSER / WASTE RECEPTACLE	BOBRICK B-369	14" x 28" x 4" MIN			BOH RESTROOM		•
RH	ROBE HOOK	BOBRICK B-671				2 PER SHOWER, MOUNTED ON SAME WALL AS SHOWER HEAD	•	•
SCD	TOILET COVER DISPENSER - RECESSED	BOBRICK B-3013				STAINLESS STEEL	•	•
SD	SOAP DISPENSER - WALL MOUNTED	RUBBERMAID AUTOFOAM WITH LUMECEL	5-7/8" x 5-7/8" x 12"			MKS RECHARGABLE ENERGY CELL	•	•
SND	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL	BOBRICK B-254				STAINLESS STEEL	•	•
SNDR	RECESSED SANITARY NAPKIN DISPOSAL	BOBRICK B-35303				STAINLESS STEEL	•	•
TPD	TOILET PAPER DISPENSER	GEORGIA PACIFIC COMPACT 2-ROLL SIDE-BY-SIDE CORELESS HIGH CAPACITY				COMPACT 2-ROLL SIDE-BY-SIDE CORELESS HIGH CAPACITY TPD	•	•
WR	RECESSED TRASH UNIT (PAIRED W RECESSED PAPER TOWEL DISPENSER)	GEORGIA PACIFIC 59491	17.25" x 8" x 56"			PAIRED WITH AUTOMATIC PAPER TOWEL DISPENSER (KEYNOTE 13)	•	•

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A08560
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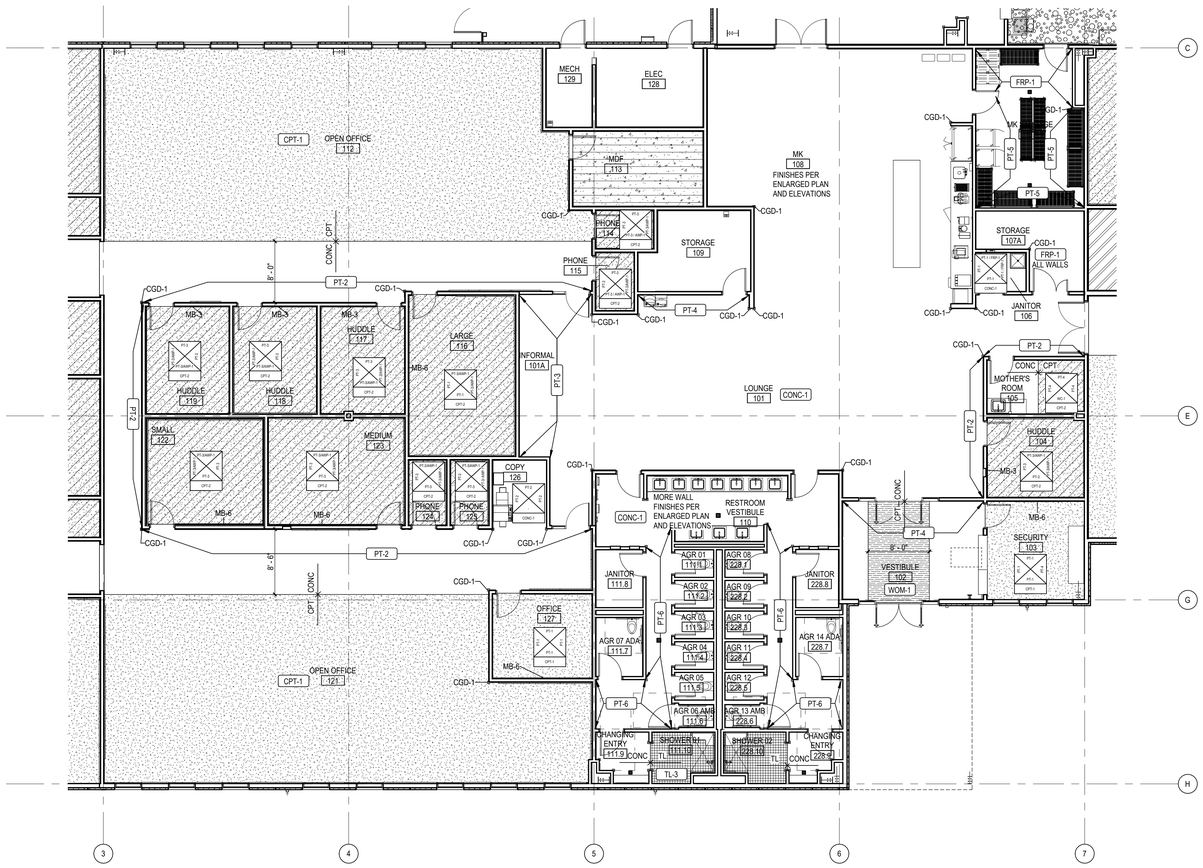
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PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

INTERIORS SCHEDULES, SPECIFICATIONS, & NOTES - PALETTE E
SCALE:

SHEET NUMBER:
A12.01E
PHASE: BUILDING PERMIT DOCUMENTS



FINISH PLAN - AREA A

SCALE: 1/8" = 1'-0"

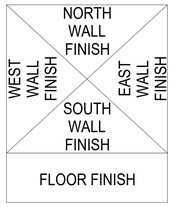
INTERIOR FINISH PLAN GENERAL NOTES

A. INTERIOR FINISH PLAN GENERAL NOTES APPLY TO ALL INTERIOR FINISH PLAN SHEETS.
B. NOT ALL FLOOR AND WALL FINISHES ARE NOTED ON THE INTERIOR FINISH PLANS. SEE ENLARGED PLANS AND ELEVATIONS FOR FINISHES NOT NOTED.
C. FOR FLOOR TILE PRODUCTS, ADJUST LAYOUT AS NECESSARY TO AVOID USING CUT WIDTHS THAT EQUAL LESS THEN ONE-HALF OF A TILE AT ROOM PERIMETER.
D. ALL EXPOSED STRUCTURE TO BE PAINTED PT-1.
E. PT-1 FOR WALLS WHEN NOT NOTED.
F. PAINT COLORS SHALL NOT TERMINATE AT AN OUTSIDE CORNER.
G. RB-1 TYP FLOOR BASE THROUGHOUT
H. REFER TO DETAIL 1A/11.2 FOR FLOORING TRANSITION DETAILS.

INTERIOR FINISH PLAN GENERAL NOTES

	SEALED CONCRETE	CONC-1
	ANTI-STATIC SEALED CONCRETE	CONC-2
	CARPET - TILE/PLANK	CPT-1
	CARPET - TILE/PLANK	CPT-2
	WALK OFF MAT	WOM-1
	RESINOUS FLOORING + COVED BASE	RES-1
	RESILIENT FLOORING	RF-1
	TILE FLOORING	TL-3

INTERIOR ROOM FINISH CUBE KEY



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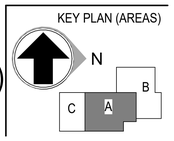
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KEY PLAN (AREAS)



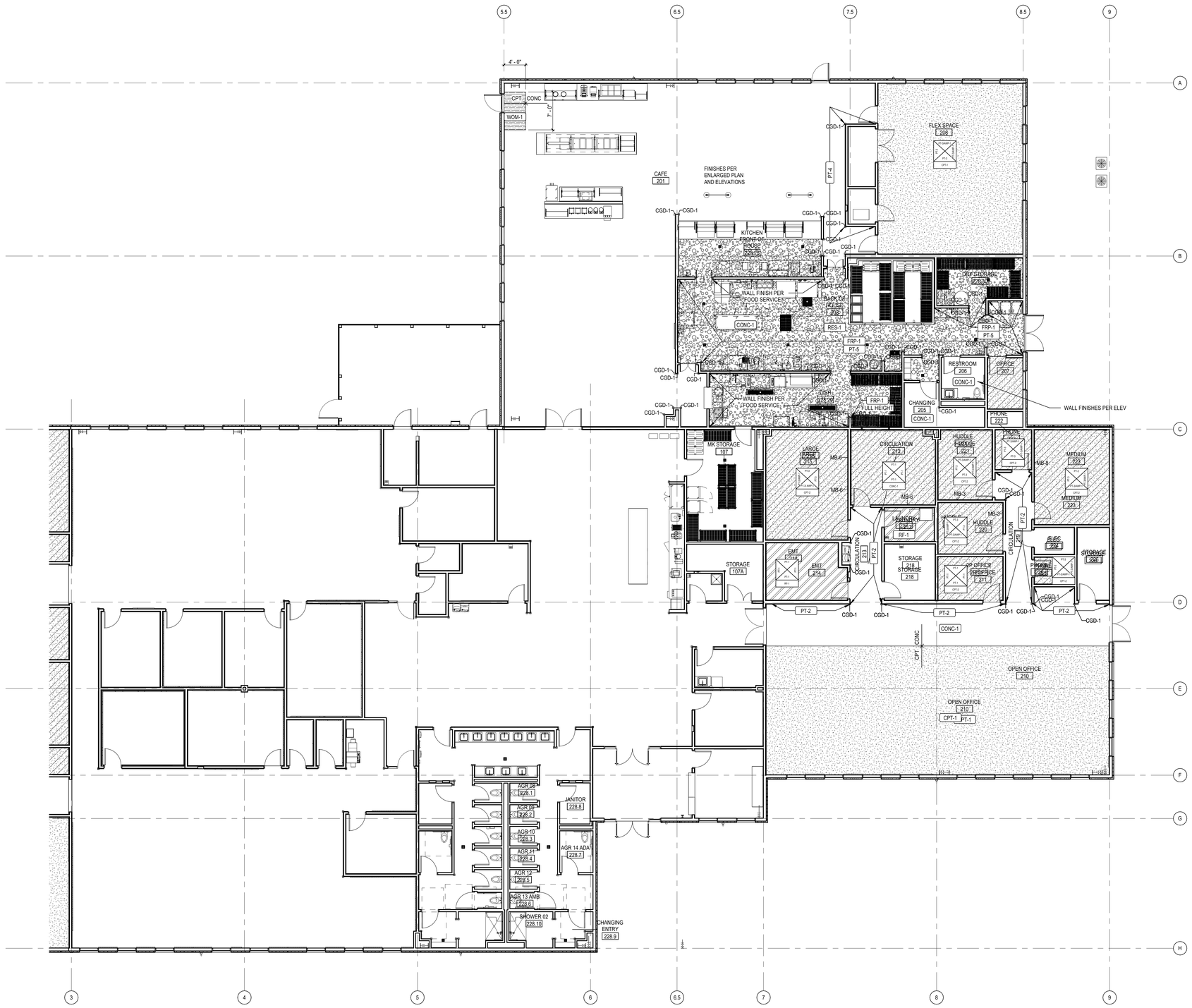
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NO.	DATE	DESCRIPTION

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APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

INTERIOR FINISH PLAN - AREA A
SCALE: 1/8" = 1'-0"

SHEET NUMBER:
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PHASE: BUILDING PERMIT DOCUMENTS



FINISH PLAN - AREA B

SCALE: 1/8" = 1'-0"

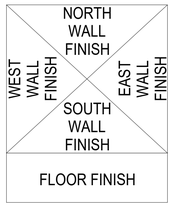
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H. REFER TO DETAIL 1A/11.2 FOR FLOORING TRANSITION DETAILS.

INTERIOR FINISH PLAN GENERAL NOTES

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	ANTI-STATIC SEALED CONCRETE	CONC-2
	CARPET - TILE/PLANK	CPT-1
	CARPET - TILE/PLANK	CPT-2
	WALK OFF MAT	WOM-1
	RESINOUS FLOORING + COVED BASE	RES-1
	RESILIENT FLOORING	RF-1
	TILE FLOORING	TL-3

INTERIOR ROOM FINISH CUBE KEY



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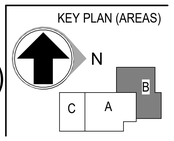
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KEY PLAN (AREAS)



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NO.	DATE	DESCRIPTION

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PROJECT ADDRESS:
TULSA COUNTY, OK

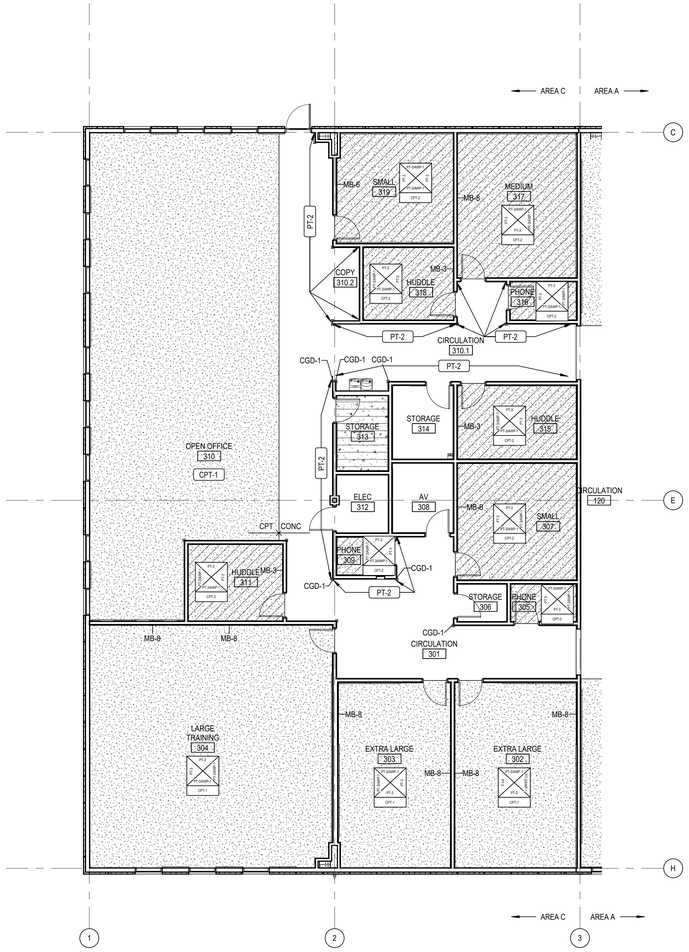
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INTERIOR FINISH PLAN - AREA B

SCALE: 1/8" = 1'-0"

SHEET NUMBER:
A12.21.0

PHASE: BUILDING PERMIT DOCUMENTS



FINISH PLAN - AREA C

SCALE: 1/8" = 1'-0"

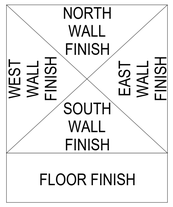
INTERIOR FINISH PLAN GENERAL NOTES

A. INTERIOR FINISH PLAN GENERAL NOTES APPLY TO ALL INTERIOR FINISH PLAN SHEETS.
B. NOT ALL FLOOR AND WALL FINISHES ARE NOTED ON THE INTERIOR FINISH PLANS. SEE ENLARGED PLANS AND ELEVATIONS FOR FINISHES NOT NOTED.
C. FOR FLOOR TILE PRODUCTS, ADJUST LAYOUT AS NECESSARY TO AVOID USING CUT WIDTHS THAT EQUAL LESS THEN ONE-HALF OF A TILE AT ROOM PERIMETER.
D. ALL EXPOSED STRUCTURE TO BE PAINTED PT-1.
E. PT-1 FOR WALLS WHEN NOT NOTED.
F. PAINT COLORS SHALL NOT TERMINATE AT AN OUTSIDE CORNER.
G. RB-1 TYP FLOOR BASE THROUGHOUT
H. REFER TO DETAIL 1A/11.2 FOR FLOORING TRANSITION DETAILS.

INTERIOR FINISH PLAN GENERAL NOTES

	SEALED CONCRETE	CONC-1
	ANTI-STATIC SEALED CONCRETE	CONC-2
	CARPET - TILE/PLANK	CPT-1
	CARPET - TILE/PLANK	CPT-2
	WALK OFF MAT	WOM-1
	RESINOUS FLOORING + COVED BASE	RES-1
	RESILIENT FLOORING	RF-1
	TILE FLOORING	TL-3

INTERIOR ROOM FINISH CUBE KEY



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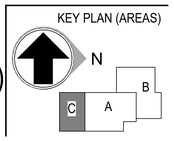
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STATE OF OKLAHOMA SCOTT D. SHEFFERMILLER A08960 LICENSED ARCHITECT

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2025-09-22

KEY PLAN (AREAS)



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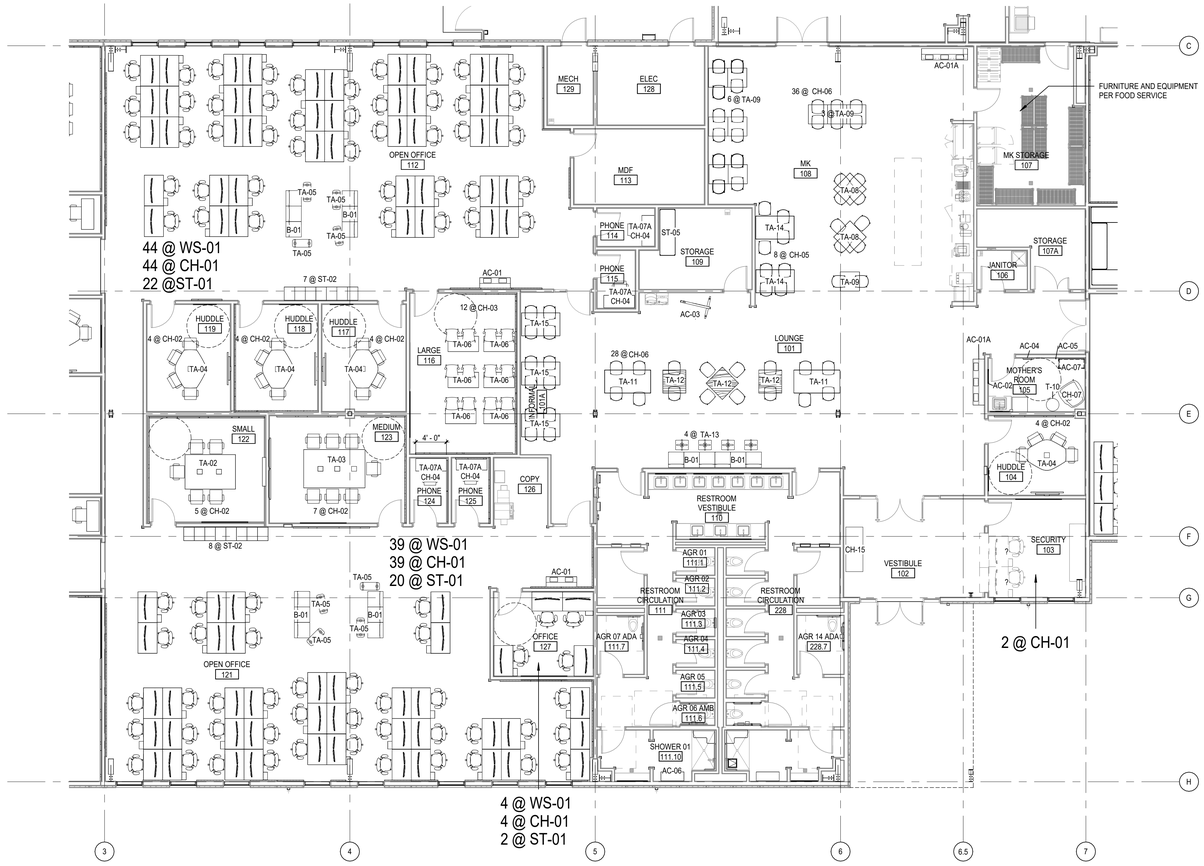
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INTERIOR FINISH PLAN - AREA C

SCALE: 1/8" = 1'-0"

SHEET NUMBER:
A12.31

PHASE: BUILDING PERMIT DOCUMENTS



FURNITURE PLAN - AREA A

SCALE: 1/8" = 1'-0"

FURNITURE PLAN NOTES

A. FURNITURE PLAN GENERAL NOTES APPLY TO ALL FURNITURE PLAN SHEETS.
B. REFERENCE FURNITURE SCHEDULE. ACCESSIBLE VIA REWS.
C. 5% MINIMUM EMPLOYEE WORKSTATIONS TO BE ADA COMPLIANT
D. ALL CASEWORK SHOWN AS DASHED LINES.
E. ALL MK AND CAFE EQUIPMENT ARE PER FOOD SERVICE, UNO
F. PRINTERS OFOI. COORDINATE POWER AND DATA PER ELECTRICAL
G. FURNITURE OFOI. CONFERENCE TABLES LARGER THAN A PHONE ROOM AND ALL WORKSTATION DESKS WILL REQUIRE HARD ELECTRIC CONNECTIONS. REFER TO AV DRAWINGS FOR LOCATIONS AND COORDINATE POWER AND DATA PER ELECTRICAL AND TELECOM DRAWINGS.
H. FURNITURE TO BE SLECTED AND PROCURED AS NEEDED BY DIRECTION OF TENANT AND COORDINATED WITH CONTRACTORS.
I. FURNITURE TAGS CONTAINING AN ASTERISK (*) ARE TO BE TEMPORARY PIECES FOR CONTRACTOR OCCUPANCY. FURNITURE TO BE SELECTED & PROCURED AS NEEDED BY DIRECTION OF TENANT AND COORDINATED WITH OCCUPYING CONTRACTORS.

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KEY PLAN (AREAS)

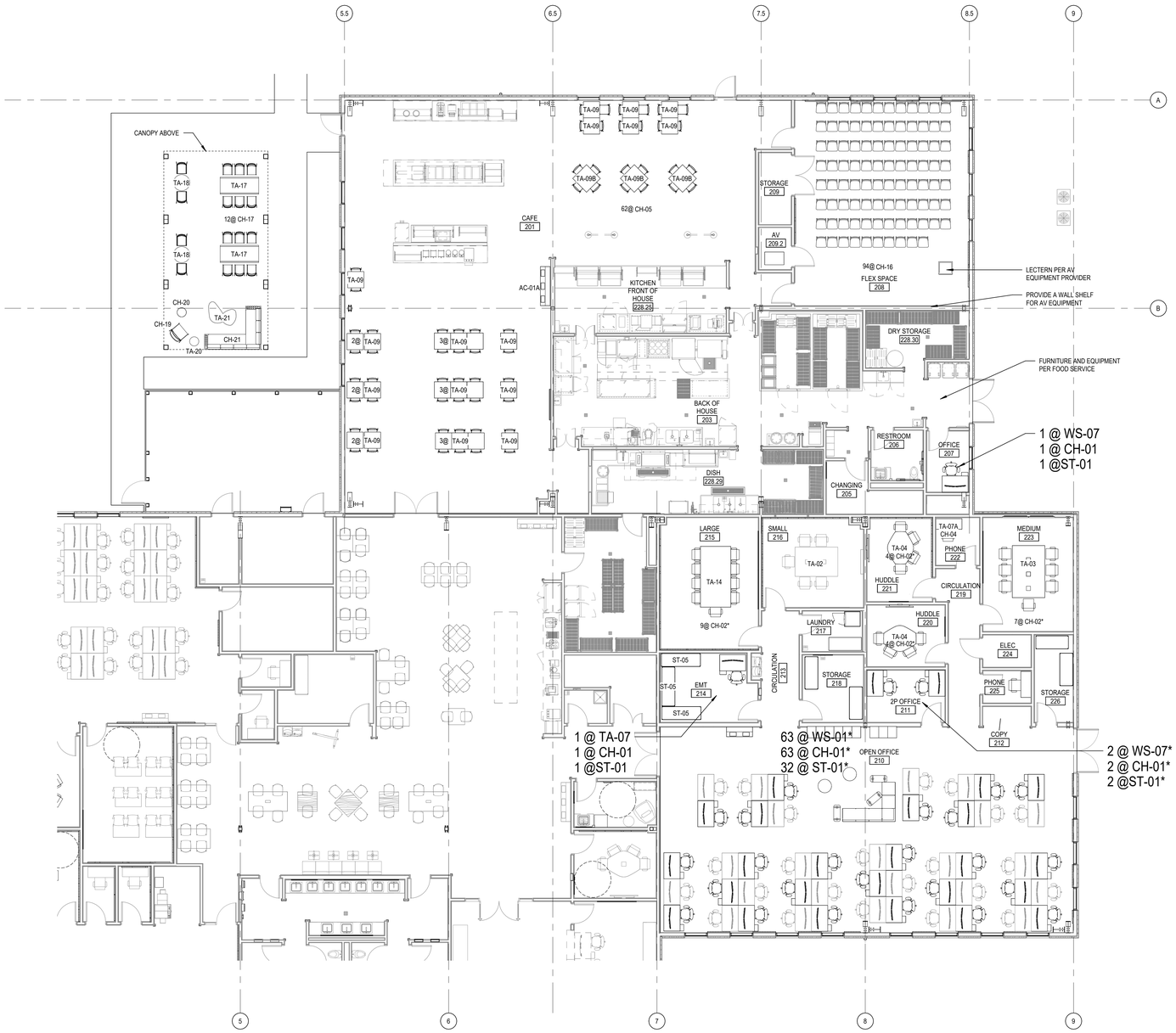
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FURNITURE PLAN - AREA A
SCALE: As indicated

SHEET NUMBER:
A13.11
PHASE: BUILDING PERMIT DOCUMENTS



FURNITURE PLAN - AREA B

SCALE: 1/8" = 1'-0"

FURNITURE PLAN NOTES

A. FURNITURE PLAN GENERAL NOTES APPLY TO ALL FURNITURE PLAN SHEETS.
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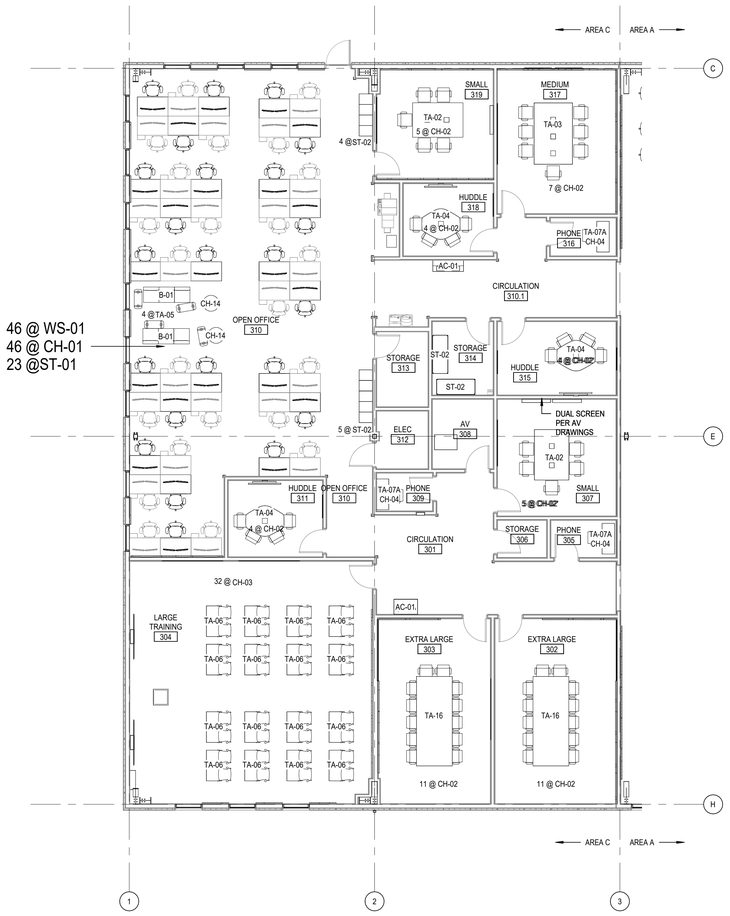
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FURNITURE PLAN - AREA B
SCALE: As indicated

SHEET NUMBER:
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PHASE: BUILDING PERMIT DOCUMENTS



FURNITURE PLAN - AREA C

SCALE: 1/8" = 1'-0"

FURNITURE PLAN NOTES

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KEY PLAN (AREAS)
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FURNITURE PLAN - AREA C
SCALE: As indicated

SHEET NUMBER:
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PHASE: BUILDING PERMIT DOCUMENTS

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SHEET LIST	
SHEET #	SHEET NAME
FS-050	COVER & GENERAL NOTES
FS-100	EQUIPMENT PLAN
FS-200	UTILITY SCHEDULE - A-G
FS-201	UTILITY SCHEDULE - H-L
FS-300	ELECTRICAL PLAN
FS-400	PLUMBING PLAN
FS-600	SPECIAL CONDITIONS
FS-700	ELEVATION KEY
FS-701	ELEVATIONS
FS-800	MECHANICAL DETAILS
FS-801	MECH. DETAILS CONT.
FS-802	MECH. DETAILS CONT.
FS-803	MECH. DETAILS CONT.
FS-810	REFRIGERATION DETAILS
FS-821	SERVERY DETAILS
FS-822	SERVERY DETAILS CONT.

FOODSERVICE GENERAL NOTES

1. THESE DRAWINGS SHALL BE USED IN COORDINATION WITH ARCHITECTURAL & ENGINEERING DRAWINGS, TO AID ALL CONTRACTORS INVOLVED WITH THE FOODSERVICE EQUIPMENT PACKAGE. REALFOOD IS NOT RESPONSIBLE FOR CHANGES NECESSITATED BY BUILDING CODES, LOCAL OR STATE HEALTH REGULATIONS, LOCAL ORDINANCES, OR STRUCTURAL CONDITIONS.
2. INDICATED ELECTRICAL, PLUMBING & MECHANICAL CONNECTIONS HAVE BEEN LOCATED AS ACCURATELY AS POSSIBLE AND ARE INTENDED TO SUIT REQUIREMENTS OF EQUIPMENT & FIXTURES TO BE SUPPLIED.
3. ALLOWANCES SHALL BE MADE FOR PLUMBING TRAPS & VALVES, ELECTRICAL SWITCHES, WIRING JUNCTION & RECEPTACLE BOXES, AND ANY OTHER CONNECTION REQUIREMENT. IT IS NOT WITHIN THE AUTHORITY OF REALFOOD TO DICTATE WHERE ROUGH-IN CONNECTIONS SHOULD ORIGINATE OR RUN.
4. NO ROUGH-IN CONNECTIONS SHALL BE ATTEMPTED UNLESS THE CONTRACTOR PERFORMING THE WORK IS IN POSSESSION OF THE MOST CURRENT SET, SHOP DRAWINGS, AND SPECIFICATION SHEETS FOR EVERY ITEM OF EQUIPMENT SHOWN AND FULLY UNDERSTANDS THE REQUIREMENTS FOR EACH.
5. ALL ROUGH-IN CONNECTIONS SHOWN UNDER EQUIPMENT SHALL NOT EXTEND MORE THAN 5" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.
6. ANY PLAN CONFLICTS INDICATED BY THE FOODSERVICE / ARCHITECTURE / ENGINEERING DRAWINGS SHALL BE RESOLVED PRIOR TO COMPLETION OF ASSOCIATED WORK.
7. ALL HOLD TO DIMENSIONS ARE CLEAR FINISH-TO-FINISH, UNLESS OTHERWISE NOTED.
8. SEE FOODSERVICE SPECIAL CONDITIONS PLANS FOR CONDUIT REQUIREMENTS FOR BEER AND SODA LINE INSTALL.

ELECTRICAL

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL LOCAL CODES.
2. ALL DIMENSIONS SHOWN ARE FROM FINISHED WALLS, FLOORS, CEILINGS, AND/OR FROM CENTERLINE OF STRUCTURAL COLUMNS. DIMENSIONS SHALL BE VERIFIED BY THE GC AND ALL RESPECTIVE TRADES USING THESE PLANS.
3. FINAL CONNECTIONS TO EQUIPMENT AND INTERCONNECTIONS BETWEEN EQUIPMENT COMPONENTS SHALL BE MADE BY THE EC.
4. ALL ELECTRICAL MATERIALS INCLUDING WIRE, CONDUIT MAIN SWITCHES, SAFETY CUT-OFFS, FUSE BOXES, BREAKERS, AND DISCONNECT SWITCHES & CONTROLS SHALL BE PROVIDED BY THE EC, UNLESS OTHERWISE NOTED.
5. ELECTRICAL CONNECTIONS SHALL BE CONCEALED AND STUBBED-OUT OF WALLS, FLOORS, AND CEILINGS AS NOTED WITHIN THIS DRAWING SET. DO NOT RUN EXPOSED CONNECTIONS ALONG THE FACE OF FLOORS AND/OR WALLS.
6. ELECTRICAL COMPONENTS INCLUDING MAIN SWITCHES, FUSE BOXES, TERMINAL PANELS, DISCONNECT SWITCHES, CONDUITS, AND CONNECTIONS SHALL BE LOCATED AS NOT TO INTERFERE WITH THE OPERATION OF FOODSERVICE EQUIPMENT.
7. CONNECTED LOADS & CONSUMPTION SHOWN ON UTILITY SCHEDULE ARE PER EACH UNIT. MULTIPLY BY NUMBER IN QUANTITY COLUMN OF EQUIPMENT SCHEDULE TO DETERMINE TOTAL REQUIREMENTS.
8. NEMA NUMBERS INDICATING CAP CONFIGURATION SHALL BE PROVIDED FOR EQUIPMENT BY KEC. ALL DIRECT CONNECTIONS & SHUT-OFFS SHALL BE PROVIDED BY THE EC.
9. ALL ELECTRICAL CONNECTIONS FOR EQUIPMENT LOCATED UNDER EXHAUST HOOD SHALL BE WIRED TO SHUNT-TRIP BREAKERS IN PANEL BY THE EC. THIS POWER SHALL BE CUT UPON DISCHARGE OF FIRE SUPPRESSION SYSTEM. ADDITIONALLY, ALL POWER TO SUPPLY AIR FANS SHALL BE CUT & EXHAUST FANS SHALL REMAIN ON.
10. POWER FOR WALK-IN COOLERS & FREEZERS AND CONTROL WIRING BETWEEN EVAPORATOR COIL DEFROST TIME CLOCK, DOOR HEATER TEMPERATURE CONTROL DEVICE, LIGHTING, AND CONDENSING UNIT BY EC WHO SHALL REFER TO ROUGH-IN PLAN & MANUFACTURER'S DETAIL DRAWINGS TO VERIFY ALL INFORMATION.
11. DRAIN LINE FROM FREEZER EVAPORATOR COIL SHALL BE WRAPPED WITH HEATER CABLE, TAPED, AND INSULATED TO PREVENT FREEZING OF CONDENSATE IN LINE. PROVISIONS AND INSTALLATION BY THE EC.
12. POWER & CONTROL PANEL WIRING BETWEEN THE VENTILATORS, VENTILATOR CONTROL PANELS MAGNETIC FAN STARTERS, SHUNT-TRIP BREAKERS, REMOTE FIRE PULL STATION, DETERGENT DISPENSING SYSTEM, AND OTHER ANCILLARY COMPONENTS SHALL BE BY THE EC, WHO SHALL REFER TO ROUGH-IN PLAN & MANUFACTURER'S DETAIL DRAWINGS TO VERIFY ALL INFORMATION.
13. MICRO-SWITCHES FOR FSS SHALL BE WIRED TO FIRE ALARM CONTROL PANEL, OR CIRCUIT SERVING FOODSERVICE EQUIPMENT BENEATH VENTILATORS SHALL BE SPECIFIED BY ARCHITECT/ENGINEER.
14. SEE ELECTRICAL ENGINEERING PLANS BY OTHERS FOR COMPLETE SCOPE OF WORK AND ELECTRICAL SPECIFICATIONS.
15. THE EC SHALL SUPPLY AND INSTALL ALL DUPLEX RECEPTACLES AND SWITCHES WITH STAINLESS STEEL FACE PLATES.
16. ALL POINT OF SERVICE POWER & DATA SHALL BE COORDINATED WITH POS VENDOR PRIOR TO ROUGH-IN.
17. ALL EQ DATA LINE REQUIREMENTS BY ELECTRICAL/LOW VOLTAGE.

PLUMBING

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES.
2. ALL DIMENSIONS SHOWN ARE FROM FINISHED WALLS, FLOOR, CEILINGS, AND/OR FROM CENTERLINES OF STRUCTURAL COLUMNS. DIMENSIONS SHALL BE VERIFIED BY THE GC AND ALL RESPECTIVE TRADES USING THESE PLANS.
3. ALL DIMENSIONS ARE CLEAR FINISH-TO-FINISH, UNLESS OTHERWISE NOTED.
4. FINAL CONNECTIONS TO EQUIPMENT & INTERCONNECTIONS BETWEEN EQUIPMENT COMPONENTS SHALL BE MADE BY THE PC.
5. ALL PLUMBING MATERIALS INCLUDING PIPING, TRAPS, STOPS, VALVES, FITTINGS, SHUT-OFFS, WATER HAMMERING ARRESTORS, PRESSURE REDUCING VALVES, BACKFLOW PREVENTERS, VACUUM BRAKERS, GAUGES, UNIONS, AND INSULATION SHALL BE INSTALLED BY THE PC.
6. ALL PLUMBING LABOR, INCLUDING FINAL CONNECTIONS FROM EQUIPMENT TO ROUGH-IN POINT AS DETAILED IN THIS DRAWING SET, SHALL BE PROVIDED BY THE PC.
7. PLUMBING CONNECTIONS SHALL BE CONCEALED AND STUBBED-OUT OF WALLS, FLOOR, AND CEILINGS AS NOTED WITHIN THIS DRAWING SET. DO NOT RUN EXPOSED CONNECTIONS ALONG FACE OF FLOOR AND/OR WALLS.
8. ALL WATER LINES TO HAVE SHUT-OFF VALVE.
9. PLUMBING COMPONENTS INCLUDING VALVES, GREASE INTERCEPTORS, SHUT-OFFS, GAUGES, AND CONNECTIONS SHALL BE LOCATED AS TO NOT INTERFERE WITH THE OPERATIONS OF THE FOODSERVICE EQUIPMENT.
10. THE PC SHALL REFER TO FACTORY SPECIFICATIONS FOR EQUIPMENT WATER PRESSURE SUPPLY REQUIREMENTS. AREAS SHALL NOT EXCEED 50 PSI, IN BOTH THE HOT & COLD WATER SUPPLY LINES. WATER PRESSURE TO DISHMACHINES & BOOST HEATERS SHALL NOT EXCEED 25 PSI. PRESSURE REDUCING VALVES MUST MEET EQUIPMENT MANUFACTURER'S FLOWRATE RECOMMENDATIONS.
11. ALL PLUMBING LINES SHALL BE FLUSHED FREE OF FOREIGN MATTER. LINE STRAINERS SHALL BE CLEANED PRIOR TO ASSEMBLY OF FINAL UTILITY CONNECTIONS.
12. GREASE INTERCEPTORS SHALL BE SUPPLIED BY THE PC AND SHALL MEET ALL LOCAL CODE REQUIREMENTS. LOCATION & INSTALL SHALL ALLOW FOR PROPER SERVICING WHILE NOT INTERFERING WITH FOODSERVICE EQUIPMENT, LAYOUT, OR OPERATIONS.
13. HOT WATER TEMPERATURE TO BOOSTER HEATER SHALL BE 140°F MINIMUM AT ALL TIMES, UNLESS OTHERWISE NOTED. INSULATED 180°F HOT WATER LINES FROM BOOSTER HEATER TO DISHMACHINE AND FROM WATER HAMMER ARRESTOR (ASSE 1010 STD) TO DISHMACHINE SHALL BE PROVIDED BY THE PC.
14. ALL SINKS SHALL BE PROVIDED WITH THERMOSTATIC MIXING VALVES TO ENSURE 140°F WATER TO POT, SCRAP & UTILITY SINKS AND 110°F WATER TO HAND SINKS.
15. DRAIN LINES FROM EVAPORATOR COIL SHALL BE TRAPPED OUTSIDE REFRIGERATED AREA & EXTENDED OVER BUILDING DRAIN. FINAL LOCATION BY GC.
16. GAS MAIN SHALL BE INSTALLED WITH A CODE COMPLIANT MECHANICAL SHUT-OFF VALVE BY THE PLUMBING CONTRACTOR AND SHALL NOT INTERFERE WITH EQUIPMENT AS DRAWN. SIZE OF GAS MAIN SHALL BE DETERMINED BY ARCHITECT/ENGINEER. REFER TO DRAWINGS SET FOR BTU/HOUR REQUIREMENTS.
17. FSS SHALL BE PROVIDED WITH MANUAL RESET BUTTON AND INTERCONNECTED TO GAS SOLENOID SHUT-OFF VALVE. GAS SOLENOID SHUT-OFF VALVE(S) (ELECTRICAL OR MECHANICAL) FOR USE WITH THE FSS SHALL BE PROVIDED BY KEC AND INSTALLED BY THE PC, UNLESS OTHERWISE NOTED.
18. PC/PE SHALL VERIFY ALL LOCAL CODE REQUIREMENTS FOR DISPOSERS & SCRAPPERS.
19. PC/PE SHALL VERIFY ALL WATER MEETS OR EXCEEDS MANUFACTURER REQUIREMENTS FOR FILTRATION.
20. PC SHALL PROVIDE AND INSTALL CODE COMPLIANT BACKFLOW PREVENTERS AT ALL MOP SINKS, DISHWASHERS, 3-COMPARTMENT SINKS, CHEMICAL DISPENSRS, ICE MAKERS, BEVERAGE DISPENSERS, AND COFFEE MACHINES
21. GC SHALL VERIFY CODE COMPLIANCE FOR ALL GARBAGE DISPOSALS WITH MUNICIPAL AUTHORITIES AS PART OF PLAN REVIEW/PERMIT SUBMISSION AND ADVISE REALFOOD IF ANY MODIFICATIONS ARE REQUIRED. INTERPIPING BETWEEN DISPOSER SOLENOID VALVE, DISPOSER, TROUGH, AND/OR SINK INLETS BY PC.

VENTILATION

1. ALL AREAS SHALL BE VENTILATED AS REQUIRED BY APPLICABLE GOVERNING CODES FOR ORDINANCES.
2. HOODS SHALL BE HUNG BY GC OR HVAC CONTRACTOR. KEC SHALL NOT BE RESPONSIBLE FOR HANGING HOODS.
3. TYPE I / TYPE II EXHAUST DUCTS & SUPPLY AIR DUCTS FROM VENT CONNECTIONS BY THE MC.
4. ALL LABOR & MATERIALS REQUIRED FOR THE EXHAUST AND/OR SUPPLY AIR HANDLING SYSTEMS, INCLUDING DUCTWORK INSULATION AND FANS, SHALL BE PROVIDED BY THE MC, UNLESS OTHERWISE NOTED.
5. THE FOLLOWING GENERAL VENTILATION REQUIREMENTS ARE RECOMMENDED:
   A) COOKING, PREPARATION, POTWASHING, & DISHWASHING AREAS: 45-60 AIR CHANGES PER HOUR
   B) STORAGE AREAS: 2-3 AIR CHANGES PER HOUR, 70°F MAXIMUM AMBIENT TEMPERATURE
   C) OFFICE AREAS: 3-4 AIR CHANGES PER HOUR
   D) AIR-COOLED REFRIGERATION CONDENSING UNITS: 1000 CFM/HP PER EXHAUST FOR SUPPLY, 90°F MAXIMUM AMBIENT TEMPERATURE.
6. VENTILATION CFM, STATIC PRESSURE, AND DUCT SIZES SHOWN ARE THE MANUFACTURER'S MINIMUM REQUIREMENTS AND SHALL BE CONFIRMED WITH ARCHITECT/ENGINEER BY HVAC CONTRACTOR.

SPECIAL CONDITIONS

1. ALL DIMENSIONS SHOWN ARE FROM FINISH WALLS, FLOOR, CEILINGS, AND/OR FROM CENTERLINES OF STRUCTURAL COLUMNS. DIMENSIONS SHALL BE VERIFIED BY GC AND ALL RESPECTIVE TRADES USING THESE PLANS. ALL DIMENSIONS ARE CLEAR FINISH-TO-FINISH, UNLESS OTHERWISE NOTED.
2. GC SHALL ENSURE ALL WALLS/CEILINGS ARE PROPERLY REINFORCED TO SUPPORT ALL WALL AND/OR CEILING SUPPORTED EQUIPMENT. GC SHALL PROVIDE BRIDGING TO BUILDING STRUCTURE ABOVE FOR EXHAUST HOODS AND ALL CEILINGS HUNG POT RACKS. FRAMING AND BLOCKING SHALL BE PROVIDED AS NEEDED.
3. GC SHALL VERIFY INSTALLATION HEIGHT OF FINISHED CEILING HEIGHT WITH FOODSERVICE EQUIPMENT BELOW AS SHOWN.
4. GC SHALL PROVIDE FLOOR PENETRATIONS & CONDUIT RACEWAYS/CORE DRILLING TO RUN SODA AND BEER LINES (BY VENDOR). ALL BENDS SHALL BE EASY SWEEPS (MINIMUM RADIUS OF 24"). GC SHALL RUN CONDUIT, AND ANY ADDITIONAL SUPPORT NEEDED, FROM SODA AND BEER SYSTEM(S) TO POINT(S) SHOWN FOR DISPENSING ON UNDERSIDE OF SLAB OR ABOVE FINISHED CEILING AS INDICATED.
5. GC SHALL PROVIDE CLEAR OPENING IN WALL TO RECEIVE FOODSERVICE EQUIPMENT BY KEC THAT ALLOWS 1/4" CLEARANCE ON EACH SIDE AND TOP(S) OR UNIT(S).
6. GC SHALL PROVIDE DUNNAGE OR RACKING FOR REMOTE COMPRESSORS AT REMOTE LOCATION.
7. GC SHALL COORDINATE ROUTING & ACCESS FOR REFRIGERATION SUPPLY AND RETURN LINES WITH KEC AND REFRIGERATION CONTRACTORS.
8. GC SHALL SUPPLY AND INSTALL CORNER GUARDS AND END CAPS AS SPECIFIC ON SPECIAL CONDITIONS PLAN.

RealFood
hospitality | strategy | design

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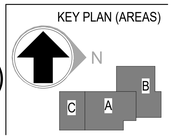
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PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

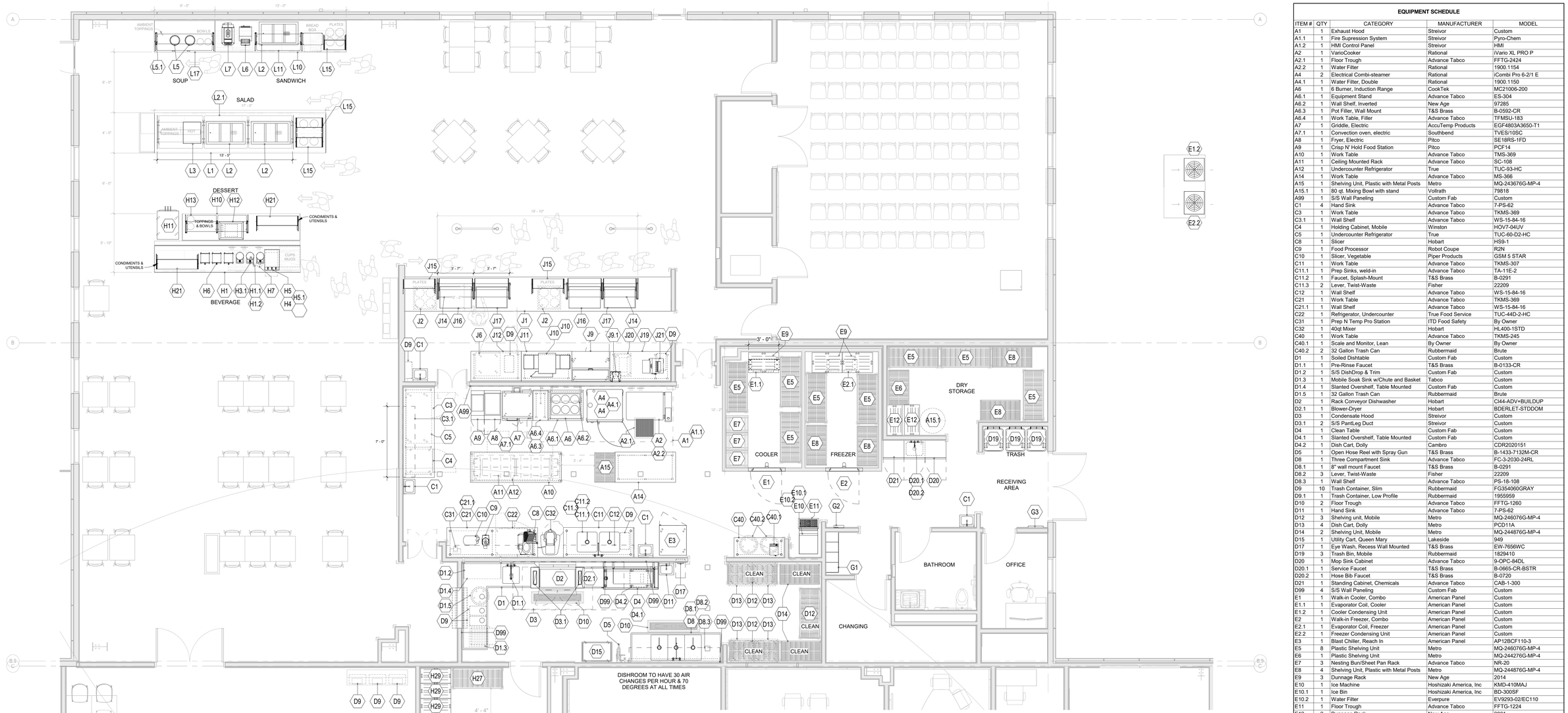
COVER & GENERAL NOTES

SCALE: 1" = 1'-0"

SHEET NUMBER:
FS-050

PHASE: BULDING PERMIT DOCUMENTS

9/17/2025 7:27:20 PM Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_FS_25.rvt



1 EQUIPMENT PLAN - PHASE 2
1/4" = 1'-0"

EQUIPMENT SCHEDULE

ITEM #	QTY	CATEGORY	MANUFACTURER	MODEL
A1	1	Exhaust Hood	Streivor	Custom
A1.1	1	Fire Supression System	Streivor	Pyro-Chem
A1.2	1	HMI Control Panel	Streivor	HMI
A2	1	VarioCooker	Rational	iVario XL PRO P
A2.1	1	Floor Trough	Advance Tabco	FFTG-2424
A2.2	1	Water Filter	Rational	1900.1154
A4	2	Electrical Combi-steamer	Rational	iCombi Pro 6-2/1 E
A4.1	1	Water Filter, Double	Rational	1900.1150
A6	1	6 Burner, Induction Range	CookTek	MC21006-200
A6.1	1	Equipment Stand	Advance Tabco	ES-304
A6.2	1	Wall Shelf, Inverted	New Age	97285
A6.3	1	Pot Filler, Wall Mount	T&S Brass	B-0592-CR
A6.4	1	Work Table, Filler	Advance Tabco	TFMSU-183
A7	1	Griddle, Electric	AccuTemp Products	EGF4803A3650-T1
A7.1	1	Convection oven, electric	Southbend	TVES/10SC
A8	1	Fryer, Electric	Pitco	SE18RS-1FD
A9	1	Crisp N' Hold Food Station	Pitco	PCF14
A10	1	Work Table	Advance Tabco	TMS-369
A11	1	Ceiling Mounted Rack	Advance Tabco	SC-108
A12	1	Undercounter Refrigerator	True	TUC-93-HC
A14	1	Work Table	Advance Tabco	MS-366
A15	1	Shelving Unit, Plastic with Metal Posts	Metro	MQ-243676G-MP-4
A15.1	1	80 qt. Mixing Bowl with stand	Vollrath	79818
A99	1	S/S Wall Paneling	Custom Fab	Custom
C1	4	Hand Sink	Advance Tabco	7-PS-62
C3	1	Work Table	Advance Tabco	TKMS-369
C3.1	1	Wall Shelf	Advance Tabco	WS-15-84-16
C4	1	Holding Cabinet, Mobile	Winston	HOV7-04UV
C5	1	Undercounter Refrigerator	True	TUC-60-D2-HC
C8	1	Slicer	Hobart	HS9-1
C9	1	Food Processor	Robot Coupe	R2N
C10	1	Slicer, Vegetable	Piper Products	GSM 5 STAR
C11	1	Work Table	Advance Tabco	TKMS-307
C11.1	1	Prep Sinks, weld-in	Advance Tabco	TA-11E-2
C11.2	1	Faucet, Splash-Mount	T&S Brass	B-0291
C11.3	2	Lever, Twist-Waste	Fisher	22209
C12	1	Wall Shelf	Advance Tabco	WS-15-84-16
C21	1	Work Table	Advance Tabco	TKMS-369
C21.1	1	Wall Shelf	Advance Tabco	WS-15-84-16
C22	1	Refrigerator, Undercounter	True Food Service	TUC-44D-2-HC
C31	1	Prep N Temp Pro Station	ITD Food Safety	By Owner
C32	1	40qt Mixer	Hobart	HL400-1STD
C40	1	Work Table	Advance Tabco	TKMS-245
C40.1	1	Scale and Monitor, Lean	By Owner	By Owner
C40.2	2	32 Gallon Trash Can	Rubbermaid	Brute
D1	1	Soiled Dishtable	Custom Fab	Custom
D1.1	1	Pre-Rinse Faucet	T&S Brass	B-0133-CR
D1.2	1	S/S DishDrop & Trim	Custom Fab	Custom
D1.3	1	Mobile Soak Sink w/Chute and Basket	Tabco	Custom
D1.4	1	Slanted Overshelf, Table Mounted	Custom Fab	Custom
D1.5	1	32 Gallon Trash Can	Rubbermaid	Brute
D2	1	Rack Conveyor Dishwasher	Hobart	CI44-ADV+BUILDUP
D2.1	1	Blower-Dryer	Hobart	BDERLET-STDDOM
D3	1	Condensate Hood	Streivor	Custom
D3.1	2	S/S PantLeg Duct	Streivor	Custom
D4	1	Clean Table	Custom Fab	Custom
D4.1	1	Slanted Overshelf, Table Mounted	Custom Fab	Custom
D4.2	1	Dish Cart, Dolly	Cambro	CDR2020151
D5	1	Open Hose Reel with Spray Gun	T&S Brass	B-1433-7132M-CR
D8	1	Three Compartment Sink	Advance Tabco	FC-3-2030-24RL
D8.1	1	8" wall mount Faucet	T&S Brass	B-0291
D8.2	3	Lever, Twist-Waste	Fisher	22209
D8.3	1	Wall Shelf	Advance Tabco	PS-18-108
D9	10	Trash Container, Slim	Rubbermaid	FG354060GRAY
D9.1	1	Trash Container, Low Profile	Rubbermaid	1955959
D10	2	Floor Trough	Advance Tabco	FFTG-1260
D11	1	Hand Sink	Advance Tabco	7-PS-62
D12	3	Shelving unit, Mobile	Metro	MQ-246076G-MP-4
D13	4	Dish Cart, Dolly	Metro	PCD11A
D14	2	Shelving Unit, Mobile	Metro	MQ-244876G-MP-4
D15	1	Utility Cart, Queen Mary	Lakeside	949
D17	1	Eye Wash, Recess Wall Mounted	T&S Brass	EW-7656WC
D19	3	Trash Bin, Mobile	Rubbermaid	1829410
D20	1	Mop Sink Cabinet	Advance Tabco	9-OPC-84DL
D20.1	1	Service Faucet	T&S Brass	B-0665-CR-BSTR
D20.2	1	Hose Bib Faucet	T&S Brass	B-0720
D21	1	Standing Cabinet, Chemicals	Advance Tabco	CAB-1-300
D99	4	S/S Wall Paneling	Custom Fab	Custom
E1	1	Walk-in Cooler, Combo	American Panel	Custom
E1.1	1	Evaporator Coil, Cooler	American Panel	Custom
E1.2	1	Cooler Condensing Unit	American Panel	Custom
E2	1	Walk-in Freezer, Combo	American Panel	Custom
E2.1	1	Evaporator Coil, Freezer	American Panel	Custom
E2.2	1	Freezer Condensing Unit	American Panel	Custom
E3	1	Blast Chiller, Reach In	American Panel	AP12BCF110-3
E5	8	Plastic Shelving Unit	Metro	MQ-246076G-MP-4
E6	1	Plastic Shelving Unit	Metro	MQ-244276G-MP-4
E7	3	Nesting Bun/Sheet Pan Rack	Advance Tabco	NR-20
E8	4	Shelving Unit, Plastic with Metal Posts	Metro	MQ-244876G-MP-4
E9	3	Dunnage Rack	New Age	2014
E10	1	Ice Machine	Hoshizaki America, Inc	KMD-410MAJ
E10.1	1	Ice Bin	Hoshizaki America, Inc	BD-300SF
E10.2	1	Water Filter	Everpure	EV9293-02/EC110
E11	1	Floor Trough	Advance Tabco	FFTG-1224
E12	2	Dunnage Rack	New Age	2001
G1	4	Lockers	Vanguard	Series 6411R
G2	1	Time Clock	By Owner	By Owner
G3	1	First Aid Kit	By Owner	By Owner
H1	1	Serving Counter, Millwork	Custom Fab	Custom
H1.1	2	Water Filler Wall Mount Faucet	Fisher	2470
H1.2	2	Water Filter	Everpure	EV927501
H2	1	Coffee Grinder	Fetco	G1202US
H3	1	Coffee Brewer	Fetco	CBS-2141XTS
H3.1	5	Coffee Dispenser	Fetco	D450
H3.2	1	Water Filter	Everpure	QC7I SINGLE 4FCS-S
H4	2	Ice Machine, Undercounter	Follett	7UD112A-NW-NF-ST-00-G
H5	2	Water Dispenser	Natura	D5
H5.1	2	Water Filter	Natura	NWFS-5
H6	3	Beverage Dispenser, non insulated	Cal-Mil	1132-3-13
H7	2	CO2 Tank	By Owner/Vendor	By Owner/Vendor
H8	1	Undercounter Glass Door Refrigerator	True Food Service	TUC-27G-LP-HC-FGD01
H10	1	Serving Counter, Millwork	Custom Fab	Custom
H11	1	Gravity Soft Serve Freezer	Stoelting	F231-38I2-2X
H12	1	Frost Top, Drop in	Hatco Corporation	FTB-1
H13	1	Food Shield	BSI	EA101A
H14	1	Sure Immersion 312	Bunn	44400.0203
H14.1	1	Water Filter	BUNN	56000.0024
H15	1	Espresso Machine, Single	UNIC	Classic 1
H15.1	2	Coffee Grinder, Doser	F&O	Super Jolly V Pro
H15.2	1	Knockbox, Countertop	Espresso Parts	EPKB665B
H15.3	1	Water Filter	Everpure	QC7I SINGLE 4FCS-S
H17	1	Undermount Sink, ADA	Advance Tabco	1014B-05
H17.1	1	Electric faucet, hands-free	T&S Brass	EC-3100-7XF1THG
H17.2	1	Paper Towel Dispenser, Wall Mount	Advance Tabco	7-PS-35
H20	1	Water Dispenser	Bevi	The Standup 2.0
H21	2	Food Shield, Mobile	BSI	EIG36
H23	2	Reach-In Refrigerator	True	T-23-HC
H24	4	Bus Bin	Vollrath	1527B-06
H25	2	Microwave Oven	Panasonic	NE-1054F
H26	4	Shelving Unit, Mobile	Metro	MQ-184876G-MP-4
H27	6	Shelving unit, Wire	Metro	MQ-246076G-MP-4
H28	1	Reach In Refrigerator, Glass Doors	True	T-49G-HC~FGD01
H29	3	Dunnage Rack	New Age	2020
J1	1	Serving Counter, Millwork	Custom Fab	Custom
J2	2	Dish Cart, Dolly	Metro	PCD11A
J6	1	Heated Proofing Cabinet, Undercounter	FWE	ETC-UA-4PH
J9	1	Pizza Prep Table	True	TPP-AT-44-HC
J9.1	1	Pizza Pan Rack, Wall-Mount	New Age	99970
J10	2	Countertop Impinger, Stacked	Lincoln	1180-1V
J11	1	Serving Counter, Millwork	Custom Fab	Custom
J12	1	Serving Counter, Millwork	Custom Fab	Custom

EQUIPMENT SCHEDULE

ITEM #	QTY	CATEGORY	MANUFACTURER	MODEL
J14	2	Food Shield	BSI	EA101A
J15	2	Food Shield, Mobile	BSI	EIG36
J16	2	Built-in Heated Shelves	Hatco Corporation	GRSBF-36-S
J17	2	Hot/Cold Shelf	Hatco	HCSBF-36-S
J19	1	Serving Counter, Millwork	Custom Fab	Custom
J20	1	Doughbox Dolly	Cambro	CD1826PDB157
J21	1	Dough Roller	Somerset	CDR-1550M
L1	1	Serving Counter, Millwork	Custom Fab	Custom
L2	3	Hot & Cold Pans, Drop-In	Wells	HRCP-7300
L2.1	1	Food Shield	BSI	EA101A-IS
L3	1	Built-in Heated Shelves	Hatco Corporation	GRSBF-24-I
L5	2	Built-In Food Warmers with Drain	Wells Bloomfield	SS-10TDUI
L5.1	1	Food Shield	English	EA101A
L6	1	Electric Conveyor Toaster	Hatco Corporation	TQ3-500H
L7	1	Speedelight Sandwich Press	Electrolux	603940
L10	1	Serving Counter, Millwork	Custom Fab	Custom
L11	1	Food Shield	BSI	EA101A
L15	3	Food Shield, Mobile	BSI	EIG36
L17	1	Serving Counter, Millwork	Custom Fab	Custom

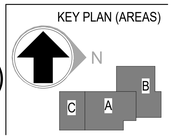
HDR, ENGINEERING INC.
1917 SOUTH 67th STREET
OMAHA, NEBRASKA 68106
(402) 399-1000
CA-0443

DLR GROUP
6457 FRANCES ST., STE. 200
OMAHA, NE 68106
(402) 742-4200

KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS		
NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1
ADD-2	10/13/23	ADD-2
DB-01 4	01/22/2024	DB-014
DB-01 6	03/28/24	DB-016

DRAWN: PB
APPRVD: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

EQUIPMENT PLAN
SCALE: 1/4" = 1'-0"

SHEET NUMBER:
FS-100
PHASE: BULDING PERMIT DOCUMENTS

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EQUIPMENT SCHEDULE - UTILITIES A-G

ITEM #	QTY	CATEGORY	MANUFACTURER	MODEL	VOLTS	PHASE	AMPS	CONNECTION TYPE	ELEC. CONN. AFF (IN.)	DATA CONNECTION	COLD WATER		HOT WATER		Hot Water RI Height	FILTERED WATER	WASTE SIZE		DIRECT WASTE RI HEIGHT (IN.)	EXHAUST (CFM)	MAKE-UP (CFM)	REMARKS
											SIZE (IN.)	CONN. AFF (IN.)	SIZE (IN.)				INDIRECT (IN.)	DIRECT (IN.)				
A1	1	Exhaust Hood	Streivor	Custom																3810		Refer to FS-800-804 for details
A1.1	1	Fire Supression System	Streivor	Pyro-Chem	120 V	1	20.0	JB	120"													Refer to FS-800-804 for details
A1.2	1	HMI Control Panel	Streivor	HMI	120 V	1	20.0	JB	DFA													Refer to FS-800-804 for details
A2	1	VarioCooker	Rational	iVario XL PRO P	480 V	3	70.0	JB	18"	Required	3/4"	24"					2"					
A2.1	1	Floor Trough	Advance Tabco	FFTG-2424														4"	0"			
A2.2	1	Water Filter	Rational	1900.1154							3/8"	24"										
A4	2	Electrical Combi-steamer	Rational	iCombi Pro 6-2/1 E	480 V	3	35.0	JB	48"	Required	3/4"	48"				Required	2"					PE and GC Note: Water quality to meet factory standards.
A4.1	1	Water Filter, Double	Rational	1900.1150							3/8"	24"										
A6	1	6 Burner, Induction Range	CookTek	MC21006-200	208 V	3	58.3	JB	18"													
A6.1	1	Equipment Stand	Advance Tabco	ES-304																		
A6.2	1	Wall Shelf, Inverted	New Age	97285																		
A6.3	1	Pot Filler, Wall Mount	T&S Brass	B-0592-CR							1/2"	54"										
A6.4	1	Work Table, Filler	Advance Tabco	TFMSU-183																		
A7	1	Griddle, Electric	AccuTemp Products	EGF4803A3650-T1	480 V	3	22.9	L16-30P	18"													
A7.1	1	Convection oven, electric	Southbend	TVES/10SC	480 V	3	9.0	JB	18"													
A8	1	Fryer, Electric	Pitco	SE18RS-1FD	480 V	3	27.0	JB	18"													
A9	1	Crisp N' Hold Food Station	Pitco	PCF14	120 V	1	15.1	5-20P	18"													
A10	1	Work Table	Advance Tabco	TMS-369																		
A11	1	Ceiling Mounted Rack	Advance Tabco	SC-108																		
A12	1	Undercounter Refrigerator	True	TUC-93-HC	115 V	1	2.2	5-15P	18"													
A14	1	Work Table	Advance Tabco	MS-366																		
A15	1	Shelving Unit, Plastic with Metal Posts	Metro	MQ-243676G-MP-4																		
A15.1	1	80 qt. Mixing Bowl with stand	Vollrath	79818																		
A99	1	S/S Wall Paneling	Custom Fab	Custom																		Refer to FS-821 for Details
C1	4	Hand Sink	Advance Tabco	7-PS-62							1/2"	24"	1/2"	24"				1 1/2"	0"			Soap & Paper Towel By Owner
C3	1	Work Table	Advance Tabco	TKMS-369																		
C3.1	1	Wall Shelf	Advance Tabco	WS-15-84-16																		
C4	1	Holding Cabinet, Mobile	Winston	HOV7-04UV	120 V	1	19.4	5-20P	18"		18"	1/2"										PE and GC Note: Water quality to meet factory standards
C5	1	Undercounter Refrigerator	True	TUC-60-D2-HC	115 V	1	4.0	5-15P	18"													
C8	1	Slicer	Hobart	HS9-1	120 V	1	5.6	5-15P	48"													
C9	1	Food Processor	Robot Coupe	R2N	120 V	1	7.0	5-15P	48"													
C10	1	Slicer, Vegetable	Piper Products	GSM 5 STAR	115 V	1	3.0	5-15P	48"													
C11	1	Work Table	Advance Tabco	TKMS-307																		
C11.1	1	Prep Sinks, weld-in	Advance Tabco	TA-11E-2													1 1/2"					
C11.2	1	Faucet, Splash-Mount	T&S Brass	B-0291							1/2"	24"	1/2"	24"								
C11.3	2	Lever, Twist-Waste	Fisher	22209													1 1/2"					
C12	1	Wall Shelf	Advance Tabco	WS-15-84-16																		
C21	1	Work Table	Advance Tabco	TKMS-369																		
C21.1	1	Wall Shelf	Advance Tabco	WS-15-84-16																		
C22	1	Refrigerator, Undercounter	True Food Service	TUC-44D-2-HC	115 V	1	5.1	5-15P	18"													
C31	1	Prep N Temp Pro Station	ITD Food Safety	By Owner	120 V	1	5.0	5-15P	48"	Required												NIC, By Operator. Provide Power and Data
C32	1	40qt Mixer	Hobart	HL400-1STD	230 V	3	20.0	L15-20P	18"													
C40	1	Work Table	Advance Tabco	TKMS-245						Required												
C40.1	1	Scale and Monitor, Lean	By Owner	By Owner	110 V	1	10.0	VERIFY	48"	Required												NIC, By Operator. Provide power and data
C40.2	2	32 Gallon Trash Can	Rubbermaid	Brute																		
D1	1	Soiled Dishtable	Custom Fab	Custom													3 1/2"					
D1.1	1	Pre-Rinse Faucet	T&S Brass	B-0133-CR							1/2"	24"	1/2"	24"								
D1.2	1	S/S DishDrop & Trim	Custom Fab	Custom																		
D1.3	1	Mobile Soak Sink w/Chute and Basket	Tabco	Custom													1 1/2"					
D1.4	1	Slanted Overshelf, Table Mounted	Custom Fab	Custom																		
D1.5	1	32 Gallon Trash Can	Rubbermaid	Brute																		
D2	1	Rack Conveyor Dishwasher	Hobart	CI44-ADV+BUILDUP	480 V	3	68.0	JB	60"		1/2"	24"	1/2"	24"			2"					Includes 30kw Booster - Single Point Connection
D2.1	1	Blower-Dryer	Hobart	BDERLET-STDDOM	480 V	3	15.7	JB	60"								1"			400		
D3	1	Condensate Hood	Streivor	Custom	120 V	1	2.0	JB	DFA											2200		Refer to FS-800-804 for details
D3.1	2	S/S PantLeg Duct	Streivor	Custom																<varies>		<varies>
D4	1	Clean Table	Custom Fab	Custom													1 1/2"					
D4.1	1	Slanted Overshelf, Table Mounted	Custom Fab	Custom																		
D4.2	1	Dish Cart, Dolly	Cambro	CDR2020151																		
D5	1	Open Hose Reel with Spray Gun	T&S Brass	B-1433-7132M-CR							1/2"	30"	1/2"	30"								
D8	1	Three Compartment Sink	Advance Tabco	FC-3-2030-24RL													2"					refer to shop drawings for details
D8.1	1	8" wall mount Faucet	T&S Brass	B-0291							3/4"	12"	3/4"	12"								
D8.2	3	Lever, Twist-Waste	Fisher	22209													1 1/2"					
D8.3	1	Wall Shelf	Advance Tabco	PS-18-108																		
D9	10	Trash Container, Slim	Rubbermaid	FG354060GRAY																		
D9.1	1	Trash Container, Low Profile	Rubbermaid	1955959																		
D10	2	Floor Trough	Advance Tabco	FFTG-1260														4"	0"			
D11	1	Hand Sink	Advance Tabco	7-PS-62							1/2"	24"	1/2"	24"				1 1/2"	18"			Existing Unit, to be relocated
D12	3	Shelving unit, Mobile	Metro	MQ-246076G-MP-4																		
D13	4	Dish Cart, Dolly	Metro	PCD11A																		
D14	2	Shelving Unit, Mobile	Metro	MQ-244876G-MP-4																		
D15	1	Utility Cart, Queen Mary	Lakeside	949																		
D17	1	Eye Wash, Recess Wall Mounted	T&S Brass	EW-7656WC							1/2"	18"						2"	18"			
D19	3	Trash Bin, Mobile	Rubbermaid	1829410																		
D20	1	Mop Sink Cabinet	Advance Tabco	9-OPC-84DL														2"	0"			
D20.1	1	Service Faucet	T&S Brass	B-0665-CR-BSTR							1/2"	32"	1/2"	32"								
D20.2	1	Hose Bib Faucet	T&S Brass	B-0720							1/2"	54"										
D21	1	Standing Cabinet, Chemicals	Advance Tabco	CAB-1-300																		
D99	4	S/S Wall Paneling	Custom Fab	Custom																		
E1	1	Walk-in Cooler, Combo	American Panel	Custom	115 V	1	10.0	JB	DFA													refer to shop drawings for details
E1.1	1	Evaporator Coil, Cooler	American Panel	Custom	208 V	1	5.0	JB	DFA								3/4"					Refer to FS-810 for details
E1.2	1	Cooler Condensing Unit	American Panel	Custom	208 V	3	13.8	JB	TBD													Refer to FS-810 for details
E2	1	Walk-in Freezer, Combo	American Panel	Custom	115 V	1	10.0	JB	DFA													Refer to FS-810 for details
E2.1	1	Evaporator Coil, Freezer	American Panel	Custom	208 V	1	5.0	JB	DFA								3/4"					Refer to FS-810 for details
E2.2	1	Freezer Condensing Unit	American Panel	Custom	208 V	3	13.2	JB	TBD													Refer to FS-810 for details
E3	1	Blast Chiller, Reach In	American Panel	AP12BCF110-3	208 V	3	10.0	L15-20P	18"								1/2"					
E5	8	Plastic Shelving Unit	Metro	MQ-246076G-MP-4																		
E6	1	Plastic Shelving Unit	Metro	MQ-244276G-MP-4																		
E7	3	Nesting Bun/Sheet Pan Rack	Advance Tabco	NR-20																		
E8	4	Shelving Unit, Plastic with Metal Posts	Metro	MQ-244876G-MP-4																		
E9	3	Dunnage Rack	New Age	2014																		
E10	1	Ice Machine	Hoshizaki America, Inc	KMD-410MAJ	115 V	1	8.2	JB	72"		1/4"	48"				Required	3/4"					PE and GC Note: Water quality to meet factory standards.
E10.1	1	Ice Bin	Hoshizaki America, Inc	BD-300SF													3/4"					
E10.2	1	Water Filter	Everpure	EV9293-02/EC110							3/8"	24"										NIC, by Vendor
E11	1	Floor Trough	Advance Tabco	FFTG-1224														4"	0"			
E12	2	Dunnage Rack	New Age	2001																		
G1	4	Lockers	Vanguard	Series 6411R																		
G2	1	Time Clock	By Owner	By Owner	120 V	1	10.0	5-15P	48"													
G3	1	First Aid Kit	By Owner	By Owner																		NIC, by Owner

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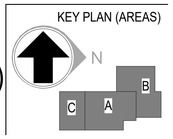
HDR, ENGINEERING INC.
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CA-0443

DLR GROUP
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CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS

NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1
DB-01 4	01/22/2024	DB-014

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

UTILITY SCHEDULE - A-G

SCALE:

SHEET NUMBER:
FS-200

PHASE: BULDING PERMIT DOCUMENTS

EQUIPMENT SCHEDULE - UTILITIES H-L

ITEM #	QTY	CATEGORY	MANUFACTURER	MODEL	VOLTS	PHASE	AMPS	CONNECTION TYPE	ELEC. CONN. AFF (IN.)	DATA CONNECTION	COLD WATER		HOT WATER		Hot Water RI Height	FILTERED WATER	WASTE SIZE		DIRECT WASTE RI HEIGHT (IN.)	EXHAUST (CFM)	MAKE-UP (CFM)	REMARKS
											SIZE (IN.)	CONN. AFF (IN.)	SIZE (IN.)				INDIRECT (IN.)	DIRECT (IN.)				
H1	1	Serving Counter, Millwork	Custom Fab	Custom																		Refer to FS-821 for Details
H1.1	2	Water Filler Wall Mount Faucet	Fisher	2470																		
H1.2	2	Water Filter	Everpure	EV927501							3/8"	24"										
H2	1	Coffee Grinder	Fetco	G1202US	120 V	1	6.0	5-15P	18"													
H3	1	Coffee Brewer	Fetco	CBS-2141XTS	120 V		19.7	5-20P	18"			Filter				Required						
H3.1	5	Coffee Dispenser	Fetco	D450																		
H3.2	1	Water Filter	Everpure	QC7I SINGLE 4FC5-S							3/8"	24"										
H4	2	Ice Machine. Undercounter	Follett	7UD112A-NW-NF-ST-00-G	115 V	1	4.5	5-15P	18"							Required						PE and GC Note: Water quality to meet factory standards
H5	2	Water Dispenser	Natura	D5	120 V	1	6.0	5-15P	18"							Required						
H5.1	2	Water Filter	Natura	NWFS-5							3/8"	24"										
H6	3	Beverage Dispenser, non insulated	Cal-Mil	1132-3-13																		
H7	2	CO2 Tank	By Owner/Vendor	By Owner/Vendor																		<varies>
H8	1	Undercounter Glass Door Refrigerator	True Food Service	TUC-27G-LP-HC-FGD01	115 V	1	2.0	5-15P	18"													
H10	1	Serving Counter, Millwork	Custom Fab	Custom																		Refer to FS-821 for Details
H11	1	Gravity Soft Serve Freezer	Stoelting	F231-38I2-2X	208 V	1	12.0	6-20P	18"													
H12	1	Frost Top, Drop in	Hatco Corporation	FTB-1	120 V	1	6.7	5-15P	18"								1"					
H13	1	Food Shield	BSI	EA101A	120 V	1	5.0	JB	18"													refer to shop drawings for details
H14	1	Sure Immersion 312	Bunn	44400.0203	120 V	1	15.0	5-15P	18"							Required	1/2"					PE and GC Note: Water quality to meet factory standards.
H14.1	1	Water Filter	BUNN	56000.0024							3/8"											Final Water Filter Selection Pending Water Test - By GC/KEC
H15	1	Espresso Machine, Single	UNIC	Classic 1	100 V	1	20.0	5-20P	18"							Required	3/4"					PE and GC Note: Water quality to meet factory standards
H15.1	2	Coffee Grinder, Doser	F&O	Super Jolly V Pro	110 V	1	15.0	5-15R	18"													
H15.2	1	Knockbox, Countertop	Espresso Parts	EPKB665B																		
H15.3	1	Water Filter	Everpure	QC7I SINGLE 4FC5-S							3/8"	24"										
H17	1	Undermount Sink, ADA	Advance Tabco	1014B-05													1 1/2"					
H17.1	1	Electric faucet, hands-free	T&S Brass	EC-3100-7XF1THG	120 V	1	5.0	5-15P	18"		1/2"	24"	1/2"	24"								
H17.2	1	Paper Towel Dispenser, Wall Mount	Advance Tabco	7-PS-35																		
H20	1	Water Dispenser	Bevi	The Standup 2.0	120 V	1	12.0	5-15P	18"													Existing Unit, to be relocated
H21	2	Food Shield, Mobile	BSI	EIG36																		
H23	2	Reach-In Refrigerator	True	T-23-HC	115 V	1	3.0	5-15P	0"													
H24	4	Bus Bin	Vollrath	1527B-06																		
H25	2	Microwave Oven	Panasonic	NE-1054F	120 V	1	13.4	5-20P	24"													
H26	4	Shelving Unit, Mobile	Metro	MQ-184876G-MP-4																		
H27	6	Shelving unit, Wire	Metro	MQ-246076G-MP-4																		
H28	1	Reach In Refrigerator, Glass Doors	True	T-49G-HC~FGD01	115 V	1	5.4	5-15P	18"													
H29	3	Dunnage Rack	New Age	2020																		
J1	1	Serving Counter, Millwork	Custom Fab	Custom																		
J2	2	Dish Cart, Dolly	Metro	PCD11A																		
J6	1	Heated Proofing Cabinet, Undercounter	FWE	ETC-UA-4PH	120 V	1	15.8	5-15P	18"													PE and GC Note: Water quality to meet factory standard
J9	1	Pizza Prep Table	True	TPP-AT-44-HC	115 V	1	3.9	5-15P	18"													
J9.1	1	Pizza Pan Rack, Wall-Mount	New Age	99970																		
J10	2	Countertop Impinger, Stacked	Lincoln	1180-1V	208 V	3	28.0	6-50P	30"													
J11	1	Serving Counter, Millwork	Custom Fab	Custom																		Refer to FS-821 for Details
J12	1	Serving Counter, Millwork	Custom Fab	Custom																		Refer to FS-821 for Details
J14	2	Food Shield	BSI	EA101A	120 V	1	8.1	JB	18"													
J15	2	Food Shield, Mobile	BSI	EIG36																		
J16	2	Built-in Heated Shelves	Hatco Corporation	GRSBF-36-S	120 V	1	8.0	5-15P	18"													
J17	2	Hot/Cold Shelf	Hatco	HCSBF-36-S	120 V	1	8.6	5-15P	18"													
J19	1	Serving Counter, Millwork	Custom Fab	Custom																		
J20	1	Doughbox Dolly	Cambro	CD1826PDB157																		
J21	1	Dough Roller	Somerset	CDR-1550M	115 V	1	7.5	5-15P	38"													
L1	1	Serving Counter, Millwork	Custom Fab	Custom																		
L2	3	Hot & Cold Pans, Drop-In	Wells	HRCP-7300	115 V	1	5.6	JB	18"								1"					
L2.1	1	Food Shield	BSI	EA101A-IS	115 V	1	5.0	JB	18"													Refer to shop drawings for details
L3	1	Built-in Heated Shelves	Hatco Corporation	GRSBF-24-I	120 V	1	5.0	5-15P	18"													
L5	2	Built-In Food Warmers with Drain	Wells Bloomfield	SS-10TDUI	120 V	1	6.9	5-15P	18"								1/2"					
L5.1	1	Food Shield	English	EA101A	120 V	1	5.0	JB	18"													
L6	1	Electric Conveyor Toaster	Hatco Corporation	TQ3-500H	208 V	1	10.7	6-15P	18"													
L7	1	Speedelight Sandwich Press	Electrolux	603940	208 V	1	30.0	6-30P	18"													
L10	1	Serving Counter, Millwork	Custom Fab	Custom																		Refer to FS-821 for Details
L11	1	Food Shield	BSI	EA101A	120 V	1	5.0	JB	18"													
L15	3	Food Shield, Mobile	BSI	EIG36																		
L17	1	Serving Counter, Millwork	Custom Fab	Custom																		Refer to FS-821 for Details

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CYL HUB1-1-3 PERMIT SET
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2025-09-22

KEY PLAN (AREAS)

REVISIONS

NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1
DB-01 4	01/22/2024	DB-014

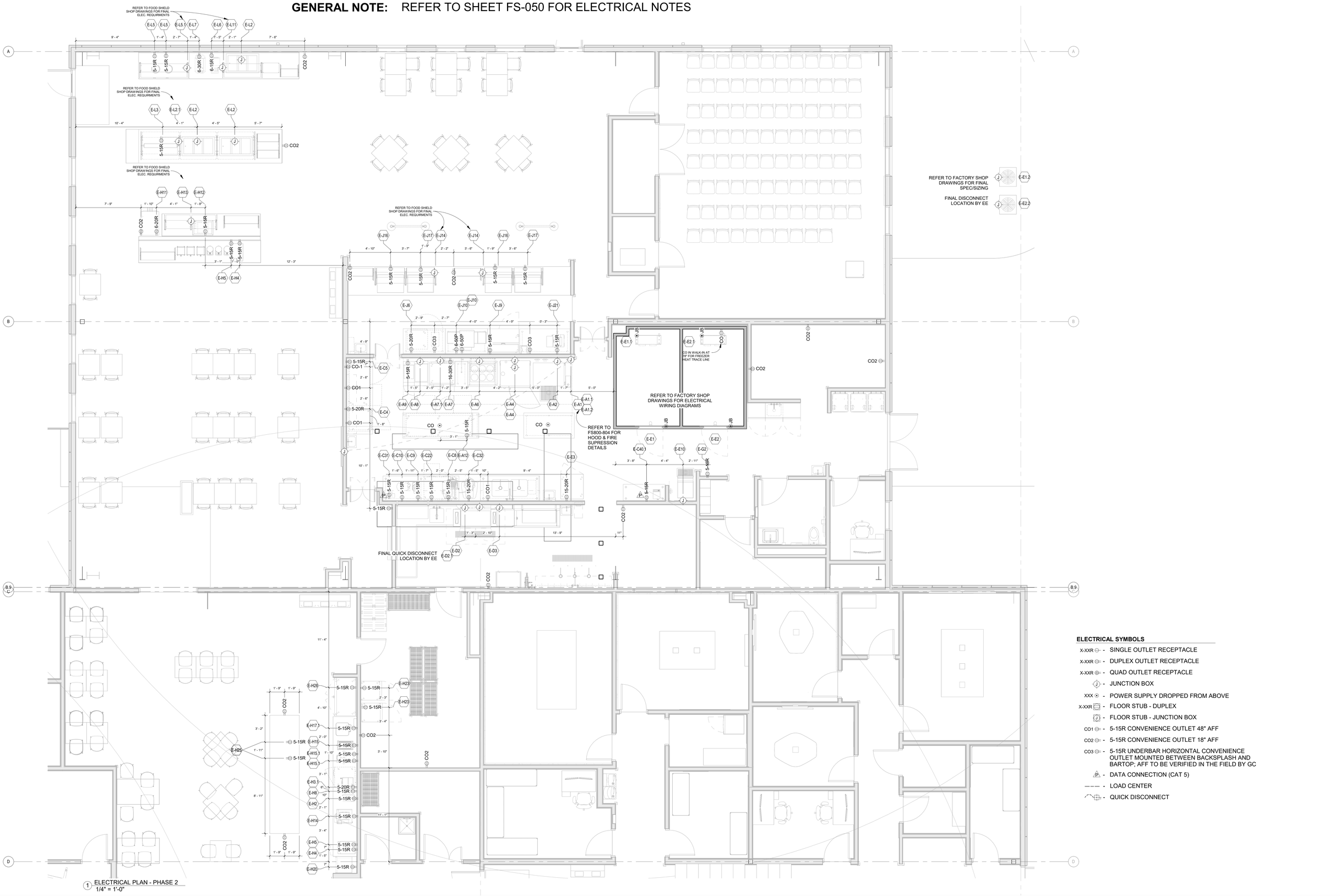
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APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

UTILITY SCHEDULE - H-L
SCALE:

SHEET NUMBER:
FS-201
PHASE: BULDING PERMIT DOCUMENTS

GENERAL NOTE: REFER TO SHEET FS-050 FOR ELECTRICAL NOTES



1 ELECTRICAL PLAN - PHASE 2
1/4" = 1'-0"

ELECTRICAL SYMBOLS

- X-XXR - SINGLE OUTLET RECEPTACLE
- X-XXR - DUPLEX OUTLET RECEPTACLE
- X-XXR - QUAD OUTLET RECEPTACLE
- J - JUNCTION BOX
- XXX - POWER SUPPLY DROPPED FROM ABOVE
- X-XXR - FLOOR STUB - DUPLEX
- J - FLOOR STUB - JUNCTION BOX
- CO1 - 5-15R CONVENIENCE OUTLET 48" AFF
- CO2 - 5-15R CONVENIENCE OUTLET 18" AFF
- CO3 - 5-15R UNDERBAR HORIZONTAL CONVENIENCE OUTLET MOUNTED BETWEEN BACKSPLASH AND BARTOP; AFF TO BE VERIFIED IN THE FIELD BY GC
- P - DATA CONNECTION (CAT 5)
- LOAD CENTER
- QUICK DISCONNECT

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KEY PLAN (AREAS)

REVISIONS		
NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1
ADD-2	10/13/23	ADD-2

DRAWN: Author
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DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

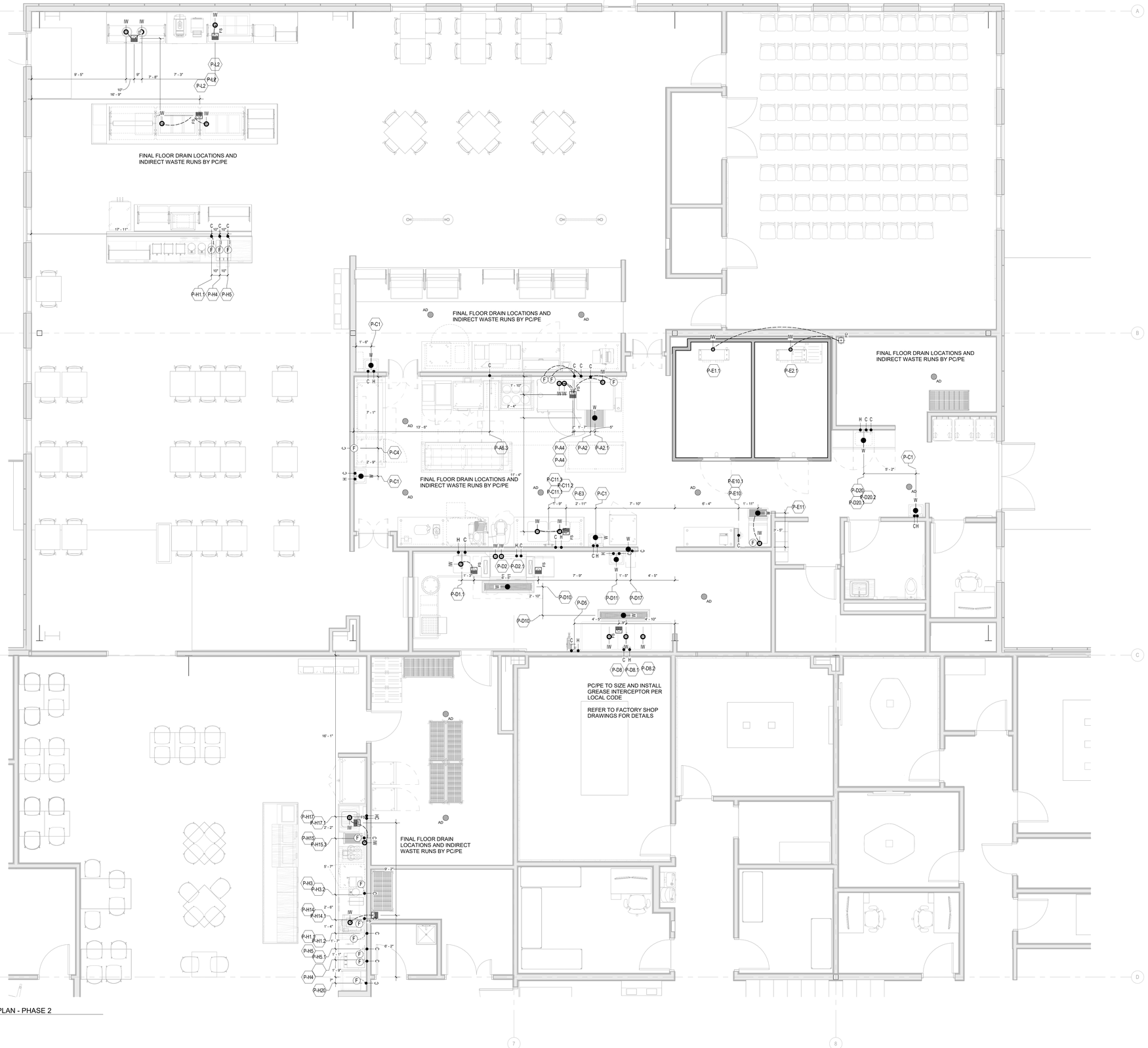
ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"

SHEET NUMBER:
FS-300

PHASE: BULDING PERMIT DOCUMENTS

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1 PLUMBING PLAN - PHASE 2
1/4" = 1'-0"

PLUMBING SYMBOLS

- G - GAS
- W - DIRECT WASTE
- IW - INDIRECT WASTE
- C - COLD WATER
- H - HOT WATER
- F - FILTERED WATER
- AD - AREA DRAIN
- FD - FUNNEL DRAIN
- FS - FLOOR SINK
- INDIRECT WASTE RUN

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KEY PLAN (AREAS)

REVISIONS		
NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1

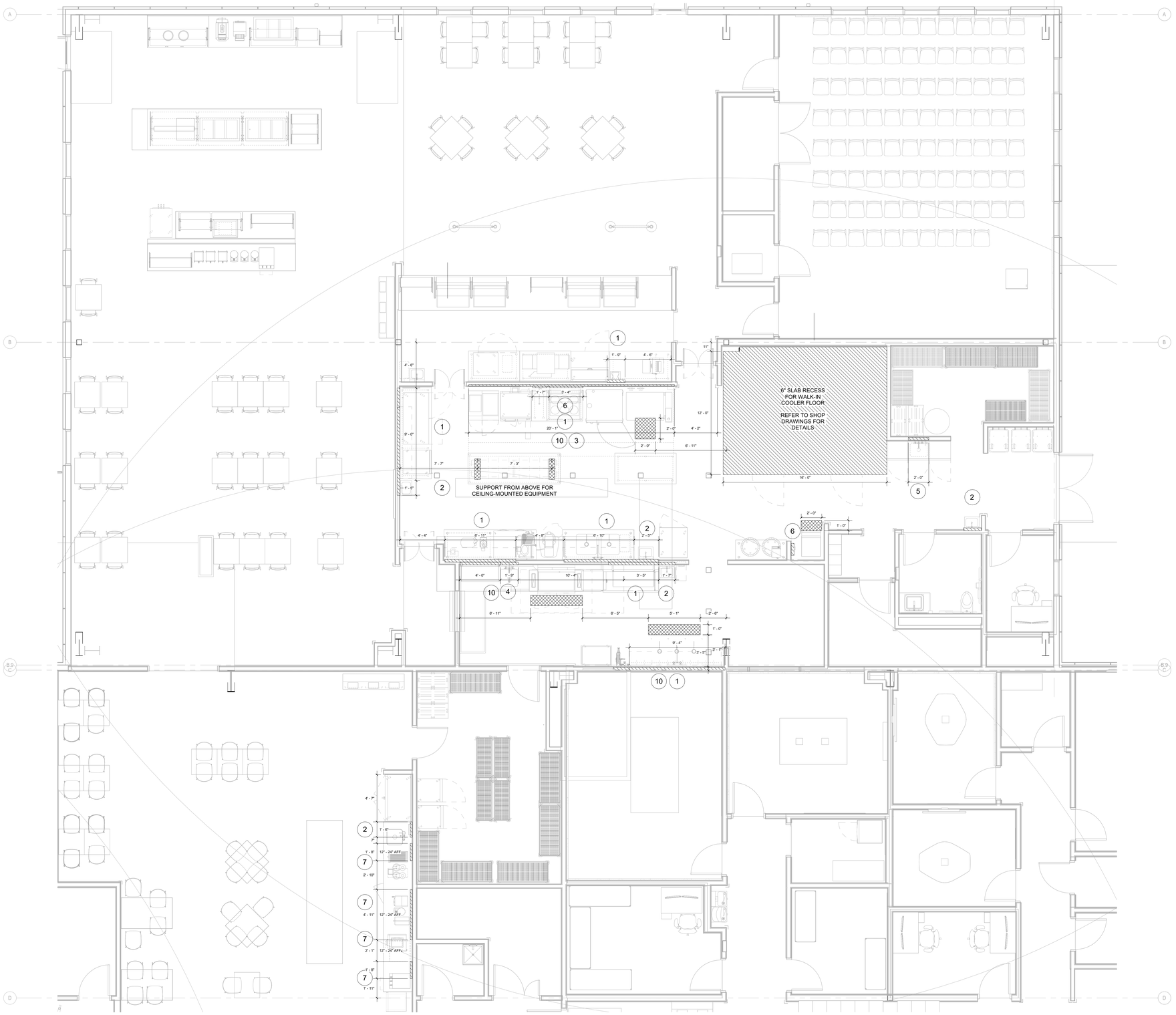
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PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

PLUMBING PLAN
SCALE: 1/4" = 1'-0"

SHEET NUMBER:
FS-400
PHASE: BULDING PERMIT DOCUMENTS

GENERAL NOTE: REFER TO SHEET FS-050 FOR SPECIAL CONDITIONS NOTES



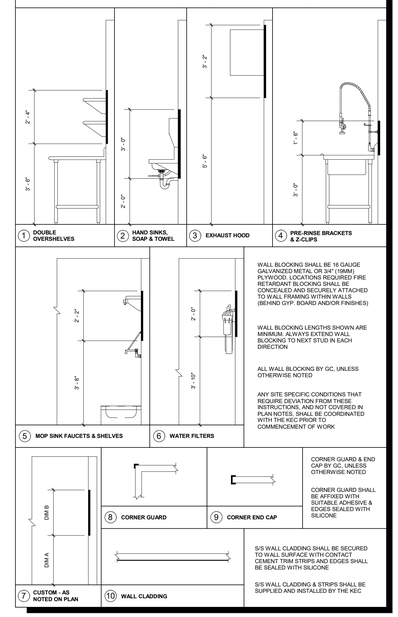
1 SPECIAL CONDITIONS - PHASE 2
1/4" = 1'-0"

SPECIAL CONDITIONS SYMBOLS

X
X" - X"
3/4" PLYWOOD BLOCKING

SLAB CUT LOCATIONS TROUGHS & WALK-INS

WALL BLOCKING DETAILS: NO SCALE



WALL BLOCKING SHALL BE 16 GAUGE GALVANIZED METAL OR 3/4" (19MM) PLYWOOD. LOCATIONS REQUIRED FIRE RETARDANT BLOCKING SHALL BE CONCEALED AND SECURELY ATTACHED TO WALL FRAMING WITHIN WALLS (BEHIND GYP. BOARD AND/OR FINISHES)

WALL BLOCKING LENGTHS SHOWN ARE MINIMUM. ALWAYS EXTEND WALL BLOCKING TO NEXT STUD IN EACH DIRECTION

ALL WALL BLOCKING BY GC, UNLESS OTHERWISE NOTED

ANY SITE SPECIFIC CONDITIONS THAT REQUIRE DEVIATION FROM THESE PLANS AND NOTES, NOT COVERED IN PLAN NOTES, SHALL BE COORDINATED WITH THE KEC PRIOR TO COMMENCEMENT OF WORK

CORNER GUARD & END CAP BY GC, UNLESS OTHERWISE NOTED

CORNER GUARD SHALL BE AFFIXED WITH SUITABLE ADHESIVE & EDGES SEALED WITH SILICONE

S/S WALL CLADDING SHALL BE SECURED TO WALL SURFACE WITH CONTACT CEMENT. TRIM STRIPS AND EDGES SHALL BE SEALED WITH SILICONE

S/S WALL CLADDING & STRIPS SHALL BE SUPPLIED AND INSTALLED BY THE KEC

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KEY PLAN (AREAS)

REVISIONS		
NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

SPECIAL CONDITIONS
SCALE: As indicated

SHEET NUMBER:
FS-600
PHASE: BULDING PERMIT DOCUMENTS



1 ELEVATION KEY PLAN - PHASE 2
1/4" = 1'-0"

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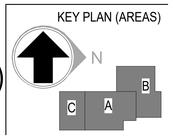
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KEY PLAN (AREAS)



REVISIONS		
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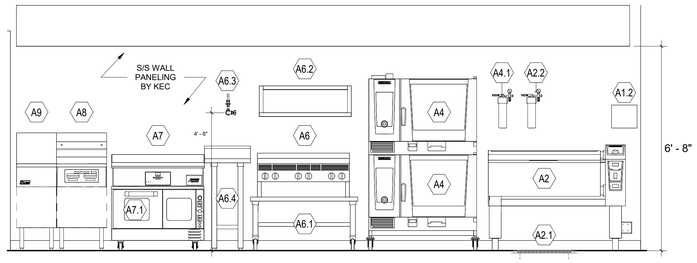
PROJ. NO. 43-25105-00

ELEVATION KEY

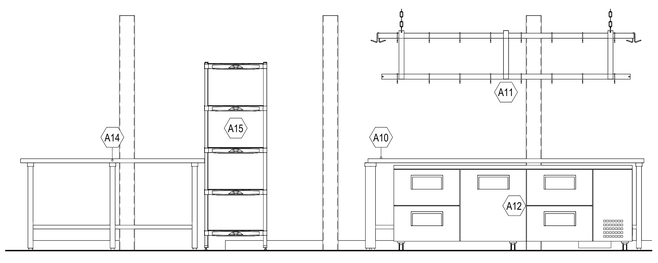
SCALE: 1/4" = 1'-0"

SHEET NUMBER:
FS-700

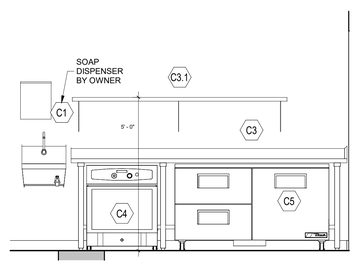
PHASE: BULDING PERMIT DOCUMENTS



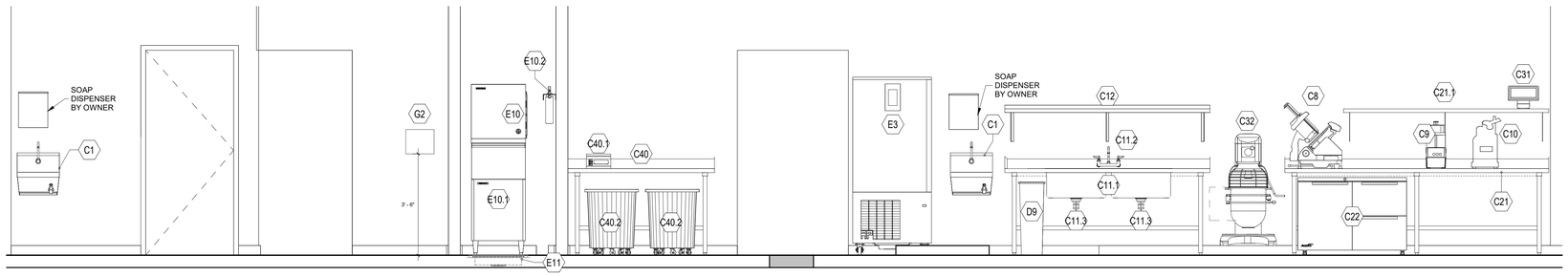
1 HOTLINE
1/2" = 1'-0"



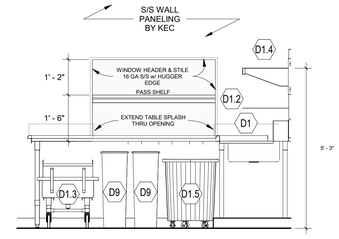
2 HOTLINE SUPPORT
1/2" = 1'-0"



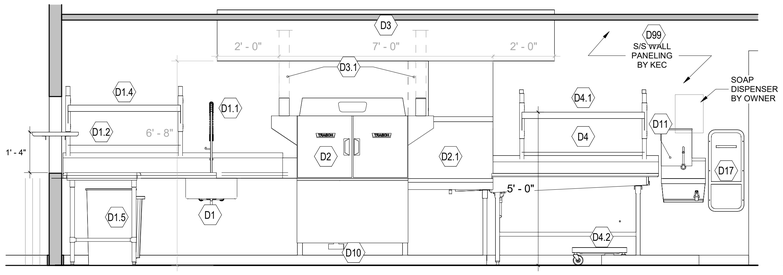
3 PREP / GRILL SPOTLIGHT
1/2" = 1'-0"



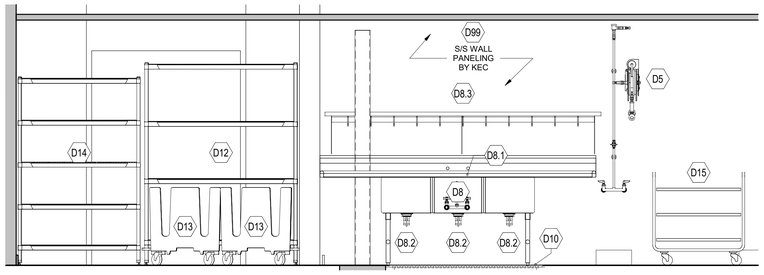
4 PREP & RECEIVING
1/2" = 1'-0"



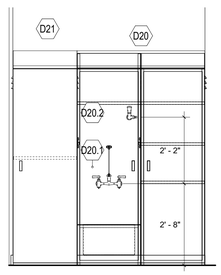
7 DISHROOM WEST
1/2" = 1'-0"



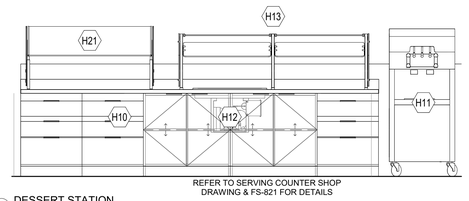
8 DISHROOM NORTH
1/2" = 1'-0"



9 DISHROOM SOUTH
1/2" = 1'-0"

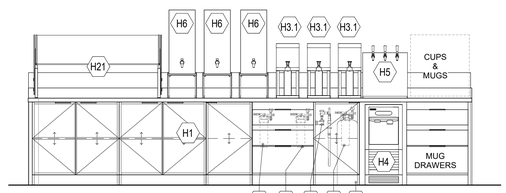


14 MOP CABINET
1/2" = 1'-0"



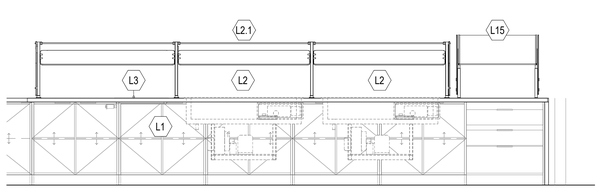
REFER TO SERVING COUNTER SHOP DRAWING & FS-821 FOR DETAILS

13 DESSERT STATION
1/2" = 1'-0"



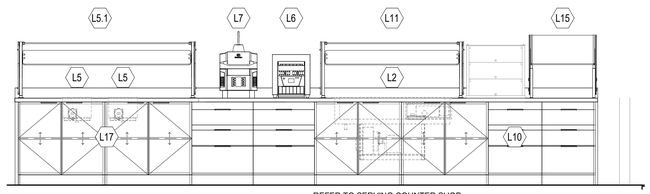
REFER TO SERVING COUNTER SHOP DRAWING & FS-821 FOR DETAILS

12 BEVERAGE
1/2" = 1'-0"



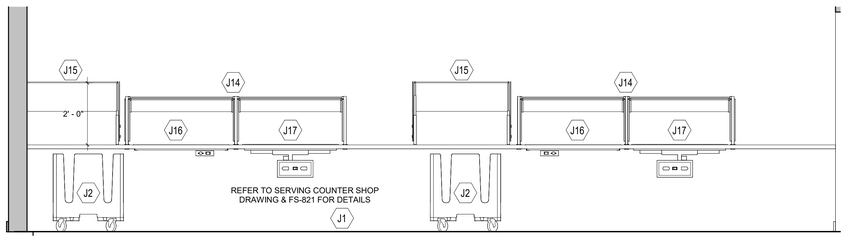
REFER TO SERVING COUNTER SHOP DRAWING & FS-821 FOR DETAILS

6 SALAD
1/2" = 1'-0"

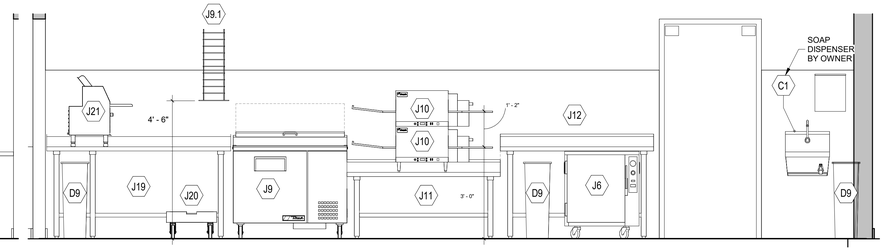


REFER TO SERVING COUNTER SHOP DRAWING & FS-821 FOR DETAILS

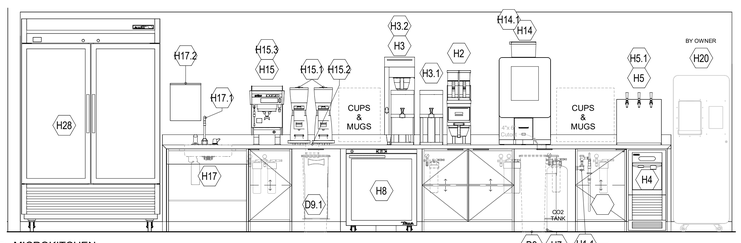
10 SOUP & DELI
1/2" = 1'-0"



11 HOT ENTREE
1/2" = 1'-0"



5 PIZZA
1/2" = 1'-0"



15 MICROKITCHEN
1/2" = 1'-0"

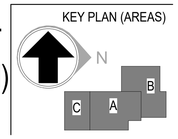
HDR, ENGINEERING INC.
1917 SOUTH 67th STREET
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KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS		
NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

ELEVATIONS

SCALE: 1/2" = 1'-0"

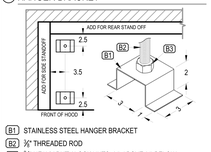
SHEET NUMBER:
FS-701

PHASE: BULDING PERMIT DOCUMENTS

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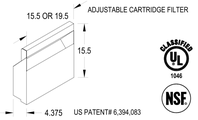
NOT TO SCALE - FOR REFERENCE ONLY

A1 HANGER BRACKET



(B1) STAINLESS STEEL HANGER BRACKET
(B2) ⅜" THREADED ROD
(B3) ⅜" HEAVY DUTY LOCK NUTS, (1) ABOVE (1) BELOW
(THREADED ROD & LOCK NUTS NOT PROVIDED)

A2 EXTRACTAIRE HVC — STAINLESS STEEL

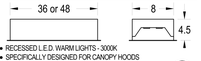


US PATENT# 6,394,083

FILTER:			#A1L		#A1R			
H x L	EFF AREA		QTY	AREA	QTY	AREA	QTY	AREA
1616	0.40	X	3	0.00	0	1.20		
1620	0.51	X	4	3.06	5	1.53		
		TOTAL EFF AREA =		3.06	=	2.73	=	

HOOD EX. CFM ÷ TOTAL EFF AREA = FPM
OPERATING RANGE OF THE FILTER (250 TO 1400 FPM)

A3 HOOD CANOPY LIGHTING FIXTURE



- RECESSED L.E.D. WARM LIGHTS - 3000K
- SPECIFICALLY DESIGNED FOR CANOPY HOODS
- TEMPERATURE RATED TO 75°C (167°F)
- MEETS NFPA CODE 96 & NEC 410
- TOTAL LUMENS OUTPUT = 4028 (36"), 4925 (48")
- 43 WATTS (36"), 53 WATTS (48")

A8 LISTED ACCESS PANEL



REMOVABLE COVER ALLOWS EASY ACCESS FOR INSTALLATION, ADJUSTMENTS AND SERVICE OF MONITORING EQUIPMENT FROM UNDER THE HOOD AND INSIDE THE SMARTAIRE PLENUM.

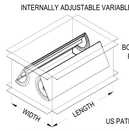
*FOR TEMPERATURE MONITOR WIRING SEE DETAIL E2

A5 DUCT CONNECTION DETAIL

EXHAUST DUCT COLLAR DETAIL



BALANCEAIRE INCLUDED
INTERNALLY ADJUSTABLE VARIABLE VOLUME DAMPER



1" FLANGE AT TOP AND BOTTOM OF COLLAR ALLOWS FOR DUCT CONNECTIONS

US PATENT# D634,419 S

THE BALANCEAIRE'S OPPOSED BLADES CAN BE ADJUSTED TO VARYING POSITIONS FROM 100% OPEN TO 95% CLOSED TO INCREASE OR DECREASE THE AMOUNT OF RESISTANCE IN THE HOODS EXHAUST COLLAR. THE EXHAUST FAN MUST BE SIZED TO ACCOUNT FOR THE BALANCEAIRE'S ADDED RESISTANCE.

EXHAUST COLLAR APPROVAL

OPTIONS

☐ SHIP COLLAR LOOSE (THE PURCHASER ACCEPTS THE OBLIGATION AND COST OF CUTTING/WELDING COLLAR)

☐ WELD COLLAR TO HOOD (DIMENSIONS REQUIRED)

DRAWING APPROVAL

THIS DRAWING MUST BE REVIEWED, SIGNED & RETURNED TO STREIVOR AIR SYSTEMS PRIOR TO THE START OF FABRICATION.

VERIFY THE FOLLOWING:

1. ALL DIMENSIONAL INFORMATION, MOUNTING LOCATIONS & CLEARANCES.
2. THE LOCATION & TYPE OF COOKING EQUIPMENT.

APPROVED FOR FABRICATION

☐ APPROVED ☐ APPROVED AS NOTED

☐ REVISE & RESUBMIT

APPROVED BY _____ DATE _____

NOTE TO REVIEWER:

ANY CHANGES IN COOKING EQUIPMENT SUCH AS EQUIPMENT POSITION, TYPE AND/OR INCREASE IN ENERGY OUTPUT MAY AFFECT EXHAUST AIRFLOW. STREVOR AIR SYSTEMS MUST BE NOTIFIED OF ANY CHANGES THAT OCCUR PRIOR TO FABRICATION. A RE-ENGINEERING OF THE EXHAUST AIRFLOW MAY BE REQUIRED.

HOOD SCHEDULE

						EXHAUST			DIST. FROM COOKING SURFACE TO LOWER EDGE OF HOOD		MINIMUM OVERHANG OPEN SIDES		EQUIP. DUTY TEMPERATURE
									(OH1)		(OH2)	(OH3)	
NO.	MODEL	L	W	H	WEIGHT	SPEC. CFM	SP	CFM/FT	MIN.	MAX.	SIDE	FRONT	MAX.
A1L	SAWCBD 1356324	135	63	24	928	2025	0.55	180	36	48	6	6	450
A1R	SAWCBD 1056324	105	63	24	736	1575	0.55	180	36	48	6	6	450

1. GREATER EXHAUST AND/OR LESSER SUPPLY AIR FLOW RATES MAY BE REQUIRED FOR COMPLETE VAPOR AND SMOKE REMOVAL IN SPECIFIC INSTALLATIONS.
2. THE EXHAUST FAN MUST BE OPERATED WHENEVER THE COOKING EQUIPMENT IS TURNED ON. (NFPA SECTION 11.1.1)

HOOD CANOPY MATERIAL: ALL 304 SERIES STAINLESS STEEL

HOOD LEGEND

1. ALL WELDED ENCLOSURE
2. 16 GA. SIDES. REMAINDER OF HOOD TO BE NO LESS THAN 18 GA.
3. PITCHED GREASE DRIP TRAY
4. ENCLOSED METAL CONTAINER
5. CONTAINMENT PANEL: LIGHT DUTY
6. ENCLOSURE PANEL: INCLUDED
8. 12" HOOD OVERHANG IS RECOMMENDED FOR ALL HEAVY DUTY COOKING APPLIANCES
9. 8" ROUND INTERNAL HOOD FAN (IHF) COLLAR WITH UL LISTED FIRE DAMPER 6"X6"
10. 8" ROUND IHF SUPPLY DUCT (SHIPPED LOOSE): INCLUDED
13. INTERNAL HOOD FAN W/SPEED CONTROL
14. SEE ELECTRICAL SCHEDULE - CONSULT FACTORY FOR ALTERNATE INPUT POWER LOCATION(S)

ELECTRICAL SCHEDULE

CIRCUIT	DESCRIPTION	PHASE	VOLTAGE	FED FROM
CB:	CIRCUIT BREAKER			

IF AN ELECTRICAL SCHEDULE PANEL FOR THE HOODS IS INCLUDED, THIS ELECTRICAL SCHEDULE IS NOT VALID. REFER TO DEMANDAIRE DRAWINGS.

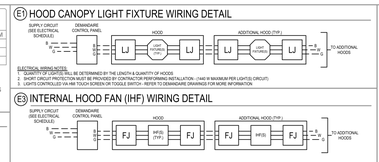
SEE DEMANDAIRE DRAWINGS

ELECTRICAL LEGEND

- STREIVOR FACTORY WIRING
- FIELD WIRING BY OTHERS
- LJ — HOOD CANOPY LIGHT(S)
- JUNCTION BOX
- TJ — TEMPERATURE MONITOR(S)
- JUNCTION BOX
- FJ — INTERNAL HOOD FAN(S)
- JUNCTION BOX

NOTE: FACTORY INSTALLATION OF JUNCTION BOXES MAY DIFFER FROM LOCATION ON DRAWINGS

E1 HOOD CANOPY LIGHT FIXTURE WIRING DETAIL



ELECTRICAL WIRING NOTES:
1. QUANTITY OF LIGHTS WILL BE DETERMINED BY THE LENGTH & QUANTITY OF HOODS
2. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION. (1AMJ IS MAXIMUM PER LIGHT(S) CIRCUIT)
3. LIGHTS CONTROLLED VIA HMI TOUCH SCREEN OR TOGGLE SWITCH - REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION

E3 INTERNAL HOOD FAN (IHF) WIRING DETAIL

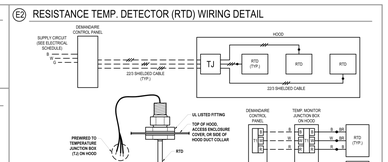


ELECTRICAL WIRING NOTES:
1. QUANTITY OF INTERNAL HOOD FANS WILL BE DETERMINED BY THE LENGTH & QUANTITY OF HOODS
2. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION
3. MAXIMUM OF TWO INTERNAL HOOD FANS PER HOOD
4. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION
5. REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION
6. DEMANDAIRE CONTROL PANEL CONTROLS INTERNAL HOOD FANS TO COMPLY WITH NFPA 96 SECTION 9.3.2

NFPA 96 SECTION 9.3.3:
INTERNAL HOOD FANS SHALL BE PROVIDED WITH A MEANS SO THAT THE FAN IS ACTIVATED WHEN ANY APPLIANCE UNDER THE HOOD IN TURNED ON

NFPA 96 SECTION 9.3.2.1:
WHEN ITS FIRE-EXTINGUISHING SYSTEM DISCHARGES. MAKEUP AIR SUPPLIED INTERNALLY TO A HOOD SHALL BE SHUT OFF

E2 RESISTANCE TEMP. DETECTOR (RTD) WIRING DETAIL



ELECTRICAL WIRING NOTES:
1. SHORT CIRCUIT PROTECTION MUST BE DETECTED BY THE RTD EXCEEDS ONE OF ITS SET POINTS. THE FAN SPEED CONTROL SIGNAL PROVIDED BY THE DEMANDAIRE CONTROL PANEL WILL VARY ACCORDINGLY
2. EACH RTD SET POINT IS ALLEGTABLE VIA HMI TOUCH SCREEN SETTINGS
3. RTD COMMUNICATES VIA A 22 MA CONTROL SIGNAL
4. REFER TO DEMANDAIRE DRAWINGS AND DEMANDAIRE CONTROL PANEL TO BE UL-LISTED 22 AWG THREE STRAND SHIELDED COMMUNICATION CABLE
5. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION.
6. REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION

NFPA 96 SECTION 9.2.5.1:
RTD'S SHALL BE PROVIDED WITH A MEANS SO THAT THE FAN IS ACTIVATED WHEN ANY APPLIANCE UNDER THE HOOD IN TURNED ON

SA OPTIONS FOR SUPPLYING (CLEAN SOURCE) MAKE UP AIR TO THE SMARTAIRE INTERNAL HOOD FANS (IHF)



A: TRANSFER AIR - SUPPLY PLENUM
DIRECTLY CONNECTING THE STREIVOR PROVIDED 8" ROUND IHF TRANSFER AIR DUCT TO THE SUPPLY PLENUM FOR HOOD WITH SUPPLY PLENUM.

B: TRANSFER AIR
DIRECTLY OR INDIRECTLY CONNECTING A TRANSFER AIR SOURCE TO THE SMARTAIRE INTERNAL HOOD PLENUM(S).

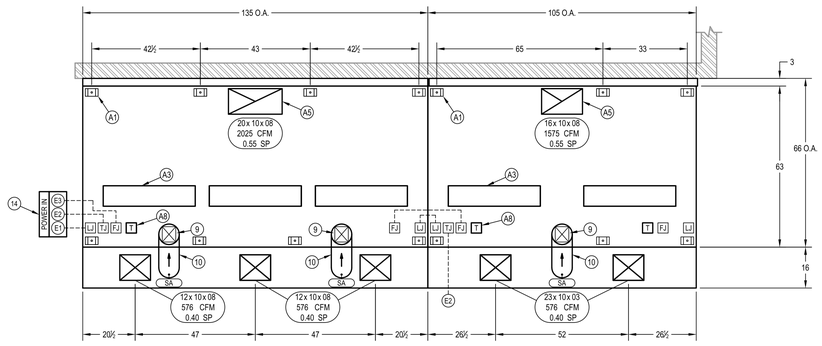
C: INDIRECT AIR
THE INTERNAL HOOD FAN INDIRECTLY DRAWS AIR FROM AN ADJOINING SPACE, THROUGH A PERFORATED ENCLOSURE.

D: DIRECT DUCT
DIRECTLY CONNECTING A FORCED SUPPLY AIR DUCT(S) TO THE SMARTAIRE INTERNAL HOOD PLENUM(S).

STREIVOR'S SMARTAIRE HOOD MODEL (SAIRCBD) HAS INTERNAL HOOD FANS MOUNTED INSIDE OF THE HOOD'S SMARTAIRE PLENUM. THE INTERNAL HOOD FANS HAVE THE CAPABILITY OF OVERCOMING STATIC PRESSURES OF UP TO 0.25 IN. WATER COLUMN AND CAN PULL TRANSFER AIR INTO THE HOOD'S SMARTAIRE PLENUM.

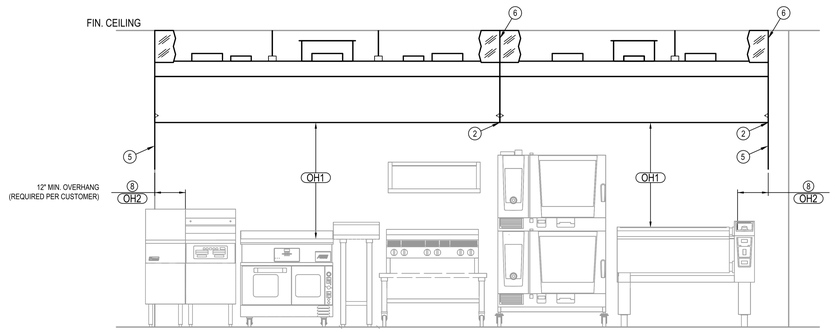
THE SMARTAIRE TECHNOLOGY INCLUDES TWO LOW-VOLUME, HIGH-VELOCITY AIR STREAMS INCORPORATED INTO THE LOWER FRONT EDGE OF THE HOOD. THE AIR STREAMS RUN CONTINUOUSLY ACROSS THE INNER FRONT EDGE OF THE HOOD. ONE AIR STREAM IS DIRECTED IN AN UPWARD, INWARD DIRECTION AND ONE AIR STREAM IS DIRECTED IN A DOWNWARD, INWARD DIRECTION. THE SMARTAIRE TECHNOLOGY SIGNIFICANTLY IMPROVES THE HOOD'S ABILITY TO CAPTURE AND CONTAIN THE THERMAL PLUME AND COOKING EFFLUENTS GENERATED FROM COOKING APPLIANCES UNDER THE HOOD. THE AIR STREAMS ARE LOCATED WITHIN THE HOOD'S CANOPY AND ARE THEREFORE CONSIDERED TO BE REPLACEMENT/COMPENSATING AIR. EFFORTS SHOULD BE TAKEN TO ENSURE THAT UNCLEAN TRANSFER AIR (SUCH AS ATTIC AIR) IS NOT USED FOR THE SMARTAIRE TECHNOLOGY AIR STREAMS.

ASHRAE/ANSI 90.1 AND CALIFORNIA TITLE24 ENERGY CODES LIMIT THE AMOUNT OF REPLACEMENT AIR THAT CAN BE INTRODUCED INTO A HOOD TO 10% OF THE HOOD EXHAUST AIRFLOW RATE. SMARTAIRE HOODS ARE DESIGNED TO COMPLY WITH THESE ENERGY CODES.



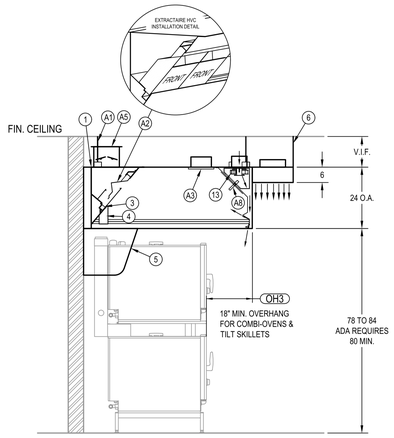
HOOD #A1L
PLAN VIEW

HOOD #A1R
PLAN VIEW



HOOD #A1L
ELEVATION VIEW

HOOD #A1R
ELEVATION VIEW



HOOD #A1L/R
SECTION VIEW

GENERAL NOTES:

NOTES TO ARCHITECT AND/OR CONTRACTOR: STREIVOR, INC. (STREIVOR AIR SYSTEMS, STREIVOR STAINLESS) IS A SPECIALIST IN THE LAYOUT AND DESIGN OF KITCHEN VENTILATION SYSTEMS, AND IN NO WAY PURPORTS TO BE ARCHITECTS OR ENGINEERS.

THIS PLAN IS SUBMITTED FOR THE CONVENIENCE OF THE ARCHITECT AND/OR CONTRACTOR AND IS DONE FROM AVAILABLE ARCHITECTURAL INFORMATION. ALL MEASUREMENTS ARE SUBJECT TO PHYSICAL VERIFICATION AND ANY DEVIATIONS OR DISCREPANCIES SHALL BE DIRECTED TO THE ATTENTION OF STREIVOR, INC. IN WRITING.

STREIVOR, INC. ACCEPTS NO RESPONSIBILITY FOR WORK DONE BY SAID ARCHITECT OR GENERAL CONTRACTOR OR THEIR REPRESENTATIVES OR SUBCONTRACTORS, AND WILL NOT STAND ANY EXPENSE FOR CHANGES MADE NECESSARY DUE TO LOCAL BUILDING CODES, ORDINANCES, STRUCTURAL CONDITIONS, OR BY ANY SUBSTITUTIONS OR CHANGES IN EQUIPMENT SHOWN ON THIS PLAN.

ANY ERRORS, AMBIGUITIES OR OMISSIONS IN THIS PLAN OR SPECIFICATIONS SHALL BE REPORTED TO STREIVOR, INC. FOR CORRECTIONS BEFORE ANY OF THE WORK IS STARTED. UNLESS EXPRESSLY STIPULATED, NO ADDITIONAL ALLOWANCE WILL BE MADE IN FAVOR OF THE OWNER OR CONTRACTOR, BY VIRTUE OF ERROR, AMBIGUITY OR OMISSION WHICH SHOULD HAVE BEEN DISCOVERED DURING THE PREPARATION OF BID ESTIMATES, AND DIRECTED TO THE ATTENTION OF STREIVOR, INC. IN A TIMELY MANNER.

PRE - INSTALLATION

OBTAIN, READ AND UNDERSTAND STREIVOR'S HOOD INSTALLATION, OPERATION AND MAINTENANCE MANUAL PRIOR TO INSTALLATION, STARTUP OR BALANCING.

INSTALLATION

ALL INSTALLATION, STARTUP AND BALANCING MUST BE PERFORMED BY QUALIFIED PERSONS AND IN ACCORDANCE WITH ALL APPLICABLE PREVAILING CODES AND STANDARDS.

STANDARD NFPA 96 HOOD CLEARANCES
0" TO NON-COMBUSTIBLE MATERIALS
3" TO LIMITED-COMBUSTIBLE MATERIALS
18" TO COMBUSTIBLE MATERIAL

OVERHEAD CLEARANCES
10" CLEARANCE IS REQUIRED ABOVE THE HOOD

REDUCED CLEARANCES
REDUCED CLEARANCES MAY BE AVAILIABLE. CONSULT FACTORY FOR REDUCED CLEARANCE OPTIONS.

TEST AND BALANCE
THE SPECIFIED EXHAUST CFMS LISTED ON THIS DRAWING MUST BE MET DURING TEST AND BALANCE OF THE HOOD SYSTEM(S).
VARIANCE EXHAUST = -0% +10%
VARIANCE SUPPLY*= -10% +0%

STREIVOR™ AIR SYSTEMS
"STRIVING FOR EXCELLENCE"
2150 KITTY HAWK ROAD, LIVERMORE, CA 94551
PHONE: (925) 960-9090 FAX:(925) 960-9055
WWW.STREIVOR.COM

PROJECT:
GOOGLE POR

---,-- -----
REALFOOD HS&D

HOOD #:	A1L/R
DATE:	03/09/22
DRAWN BY:	JML
CHECKED BY:	---
CONSULTANT:	REALFOOD HS&D
SCALE: (UNLESS OTHERWISE NOTED)	1/2" = 1'-0"

IF BAR DOES NOT MEASURE 1" THIS DRAWING IS NOT PLOTTED TO SCALE

	DESCRIPTION	DATE	INT
1	REMOVED HOOD J10	08/08/23	LRH
2	REVISED HOODS	08/23/23	SWB
3	---	--/--/--	---
4	---	--/--/--	---
5	---	--/--/--	---

DRAWING:
H-01
SHEET 01 OF 02

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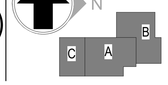
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CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS		
NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1

DRAWN: Author
APPRVD: Approver

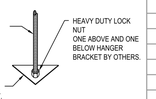
DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

MECHANICAL DETAILS
SCALE:

SHEET NUMBER:
FS-800
PHASE: BULDING PERMIT DOCUMENTS

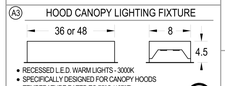
NOT TO SCALE - FOR REFERENCE ONLY

A6 HANGER BRACKET



TREADED ROD AND LOCK NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR. HANGER BRACKET IS PRE-PUNCHED AT FACTORY

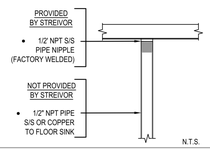
A3 HOOD CANOPY LIGHTING FIXTURE



- RECESSED L.E.D. WARM LIGHTS - 3000K
- SPECIFICALLY DESIGNED FOR CANOPY HOODS
- TEMPERATURE RATED TO 75°C (167°F)
- MEETS NFPA CODE 96 & NEC 410
- TOTAL LUMENS OUTPUT = 4228 (36"), 4925 (48")
- 43 WATTS (36"), 53 WATTS (48")

LISTED

A11 HOOD GUTTER & DRAIN FITTING DETAIL



HOOD SCHEDULE

NSF

NO.	MODEL	L	W	H	WEIGHT	EXHAUST SPEC. CFM	EXHAUST SP	EXHAUST CFM/FT	DIST. FROM COOKING SURFACE TO LOWER EDGE OF HOOD: OH1 MIN.	OH1 MAX.	MINIMUM OVERHANG OPEN SIDES: OH2 SIDE	OH2 FRONT	OH3 MAX.	EQUIP. DUTY TEMPERATURE
D3	DMH 1325720.5	132	57	20.5	445	2200	0.50	200	N/A	N/A	8	8	N/A	

1. GREATER EXHAUST AND/OR LESSER SUPPLY AIR FLOW RATES MAY BE REQUIRED FOR COMPLETE VAPOR AND SMOKE REMOVAL IN SPECIFIC INSTALLATION(S).
2. THE EXHAUST FAN MUST BE OPERATED WHENEVER THE COOKING EQUIPMENT IS TURNED ON. (NFPA SECTION 11.1.1)

HOOD CANOPY MATERIAL: ALL 304 SERIES STAINLESS STEEL

HOOD LEGEND

1. ALL WELDED ENCLOSURE
6. ENCLOSURE PANEL: INCLUDED
14. SEE ELECTRICAL SCHEDULE - CONSULT FACTORY FOR ALTERNATE INPUT POWER LOCATION(S)

ELECTRICAL SCHEDULE

CIRCUIT	DESCRIPTION	VOLTS/PHASE	AMPS	FEED FROM
E1	LIGHTS (D3)	120/1	2	CB
---	---	---	---	CB
---	---	---	---	CB
---	---	---	---	CB

CB: CIRCUIT BREAKER BY ELECTRICAL CONTRACTOR

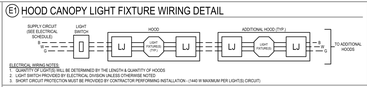
NOTE:
IF AN ELECTRICAL CONTROL PANEL FOR THE HOODS IS INCLUDED, THE ABOVE SCHEDULE IS NOT VALID. REFER TO DEMANDAIRE DRAWINGS.

ELECTRICAL LEGEND

- STREIVOR FACTORY WIRING
- FIELD WIRING BY OTHERS
- HOOD CANOPY LIGHT(S) JUNCTION BOX

NOTE: FACTORY INSTALLATION OF JUNCTION BOXES MAY DIFFER FROM LOCATION ON DRAWINGS

E1 HOOD CANOPY LIGHT FIXTURE WIRING DETAIL

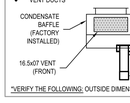


ELECTRICAL WIRING NOTES:
1. NUMBER OF LIGHTS REQUIRED WILL BE DETERMINED BY THE LENGTH & QUANTITY OF HOODS
2. LIGHT SWITCH PROVIDED BY ELECTRICAL DIVISION UNLESS OTHERWISE NOTED.
3. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION. (1440 W MAXIMUM PER LIGHT(S) CIRCUIT).

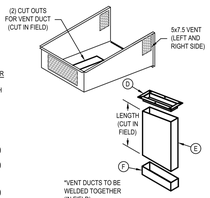
A12 VENT DUCT(S) DETAIL

PROVIDED BY: STREIVOR
- CONDENSATE BAFFLE
- (2) ANGLED VENT DUCT COLLAR - ITEM D
- (2) 36" VENT DUCT - ITEM E
- (2) BASE COLLAR - ITEM F

PROVIDED BY: KITCHEN EQUIPMENT CONTRACTOR
- CUT OUTS FOR VENT DUCT COLLAR(S)
- FIELD MODIFICATION OF VENT DUCT LENGTH
- INSTALLATION OF:
- VENT DUCT COLLARS
- VENT DUCTS



*VERIFY THE FOLLOWING: OUTSIDE DIMENSIONS OF VENT COWLS



GENERAL NOTES:

NOTES TO ARCHITECT AND/OR CONTRACTOR: STREIVOR, INC. (STREIVOR AIR SYSTEMS, STREIVOR STAINLESS) IS A SPECIALIST IN THE LAYOUT AND DESIGN OF KITCHEN VENTILATION SYSTEMS, AND IN NO WAY PURPORTS TO BE ARCHITECTS OR ENGINEERS.

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ANY ERRORS, AMBIGUITIES OR OMISSIONS IN THIS PLAN OR SPECIFICATIONS SHALL BE REPORTED TO STREIVOR, INC. FOR CORRECTIONS BEFORE ANY OF THE WORK IS STARTED. UNLESS EXPRESSLY STIPULATED, NO ADDITIONAL ALLOWANCE WILL BE MADE IN FAVOR OF THE OWNER OR CONTRACTOR, BY VIRTUE OF ERROR, AMBIGUITY OR OMISSION WHICH SHOULD HAVE BEEN DISCOVERED DURING THE PREPARATION OF BID ESTIMATES, AND DIRECTED TO THE ATTENTION OF STREIVOR, INC. IN A TIMELY MANNER.

PRE - INSTALLATION

OBTAIN, READ AND UNDERSTAND STREIVOR'S HOOD INSTALLATION, OPERATION AND MAINTENANCE MANUAL PRIOR TO INSTALLATION, STARTUP OR BALANCING.

INSTALLATION

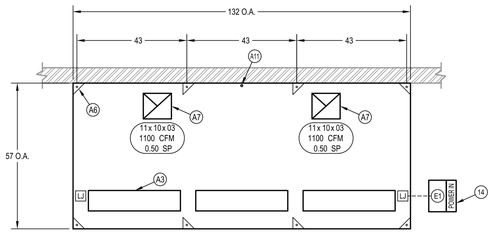
ALL INSTALLATION, STARTUP AND BALANCING MUST BE PERFORMED BY QUALIFIED PERSONS AND IN ACCORDANCE WITH ALL APPLICABLE PREVAILING CODES AND STANDARDS.

STANDARD NFPA 96 HOOD CLEARANCES
0" TO NON-COMBUSTIBLE MATERIALS
3" TO LIMITED-COMBUSTIBLE MATERIALS
18" TO COMBUSTIBLE MATERIAL

OVERHEAD CLEARANCES
10" CLEARANCE IS REQUIRED ABOVE THE HOOD

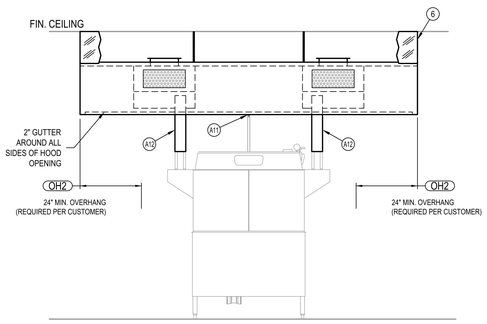
REDUCED CLEARANCES
REDUCED CLEARANCES MAY BE AVAILABLE. CONSULT FACTORY FOR REDUCED CLEARANCE OPTIONS.

TEST AND BALANCE
THE SPECIFIED EXHAUST CFMS LISTED ON THIS DRAWING MUST BE MET DURING TEST AND BALANCE OF THE HOOD SYSTEM(S).
VARIANCE EXHAUST = -0% +10%
VARIANCE SUPPLY= -10% +0%

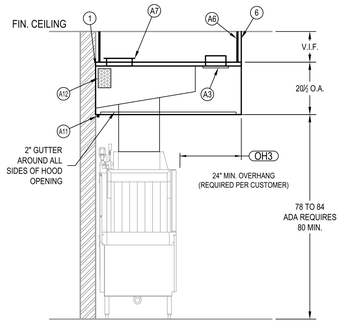


HOOD #D3
PLAN VIEW

HOOD #D3
NOT UL LISTED
(NOT REQUIRED FOR TYPE 2)



HOOD #D3
ELEVATION VIEW



HOOD #D3
SECTION VIEW

A7 EXHAUST COLLAR DETAIL



1" FLANGE AT TOP OF COLLAR ALLOWS FOR DUCT CONNECTIONS

N.T.S.

EXHAUST COLLAR APPROVAL

OPTIONS

- ☐ SHIP COLLAR LOOSE (THE PURCHASER ACCEPTS THE OBLIGATION AND COST OF CUTTING/WELDING COLLAR)
- ☐ WELD COLLAR TO HOOD (DIMENSIONS REQUIRED)

DRAWING APPROVAL

THIS DRAWING MUST BE REVIEWED, SIGNED & RETURNED TO STREIVOR AIR SYSTEMS PRIOR TO THE START OF FABRICATION.

VERIFY THE FOLLOWING:
1. ALL DIMENSIONAL INFORMATION, MOUNTING LOCATIONS & CLEARANCES.
2. THE LOCATION & TYPE OF COOKING EQUIPMENT.

APPROVED FOR FABRICATION

- ☐ APPROVED
- ☐ APPROVED AS NOTED
- ☐ REVISE & RESUBMIT

APPROVED BY _____ DATE _____

NOTE TO REVIEWER:
ANY CHANGES IN COOKING EQUIPMENT SUCH AS EQUIPMENT POSITION, TYPE AND/OR INCREASE IN ENERGY OUTPUT MAY AFFECT EXHAUST AIRFLOW. STREIVOR AIR SYSTEMS MUST BE NOTIFIED OF ANY CHANGES THAT OCCUR PRIOR TO FABRICATION, A RE-ENGINEERING OF THE EXHAUST AIRFLOW MAY BE REQUIRED.

STREIVOR™ AIR SYSTEMS
"STRIVING FOR EXCELLENCE"
2150 KITTY HAWK ROAD, LIVERMORE, CA 94551
PHONE: (925) 960-9090 FAX:(925) 960-9055
WWW.STREIVOR.COM

PROJECT:
GOOGLE POR

---,-- -----
REALFOOD HS&D

HOOD #:	D3
DATE:	03/09/2022
DRAWN BY:	KCS
CHECKED BY:	JML
CONSULTANT:	REALFOOD HS&D
SCALE: (UNLESS OTHERWISE NOTED)	1/2" = 1'-0"

IF BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT AUTTOO TO SCALE

	DESCRIPTION	DATE	INT
1	REMOVED HOOD J10	08/08/23	LRH
2	REVISED HOOD	08/23/23	SWB
3	---	--/--/--	---
4	---	--/--/--	---
5	---	--/--/--	---

DRAWING:
H-02
SHEET 02 OF 02

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9/17/2025 7:30:35 PM Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_FS_25.rvt

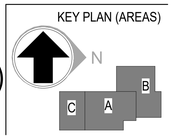
HDR, ENGINEERING INC.
1917 SOUTH 67th STREET
OMAHA, NEBRASKA 68106
(402) 399-1000
CA-0443

DLR GROUP
6457 FRANCES ST., STE. 200
OMAHA, NE 68106
(402) 742-4200

KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS

NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

MECH. DETAILS CONT.
SCALE:

SHEET NUMBER:
FS-801
PHASE: BULDING PERMIT DOCUMENTS

NOT TO SCALE - FOR REFERENCE ONLY

LISTINGS & STANDARDS

THIS WET CHEMICAL EXTINGUISHING SYSTEM IS ENGINEERED TO PROVIDE FIRE PROTECTION FOR RESTAURANT HOODS, DUCTS AND COOKING APPLIANCES, IS **UL 300** LISTED AND IS TO BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

- NFPA 17A 2017 EDITION
- NFPA 10 2018 EDITION
- NFPA 96 2017 EDITION

SECTIONS & CODES

NFPA 10 2018 EDITION

(8.6.2) MAXIMUM TRAVEL DISTANCE SHALL NOT EXCEED 30 FT (9.1 M) FROM THE HAZARD TO THE EXTINGUISHER(S)

NFPA 17A 2017 EDITION

(5.2.1.10.1) EACH MANUAL ACTUATION DEVICE SHALL BE INSTALLED NO MORE THAN 48 IN. (1220 MM) AND NO LESS THAN 42 IN. (1067 MM) ABOVE THE FLOOR.

NFPA 96 2017 EDITION

(8.2.3.1) A HOOD EXHAUST FAN(S) SHALL CONTINUE TO OPERATE AFTER THE EXTINGUISHING SYSTEM HAS BEEN ACTIVATED UNLESS FAN SHUTDOWN IS REQUIRED BY A LISTED COMPONENT OF THE VENTILATION SYSTEM OR BY THE DESIGN OF THE EXTINGUISHING SYSTEM.

(8.2.3.2) THE HOOD EXHAUST FAN SHALL START UPON ACTIVATION OF THE EXTINGUISHING SYSTEM IF THE EXHAUST FAN AND ALL COOKING EQUIPMENT SERVED BY THE FAN HAVE BEEN SHUT DOWN, UNLESS FAN SHUTDOWN IS REQUIRED BY A LISTED COMPONENT OF THE VENTILATION SYSTEM OR BY THE LISTING OF THE EXTINGUISHING SYSTEM.

(8.3.2) WHEN THE FIRE-EXTINGUISHING SYSTEM ACTIVATES, MAKEUP AIR SUPPLIED INTERNALLY TO A HOOD SHALL BE SHUT OFF.

(10.4.1) UPON ACTIVATION OF ANY FIRE EXTINGUISHING SYSTEM FOR A COOKING OPERATION, ALL SOURCES OF FUEL AND ELECTRICAL POWER THAT PRODUCE HEAT TO ALL EQUIPMENT REQUIRING PROTECTION BY THAT SYSTEM SHALL AUTOMATICALLY SHUT OFF.

(10.4.3) ANY GAS APPLIANCE NOT REQUIRING PROTECTION BUT LOCATED UNDER VENTILATING EQUIPMENT WHERE PROTECTED APPLIANCES ARE LOCATED SHALL BE AUTOMATICALLY SHUT OFF UPON ACTIVATION OF THE EXTINGUISHING SYSTEM

(10.4.4) SHUTOFF DEVICE SHALL REQUIRE MANUAL RESET.

(10.5.1.1) AT LEAST ONE MANUAL ACTUATION DEVICE SHALL BE LOCATED IN A MEANS OF EGRESS OR AT A LOCATION ACCEPTABLE TO THE AHJ.

(10.5.1.2) THE MANUAL ACTUATION DEVICE SHALL CLEARLY IDENTIFY THE HAZARD PROTECTED.

CMC 2018 EDITION

(513.9) MANUAL ACTIVATION SHALL BE ACCESSIBLE IN THE EVENT OF A FIRE. NOT LESS THAN ONE MANUAL ACTUATION DEVICE SHALL BE LOCATED NOT LESS THAN 10 FEET (3048 MM) AND NOT MORE THAN 20 FEET (6096 MM) FROM THE PROTECTED EXHAUST SYSTEM(S). [IBC 2018: 904.12.1]

INSTALLATION REQUIREMENTS

1. ALL PIPE SHALL BE SCHEDULE 40 BLACK IRON. CHROME PLATED/SLEEVED WHERE EXPOSED.
2. ALL CYLINDER SYSTEMS SHALL HAVE 3/8" SUPPLY LINES AND 3/8" BRANCH LINES.
3. ALL WIRE ROPE SHALL BE 1/16" STAINLESS STEEL AND RUN THROUGH 1/2" EMT CONDUIT.
4. U.L. LISTED CORNER PULLEYS REQUIRED WHENEVER THE STAINLESS STEEL CABLE DIRECTION CHANGES.
5. ALL EQUIPMENT WITH FIRE PROTECTION MUST BE SECURED TO FLOOR. (NOT BY STREIVOR)
6. SWIVEL ADAPTERS MAY BE ADDED TO NOZZLES FOR UP TO 30° ROTATION.

SYSTEM #1

HOOD #A1L

ZONE COVERAGE			COVERAGE DESCRIPTION	NOZZLE	QTY.	FLOW POINTS	PAGE
NEW	EXIST	APPLIANCE					
■	□	□	DUCT	--	-	#	-
□	■	□	PLENUM	--	-	#	-
□	□	■	GRIDDLE	--	-	#	-
□	□	■	RANGE	--	-	#	-
□	□	■	FRYER	--	-	#	-

HOOD #A1R

ZONE COVERAGE			COVERAGE DESCRIPTION	NOZZLE	QTY.	FLOW POINTS	PAGE
NEW	EXIST	APPLIANCE					
■	□	□	DUCT	--	-	#	-
□	■	□	PLENUM	--	-	#	-
□	□	■	TILT SKILLET	--	-	#	-

CYLINDER/PIPING LIMITATIONS

CYLINDER	FLOW POINTS	TOTAL LENGTH*	TOTAL VOLUME	FIRST TO LAST NOZZLE LENGTH*	FIRST TO LAST NOZZLE VOLUME
PCL-460	15	69.33 FT	2600 ML	53.33 FT	2000 ML
PCL-460	14	90.67 FT	3400 ML	80.00 FT	3000 ML
PCL-300	10	50.93 FT	1910 ML	30.00 FT	1125 ML
PCL-160	5	40.00 FT	1500 ML	16.00 FT	600 ML

CABLE/LINE LIMITATIONS

ITEM	LENGTH (MAX.)	PULLEYS (MAX.)	BRACKETS (MAX.)
FUSIBLE LINK (pg. 4-5)	150.00 FT	40	20
PULL STATION(S) (pg. 4-9)	150.00 FT	40	N/A
GAS VALVE(S) (pg. 4-10)	100.00 FT	30	N/A

PAGE NUMBERS REFERENCED FROM THE PYROCHEM FIRE SUPPRESSION SYSTEM TECHNICAL MANUAL
* CALCULATIONS BASED ON 3/8" PIPE (37.5 MLI/FT) (SEE pg. 3-14)
** ML STYLE FUSIBLE LINK INCLUDED WITH SYSTEM (NOT SUPPLIED BY STREIVOR). FUSIBLE LINK TEMPERATURE RATING TO BE VERIFIED AND DETERMINED IN FIELD.

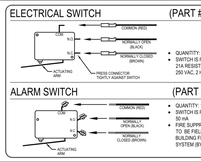
LEGEND

SYSTEM # : HOOD #

- CONTROL HEAD
- DETECTION LINE ROUTE
- PS — PULL STATION
- K — K-CLASS FIRE EXTINGUISHER (SUPPLIED BY OTHERS UNLESS NOTED OTHERWISE)
- RR — RESET RELAY
- GV — GAS VALVE
- PATH OF EGRESS

NMCH3 CONTROL HEAD (PART # 551203)

ELECTRICAL SWITCH (PART # 551154)

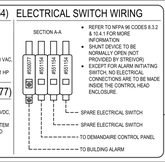


- QUANTITY: 3
- SWITCH IS RATED AT 250 VAC, 21A RESISTIVE; 250 VAC, 2 HP; 125 VAC, 1 HP

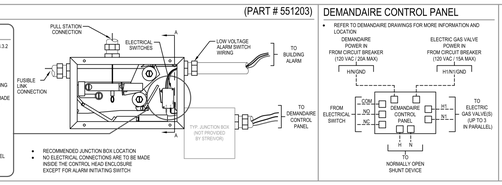
ALARM SWITCH (PART # 550077)

- QUANTITY: 1
- SWITCH IS RATED AT 28 VDC, 50 w
- THE SUPPRESSION SYSTEM TO BE FIELD WIRED INTO BUILDING FIRE ALARM SYSTEM (BY OTHERS).

ELECTRICAL SWITCH WIRING



- REFER TO NFPA 96 CODES 8.3.2.1 TO 8.3.1 FOR MORE INFORMATION
- SHUNT DEVICE TO BE NORMALLY OPEN (NOT PROVIDED BY STREIVOR)
- EXCEPT FOR ALARM INITIATING SWITCH, NO ELECTRICAL CONNECTIONS ARE TO BE MADE INSIDE THE CONTROL HEAD ENCLOSURE.

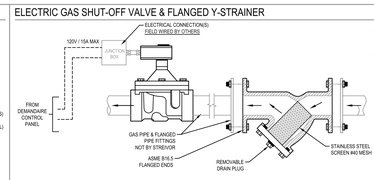


- RECOMMENDED JUNCTION BOX LOCATION
- NO ELECTRICAL CONNECTIONS ARE TO BE MADE INSIDE THE CONTROL HEAD ENCLOSURE EXCEPT FOR ALARM INITIATING SWITCH

DEMANDAIRE CONTROL PANEL

- REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION AND LOCATION
- DEMANDAIRE POWER IN FROM CIRCUIT BREAKER (120 VAC / 20A MAX)
- ELECTRIC GAS VALVE POWER IN FROM CIRCUIT BREAKER (120 VAC / 15A MAX)

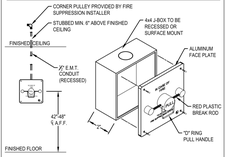
ELECTRIC GAS SHUT-OFF VALVE & FLANGED Y-STRAINER (SEE MEP DRAWINGS FOR LOCATION)



- GAS SHUT-OFF VALVE(S) TO BE SIZED AND LOCATED PER MEP DRAWINGS **(MAXIMUM VALVE SIZE: 3" NPT)**
- VALVE(S) AND STRAINERS TO BE INSTALLED BY PLUMBING DIVISION
- EACH VALVE REQUIRES SEPARATE 120VAC/1, 15A CIRCUIT
- ACTIVATION OF THE FIRE EXTINGUISHING SYSTEM SHALL SHUT OFF THE VALVE PREVENTING GAS FLOW AND VALVE TO REMAIN CLOSED UNTIL THE RESET RELAY IS MANUALLY RESET.
- Y-STRAINER REQUIRED FOR THE PROTECTION OF THE GAS VALVE. INSTALL Y-STRAINER ON THE INLET SIDE OF THE GAS VALVE (AS CLOSE AS POSSIBLE)

Y-STRAINER NOT PROVIDED BY STREIVOR UNLESS SPECIFICALLY INCLUDED IN PURCHASE ORDER.

PULL STATION (PART # 551074)



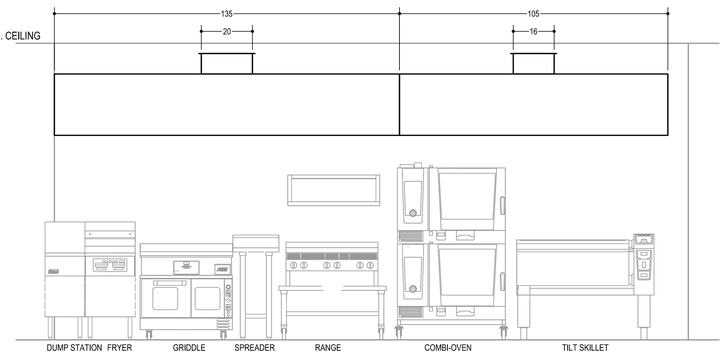
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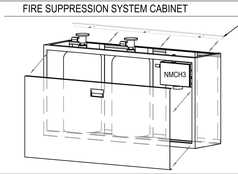


SYSTEM #1 : HOOD #A1L
ELEVATION VIEW - SCALE : 1/2" = 1'-0"

SYSTEM #1 : HOOD #A1R
ELEVATION VIEW - SCALE : 1/2" = 1'-0"

NOTE: FIELD PIPING TO BE INSTALLED BY A STREIVOR APPOINTED FIRE INSTALLER

FIRE SUPPRESSION SYSTEM CABINET



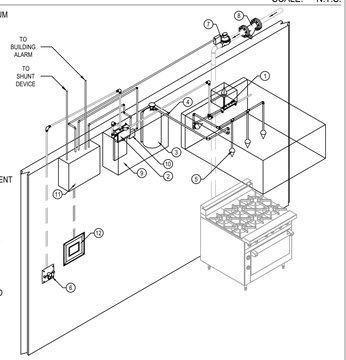
- 36" MINIMUM CLEARANCE REQUIRED IN FRONT OF THE REMOVABLE CABINET DOOR.
- SUPPORT BACKING REQUIRED IF CABINET MOUNTS TO WALL
- CABINET AND FIRE SUPPRESSION SYSTEM COMPONENTS APPROXIMATELY 100 LBS/FT. SEE PATH OF EGRESS DRAWING FOR CABINET DIMENSIONS)

CYLINDER	PCL-160	PCL-300	PCL-460
WEIGHT	34 LBS	53 LBS	83 LBS

PYRO-CHEM FIRE SUPPRESSION SYSTEM

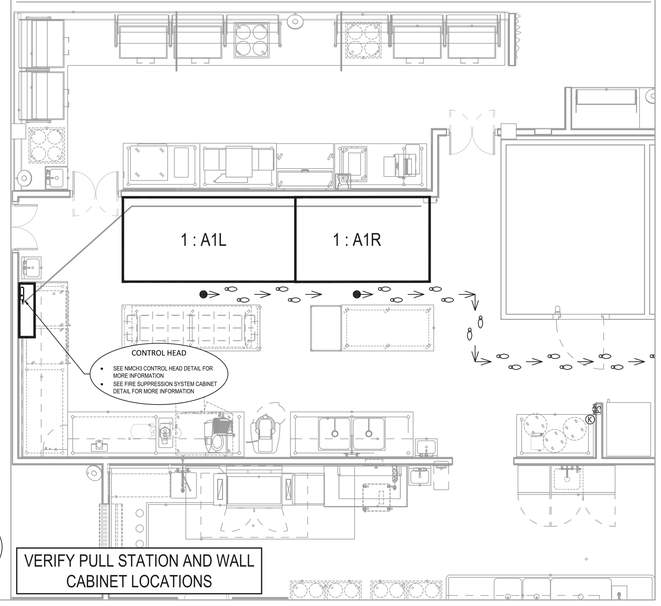
SCALE: N.T.S.

1. HEAT SENSING DETECTORS LOCATED OVER APPLIANCES AND IN DUCT/PLENUM AREAS MONITOR COOKING TEMPERATURE.
2. WHEN A FIRE OCCURS AND THE TEMPERATURE RATING OF THE DETECTOR IS EXCEEDED, THE FUSIBLE LINK FRACTURES AND TRIGGERS A MECHANICAL ACTIVATION OF THE CONTROL HEAD, RELEASING THE AGENT FROM THE PRESSURIZED CYLINDER.
3. PYRO-CHEM'S HIGHLY CONCENTRATED LIQUID FIRE EXTINGUISHING AGENT, STORED IN A D.O.T. RATED STEEL CYLINDER, FLOWS THROUGH DISTRIBUTION PIPING TO APPLIANCE, DUCT, AND PLENUM AREAS.
4. PRE-ENGINEERED PIPING INSTALLED IN ACCORDANCE WITH UL LISTED PARAMETERS TO DISTRIBUTE EXTINGUISHING AGENT TO NOZZLES.
5. PYRO-CHEM'S PROPRIETARY NOZZLES, WITH CUSTOMIZED DISCHARGE PATTERNS DEVELOPED SPECIFICALLY FOR EACH APPLIANCE, DIRECT THE AGENT ACCURATELY TO ENSURE RAPID FIRE SUPPRESSION.
6. REMOTE PULL STATION PROVIDES A MANUAL MEANS OF ACTIVATING THE SYSTEM.
7. AUXILIARY OUTPUT FUNCTIONS (GAS SHUT-OFF VALVE) PROVIDE A MEANS TO INTERRUPT THE FLOW OF COOKING GAS.
8. Y-STRAINER REQUIRED FOR THE PROTECTION OF THE GAS VALVE
9. THE FIRE EXTINGUISHING AGENT CYLINDER AND MECHANICAL CONTROL HEAD CAN BE MOUNTED IN AN OEM STAINLESS STEEL ENCLOSURE WITH UL LISTED MOUNTING BRACKET
10. JUNCTION BOX FOR NMCH3 CONTROL HEAD ELECTRICAL CONNECTIONS.
11. STREIVOR'S DEMANDAIRE CONTROL PANEL MONITORS FIRE SUPPRESSION ELECTRICAL SWITCH AND SENDS APPROPRIATE CONTROL SIGNALS TO EXHAUST/SUPPLY FAN VFDS UPON ACTIVATION OF FIRE SUPPRESSION SYSTEM.
12. STREIVOR'S HMI TOUCH SCREEN FOR DEMANDAIRE CONTROL PANEL.



PATH OF EGRESS

SCALE: 1/4" = 1'-0"



GV
- GAS SHUT-OFF VALVE(S) TO BE SIZED AND LOCATED PER MEP DRAWINGS **(MAXIMUM VALVE SIZE: 3" NPT)**
- REFER TO ELECTRIC GAS SHUT-OFF VALVE & FLANGED Y-STRAINER DETAIL
- MUST BE ACCESSIBLE

VERIFY PULL STATION AND WALL CABINET LOCATIONS

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"STRIVING FOR EXCELLENCE"
2150 KITTY HAWK ROAD, LIVERMORE, CA 94551
PHONE: (925) 960-9090 FAX: (925) 960-9055
WWW.STREIVOR.COM

PROJECT:
GOOGLE POR

---, -- -----
REALFOOD HS&D

ITEM #:	FSS
SYSTEM #:	1
HOOD #:	A1L & A1R
DATE:	03/11/2022
DRAWN BY:	KCS
CHECKED BY:	JML
CONSULTANT:	REALFOOD HS&D
SCALE: (UNLESS OTHERWISE NOTED)	1/2" = 1' - 0"

IF BAR DOES NOT MEASURE 1" THIS DRAWING IS NOT PLOTTED TO SCALE

	DESCRIPTION	DATE	INT
1	REMOVED HOOD #J10	08/08/23	SWB
2	UPDATED COOKLINE	08/23/23	JML
3	---	--/--/--	---
4	---	--/--/--	---
5	---	--/--/--	---

DRAWING:
F-01
SHEET 01 OF 01

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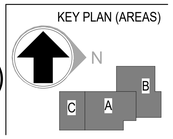
HDR, ENGINEERING INC.
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OMAHA, NEBRASKA 68106
(402) 399-1000
CA-0443

DLR GROUP
6457 FRANCES ST., STE. 200
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(402) 742-4200

KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS		
NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1

DRAWN: Author
APPRVD: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

MECH. DETAILS CONT.
SCALE:

SHEET NUMBER:
FS-802
PHASE: BULDING PERMIT DOCUMENTS

NOT TO SCALE - FOR REFERENCE ONLY

GENERAL NOTES

NOTES TO ARCHITECT AND/OR CONTRACTOR: STREIVOR, INC. (STREIVOR AIR SYSTEMS, STREIVOR STAINLESS) IS A SPECIALIST IN THE LAYOUT AND DESIGN OF KITCHEN VENTILATION SYSTEMS, AND IN NO WAY PURPORTS TO BE ARCHITECTS OR ENGINEERS.

THIS PLAN IS SUBMITTED FOR THE CONVENIENCE OF THE ARCHITECT AND/OR CONTRACTOR AND IS DONE FROM AVAILABLE ARCHITECTURAL INFORMATION. ALL MEASUREMENTS ARE SUBJECT TO PHYSICAL VERIFICATION AND ANY DEVIATIONS OR DISCREPANCIES SHALL BE DIRECTED TO THE ATTENTION OF STREIVOR, INC. IN WRITING.

STREIVOR, INC. ACCEPTS NO RESPONSIBILITY FOR WORK DONE BY SAID ARCHITECT OR GENERAL CONTRACTOR OR THEIR REPRESENTATIVES OR SUBCONTRACTORS, AND WILL NOT STAND ANY EXPENSE FOR CHANGES MADE NECESSARY DUE TO LOCAL BUILDING CODES, ORDINANCES, STRUCTURAL CONDITIONS, OR BY ANY SUBSTITUTIONS OR CHANGES IN EQUIPMENT SHOWN ON THIS PLAN.

ANY ERRORS, AMBIGUITIES OR OMISSIONS IN THIS PLAN OR SPECIFICATIONS SHALL BE REPORTED TO STREIVOR, INC. FOR CORRECTIONS BEFORE ANY OF THE WORK IS STARTED. UNLESS EXPRESSLY STIPULATED, NO ADDITIONAL ALLOWANCE WILL BE MADE IN FAVOR OF THE OWNER OR CONTRACTOR. BY VIRTUE OF ERROR, AMBIGUITY OR OMISSION WHICH SHOULD HAVE BEEN DISCOVERED DURING THE PREPARATION OF BID ESTIMATES, AND DIRECTED TO THE ATTENTION OF STREIVOR, INC. IN A TIMELY MANNER.

PRE-INSTALLATION

OBTAIN, READ AND UNDERSTAND STREIVOR'S DEMANDAIRE INSTALLATION, OPERATION AND MAINTENANCE MANUAL PRIOR TO INSTALLATION, OR STARTUP OR BALANCING.

INSTALLATION

ALL INSTALLATION AND STARTUP MUST BE PERFORMED BY QUALIFIED PERSONS AND IN ACCORDANCE WITH ALL APPLICABLE PREVAILING CODES AND STANDARDS

WIRING NOTES

1. FIELD WIRING TERMINALS USE COPPER WIRE ONLY.
2. WIRE MUST BE RATED UP TO 600V
3. WIRE TEMPERATURE RATING 60° C MIN
4. LARGE TERMINAL BLOCK TIGHTENING TORQUE 1.5 - 1.8 (NM)
5. SMALL TERMINAL BLOCK TIGHTENING TORQUE 0.6 - 0.8 (NM)
6. SHIELDS OF SHIELDED CABLES MUST BE GROUNDED ON ONE SIDE

COMMISSIONING NOTES

IF COMMISSIONING IS INCLUDED, STREIVOR'S DEMANDAIRE PRE-COMMISSIONING CHECKLIST MUST BE SIGNED AND RETURNED BY THE CUSTOMER A MINIMUM OF **15 CALENDAR DAYS** PRIOR TO THE REQUESTED COMMISSIONING DATE TO AVOID INCURRING ADDITIONAL TRAVEL AND/OR EXPEDITING COSTS

HOOD SCHEDULE

HOOD	GROUP	SUPPLY FAN	EXHAUST FAN	FSS#
A1L	---	SF-X	EF-X	1
A1R	---	SF-X	EF-X	1
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---

ELECTRICAL SCHEDULE

CIRCUIT DESCRIPTION	HP	V/Ø	AMPS	FEED
CONTROL PANEL	---	120/1	20	CB
GAS VALVE	---	120/1	20	CB
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---

REFER TO HOOD DRAWINGS FOR HOOD DETAILS

CB: CIRCUIT BREAKER BY ELECTRICAL CONTRACTOR

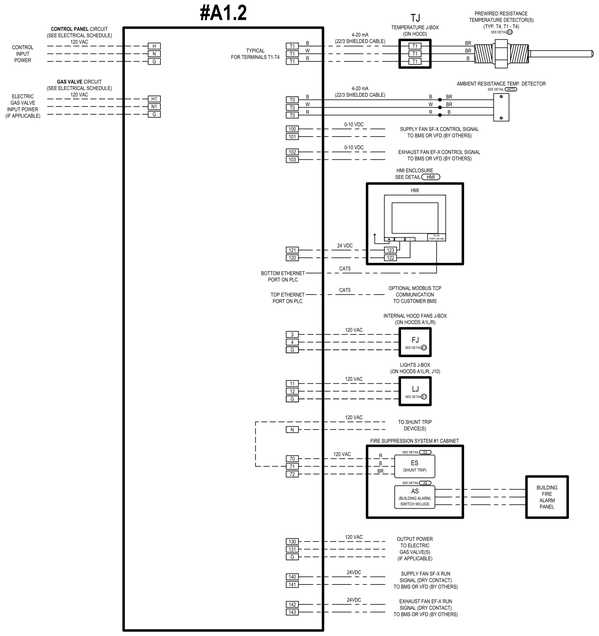
ELECTRICAL ROUGH-IN SCHEDULE

ITEM	DETAIL	ROUGH-IN REQUIREMENTS	ELECTRICAL CONDUIT
DEMANDAIRE CONTROL PANEL	DCP	SURFACE MOUNTED	120 VAC, 24 VDC, 4-20 mA
HMI ENCLOSURE	HMI	10 1/4" X 9 1/4" I.D. FRAMED OPENING	24 VDC, 4-20 mA
AMBIENT TEMPERATURE MONITOR	ARTD	MOUNTED TO DEMANDAIRE CABINET	4-20 mA
---	---	---	---

ELECTRICAL CONTRACTOR TO VERIFY ROUGH-IN LOCATION AND ELECTRICAL REQUIREMENTS

UL LISTED STD 508A

DEMANDAIRE GOLD CONTROL PANEL WIRING DIAGRAM #A1.2

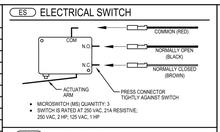


NOTE:
DEMANDAIRE CONTROL PANEL ENCLOSURES REQUIRE
36 INCHES MININUM OF CLEAR SPACE IN FRONT OF THE DOOR

LEGEND

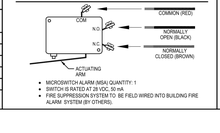
- STREIVOR FACTORY WIRING
- HIGH VOLTAGE FIELD WIRING BY OTHERS
- 120/1 VAC FIELD WIRING BY OTHERS
- LOW VOLTAGE FIELD WIRING BY OTHERS
- 120/1 VAC ELECTRICAL CONDUIT (ELECTRICAL CONTRACTOR TO VERIFY QUANTITY AND SIZE)
- LOW VOLTAGE ELECTRICAL CONDUIT (ELECTRICAL CONTRACTOR TO VERIFY QUANTITY AND SIZE)
- LJ HOOD CANOPY LIGHT(S) JUNCTION BOX
- TJ TEMP. MONITOR(S) JUNCTION BOX
- FJ INTERNAL HOOD FAN(S) JUNCTION BOX
- T# TEMPERATURE MONITOR
- VFD VARIABLE FREQUENCY DRIVE
- BMS BUILDING MANAGEMENT SYSTEM

ES ELECTRICAL SWITCH



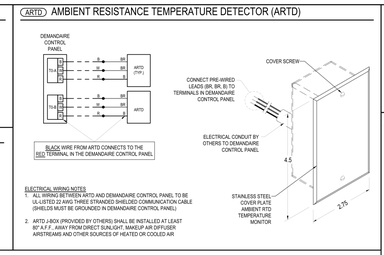
- MICRORSWITCH (MS) QUANTITY: 3
- SWITCH IS RATED AT 250 VAC, 21A RESISTIVE; 250 VAC, 2 HP, 125 VAC, 1 HP

AS ALARM SWITCH



- MICROSWITCH ALARM (MSA) QUANTITY: 1
- SWITCH IS RATED AT 28 VDC, 50 mA
- FIRE SUPPRESSION SYSTEM TO BE FIELD WIRED INTO BUILDING FIRE ALARM SYSTEM (BY OTHERS).

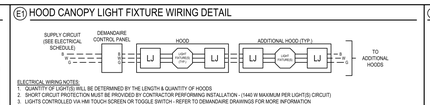
ARTD AMBIENT RESISTANCE TEMPERATURE DETECTOR (ARTD)



ELECTRICAL WIRING NOTES

1. ALL WIRING BETWEEN ARTD AND DEMANDAIRE CONTROL PANEL TO BE UL-LISTED 22 AWG THREE STRANDED SHIELDED COMMUNICATION CABLE (SHIELDS MUST BE GROUNDED IN DEMANDAIRE CONTROL PANEL)
2. ARTD J-BOX (PROVIDED BY OTHERS) SHALL BE INSTALLED AT LEAST 80" A.F.F., AWAY FROM DIRECT SUNLIGHT, MAKEUP AIR DIFFUSER AIRSTREAMS AND OTHER SOURCES OF HEATED OR COOLED AIR

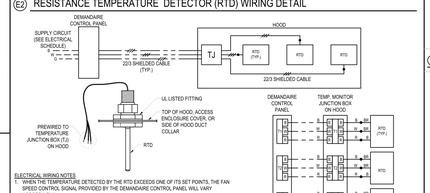
E1 HOOD CANOPY LIGHT FIXTURE WIRING DETAIL



ELECTRICAL WIRING NOTES:

1. QUANTITY OF LIGHT(S) WILL BE DETERMINED BY THE LENGTH & QUANTITY OF HOODS
2. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION - (1440 W MAXIMUM PER LIGHT(S) CIRCUIT)
3. LIGHTS CONTROLLED VIA HMI TOUCH SCREEN OR TOGGLE SWITCH - REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION

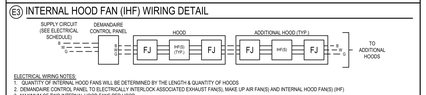
E2 RESISTANCE TEMPERATURE DETECTOR (RTD) WIRING DETAIL



ELECTRICAL WIRING NOTES

1. WHEN THE TEMPERATURE DETECTED BY THE RTD EXCEEDS ONE OF ITS SET POINTS, THE FAN SPEED CONTROL SIGNAL PROVIDED BY THE DEMANDAIRE CONTROL PANEL WILL VARY ACCORDINGLY
2. EACH RTD SET POINT IS ADJUSTABLE VIA HMI TOUCH SCREEN SETTINGS
3. ALL WIRING BETWEEN RTD AND DEMANDAIRE CONTROL PANEL TO BE UL-LISTED 22 AWG THREE STRANDED SHIELDED COMMUNICATION CABLE
4. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION
5. REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION

E3 INTERNAL HOOD FAN (IHF) WIRING DETAIL

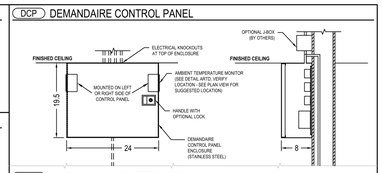


ELECTRICAL WIRING NOTES:

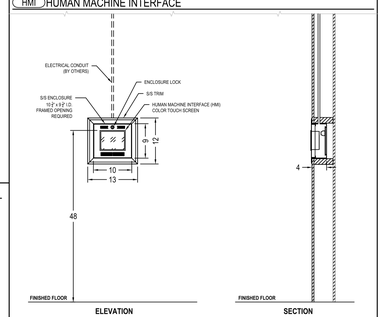
1. QUANTITY OF INTERNAL HOOD FANS WILL BE DETERMINED BY THE LENGTH & QUANTITY OF HOODS
2. DEMANDAIRE CONTROL PANEL TO ELECTRICALLY INTERLOCK ASSOCIATED EXHAUST FAN(S), MAKE UP AIR FAN(S) AND INTERNAL HOOD FAN(S) (IHF)
3. MAXIMUM OF TWO INTERNAL HOOD FANS PER HOOD
4. SHORT CIRCUIT PROTECTION MUST BE PROVIDED BY CONTRACTOR PERFORMING INSTALLATION
5. REFER TO DEMANDAIRE DRAWINGS FOR MORE INFORMATION
6. DEMANDAIRE CONTROL PANEL CONTROLS INTERNAL HOOD FANS TO COMPLY WITH NFPA 96 SECTION 8.3.2

NFPA 96 SECTION 8.3.2:
WHEN FITS FIRE-EXTINGUISHING SYSTEM DISCHARGES, MAKEUP AIR SUPPLIED INTERNALLY TO A HOOD SHALL BE SHUT OFF

DCP DEMANDAIRE CONTROL PANEL



HMI HUMAN MACHINE INTERFACE



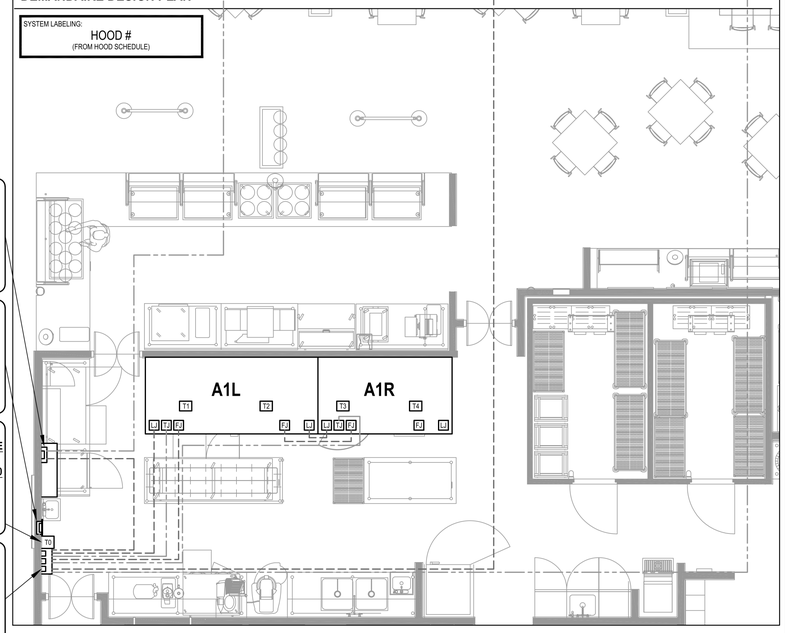
BUILDING FIRE ALARM
NFPA 96 - 10.6.2: WHERE A FIRE ALARM SIGNALING SYSTEM IS SERVING THE OCCUPANCY WHERE THE EXTINGUISHING SYSTEM IS LOCATED, THE ACTIVATION OF THE AUTOMATIC FIRE-EXTINGUISHING SYSTEM SHALL ACTIVATE THE FIRE ALARM SIGNALING SYSTEM. SEE DETAIL AS — BUILDING ALARM

ELECTRIC GAS SHUT-OFF VALVE(S)
GAS SHUT-OFF VALVE(S) TO BE SIZED AND LOCATED PER MEP DRAWINGS. SEE DEMANDAIRE WIRING DIAGRAM FOR TERMINAL LABELS AND QUANTITY OF GAS VALVE OUTPUT POWER CIRCUITS (UP TO THREE GAS VALVES CAN BE WIRED IN PARALLEL ON ONE OUTPUT POWER CIRCUIT).
GAS VALVE CIRCUIT: 120V/1, 20 AMPS (SEE ELECTRICAL SCHEDULE) — GV

VARIABLE FREQUENCY DRIVE(S)
DCKV FAN MOTORS TO BE ECM OR RATED FOR USE WITH VFD.
VFD(S) TO BE SIZED/LOCATED PER MEP DRAWINGS.
VFD(S) NOT PROVIDED BY STREIVOR.
SEE DEMANDAIRE WIRING DIAGRAM FOR TERMINAL LABELS AND QUANTITY OF CONTROL SIGNALS/CONTACTS. — VFD/BMS

DEMANDAIRE DESIGN PLAN

SYSTEM LABELING:
HOOD #
(FROM HOOD SCHEDULE)



FIRE SUPPRESSION SYSTEM (FSS) #1 MICROSWITCHES
LOCATED IN FSS #1 UTILITY CABINET
SEE DETAILS ES & AS

HUMAN MACHINE INTERFACE (HMI) TOUCH SCREEN
SEE DETAIL HMI

AMBIENT RESISTANCE TEMPERATURE DETECTOR (ARTD) #T0
SEE DETAILS DCP & ARTD

DEMANDAIRE CONTROL PANEL #A1.2
SEE ELECTRICAL SCHEDULE & DETAIL DCP

DRAWING APPROVAL

THIS DRAWING MUST BE REVIEWED, SIGNED & RETURNED TO STREIVOR AIR SYSTEMS PRIOR TO THE START OF FABRICATION.

VERIFY THE FOLLOWING:

1. ALL DIMENSIONAL INFORMATION, MOUNTING LOCATIONS & CLEARANCES.
2. FAN HORSEPOWER, VOLTAGE & PHASE (IF VFDS OR MOTOR STARTERS ARE PROVIDED BY STREIVOR)

APPROVED FOR FABRICATION

- ☐ APPROVED
- ☐ APPROVED AS NOTED
- ☐ REVISE & RESUBMIT

APPROVED BY _____ DATE _____

NOTE TO REVIEWER:
ANY CHANGES IN COOKING EQUIPMENT SUCH AS EQUIPMENT POSITION, TYPE AND/OR INCREASE IN ENERGY OUTPUT MAY AFFECT EXHAUST AIRFLOW. STREIVOR AIR SYSTEMS MUST BE NOTIFIED OF ANY CHANGES THAT OCCUR PRIOR TO FABRICATION, AS RE-ENGINEERING OF THE EXHAUST AIRFLOW MAY BE REQUIRED.

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---,-- -----
REALFOOD HOSPITALITY, STRATEGY AND DESIGN

SHORT CIRCUIT CURRENT: 5KA RMS SYMMETRICAL, 120 V MAXIMUM

SERIAL NO.	DA--------
CONTROL PANEL NO.	---
C.P. ENCLOSURE NO.	---
HMI ENCLOSURE NO.	---
ITEM #:	A1.2
MODEL:	GOLD
DATE:	03/10/22
DRAWN BY:	JWS
CHECKED BY:	JML
CONSULTANT:	REALFOOD HOSP, STRAT, & DESIGN
SCALE:	N.T.S.

	DESCRIPTION	DATE	INT
4	REVISED FLOOR PLAN	06/13/23	LRH
3	REMOVED HOOD #J10	08/08/23	JWS
2	REVISED HOOD SIZES	08/23/23	LRH
1	---	--/--/--	---
0	---	--/--/--	---

DRAWING:
DA-01
SHEET 01 OF 01

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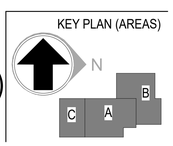
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(918) 380-8868

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS		
NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1

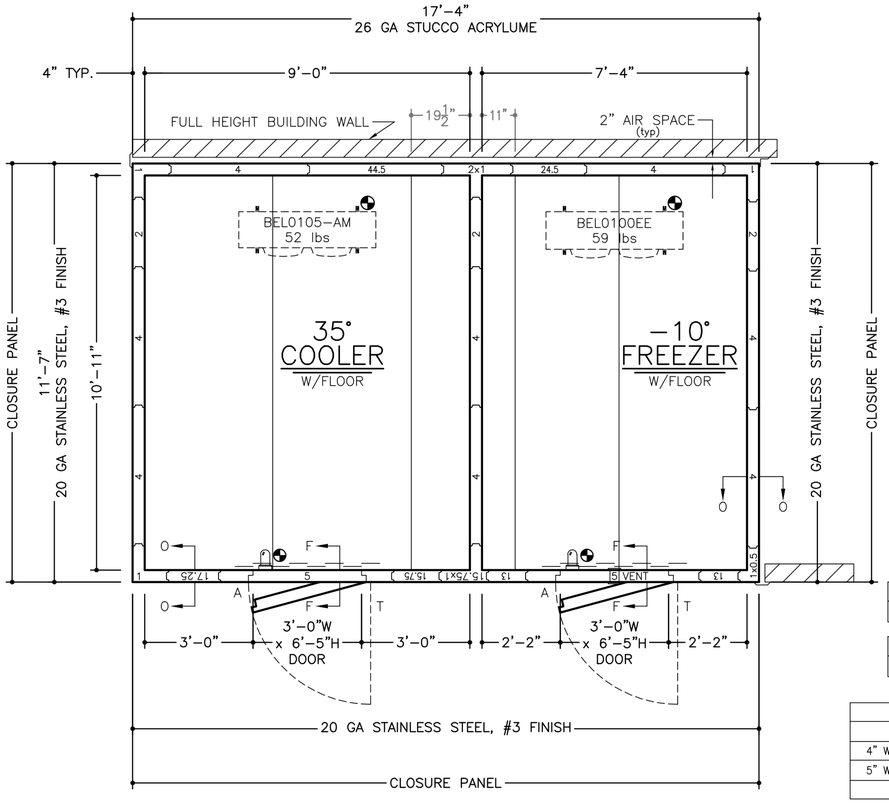
DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

MECH. DETAILS CONT.
SCALE:

SHEET NUMBER:
FS-803
PHASE: BULDING PERMIT DOCUMENTS

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FREEZER DOOR	
DOOR FRAME KWHr/DAY	2.016

COOLER DOOR	
DOOR FRAME KWHr/DAY	0.312

INSULATION R-VALUES		
PANEL TYPE	COOLER	FREEZER
4" WALLS, ROOFS & DOORS	R-29	R-32
5" WALLS, ROOFS & DOORS	R-36	R-40
FLOORS	R-25	R-28

ITEM #E1, E1.1, E1.2, E2, E2.1 & E2.2

ELECTRICAL DATA		
⊕ = POINT OF ELECTRICAL CONNECTIONS.		
FREEZER		
CONDENSING UNIT:	208-230V/60/3ø	10.9/15.7/20.0 (RLA/MCA/MOP)
EVAPORATOR:	208-230v/60/1ø	1.5/9.5 AMPS
COOLER		
CONDENSING UNIT:	208-230V/60/3ø	11.5/14.4/20.0 (RLA/MCA/MOP)
EVAPORATOR:	208-230v/60/1ø	1.1 AMPS
WALK-IN DOORS:	115v/1ø - 350w*	

*NOTE: ADD WATTAGE FOR EACH ADDITIONAL LIGHT FIXTURE IN ACCESSORIES.

☐ APPROVED SIGNATURE _____

☐ APPROVED AS NOTED PRINT NAME _____

☐ REVISE & RESUBMIT DATE _____

1) Please verify that door swing and location are correct.

2) If this walk-in is to be installed in a depression, or quarry tile is to be applied to the interior, depression depths or tile thickness must be specified to insure proper door height.

3) All site preparation, floor or slab construction, plumbing, electrical connections (including control wiring) by others.

4) ⊕ Electrical: 115-60-1 required above latch side of each door, through ceiling, to operate frame heater and light.

5) Special note to General Contractor and his Sub Contractor for quarry tile or concrete wearing floors: the sheet metal panel facings may be susceptible to staining due to excessive moisture created by hydration of concrete type materials. Therefore, it is absolutely necessary that each room be properly ventilated. Also note that special precautions must be taken when using muriatic acid due to effects hydrochloric acid fumes have on aluminum and stainless steel.

6) This drawing and information contained herein are the exclusive property of American Panel Corporation. It shall be returned to American Panel Corporation upon demand and shall not be reproduced in whole or part, disclosed to anyone else, or used without the written consent of American Panel Corporation.

~SPECIFICATIONS~

BOX HEIGHT: FREEZER - 9'-0" OVERALL (8'-1 5/8" INTERIOR)
COOLER - 9'-0" OVERALL (8'-1 5/8" INTERIOR)

CONSTRUCTION: FOAMED IN PLACE
NSF LISTED, STANDARD NO. 7

INSULATION: 4" URETHANE, FINISHED PANEL
UL CLASSIFIED FLAME SPREAD 20
CORE SMOKE DEVELOPED 250

INSTALLATION: INDOOR

FLOOR: (SEE DETAILS) FREEZER - STANDARD
COOLER - STANDARD

DOOR HARDWARE & ACCESSORIES: (EACH DOOR)
SMOOTH POLISHED DOOR HARDWARE
DEADBOLT HANDLE W/KEYED CYLINDER LOCK, PADLOCK
PROVISION & QUARTER TURN INSIDE RELEASE (EXTERIOR DOORS ONLY)
FRAME HEATER WIRE
HYDRAULIC DOOR CLOSER
IC+ WALK-IN DOOR CONTROLLER AND ALARM SYSTEM INCLUDING:
INTEGRATED LIGHT SWITCH WITH AUTOMATIC LIGHT OFF AND 3-WAY & 4-WAY CAPABILITY
TEMPERATURE MONITOR AND LOGGER WITH HIGH TEMP. AND LOW TEMP. VISUAL AND AUDIO ALARM
F OR C TEMPERATURE SELECTION
INTEGRATED DRY CONTACT FOR ALARM SIGNALING & POWER FAILURE (1A @ 24VAC, 1A @ 30VDC)
DOOR AND WINDOW HEATER CONTROL (WHEN SO EQUIPPED)
HACCP PREVIEW VIA ONBOARD LCD SCREEN
HACCP DOWNLOAD VIA USB
WIFI CONNECTIVITY (INTERNET ENABLED WIFI NETWORK NEEDED)
BATTERY BACKUP
TEMPERATURE ALARM NOTIFICATION VIA EMAIL &/OR EMAIL TO SMS TEXT MESSAGES
POWER FAILURE NOTIFICATION VIA EMAIL &/OR EMAIL TO SMS TEXT MESSAGES
(FOR THIS FEATURE TO WORK THE LOCAL WIFI NETWORK MUST BE
POWER PROTECTED AND WORKING AT THE TIME OF POWER FAILURE EVENT)
AUTOMATIC AND ON DEMAND TRANSMISSION OF HACCP DATA VIA EMAIL
ADAPTIVE SETTINGS
AIR TEMPERATURE PROBE
DOOR SWITCH TO ENABLE DOOR AJAR ALARM, DOOR AJAR NOTIFICATION VIA EMAIL &/OR
EMAIL TO SMS TEXT MESSAGES, AND AUTOMATIC LIGHTS ON WHEN DOOR OPENS
PANIC ALARM WITH ILLUMINATED PANIC BUTTON, ALARM BUZZER WITH LED,
& NOTIFICATION VIA EMAIL &/OR EMAIL TO SMS TEXT MESSAGES
4.5" STAINLESS STEEL FLUSH MOUNT DIAL THERMOMETER W/15' PROBE ~ 60" A.F.F. HINGE SIDE
KASON SCREW-IN VAPOR PROOF LIGHT FIXTURE
W/8.5 WATT SYLVANIA LED BULB & GLOBE
STRIP CURTAIN
3 - SPRING LOADED CAM RISE HINGES
1/10" DIAMOND ALUMINUM TREAD PLATE KICKPLATES @ 30" HIGH I/S & O/S
KASON #1827 PRESSURE RELIEF VENT (FREEZER DOOR ONLY)

ACCESSORIES: (SHIPPED LOOSE) VERIFY HEIGHT
2 - PCS. TRIM ANGLE - 20 GA STAINLESS STEEL, #3 FINISH
4 - 48" (1810LC) LED LIGHT FIXTURE(S) @ 40W EACH
CLOSURE PANEL TO AN EXISTING CEILING (PER PLAN)
20 GA STAINLESS STEEL, #3 FINISH

METAL FINISHES:
INTERIOR & EXTERIOR DOOR PLUGS - 20 GA STAINLESS STEEL, #3 FINISH
INTERIOR WALLS - WHITE .040 STUCCO ALUMINUM
INTERIOR CEILING - SMOOTH WHITE .040 ALUMINUM (U.S.D.A.)
EXPOSED EXTERIOR - 20 GA STAINLESS STEEL, #3 FINISH
UNEXPOSED EXTERIOR - 26 GA STUCCO ACRYLUME
EXTERIOR FLOOR & CEILING - 26 GA STUCCO ACRYLUME
INTERIOR FLOOR - 14 GA GALVANIZED STEEL
(NOT NSF APPROVED IF EXPOSED)

REFRIGERATION: U.L. LISTED, AIR COOLED, OUTDOORS
FREEZER CONDENSING UNIT: 1 - STD. PRE-ASSEMBLED REMOTE - HERMETIC-SCROLL
2.25 HP MODEL NO. FFAL-A2Z2-TFC-075 (R-448A)
EVAPORATOR: 1 - MODEL NO. BEL0100BS6EE W/E.C. MOTORS & I.R.C.
COOLER CONDENSING UNIT: 1 - STD. PRE-ASSEMBLED REMOTE - HERMETIC-SCROLL
1.75 HP MODEL NO. FFAP-A17Z-TFC-075 (R-448A)
EVAPORATOR: 1 - MODEL NO. BEL0105BS6AM W/E.C. MOTORS & I.R.C.

REFRIGERATION ACCESSORIES:
2 - WINTERIZATION CONTROLS/LASA
2 - COMPRESSOR COVERS
2 - COMPRESSOR MOUNTING STANDS

NOTE: THE LARGEST ROOF/FLOOR PANEL ON THIS JOB IS 46.5" x 139".
NOTE: THE LARGEST DOOR PANEL ON THIS JOB IS 57.5" x 100".
CUSTOMER IS TO VERIFY THAT THIS PANEL SIZE
WILL NOT CONFLICT WITH ANY JOB SITE RESTRICTIONS.
NOTE: CUSTOMER IS TO VERIFY ALL DIMENSIONS,
SECTIONS, DETAILS AND SPECIFICATIONS

American Panel
AMERICAN PANEL CORPORATION
5800 S.E. 78th St. Ocala, Florida 34472
Ph. (352) 245-7055 Fax (352) 245-0726

CUSTOMER:			
REALFOOD CONSULTING			
PROJECT:			
DATA CENTER POR PROTOTYPE - RENO, NV			
DATE: 3/9/22	DRAWN BY: PM/AM	P.O.#:	
SCALE: 5/16"=1'-0"	PROPOSAL#: PD201491	JOB#:	SHEET 1 of 2

HDR, ENGINEERING INC.
1917 SOUTH 67th STREET
OMAHA, NEBRASKA 68106
(402) 399-1000
CA-0443

DLR GROUP
6457 FRANCES ST., STE. 200
OMAHA, NE 68106
(402) 742-4200

KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRVD: Approver

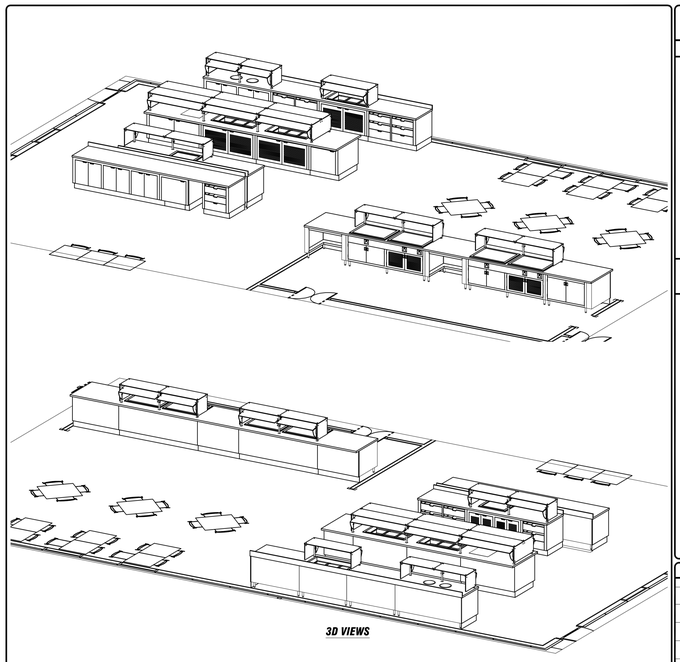
DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

REFRIGERATION DETAILS
SCALE:

SHEET NUMBER: **FS-810**
PHASE: BULDING PERMIT DOCUMENTS

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NOT TO SCALE - FOR REFERENCE ONLY



3D VIEWS

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STANDARD SERVING SYSTEM PRACTICES

SOLID SURFACE TOPS AND TRAY SLIDES

- ALL SOLID SURFACE TOPS AND TRAY SLIDES, WITH FIELD SEAMS, ***WILL SHIP LOOSE***, WHEN SPANNING MORE THAN ONE UNIT.
- SOLID SURFACE TOPS AND TRAY SLIDES SPECIFIC TO SINGLE UNIT WILL SHIP INSTALLED.
- SOLID SURFACE TOPS AND TRAY SLIDES REQUIRE A ***CERTIFIED*** INSTALLER, SPECIFIC TO THE BRAND, TO SEAM THE UNITS IN THE FIELD DURING PRODUCT INSTALLATION.

STAINLESS STEEL TOPS AND TRAY SLIDES

- THE MAXIMUM CONTINUOUS STAINLESS STEEL TOP LENGTH IS 144" (12'-0"), BEFORE REQUIRING A BOLTED OR WELDED FIELD JOINT.
- THE MAXIMUM CONTINUOUS STAINLESS STEEL TRAY SLIDE LENGTH IS 144" (12'-0"), BEFORE REQUIRING A BOLTED OR WELDED FIELD JOINT.
- BOLTED OR WELDED FIELD JOINTS ARE REQUIRED, AT ALL MITERED TRAY SLIDE CORNERS.

ALLOWANCE FOR FIELD CONDITIONS

- FACTORY TO ALLOW ½" AT ALL WALLS, COLUMNS, AND PASS THROUGH WINDOWS FOR FIT. ***(SEE WALL TO WALL AND COLUMN EXAMPLES)***



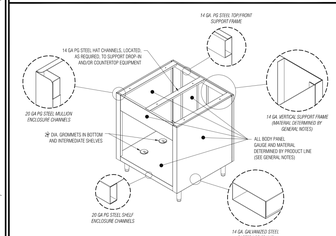
WALL TO WALL EXAMPLE



COLUMN EXAMPLE

ELECTRICAL

- ALL 15 AMP (NEMA #5-15R) AND 20 AMP (NEMA #5-20R) RECEPTACLES SHALL BE GFCI (GROUND FAULT CIRCUIT INTERRUPTER) TYPE RECEPTACLES PER DUKE MANUFACTURING STANDARD. ***UNLESS SPECIFICALLY NOTED OTHERWISE*** ON THE DRAWING. ***(SEE SYMBOL LEGEND)***



STANDARD CHANNEL BODY CONSTRUCTION

SYMBOL LEGEND

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
SIMPLEX RECEPTACLE	S	DUPLEX GFCI RECEPTACLE (NEMA 5-15R & 5-20R ONLY)	S	ELEC. CORD AND PLUG	
KICKPLATE LOCATION	K	LAMINATE LOCATION	L	DECOR PANEL LOCATION	DP
EQUIPMENT TAG	#	FIELD JOINT LOCATION		GROMMET LOCATION	
VIEW TAG	VIEW NUMBER / PAGE NUMBER — PLAN — VIEW NAME / SCALE				
VIEW ARROWS	VIEW NUMBER / PAGE NUMBER			COMPRESSOR WITH REMOVABLE GRILLE	

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2305 North Broadway
St. Louis, MO. 63102
Ph (314) 231-1130
Fax (314) 231-5074

SUBMITTAL

REV	DATE	BY

DESIGNATION: DATA CENTER POR NASA
PROJECT: REALFOOD CONSULTING
DRAWN BY: DTM
ESTIMATOR: R. TROUTT
PURCHASE ORDER #: N/A
SALES ORDER: N/A
DATE: 08/17/2023
DRAWING NO.: SD-146232
SHEET: 1 OF 7

GENERAL NOTES

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THE FOLLOWING MUST BE VERIFIED PRIOR TO CONSTRUCTION

- ANY DECOR COLOR CHOICES INCLUDING LAMINATE, PAINT COLOR, OR CUSTOM DECOR FEATURES. IF APPLICABLE
- ALL ELECTRICAL VOLTAGE AND PHASE OF DUKE HOT FOOD UNITS AND BUYOUT EQUIPMENT IF APPLICABLE
- ALL CRITICAL FIELD DIMENSION IF ANY AS INDICATED IN PLAN VIEW.

THURMADUKE SERVING SYSTEMS

TOPS

2CM QUARTZ TOPS W/ ¾" BACKER BOARD TO BE CONTINUOUS W/ FIELD SEAMS AS NECESSARY.

BODIES & INTERIORS

18 GA. PANEL/SUPPORTS, 16 GA. STAINLESS STEEL ENCLOSURE CHANNELS. BODY PANELS AND INTERIOR SHELVES.

MILLWORK DECOR PANELS AND DOORS

DECOR PANELS SHALL BE 1/2" MDF CENTERED WITH PLASTIC LAMINATE
DOORS TO HAVE CONCEALED HINGES AND VENTILATION SLOTS WHERE REQUIRED.
LAMINATE TO BE: LAMINATE BRAND - VERIFY; LAMINATE ID NUMBER - VERIFY; LAMINATE COLOR NAME - VERIFY

LEGS

9" HIGH, 1 5/8"Ø STAINLESS STEEL TUBULAR LEGS WITH ADJUSTABLE FEET.

KICKPLATES

HEAVY GAUGE STAINLESS STEEL KICK PLATES LOCATED ON CUSTOMER'S SIDE AND WHERE INDICATED.

BREATHGUARDS - BGA

1-1/4" SQUARE STAINLESS STEEL TUBING POSTS, MOUNTED THROUGH TOP WITH ½", TEMPERED, CLEAR GLASS SHELVES, AND PROTECTORS. WITH FULL, HIGH POLISH, #8 - MIRRORED FINISH

DUKE EQUIPMENT

Item Tag	Qty	Model Number	Description	Elec	Phase	Watts	BTU	NEMA # / Amp Draw / Fuse Size	Cord Length	
H1A	1	TST-96SS	SOLID TOP UNIT	-	-	-	-	-	-	-
H1B	1	TST-32SS	SOLID TOP UNIT	-	-	-	-	NEMA #	Cord	Gas Type
H1C	1	TS380-SS	SKELETON UNIT	-	-	-	-	-	-	-
H1D	1	TST-32SS	SOLID TOP UNIT	-	-	-	-	NEMA #	Cord	Gas Type
H2A	1	TST-60SS	SOLID TOP UNIT	-	-	-	-	-	-	-
H2B	1	TST-60SS	SOLID TOP UNIT	-	-	-	-	NEMA #	Cord	Gas Type
H2C	1	TST-32SS	SOLID TOP UNIT	-	-	-	-	-	-	-
H12	1	RFT1-SL	DROP-IN FROST TOP	120	1	696	5.8	NEMA #	Cord	Gas Type
H13	1	BGA1-60-SS-GF-L	SINGLE TIER, SINGLE SIDED BREATHGUARD	120	1	17	142	5-15P	6'	-
J1A	1	TST-96SS	SOLID TOP UNIT	-	-	-	-	NEMA #	Cord	Gas Type
J1B	1	TST-88SS	SOLID TOP UNIT	-	-	-	-	-	-	-
J1C	1	TST-46SS	SOLID TOP UNIT	-	-	-	-	NEMA #	Cord	Gas Type
J1D	1	TST-88SS	SOLID TOP UNIT	-	-	-	-	-	-	-
J1E	1	TST-46SS	SOLID TOP UNIT	-	-	-	-	NEMA #	Cord	Gas Type
J14	2	BGA1-88-SS-GF-L	SINGLE TIER, SINGLE SIDED BREATHGUARD	120	1	24	.2	NEMA #	Cord	Gas Type
J16	2	RHT2-SB	DROP-IN HEATED SHELF	120	1	636	5.3	5-15P	6'	-
J17	2	RHF2-SB	DROP-IN HEATED SHELF	120	1	696	5.8	NEMA #	Cord	Gas Type
L1A	1	TST-96SS	SOLID TOP UNIT	-	-	-	-	5-15P	6'	-
L1B	1	TST-96SS	SOLID TOP UNIT	-	-	-	-	NEMA #	Cord	Gas Type
L1C	1	TST-48SS	SOLID TOP UNIT	-	-	-	-	-	-	-
L1D	1	TST-32SS	SOLID TOP UNIT	-	-	-	-	NEMA #	Cord	Gas Type
L2	3	ADI-3M-N7	DROP-IN 3-SECTION NSF-7 COLD PAN UNIT 8" MECHANICALLY COOLED	120	1	813.6	6.78	-	-	-
L2.1	1	BGA1-60-DS-GF-L	SINGLE TIER, DOUBLE SIDED BREATHGUARD	120	1	17	142	NEMA #	Cord	Gas Type
L5.1	1	BGA1-74-SS-GF-L	SINGLE TIER, SINGLE SIDED BREATHGUARD	120	1	21	175	5-15P	6'	-
L17	1	TST-74SS	SOLID TOP UNIT	-	-	-	-	NEMA #	Cord	Gas Type

DUKE EQUIPMENT

Item Tag	Qty	Model Number	Description	Elec	Phase	Watts	BTU	NEMA # / Amp Draw / Fuse Size	Cord Length	
L10A	1	TST-60SS	SOLID TOP UNIT	-	-	-	-	-	-	-
L10B	1	TST-60SS	SOLID TOP UNIT	-	-	-	-	NEMA #	Cord	Gas Type
L10C	1	TST-60SS	SOLID TOP UNIT	-	-	-	-	-	-	-
L11	1	BGA1-60-SS-GF-L	SINGLE TIER, SINGLE SIDED BREATHGUARD	120	1	17	142	NEMA #	Cord	Gas Type
								5-15P	6'	-

BUY-OUT EQUIPMENT

Item Tag	Qty	Model Number	Description	Elec	Phase	Watts	BTU			
L3	1	GRSBF-24-I	HATCO BUILT-IN HEATED SHELF	120	1	600	5.0	NEMA #	Provided By	Installed By
								5-15P	OTHERS	OTHERS
L5	2	SS-10TDUI	WELLS BUILT IN ROUND FOOD WARMER WITH DRAIN	120	1	828	6.9	NEMA #	Provided By	Installed By
								5-15P	OTHERS	OTHERS

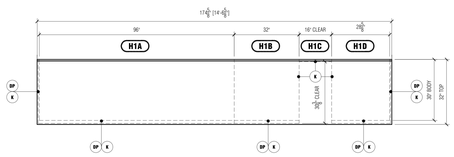
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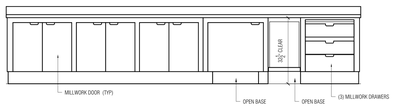
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PROJECT: REALFOOD CONSULTING
DRAWN BY: DTM
ESTIMATOR: R. TROUTT
PURCHASE ORDER #: N/A
SALES ORDER: N/A
DATE: 08/17/2023
DRAWING NO.: SD-146232
SHEET: 2 OF 7

NOTE:
SNEEZE GUARDS NOT SHOWN IN PLAN VIEW

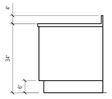
ITEM H1 - BEVERAGE COUNTER



1 / 3 PLAN
3/8" = 1'-0"



2 / 3 ELEVATION
3/8" = 1'-0"



3 / 3 END
3/8" = 1'-0"

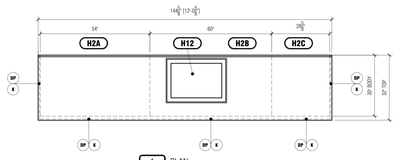
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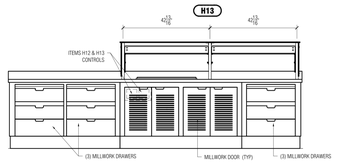
DESIGNATION: DATA CENTER POR NASA
PROJECT: REALFOOD CONSULTING
DRAWN BY: DTM
ESTIMATOR: R. TROUTT
PURCHASE ORDER #: N/A
SALES ORDER: N/A
DATE: 08/17/2023
DRAWING NO.: SD-146232
SHEET: 3 OF 7

NOTE:
SNEEZE GUARDS NOT SHOWN IN PLAN VIEW

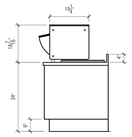
ITEM H2 - DESSERT COUNTER



1 / 4 PLAN
3/8" = 1'-0"



2 / 4 ELEVATION
3/8" = 1'-0"



3 / 4 END
3/8" = 1'-0"

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PROJECT: REALFOOD CONSULTING
DRAWN BY: DTM
ESTIMATOR: R. TROUTT
PURCHASE ORDER #: N/A
SALES ORDER: N/A
DATE: 08/17/2023
DRAWING NO.: SD-146232
SHEET: 4 OF 7

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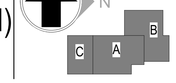
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CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS		
NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

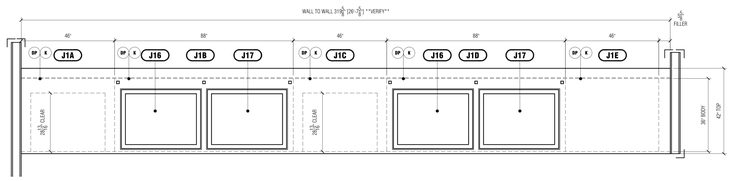
SERVERY DETAILS
SCALE:

SHEET NUMBER:
FS-821
PHASE: BULDING PERMIT DOCUMENTS

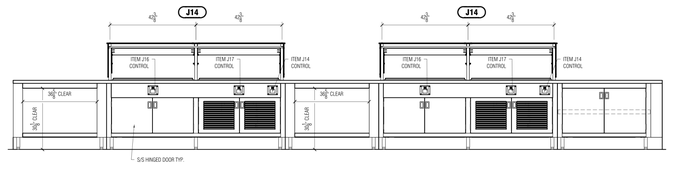
NOT TO SCALE - FOR REFERENCE ONLY

NOTE:
SNEEZE GUARDS NOT SHOWN IN PLAN VIEW

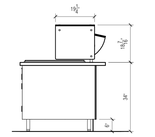
ITEM J1 - SERVING COUNTER



1 / 5 PLAN
3/8" = 1'-0"



2 / 5 ELEVATION
3/8" = 1'-0"

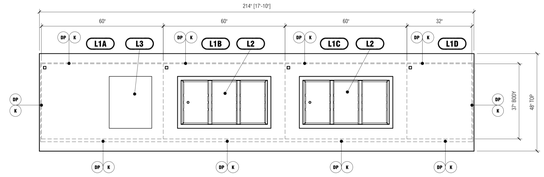


3 / 5 END
3/8" = 1'-0"

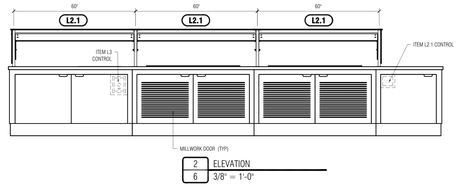
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DRAWING DESCRIPTION	DATA CENTER POR NASA REALFOOD CONSULTING
DRAWN BY	DTM
ESTIMATOR	R. TROUTT
PURCHASE ORDER #	N.A
SALES ORDER	N.A
DATE	08-17-2023
DRAWING NO.	SD-146232
SHEET No.	7 5

NOTE:
SNEEZE GUARDS NOT SHOWN IN PLAN VIEW

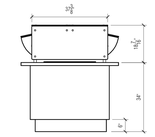
ITEM L1 - SALAD COUNTER



1 / 6 PLAN
3/8" = 1'-0"



2 / 6 ELEVATION
3/8" = 1'-0"

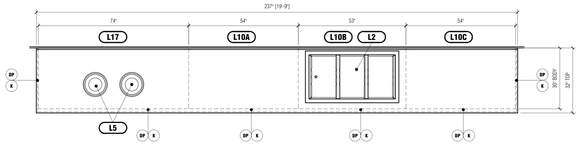


3 / 6 END
3/8" = 1'-0"

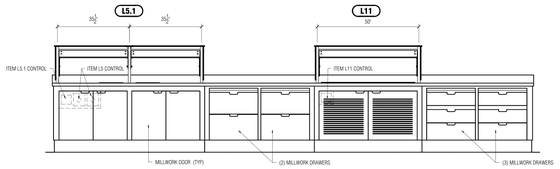
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DRAWING DESCRIPTION	DATA CENTER POR NASA REALFOOD CONSULTING
DRAWN BY	DTM
ESTIMATOR	R. TROUTT
PURCHASE ORDER #	N.A
SALES ORDER	N.A
DATE	08-17-2023
DRAWING NO.	SD-146232
SHEET No.	7 6

NOTE:
SNEEZE GUARDS NOT SHOWN IN PLAN VIEW

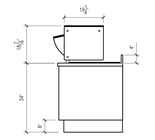
ITEMS L10 & L17 - SANDWICH AND SOUP COUNTERS



1 / 7 PLAN
3/8" = 1'-0"



2 / 7 ELEVATION
3/8" = 1'-0"



3 / 7 END
3/8" = 1'-0"

Your Solutions Partner (Let's Talk Shop)	
DUKE MANUFACTURING COMPANY	
2305 North Broadway St. Louis, MO. 63102 Ph. (314) 231-1130 Fax (314) 231-5074	
SUBMITTAL	
REV.	DATE BY
DRAWING DESCRIPTION	DATA CENTER POR NASA REALFOOD CONSULTING
DRAWN BY	DTM
ESTIMATOR	R. TROUTT
PURCHASE ORDER #	N.A
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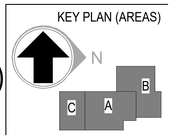
HDR, ENGINEERING INC.
1917 SOUTH 67th STREET
OMAHA, NEBRASKA 68106
(402) 399-1000
CA-0443

DLR GROUP
6457 FRANCES ST., STE. 200
OMAHA, NE 68106
(402) 742-4200

KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS		
NO.	DATE	DESCRIPTION
ADD-1	8/25/23	PCR-1

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

SERVERY DETAILS CONT.
SCALE:

SHEET NUMBER:
FS-822
PHASE: BULDING PERMIT DOCUMENTS

GENERAL

1. THE DRAWINGS REPRESENT THE FINISHED STRUCTURE, NOT THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK AND CONNECTIONS HAVE BEEN COMPLETED. THE RESEARCH, DESIGN, SAFETY, ADEQUACY, AND INSPECTION OF ERECTION BRACING, SHORING, GUYING, TEMPORARY SUPPORTS, ETC, IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS AND METHODS, SEQUENCES OF CONSTRUCTION, OR CONSTRUCTION TECHNIQUES USED TO PERFORM THE WORK. OBSERVATION VISITS TO THE SITE WILL NOT INVOLVE REVIEW OF THESE ITEMS.
3. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PROGRAM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE ON, NOR ISSUE DIRECTION, AS TO SAFETY PRECAUTIONS AND PROGRAMS. OBSERVATION VISITS TO THE SITE WILL NOT INVOLVE REVIEW OF THESE ITEMS.
4. CONTRACTOR IS TO ESTABLISH AND VERIFY OPENINGS AND INSERTS FOR ITEMS TO BE INSTALLED BY OTHER TRADES PRIOR TO SUBMITTAL OF SHOP DRAWINGS AND CONSTRUCTION.
5. CONSTRUCTION MATERIAL AND EQUIPMENT LOADS PLACED ON THE STRUCTURE DURING THE CONSTRUCTION PROCESS SHALL NOT EXCEED THE DESIGN LIVE LOAD OF THE STRUCTURE NOTED IN THESE DRAWINGS. THE ENGINEER SHALL NOT BE RESPONSIBLE TO INVESTIGATE, NOR APPROVE, THE STRUCTURE FOR CONSTRUCTION MATERIAL OR EQUIPMENT LOADING. ERECTION OR CONSTRUCTION LOADS ARE NOT TO BE APPLIED UNTIL PROPER STRUCTURAL FRAMING CONNECTIONS ARE MADE, AND ALL TEMPORARY BRACING IS IN PLACE. THE CONTRACTOR SHALL DESIGN AND PROVIDE TEMPORARY BRACING OF THE STRUCTURE WHERE NECESSARY FOR CONSTRUCTION LOADS.
6. DETAILS THAT ARE NOTED AS "TYPICAL OR TYP" ON DETAIL TITLES ARE TO BE APPLIED TO THE PROJECT CONSTRUCTION AS GENERAL CONSTRUCTION DETAILS UNLESS NOTED OTHERWISE. THESE DETAILS ARE NOT CUT AT ALL LOCATIONS WHERE THEY OCCUR, AND THEY MAY NOT BE CUT AT ALL. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR CONDITIONS ELSEWHERE ON THE PROJECT, SUBJECT TO APPROVAL OF THE ENGINEER.
7. DO NOT SCALE DRAWINGS. CONTRACTOR IS TO VERIFY ALL DIMENSIONS RELATIVE TO ARCHITECTURAL OR OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
8. WHERE DISCREPANCIES OCCUR BETWEEN GENERAL NOTES, PLANS, DETAILS, AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN, UNLESS APPROVED OTHERWISE BY THE ENGINEER IN WRITING PRIOR TO CONSTRUCTION.
9. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND SPECIFICATIONS. THE CONTRACTOR SHALL ESTABLISH AND VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERT ANCHORS, HOLES, AND OTHER ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK. DO NOT PENETRATE ANY STRUCTURAL ELEMENTS (BEAMS, COLUMNS, WALLS, SLABS, STEEL DECKS, ETC) WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.
10. IF THE ENGINEER'S SEAL AND SIGNATURE IS NOT AFFIXED TO THESE DRAWINGS, THESE DRAWINGS ARE INTENDED FOR PRELIMINARY PURPOSES ONLY AND SHALL NOT BE USED FOR CONSTRUCTION.
11. STRUCTURAL JOINT DIMENSIONS SHOWN ON PLANS AND DETAILS (EXPANSION, SEISMIC, SEPARATION, ETC) INDICATE THE MINIMUM CLEAR DISTANCE REQUIRED. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.

DESIGN CRITERIA

1. ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THESE DRAWINGS, SPECIFICATIONS, AND THE CODES, RULES AND REGULATIONS OF THE 2018 INTERNATIONAL BUILDING CODE (IBC), AS ADOPTED AND AMENDED BY THE CITY OF OWASSO, OKLAHOMA, HEREAFTER REFFERED TO AS THE BUILDING CODE.
2. MATERIAL SPECIFIC DESIGN STANDARDS LISTED IN THESE GENERAL NOTES ARE THE VERSION REFERENCED BY THE BUILDING CODE. IF NOT REFERENCED BY THE BUILDING CODE, USE THE LATEST EDITION APPROVED BY THE AUTHORITY HAVING JURISDICTION ON THE DATE OF THE PERMIT ISSUANCE.
3. RISK CATEGORY II
4. DESIGN DEAD LOADS
   COLLATERAL ROOF 7 PSF (SUPERIMPOSED)
5. DESIGN LIVE LOADS
   ROOF LIVE LOAD 20 PSF (NON-REDUCABLE)
6. SNOW LOADS
   GROUND SNOW LOAD, P_g 10 PSF
   FLAT-ROOF SNOW LOAD, P_f 7 PSF
   SNOW EXPOSURE FACTOR, C_e 1.0
   THERMAL FACTOR, C_t 1.0
   SNOW LOAD IMPORTANCE FACTOR, I_s 1.0
   RAIN-ON-SNOW SURCHARGE 0 PSF
7. WIND LOADS
   BASIC WIND SPEED (3 SECOND GUST), V 109 MPH
   NOMINAL WIND SPEED, Vasd 85 MPH
   EXPOSURE CATEGORY C
   TOPOGRAPHIC FACTOR, Kzt 1.0
   INTERNAL PRESSURE COEFFICIENT, GC_{pi} +/- 0.18
   COMPONENTS AND CLADDING:

ROOF C&C SURFACE PRESSURE (PSF)	
AREA	10 SF
Negative Zone 1	-41.3
Negative Zone 1'	-23.7
Negative Zone 2	-54.4
Negative Zone 3	-54.4
Positive All Zones	16
Overhang Zone 1 & 1'	-37.3
Overhang Zone 2	-50.5
Overhang Zone 3	-50.5

WALLS C&C SURFACE PRESSURE (PSF)	
AREA	10 SF
Negative Zone 4	-25.7
Negative Zone 5	-31.6
Positive Zone 4 & 5	23.7

8. SEISMIC LOADS
   SITE LATITUDE 36.266086
   SITE LONGITUDE -95.855
   SITE CLASS C
   IMPORTANCE FACTOR, I_e 1.0
   MAPPED SPECTRAL RESPONSE ACCELERATIONS S_s = 0.017, S_1 = 0.08
   DESIGN SPECTRAL RESPONSE ACCELERATIONS S_{DS} = 0.12, S_{D1} = 0.073
   SEISMIC DESIGN CATEGORY B
   SEISMIC FORCE RESISTING SYSTEM: STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
   RESPONSE MODIFICATION FACTOR, R 3.0
   OVERSTRENGTH FACTOR, Ωo 3.0
   DEFLECTION AMPLIFICATION FACTOR, Cd 3.0
   ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE
   SEISMIC RESPONSE COEFFICIENT, Cs 0.034

LATERAL LOAD RESISTANCE SYSTEM

1. LATERAL LOAD SYSTEM CONSISTS OF:
   A. PEMB: STEEL ROOF BRACING TRANSFERRING LATERAL LOADS TO STRUCTURAL STEEL MOMENT RESISTING FRAMES. RIGID FRAMES SHALL HAVE PINNED COLUMN BASES, TRANSFERING NO MOMENT TO FOUNDATIONS.
2. STRUCTURE IS A "NON-SELF-SUPPORTING" STRUCTURE REQUIRING INTERACTION OF THE STEEL FRAMING, ROOF DIAPHRAGMS AND MOMENT RESISTING FRAMES. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AS NECESSARY TO PROVIDE SUPPORT OF FRAMING UNTIL ALL ATTACHMENTS ARE COMPLETE, INCLUDING STRUCTURAL STEEL, STRUCTURAL STEEL TO DIAPHRAGM, AND DIAPHRAGM TO MOMENT FRAMES.

GEOTECHNICAL & FOUNDATIONS

1. FOUNDATION DESIGN IS BASED ON THE INFORMATION FROM THE GEOTECHNICAL INVESTIGATION PERFORMED BY TERRACON AND PUBLISHED ON SEPTEMBER 15, 2025 (PROJECT NO. 04255087):

MINIMUM BEARING DEPTH	2'-0"
ALLOWABLE NET SOIL BEARING PRESSURE	2,500 PSF (FOOTINGS BEARING ON NATIVE SOILS OR ENGINEERED FILL)
COEFFICIENT OF FRICTION	0.31
PASSIVE PRESSURE	290 PCF

2. SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS.
3. CONTRACTOR SHALL PROVIDE TEMPORARY FROST PROTECTION FOR FOUNDATIONS NOT CONSTRUCTED TO FROST DEPTH IF CONSTRUCTION IS TO TAKE PLACE IN WINTER MONTHS. CONTACT GEOTECHNICAL ENGINEER FOR GUIDANCE.
4. IF DISCREPANCIES EXIST BETWEEN THE CONTRACT DOCUMENTS AND THE GEOTECHNICAL REPORT, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN, UNLESS DETERMINED OTHERWISE BY THE ENGINEER IN WRITING.
5. ALL FOUNDATION EXCAVATIONS AND BEARING SURFACES SHALL BE OBSERVED AND APPROVED BY THE GEOTECHNICAL ENGINEER / TESTING AGENCY PRIOR TO PLACING FOUNDATION CONCRETE.
6. NOTIFY ENGINEER OF ANY NECESSARY DEVIATIONS FROM THE FOOTING ELEVATIONS SHOWN ON THE DRAWINGS PRIOR TO CONSTRUCTING THE FOOTINGS.
7. UNLESS NOTED OTHERWISE, COLUMN FOOTINGS SHALL BE CENTERED ON COLUMNS, AND WALL FOOTING SHALL BE CENTERED ON WALLS.
8. BACKFILL FOUNDATION WALLS WITH FREE DRAINING FILL AND PROVIDE A SUBSURFACE DRAINAGE SYSTEM BASED ON THE GEOTECHNICAL REPORT RECOMMENDATIONS.
9. ALL FOUNDATION WALLS WHERE GRADE IS NOT PRESENT ON BOTH SIDES ARE DESIGNED TO BE RESTRAINED IN THE COMPLETED STRUCTURE. CONNECTING CONSTRUCTION SHALL BE INSTALLED, INCLUDING INSTALLATION OF FLOOR/ ROOF DIAPHRAGM AND THEIR ATTACHMENTS, PRIOR TO BACKFILLING WALL. CONCRETE DIAPHRAGMS SHALL REACH 75% OF REQUIRED 28 DAY COMPRESSIVE STRENGTH PRIOR TO BACKFILLING. ALTERNATIVELY, THE CONTRACTOR SHALL PROVIDE DESIGN AND CONSTRUCTION OF TEMPORARY BRACING THAT PROTECTS THE WALL AGAINST OVERSTRESS OR MOVEMENT UNTIL ALL SUPPORTING CONSTRUCTION IS COMPLETE AND CURED. THE CONTRACTOR'S ENGINEER IS RESPONSIBLE FOR THE DESIGN OF ALL TEMPORARY BRACING.
10. BACKFILLING AGAINST FOUNDATION WALLS WHERE GRADE IS PRESENT ON BOTH SIDES SHALL BE PERFORMED SO DIFFERENCE IN SOIL HEIGHT ON EACH SIDE OF THE WALL DOES NOT EXCEED 2-FT.
11. NEW FOOTINGS LOCATED IMMEDIATELY ADJACENT TO EXISTING FOOTINGS OR FOOTINGS FROM A PREVIOUS PHASE SHALL BE FOUNDED AT THE SAME ELEVATION AS THE EXISTING FOUNDATIONS, UNO. THE EXISTING FOOTINGS SHALL NOT BE UNDERMINED BY NEW CONSTRUCTION, UNO.

POST-INSTALLED ANCHORS

1. UNO, THE FOLLOWING APPLIES TO ALL POST-INSTALLED ANCHORAGE INTO HARDENED CONCRETE OR MASONRY WHICH INCLUDES TYPES SUCH AS EXPANSION, WEDGE, SLEEVE, ADHESIVE / EPOXY, SHOT-PIN, SCREW AND UNDERCUT.
2. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED.
3. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER OF RECORD PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING, DAMAGED OR MISPLACED CAST-IN-PLACE ANCHORS.
4. CARE SHALL BE GIVEN TO AVOID CONFLICTS WITH EXISTING REBAR WHEN DRILLING HOLES. HOLES SHALL BE DRILLED AND CLEANED PER THE MANUFACTURER'S INSTRUCTIONS.
5. MAINTAIN A MINIMUM OF 2 INCHES FROM EXISTING REINFORCEMENT, CONDUIT, POST-TENSIONING (WHERE OCCURS), ETC. USE NON-DESTRUCTIVE TESTING TO LOCATE PRIOR TO DRILLING, CORING OR SHOOTING PINS INTO THE EXISTING CONCRETE OR MASONRY. FOR INSTALLATION DEEPER THAN 3 INCHES USE GROUND PENETRATING RADAR OR X-RAY METHODS.
6. ALL ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS, MANUFACTURER'S RECOMMENDATIONS AND ALL APPLICABLE ICC-ES REPORTS, INCLUDING, BUT NOT LIMITED TO, ALL ANCHOR SPACINGS, EMBEDMENTS AND EDGE DISTANCES.
7. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE AND INSTALLATION TEMPERATURES.
8. EMBEDMENT REFERS TO THE FINAL INSTALLED EFFECTIVE DEPTH "Hef". ALL ANCHORS SHALL HAVE EMBEDMENT NOTED OR EMBEDMENT AS RECOMMENDED BY MANUFACTURER WHERE NO EMBEDMENT IS SHOWN. REQUIRED ANCHOR HOLE DEPTH FOR INSTALLATION MAY BE DEEPER.
9. IF THE FULL ANCHOR EMBEDMENT DEPTH, SPACING OR EDGE DISTANCE CANNOT BE ACHIEVED, NOTIFY THE ENGINEER.
10. ALL PERSONNEL INSTALLING POST-INSTALLED ANCHORS SHALL BE TRAINED BY THE MANUFACTURER ON PROPER INSTALLATION TECHNIQUE. TRAINING DOCUMENTATION FROM THE MANUFACTURER SHALL BE AVAILABLE UPON REQUEST.
11. INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI AND IN ACCORDANCE WITH ACI 318. PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
12. EXPANSION BOLTS IN MASONRY SHALL BE ONE OF THE FOLLOWING:
    a. HILTI KWIK BOLT 3 MASONRY ANCHORS (ICC ESR-1385)
    b. SIMPSON STRONG-TIE WEDGE-ALL (ICC ESR-1396)
    c. SIMPSON STRONG-TIE STRONG BOLT-2 WEDGE ANCHOR (IAMPO UES ER-240)
13. SCREW ANCHORS IN MASONRY SHALL BE ONE OF THE FOLLOWING:
    a. HILTI KH-EZ SCREW ANCHOR (ICC ESR-3056)
    b. SIMPSON STRONG-TIE TITEN HD SCREW ANCHORS (ICC ESR-1056)
14. ADHESIVE ANCHORS IN MASONRY SHALL BE ONE OF THE FOLLOWING:
    a. HILTI HY-270 FAST CURE ADHESIVE ANCHORS (ICC ESR-4144 FOR URM, ICC ESR-4143)
    b. SIMPSON STRONG-TIE SET-XP ADHESIVE ANCHORING SYSTEM (IAPMO UES ER-265)
15. EXPANSION BOLTS IN CONCRETE SHALL BE ONE OF THE FOLLOWING:
    a. HILTI KWIK BOLT TZ2 CONCRETE ANCHORS (ICC ESR-4266)
    b. SIMPSON STRONG-TIE STRONG-BOLT 2 WEDGE ANCHORS (ICC ESR-3037)
16. SCREW ANCHORS IN CONCRETE SHALL BE ONE OF THE FOLLOWING:
    a. HILTI HUS-EZ SCREW ANCHOR (ICC ESR-3027)
    b. SIMPSON STRONG-TIE TITEN HD SCREW ANCHORS (ICC ESR-2713)
17. ADHESIVE ANCHORS IN CONCRETE SHALL BE ONE OF THE FOLLOWING:
    a. HILTI HY-200 SAFE SET SYSTEM ADHESIVE ANCHORS (ESR-3187) (FAST CURE APPLICATIONS)
    b. HILTI RE-500 V3 ADHESIVE ANCHORS (ESR-3814)
    c. HILTI RE-100 ADHESIVE ANCHORS (ICC ESR-3629) (STANDARD CURE APPLICATIONS)
    d. SIMPSON STRONG-TIE SET-3G ADHESIVE ANCHORING SYSTEM (ESR-4057)
    e. SIMPSON STRONG-TIE AT-XP ADHESIVE ANCHORING SYSTEM (IAPMO UES ER-263)
    f. SIMPSON STRONG-TIE SET-XP ADHESIVE ANCHORING SYSTEM (ESR-2508) (STANDARD CURE APPLICATIONS)
18. ANCHORS ARE NOT TO BE INSTALLED UNTIL CONCRETE OR GROUT HAS REACHED IT'S DESIGN STRENGTH. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE WITH A MIN. AGE OF 21 DAYS.
19. MASONRY CELLS SHALL BE FULLY GROUTED AND CURED FOR INSTALLATION OF POST-INSTALLED ANCHORS.
20. USE INSTALLATION PROCEDURES FOR CRACKED CONCRETE CONDITIONS. DO NOT CORE DRILL FOR ANCHOR HOLES WITHOUT ENGINEER APPROVAL.
21. PROVIDE GALVANIZED CARBON STEEL ANCHORS AT DRY INTERIOR LOCATIONS AND STAINLESS-STEEL TYPE 304 OR 316 AT EXTERIOR / DAMP INTERIOR LOCATIONS. ANCHORS SHALL BE CLEAN AND FREE OF DEBONDING SUBSTANCES.
22. PATCH ABANDONED HOLES AND SPALLS USING NON-SHRINK GROUT AND REPAIR FINISHES AS REQUIRED. ANCHORS PENETRATING THROUGH WATERPROOFING OR VAPOR MEMBRANES SHALL BE SEALED OR FLASHED.
23. ADHESIVE / EPOXY ANCHORS ON THIS PROJECT ARE NOT DESIGNED TO SUPPORT OR INTENDED TO RESIST SUSTAINED TENSION LOADS.

CONTINUOUS FOOTINGS

1. CONTINUOUS FOOTING REINFORCING SHALL CONTINUE THROUGH ISOLATED SPREAD COLUMN FOOTINGS WHERE THEY OCCUR.
2. CONSTRUCTION JOINT LOCATIONS SHALL NOT OCCUR WITHIN EXTENTS OF ISOLATED SPREAD FOOTINGS.
3. PROVIDE CLASS 'A' LAP SPLICES FOR ALL TOP AND BOTTOM BARS WHERE LAP SPLICES ARE REQUIRED.
4. FOOTINGS SHALL NOT HAVE CONSTRUCTION JOINTS IN A HORIZONTAL PLANE.

CONCRETE CONSTRUCTION

1. THESE NOTES APPLY TO CONCRETE USED IN BUILDING CONSTRUCTION ONLY. SEE CIVIL/SITE WORK DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 301 AND ACI 318.
3. REFER TO DRAWINGS OF OTHER DISCIPLINES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON STRUCTURAL DRAWINGS.
4. SLEEVES OR OPENINGS, EXCEPT AS DETAILED ON THE STRUCTURAL DRAWINGS, SHALL NOT BE PLACED IN WALLS, JOISTS, BEAMS, GIRDERS, OR IN SLABS ADJACENT TO A COLUMN (WITHIN A DISTANCE EQUAL TO THE SLAB THICKNESS) UNLESS APPROVED BY THE ENGINEER. PLUMBING, MECHANICAL, & ELECTRICAL CONTRACTORS SHALL SUBMIT SIZES AND LOCATIONS OF ALL PENETRATIONS IN STRUCTURAL SLABS FOR THE ENGINEER'S APPROVAL BEFORE THE SLAB IS PLACED. ALL PIPE PENETRATIONS THROUGH SLABS SHALL BE SLEEVED PER WITH ACI 318.
5. PROVIDE CONSTRUCTION JOINTS IN ACCORDANCE WITH ACI 318. SUBMIT DRAWINGS SHOWING PLACEMENT SEQUENCE FOR ENGINEERING REVIEW.
6. ALL CONCRETE SHALL BE MECHANICALLY CONSOLIDATED IN ACCORDANCE WITH ACI 309.
7. PROVIDE A FORMED CONSTRUCTION KEYWAY BETWEEN ALL HORIZ AND VERT PLACEMENT EDGES EXCEPT CONCRETE TOPPING SLABS. PROVIDE WATERSTOPS FOR ALL CONSTRUCTION JOINTS BELOW WATER TABLE AND WHERE THE INTERIOR SLAB ON GRADE IS BELOW EXTERIOR GRADE.
8. ALL EDGES OF PERMANENTLY EXPOSED CONCRETE SURFACES SHALL BE CHAMFERED 3/4", UNO.
9. RIGID INSULATION USED TO FORM BUILT-UP SLABS SHALL BE CLOSED-CELL EXPANDED POLYSTYRENE CONFORMING TO ASTM D6817 WITH MINIMUM COMPRESSIVE RESISTANCE @ 1% DEFORMATION OF 2.2 PSI.

CONCRETE REINFORCEMENT

1. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.
2. REINFORCING STEEL TO BE WELDED SHALL BE ASTM A706, GRADE 60. NO WELDING OF REINFORCEMENT SHALL BE PERMITTED UNLESS SPECIFICALLY CALLED FOR OR REVIEWED AND APPROVED BY THE ENGINEER.
3. DEFORMED BAR ANCHORS (DBA) SHALL BE PROVIDED IN ACCORDANCE WITH NELSON STUD WELDING, INC ICC ESR 2907. ANCHORS SHALL BE SHOP WELDED TO STEEL USING A STUD WELDING GUN.
4. CONCRETE COVER REQUIREMENTS FOR CAST-IN-PLACE, NON-PRESTRESSED REINFORCEMENT UNLESS OTHERWISE NOTED ON DETAILS SHALL BE AS FOLLOWS:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
   FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 BARS AND LARGER 2"
   #5 BARS AND SMALLER, 1 1/2"
   CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH:
   SLABS, WALLS, AND JOISTS:
   #14 AND #18 BARS: 1 1/2"
   #11 BARS AND SMALLER 3/4"
   BEAMS, COLUMNS:
   PRIMARY REINFORCEMENT: 1 1/2"
   TIES, STIRRUPS, SPIRALS: 1 1/2"
5. REINFORCING BAR SPLICES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318 AND THE REINFORCING SPLICE LENGTH SCHEDULE. PROVIDE CLASS "B" LAP SPLICE, UNO.
6. ALL HORIZONTAL WALL AND BEAM REINFORCING SHALL BEND AROUND ALL CORNERS, LAP WITH INTERSECTING REINFORCEMENT, AND LAP SHALL CONFORM TO LAP SPLICE AND ANCHORAGE SCHEDULE PROVIDED, UNO.
7. ALL REINFORCEMENT SHALL BE HELD SECURELY IN POSITION WITH STANDARD ACCESSORIES IN CONFORMANCE WITH CRSI MANUAL OF STANDARD PRACTICE AND ACI 315 DURING CONCRETE PLACEMENT. NO WET SETTING OF REINFORCEMENT OR ACCESSORIES.
8. PROVIDE CORROSION RESISTANT ACCESSORIES SUCH AS PLASTIC COATED (NOT PLASTIC TIPPED) OR STAINLESS-STEEL CHAIRS IN ALL EXPOSED CONCRETE CONSTRUCTION. PRECAST CONCRETE CHAIRS OR SAND PLATE CHAIRS SHALL BE USED FOR THE SUPPORT OF REINFORCING ON GRADE. CONCRETE BLOCK OR CLAY MASONRY BRICK ARE NOT PERMITTED.
9. NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY DETAILED AS SUCH OR APPROVED BY THE ENGINEER IN WRITING.
10. WELDED WIRE REINFORCING (WWR) SHALL COMPLY WITH ASTM A1064. USE ONLY FLAT SHEETS. LAP ALL WWR AT LEAST ONE FULL WIRE SPACING PLUS 2 INCHES. ALL WWR SHALL BE CHAIRED TO ITS PROPER HEIGHT AND MAINTAINED AT THE PROPER LEVEL THROUGHOUT THE CONCRETE PLACING OPERATION. LIFTING OF WWR WITH A HOOK DURING CONCRETE PLACEMENT SHALL NOT BE PERMITTED.
11. MECHANICAL COUPLERS SHALL BE TYPE 2 COUPLERS CAPABLE OF SUSTAINING 125% Fy.

CAST-IN-PLACE CONCRETE MIX DESIGNS

1. THE CONCRETE MIX TABLE SHOWN BELOW SHALL APPLY TO ALL CONCRETE MIX DESIGNS USED FOR STRUCTURAL ITEMS IN THIS PROJECT. MIX DESIGN SUBMITTALS SHALL BE IDENTIFIED FOR INTENDED STRUCTURAL USE AND SUBMITTED TO THE OWNER'S REPRESENTATIVE AND ENGINEER FOR REVIEW PRIOR TO PLACING ANY CONCRETE. WHEN CONCRETE MIX DESIGNS ARE A DELEGATED DESIGN ITEM, THE SUBMITTED MIX DESIGN SHALL BEAR THE SEAL AND SIGNATURE OF THE ENGINEER RESPONSIBLE FOR THEIR DESIGN.

CONCRETE MIX DESIGNS

PLACEMENT LOCATION	28 DAY f'c (psi)	MAX W/C RATIO	ENTRAINED AIR	MAX AGGREGATE SIZE	WEIGHT
FOOTINGS AND FOUNDATION WALLS	4,500	0.45	6% ± 1.5%	1"	NWC
INTERIOR SLAB ON GRADE	4,000	0.45	---	3/4"	NWC
EXTERIOR CONCRETE	5,000	0.40	6% ± 1.5%	3/4"	NWC

2. REFER TO PROJECT SPECIFICATION FOR ADDITIONAL INFORMATION.
3. SUBSTITUTION OF FLY ASH FOR PORTLAND CEMENT FOR SLABS ON GRADE AND STRUCTURAL SLABS SHALL NOT BE PERMITTED
4. FLY ASH MAY BE USED TO REPLACE 15% TO 25% OF PORTLAND CEMENT. FLY ASH SHALL CONFORM TO ASTM C618, TYPE F. PERCENTAGE LISTED IS BY WEIGHT OF TOTAL CEMENTITIOUS MATERIAL INCLUDING ASTM C150, C595, C845, AND C1157 CEMENT. DO NOT USE FLY ASH IF CONTENT WITHIN THE PERCENTAGES SHOWN CANNOT BE ACHIEVED.
5. SLABS ON GRADE, TOPPING SLABS & ELEVATED FLOORS SHALL HAVE A MAXIMUM SHRINKAGE RATE OF 0.035% AT 28 DAYS PER ASTM C157 (CURING TEST SPECIMENS TO BE CONSISTENT WITH FIELD CONDITIONS). RESULTS OF TESTING SHALL BE SUBMITTED TO ENGINEER WITH CONCRETE MIX SUBMITTAL.

SLABS-ON-GRADE

1. VERIFY ALL TOP OF SLAB ELEVATIONS COMPLY WITH THE ARCHITECTURAL DRAWINGS. SEE ARCHITECTURAL FOR LOCATION AND EXTENT OF SPECIAL FINISHES OR TREATMENTS TO EXPOSED CONCRETE.
2. ALL INTERIOR SLABS ON GRADE SHALL BE CAST ON A 15 MIL VAPOR BARRIER INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS, PLACED OVER CRUSHED ROCK DRAINAGE MATERIAL TO FORM A CAPILLARY BREAK OF THICKNESS NOTED ON DRAWINGS, BUT NOT LESS THAN THAT PRESCRIBED BY THE GEOTECHNICAL ENGINEER.
3. CONTROL (CONTRACTION OR CONSTRUCTION) JOINTS SHALL BOUND ALL CONCRETE SLABS ON GRADE AS SHOWN ON THE DRAWINGS. WHERE NOT SHOWN ON THE DRAWINGS, CONTROL JOINTS SHALL BE LOCATED SUCH THAT THE ENCLOSED AREA IS RELATIVELY SQUARE WITH A MAXIMUM ASPECT RATIO OF 1.5:1 AND DOES NOT EXCEED 225 SQUARE FEET.
4. GENERAL CONTRACTOR SHALL SUBMIT CONTROL JOINT SHOP DRAWINGS AND PLACING SEQUENCES FOR APPROVAL PRIOR TO CONCRETE PLACEMENT. KEYED JOINTS NEED ONLY OCCUR AT CONSTRUCTION JOINTS. ALL CONTRACTION JOINTS MAY BE SAWCUT, UNO.
5. THE SLAB ON GRADE IS NOT DESIGNED TO SUPPORT TRAFFIC FROM CRANES OR OTHER HEAVY CONSTRUCTION VEHICLES. CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED CONCRETE SLABS.
6. ALL PIPING AND CONDUIT INSTALLED BELOW SLABS ON GRADE SHALL BE INSTALLED ENTIRELY BELOW THE BOTTOM OF THE SLAB, WITH NO ENCROACHMENT INTO THE BOTTOM OF THE SLAB.

COLD FORMED METAL FRAMING

1. DESIGN, FABRICATE, AND ERECT COLD-FORMED STEEL STRUCTURAL MEMBERS PER THE REQUIREMENTS OF THE LATEST EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE, INCLUDING ALL APPLICABLE AMENDMENTS. WHERE REQUIRED, THE SEISMIC DESIGN OF COLD-FORMED STRUCTURAL MEMBERS, AISI S100 & S200, AND SHALL BE IN ACCORDANCE WITH THE ADDITIONAL PROVISIONS OF THE BUILDING CODE.
2. COLD FORMED METAL FRAMING (CFMF) AND CONNECTIONS TO THE STRUCTURAL SYSTEM SHALL BE DESIGNED AND DETAILED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHICH THE PROJECT IS LOCATED.
3. CFMF SHALL BE DESIGNED BY THE SUPPLIER TO RESIST LOADS INDICATED ON THE DRAWINGS. SEE LOADING PLANS AND ADDITIONAL LOADS NOTED.
4. CONNECTIONS AND ATTACHMENT TO THE STRUCTURE SHALL BE INSTALLED AS DESIGNED AND DETAILED BY THE CFMF SUPPLIER TO RESIST ALL LOADS INDICATED.
5. SUBMIT SIGNED AND SEALED CFMF SHOP DRAWINGS AND SPECIFICATIONS TO THE SEOR FOR REVIEW PRIOR TO FABRICATION.
6. MINIMUM YIELD STRENTH FOR 43 AND 33 MIL STUDS, JOISTS, STRAPS, BRIDGING, ETC, SHALL BE 33 KSI MINIMUM. YIELD STRENGTH FOR 97, 68, AND 54 MIL STUDS, JOISTS, STRAPS, BRIDGING, ETC, SHALL BE 50 KSI MINIMUM.
7. PROVIDE CFMF MEMBERS WITH SECTION PROPERTIES REQUIRED TO RESIST APPLIED LOADING AND AS MANUFACTURED BY MEMBERS OF THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) COMPLYING WITH ICC ESR-3064P AND THE BUILDING CODE.
8. TEMPORARY BRACING SHALL BE INSTALLED AND LEFT IN PLACE UNTIL OTHER MEANS IS PROVIDED TO ADEQUATELY BRACE THE STRUCTURE. STUD SUPPLIER AND INSTALLER SHALL PROVIDE ALL CONNECTORS, FASTENERS, BRIDGING AND BRACING AS REQUIRED TO PROVIDE A COMPLETE STABLE INSTALLATION.

STRUCTURAL STEEL

1. FABRICATOR QUALIFICATIONS: FABRICATOR SHALL BE AISC CERTIFIED OR AN "APPROVED FABRICATOR" IN ACCORDANCE WITH THE BUILDING CODE AND APPROVED BY THE AHJ. IN LIEU OF THE PREVIOUS, FABRICATOR SHALL INCLUDE IN THEIR BID THE SERVICES OF A SPECIAL INSPECTOR TO PROVIDE INSPECTION/TESTING SERVICES FOR WORK COMPLETED ON THE FABRICATOR'S PREMISES TO MEET BUILDING CODE REQUIREMENTS. AT THE COMPLETION OF WORK, FABRICATOR SHALL SUBMIT A "CERTIFICATE OF COMPLIANCE" TO THE ARCHITECT AND AHJ STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS.
2. STRUCTURAL STE

ABBREVIATIONS

ABBREVIATIONS ARE AS SHOWN IN THE CONTRACT DOCUMENTS WITH THE FOLLOWING EXCEPTIONS:

#	REINFORCING BAR SIZE, SHEET METAL SCREW SIZE	LB(S)	POUND(S)
@	AT (SPACING)	Ld	REINFORCING BAR DEVELOPMENT LENGTH
Ø	DIAMETER	Ldh	HOOKED REINFORCING BAR DEVELOPMENT LENGTH
AB	ANCHOR BOLT	LF	LINEAR FOOT (FEET)
ABC	AGGREGATE BASE COURSE	LFRS	LATERAL FORCE RESISTING SYSTEM
ADDL	ADDITIONAL	LIN	LINEAR
AFF	ABOVE FINISHED FLOOR	LL	LIVE LOAD
AHJ	AUTHORITY HAVING JURISDICTION	LLBB	LONG LEG BACK TO BACK
ALT	ALTERNATE	LLH	LONG LEG HORIZONTAL
ANCH	ANCHOR	LLV	LONG LEG VERTICAL
APPROX	APPROXIMATE	LONG	LONGITUDINAL
AR	ANCHOR ROD	Ls	REINFORCING BAR LAP SPLICE LENGTH
ARCH	ARCHITECTURAL	LSH	LONG SLOTTED HOLE
		LVL	LAMINATED VENEER LUMBER
B/	BOTTOM OF	LW	LONG WAY
BOD	BOTTOM OF DECK	LWC	LIGHTWEIGHT CONCRETE
BLDG	BUILDING		
BLKG	BLOCKING	MAX	MAXIMUM
BM(S)	BEAM(S)	MECH	MECHANICAL
BOF	BOTTOM OF FOOTING	MEP	MECHANICAL, ELECTRICAL & PLUMBING
BOL	BOTTOM OF LINTEL	MF	MOMENT FRAME
BOS	BOTTOM OF STEEL	MFR	MANUFACTURER
BOT	BOTTOM	MIN	MINIMUM
BRBF	BUCKLING RESTRAINED BRACED FRAME	MISC	MISCELLANEOUS
		MT	MASS TIMBER
BRG	BEARING	MTL	METAL
BTWN	BETWEEN	MWFRS	MAIN WIND FORCE RESISTING SYSTEM
		(N)	NEW
C	CHANNEL	NA	NOT APPLICABLE
CANT	CANTILEVER	NIC	NOT IN CONTRACT
CFMF	COLD-FORMED METAL FRAMING	NO	NUMBER
CIP	CAST-IN-PLACE	NS	NEAR SIDE
CJ	CONTROL JOINT	NTS	NOT TO SCALE
CJP	COMPLETE JOINT PENETRATION	NWC	NORMAL WEIGHT CONRETE
CL	CENTERLINE		
CLR	CLEAR	OC	ON CENTER
CMU	CONCRETE MASONRY UNIT	OCBF	ORDINARY CONCENTRICALLY BRACED FRAME
COL	COLUMN	OCCS	ORDINARY CANTILEVER COLUMN SYSTEM
COMP	COMPOSITE	OD	OUTSIDE DIAMETER
CONC	CONCRETE	OF	OUTSIDE FACE
CONN(S)	CONNECTION(S)	OH	OPPOSITE HAND
CONST	CONSTRUCTION	OMF	ORDINARY MOMENT FRAME
CONT	CONTINUOUS	OPG(S)	OPENING(S)
CONTR	CONTRACT(OR)	OPP	OPPOSITE
CSTJ	CONSTRUCTION JOINT	OWJ	OPEN WEB JOIST
CTR	CENTER		
(D)	DEMOLISH	PAF	POWDER ACTUATED FASTENER
DBA	DEFORMED BAR ANCHOR	PC	PRECAST CONCRETE, PILE CAP
DCW	DEMAND CRITICAL WELD	PCBE	PRECAST CONCRETE BEARING
DEG	DEGREE		ELEVATION
DIA	DIAMETER	PCF	POUNDS PER CUBIC FOOT
DIAG	DIAGONAL	PEMB	PRE-ENGINEERED METAL BUILDING
DIM	DIMENSION	PERP	PERPENDICULAR
DL	DEAD LOAD	PJP	PARTIAL JOINT PENETRATION
DO	DITTO	PL	PLATE
DT	PRESTRESSED PRECAST DOUBLE TEE	PLF	POUNDS PER LINEAL FOOT
DTL	DETAIL	PLWD	PLYWOOD
DWG(S)	DRAWING(S)	PREFAB	PREFABRICATED
DWL(S)	DOWEL(S)	PROJ	PROJECTION
		PSF	POUNDS PER SQUARE FOOT
(E)	EXISTING	PSI	POUNDS PER SQUARE INCH
EA	EACH	PTW	PRESERVATIVE TREATED WOOD
EBF	ECCENTRICALLY BRACED FRAME	RAD	RADIUS
EE	EACH END	RC	REINFORCED CONCRETE
EF	EACH FACE	REF	REFERENCE
EJ	EXPANSION JOINT	REINF	REINFORCE, REINFORCED, REINFORCEMENT, REINFORCING
EL	ELEVATION		
ELEC	ELECTRICAL	REQ(D)	REQUIRE(D)
ELEV	ELEVATOR	REV(S)	REVISION(S)
EMBED	EMBEDMENT, EMBEDDED	RTU	ROOFTOP UNIT
EN	EDGE NAILING		
EWP	ENGINEERED WOOD PRODUCT	SCBF	SPECIAL CONCENTRICALLY BRACED FRAME
ENG	ENGINEER		
EOD	EDGE OF DECK	SCCS	SPECIAL CANTILEVER COLUMN SYSTEM
EOR	ENGINEER OF RECORD	SCHED	SCHEDULE
EOS	EDGE OF SLAB	SDL	SUPERIMPOSED DEAD LOAD
EQ	EQUAL	SDS	SELF-DRILLING SCREWS
EQUIP	EQUIPMENT	SSH	SHORT SLOTTED HOLE
EQUIV	EQUIVALENT	SECT	SECTION
EW	EACH WAY	SEOR	STRUCTURAL ENGINEER OF RECORD
EXP	EXPANSION	SF	SQUARE FOOT
EXT	EXTERIOR	SFRS	SEISMIC FORCE RESISTING SYSTEM
		SHT	SHEET
f'c	SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE	SIM	SIMILAR
		SL	SNOW LOAD
f'm	SPECIFIED COMPRESSIVE STRENGTH OF MASONRY	SMF	SPECIAL MOMENT FRAME
		SOG	SLAB ON GRADE
FD	FLOOR DRAIN	SPA	SPACE, SPACING
FDN	FOUNDATION	SPEC(S)	SPECIFICATION(S)
FRT	FIRE RESISTANCE TREATED	SST	STAINLESS STEEL
FS	FAR SIDE	STAG'D	STAGGERED
FT	FEET (FOOT)	STD	STANDARD
FTG	FOOTING	STIFF	STIFFENER
FV	FIELD VERIFY	STL	STEEL
Fy	YIELD STRENGTH	STRUCT	STRUCTURE, STRUCTURAL
		SYM	SYMMETRICAL
GA	GAGE, GAUGE	t	THICKNESS
GALV	GALVANIZED	T&B	TOP & BOTTOM
GB	GRADE BEAM	T&G	TONGUE & GROOVE
GC	GENERAL CONTRACTOR	TC	TENSION CONTROL
GLB	GLUE LAMINATED BEAM	TCW	TOP OF CONCRETE WALL
GR	GRADE	TEMP	TEMPORARY
		THRD	THREADED
H	HEIGHT	T/	TOP OF
HC	PRESTRESSED PRECAST HOLLOW CORE	TOB	TOP OF BEAM
HDR	HEADER	TOC	TOP OF CONCRETE
HORIZ	HORIZONTAL	TOF	TOP OF FOOTING
HS	HEADED STUD	TOS	TOP OF STEEL
		TOW	TOP OF WALL
ID	INSIDE DIAMETER	TPE	TOP OF PIER ELEVATION
IF	INSIDE FACE	TRANS	TRANSVERSE
IMF	INTERMEDIATE MOMENT FRAME	TSE	TOP OF SLAB ELEVATION
IN	INCH	TWE	TOP OF WALL ELEVATION
INC	INCLUDE(ING)	TYP	TYPICAL
INT	INTERIOR	UNO	UNLESS NOTED OTHERWISE
		VERT	VERTICAL
JBE	JOIST BEARING ELEVATION	VFY	VERIFY
JST	JOIST	W/	WITH
JT	JOINT	W/O	WITHOUT
		WD	WOOD
K	KIP (1,000 LBS)	WFRS	WIND FORCE RESISTING SYSTEM
KSF	KIPS PER SQUARE FOOT	WGT	WEIGHT
		WOM	WALK OFF MAT
		WP	WORK POINT
		WPS	WELDING PROCEDURE SPECIFICATION
		WT	STEEL TEE SECTION
		WWR	WELDED WIRE FABRIC/REINFORCEMENT
		X-STR	EXTRA STRONG
		XX-STR	DOUBLE EXTRA STRONG
		ZRC	ZINC RICH COATING

STATEMENT OF SPECIAL INSPECTIONS

1. IN ACCORDANCE WITH OSSC, SECTION 1704, THE OWNER'S REPRESENTATIVE SHALL EMPLOY ONE OR MORE QUALIFIED SPECIAL INSPECTORS AND/OR TESTING AGENCIES TO PERFORM STRUCTURAL TESTS AND SPECIAL INSPECTIONS ON THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS.
2. THE DESIGNATED ENGINEER OF RECORD FOR SPECIAL INSPECTIONS SHALL BE RESPONSIBLE FOR DEFINING THE ACTIVITIES OF THE INSPECTORS, FOR CERTIFYING THE QUALIFICATIONS OF THE INSPECTORS WITH THE AHJ, AND TO ATTEND THE PRE-CONSTRUCTION MEETING TO DEFINE THEIR SCOPE OF SERVICES AND THE TESTING OR TEST PROCEDURES THAT ARE REQUIRED AS OUTLINED IN THE BUILDING CODE.
3. THE INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO VERIFY CONFORMANCE WITH THE APPROVED CONTRACT DOCUMENTS.
4. THE INSPECTOR SHALL FURNISH DAILY INSPECTION REPORTS ON THE WORK TO THE OWNER'S REPRESENTATIVE, AHJ AND ENGINEER. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, AND, IF UNCORRECTED, TO THE ENGINEER AND THE AHJ.
5. THE DESIGNATED ENGINEER OF RECORD FOR SPECIAL INSPECTIONS SHALL COMPLETE, SIGN AND SEAL A FINAL REPORT CERTIFYING THAT TO THE BEST OF THEIR KNOWLEDGE, THE WORK IS IN CONFORMANCE WITH THE APPROVED CONTRACT DOCUMENTS.
6. SPECIAL INSPECTION IS TO BE PROVIDED IN ADDITION TO THE INSPECTIONS CONDUCTED BY THE AHJ AND SHALL NOT BE CONSTRUED TO RELIEVE THE OWNER OR AUTHORIZED AGENT FROM REQUESTING THE INSPECTIONS REQUIRED BY OSSC SECTION 110.
7. CONTRACTOR RESPONSIBILITY: EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND- OR SEISMIC FORCE-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE AHJ AND THE OWNER'S REPRESENTATIVE ACKNOWLEDGING AWARENESS OF REQUIRED SPECIAL INSPECTIONS PRIOR TO COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT.
8. CONCRETE: PER OSSC SECTION 1705.3 AND TABLE 1705.3 WITH EXCEPTIONS. THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION: ALL CONCRETE, EXCEPT; SLAB-ON-GRADE, SIDE WALKS, AND PAVEMENT.
9. STEEL CONSTRUCTION: SPECIAL INSPECTIONS FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360-16. PROVIDE INSPECTION PER OSSC SECTION 1704.2.5 FOR STRUCTURAL LOADING-BEARING MEMBERS AND ASSEMBLIES FABRICATED ON THE PREMISES OF A FABRICATOR'S SHOP. THESE INSPECTIONS SHALL BE AT CONTRACTOR'S EXPENSE IF THE FABRICATOR IS NOT AN APPROVED FABRICATOR PER SECTION 1704.2.5.1.
10. WELDING: WELDING INSPECTION SHALL BE IN COMPLIANCE WITH AWS D1.1. THE BASIS FOR WELDING INSPECTOR QUALIFICATIONS SHALL BE AWS D1.1. PROVIDE SPECIAL INSPECTION IN ACCORDANCE WITH AISC 360-16 TABLE N5.4-1 THROUGH TABLE N5.4-3.
11. STEEL DETAILING: AN INSPECTION OF THE STEEL FRAME SHALL BE PERFORMED TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS, SUCH AS BRACING, STIFFENING, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.
12. HIGH STRENGTH BOLTING: INSTALLATION OF HIGH STRENGTH BOLTS SHALL BE PERIODICALLY INSPECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. HIGH STRENGTH BOLTING. PROVIDE SPECIAL INSPECTION IN ACCORDANCE WITH AISC 360-16 TABLE N5.6-1 THROUGH TABLE N5.6-3.
13. COLD-FORMED STEEL DECK: SPECIAL INSPECTION AND QUALIFICATION OF MATERIAL VERIFICATION, WELDING AND MECHANICAL FASTENERS FOR COLD FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH THE STEEL DECK INSTITUTE (SDI) QA/QC STANDARD.
14. GRADING, EXCAVATION AND FILLING: PER SECTION 1705.6 AND TABLE 1705.6.
15. PILING, DRILLED PIERS AND CAISSONS: PER SECTION 1705.7 & 1705.8 AND TABLES 1705.7 & 1705.8.
16. HELICAL PILE FOUNDATIONS: CONTINUOUS SPECIAL INSPECTION SHALL BE PERFORMED DURING THE INSTALLATION OF HELICAL PILE FOUNDATIONS. THE INFORMATION RECORDED SHALL INCLUDE INSTALLATION EQUIPMENT USED, PILE DIMENSIONS, TIP ELEVATIONS, FINAL DEPTH, FINAL INSTALLATION TORQUE AND OTHER PERTAINENT INSTALLATION INFORMATION PER SECTION 1705.9.
17. SPRAY-APPLIED FIREPROOFING: PER SECTION 1705.14.
18. MASTIC AND INTUMESCENT FIRE RESISTING COATINGS: PER SECTION 1705.15.
19. EXTERIOR INSULATION AND FINISH SYSTEM (EIFS): PER SECTION 1705.16.
20. FIRE-RESISTANT PENETRATIONS AND JOINTS: PER SECTION 1705.17.
21. SMOKE CONTROL: PER SECTION 1705.18.
22. EXPANSION BOLT, SCREW ANCHOR AND ADHESIVE ANCHORS: INSTALLATION TO VERIFY INSTALLATION IN ACCORDANCE WITH ICC-ES REPORTS NOTED PREVIOUSLY OR APPROVED EQUAL.

IBC — TABLE 1705.3

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS	PERIODIC	REFERENCED STANDARD (a)	IBC REFERENCE
1. Inspect reinforcement, including prestressing tendons, and verify placement.	—	X	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. Reinforcing bar welding:				
a. Verify weldability of reinforcing bars other than ASTM A706;	—	X	AWS D1.4 ACI 318: 26.6.4	—
b. Inspect single-pass fillet welds, maximum 5/16"; and	—	X		
c. Inspect all other welds.	X	—		
3. Inspect anchors cast in concrete.	—	X	ACI 318: 17.8.2	—
4. Inspect anchors post-installed in hardened concrete members. (b)				
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	X	—	ACI 318: 17.8.2.4	—
b. Mechanical anchors and adhesive anchors not defined in 4.a.	—	X	ACI 318: 17.8.2	—
5. Verify use of required design mix.	—	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	—	ASTM C172 ASTM C31 ACI 318: 26.5, 26.12	1908.10
7. Inspect concrete and shotcrete placement for proper application techniques.	X	—	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.	—	X	ACI 318: 26.5.3-26.5.5	1908.9
9. Inspect prestressed concrete for:				
a. Application of prestressing forces; and	X	—	ACI 318: 26.10	—
b. Grouting of bonded prestressing tendons.	X	—		—
10. Inspect erection of precast concrete members.	—	X	ACI 318: 26.9	—
11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	—	X	ACI 318: 26.11.2	—
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	—	X	ACI 318: 26.11.1.2(b)	—

a. Where applicable, see also Section 1705.12, Special inspections for seismic resistance.
b. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

IBC — TABLE 1705.6

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

TYPE	CONTINUOUS	PERIODIC
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	—	X
2. Verify excavations are extended to proper depth and have reached proper material.	—	X
3. Perform classification and testing of compacted fill materials.	—	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	—
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	—	X

AISC 360 — TABLE N5.4-1

INSPECTION TASKS PRIOR TO WELDING

INSPECTION TASKS PRIOR TO WELDING	QC	QA
Welder qualification records and continuity records	P	O
Welding procedure specifications (WPS) available	P	P
Manufacturer certifications for welding consumables available	P	P
Material identification (type / grade)	O	O
Welder identification system [a]	O	O
Fit-up of groove welds (including joint geometry) • Joint preparations • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location) • Backing type and fit (if applicable)	O	O
Fit-up of CJP groove welds of HSS T-, Y- and K-joints without backing (including joint geometry) • Joint preparations • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)	P	O
Configuration and finish of access holes	O	O
Fit-up of fillet welds • Dimensions (alignment, gaps at root) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)	O	O
Check welding equipment	O	—

[a] The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.
P - Perform these tasks for each welded joint or member.

AISC 360 — TABLE N5.4-2

INSPECTION TASKS DURING WELDING

INSPECTION TASKS DURING WELDING	QC	QA
Control and handling of welding consumables • Packaging • Exposure Control	O	O
No welding over cracked tack welds	O	O
Environmental conditions • Wind speed within limits • Precipitation and temperature	O	O
WPS Followed • Settings on welding equipment • Travel Speed • Selected welding materials • Shielding gas type / flow rate • Preheat applied • Interpass temperature maintained (min. / max.) • Proper position (F, V, H, OH)	O	O
Welding techniques • Interpass and final cleaning • Each pass within profile limitations • Each pass meets quality requirements	O	O
Placement and installation of steel headed stud anchors	P	P

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.
P - Perform these tasks for each welded joint or member.

AISC 360 — TABLE N5.4-3

INSPECTION TASKS AFTER WELDING

INSPECTION TASKS AFTER WELDING	QC	QA
Welds cleaned	O	O
Size, length and location of welds	P	P
Welds meet visual acceptance criteria • Crack prohibition • Weld / base-metal fusion • Crater cross section • Weld profiles • Weld size • Undercut • Porosity	P	P
Arc strikes	P	P
k-area [a]	P	P
Weld access holes in rolled heavy shapes and build-up heavy shapes [b]	P	P
Backing removed and weld tabs removed (if required)	P	P
Repair activities	P	P
Document acceptance or rejection of welded joint or member	P	P
No prohibited welds have been added without the approval of the EOR	O	O

[a] When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 inches (75 mm) of the weld.

[b] After rolled heavy shapes (see Section A3.1c) and built-up heavy shapes (see Section A3.1d) are welded, visually inspect the weld access hole for cracks.

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.
P - Perform these tasks for each welded joint or member.

AISC 360 — TABLE N5.6-1

INSPECTION TASKS PRIOR TO BOLTING

INSPECTION TASKS PRIOR TO BOLTING	QC	QA
Manufacturer's certifications available for fastener materials	O	P
Fasteners marked in accordance with ASTM requirements	O	O
Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	O	O
Proper bolting procedure selected for joint detail	O	O
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	O	O
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	P	O
Proper storage provided for bolts, nuts, washers, and other fastener components	O	O

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.
P - Perform these tasks for each bolted connection.

AISC 360 — TABLE N5.6-2

INSPECTION TASKS DURING BOLTING

INSPECTION TASKS DURING BOLTING	QC	QA
Fastener assemblies placed in all holes and washers and nuts are positioned as required	O	O
Joint brought to the snug-tight condition prior to the pretensioning operation	O	O
Fastener component not turned by the wrench prevented from rotating	O	O
Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges	O	O

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.
P - Perform these tasks for each bolted connection.

AISC 360 — TABLE N5.6-3

INSPECTION TASKS AFTER BOLTING

INSPECTION TASKS AFTER BOLTING	QC	QA
Document acceptance or rejection of bolted connections	P	P

O - Observe these items on a random basis. Operations need not be delayed pending these inspections.
P - Perform these tasks for each bolted connection.

ANSI / SDI QA/QC— TABLE 1.1

INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT

TASK	QC	QA
A. Verify complaiance of materials (deck and all deck accessories) with construction documents, including profiles, material properties, and base metal thickness	P	P
B. Document acceptance or rejection of deck and deck accessories	P	P

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.
P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.2

INSPECTION OR EXECUTION TASKS AFTER DECK PLACEMENT

TASK	QC	QA
A. Verify complaiance of deck and all deck accessories installation with construction documents	P	P
B. Verify deck materials are represented by the mill certifications that comply with the construction documents	N/A	P
C. Document acceptance or rejection of installation of deck and deck accessories	P	P

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.
P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.3

INSPECTION OR EXECUTION TASKS PRIOR TO WELDING

TASK	QC	QA
A. Welding procedure specifications (WPS) available	O	O
B. Manufacturer certifications for welding consumables available	O	O
C. Meterial identification (type / grade)	O	O
D. Check welding equipment	O	O

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.
P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.4

INSPECTION OR EXECUTION TASKS DURING WELDING

TASK	QC	QA
A. Use of qualified welders.	O	O
B. Control and handling of welding consumables	O	O
C. Environmental conditions (wind speed, moisture, temperature)	O	O
D. WPS followed	O	O

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.
P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.5

INSPECTION OR EXECUTION TASKS AFTER WELDING

TASK	QC	QA
A. Verify size and location of welds, including support, sidelap, and perimeter welds	P	P
B. Welds meet visual acceptance criteria	P	P
C. Verify repair activities	P	P
D. Document acceptance or rejection of welds	P	P

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.
P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.6

INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING

TASK	QC	QA
A. Manufacturer installation instructions available for mechanical fasteners	O	O
B. Proper tools available for fastener installation	O	O
C. Proper storage for mechanical fasteners	O	O

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.
P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.7

INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING

TASK	QC	QA
A. Fasteners are positioned as required	O	O
B. Fasteners are installed in accordance with manufacturer's instructions	O	O

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.
P - Perform these tasks prior to final acceptance for each item or element.

ANSI / SDI QA/QC— TABLE 1.8

INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING

TASK	QC	QA
A. Check spacing, type, and installation of support fasteners	P	P
B. Check spacing, type, and installation of sidelap fasteners	P	P
C. Check spacing, type, and installation of perimeter fasteners	P	P
D. Verify repair activities	P	P
E. Document acceptance or rejection on mechanical fasteners	P	P

O - Observe these items on an intermittent basis. Operations need not be delayed pending these inspections.
P - Perform these tasks prior to final acceptance for each item or element.

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CYL HUB1-1-3 BUILDING
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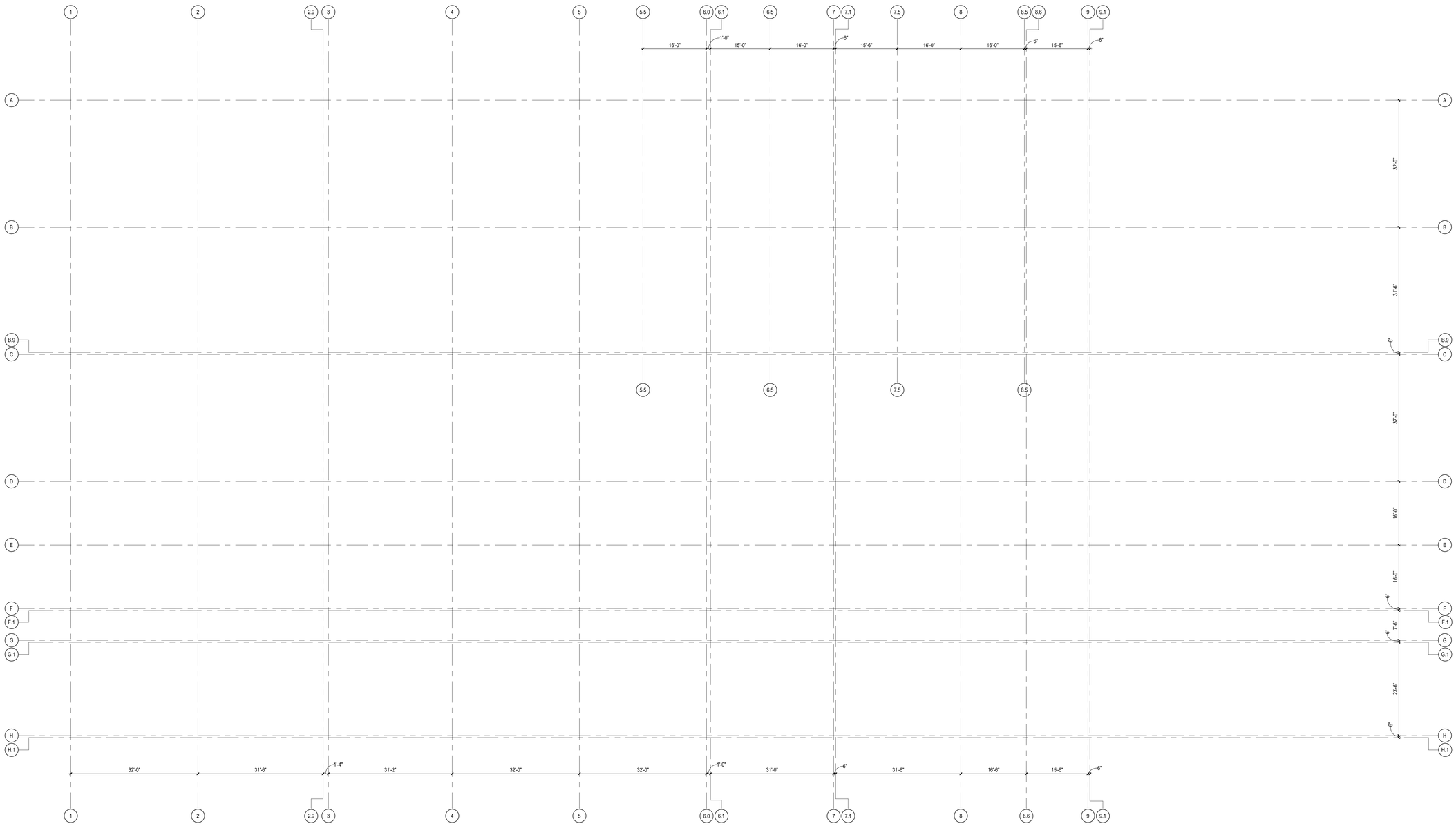
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GENERAL STRUCTURAL NOTES & SPECIAL INSPECTIONS

SCALE: 12" = 1'-0"

SHEET NUMBER:
S0.02

PHASE: COMPLETED LOCALIZATION/QC



GRID GEOMETRY PLAN

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

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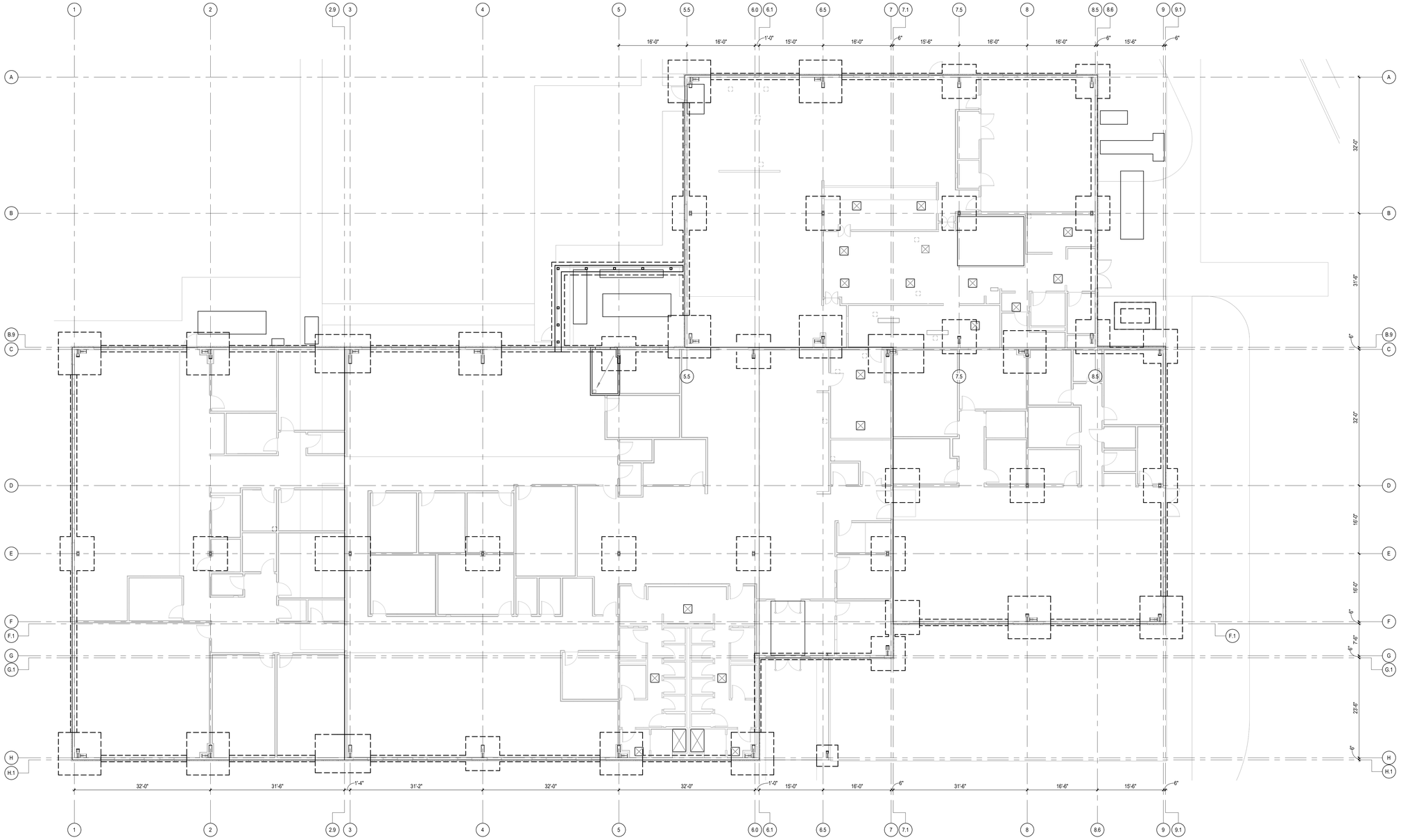
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GRID GEOMETRY PLAN

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

SHEET NUMBER:
S0.03

PHASE: COMPLETED LOCALIZATION/QC



OVERALL FOUNDATION PLAN

SCALE: 1" = 10'-0"

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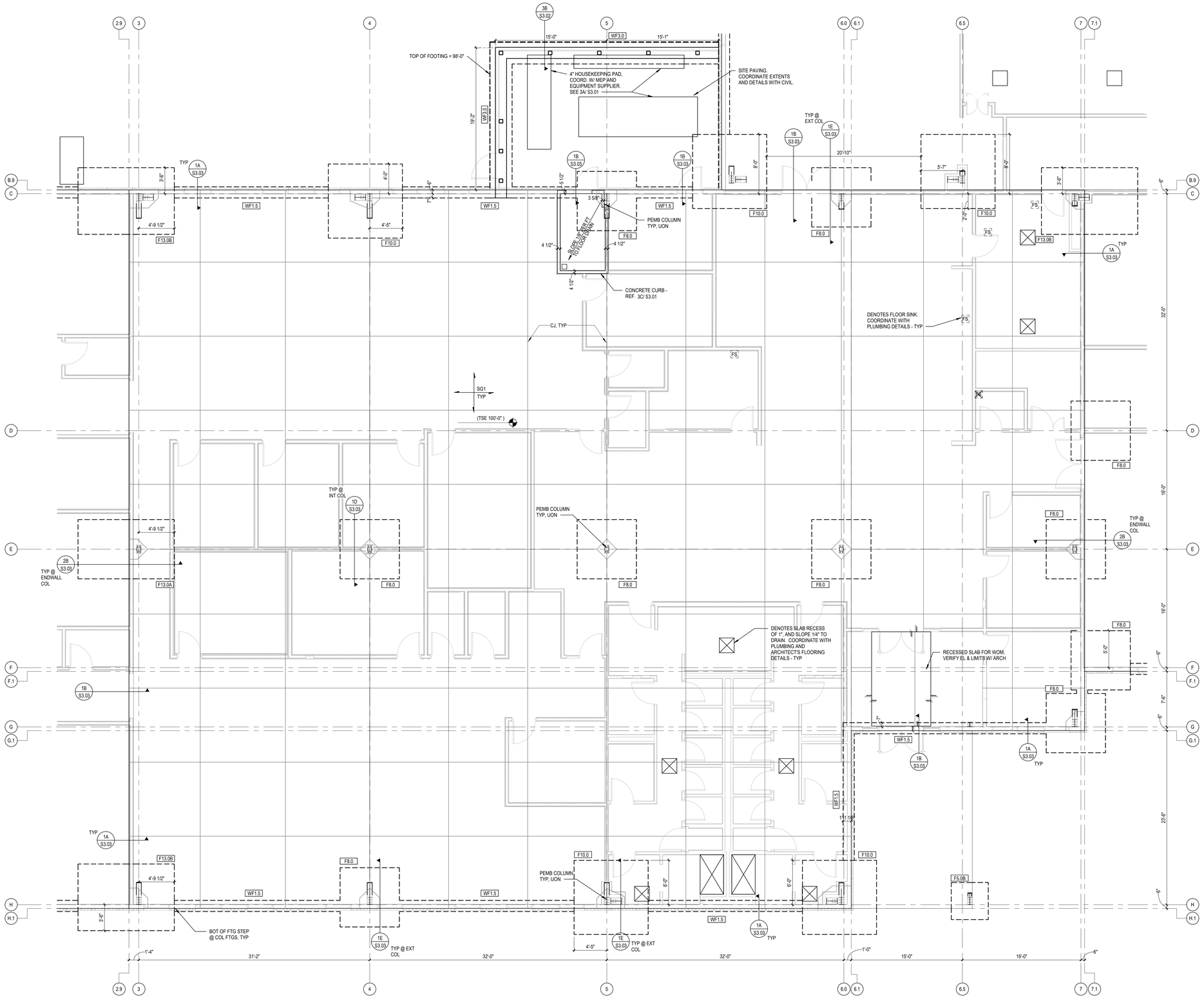
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OVERALL FOUNDATION PLAN (4.0)

SCALE: 1" = 10'-0"

SHEET NUMBER:
S1.01.0

PHASE: COMPLETED
LOCALIZATION/QC



FOUNDATION PLAN - P.E.M.B, AREA A

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

A. ELEVATIONS ARE BASED ON A REFERENCE FLOOR ELEVATION OF 100'-0", UNO. TOP OF SLAB ON GRADE IS AT THE REFERENCE ELEVATION UNLESS OTHERWISE NOTED.

B. SLAB ON GRADE "SG1" IS 5 INCHES THICK AND REINFORCED WITH #4 @ 16" OC EW. SLAB ON GRADE SHALL BE PLACED OVER A VAPOR BARRIER AND 8 INCHES (MIN) COMPACTED GRANULAR FILL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. SEE TYPICAL SLAB ON GRADE DETAILS FOR MORE INFORMATION.

C. SEE TYPICAL FOOTING BEARING AND DRAINAGE DETAIL FOR FOUNDATION BEARING AND DRAINAGE REQUIREMENTS. REFER TO GENERAL NOTES AND GEOTECHNICAL REPORT FOR MORE INFORMATION.

D. T/ INTERIOR FOOTING ELEVATION = 98'-8", TYP, UNO

E. T/ EXTERIOR FOOTING ELEVATION = 98'-0", TYP, UNO

F. ( ) INDICATES TOP OF FOOTING ELEVATION AT NON-TYPICAL LOCATIONS.

G. "F# #" INDICATES COLUMN OR ISOLATED SPREAD FOOTING MARK. SEE SCHEDULE FOR SIZE AND REINFORCEMENT.

H. "WF# #" INDICATES WALL OR CONTINUOUS FOOTING MARK. SEE SCHEDULE FOR SIZE AND REINFORCEMENT.

I. FOR ELEVATIONS, WALL SECTIONS, AND DIMENSIONS NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.

J. COORDINATE LOCATION OF ALL EMBEDS WITH MECHANICAL, ELECTRICAL, PLUMBING, AND EXTERIOR WALL SYSTEMS PRIOR TO CASTING THE SLAB ON GRADE.

K. FOR SIDEWALKS, PAVING, AND SITE DETAILS AT THE BUILDING EXTERIOR, SEE ARCHITECTURAL AND CIVIL DRAWINGS.

L. REFERENCE ALL CONSTRUCTION DOCUMENTS FOR THE LOCATION, SIZE, AND EXTENT OF CONCRETE CURBS, HOUSEKEEPING PADS, CMU WALLS, PLANTER WALLS, BOLLARDS, EDGE ANGLES, AND SLAB PENETRATIONS. REINFORCE PER TYPICAL DETAILS.

M. ALL EXTERIOR WALLS ARE 6" METAL STUD WALLS (600S162-43 @ 16" OC MINIMUM), TYP, UON. FINAL DESIGN IS BY SUPPLIER.

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KEY PLAN (AREAS)

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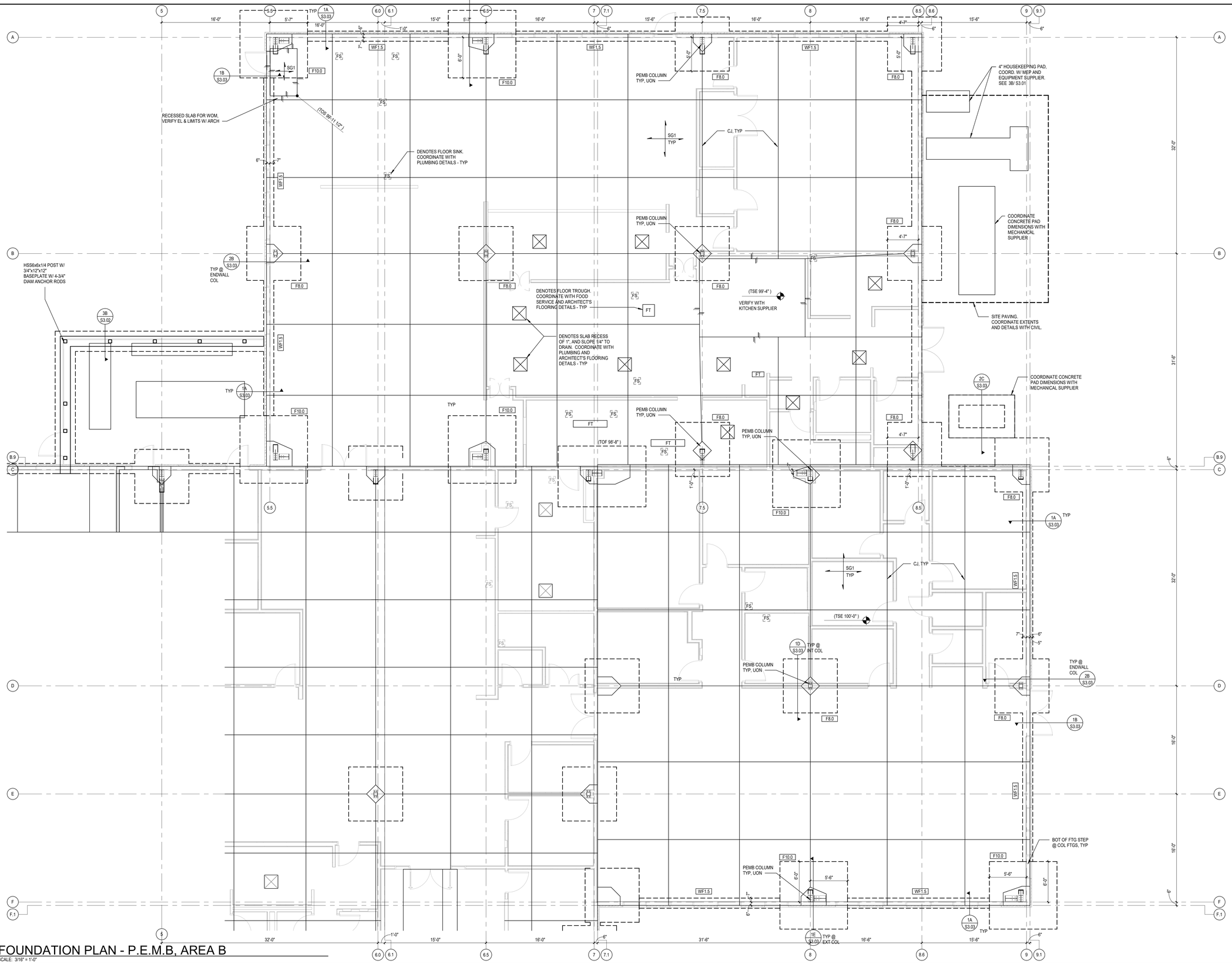
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FOUNDATION PLAN - P.E.M.B, AREA A

SCALE: As indicated

SHEET NUMBER:
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PHASE: COMPLETED LOCALIZATION/QC



FOUNDATION PLAN - P.E.M.B, AREA B

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

A. ELEVATIONS ARE BASED ON A REFERENCE FLOOR ELEVATION OF 100'-0", UNO. TOP OF SLAB ON GRADE IS AT THE REFERENCE ELEVATION UNLESS OTHERWISE NOTED.

B. SLAB ON GRADE "SG1" IS 5 INCHES THICK AND REINFORCED WITH #4 @ 16" OC EW. SLAB ON GRADE SHALL BE PLACED OVER A VAPOR BARRIER AND 8 INCHES (MIN) COMPACTED GRANULAR FILL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. SEE TYPICAL SLAB ON GRADE DETAILS FOR MORE INFORMATION.

C. SEE TYPICAL FOOTING BEARING AND DRAINAGE DETAIL FOR FOUNDATION BEARING AND DRAINAGE REQUIREMENTS. REFER TO GENERAL NOTES AND GEOTECHNICAL REPORT FOR MORE INFORMATION.

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I. FOR ELEVATIONS, WALL SECTIONS, AND DIMENSIONS NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.

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K. FOR SIDEWALKS, PAVING, AND SITE DETAILS AT THE BUILDING EXTERIOR, SEE ARCHITECTURAL AND CIVIL DRAWINGS.

L. REFERENCE ALL CONSTRUCTION DOCUMENTS FOR THE LOCATION, SIZE, AND EXTENT OF CONCRETE CURBS, HOUSEKEEPING PADS, CMU WALLS, PLANTER WALLS, BOLLARDS, EDGE ANGLES, AND SLAB PENETRATIONS. REINFORCE PER TYPICAL DETAILS.

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CERTIFICATE OF AUTHORIZATION — JOHN D. WEIBOOM — 9/19/26 — 23869 — OKLAHOMA

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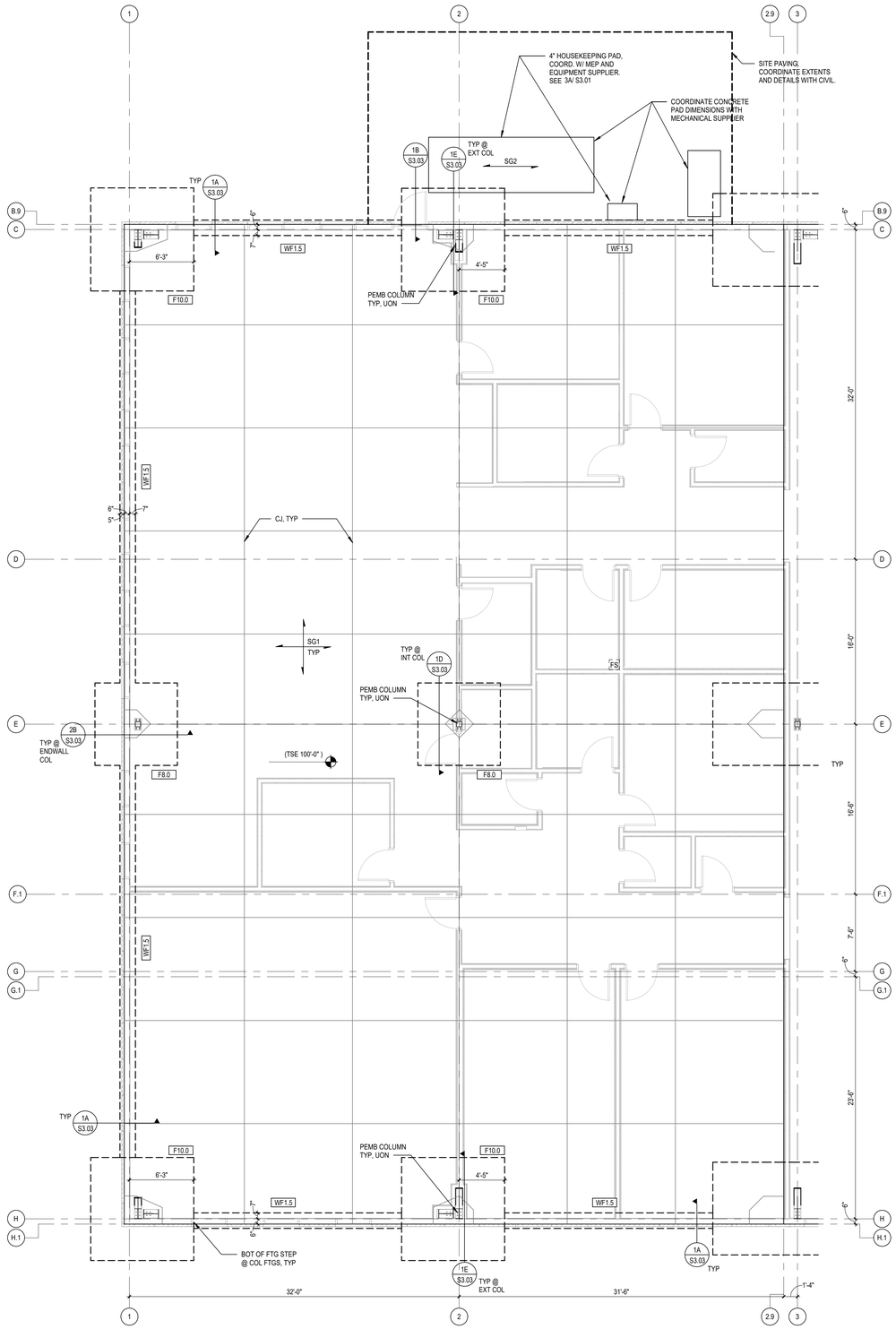
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FOUNDATION PLAN - P.E.M.B, AREA B (4.0)
SCALE: As indicated

SHEET NUMBER:
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FOUNDATION PLAN - P.E.M.B, AREA C

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

A. ELEVATIONS ARE BASED ON A REFERENCE FLOOR ELEVATION OF 100'-0", UNO. TOP OF SLAB ON GRADE IS AT THE REFERENCE ELEVATION UNLESS OTHERWISE NOTED.

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C. SEE TYPICAL FOOTING BEARING AND DRAINAGE DETAIL FOR FOUNDATION BEARING AND DRAINAGE REQUIREMENTS. REFER TO GENERAL NOTES AND GEOTECHNICAL REPORT FOR MORE INFORMATION.

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I. FOR ELEVATIONS, WALL SECTIONS, AND DIMENSIONS NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.

J. COORDINATE LOCATION OF ALL EMBEDS WITH MECHANICAL, ELECTRICAL, PLUMBING, AND EXTERIOR WALL SYSTEMS PRIOR TO CASTING THE SLAB ON GRADE.

K. FOR SIDEWALKS, PAVING, AND SITE DETAILS AT THE BUILDING EXTERIOR, SEE ARCHITECTURAL AND CIVIL DRAWINGS.

L. REFERENCE ALL CONSTRUCTION DOCUMENTS FOR THE LOCATION, SIZE, AND EXTENT OF CONCRETE CURBS, HOUSEKEEPING PADS, CMU WALLS, PLANTER WALLS, BOLLARDS, EDGE ANGLES, AND SLAB PENETRATIONS. REINFORCE PER TYPICAL DETAILS.

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KEY PLAN (AREAS)

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B
C
A

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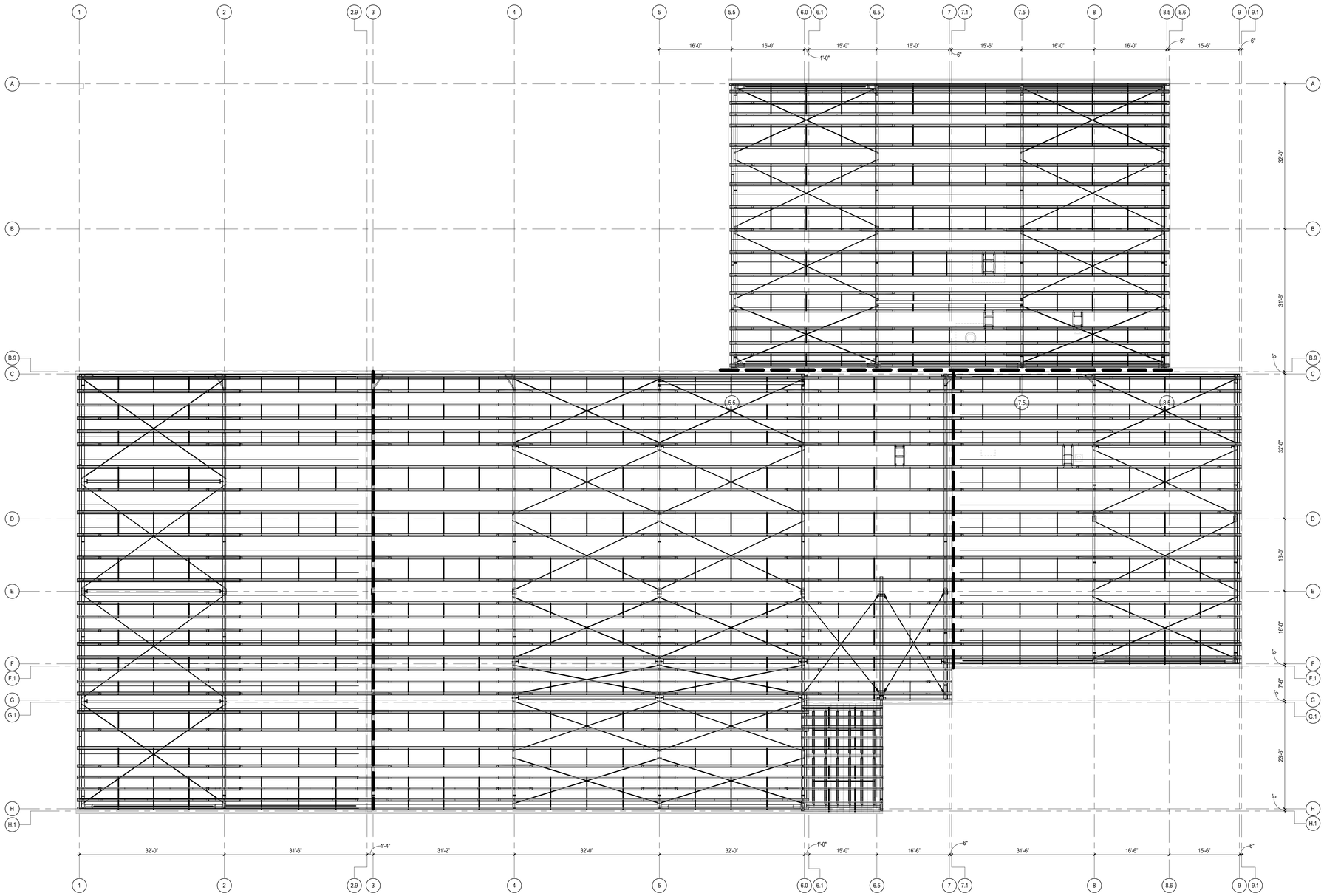
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FOUNDATION PLAN - P.E.M.B, AREA C

SCALE: As indicated

SHEET NUMBER:
S1.31

PHASE: COMPLETED LOCALIZATION/QC



OVERALL ROOF FRAMING PLAN

SCALE: 1" = 10'-0"

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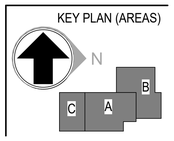
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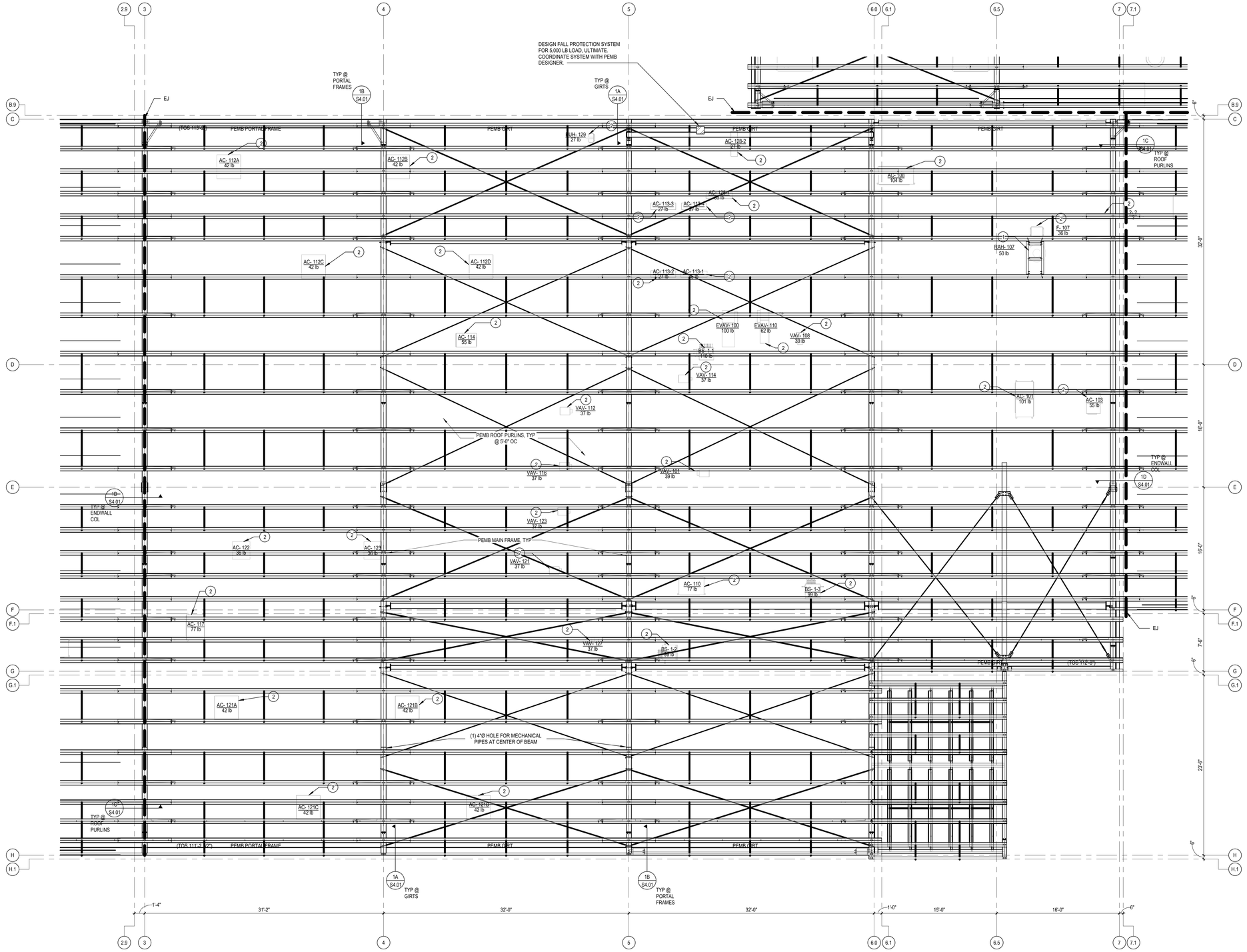
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OVERALL ROOF FRAMING PLAN (4.0)

SCALE: 1" = 10'-0"

SHEET NUMBER:
S2.01.0

PHASE: COMPLETED LOCALIZATION/QC



ROOF FRAMING PLAN - P.E.M.B, AREA A

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

A. ELEVATIONS ARE BASED ON A REFERENCE FLOOR ELEVATION OF 100'-0", UON.

B. (#'-#") INDICATES DEVIATION FROM TYPICAL TOP OF STEEL ELEVATION. ELEVATION SHOWN IS TOP OF STEEL, UON.

C. TOP OF STEEL SLOPES UNIFORMLY BETWEEN TOP OF STEEL ELEVATIONS SHOWN ON PLAN. WHERE BEAMS INTERSECT OTHER BEAMS OR COLUMNS, MATCH TOP OF STEEL ELEVATION UON.

D. FOR INTERIOR METAL STUD FRAMING, SEE ARCHITECTURAL DRAWINGS FOR ALL INTERIOR WALL SECTIONS AND DIMENSIONS.

E. FOR ELEVATIONS, WALL SECTIONS, AND DIMENSIONS NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.

KEY NOTES

1. ROOF TOP MECHANICAL UNITS OF MAXIMUM WEIGHT INDICATED. CURB WEIGHT NOT INCLUDED. CONFIRM WEIGHT AND LOCATION WITH ACTUAL UNIT SELECTED. PEMB SUPPLIER TO PROVIDE ALL REQUIRED SUPPORT FRAMING UNDER UNIT CURBS.

2. HANGING MECHANICAL UNITS OF MAXIMUM WEIGHT INDICATED. CONFIRM WEIGHT AND LOCATION WITH ACTUAL UNITS SELECTED AND COORDINATE ROOF SUPPORT STRUCTURE WITH PEMB SUPPLIER. PEMB SUPPLIER TO PROVIDE ALL REQUIRED SUPPORT FRAMING AT HANGER LOCATIONS. REFER TO MECHANICAL DRAWINGS FOR HANGING SUPPORTS.

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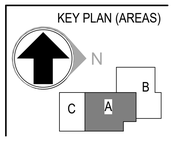
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JOHN D. WESKOM 9/19/25 23869 REGISTERED PROFESSIONAL ENGINEER STATE OF OKLAHOMA

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KEY PLAN (AREAS)



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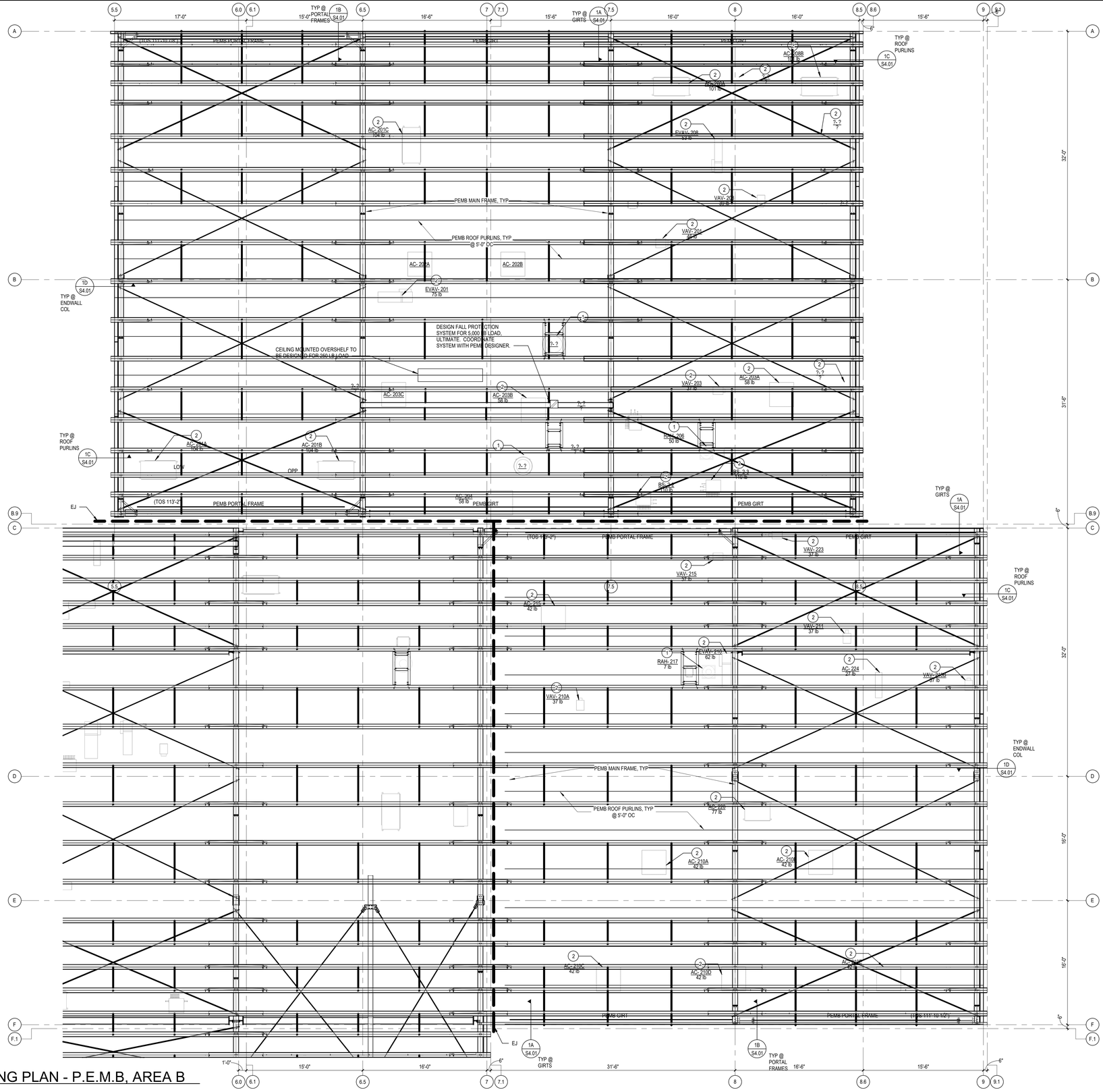
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ROOF FRAMING PLAN - P.E.M.B, AREA A

SCALE: As indicated

SHEET NUMBER:
S2.11

PHASE: COMPLETED LOCALIZATION/QC



ROOF FRAMING PLAN - P.E.M.B, AREA B

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

KEY NOTES

1. ROOF TOP MECHANICAL UNITS OF MAXIMUM WEIGHT INDICATED. CURB WEIGHT NOT INCLUDED. CONFIRM WEIGHT AND LOCATION WITH ACTUAL UNIT SELECTED. PEMB SUPPLIER TO PROVIDE ALL REQUIRED SUPPORT FRAMING UNDER UNIT CURBS.
2. HANGING MECHANICAL UNITS OF MAXIMUM WEIGHT INDICATED. CONFIRM WEIGHT AND LOCATION WITH ACTUAL UNITS SELECTED AND COORDINATE ROOF SUPPORT STRUCTURE WITH PEMB SUPPLIER. PEMB SUPPLIER TO PROVIDE ALL REQUIRED SUPPORT FRAMING AT HANGER LOCATIONS. REFER TO MECHANICAL DRAWINGS FOR HANGING SUPPORTS.

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D. FOR INTERIOR METAL STUD FRAMING, SEE ARCHITECTURAL DRAWINGS FOR ALL INTERIOR WALL SECTIONS AND DIMENSIONS.

E. FOR ELEVATIONS, WALL SECTIONS, AND DIMENSIONS NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.

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HDR, ENGINEERING INC.
1917 SOUTH 67th STREET
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KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
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PROFESSIONAL ENGINEER — JOHN D. WEBSTER — 9/19/25 — 23859 — OKLAHOMA

CYL HUB1-1-3 BUILDING
PERMIT DOCUMENTS
2025-09-22

KEY PLAN (AREAS)

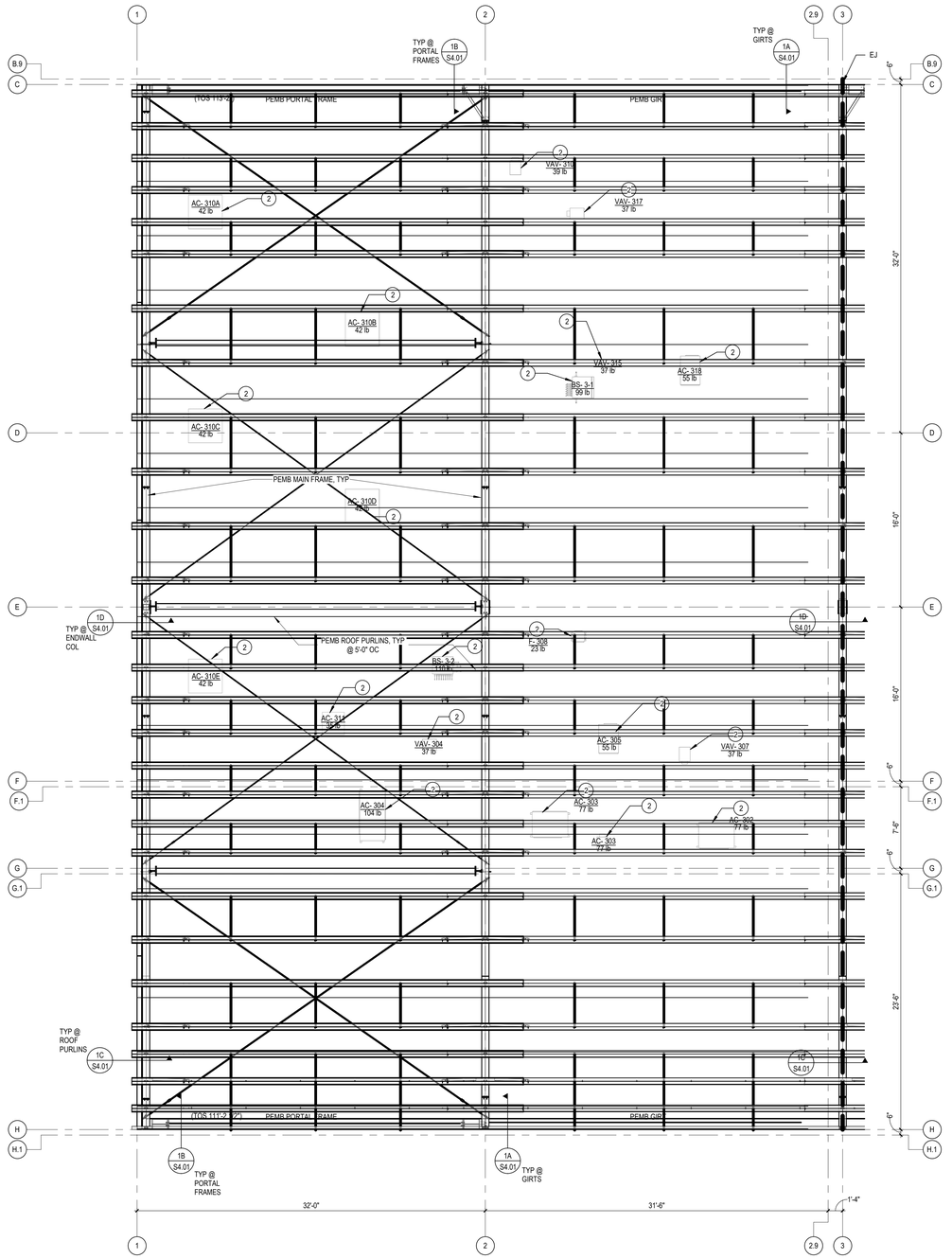
REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRVD: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

ROOF FRAMING PLAN - P.E.M.B, AREA B (4.0)
SCALE: As indicated

SHEET NUMBER: S2.21.0
PHASE: COMPLETED LOCALIZATION/QC



ROOF FRAMING PLAN - P.E.M.B, AREA C

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

A. ELEVATIONS ARE BASED ON A REFERENCE FLOOR ELEVATION OF 100'-0", UON.

B. (#'-#") INDICATES DEVIATION FROM TYPICAL TOP OF STEEL ELEVATION. ELEVATION SHOWN IS TOP OF STEEL, UON.

C. TOP OF STEEL SLOPES UNIFORMLY BETWEEN TOP OF STEEL ELEVATIONS SHOWN ON PLAN. WHERE BEAMS INTERSECT OTHER BEAMS OR COLUMNS, MATCH TOP OF STEEL ELEVATION UON.

D. FOR INTERIOR METAL STUD FRAMING, SEE ARCHITECTURAL DRAWINGS FOR ALL INTERIOR WALL SECTIONS AND DIMENSIONS.

E. FOR ELEVATIONS, WALL SECTIONS, AND DIMENSIONS NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.

KEY NOTES

1. ROOF TOP MECHANICAL UNITS OF MAXIMUM WEIGHT INDICATED. CURB WEIGHT NOT INCLUDED. CONFIRM WEIGHT AND LOCATION WITH ACTUAL UNIT SELECTED. PEMB SUPPLIER TO PROVIDE ALL REQUIRED SUPPORT FRAMING UNDER UNIT CURBS.

2. HANGING MECHANICAL UNITS OF MAXIMUM WEIGHT INDICATED. CONFIRM WEIGHT AND LOCATION WITH ACTUAL UNITS SELECTED AND COORDINATE ROOF SUPPORT STRUCTURE WITH PEMB SUPPLIER. PEMB SUPPLIER TO PROVIDE ALL REQUIRED SUPPORT FRAMING AT HANGER LOCATIONS. REFER TO MECHANICAL DRAWINGS FOR HANGING SUPPORTS.

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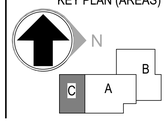
DLR GROUP
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2025-09-22

KEY PLAN (AREAS)



REVISIONS		
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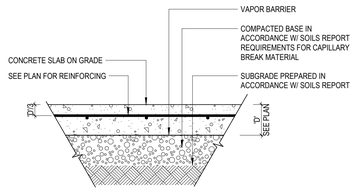
PROJ. NO. 43-25105-00

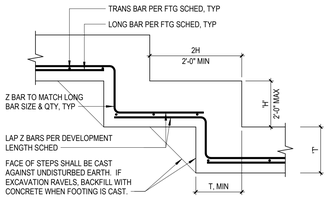
ROOF FRAMING PLAN - P.E.M.B, AREA C

SCALE: As indicated

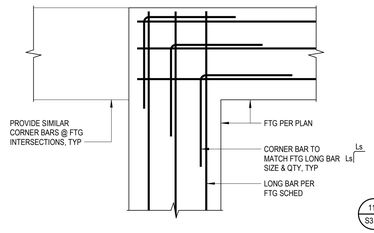
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S2.31

PHASE: COMPLETED LOCALIZATION/QC



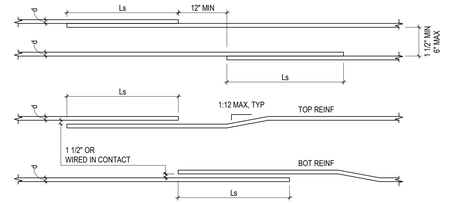


NOTE: PROVIDE SAME AT TOP REINFORCING WHERE FOOTING TOP REINFORCING OCCURS.



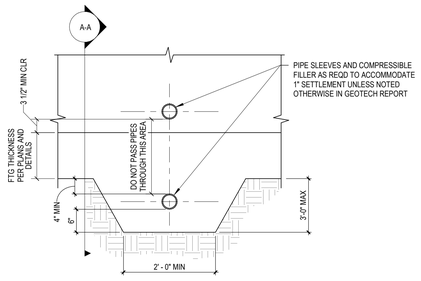
CONCRETE SPLICE OR DEVELOPMENT LENGTH (INCHES)																		
NORMAL WEIGHT CONCRETE f'c (psi)	"CLASS B" TENSION LAP SPLICE "Ls" SCHEDULE																	
	0.375"		0.500"		0.625"		0.750"		0.875"		1.00"		1.128"		1.270"		1.410"	
	#3		#4		#5		#6		#7		#8		#9		#10		#11	
	T	B	T	B	T	B	T	B	T	B	T	B	T	B	T	B	T	B
3000	28	22	38	29	47	36	56	43	81	63	93	72	105	81	116	90	128	98
4000	25	19	33	25	41	31	49	37	71	54	81	62	91	70	101	78	111	85
5000	22	17	29	23	36	28	44	34	63	49	72	56	81	63	90	69	99	76
6000	20	16	27	21	33	26	40	31	58	45	66	51	74	57	82	63	90	70
	DEVELOPMENT LENGTH "Ld" SCHEDULE																	
3000	22	17	29	22	36	28	43	33	63	48	72	55	81	62	90	69	98	76
4000	19	15	25	19	31	24	37	29	54	42	62	48	70	54	78	60	85	66
5000	17	13	23	17	28	22	34	26	49	38	56	43	63	48	69	54	76	59
6000	16	12	21	16	26	20	31	24	45	34	51	39	57	44	63	49	70	54

NOTES:
1. SCHEDULE APPLIES TO UNCOATED GRADE 60 BARS IN NORMAL WEIGHT CONCRETE. FOR STRENGTHS NOT SHOWN, USE NEXT LOWEST STRENGTH SHOWN.
2. FOR LIGHTWEIGHT CONCRETE, MULTIPLY LENGTH IN SCHEDULE BY 1.3.
3. ALL SPLICES SHALL BE CLASS B SPLICES UNLESS OTHERWISE NOTED.
4. TOP BARS (INDICATED WITH "T" IN SCHEDULE) ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONRETE CAST BELOW THE BARS.
5. BOTTOM BARS (INDICATED WITH "B" IN SCHEDULE) ARE HORIZONTAL BARS WITH LESS THAN 12" OF CONCRETE CAST BELOW THE BARS. ALL VERTICAL BARS ARE CONSIDERED BOTTOM BARS UNLESS OTHERWISE NOTED.
6. ANY PORTION OF A STRAIGHT BAR EMBEDMENT LENGTH NOT WITHIN THE CONFINED CORE SHALL BE INCREASED BY A FACTOR OF 1.6.
7. ALL HORIZONTAL SPLICES SHALL BE STAGGERED AS SHOWN. IF MORE THAN 50% OF VERTICAL REINFORCING IS LAP SPLICED WITHIN THE REQUIRED LAP SPLICE LENGTH, THE LAP SPLICE LENGTH SHALL BE INCREASED BY 33%.

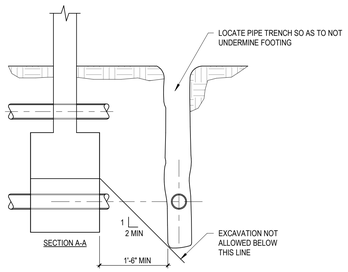


111 S3.01 SXL - CONCRETE & MASONRY SPLICE SCHEDULE
NO SCALE

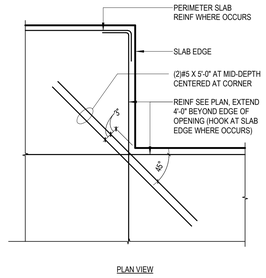
1A S3.01 SLAB ON GRADE
NO SCALE



1B S3.01 TYPICAL FOOTING STEP
NO SCALE

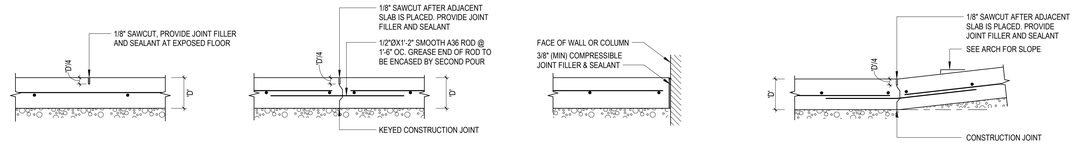


1D S3.01 TYPICAL FOOTING CORNER BARS
NO SCALE



PLAN VIEW

1E S3.01 CONCRETE REINFORCING SPLICE SCHEDULE
NO SCALE



A CONTRACTION JOINT

B CONSTRUCTION JOINT

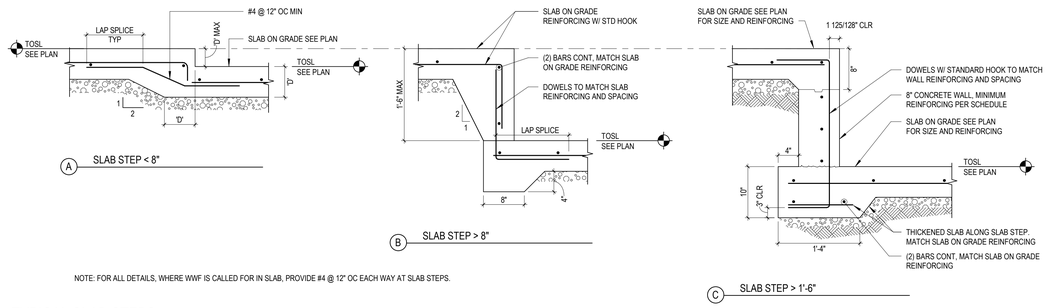
C ISOLATION JOINT

D SLOPED JOINT

2A S3.01 TYP PIPE PENETRATIONS AT FOOTINGS / WALLS
NO SCALE

2C S3.01 RE-ENTRANT CORNER AT SLAB EDGE
NO SCALE

2D S3.01 SLAB ON GRADE JOINTS
NO SCALE

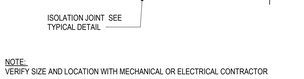


A SLAB STEP < 8"

B SLAB STEP > 8"

C SLAB STEP > 1'-6"

NOTE: FOR ALL DETAILS, WHERE WWF IS CALLED FOR IN SLAB, PROVIDE #4 @ 12" OC EACH WAY AT SLAB STEPS.



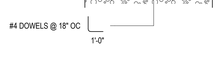
NOTE:
VERIFY SIZE AND LOCATION WITH MECHANICAL OR ELECTRICAL CONTRACTOR

3A S3.01 TYPICAL ISOLATED EQUIPMENT PAD
NO SCALE

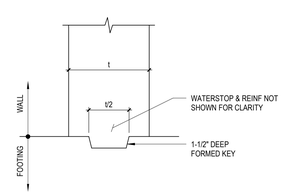


NOTE: VERIFY HEIGHT, PLAN DIMENSIONS, AND EXACT LOCATION WITH MECHANICAL AND ELECTRICAL.

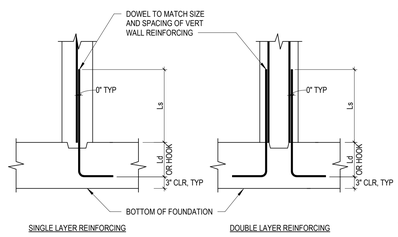
3B S3.01 EQUIPMENT/HOUSEKEEPING PAD
NO SCALE



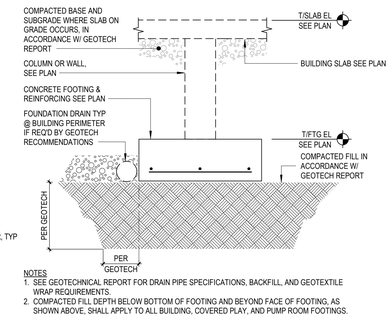
3C S3.01 RE-ENTRANT CORNER AT SLAB EDGE
NO SCALE



5A S3.01 TYPICAL WALL KEY JOINT AT FOOTING
NO SCALE

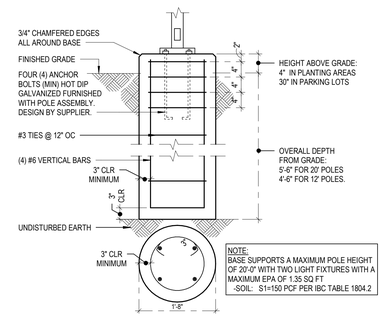


5B S3.01 TYPICAL WALL DOWEL AT FOUNDATION
NO SCALE

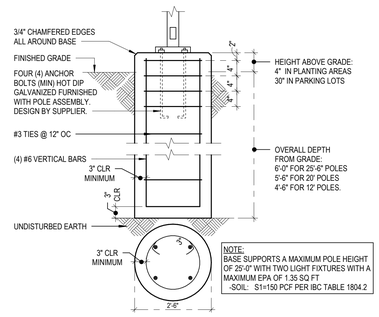


NOTES
1. SEE GEOTECHNICAL REPORT FOR DRAIN PIPE SPECIFICATIONS, BACKFILL, AND GEOTEXTILE WRAP REQUIREMENTS.
2. COMPACTED FILL DEPTH BELOW BOTTOM OF FOOTING AND BEYOND FACE OF FOOTING, AS SHOWN ABOVE, SHALL APPLY TO ALL BUILDING, COVERED PLAY, AND PUMP ROOM FOOTINGS.

5C S3.01 TYPICAL FOOTING BEARING AND DRAINAGE
NO SCALE



5D S3.01 TYP LIGHT POLE BASE
SCALE: 3/4" = 1'-0"



2 S3.01 TYP SECURITY POLE BASE
SCALE: 3/4" = 1'-0"

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PROFESSIONAL ENGINEER JOHN D. WEISKOPF 23859 OKLAHOMA 9/19/25

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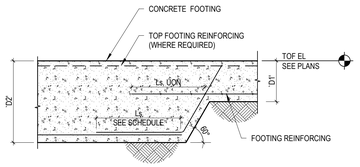
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NO.	DATE	DESCRIPTION

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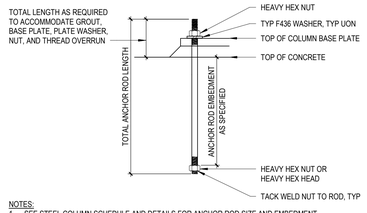
CONCRETE SECTIONS & DETAILS
SCALE: As indicated

SHEET NUMBER:
S3.01
PHASE: COMPLETED LOCALIZATION/QC



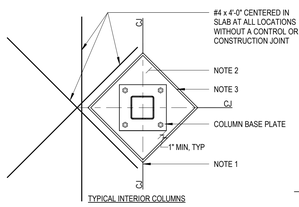
NOTE:
FOR FOOTING ELEVATIONS, DEPTH AND REINFORCING, SEE PLANS AND TYPICAL FOOTING DETAIL.

1A S3.02 TYP BOTTOM STEP FOOTING DETAIL
NO SCALE

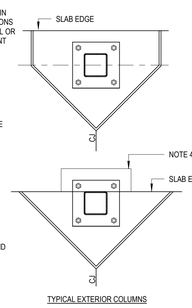


NOTES:
1. SEE STEEL COLUMN SCHEDULE AND DETAILS FOR ANCHOR ROD SIZE AND EMBEDMENT.
2. UNLESS NOTED OTHERWISE, ALL ANCHOR ROD NUTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC AFTER THE CONCRETE IS AT LEAST 14 DAYS OLD.
3. HOLE IN PLATE WASHER SHALL BE 1/16" LARGER THAN THE ROD DIAMETER.

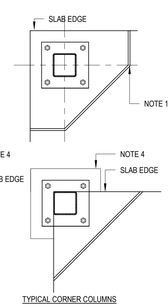
1B S3.02 TYPICAL COLUMN ANCHOR ROD
NO SCALE



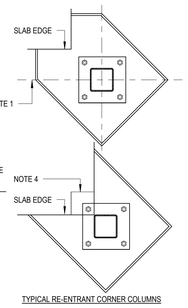
TYPICAL INTERIOR COLUMNS



TYPICAL EXTERIOR COLUMNS



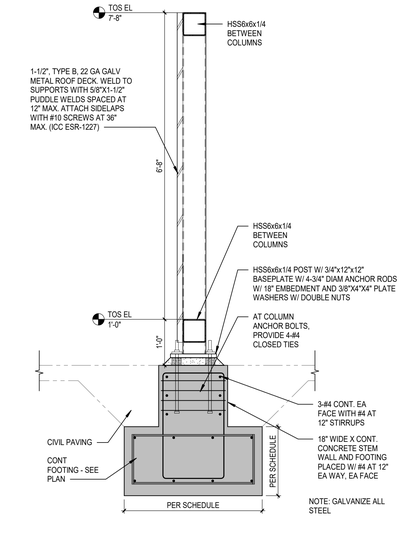
TYPICAL CORNER COLUMNS



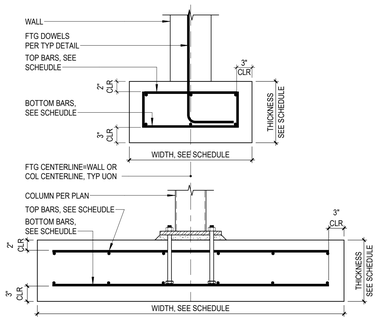
TYPICAL RE-ENTRANT CORNER COLUMNS

NOTES:
1. BLOCKOUT CORNERS SHOULD BE ALIGNED WITH COLUMN CENTERLINES.
2. INFILL COLUMN BLOCKOUTS W/ CONCRETE, TYP.
3. PROVIDE 3/8" MIN ISOLATION JOINT MATERIAL BETWEEN NONSHRINK GROUT AND BLOCKOUT, TYP.
4. WHERE BASEPLATE EXTENDS OUTSIDE OF SLAB EDGE, ENCASE WITH FOUNDATION CONCRETE WITH A MINIMUM COVER OF 3" IN ALL DIRECTIONS. HEIGHT OF COVER NOT TO EXCEED 8" ABOVE FOUNDATION. ALTERNATIVELY, PAINT BELOW GRADE STEEL WITH BITUMASTIC PAINT.

3A S3.02 TYPICAL SLAB-ON-GRADE BLOCKOUTS
NO SCALE



3B S3.02 FOUNDATION AT SCREENWALL
SCALE: 3/4" = 1'-0"



CONTINUOUS FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCEMENT
WF1.0	1'-3"	1'-6"	(2) #5 T/B, #4 STIRRUPS @ 18" OC
WF1.5	1'-6"	1'-6"	(2) #5 T/B, #4 STIRRUPS @ 18" OC
WF3.0	3'-0"	1'-6"	(4) #5 T/B, #4 STIRRUPS @ 9" OC

COLUMN FOOTING SCHEDULE

MARK	LENGTH	WIDTH	THICKNESS	REINFORCEMENT	MAX DOWNWARD CAPACITY	MAX LATERAL CAPACITY
F5.0B	5'-0"	5'-0"	2'-0"	(5) #6 EW T/B	62.5 KIPS	13.5 KIPS
F8.0	8'-0"	8'-0"	1'-6"	(9) #6 EW T/B	160 KIPS	10.8 KIPS
F10.0	10'-0"	10'-0"	2'-0"	(12) #6 EW T/B	250 KIPS	27 KIPS
F13.0A	8'-0"	13'-0"	2'-0"	#6 @ 10" OC EW T/B	260 KIPS	35.1 / 21.6 KIPS
F13.0B	9'-0"	13'-0"	2'-0"	#6 @ 10" OC EW T/B	292.5 KIPS	35.1 / 24.3 KIPS

4A S3.02 FOOTING SCHEDULES
NO SCALE

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CYL HUB1-1-3 BUILDING PERMIT DOCUMENTS 2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

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APPRV'D: Approver

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PROJECT ADDRESS:
TULSA COUNTY, OK

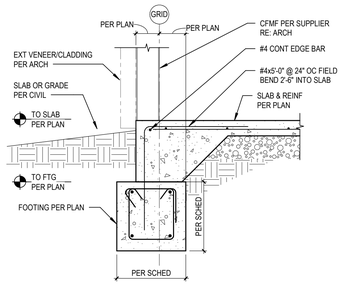
PROJ. NO. 43-25105-00

CONCRETE SECTIONS & DETAILS

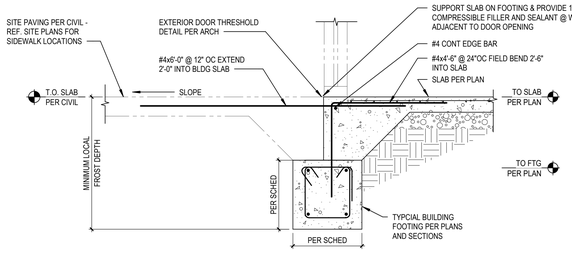
SCALE: As indicated

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S3.02

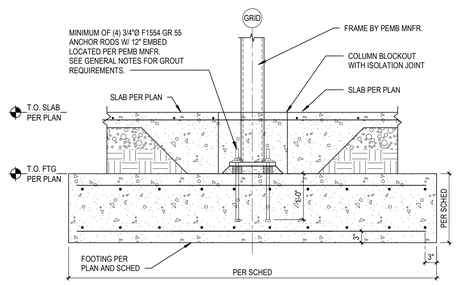
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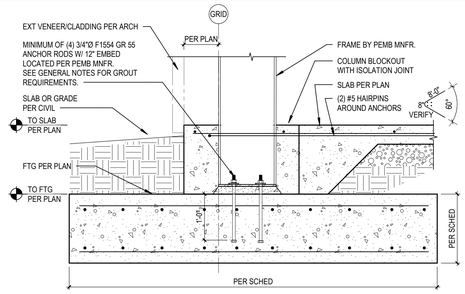
1A S3.03 TYP WALL FOOTING DETAIL
NO SCALE



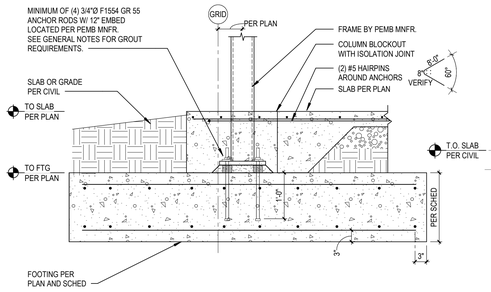
1B S3.03 TYP DETAIL AT DOORWAY
NO SCALE



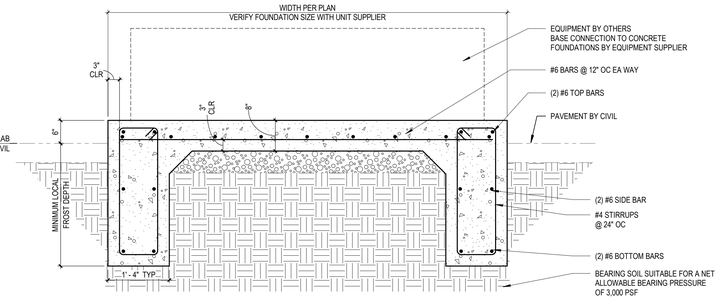
1D S3.03 TYP PEMB INTERIOR COLUMN DETAIL
NO SCALE



1E S3.03 TYP PEMB MAIN FRAME COLUMN DETAIL
NO SCALE



2B S3.03 TYP PEMB ENDWALL COLUMN DETAIL
NO SCALE



2C S3.03 TYPICAL MECHANICAL EQUIPMENT FOUNDATION
NO SCALE

9/19/2025 12:41:42 PM Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_ST-PEMB_2025.rvt

HDR, ENGINEERING INC.
1917 SOUTH 67th STREET
OMAHA, NEBRASKA 68106
(402) 399-1000
CA-0443

DLR GROUP
6457 FRANCES ST., STE. 200
OMAHA, NE 68106
(402) 742-4200

KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868



CYL HUB1-1-3 BUILDING
PERMIT DOCUMENTS
2025-09-22

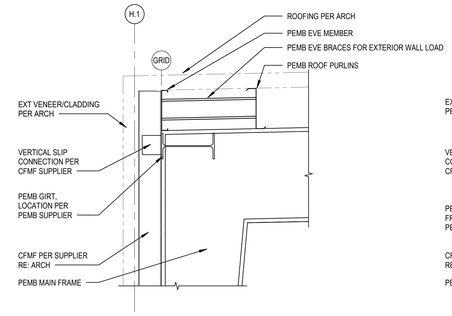
REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

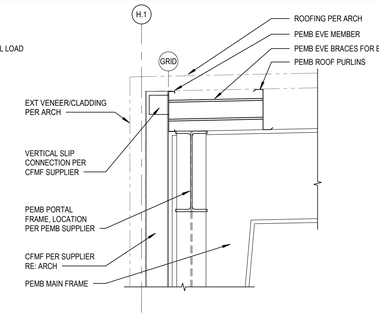
DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

CONCRETE SECTIONS & DETAILS
SCALE: 3/4" = 1'-0"

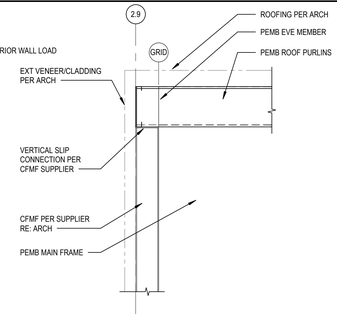
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PHASE: COMPLETED
LOCALIZATION/QC



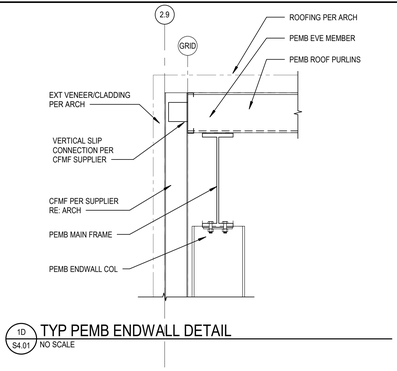
1A S4.01 TYP PEMB MAIN FRAME
NO SCALE



1B S4.01 TYP PEMB PORTAL FRAME DETAIL
NO SCALE



1C S4.01 TYP PEMB DETAIL
NO SCALE



1D S4.01 TYP PEMB ENDWALL DETAIL
NO SCALE

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JOHN D. WEBSTER 9/19/25 23869 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

CYL HUB1-1-3 BUILDING
PERMIT DOCUMENTS
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRVD: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

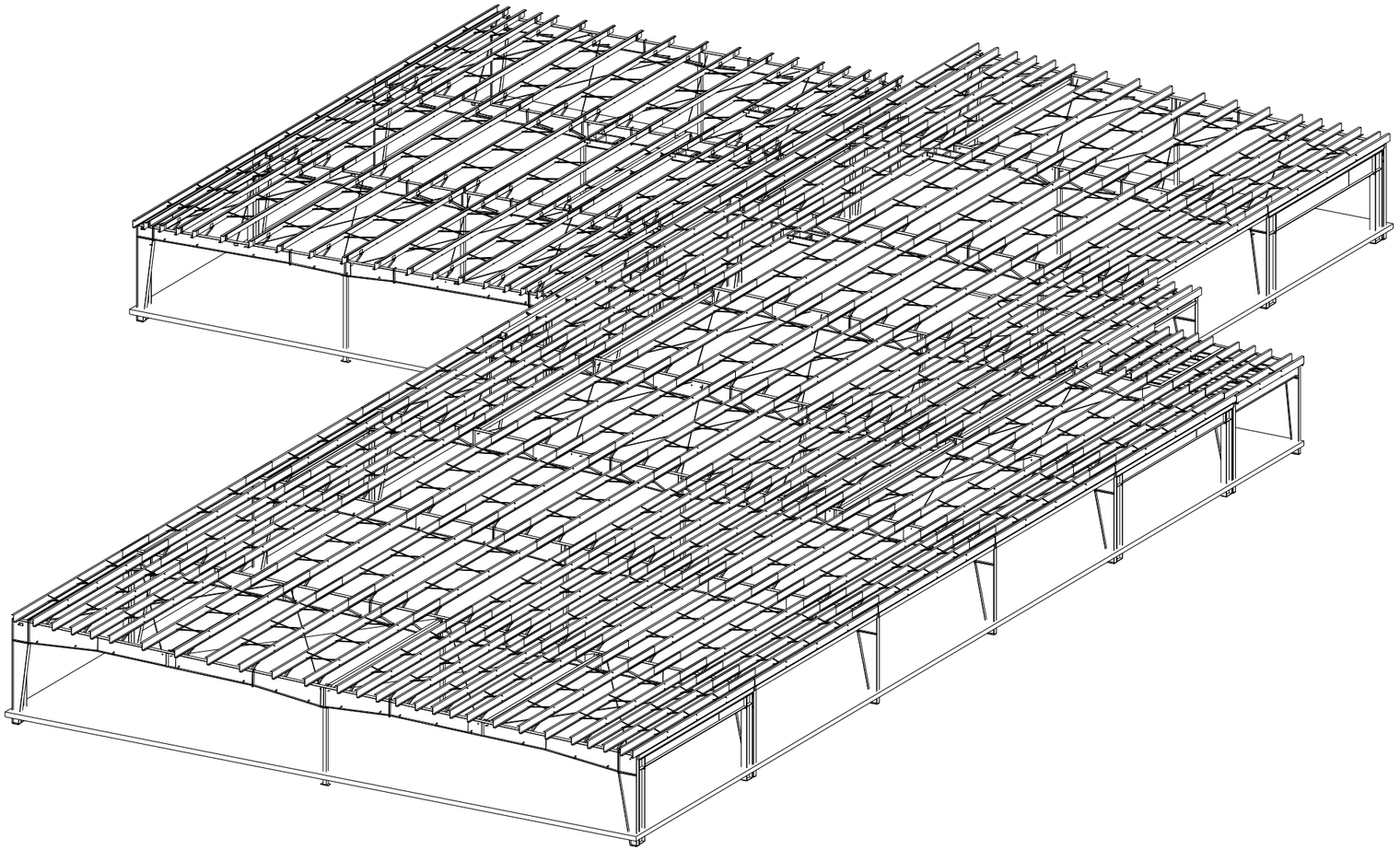
STEEL SECTIONS & DETAILS
SCALE: 3/4" = 1'-0"

SHEET NUMBER:
S4.01
PHASE: COMPLETED LOCALIZATION/QC

NUCOR BUILDING SYSTEMS

JOB NUMBER
T25U0346A
PROJECT NAME
CYL-HUB1-1,2,&3
COUNTY:
WASHINGTON

DRAWING TITLE	SHEET NUMBER
COVER SHEETS	C1 ~ C4
ANCHOR ROD PLANS	F1 ~ F7
PLANS AND ELEVATIONS	E1 ~ E46
STRUCTURAL DETAILS	D1 ~ D6
SHEETING PLANS AND ELEVATIONS	S1 ~ S19
SHEETING DETAILS	SD1 ~ SD9



PHONE: (260) 837-7891
FAX: (260) 837-7384

09/08/2025 03:29:27pm

JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE: COVERSHEET
SHEET: C1

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
1	PERMITS	TAK / JMW	WZ	09/06/2025

Engineering performed under Nucor Buildings Systems-Texas CA #4781

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

GENERAL NOTES:

1. MATERIALS

MATERIALS	ASTM DESCRIPTION	MATERIALS	ASTM DESCRIPTION
STRUCTURAL STEEL PLATE	AS529 / A572 / A1011	ROOF AND WALL SHEETING	A653 / A792
HOT ROLLED MILLS SHAPES	A36 / A529 / A572 / A500	BOLTS	A307 / A325 / A490
HSS ROUND	A500	CABLE	A475
HSS RECTANGULAR	A500	RODS	A529 / A572
COLD FORM SHAPES	A653 / A1011		

2. STRUCTURAL PRIMER NOTE:
SHOP COAT PRIMER IS INTENDED TO PROTECT THE STEEL FRAMING FOR A SHORT PERIOD OF TIME. STORAGE IN EXTREME COLD TEMPERATURES OR WINTER SNOW CONDITIONS, INCLUDING TRANSPORTATION ON SALTED OR CHEMICALLY TREATED ROADS WILL ADVERSELY AFFECT THE DURABILITY AND LONGEVITY OF THE PRIMER. THE COAT OF SHOP PRIMER DOES NOT PROVIDE THE UNIFORMITY OF APPEARANCE, OR THE DURABILITY AND CORROSION RESISTANCE OF A FIELD APPLIED FINISH COAT OF PAINT OVER A SHOP PRIMER. MINOR ABRASIONS TO THE SHOP COAT PRIMER CAUSED BY HANDLING, LOADING, SHIPPING, UNLOADING AND ERECTION ARE UNAVOIDABLE AND ARE NOT THE RESPONSIBILITY OF THE METAL BUILDING MANUFACTURER. METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR THE DETERIORATION OF THE PRIMER OR CORROSION THAT MAY RESULT FROM ATMOSPHERIC AND ENVIRONMENTAL CONDITIONS NOR THE COMPATIBILITY OF THE PRIMER TO ANY FIELD APPLIED COATING.

3. BUILDING ERECTION NOTES:
THE GENERAL CONTRACTOR AND/OR ERECTOR IS RESPONSIBLE TO SAFELY AND PROPERLY ERECT THE METAL BUILDING SYSTEM IN CONFORMANCE WITH THESE DRAWINGS, OSHA REQUIREMENTS AND EITHER MBMA OR CSA S16 STANDARDS PERTAINING TO PROPER ERECTION. TEMPORARY SUPPORTS SUCH AS GUYS, BRACES, FALSEWORK, CRIBBING OR OTHER ELEMENTS FOR ERECTION ARE TO BE DETERMINED, FURNISHED AND INSTALLED BY THE ERECTOR. THESE SUPPORTS MUST SECURE THE STEEL FRAMING, OR PARTLY ASSEMBLED STEEL FRAMING, AGAINST LOADS COMPARABLE IN INTENSITY TO THOSE FOR WHICH THE STRUCTURE WAS DESIGNED IN ADDITION TO LOADS RESULTING FROM THE ERECTION OPERATION. SECONDARY WALL AND ROOF FRAMING (PURLINS, GIRTS AND/OR JOIST) ARE NOT DESIGNED TO FUNCTION AS A WORKING PLATFORM OR TO PROVIDE AS AN ANCHORAGE POINT FOR A FALL ARREST /SAFETY TIE OFF.

4. SPECIAL INSPECTION:
SPECIAL INSPECTIONS AND TESTING THAT MAY BE REQUIRED BY GOVERNMENTAL OR OTHER AUTHORITY DURING CONSTRUCTION AND/OR STEEL FABRICATION (COLLECTIVELY, "INSPECTIONS") ARE NOT THE RESPONSIBILITY OF NBG, AND TO THE EXTENT REQUIRED IT SHALL BE THE RESPONSIBILITY OF THE BUILDER AND/OR OWNER. IN THE EVENT THE INSPECTIONS ARE REQUIRED, THE BUILDER AND/OR OWNER SHALL EMPLOY A THIRD PARTY QUALITY ASSURANCE TESTING AGENCY APPROVED BY THE RELEVANT AUTHORITY. IF SUCH REQUIREMENTS ARE NOT SPECIFICALLY INCLUDED IN NBG SALES DOCUMENTS, NO INSPECTIONS BY NBG OR AT ANY NBG FACILITY SHALL BE MADE. ALL NBG FACILITIES ARE ACCREDITED BY IAS AC472.

5. A325 & A490 BOLT TIGHTENING REQUIREMENTS:
IT IS THE RESPONSIBILITY OF THE ERECTOR TO ENSURE PROPER BOLT TIGHTNESS IN ACCORDANCE WITH APPLICABLE REGULATIONS. FOR PROJECTS IN THE UNITED STATES SEE THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS OR FOR PROJECTS IN CANADA, SEE THE CAN/CSA S16 LIMIT STATES DESIGN OF STEEL STRUCTURES FOR MORE INFORMATION.

THE FOLLOWING CRITERIA MAY BE USED TO DETERMINE THE BOLT TIGHTNESS (I.E., "SNUG-TIGHT" OR "FULLY-PRETENSIONED"), UNLESS REQUIRED OTHERWISE BY LOCAL JURISDICTION OR CONTRACT REQUIREMENTS:

A) ALL A490 BOLTS SHALL BE "FULLY-PRETENSIONED".
B) ALL A325 BOLTS IN PRIMARY FRAMING (RIGID FRAMES AND BRACING) MAY BE "SNUG-TIGHT", EXCEPT AS FOLLOWS: "FULLY-PRETENSION"A325 BOLTS IF:
   a) BUILDING SUPPORTS A CRANE SYSTEM WITH A CAPACITY GREATER THAN 5 TONS.
   b) BUILDING SUPPORTS MACHINERY THAT CREATES VIBRATION, IMPACT OR STRESS-REVERSALS ON THE CONNECTIONS. THE ENGINEER-OF- RECORD FOR THE PROJECT SHOULD BE CONSULTED TO EVALUATE FOR THIS CONDITION.
   c) THE PROJECT SITE IS LOCATED IN A HIGH SEISMIC AREA. FOR IBC-BASED CODES, "HIGH SEISMIC AREA" IS DEFINED AS "SEISMIC DESIGN CATEGORY" OF "D", "E", OR "F". SEE THE "BUILDING LOADS" SECTION OF THIS PAGE FOR THE DEFINED SEISMIC DESIGN CATEGORY FOR THIS PROJECT.
   d) ANY CONNECTION DESIGNATED IN THESE DRAWINGS AS "A325-SC". "SLIP-CRITICAL (SC)" CONNECTIONS MUST BE FREE OF PAINT, OIL, OR OTHER MATERIALS THAT REDUCE FRICTION AT CONTACT SURFACES. GALVANIZED OR LIGHTLY RUSTED SURFACES ARE ACCEPTABLE.

C) IN CANADA, ALL A325 AND A490 BOLTS SHALL BE "FULLY PRE-TENSIONED", EXCEPT FOR SECONDARY MEMBERS (PURLINS, GIRTS, OPENING FRAMING, ETC.) AND FLANGE BRACES.

SECONDARY MEMBERS (PURLINS, GIRTS, OPENING FRAMING, ETC.) AND FLANGE BRACE CONNECTIONS MAY ALWAYS BE "SNUG-TIGHT", UNLESS INDICATED OTHERWISE IN THESE DRAWINGS.

6. GENERAL DESIGN NOTES:
1) ALL STRUCTURAL STEEL SECTIONS AND WELDED PLATE MEMBERS ARE DESIGNED IN ACCORDANCE WITH ANSI/AISC 360 "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" OR THE CAN/CSA S16 "LIMIT STATES DESIGN OF STEEL STRUCTURES", AS REQUIRED BY THE SPECIFIED BUILDING CODE.
2) ALL WELDING OF STRUCTURAL STEEL IS BASED ON EITHER AWS D1.1 "STRUCTURAL WELDING CODE – STEEL" OR CAN/CSA W59 "WELDED STEEL CONSTRUCTION (METAL ARC WELDING)", AS REQUIRED BY THE SPECIFIED BUILDING CODE.
3) ALL COLD FORMED MEMBERS ARE DESIGNED IN ACCORDANCE WITH ANSI/AISI S100 OR THE CAN/CSA S136 "SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", AS REQUIRED BY THE SPECIFIED BUILDING CODE.
4) ALL WELDING OF COLD FORMED STEEL IS BASED ON AWS D1.3 "STRUCTURAL WELDING CODE – SHEET STEEL" OR CAN/CSA W59 "WELDED STEEL CONSTRUCTION (METAL ARC WELDING)", AS REQUIRED BY THE SPECIFIED BUILDING CODE.
5) ALL NUCOR BUILDING GROUP FACILITIES ARE IAS AC-472 ACCREDITED FOR DESIGN AND FABRICATION OF METAL BUILDING SYSTEMS. FOR PROJECTS IN CANADA, DESIGN AND FABRICATION ARE DONE ONLY IN FACILITIES THAT ARE ALSO CAN/CSA A660 AND W47.1 CERTIFIED.
6) IF JOISTS ARE INCLUDED WITH THIS PROJECT, THEY ARE SUPPLIED AS A PART OF THE SYSTEMS ENGINEERED METAL BUILDING AND ARE FABRICATED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 1926.758 OF OSHA SAFETY STANDARDS FOR STEEL ERECTION, DATED JANUARY 18, 2001.
7) COLUMN BASE PLATES ARE DESIGNED NOT TO EXCEED THE ALLOWABLE BEARING STRESS OF CONCRETE THAT HAS A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.

7. GLOSSARY OF ABBREVIATIONS:

APL = A-PANEL FOR THE LINER
APS = A-PANEL FOR THE SOFFIT
APW = A-PANEL FOR THE WALL
A.R. = ANCHOR RODS
BS = BOTH SIDES
B.U. = BUILT-UP
CFR = CONCEALED FASTENED ROOF PANEL
DIA = DIAMETER
FLG = FLANGE
F.S = FAR SIDE
GA. = GAUGE
H.S.B. = HIGH STRENGTH BOLTS
HT. = HEIGHT
LLV = LONG LEG VERTICAL
LSN = LOC SEAM NON-SWAGED ROOF PANELS
LSS = LOC SEAM SWAGED ROOF PANELS
MAX = MAXIMUM
M.B. = MACHINE BOLTS
MBS = METAL BUILDING SUPPLIER
MIN = MINIMUM
N/A = NOT APPLICABLE
NIC = NOT IN CONTRACT
N.S. = NEAR SIDE
O.A.L. = OVERALL LENGTH
O.C. = ON CENTER
PL = PLATE
REQ'D = REQUIRED
REV. = REVISION
RPL = R-PANEL FOR THE LINER
RPR = R-PANEL FOR THE ROOF
RPS = R-PANEL FOR THE SOFFIT
RPW = R-PANEL FOR THE WALL
RRL = REVERSE R-PANEL FOR THE LINER
RRS = REVERSE R-PANEL FOR THE SOFFIT
RRW = REVERSE R-PANEL FOR THE WALL
SL = STEEL LINE
SLV = SHORT LEG VERTICAL
SIM = SIMILAR
SS2 = STANDING SEAM II ROOF PANEL
SS3 = STANDING SEAM 360 ROOF PANEL
TBD = TO BE DETERMINED
TYP = TYPICAL
U.N.O. = UNLESS NOTED OTHERWISE

?? = PART MARK TO BE DETERMINED AND WILL BE UPDATED ON CONSTRUCTION DRAWINGS

BUILDING INFORMATION

PRIMER COLORS
PRIMARY PRIMER COLOR: HOT DIPPED SECONDARY PRIMER COLOR: GALVANIZED

ROOF SHEETING
TYPE: LOC SEAM 360 GAUGE: 24 FINISH: TBK CLIP TYPE: TALL
THERMAL BLOCKS: YES EPS FOAM SPACER: No ROOF LINE TRIM, PAINTED: TBK
YES☒ NO☐ DOWNSPOUTS PAINTED: TBK GUTTERS PAINTED: TBK
YES☒ NO☐ INSULATION 4" INCH (NOT BY MBS)
YES☐ NO☒ PIPE JACKS, SIZE: QUANTITY:
YES☐ NO☒ RIDGE VENTS, 10'-0" LONG X 9" THROAT. QUANTITY:
YES☒ NO☐ ROOF FRAMED OPENINGS, SEE ROOF FRAMING PLAN FOR SIZES
YES☐ NO☒ COMPOSITE DECK, TYPE: GAUGE: FINISH:

WALL SHEETING
TYPE: Santa Fe GAUGE: 22 FINISH: TBK WAINSCOT FINISH, PAINTED: N/A
CORNER TRIM, PAINTED: TBK BASE TRIM, PAINTED: TBK WAINSCOT TRIM, PAINTED: N/A
YES☐ NO☒ WALKDOORS, QUANTITY: PAINTED: WAINSCOT CORNER TRIM, PAINTED: N/A
YES☐ NO☒ WINDOWS, QUANTITY: PAINTED:
YES☐ NO☒ INSULATION INCH (NOT BY MBS)

PARAPET BACKER SHEETING
TYPE: N/A GAUGE: N/A FINISH: N/A
CORNER TRIM, PAINTED: N/A

WALL FRAMED OPENINGS
YES☒ NO☐ FRAMED OPENING TRIM, PAINTED: TBK COVER TRIM, PAINTED: N/A

AREA A.1 SIZES:
FSW: (8) 3'-6" X 6'-2"
BSW: (1) 7'-0" X 7'-8" (2) 3'-6" X 7'-8" (7) 3'-6" X 6'-2"
LEW: (2) 7'-0" X 7'-8"
REW:

AREA A.2 SIZES:
FSW: (2) 3'-6" X 6'-2" (1) 10'-6" X 7'8"
BSW:
LEW:
REW: (1) 7'-0" X 7'-8"

AREA B.1 SIZES:
FSW: (8) 3'-6" X 6'-2"
BSW:
LEW:
REW: (1) 7'-0" X 7'-8" (3) 3'-6" X 6'-2"

AREA B.2 SIZES:
FSW: (7) 3'-6" X 6'-2" (1) 3'-6" X 7'-8"
BSW:
LEW: (1) 7'-0" X 7'-8" (4) 3'-6" X 6'-2"
REW: (1) 3'-6" X 7'-8" (5) 3'-6" X 6'-2"

AREA C SIZES:
FSW: (3) 3'-6" X 6'-2"
BSW: (1) 3'-6" X 7'-8" (3) 3'-6" X 6'-2"
LEW: (8) 3'-6" X 6'-2"
REW:

BUILDING LOADS

DESIGN CODE: IBC 2018
ROOF LIVE LOAD: 20.00 PSF MBMA OCC. CLASS: II
LIVE LOAD REDUCIBLE NO
GROUND SNOW LOAD: 10.0 PSF SNOW EXP. FACTOR, Ce: 0.90
SNOW IMPORTANCE FACTOR, Is: 1.00
RAIN INTENSITY, R: 8.00 in/hr
WIND: 109 / 84 MPH (Vult) / (Vasd)
C & C PRESSURES (PSF): 32 / -40
EXPOSURE: C
UL 90 YES
Classic Roof–Const. No. 161 ; Classic Roof w/ Translucent Panel–Const. No.167
CFR Roof–Const. No.552 ; CFR Roof w/ Translucent Panel–Const. No.590 ;
Composite CFR Roof–Const. No.552A ; VR16 II Roof–Const. No.332 .
SEISMIC INFORMATION Ss: 0.125 S1: 0.072
Design Sds/Sd1: 0.133 / 0.115 Site Class: D
Seismic Imp. Factor: 1.00 Seismic Design Category: B
Analysis Procedure: Equivalent Lateral Force Procedure
Basic SFRS: Not Detailed for Seismic
Not Detailed for Seismic

NOTES:
1) COLLATERAL DEAD LOADS, UNLESS OTHERWISE NOTED, ARE ASSUMED TO BE UNIFORMLY DISTRIBUTED. WHEN SUSPENDED SPRINKLER SYSTEMS, LIGHTING, HVAC EQUIPMENT, CEILINGS, ETC., ARE SUSPENDED FROM ROOF MEMBERS, CONSULT THE M.B.S. IF THESE CONCENTRATED LOADS EXCEED 500 POUNDS (USING THE WEB MOUNT DETAIL) OR 200 POUNDS (USING THE FLANGE MOUNT DETAIL), OR IF INDIVIDUAL MEMBERS ARE LOADED SIGNIFICANTLY MORE THAN OTHERS.

2) THE DESIGN OF STRUCTURAL MEMBERS SUPPORTING GRAVITY LOADS IS CONTROLLED BY THE MORE CRITICAL EFFECT OF ROOF LIVE LOAD OR ROOF SNOW LOAD, AS DETERMINED BY THE APPLICABLE CODE.

3) Pm IS BASED ON THE MINIMUM ROOF SNOW LOAD CALCULATED PER BUILDING CODE OR THE CONTRACT SPECIFIED SNOW LOAD, WHICHEVER IS GREATER. THIS VALUE, Pm, IS ONLY APPLIED IN COMBINATION WITH THE DEAD AND COLLATERAL LOADS. ROOF SNOW IN OTHER LOADING CONDITIONS IS DETERMINED PER THE SPECIFIED BUILDING CODE.

AREA A.1			
ROOF DEAD (PSF):	5.50	ROOF SNOW Pm (PSF):	10.00
PRI. COL. (PSF):	7.00	WIND ENCLOSURE:	Enclosed
SEC. COL. (PSF):	7.00	GCpi:	+/- 0.18
SNOW Ct:	1.00	SEISMIC R:	3.00
SNOW Cs:	1.00	SEISMIC Cs:	0.044
ROOF SNOW Ps (PSF):	6.30	BASE SHEAR (KIPS):	7.93

AREA B.1			
ROOF DEAD (PSF):	5.50	ROOF SNOW Pm (PSF):	10.00
PRI. COL. (PSF):	7.00	WIND ENCLOSURE:	Enclosed
SEC. COL. (PSF):	7.00	GCpi:	+/- 0.18
SNOW Ct:	1.00	SEISMIC R:	3.00
SNOW Cs:	1.00	SEISMIC Cs:	0.044
ROOF SNOW Ps (PSF):	6.30	BASE SHEAR (KIPS):	3.59

AREA C			
ROOF DEAD (PSF):	5.50	ROOF SNOW Pm (PSF):	10.00
PRI. COL. (PSF):	7.00	WIND ENCLOSURE:	Enclosed
SEC. COL. (PSF):	7.00	GCpi:	+/- 0.18
SNOW Ct:	1.00	SEISMIC R:	3.00
SNOW Cs:	1.00	SEISMIC Cs:	0.044
ROOF SNOW Ps (PSF):	6.30	BASE SHEAR (KIPS):	4.34

AREA A.2			
ROOF DEAD (PSF):	5.50	ROOF SNOW Pm (PSF):	10.00
PRI. COL. (PSF):	7.00	WIND ENCLOSURE:	Enclosed
SEC. COL. (PSF):	7.00	GCpi:	+/- 0.18
SNOW Ct:	1.00	SEISMIC R:	3.00
SNOW Cs:	1.00	SEISMIC Cs:	0.044
ROOF SNOW Ps (PSF):	6.30	BASE SHEAR (KIPS):	2.06

AREA B.2			
ROOF DEAD (PSF):	5.50	ROOF SNOW Pm (PSF):	10.00
PRI. COL. (PSF):	7.00	WIND ENCLOSURE:	Enclosed
SEC. COL. (PSF):	7.00	GCpi:	+/- 0.18
SNOW Ct:	1.00	SEISMIC R:	3.00
SNOW Cs:	1.00	SEISMIC Cs:	0.044
ROOF SNOW Ps (PSF):	6.30	BASE SHEAR (KIPS):	5.40

CANOPY			
ROOF DEAD (PSF):	6.20	ROOF SNOW Pm (PSF):	10.00
PRI. COL. (PSF):	4.00	WIND ENCLOSURE:	PARTIALLY ENCL
SEC. COL. (PSF):	4.00	GCpi:	+/- 0.55
SNOW Ct:	1.20	SEISMIC R:	3.00
SNOW Cs:	1.00	SEISMIC Cs:	0.044
ROOF SNOW Ps (PSF):	7.56	BASE SHEAR (KIPS):	0.30

THE DRAWINGS AND THE METAL BUILDING THEY REPRESENT ARE THE PRODUCT OF THE METAL BUILDING MANUFACTURER. THE REGISTERED PROFESSIONAL ENGINEER'S SEAL PERTAINS ONLY TO THE REQUIREMENTS LISTED HEREIN FOR THE MATERIALS DESIGNED AND SUPPLIED BY THE METAL BUILDING MANUFACTURER. THE REGISTERED PROFESSIONAL ENGINEER WHOSE SEAL APPEARS ON THESE DRAWINGS IS EMPLOYED OR ENGAGED BY THE METAL BUILDING MANUFACTURER AND DOES NOT SERVE AS OR REPRESENT THE PROJECT ENGINEER OF RECORD AND SHALL NOT BE CONSTRUED AS SUCH.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
Megan Noggle
ORLAHOMA

NUCOR BUILDING GROUP
PHONE: (260) 837-7891
FAX: (260) 837-7384

09/09/2025 02:26:29pm

JOB NUMBER	ADDRESS		DRAWING TITLE
T25U0346A	WASHINGTON COUNTY OWASSO, OK 74055	**NOT FOR CONSTRUCTION**	BUILDING SHEET 1
PROJECT NAME	CYL-HUB1-1,2,&3	DRAWING STATUS: FOR PERMITS ONLY	SHEET: C2
BUYER NAME	DLR GROUP		

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
1	PERMITS	TAK / JMW	WZ	09/08/2025

FOR OCCUPANCY (RISK) CATEGORY I OR II, IBC PROVISIONS INDICATE THAT SINGLE-STORY BUILDINGS SHALL HAVE "NO DRIFT LIMIT" PROVIDED THAT INTERIOR WALLS, PARTITIONS, CEILINGS, AND EXTERIOR WALL SYSTEMS HAVE BEEN DESIGNED TO ACCOMMODATE THE SEISMIC STORY DRIFTS. INTERIOR WALLS, PARTITIONS, CEILINGS, OR EXTERIOR WALL SYSTEMS NOT PROVIDED BY THE METAL BUILDING MANUFACTURER SHALL BE DESIGNED AND DETAILED BY OTHERS TO ACCOMMODATE THE SEISMIC STORY DRIFTS. SEISMIC DRIFT VALUES MAY BE OBTAINED FROM THE METAL BUILDING MANUFACTURER.	BCL2
THIS BUILDING SYSTEM DESIGN IS BASED ON UNIFORMLY APPLYING THE CONTRACT-SPECIFIED LIVE LOAD AND ROOF SNOW LOAD. IN ADDITION, THE DESIGN IS BASED ON APPLYING A CODE-DEFINED LIVE LOAD (INCLUDING APPLICABLE REDUCTIONS) AND A CODE-DEFINED SNOW LOAD (BASED ON CONTRACT-SPECIFIED GROUND SNOW) FOR ALL PARTIAL LOADING AND UNBALANCED SNOW LOAD CONDITIONS.	BCL4
THE BUILDING CODE REQUIRES CONSIDERATION OF SNOW SURCHARGES FOR ANY LOWER ROOF OF A STRUCTURE LOCATED WITHIN 20 ft. OF A HIGHER STRUCTURE. INFORMATION PROVIDED TO THE METAL BUILDING MANUFACTURER DOES NOT INDICATE THE PRESENCE OF A SHADOWING STRUCTURE WITHIN THIS 20 ft. ENVELOPE, THEREFORE SNOW SURCHARGES HAVE NOT BEEN CONSIDERED IN THE DESIGN.	BCL9
THE WALL SYSTEM BY OTHERS MUST WEIGH NO MORE THAN 4 PSF.	WM
THE SPANDREL BEAMS AND/OR SPANDREL CHANNELS SUPPORTING THE TOP OF THE MASONRY WALLS MUST BE ATTACHED TO THE WALLS WITH A SPACING NOT TO EXCEED 4'-0" O.C. (MAX.). THE SPANDRELS MUST ALSO BE RIGIDLY ATTACHED TO THE WALL NO MORE THAN 6" AWAY FROM EACH PAIR OF INTERMEDIATE STIFFENERS. THIS ATTACHMENT IS DESIGNED AND PROVIDED BY OTHERS (NOT BY THE METAL BUILDING MANUFACTURER). FIELD DRILLING OF THE SPANDRELS FOR A BOLTED CONNECTION (IF USED) WILL BE REQUIRED.	WSB
ROOF CURB OR EQUIPMENT PLATFORM ATTACHMENT TO THE SUPPORT PURLINS IS NOT BY THE METAL BUILDING MANUFACTURER. SPECIFIC ATTACHMENT METHODS MAY REQUIRE ADDITIONAL REINFORCEMENT OF THE SUPPORT PURLINS. DESIGN FOR ATTACHMENT, AND ANY REQUIRED REINFORCEMENT MATERIALS AND/OR LABOR IS NOT BY THE METAL BUILDING MANUFACTURER.	FA1
IF SNOW GUARDS OR OTHER DEVICES INTENDED TO HOLD SNOW AND/OR ICE ACCUMULATION ON THE ROOF SYSTEM ARE TO BE USED ON THIS PROJECT, THEY MUST BE INSTALLED UNDER THE GUIDANCE OF THE PROJECT "ENGINEER OF RECORD" (EOR), NOT THE METAL BUILDING MANUFACTURER, SO AS NOT TO EXCEED THE DESIGN ROOF SNOW LOAD ON THIS PROJECT.	RA3

NOTE: DEFLECTION CRITERIA: LATERAL DRIFT: H/400 (D+C+0.75L+0.45W) H/50 (INELASTIC SEISMIC) GIRTS: L/240 (10 yr Wind) PURLINS & RAFTERS L/240 (LL OR SL ONLY)
NOTE: A TUBE FOR FALL SUPPORT HAS BEEN SUPPLIED FOR A 5000 LB POINT LOAD IN ANY DIRECTION, HORIZONTAL & VERTICAL.
NOTE: THE HANGING ROOF OPENINGS ARE ACCOUNTED FOR AS AN ADDITIONAL 1PSF COLLATERAL LOAD.
NOTE: FOR 42" WIDE X 3" THICK METAL-SPAN SANTA FE IMP (22Ga/26Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16Ga THICKNESS MATERIAL.
ACCESSORIES (DOORS, WINDOWS, ECT.) NOT PROVIDED BY THE METAL BUILDING MANUFACTURER MUST BE DESIGNED AS "COMPONENTS AND CLADDING" IN ACCORDANCE WITH THE SPECIFIC WIND PROVISIONS OF THE REFERENCED BUILDING CODE DISPLAYED ON THE COVER PAGE OF THIS DRAWING PACKET.

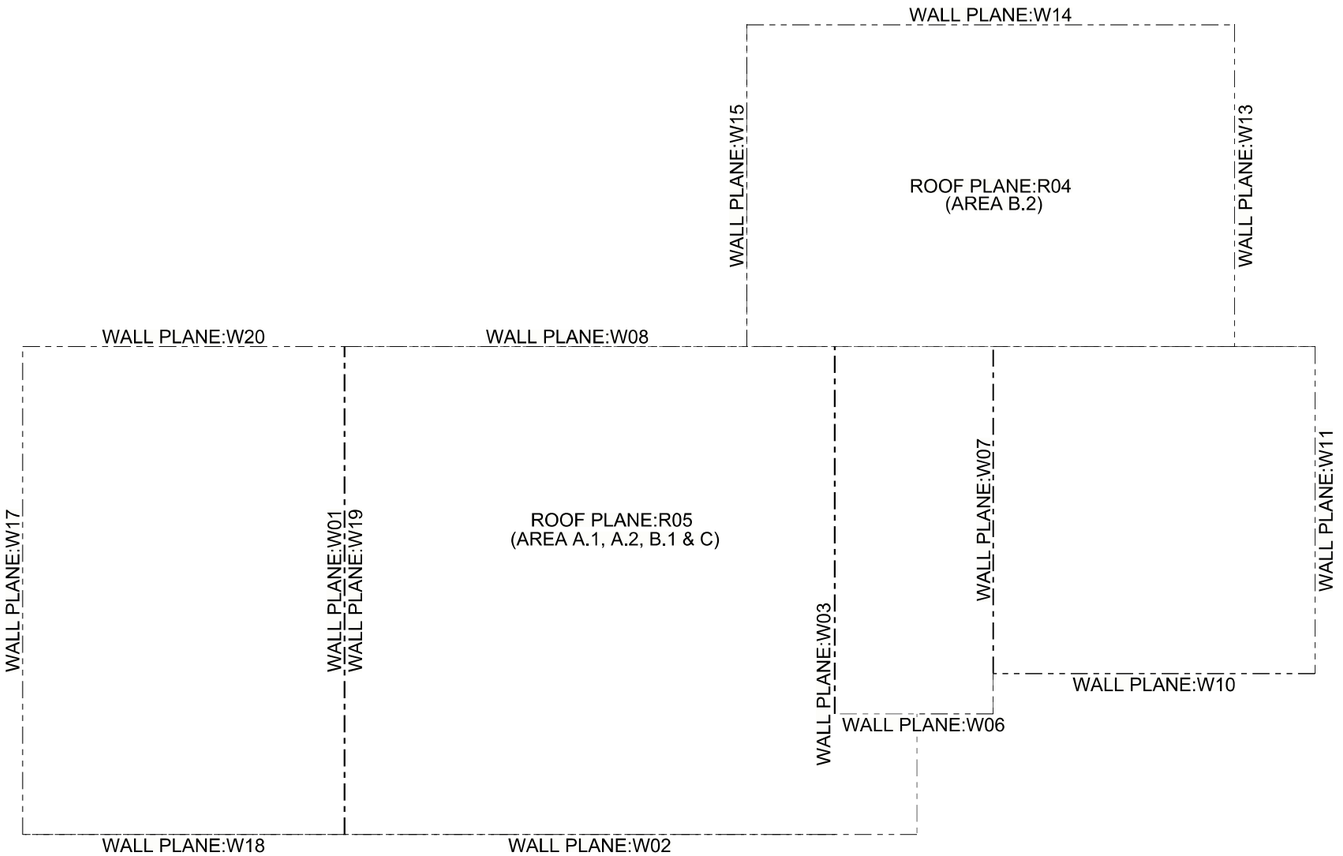
MBMA MEMBER
IAS ACCREDITED AC172
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
CERTIFIED CSA A660
CSSBI
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/20/2025 12:55:47pm

JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	BUILDING SHEET 2
SHEET	C3

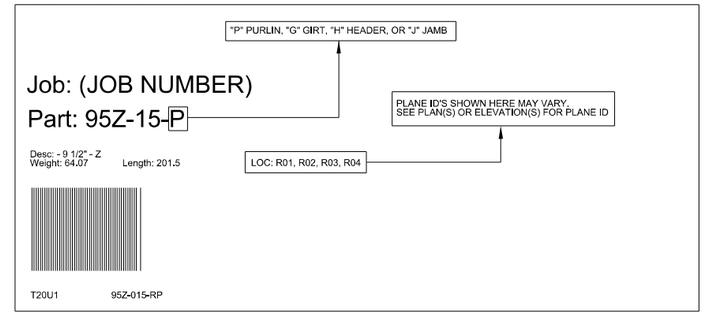
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0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

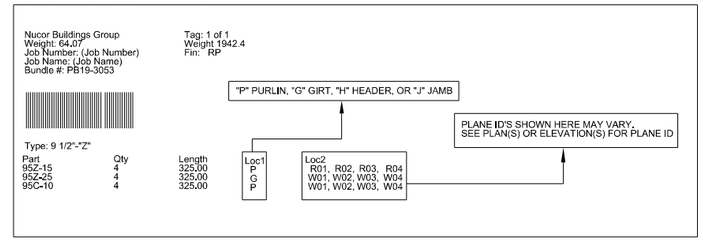


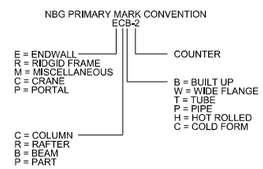
PLANE IDENTIFICATION PLAN

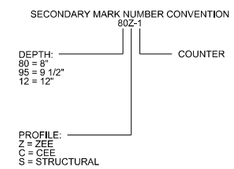
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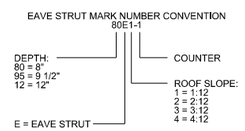


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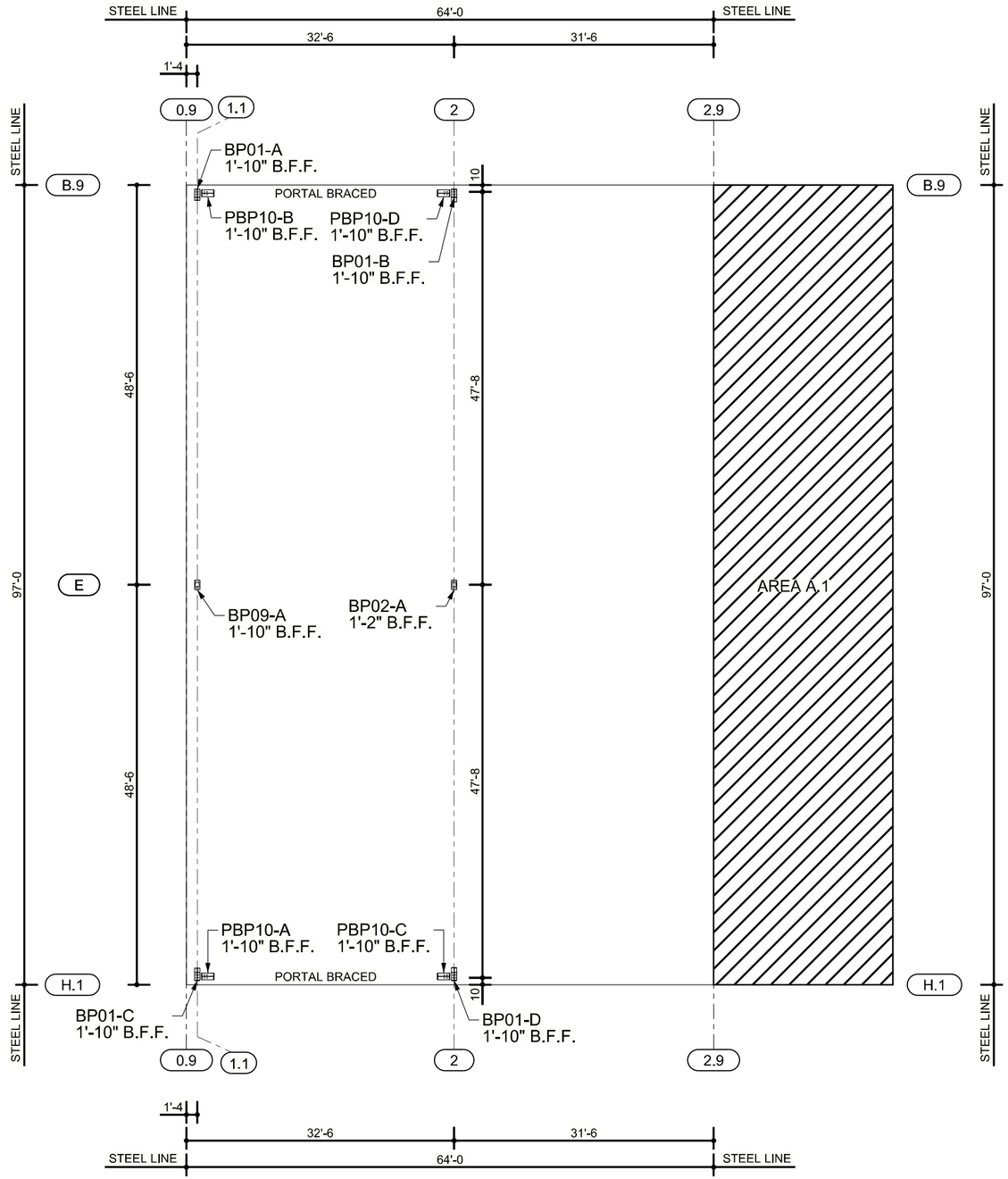
MBMA MEMBER
IAS ACCREDITED MANUFACTURING AC431
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
CERTIFIED CSA A660
ICSSP
PHONE: (260) 837-7891
FAX: (260) 837-7384
05/23/2025 09:24:16am

JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY
	NOT FOR CONSTRUCTION
DRAWING TITLE	PLANE IDENTIFICATION PLAN
SHEET	C4

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

ANCHOR ROD TABLE		
SIZE	QTY	MATERIAL
1"	40	F1554-GR.36



ANCHOR ROD PLAN (AREA C)

ANCHOR ROD PLAN GENERAL NOTES

AN1: THE SPECIFIED ANCHOR ROD DIAMETER ASSUMES F1554 GRADE 36 UNLESS NOTED OTHERWISE. ANCHOR ROD MATERIAL OF EQUAL DIAMETER MEETING OR EXCEEDING THE STRENGTH REQUIREMENTS SET FORTH ON THESE DRAWINGS MAY BE UTILIZED AT THE DISCRETION OF THE FOUNDATION DESIGN ENGINEER. ANCHOR ROD EMBEDMENT LENGTH SHALL BE DETERMINED BY THE FOUNDATION DESIGN ENGINEER.

AN2: METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR PROJECT FOUNDATION DESIGN. THE FOUNDATION DESIGN IS THE RESPONSIBILITY OF A REGISTERED PROFESSIONAL ENGINEER, FAMILIAR WITH LOCAL SITE CONDITIONS.

AN3: ANCHOR RODS, NUTS, FLAT WASHERS FOR ANCHOR RODS, EXPANSION BOLTS, AND CONCRETE/MASONRY EMBEDMENT PLATES ARE NOT BY THE METAL BUILDING MANUFACTURER.

AN4: DRAWING IS NOT TO SCALE. SEE DETAILS FOR COLUMN ORIENTATION.

AN5: THE ANCHOR ROD LOCATIONS PROVIDED BY THE METAL BUILDING MANUFACTURER SATISFY PERTINENT REQUIREMENTS FOR THE DESIGN OF THE MATERIALS SUPPLIED BY THE METAL BUILDING MANUFACTURER. IT IS THE RESPONSIBILITY OF THE FOUNDATION ENGINEER TO MAKE CERTAIN THAT SUFFICIENT EDGE DISTANCE IS PROVIDED FOR ALL ANCHOR RODS IN THE DETAILS OF THE FOUNDATION DESIGN.

AN6: THE ANCHOR ROD PLAN INDICATES WHERE THE ANCHOR RODS ARE TO BE PLACED AS WELL AS THE FOOTPRINT OF THE METAL BUILDING. IT IS ESSENTIAL THAT THESE ANCHOR ROD PATTERNS BE FOLLOWED. IF THESE SETTINGS DIFFER FROM THE ARCHITECTURAL FOUNDATION PLANS, THE METAL BUILDING MANUFACTURER MUST BE CONTACTED IMMEDIATELY – BEFORE CONCRETE IS PLACED.

AN7: "SINGLE" CEE COLUMNS SHALL BE ORIENTED WITH THE "TOES" TOWARD THE LOW EAVE UNLESS NOTED OTHERWISE.

AN8: ALL DIMENSIONS ARE OUT TO OUT OF STEEL. IF A CONCRETE NOTCH IS REQUIRED THEN THE REQUIRED DIMENSION SHOULD BE ADDED TO OBTAIN THE OUT TO OUT OF CONCRETE DIMENSIONS.

AN9: FINISHED FLOOR ELEVATION = 100'-0" AND BOTTOM OF BASE PLATES = 100'-0" UNLESS NOTED OTHERWISE.

NUCOR BUILDING SYSTEMS
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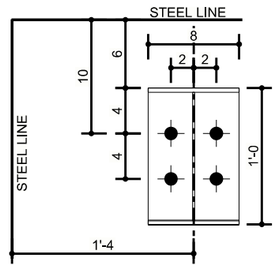
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JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
SHEET	F1
DRAWING TITLE	ANCHOR ROD PLAN (AREA C)

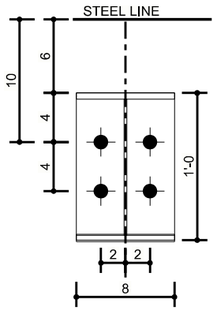
#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

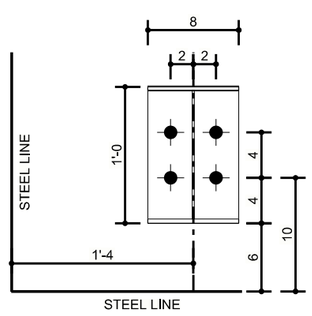
BP01-A [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



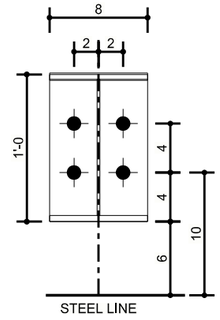
BP01-B [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



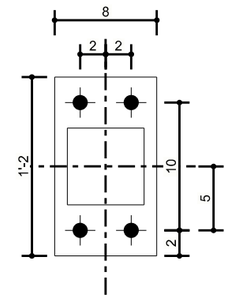
BP01-C [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



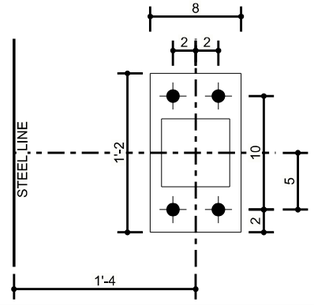
BP01-D [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



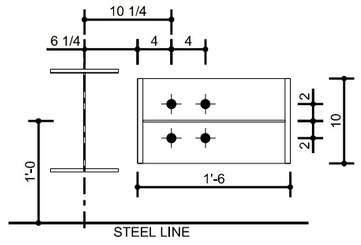
BP02-A [1'-2" B.F.F.]
3/4 PLATE - 1" AB - 3" REQD. PROJECTION



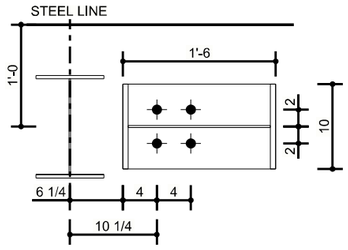
BP09-A [1'-10" B.F.F.]
5/8 PLATE - 1" AB - 3" REQD. PROJECTION



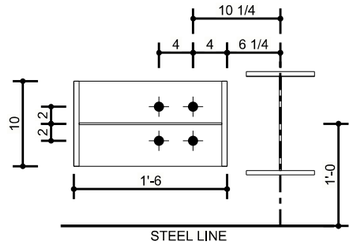
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1/2 PLATE - 1" AB - 3" REQD. PROJECTION



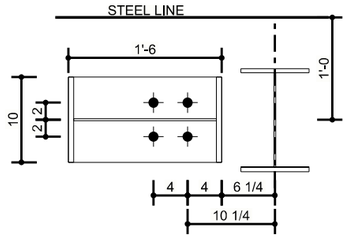
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1/2 PLATE - 1" AB - 3" REQD. PROJECTION

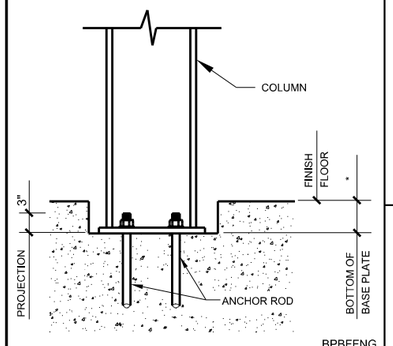


PBP10-C [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION

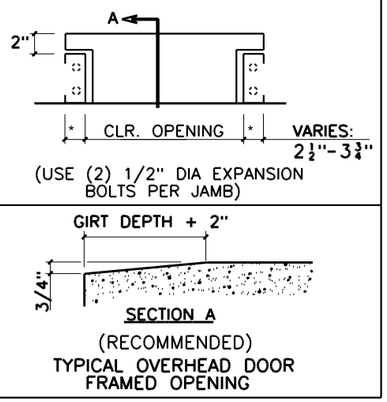


PBP10-D [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION





TYPICAL COLUMN BASE PLATE DETAIL



(RECOMMENDED)
TYPICAL OVERHEAD DOOR FRAMED OPENING

FOUNDATION DESIGN NOTES:

1. THE ORIENTATION OF THE ANCHOR BOLT DETAILS SHOWN ON THIS PAGE MAY NOT COINCIDE WITH THE ACTUAL COLUMN ORIENTATION SHOWN ON THE ANCHOR BOLT DRAWING. PLEASE REFERENCE THE SIDEWALL (SW) AND ENDWALL (EW) STEEL LINES SHOWN ON THE ANCHOR BOLT DETAILS WITH THE ANCHOR BOLT PLAN DURING LAYOUT OF COLUMN AND ANCHOR BOLT LOCATIONS.

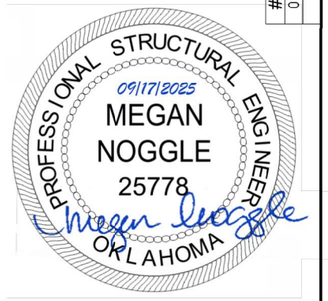
2. COLUMN BASE PLATES MAY HAVE MORE HOLES THAN ARE REQUIRED DUE TO PRODUCTION LIMITATIONS. PLEASE FOLLOW ANCHOR BOLT DETAILS FOR QUANTITY OF ANCHOR BOLTS REQUIRED. EXTRA BASE PLATE HOLES DO NOT NEED INFILLED PER THE MBS DESIGN SPECIFICATIONS.

NUCOR BUILDING SYSTEMS
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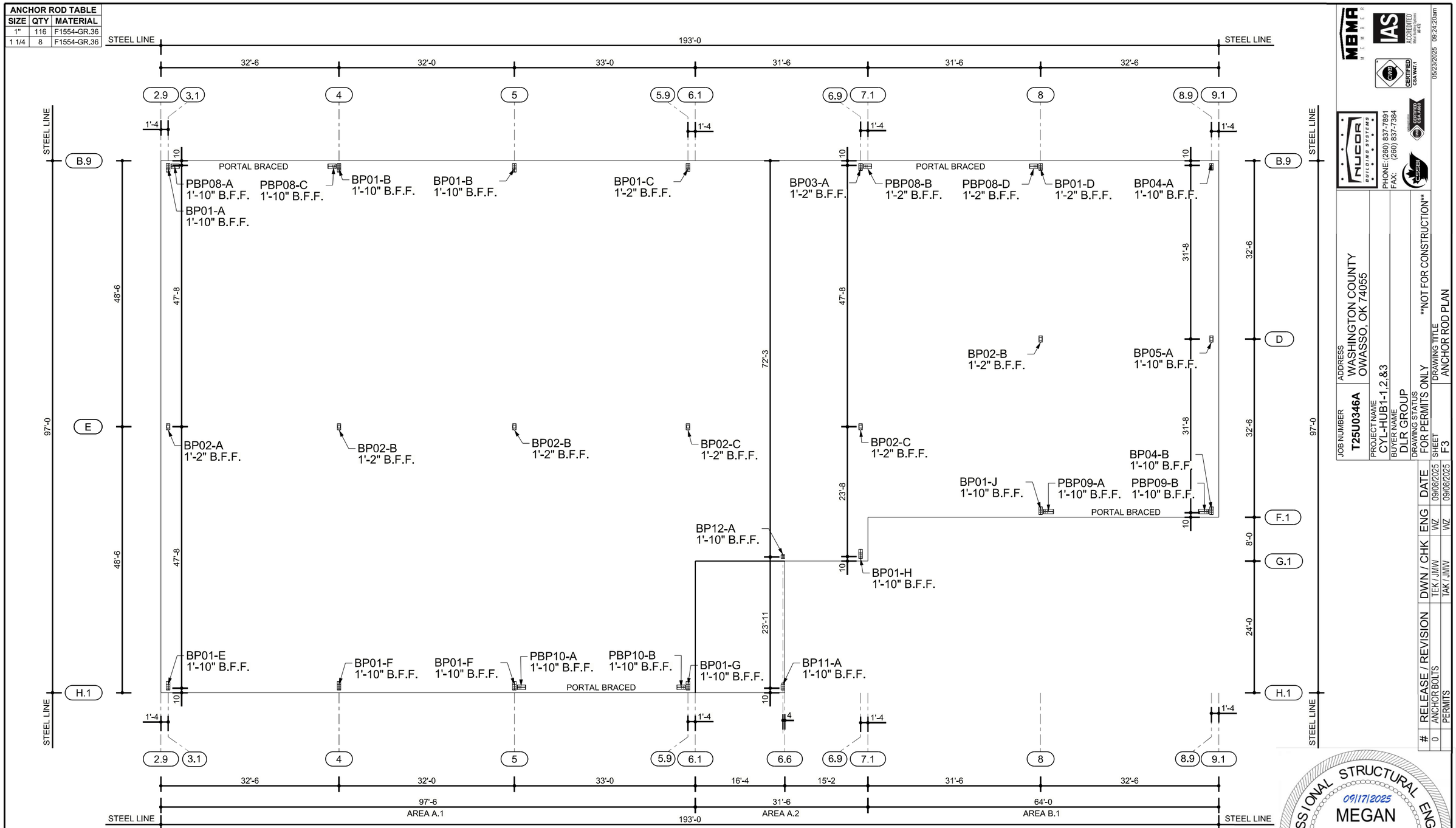
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JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,83
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY
	NOT FOR CONSTRUCTION
DRAWING TITLE	BASE PLATE DETAILS
SHEET	F2

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025



ANCHOR ROD TABLE		
SIZE	QTY	MATERIAL
1"	116	F1554-GR.36
1 1/4	8	F1554-GR.36



ANCHOR ROD PLAN (AREA A.1, A.2 & B.1)

ANCHOR ROD PLAN GENERAL NOTES

AN1: THE SPECIFIED ANCHOR ROD DIAMETER ASSUMES F1554 GRADE 36 UNLESS NOTED OTHERWISE. ANCHOR ROD MATERIAL OF EQUAL DIAMETER MEETING OR EXCEEDING THE STRENGTH REQUIREMENTS SET FORTH ON THESE DRAWINGS MAY BE UTILIZED AT THE DISCRETION OF THE FOUNDATION DESIGN ENGINEER. ANCHOR ROD EMBEDMENT LENGTH SHALL BE DETERMINED BY THE FOUNDATION DESIGN ENGINEER.

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AN4: DRAWING IS NOT TO SCALE. SEE DETAILS FOR COLUMN ORIENTATION.

AN5: THE ANCHOR ROD LOCATIONS PROVIDED BY THE METAL BUILDING MANUFACTURER SATISFY PERTINENT REQUIREMENTS FOR THE DESIGN OF THE MATERIALS SUPPLIED BY THE METAL BUILDING MANUFACTURER. IT IS THE RESPONSIBILITY OF THE FOUNDATION ENGINEER TO MAKE CERTAIN THAT SUFFICIENT EDGE DISTANCE IS PROVIDED FOR ALL ANCHOR RODS IN THE DETAILS OF THE FOUNDATION DESIGN.

AN6: THE ANCHOR ROD PLAN INDICATES WHERE THE ANCHOR RODS ARE TO BE PLACED AS WELL AS THE FOOTPRINT OF THE METAL BUILDING. IT IS ESSENTIAL THAT THESE ANCHOR ROD PATTERNS BE FOLLOWED. IF THESE SETTINGS DIFFER FROM THE ARCHITECTURAL FOUNDATION PLANS, THE METAL BUILDING MANUFACTURER MUST BE CONTACTED IMMEDIATELY – BEFORE CONCRETE IS PLACED.

AN7: "SINGLE" CEE COLUMNS SHALL BE ORIENTED WITH THE "TOES" TOWARD THE LOW EAVE UNLESS NOTED OTHERWISE.

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AN9: FINISHED FLOOR ELEVATION = 100'-0" AND BOTTOM OF BASE PLATES = 100'-0" UNLESS NOTED OTHERWISE.

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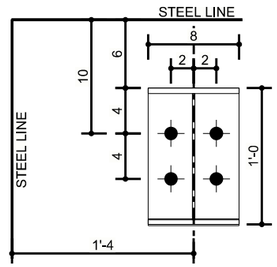
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JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY
NOT FOR CONSTRUCTION
SHEET F3
DRAWING TITLE ANCHOR ROD PLAN

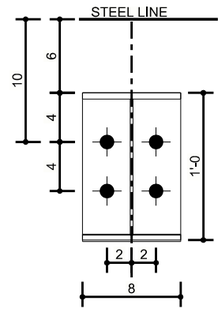
#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

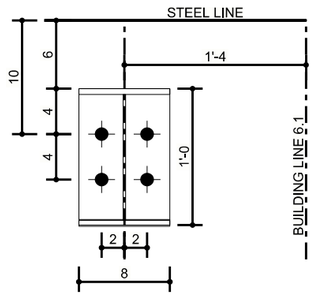
BP01-A [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



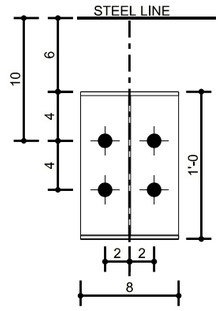
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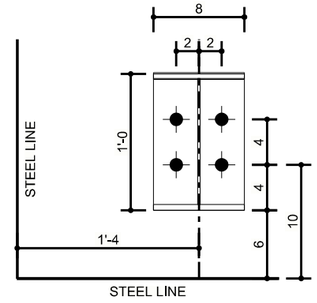
BP01-C [1'-2" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



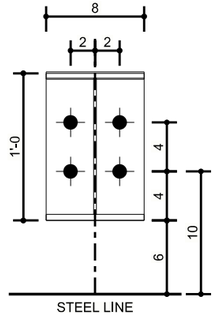
BP01-D [1'-2" B.F.F.]
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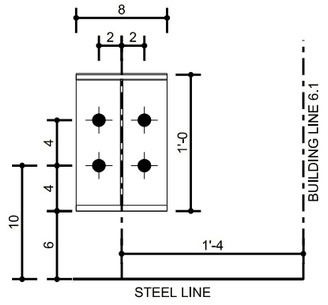
BP01-E [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



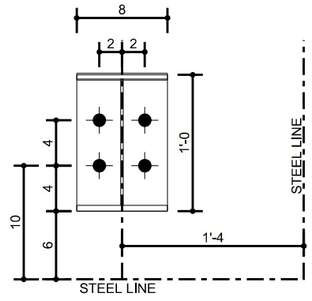
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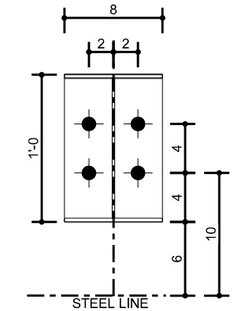
BP01-G [1'-10" B.F.F.]
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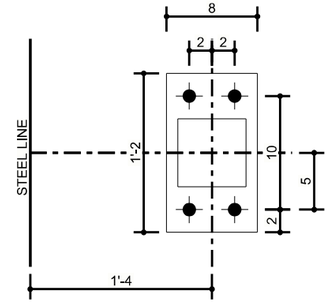
BP01-H [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



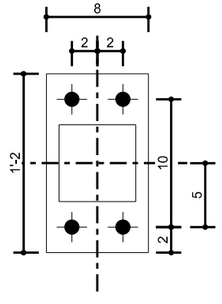
BP01-J [1'-10" B.F.F.]
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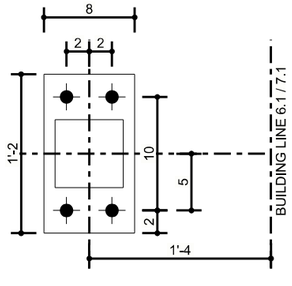
BP02-A [1'-2" B.F.F.]
3/4 PLATE - 1" AB - 3" REQD. PROJECTION



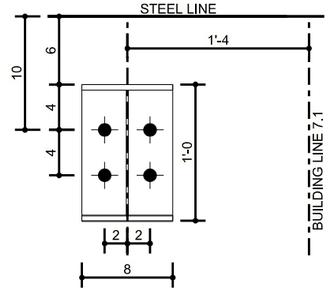
BP02-B [1'-2" B.F.F.]
3/4 PLATE - 1" AB - 3" REQD. PROJECTION



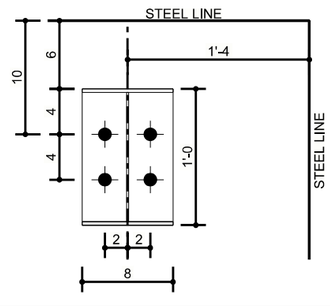
BP02-C [1'-2" B.F.F.]
3/4 PLATE - 1" AB - 3" REQD. PROJECTION



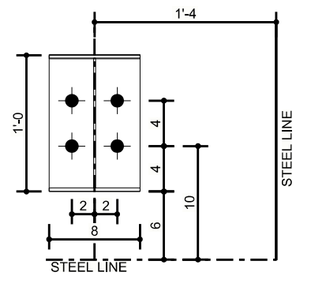
BP03-A [1'-2" B.F.F.]
5/8 PLATE - 1" AB - 3" REQD. PROJECTION



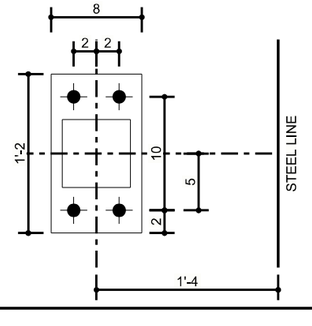
BP04-A [1'-10" B.F.F.]
3/8 PLATE - 1" AB - 3" REQD. PROJECTION



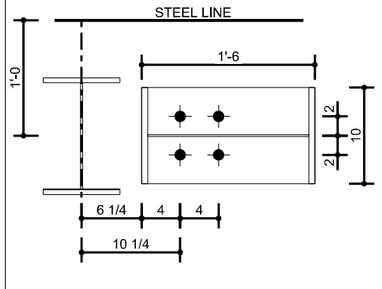
BP04-B [1'-10" B.F.F.]
3/8 PLATE - 1" AB - 3" REQD. PROJECTION



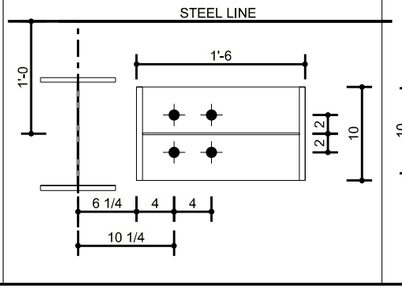
BP05-A [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



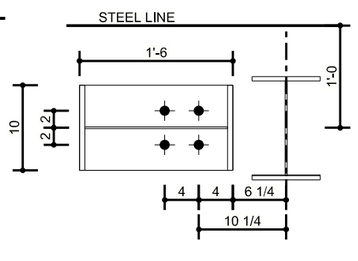
PBP08-A [1'-10" B.F.F.]
5/8 PLATE - 1" AB - 3" REQD. PROJECTION



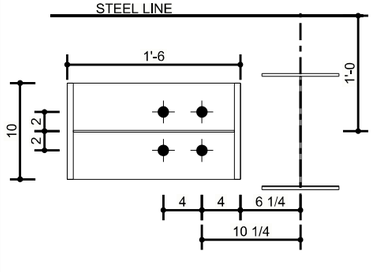
PBP08-B [1'-2" B.F.F.]
5/8 PLATE - 1" AB - 3" REQD. PROJECTION



PBP08-C [1'-10" B.F.F.]
5/8 PLATE - 1" AB - 3" REQD. PROJECTION



PBP08-D [1'-2" B.F.F.]
5/8 PLATE - 1" AB - 3" REQD. PROJECTION



MBMA MEMBER
IAS ACCREDITED
CWB CERTIFIED CSA W47.1
CERTIFIED CSA A660
CSSBI

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:21am

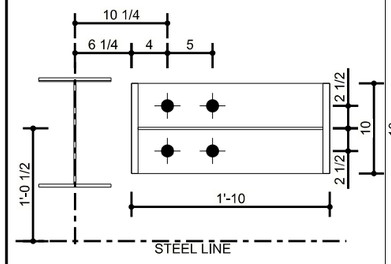
JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	BASE PLATE DETAILS (AREA A.1, A.2 & B.1)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE	SHEET
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025	F4
	PERMITS	TAK / JMW	WIZ	09/08/2025	

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

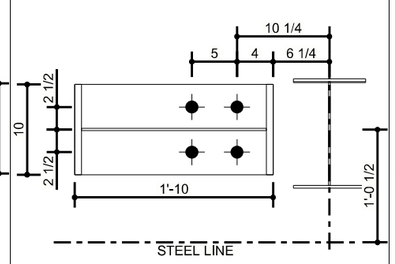
PBP09-A [1'-10" B.F.F.]

3/4 PLATE - 1 1/4 AB - 3" REQD. PROJECTION



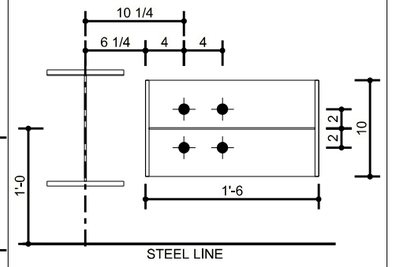
PBP09-B [1'-10" B.F.F.]

3/4 PLATE - 1 1/4 AB - 3" REQD. PROJECTION



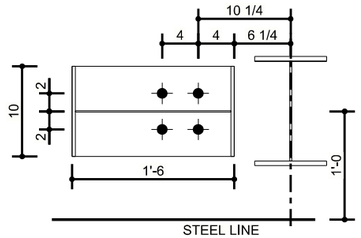
PBP10-A [1'-10" B.F.F.]

3/8 PLATE - 1" AB - 3" REQD. PROJECTION



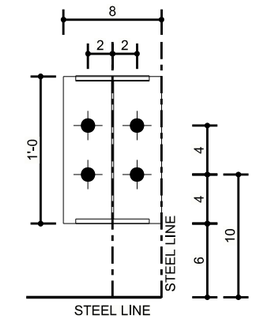
PBP10-B [1'-10" B.F.F.]

3/8 PLATE - 1" AB - 3" REQD. PROJECTION



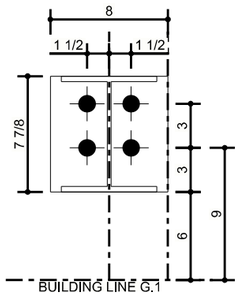
BP11-A [1'-10" B.F.F.]

3/8 PLATE - 1" AB - 3" REQD. PROJECTION



BP12-A [1'-10" B.F.F.]

3/8 PLATE - 1" AB - 3" REQD. PROJECTION



MBMA MEMBER

IAS ACCREDITED MANUFACTURING PLANT AC431

CWB CERTIFIED CSA W47.1

NUCOR BUILDING SYSTEMS

PHONE: (260) 837-7891
FAX: (260) 837-7384

CERTIFIED CSA A660

CERTIFIED CSA A660

ICSSB

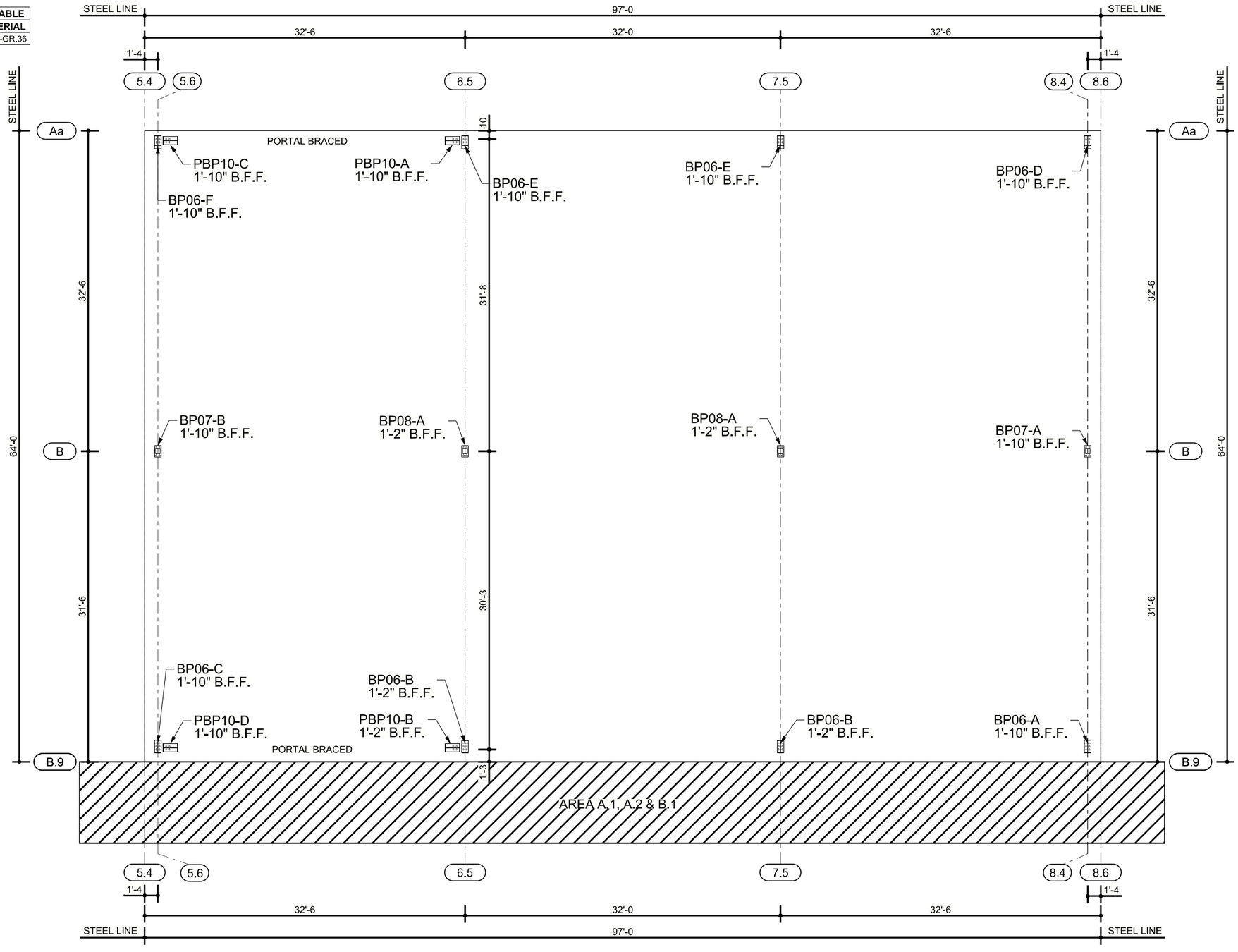
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JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	BASE PLATE DETAILS (AREA A.1, A.2 & B.1)
SHEET	F5

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/06/2025
	PERMITS	TAK / JMW	WIZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

ANCHOR ROD TABLE		
SIZE	QTY	MATERIAL
1"	64	F1554-GR.36



ANCHOR ROD PLAN (AREA B.2)

ANCHOR ROD PLAN GENERAL NOTES

AN1: THE SPECIFIED ANCHOR ROD DIAMETER ASSUMES F1554 GRADE 36 UNLESS NOTED OTHERWISE. ANCHOR ROD MATERIAL OF EQUAL DIAMETER MEETING OR EXCEEDING THE STRENGTH REQUIREMENTS SET FORTH ON THESE DRAWINGS MAY BE UTILIZED AT THE DISCRETION OF THE FOUNDATION DESIGN ENGINEER. ANCHOR ROD EMBEDMENT LENGTH SHALL BE DETERMINED BY THE FOUNDATION DESIGN ENGINEER.

AN2: METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR PROJECT FOUNDATION DESIGN. THE FOUNDATION DESIGN IS THE RESPONSIBILITY OF A REGISTERED PROFESSIONAL ENGINEER, FAMILIAR WITH LOCAL SITE CONDITIONS.

AN3: ANCHOR RODS, NUTS, FLAT WASHERS FOR ANCHOR RODS, EXPANSION BOLTS, AND CONCRETE/MASONRY EMBEDMENT PLATES ARE NOT BY THE METAL BUILDING MANUFACTURER.

AN4: DRAWING IS NOT TO SCALE. SEE DETAILS FOR COLUMN ORIENTATION.

AN5: THE ANCHOR ROD LOCATIONS PROVIDED BY THE METAL BUILDING MANUFACTURER SATISFY PERTINENT REQUIREMENTS FOR THE DESIGN OF THE MATERIALS SUPPLIED BY THE METAL BUILDING MANUFACTURER. IT IS THE RESPONSIBILITY OF THE FOUNDATION ENGINEER TO MAKE CERTAIN THAT SUFFICIENT EDGE DISTANCE IS PROVIDED FOR ALL ANCHOR RODS IN THE DETAILS OF THE FOUNDATION DESIGN.

AN6: THE ANCHOR ROD PLAN INDICATES WHERE THE ANCHOR RODS ARE TO BE PLACED AS WELL AS THE FOOTPRINT OF THE METAL BUILDING. IT IS ESSENTIAL THAT THESE ANCHOR ROD PATTERNS BE FOLLOWED. IF THESE SETTINGS DIFFER FROM THE ARCHITECTURAL FOUNDATION PLANS, THE METAL BUILDING MANUFACTURER MUST BE CONTACTED IMMEDIATELY – BEFORE CONCRETE IS PLACED.

AN7: "SINGLE" CEE COLUMNS SHALL BE ORIENTED WITH THE "TOES" TOWARD THE LOW EAVE UNLESS NOTED OTHERWISE.

AN8: ALL DIMENSIONS ARE OUT TO OUT OF STEEL. IF A CONCRETE NOTCH IS REQUIRED THEN THE REQUIRED DIMENSION SHOULD BE ADDED TO OBTAIN THE OUT TO OUT OF CONCRETE DIMENSIONS.

AN9: FINISHED FLOOR ELEVATION = 100'-0" AND BOTTOM OF BASE PLATES = 100'-0" UNLESS NOTED OTHERWISE.

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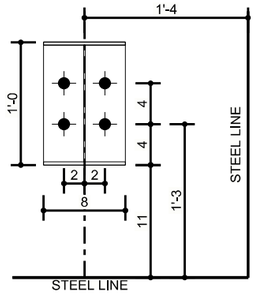
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JOB NUMBER	ADDRESS
T25U0346A	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	
CYL-HUB1-1,2,83	
BUYER NAME	
DLR GROUP	
DRAWING STATUS	DRAWING TITLE
FOR PERMITS ONLY	ANCHOR ROD PLAN (AREA B.2)
NOT FOR CONSTRUCTION	
SHEET	
F6	

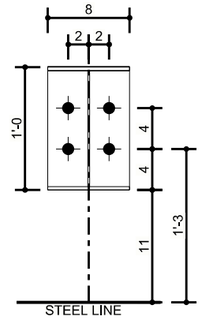
#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

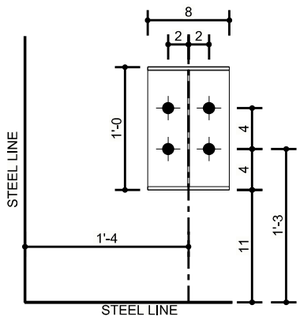
BP06-A [1'-10" B.F.F.]
3/8 PLATE - 1" AB - 3" REQD. PROJECTION



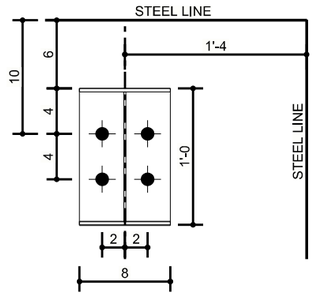
BP06-B [1'-2" B.F.F.]
3/8 PLATE - 1" AB - 3" REQD. PROJECTION



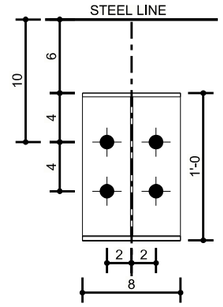
BP06-C [1'-10" B.F.F.]
3/8 PLATE - 1" AB - 3" REQD. PROJECTION



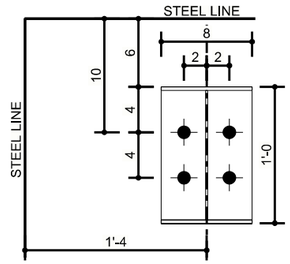
BP06-D [1'-10" B.F.F.]
3/8 PLATE - 1" AB - 3" REQD. PROJECTION



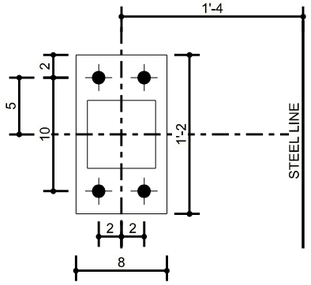
BP06-E [1'-10" B.F.F.]
3/8 PLATE - 1" AB - 3" REQD. PROJECTION



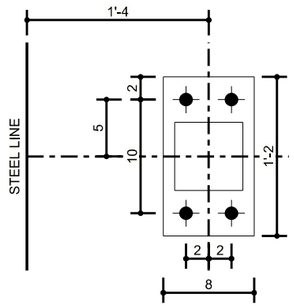
BP06-F [1'-10" B.F.F.]
3/8 PLATE - 1" AB - 3" REQD. PROJECTION



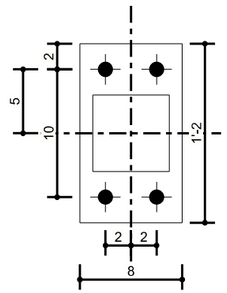
BP07-A [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



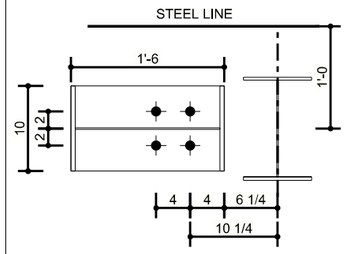
BP07-B [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



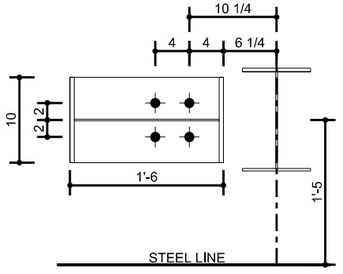
BP08-A [1'-2" B.F.F.]
5/8 PLATE - 1" AB - 3" REQD. PROJECTION



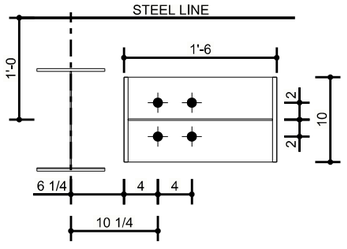
PBP10-A [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION



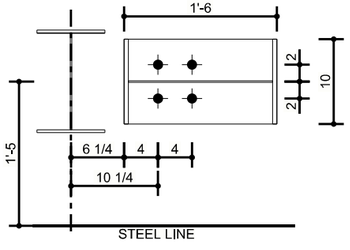
PBP10-B [1'-2" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION

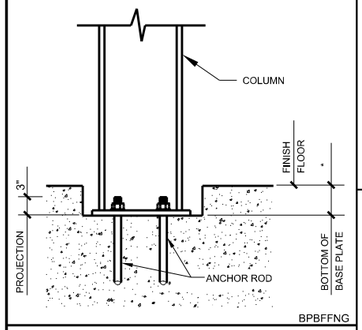


PBP10-C [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION

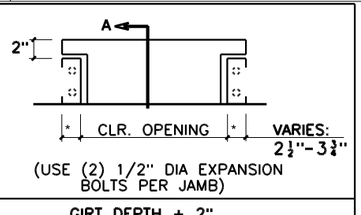


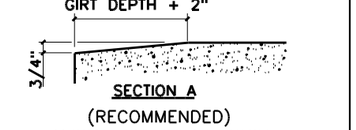
PBP10-D [1'-10" B.F.F.]
1/2 PLATE - 1" AB - 3" REQD. PROJECTION





TYPICAL COLUMN BASE PLATE DETAIL





(RECOMMENDED)
TYPICAL OVERHEAD DOOR FRAMED OPENING

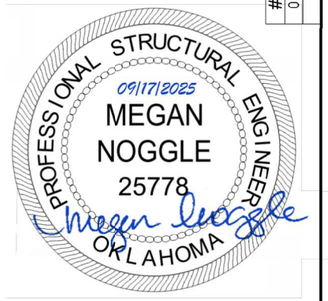
FOUNDATION DESIGN NOTES:

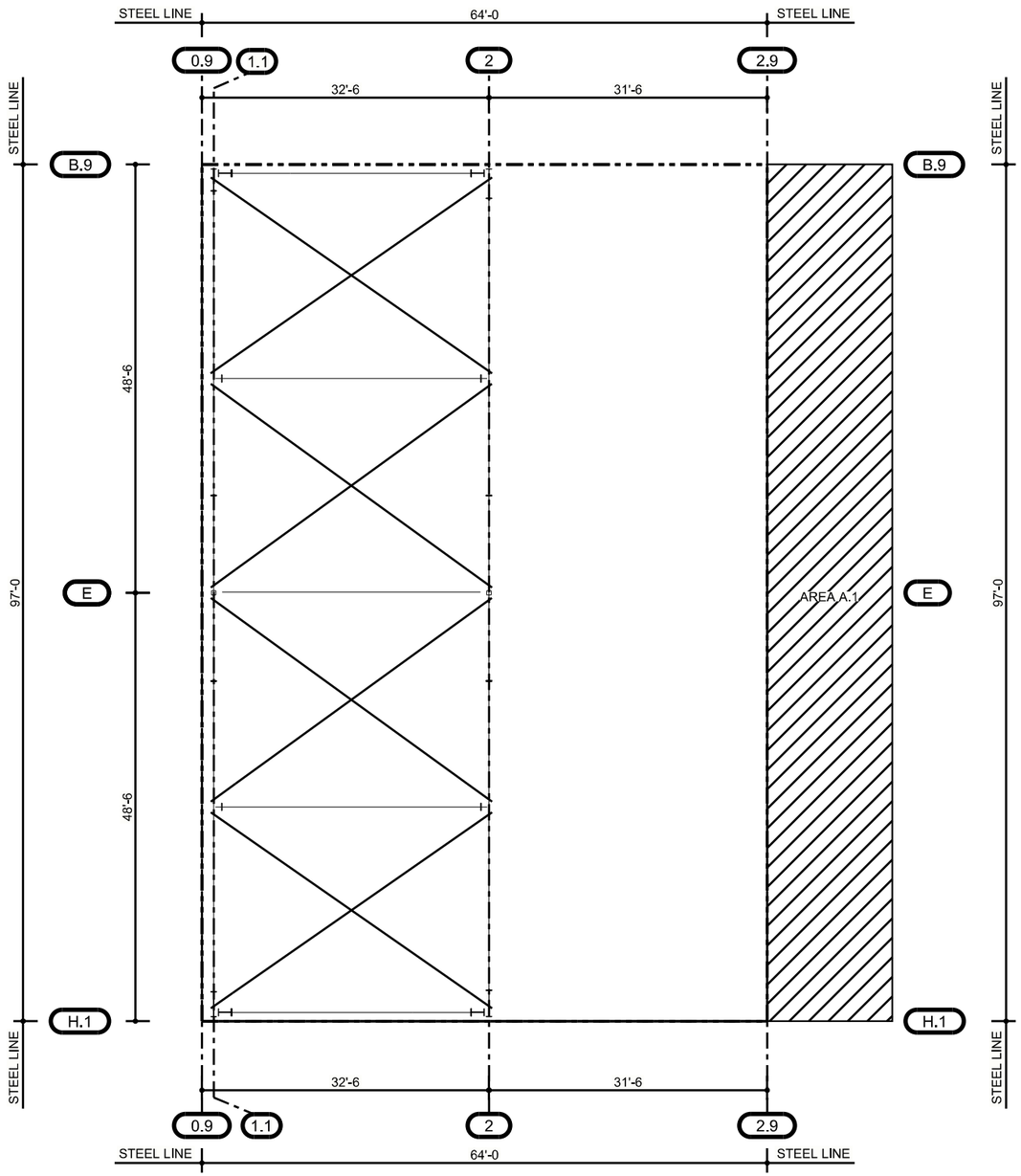
1. THE ORIENTATION OF THE ANCHOR BOLT DETAILS SHOWN ON THIS PAGE MAY NOT COINCIDE WITH THE ACTUAL COLUMN ORIENTATION SHOWN ON THE ANCHOR BOLT DRAWING. PLEASE REFERENCE THE SIDEWALL (SW) AND ENDWALL (EW) STEEL LINES SHOWN ON THE ANCHOR BOLT DETAILS WITH THE ANCHOR BOLT PLAN DURING LAYOUT OF COLUMN AND ANCHOR BOLT LOCATIONS.
2. COLUMN BASE PLATES MAY HAVE MORE HOLES THAN ARE REQUIRED DUE TO PRODUCTION LIMITATIONS. PLEASE FOLLOW ANCHOR BOLT DETAILS FOR QUANTITY OF ANCHOR BOLTS REQUIRED. EXTRA BASE PLATE HOLES DO NOT NEED INFILLED PER THE MBS DESIGN SPECIFICATIONS.

MBMA MEMBER
IAS ACCREDITED
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384
CERTIFIED CSA A660
CSSBI
05/23/2025 09:24:25am

JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
SHEET	F7
DRAWING TITLE	BASE PLATE DETAILS

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025





PRIMARY FRAMING SHAKEOUT PLAN (AREA C)

SHAKEOUT PLAN GENERAL NOTES

SH1: PLACE WELDED METAL TAGGED END OF RAFTER TOWARD LOW EAVE.
RAFTERS CENTERED ON RIDGE. IF NOT SYMMETRICAL, "*" INDICATES THE TAGGED END.
OTHERWISE, THEY ARE SYMMETRICAL AND CAN BE ORIENTED EITHER DIRECTION.
REFERENCE CROSS SECTIONS FOR ORIENTATION OF INTERIOR COLUMNS.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION.
ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

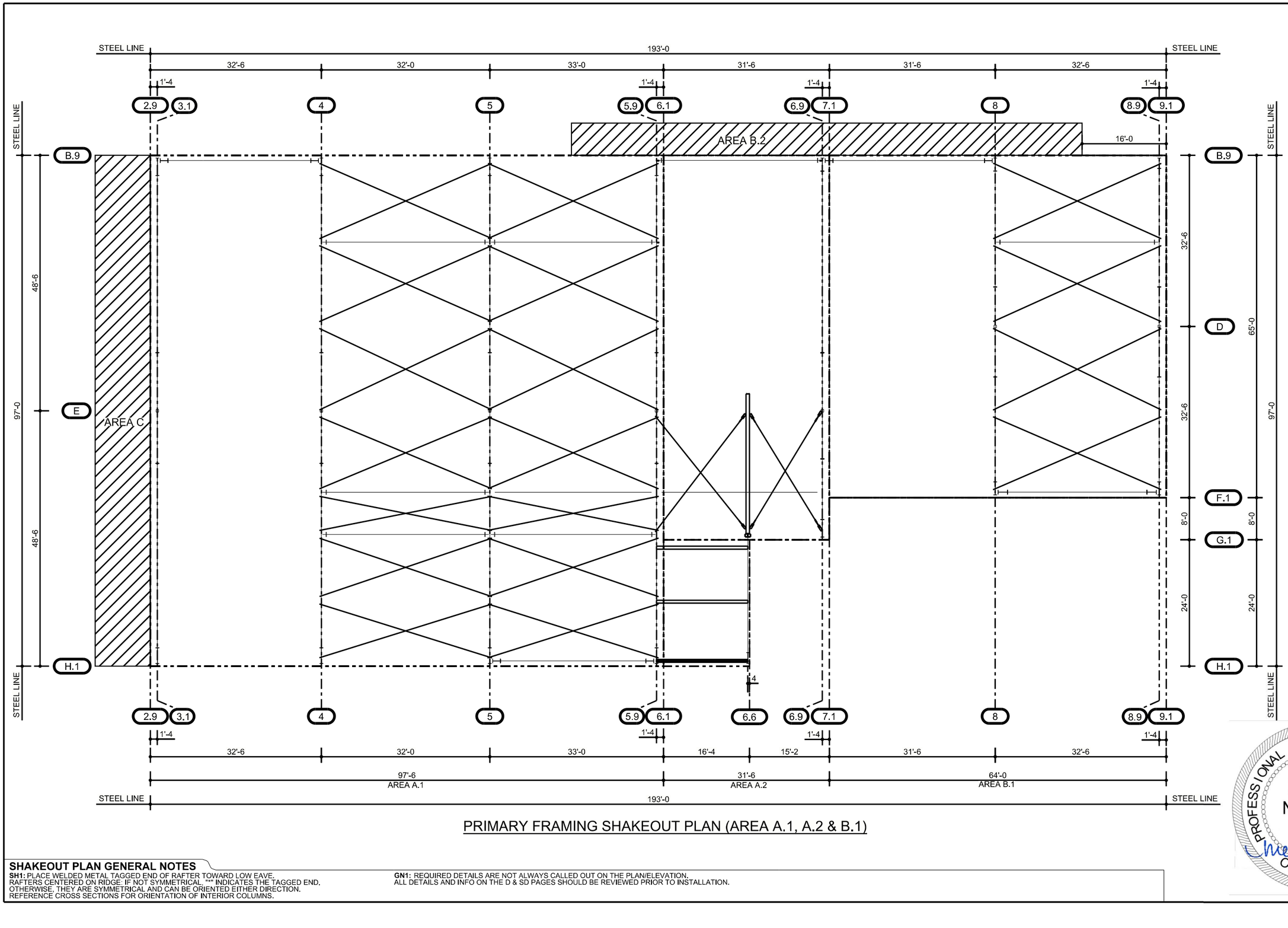
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
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05/23/2025 09:24:26am

JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	PRIMARY FRAMING SHAKEOUT PLAN
SHEET	E1

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



PRIMARY FRAMING SHAKEOUT PLAN (AREA A.1, A.2 & B.1)

SHAKEOUT PLAN GENERAL NOTES

SH1: PLACE WELDED METAL TAGGED END OF RAFTER TOWARD LOW EAVE.
RAFTERS CENTERED ON RIDGE. IF NOT SYMMETRICAL, "*" INDICATES THE TAGGED END.
OTHERWISE, THEY ARE SYMMETRICAL AND CAN BE ORIENTED EITHER DIRECTION.
REFERENCE CROSS SECTIONS FOR ORIENTATION OF INTERIOR COLUMNS.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION.
ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

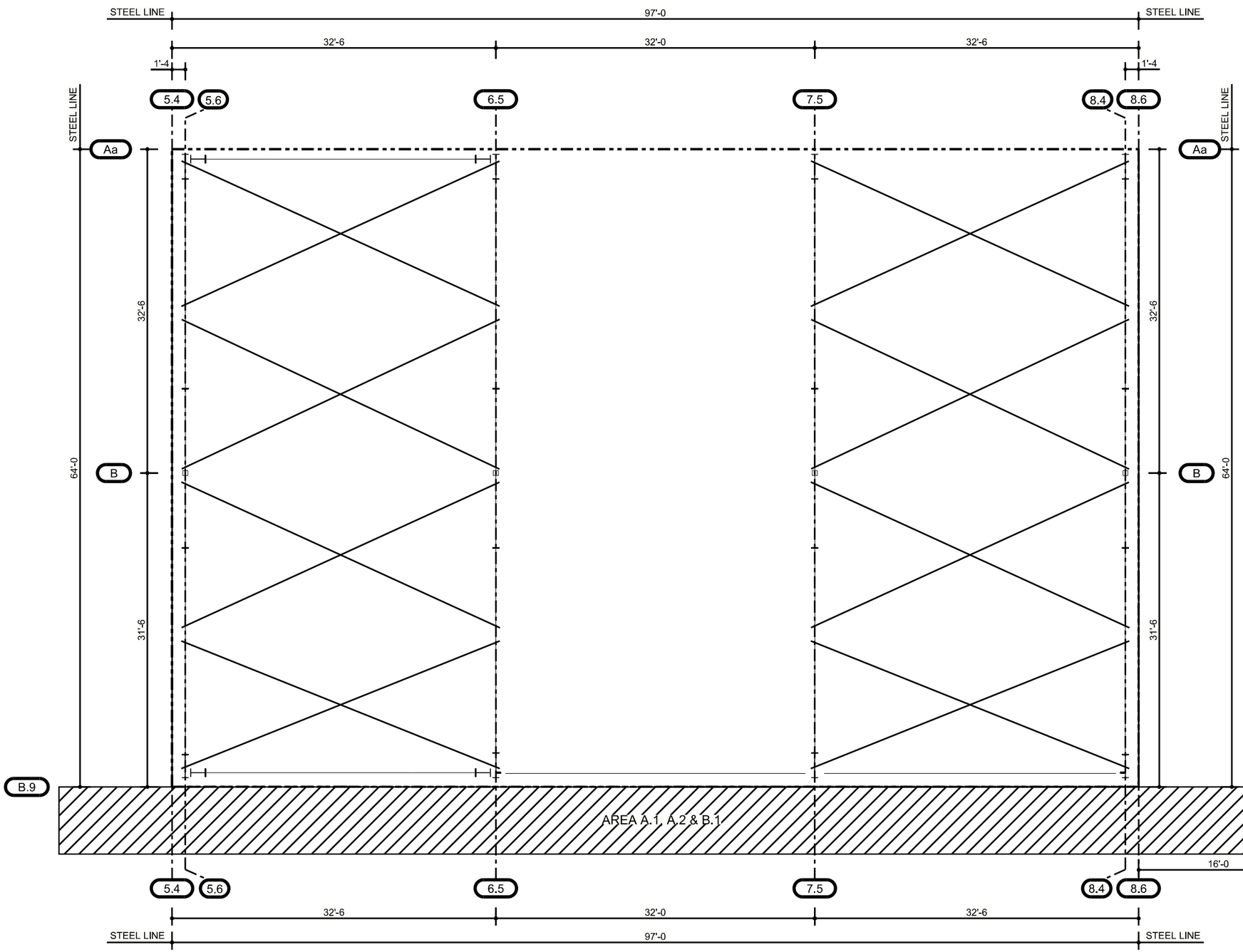
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:28am

JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	PRIMARY FRAMING SHAKEOUT PLAN

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



PRIMARY FRAMING SHAKEOUT PLAN (AREA B.2)

SHAKEOUT PLAN GENERAL NOTES

SH1: PLACE WELDED METAL TAGGED END OF RAFTER TOWARD LOW EAVE. RAFTERS CENTERED ON RIDGE. IF NOT SYMMETRICAL, "*" INDICATES THE TAGGED END. OTHERWISE, THEY ARE SYMMETRICAL AND CAN BE ORIENTED EITHER DIRECTION. REFERENCE CROSS SECTIONS FOR ORIENTATION OF INTERIOR COLUMNS.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

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PHONE: (260) 837-7891
FAX: (260) 837-7384

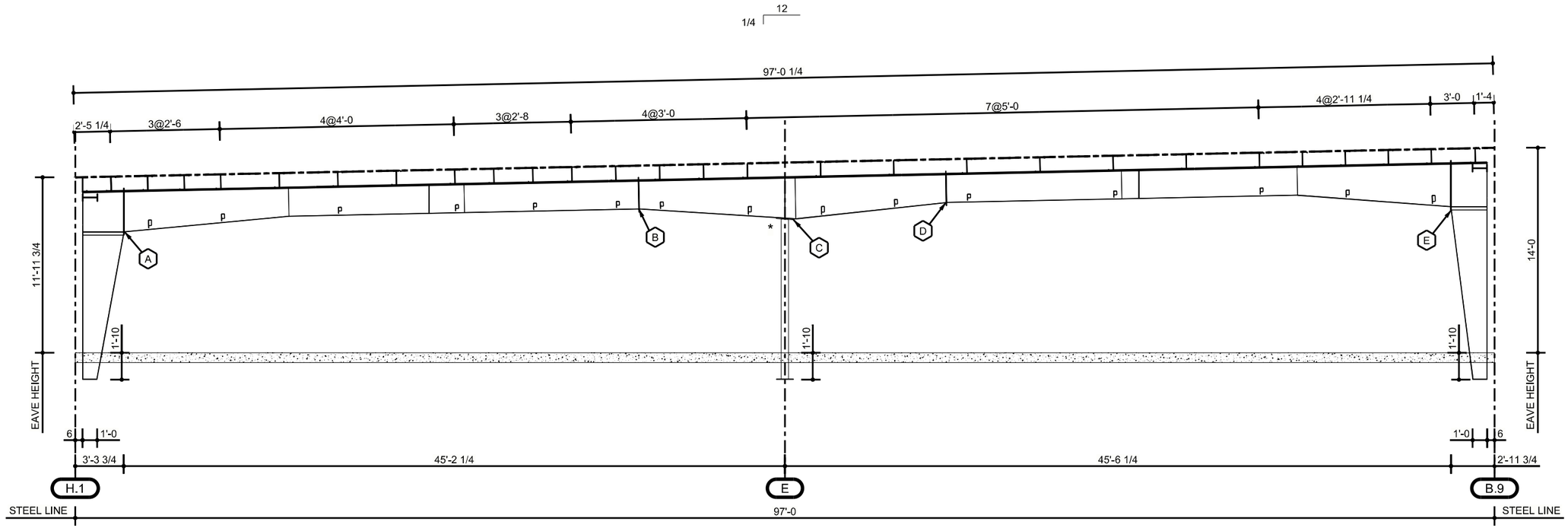
05/23/2025 09:24:30am

JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY, OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE: PRIMARY FRAMING SHAKEOUT PLAN
SHEET: E3
DATE: 09/17/2025

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 5/8" X 2 1/4" A325	H0610	H0310	8'-2 7/8	8" X 1/2	8" X 1/2
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-7 3/16	8" X 3/8	8" X 3/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	9'-1 1/16	10" X 5/8	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-0 7/16	8" X 3/8	8" X 3/8
E	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-11 1/2	8" X 3/8	8" X 1/2



CROSS SECTION AT LINE A.1 (AREA C)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
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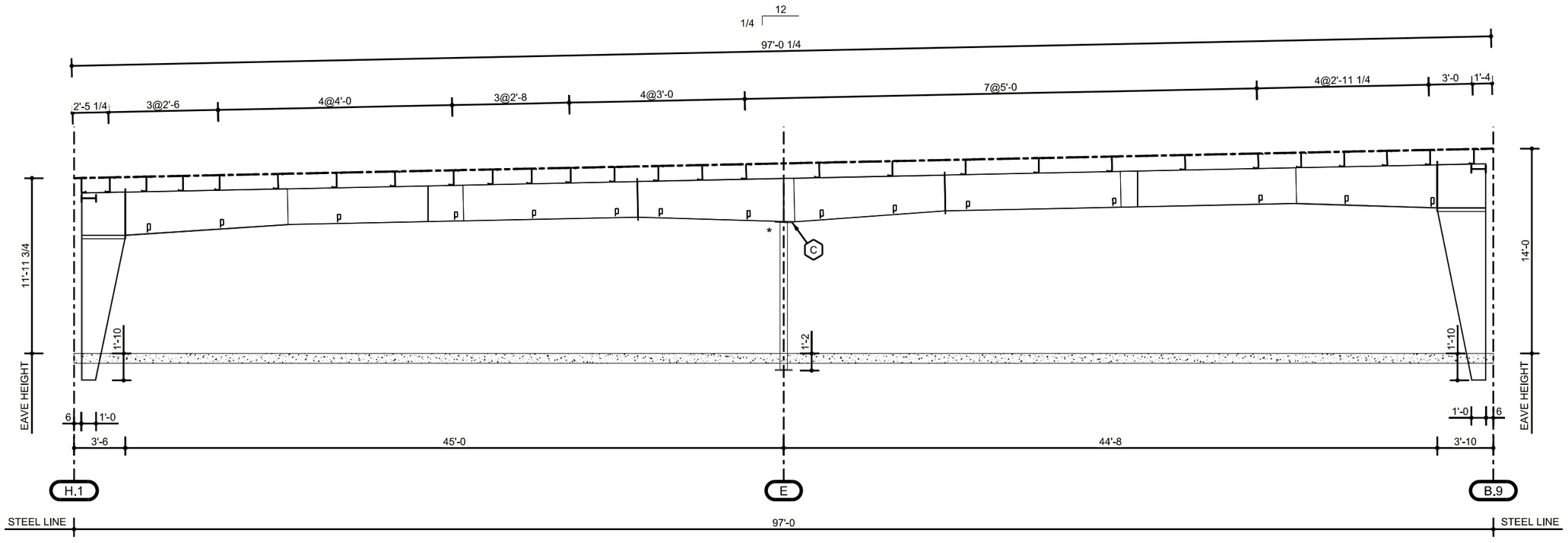
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JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY
NOT FOR CONSTRUCTION
DRAWING TITLE CROSS SECTION AT LINE 1.1 (AREA C)
SHEET E4

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 3/4" X 3" A325	H0633	H0320	8'-0 5/8	8" X 1/2	8" X 1/2
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-1 1/16	8" X 3/8	8" X 3/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	8'-11 1/8	10" X 5/8	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-6 5/16	8" X 3/8	8" X 3/8
E	(8) 3/4" X 3" A325	H0633	H0320	9'-11 1/16	8" X 1/2	8" X 1/2



CROSS SECTION AT LINE 2 (AREA C)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

MBMA MEMBER
IAS ACCREDITED AISC 370 (AC472)
AWS CERTIFIED CSA W47.1
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CERTIFIED CSA A660
CSSBI

05/23/2025 09:24:34am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY

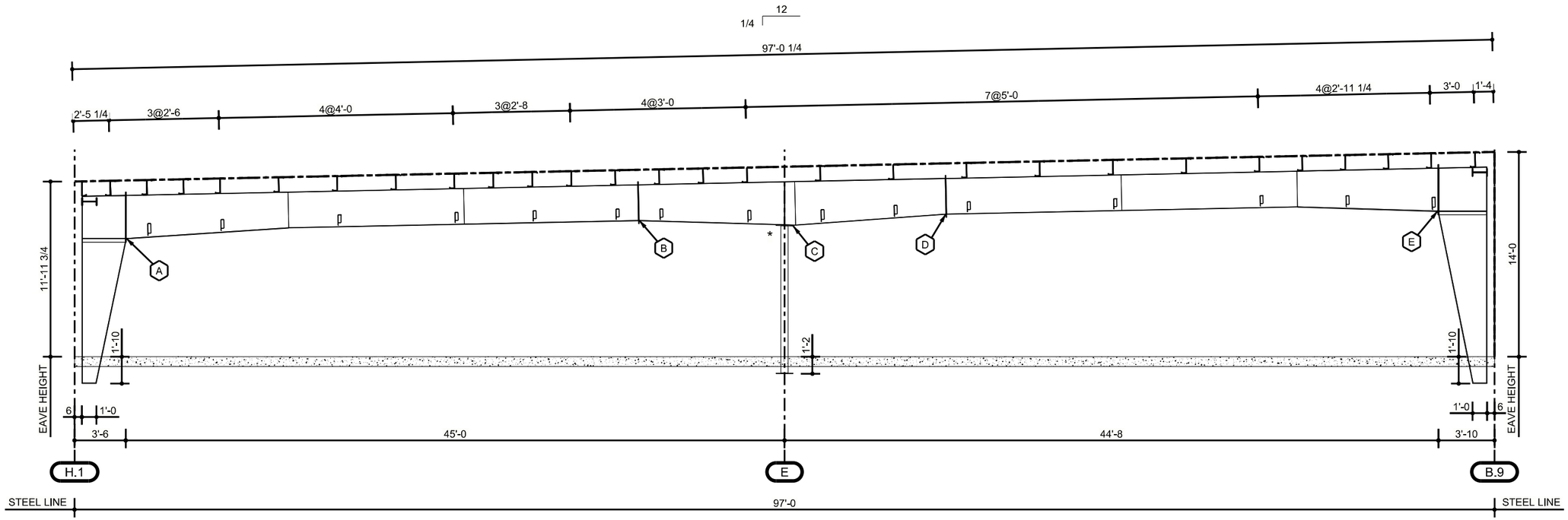
NOT FOR CONSTRUCTION

DRAWING TITLE
CROSS SECTION AT LINE 2 (AREA C)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 3/4" X 3" A325	H0633	H0320	8'-0 5/8	8" X 1/2	8" X 1/2
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-1 1/16	8" X 3/8	8" X 3/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	8'-11 1/8	10" X 5/8	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-6 5/16	8" X 3/8	8" X 3/8
E	(8) 3/4" X 3" A325	H0633	H0320	9'-11 1/16	8" X 1/2	8" X 1/2



CROSS SECTION AT LINE 3.1 (AREA A.1)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:37am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY

NOT FOR CONSTRUCTION

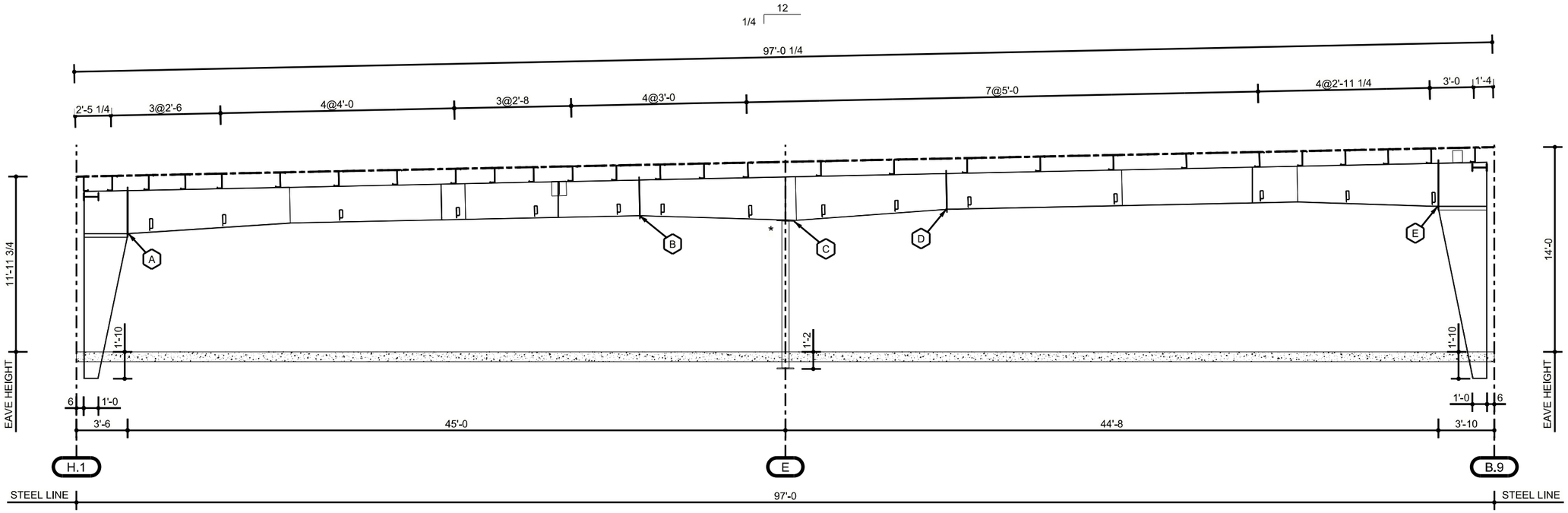
DRAWING TITLE
CROSS SECTION AT LINE 3.1 (AREA A.1)

SHEET E6

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 3/4" X 3" A325	H0633	H0320	8'-0 5/8	8" X 1/2	8" X 1/2
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-1 1/16	8" X 3/8	8" X 3/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	8'-11 1/8	10" X 5/8	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-6 5/16	8" X 3/8	8" X 3/8
E	(8) 3/4" X 3" A325	H0633	H0320	9'-11 1/16	8" X 1/2	8" X 1/2



CROSS SECTION AT LINE 4 & 5 (AREA A.1)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
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05/23/2025 09:24:39am

JOB NUMBER **T25U0346A**

ADDRESS WASHINGTON COUNTY OWASSO, OK 74055

PROJECT NAME CYL-HUB1-1,2,&3

BUYER NAME DLR GROUP

DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

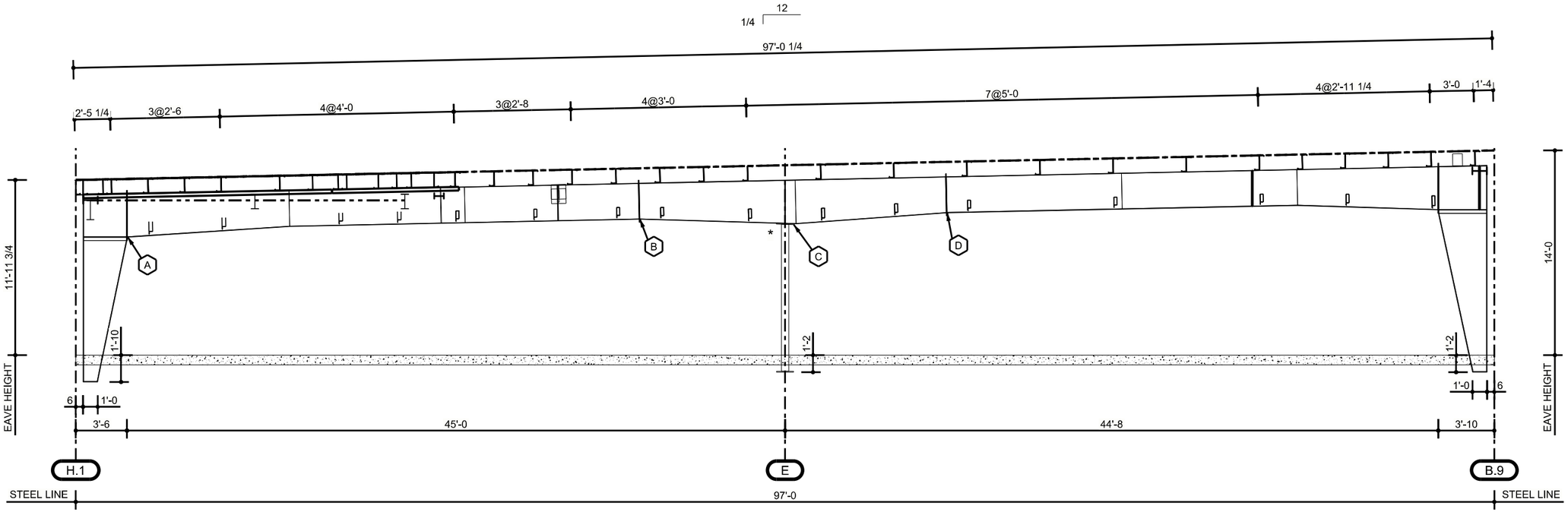
DRAWING TITLE CROSS SECTION AT LINE 4 & 5 (AREA A.1)

SHEET E7

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 3/4" X 3" A325	H0633	H0320	8'-0 3/4	8" X 1/2	8" X 1/2
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-1 1/16	8" X 3/8	8" X 3/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	8'-11 1/8	10" X 5/8	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-6 5/16	8" X 3/8	8" X 3/8



CROSS SECTION AT LINE 5.9 (AREA A.1)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:42am

JOB NUMBER **T25U0346A**

ADDRESS WASHINGTON COUNTY OWASSO, OK 74055

PROJECT NAME CYL-HUB1-1,2,&3

BUYER NAME DLR GROUP

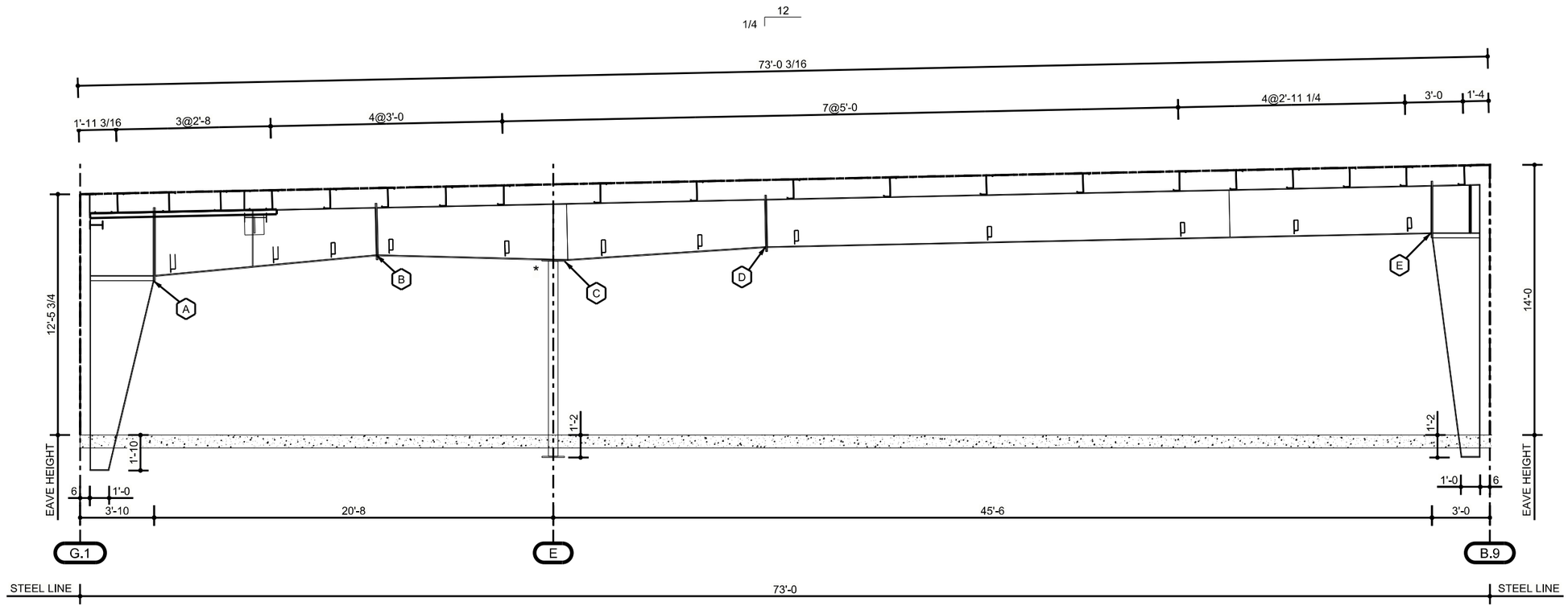
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

DRAWING TITLE CROSS SECTION AT LINE 5.9 (AREA A.1)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 3/4" X 3" A325	H0633	H0320	8'-2 5/8	8" X 5/8	8" X 5/8
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-1"	8" X 5/8	8" X 5/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	8'-11 15/16	10" X 5/8	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-6 1/16	8" X 5/8	8" X 1/2
E	(8) 3/4" X 3" A325	H0633	H0320	10'-5 1/4	8" X 1/2	8" X 5/8



CROSS SECTION AT LINE 6.9 (AREA A.2)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:44am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
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NOT FOR CONSTRUCTION

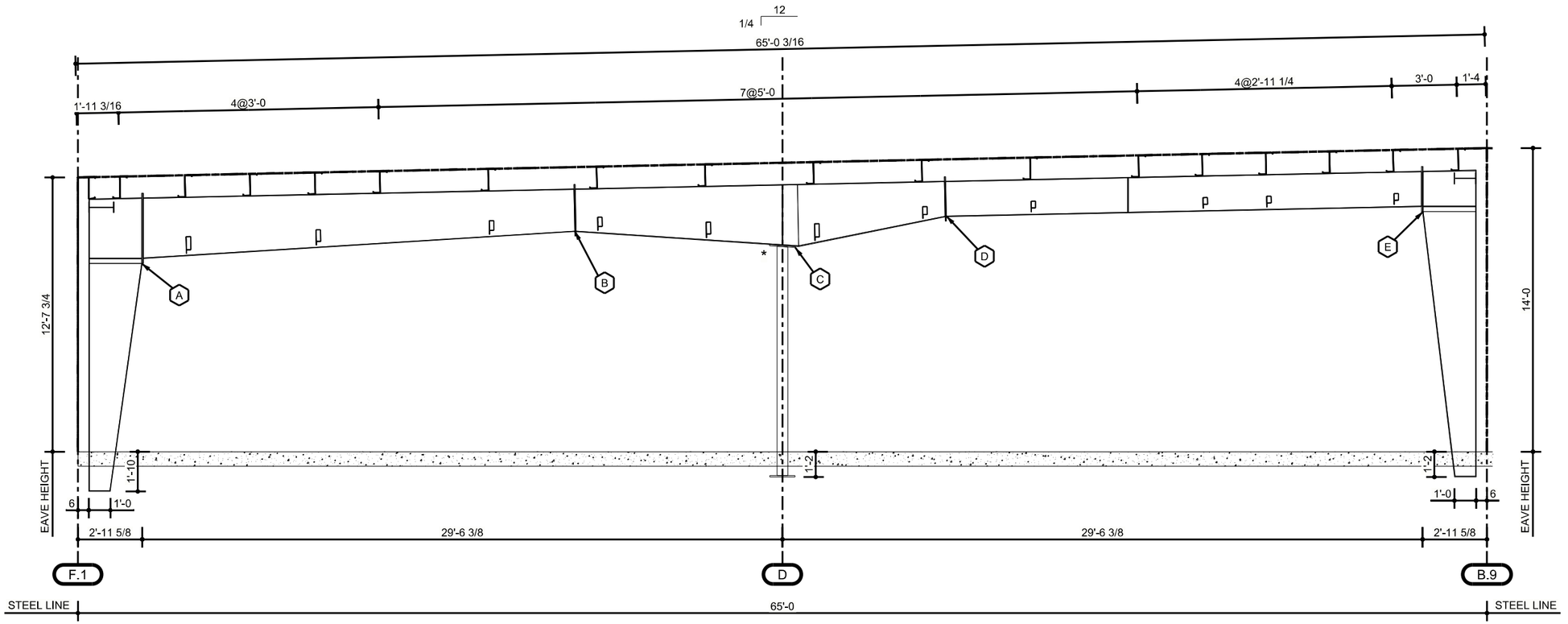
DRAWING TITLE
CROSS SECTION AT LINE 6.9 (AREA A.2)

SHEET
E9

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 3/4" X 3" A325	H0633	H0320	8'-10 13/16	8" X 1/2	8" X 1/2
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-11 5/16	8" X 3/8	8" X 3/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	9'-5"	10" X 5/8	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-7 9/16	8" X 3/8	8" X 3/8
E	(8) 3/4" X 3" A325	H0633	H0320	11'-3 9/16	8" X 1/2	8" X 1/2



CROSS SECTION AT LINE 8 (AREA B.1)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:45am

JOB NUMBER **T25U0346A**

ADDRESS WASHINGTON COUNTY OWASSO, OK 74055

PROJECT NAME CYL-HUB1-1,2,&3

BUYER NAME DLR GROUP

DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

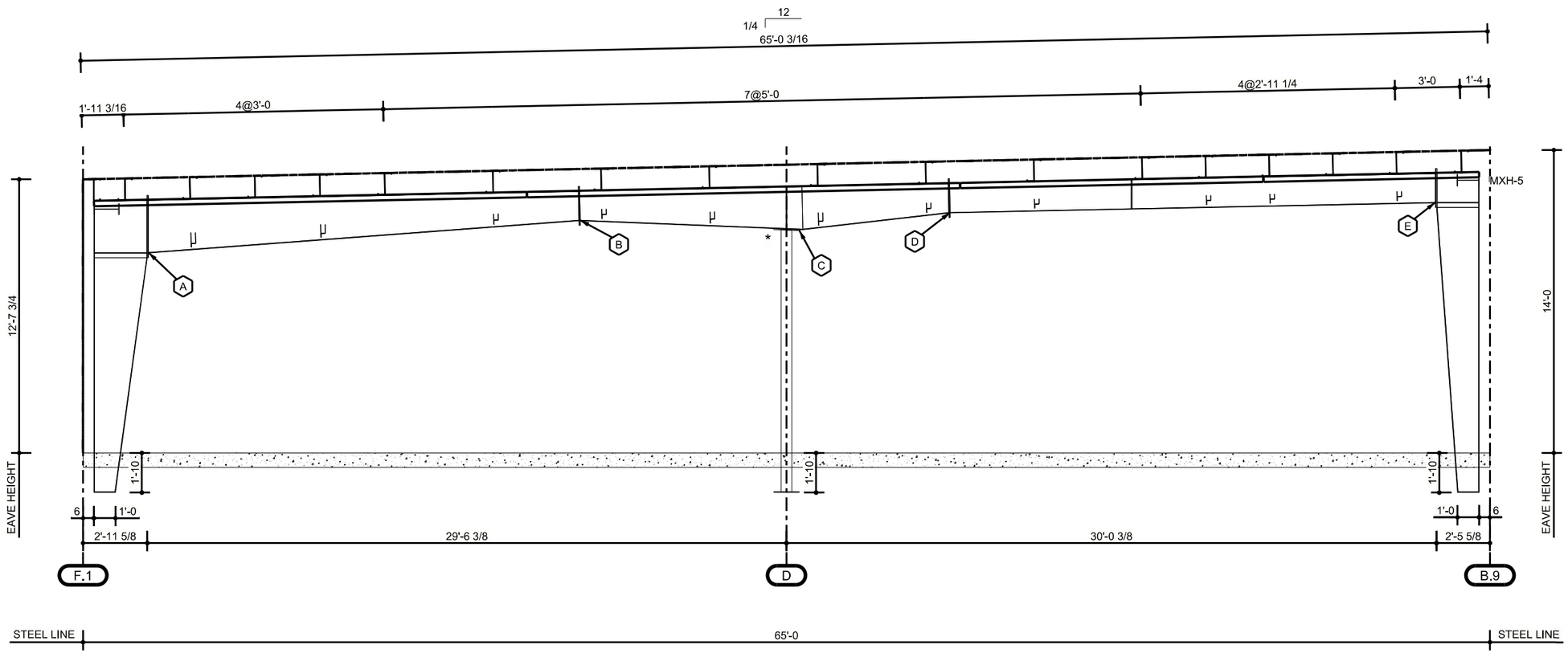
DRAWING TITLE CROSS SECTION AT LINE 8 (AREA B.1)

SHEET E10

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-2 13/16	8" X 1/2	8" X 1/2
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-6 5/16	8" X 3/8	8" X 3/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	10'-3 5/16	10" X 1/2	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-10 9/16	8" X 3/8	8" X 3/8
E	(8) 5/8" X 2 1/4" A325	H0610	H0310	11'-6 11/16	8" X 1/2	8" X 1/2



CROSS SECTION AT LINE 8.9 (AREA B.1)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

MBMA MEMBER
IAS ACCREDITED AC472
CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384
CERTIFIED CSA A660
CSSBI
05/23/2025 09:24:47am

JOB NUMBER **T25U0346A**

ADDRESS WASHINGTON COUNTY OWASSO, OK 74055

PROJECT NAME CYL-HUB1-1,2,&3

BUYER NAME DLR GROUP

DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

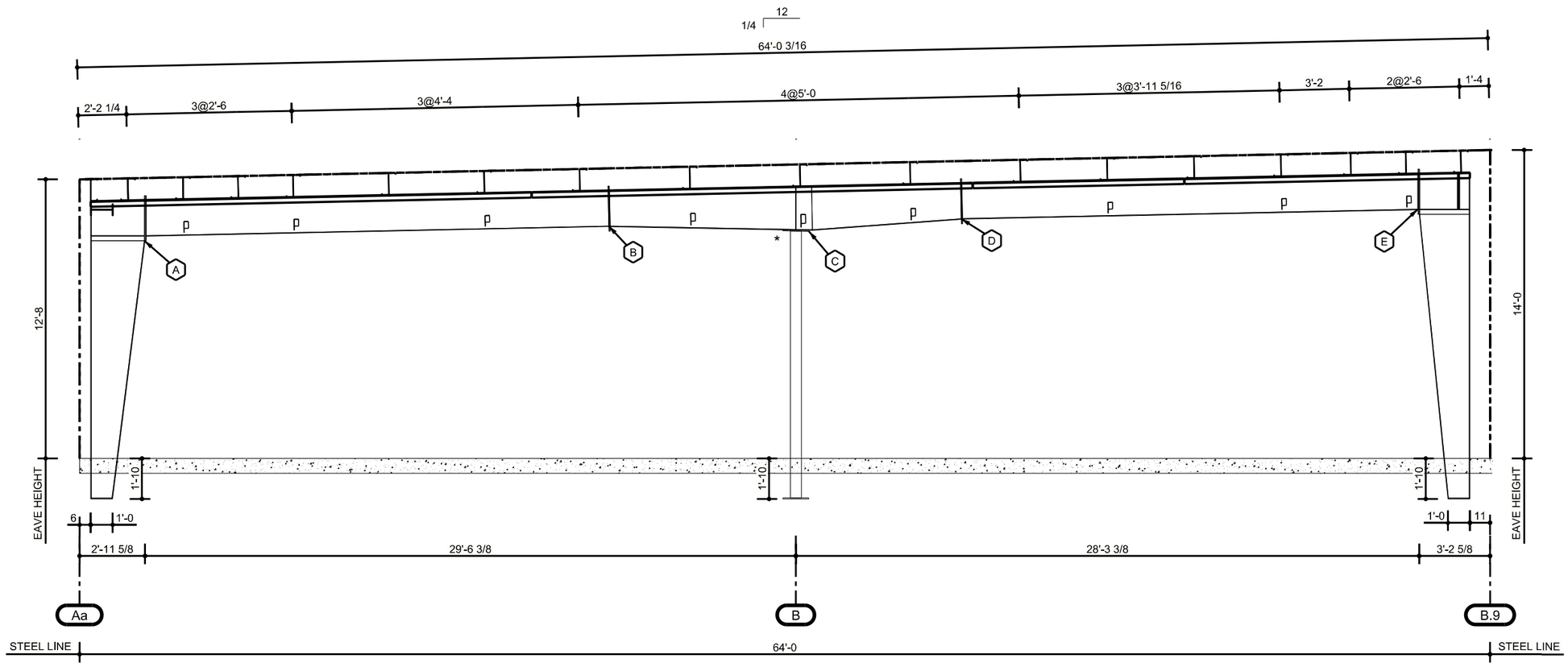
DRAWING TITLE CROSS SECTION AT LINE 8.9 (AREA B.1)

SHEET E11

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-1 1/16	8" X 1/2	8" X 1/2
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-3 13/16	8" X 3/8	8" X 3/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	10'-3 3/4	10" X 1/2	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-7 13/16	8" X 3/8	8" X 3/8
E	(8) 5/8" X 2 1/4" A325	H0610	H0310	11'-3 1/2	8" X 1/2	8" X 1/2



CROSS SECTION AT LINE 8.4 (AREA B.2)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:49am

JOB NUMBER **T25U0346A**

ADDRESS WASHINGTON COUNTY OWASSO, OK 74055

PROJECT NAME CYL-HUB1-1,2,83

BUYER NAME DLR GROUP

DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

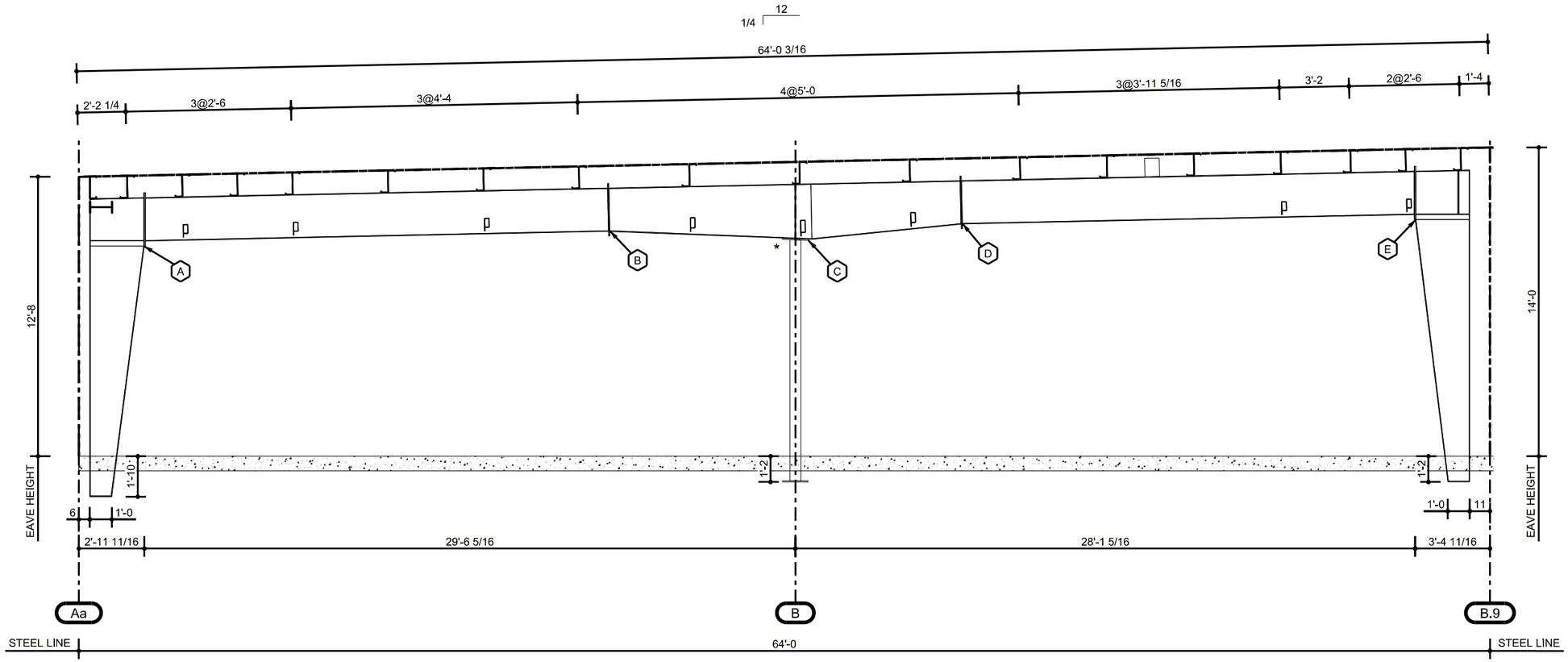
DRAWING TITLE CROSS SECTION AT LINE 8.4 (AREA B.2)

SHEET E12

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 3/4" X 3" A325	H0633	H0320	9'-9 1/16	8" X 1/2	8" X 1/2
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	9'-11 13/16	8" X 3/8	8" X 3/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	9'-9 7/16	10" X 5/8	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-3 13/16	8" X 3/8	8" X 3/8
E	(8) 3/4" X 3" A325	H0633	H0320	10'-11 7/16	8" X 1/2	8" X 1/2



CROSS SECTION AT LINE 6.5 & 7.5 (AREA B.2)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

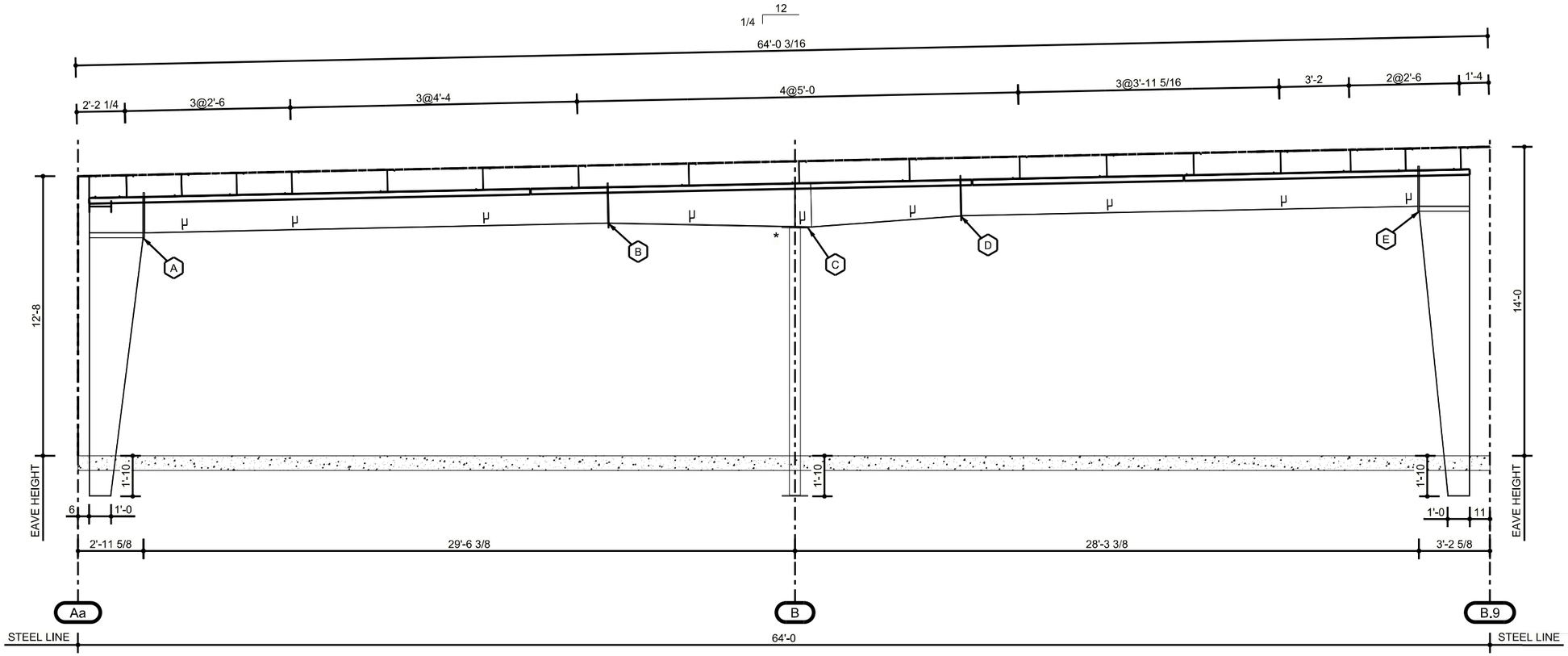
05/23/2025 09:24:50am

JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE CROSS SECTION AT LINE 6.5 & 7.5 (AREA B.2)
SHEET E13

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-1 1/16	8" X 1/2	8" X 1/2
B	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-3 13/16	8" X 3/8	8" X 3/8
C	(4) 5/8" X 2 1/4" A325	H0610	H0310	10'-3 3/4	10" X 1/2	N/A
D	(8) 5/8" X 2 1/4" A325	H0610	H0310	10'-7 13/16	8" X 3/8	8" X 3/8
E	(8) 5/8" X 2 1/4" A325	H0610	H0310	11'-3 1/2	8" X 1/2	8" X 1/2



CROSS SECTION AT LINE 5.6 (AREA B.2)

FRAME CROSS SECTION GENERAL NOTES

FN1P: PURLIN AND GIRT DEPTH AND SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

FN2P: FLANGE BRACES FROM THE GIRTS AND PURLINS TO THE COLUMNS AND RAFTERS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

FN3P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

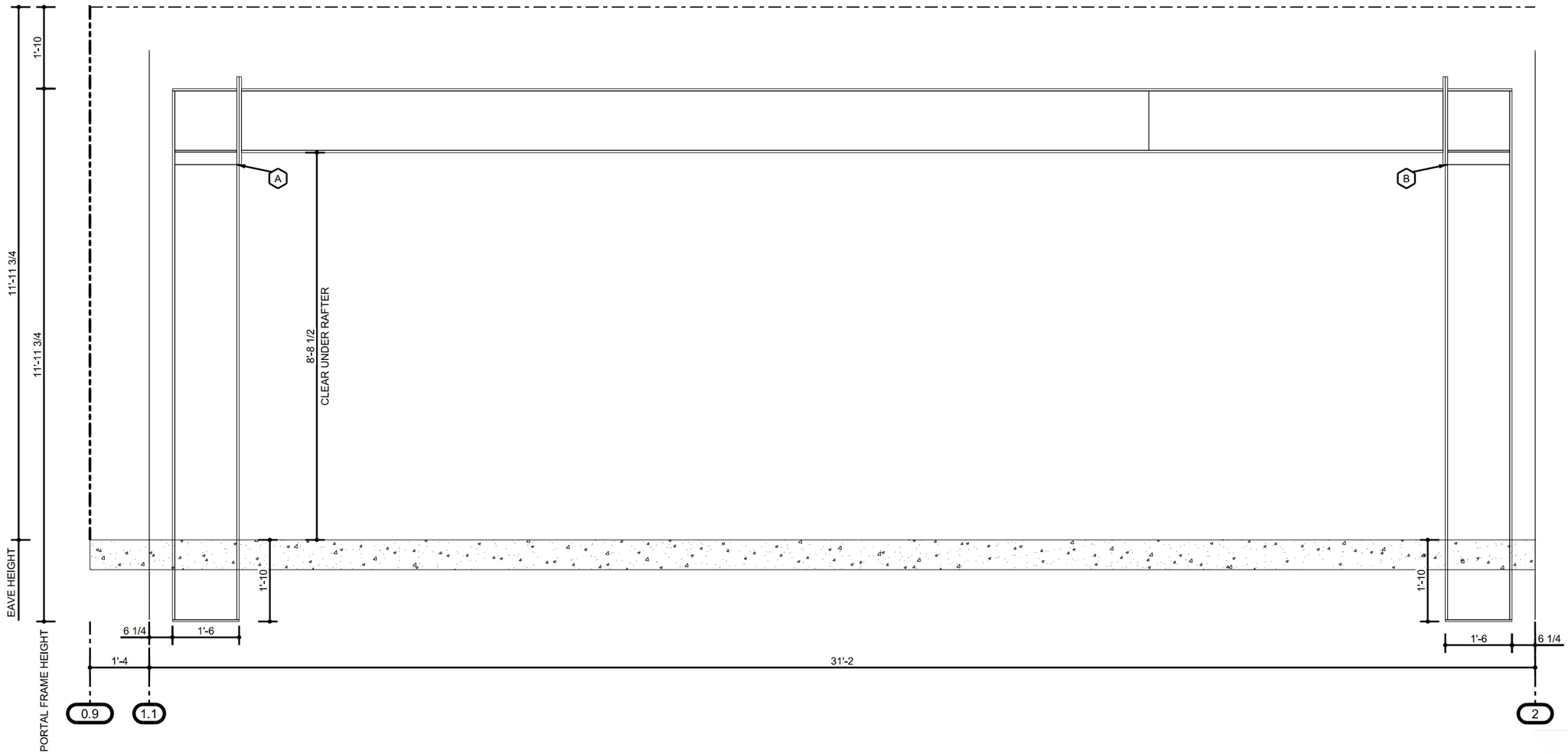
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:52am

JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY
NOT FOR CONSTRUCTION
SHEET E14
DRAWING TITLE CROSS SECTION AT LINE 5.6 (AREA B.2)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 1" X 3 1/4" A325	H0640	H0330	8'-8 1/2	10" X 5/8	10" X 5/8
B	(8) 1" X 3 1/4" A325	H0640	H0330	8'-8 1/2	10" X 5/8	10" X 5/8



CROSS SECTION - PORTAL FRAME AT LINE H.1 (AREA C)

PORTAL FRAME CROSS SECTION GENERAL NOTES

PF1P: FLANGE BRACES FROM THE PORTAL COLUMNS TO THE MAIN FRAME COLUMNS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

PF2P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:53am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
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NOT FOR CONSTRUCTION

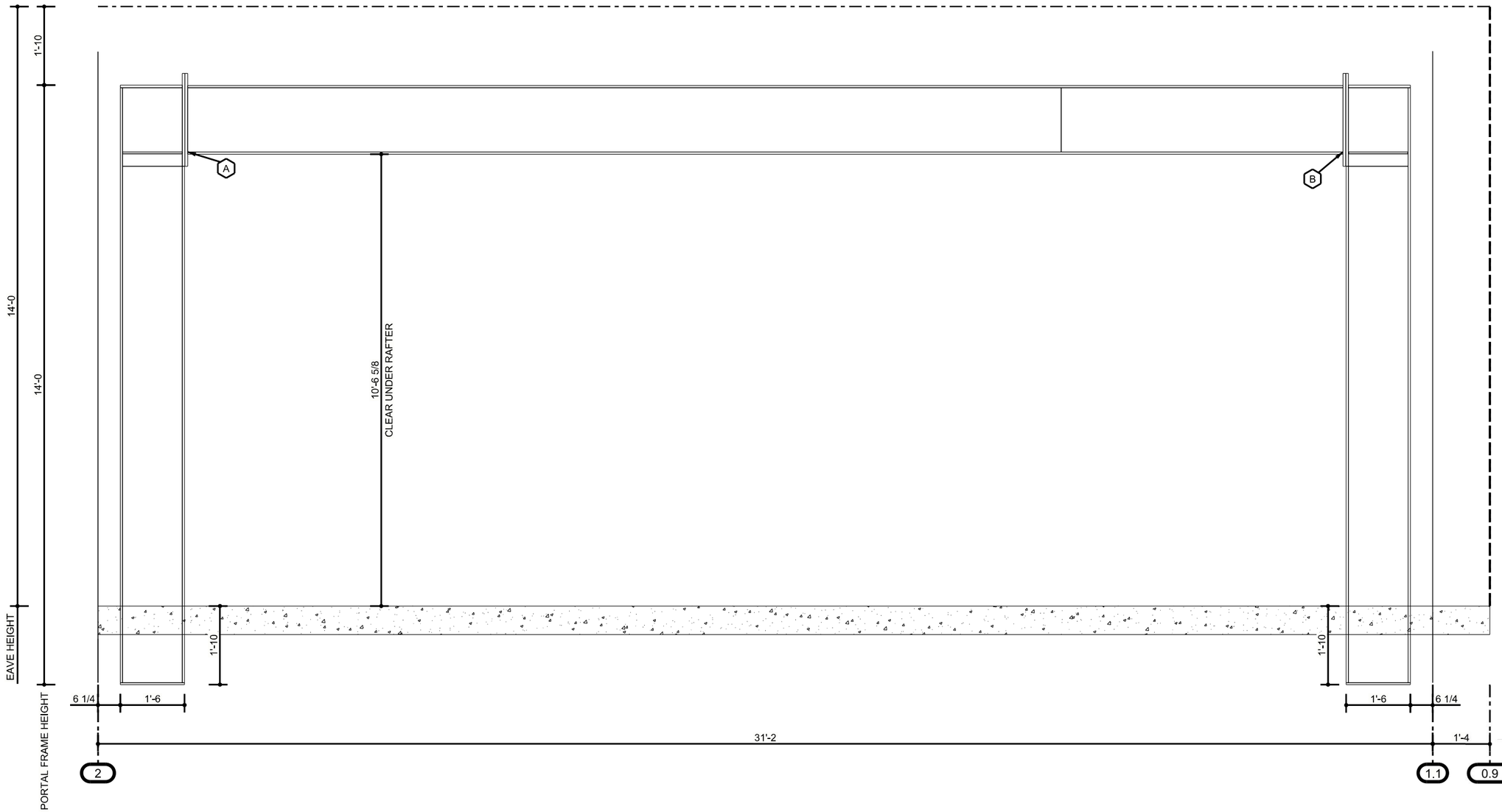
DRAWING TITLE
CROSS SECTION - PORTAL FRAME AT LINE H.1 (AREA C)

SHEET E15

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 1" X 3 1/4" A325	H0640	H0330	10'-6 5/8	10" X 3/4	10" X 3/4
B	(8) 1" X 3 1/4" A325	H0640	H0330	10'-6 5/8	10" X 3/4	10" X 3/4



CROSS SECTION - PORTAL FRAME AT LINE B.9 (AREA C)

PORTAL FRAME CROSS SECTION GENERAL NOTES

PF1P: FLANGE BRACES FROM THE PORTAL COLUMNS TO THE MAIN FRAME COLUMNS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

PF2P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:55am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY

NOT FOR CONSTRUCTION

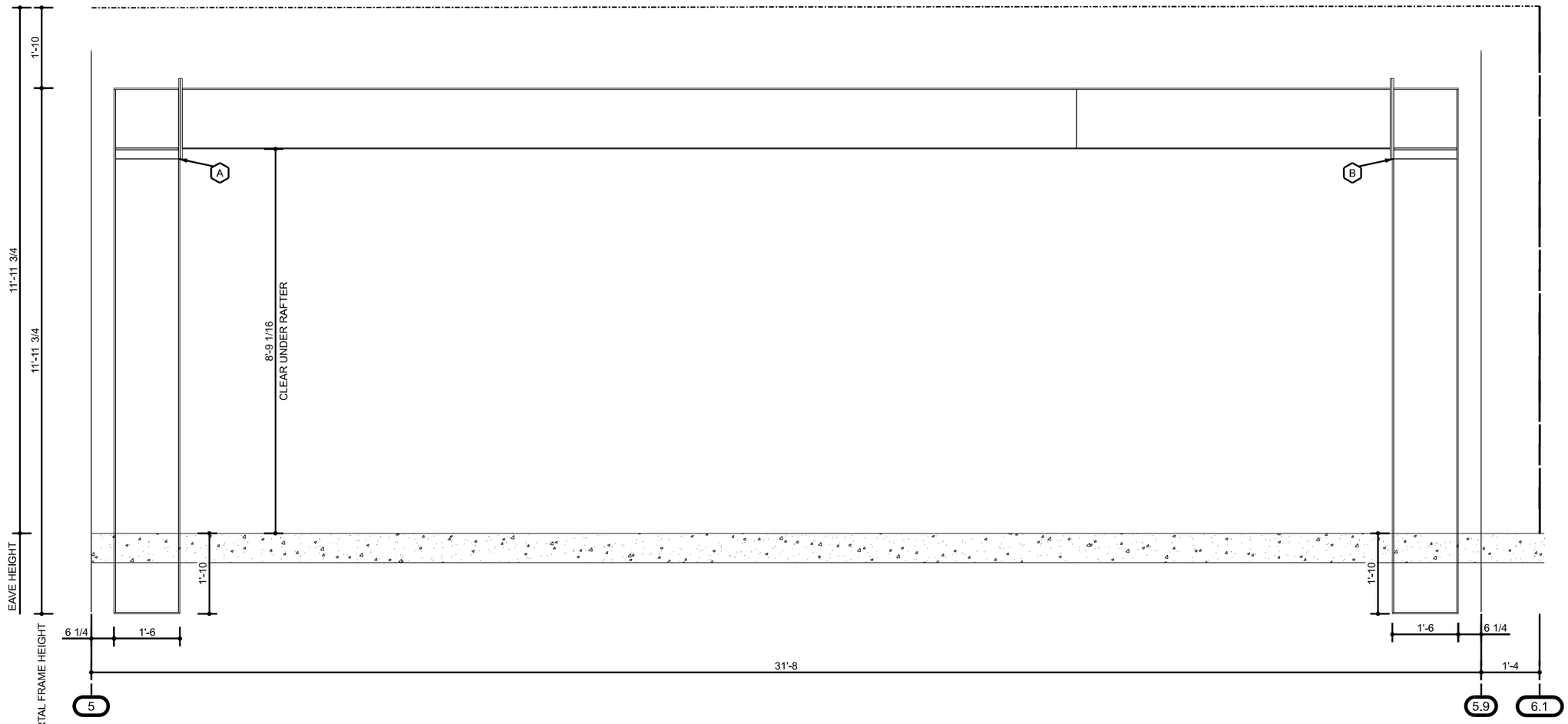
DRAWING TITLE
CROSS SECTION - PORTAL FRAME AT LINE B.9 (AREA C)

SHEET E16

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 3/4" X 3" A325	H0633	H0320	8'-9 1/16	8" X 1/2	10" X 1/2
B	(8) 3/4" X 3" A325	H0633	H0320	8'-9 1/16	10" X 1/2	8" X 1/2



CROSS SECTION - PORTAL FRAME AT LINE H.1 (AREA A.1)

PORTAL FRAME CROSS SECTION GENERAL NOTES

PF1P: FLANGE BRACES FROM THE PORTAL COLUMNS TO THE MAIN FRAME COLUMNS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

PF2P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

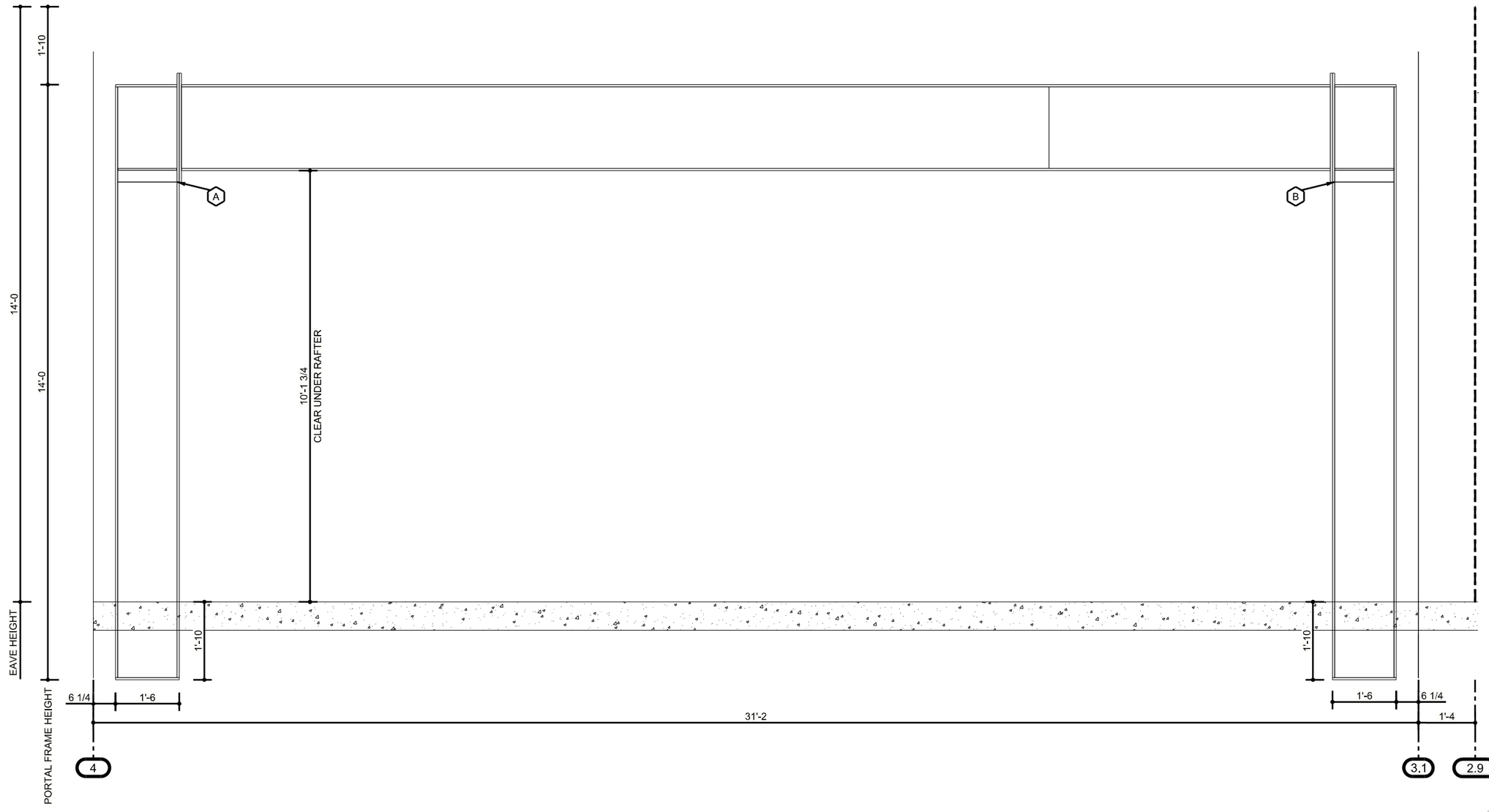
09/09/2025 08:32:50am

JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
SHEET: E17
DRAWING TITLE: CROSS SECTION - PORTAL FRAME AT LINE H.1 (AREA A.1)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 1" X 3 1/4" A325	H0640	H0330	10'-1 3/4	10" X 5/8	10" X 5/8
B	(8) 1" X 3 1/4" A325	H0640	H0330	10'-1 3/4	10" X 5/8	10" X 5/8



CROSS SECTION - PORTAL FRAME AT LINE B.9 (AREA A.1)

PORTAL FRAME CROSS SECTION GENERAL NOTES

PF1P: FLANGE BRACES FROM THE PORTAL COLUMNS TO THE MAIN FRAME COLUMNS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

PF2P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:57am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY

NOT FOR CONSTRUCTION

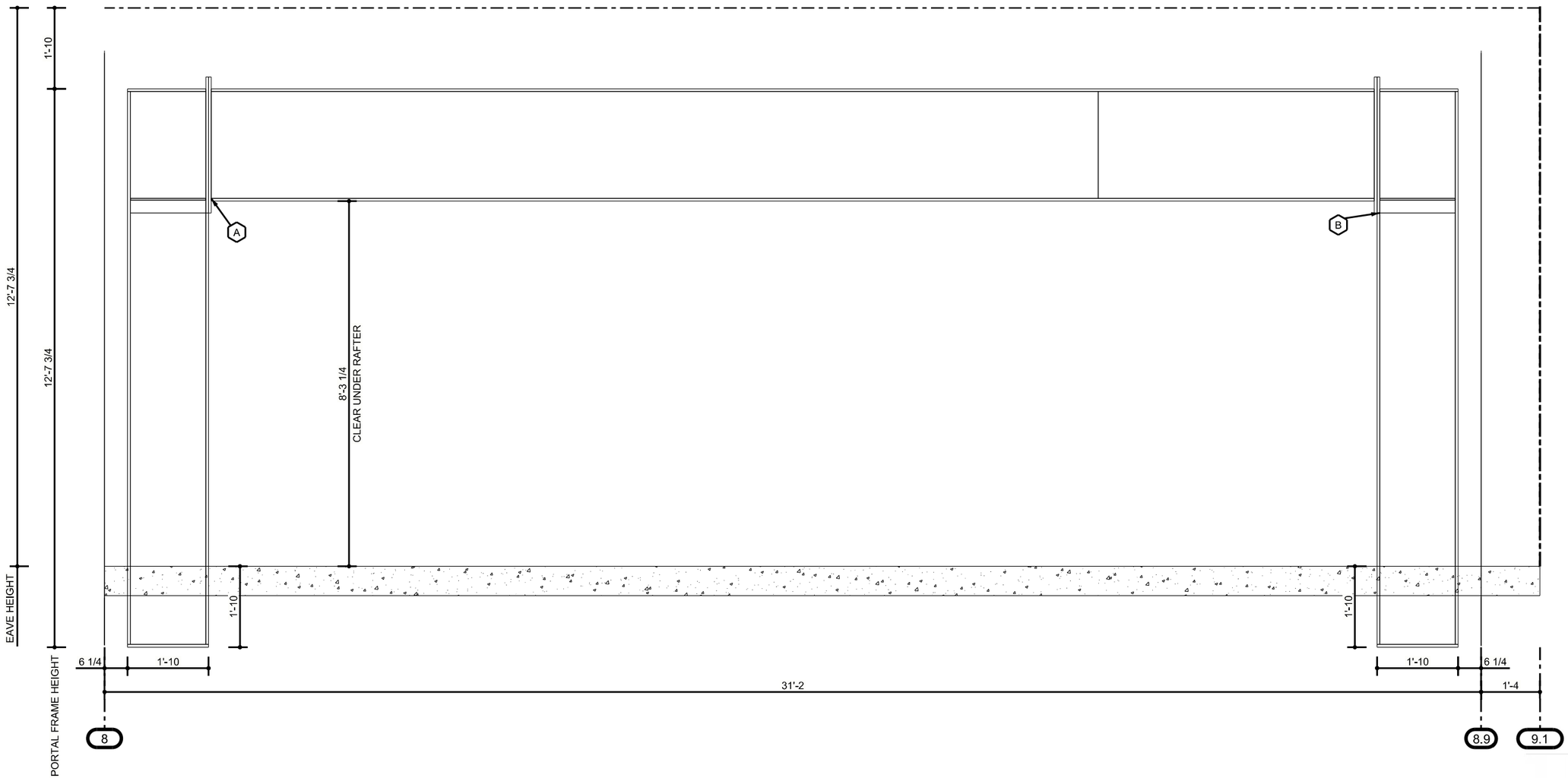
DRAWING TITLE
CROSS SECTION - PORTAL FRAME AT LINE B.9 (AREA A.1)

SHEET
E18

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(12) 1" X 3 1/4" A325	H0640	H0330	8'-3 1/4	10" X 3/4	10" X 3/4
B	(12) 1" X 3 1/4" A325	H0640	H0330	8'-3 1/4	10" X 3/4	10" X 3/4



CROSS SECTION - PORTAL FRAME AT LINE F.1 (AREA B.1)

PORTAL FRAME CROSS SECTION GENERAL NOTES

PF1P: FLANGE BRACES FROM THE PORTAL COLUMNS TO THE MAIN FRAME COLUMNS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

PF2P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:24:58am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY

NOT FOR CONSTRUCTION

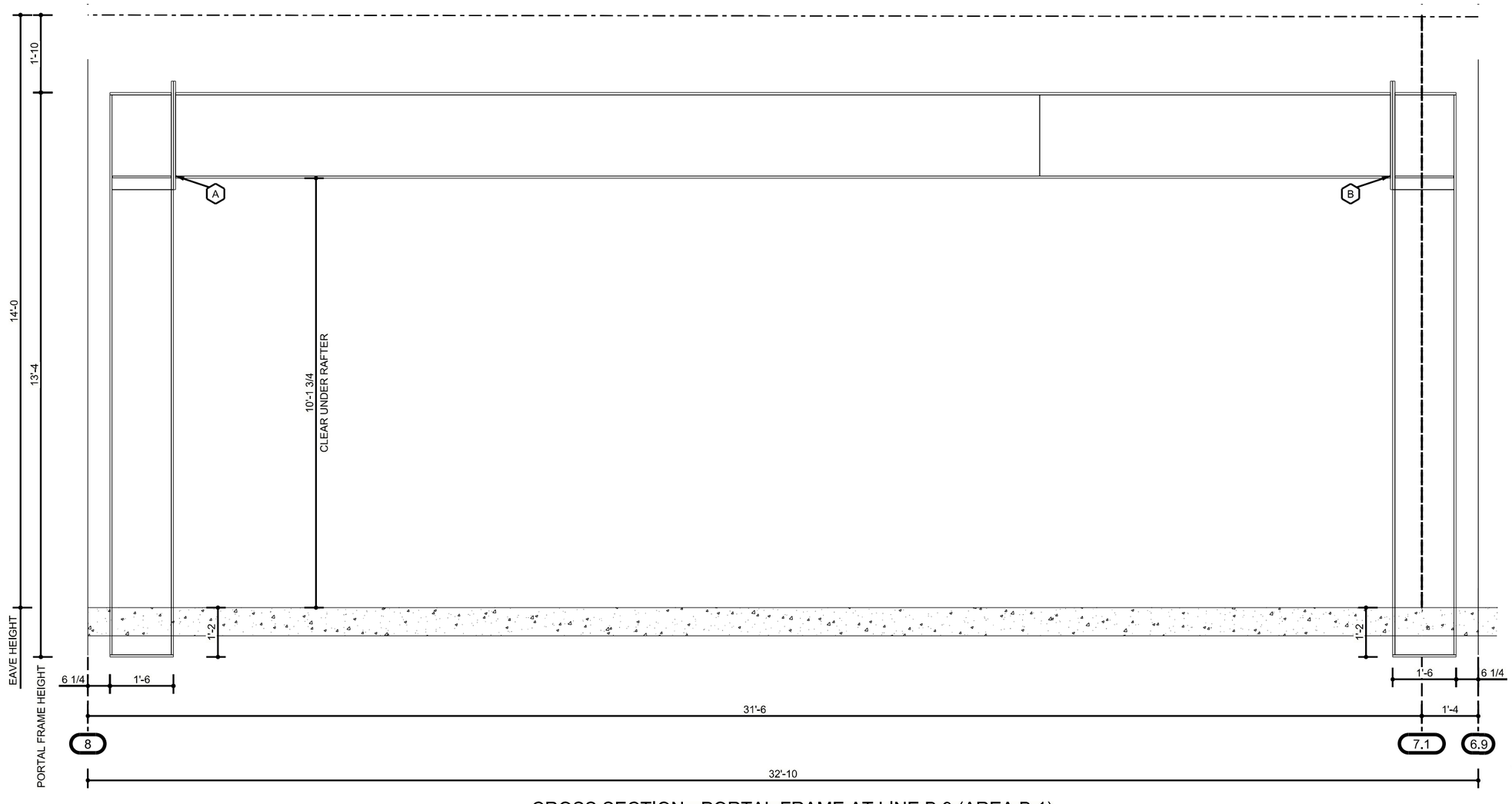
DRAWING TITLE
CROSS SECTION - PORTAL FRAME AT LINE F.1 (AREA B.1)

SHEET E19

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 1" X 3 1/4" A325	H0640	H0330	10'-1 3/4	10" X 5/8	10" X 5/8
B	(8) 1" X 3 1/4" A325	H0640	H0330	10'-1 3/4	10" X 5/8	10" X 5/8



CROSS SECTION - PORTAL FRAME AT LINE B.9 (AREA B.1)

PORTAL FRAME CROSS SECTION GENERAL NOTES

PF1P: FLANGE BRACES FROM THE PORTAL COLUMNS TO THE MAIN FRAME COLUMNS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

PF2P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

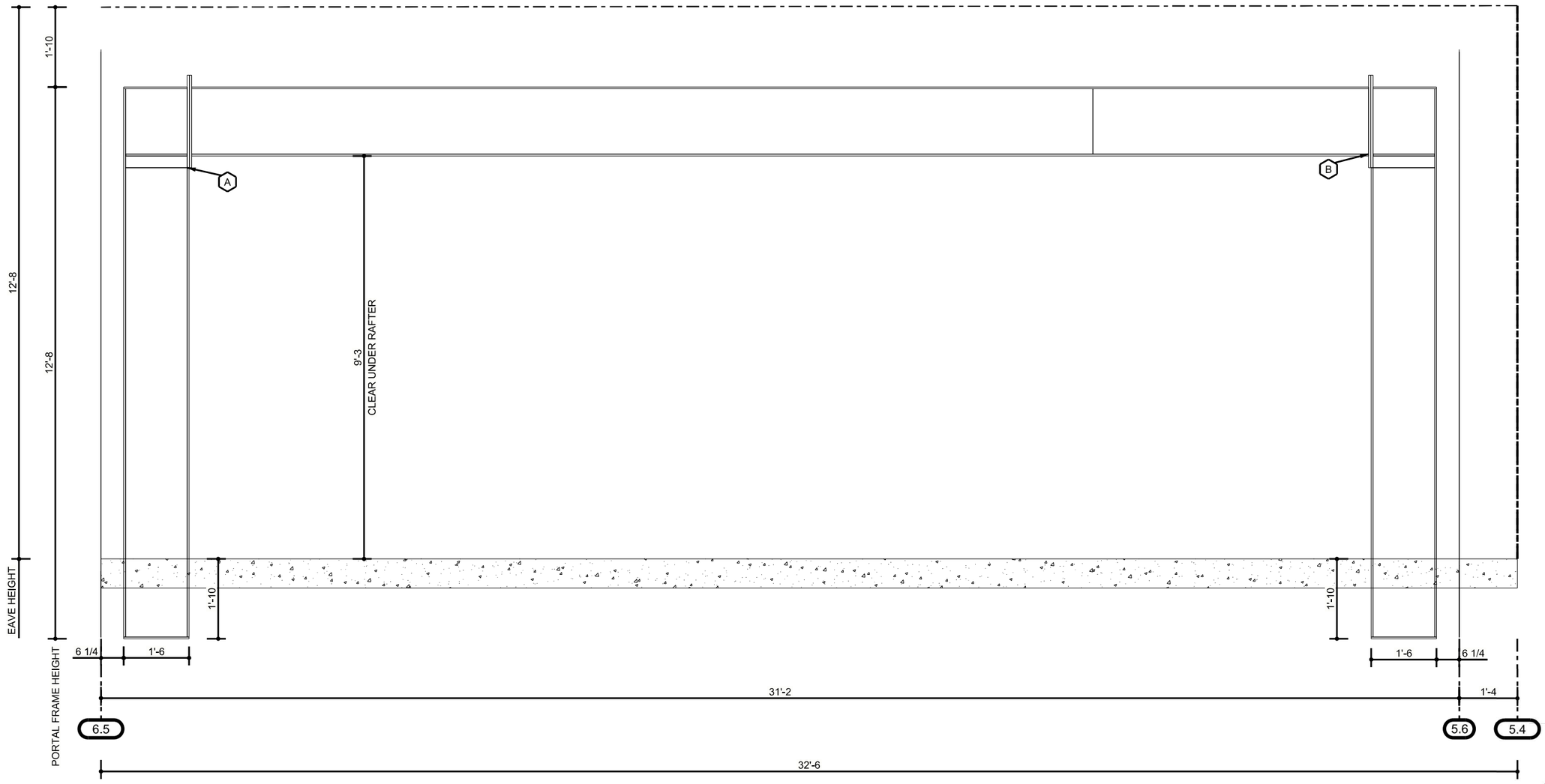
05/23/2025 09:24:59am

JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE CROSS SECTION - PORTAL FRAME AT LINE B.9 (AREA B.1)
SHEET E20

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 1" X 3 1/4" A325	H0640	H0330	9'-3"	10" X 5/8	10" X 5/8
B	(8) 1" X 3 1/4" A325	H0640	H0330	9'-3"	10" X 5/8	10" X 5/8



CROSS SECTION - PORTAL FRAME AT LINE Aa (AREA B.2)

PORTAL FRAME CROSS SECTION GENERAL NOTES

PF1P: FLANGE BRACES FROM THE PORTAL COLUMNS TO THE MAIN FRAME COLUMNS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

PF2P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:00am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY

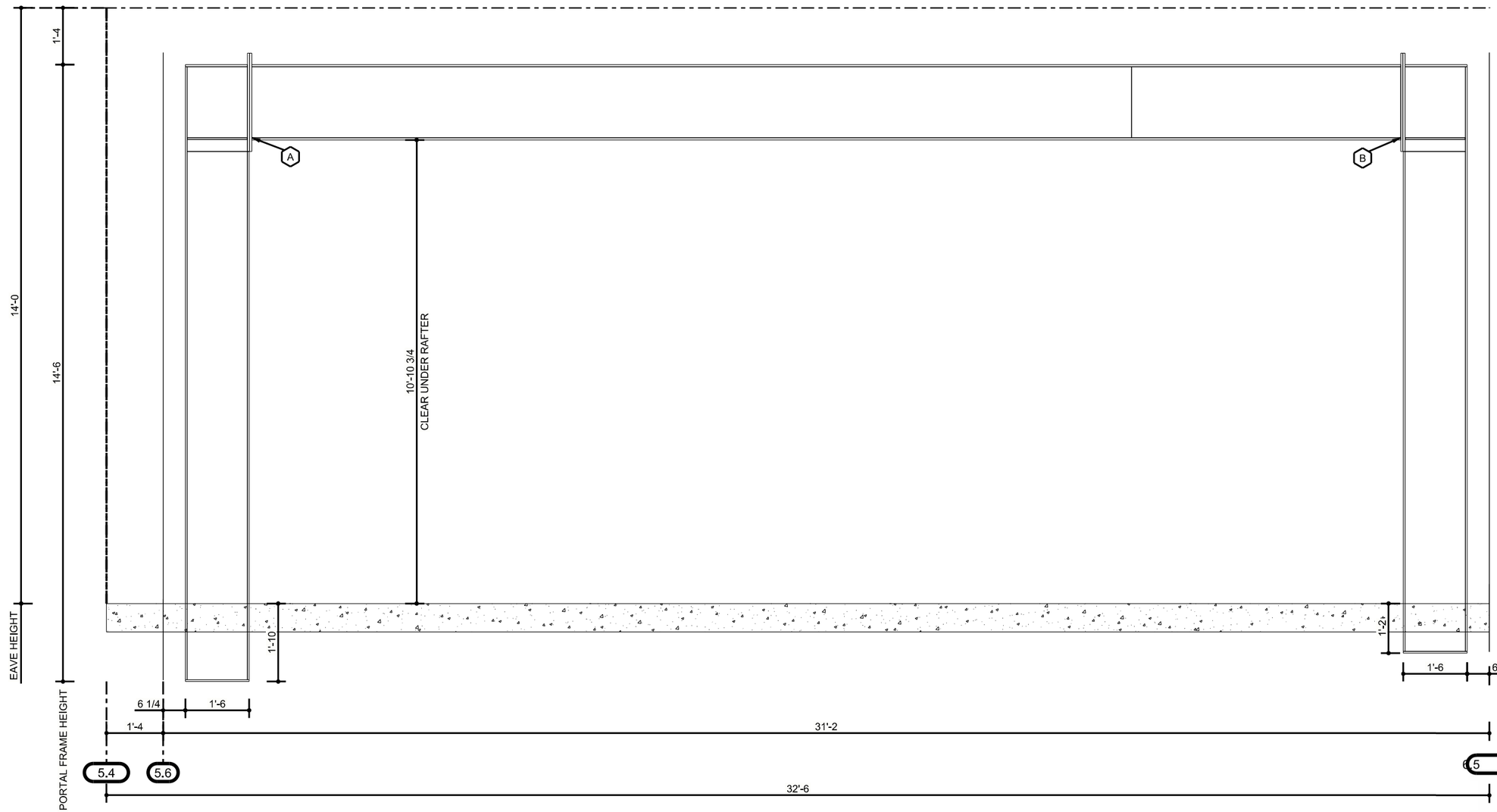
NOT FOR CONSTRUCTION

DRAWING TITLE
CROSS SECTION - PORTAL FRAME AT LINE AA (AREA B.2)

SHEET
E21

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

SPLICE BOLT TABLE						
SPLICE	BOLTS DESCRIPTION	BOLT #	NUT #	CLEAR TO F.F.	PLATE SIZE	PLATE SIZE
A	(8) 1" X 3 1/4" A325	H0640	H0330	10'-10 3/4	10" X 5/8	10" X 5/8
B	(8) 1" X 3 1/4" A325	H0640	H0330	10'-10 3/4	10" X 5/8	10" X 5/8



CROSS SECTION - PORTAL FRAME AT LINE B.9 (AREA B.2)

PORTAL FRAME CROSS SECTION GENERAL NOTES

PF1P: FLANGE BRACES FROM THE PORTAL COLUMNS TO THE MAIN FRAME COLUMNS ARE REQUIRED FOR STRUCTURAL STABILITY, BUT ARE NOT SHOWN ON THIS DRAWING FOR CLARITY. THIS DRAWING SHALL NOT BE CONSTRUED AS ALLOWING THE STRUCTURE TO BE ERECTED WITHOUT FLANGE BRACES.

PF2P: "##" WITHIN THE SPLICE BOLT TABLE UNDER NUT AND WASHER INDICATES THAT THE NUT AND WASHER ARE PART OF THE TENSION CONTROL BOLT ASSEMBLY SUPPLIED.

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PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:02am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY

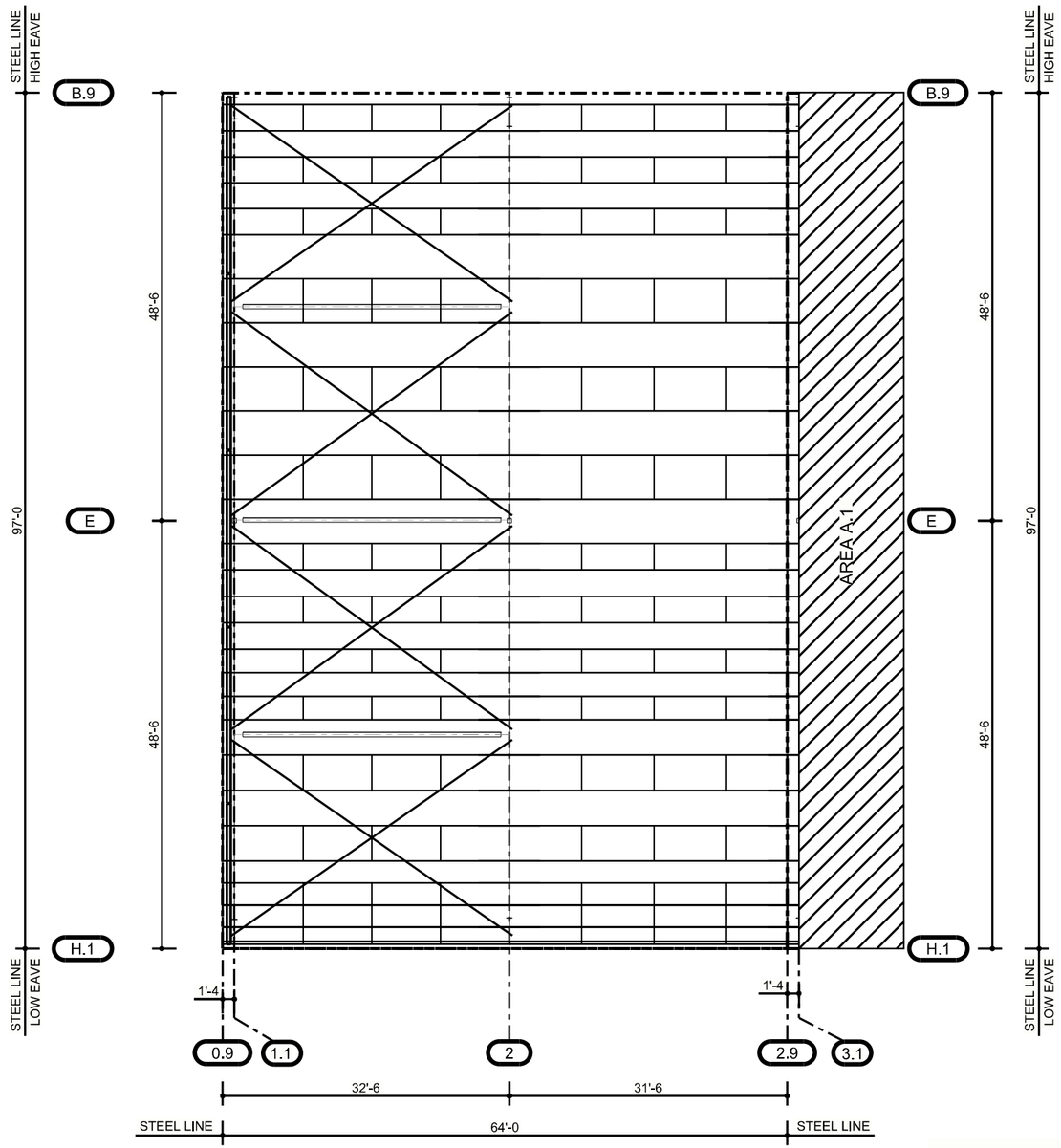
NOT FOR CONSTRUCTION

DRAWING TITLE
CROSS SECTION - PORTAL FRAME AT LINE B.9 (AREA B.2)

SHEET
E22

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



ROOF FRAMING PLAN (AREA C)

ROOF FRAMING GENERAL NOTES

RN1P: PURLIN DEPTH AND PURLIN SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

JOB NUMBER	ADDRESS
T25U0346A	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	
CYL-HUB1-1,2,&3	
BUYER NAME	
DLR GROUP	
DRAWING STATUS	
FOR PERMITS ONLY	**NOT FOR CONSTRUCTION**
SHEET	DRAWING TITLE
E23	ROOF FRAMING PLAN (AREA C)

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

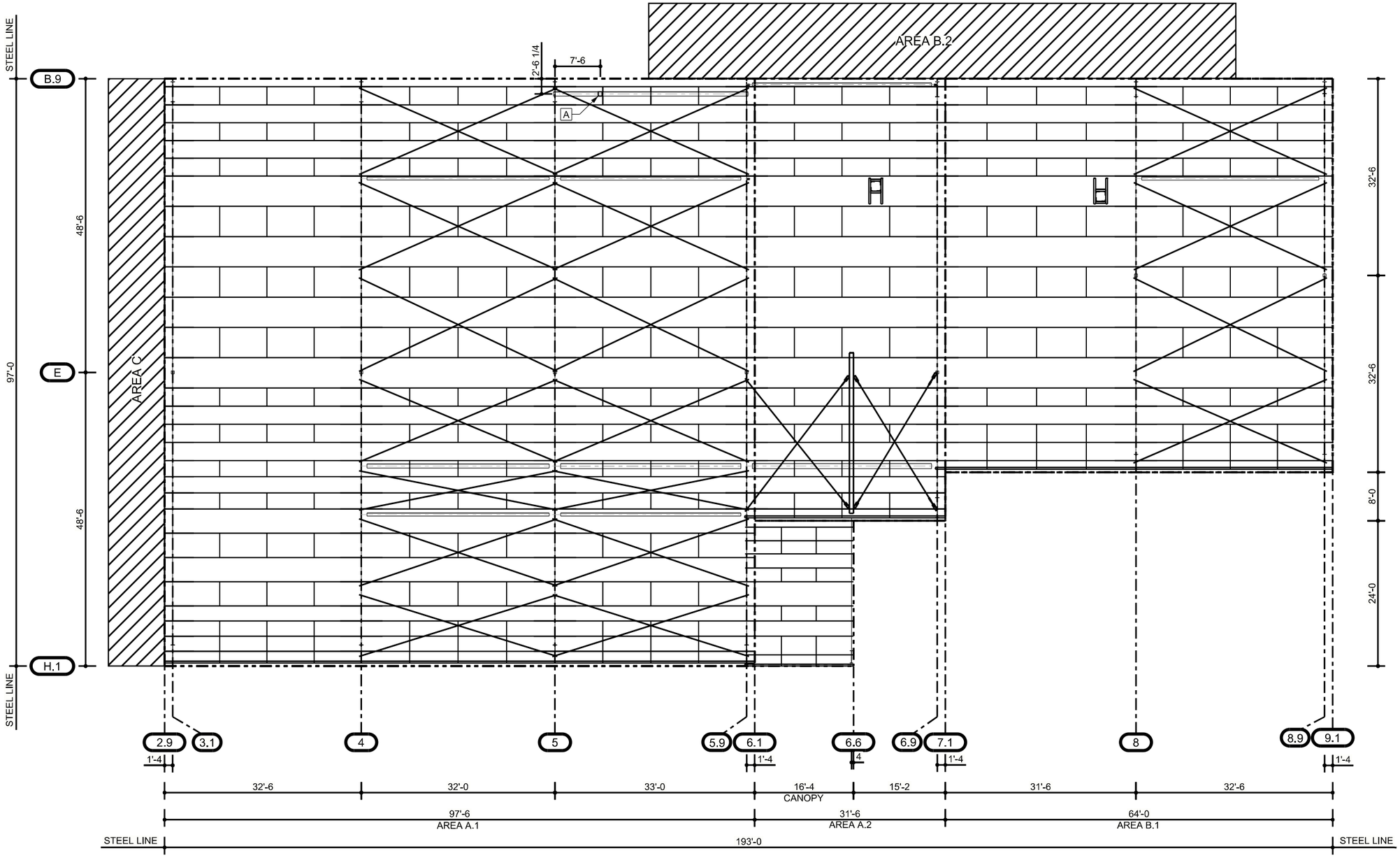
MBMA MEMBER · IAS ACCREDITED · CERTIFIED CSA W47.1 · CERTIFIED CSA A660

05/23/2025 09:25:03am

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FALL PROTECTION LOCATION	
MARK	WEIGHT (LBS)
A	5000



ROOF FRAMING PLAN (AREA A.1, A.2 & B.1)

ROOF FRAMING GENERAL NOTES

RN1P: PURLIN DEPTH AND PURLIN SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

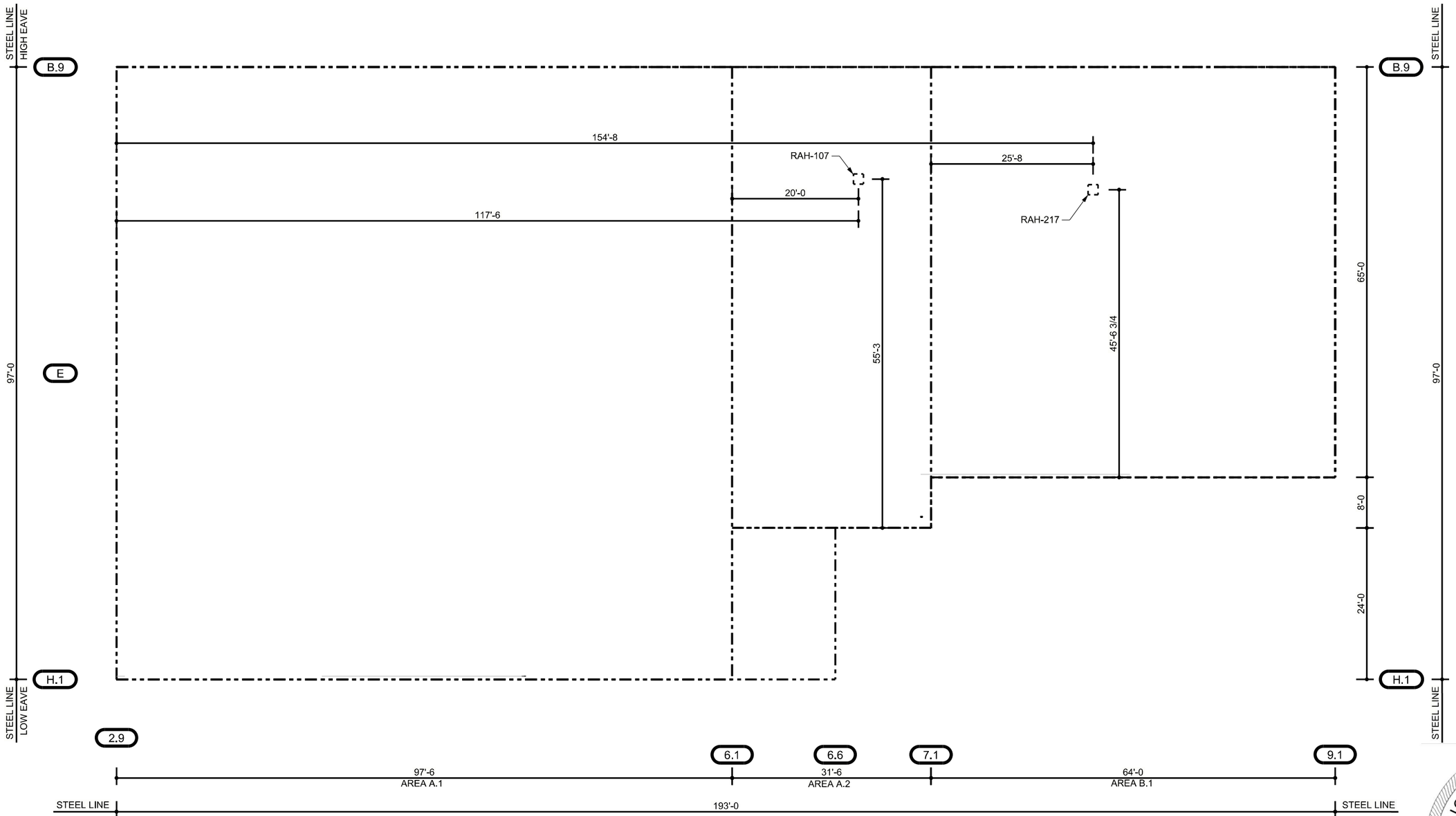
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JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	ROOF FRAMING PLAN (AREA A.1, A.2 & B.1)
SHEET	E24

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

ROOF FRAMED OPENING TABLE			
MARK	WIDTH	LENGTH	WEIGHT (LBS)
RAH-107	1'-7"	1'-7"	8
RAH-217	1'-7"	1'-7"	7



ROOF FRAMING PLAN - OPENINGS (AREA A.1, A.2 & B.1)

ROOF FRAMED OPENING GENERAL NOTES

RF1: IN THE ROOF TOP UNIT TABLE, "WIDTH" IS THE NOMINAL DIMENSION OF THE OPENING PARALLEL TO THE PURLINS. "LENGTH" IS THE NOMINAL DIMENSION OF THE OPENING PERPENDICULAR TO THE PURLINS AS MEASURED "ON SLOPE" (PARALLEL WITH THE ROOF PLANE). THE FRAMED OPENING CLEARANCE IS +1/2" ON EACH SIDE (+1" OVERALL, BOTH DIRECTIONS). SEE BK___ DETAILS FOR MORE INFORMATION.

RF2: FRAMED OPENING LOCATION DIMENSIONS ARE MEASURED "ON FLAT" (PARALLEL TO FINSHED FLOOR) AND TO THE CENTER OF THE OPENING.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

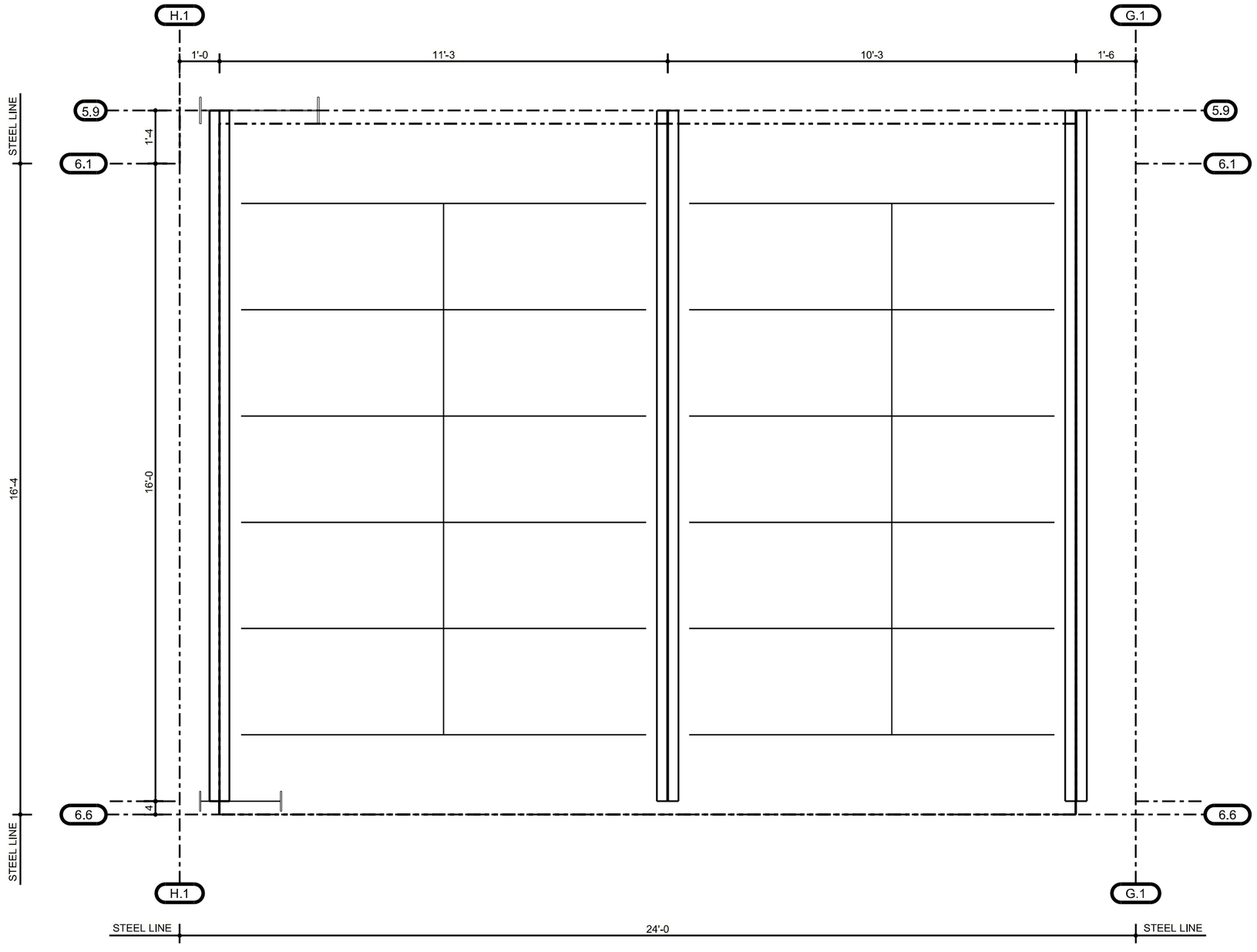
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:09am

JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE ROOF FRAMING PLAN - OPENINGS (AREA A.1, A.2 & B.1)
SHEET E25

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



SOFFIT FRAMING PLAN - CANOPY

NUCOR BUILDING SYSTEMS
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FAX: (260) 837-7384

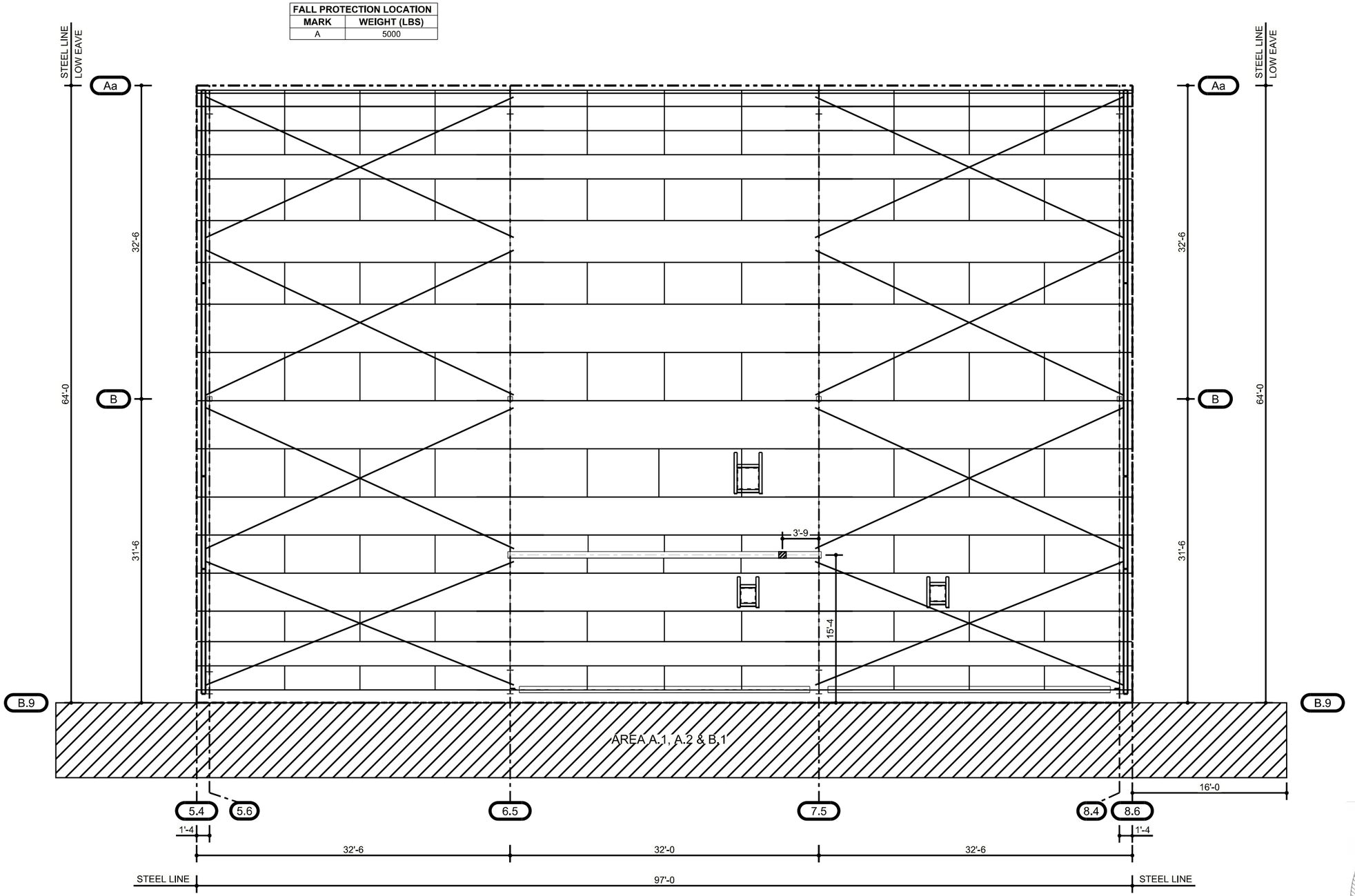
JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	SOFFIT FRAMING PLAN - CANOPY
SHEET	E26

05/23/2025 09:25:11am

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FALL PROTECTION LOCATION	
MARK	WEIGHT (LBS)
A	5000



ROOF FRAMING PLAN (AREA B.2)

ROOF FRAMING GENERAL NOTES

RN1P: PURLIN DEPTH AND PURLIN SPACING ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

MBMA MEMBER

IAS ACCREDITED AC472

CWB CERTIFIED CSA W47.1

NUCOR BUILDING SYSTEMS

PHONE: (260) 837-7891
FAX: (260) 837-7384

CERTIFIED CSA A660

ICSSB

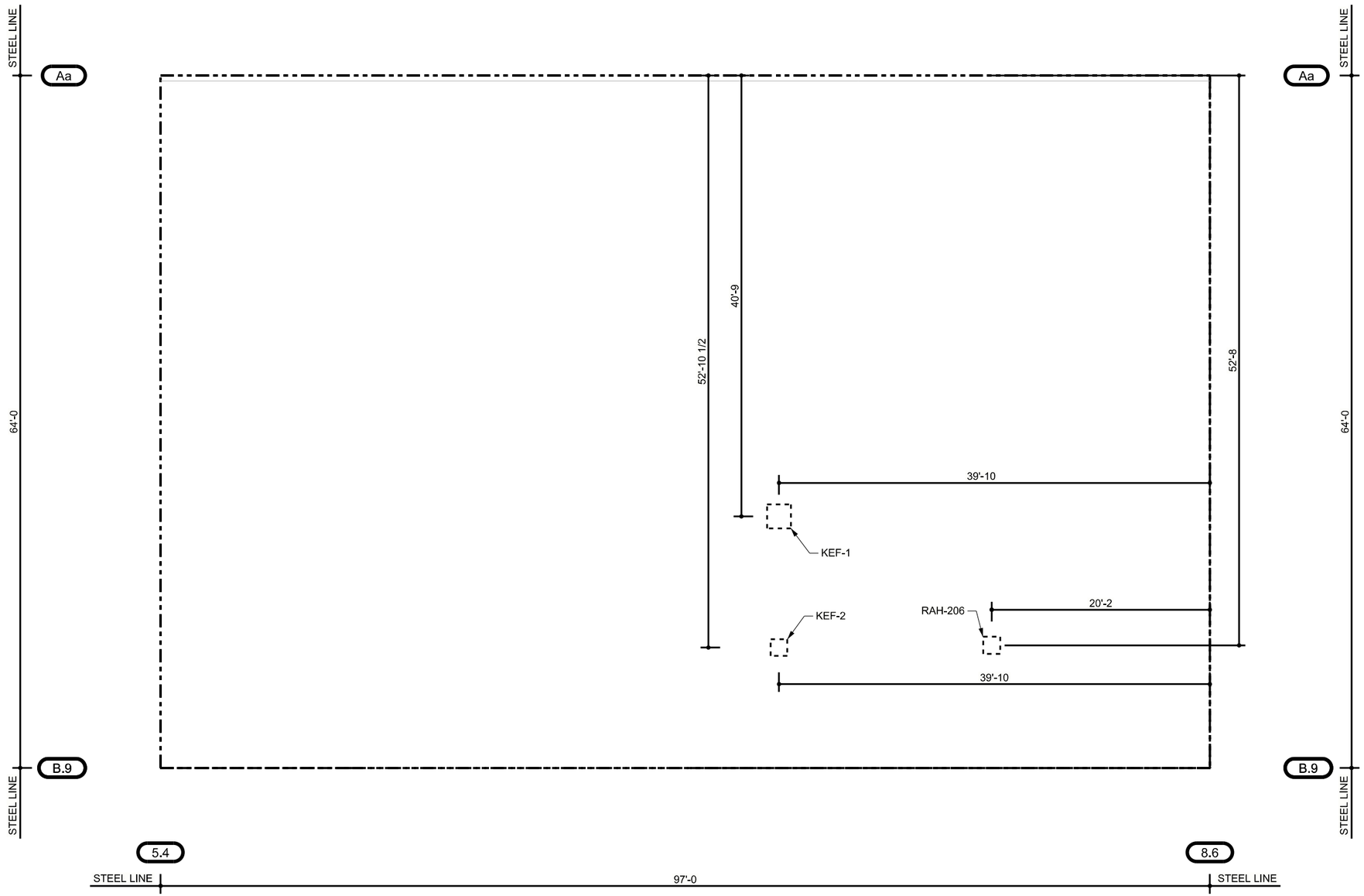
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JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	ROOF FRAMING PLAN (AREA B.2)
SHEET	E27

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/06/2025
	PERMITS	TAK / JMW	WIZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

ROOF FRAMED OPENING TABLE			
MARK	WIDTH	LENGTH	WEIGHT (LBS)
KEF-1	2'-2 1/2"	2'-2 1/2"	142
KEF-2	1'-6 1/2"	1'-6 1/2"	108
RAH-206	1'-7"	1'-7"	7



ROOF FRAMING PLAN - OPENINGS (AREA B.2)

ROOF FRAMED OPENING GENERAL NOTES

RF1: IN THE ROOF TOP UNIT TABLE, "WIDTH" IS THE NOMINAL DIMENSION OF THE OPENING PARALLEL TO THE PURLINS. "LENGTH" IS THE NOMINAL DIMENSION OF THE OPENING PERPENDICULAR TO THE PURLINS AS MEASURED "ON SLOPE" (PARALLEL WITH THE ROOF PLANE). THE FRAMED OPENING CLEARANCE IS +1/2" ON EACH SIDE (+1" OVERALL, BOTH DIRECTIONS). SEE BK____ DETAILS FOR MORE INFORMATION.

RF2: FRAMED OPENING LOCATION DIMENSIONS ARE MEASURED "ON FLAT" (PARALLEL TO FINSHED FLOOR) AND TO THE CENTER OF THE OPENING.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

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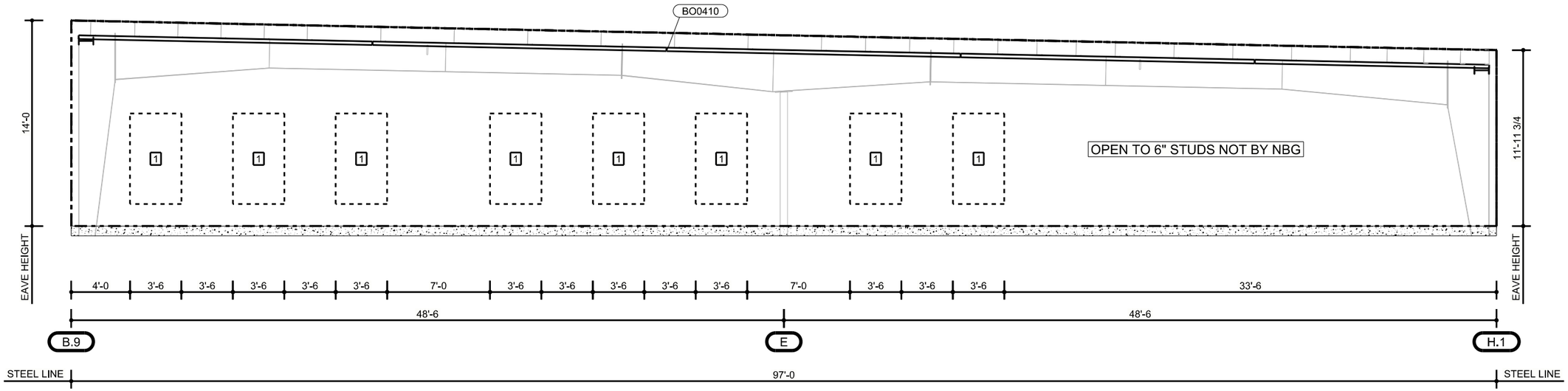
JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
SHEET	E28
DRAWING TITLE	ROOF FRAMING PLAN - OPENINGS (AREA B.2)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	3'-6"	6'-2"						1'-6"	Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - ENDWALL AT LINE 0.9 (AREA C)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

MBMA MEMBER
IAS ACCREDITED AC472
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384
CERTIFIED CSA A660
CSSBI

05/23/2025 09:25:19am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY

NOT FOR CONSTRUCTION

DRAWING TITLE
FRAMING ELEVATION - ENDWALL AT LINE 0.9 (AREA C)

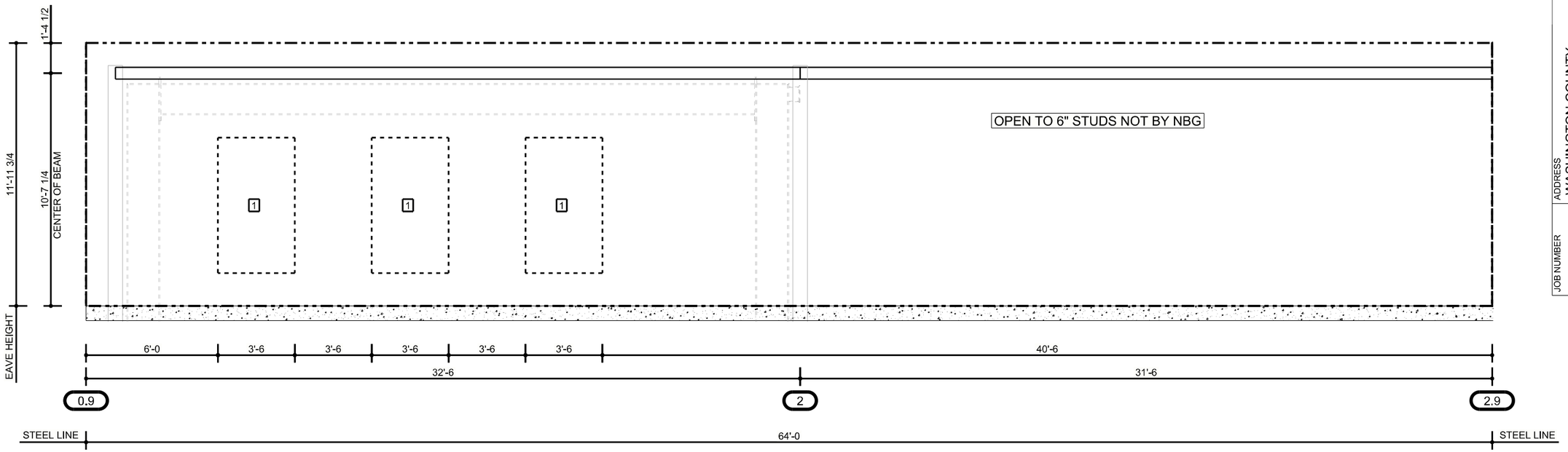
SHEET
E29

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	3'-6"	6'-2"						1'-6"	Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - SIDEWALL AT LINE H.1 (AREA C)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

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PHONE: (260) 837-7891
FAX: (260) 837-7384

JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	FRAMING ELEVATION - SIDEWALL AT LINE H.1 (AREA C)
SHEET	E30

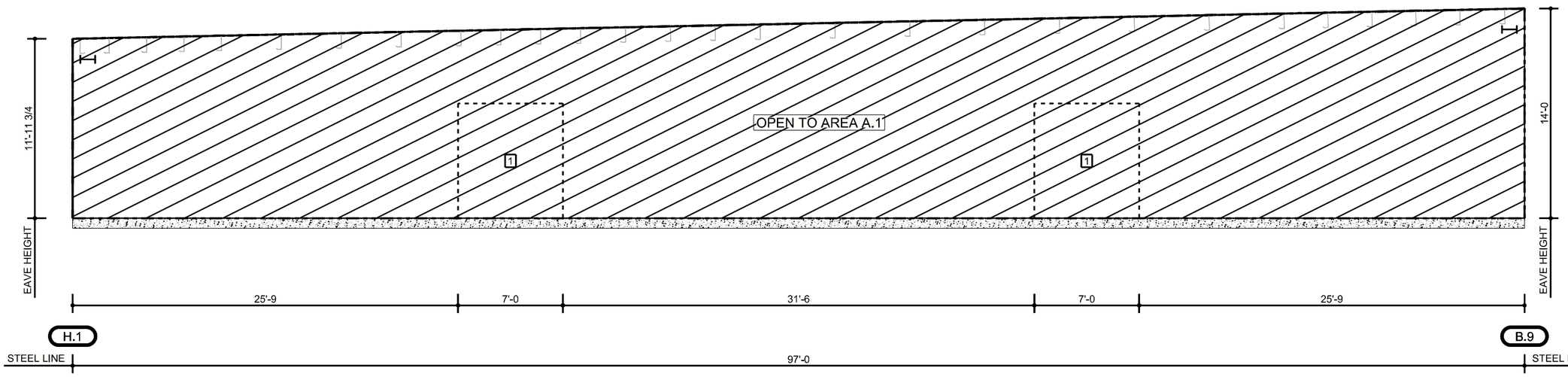
#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

05/23/2025 09:25:21am

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	7'-0"	7'-8"							Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - ENDWALL AT LINE 2.9 (AREA C)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:22am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY

NOT FOR CONSTRUCTION

DRAWING TITLE
FRAMING ELEVATION - ENDWALL AT LINE 2.9 (AREA C)

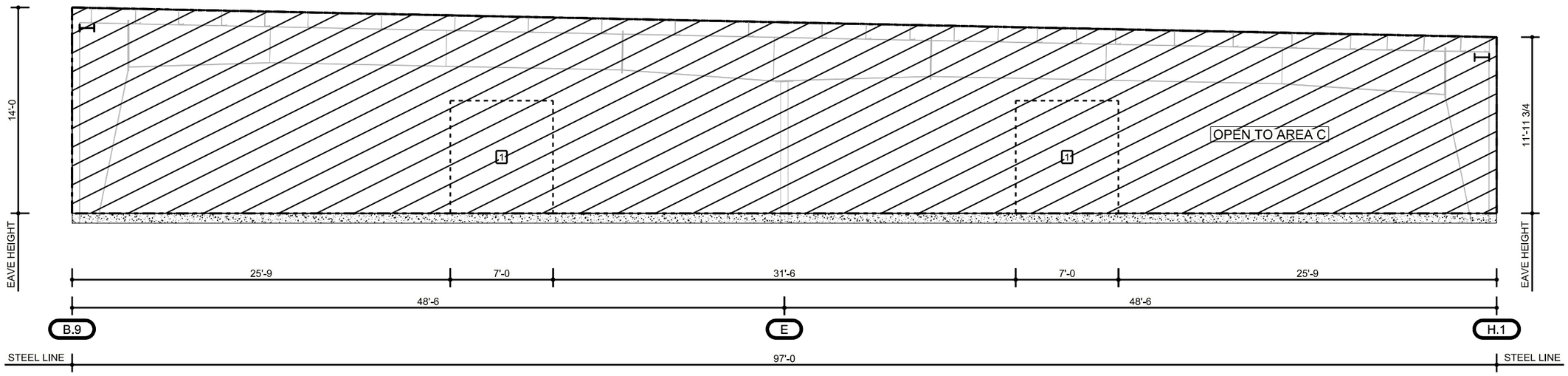
SHEET E31

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	7'-0"	7'-8"							Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - ENDWALL AT LINE 2.9 (AREA A.1)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:24am

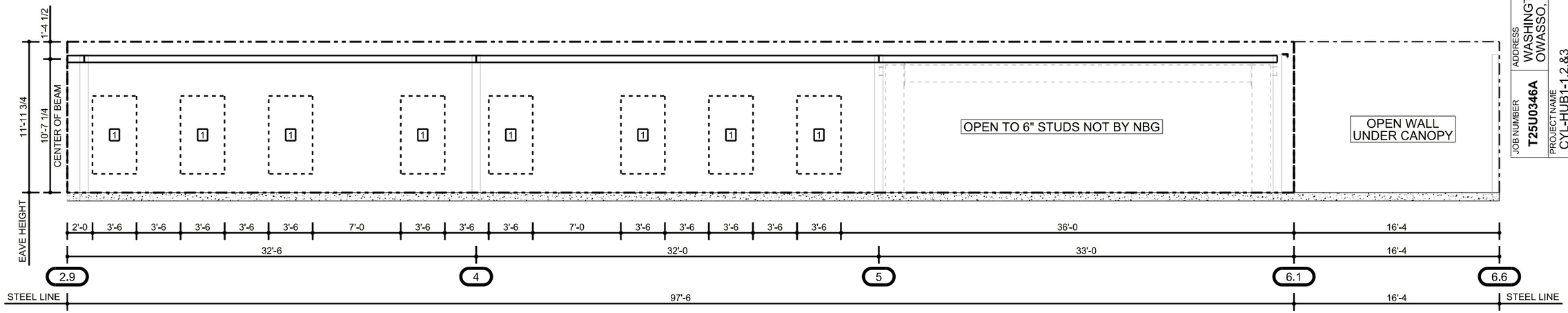
JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY
NOT FOR CONSTRUCTION
DRAWING TITLE: FRAMING ELEVATION - ENDWALL AT LINE 2.9 (AREA A.1)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	3'-6"	6'-2"						1'-6"	Y

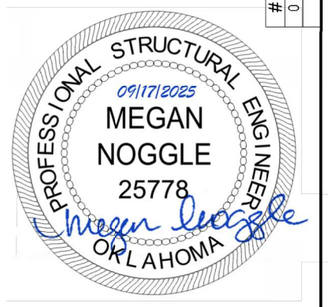
NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - SIDEWALL AT LINE H.1 (AREA A.1)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.



MBMA MEMBER
IAS ACCREDITED AC472
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
CERTIFIED CSA A660
CSSBI

PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:26am

JOB NUMBER **T25U0346A**

ADDRESS WASHINGTON COUNTY OWASSO, OK 74055

PROJECT NAME CYL-HUB1-1,2,&3

BUYER NAME DLR GROUP

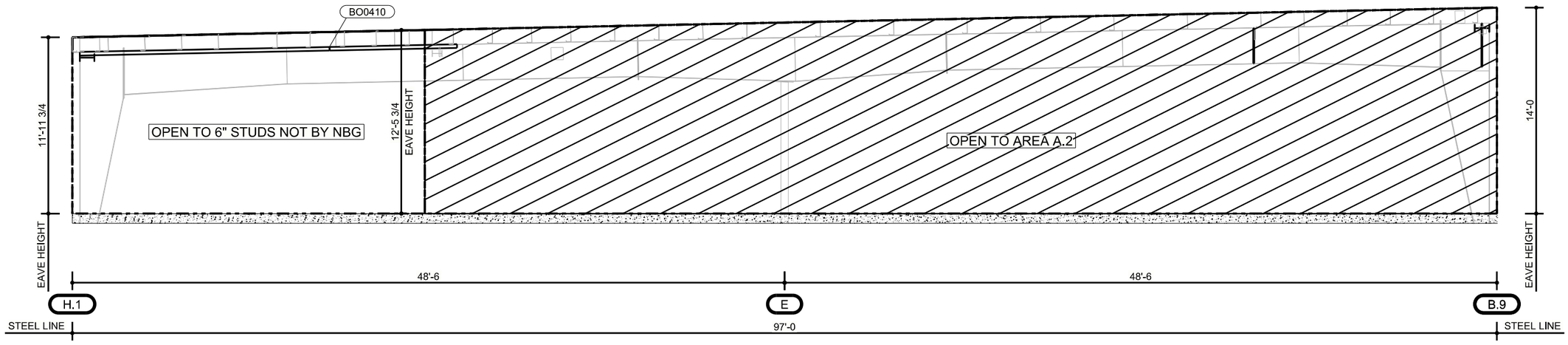
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

DRAWING TITLE FRAMING ELEVATION - SIDEWALL AT LINE H.1 (AREA A.1)

SHEET E33

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025

Part Sizes	
Mark	Profile



FRAMING ELEVATION - ENDWALL AT LINE 6.1 (AREA A.1)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

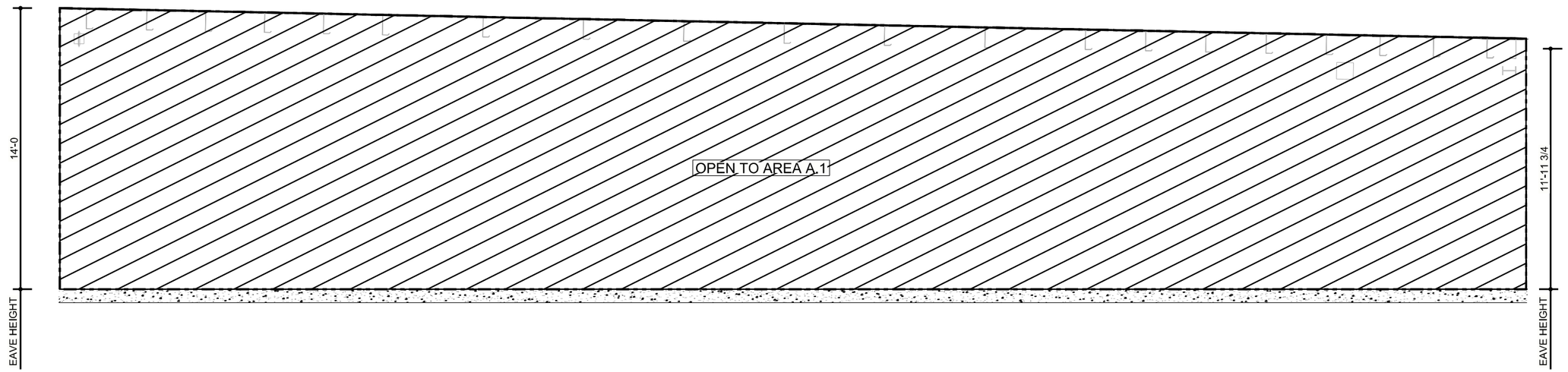
MBMA MEMBER
IAS ACCREDITED MANUFACTURING AC431
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
CERTIFIED CSA A660
PHONE: (260) 837-7891
FAX: (260) 837-7384

JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	FRAMING ELEVATION - ENDWALL AT LINE 6.1 (AREA A.1)

05/23/2025 09:25:28am

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



FRAMING ELEVATION - ENDWALL AT LINE 6.1 (AREA A.2)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	FRAMING ELEVATION - ENDWALL AT LINE 6.1 (AREA A.2)

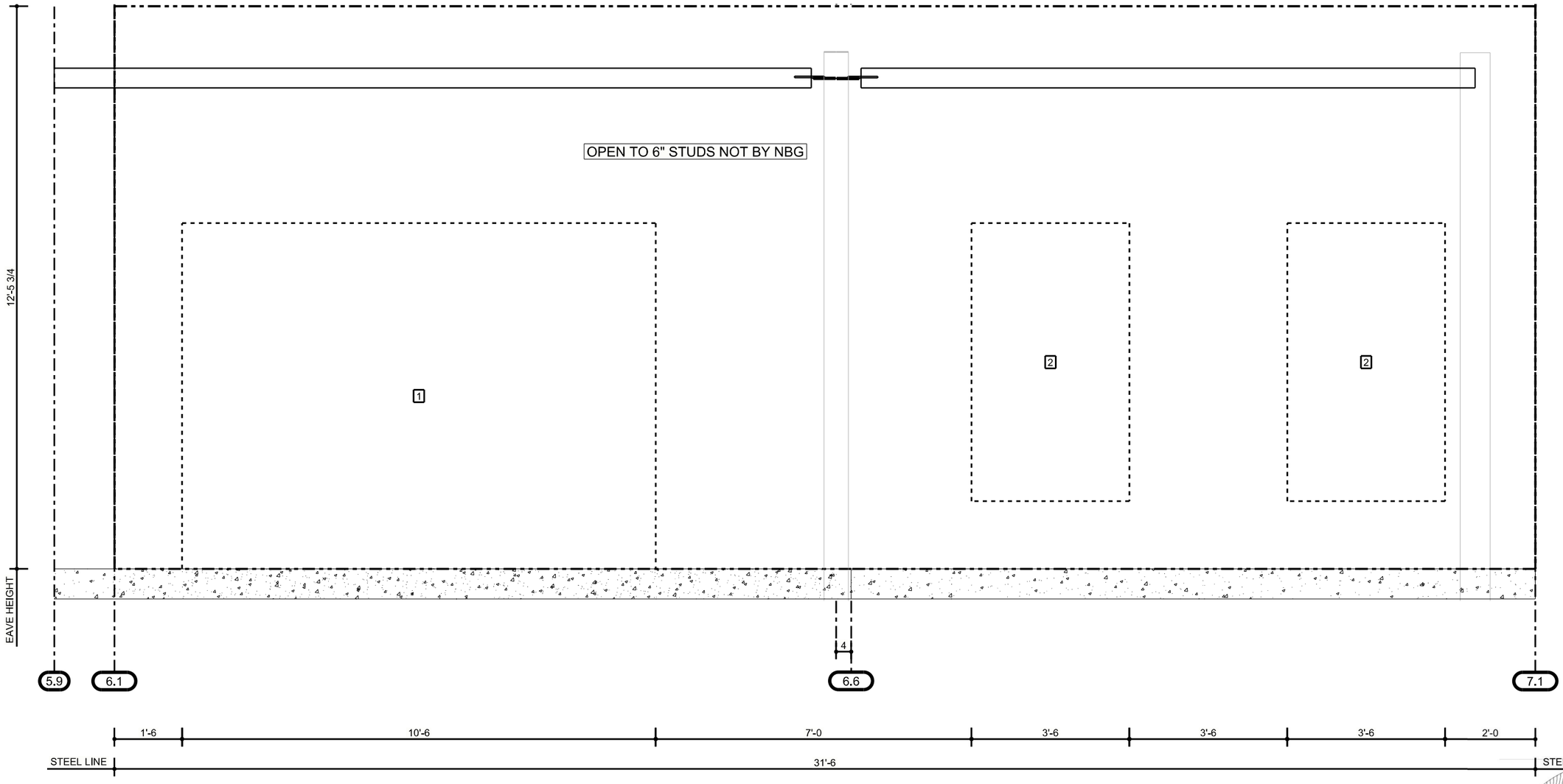
05/23/2025 09:25:30am

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	10'-6"	7'-8"							Y
2	3'-6"	6'-2"						1'-6"	Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - SIDEWALL AT LINE G.1 (AREA A.2)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

MBMA MEMBER | IAS ACCREDITED MANUFACTURING AC472 | AWS CERTIFIED D1.3 WAF.1 | CERTIFIED CSA A660 | CSSBI

NUCOR BUILDING SYSTEMS

PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:31am

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY
NOT FOR CONSTRUCTION

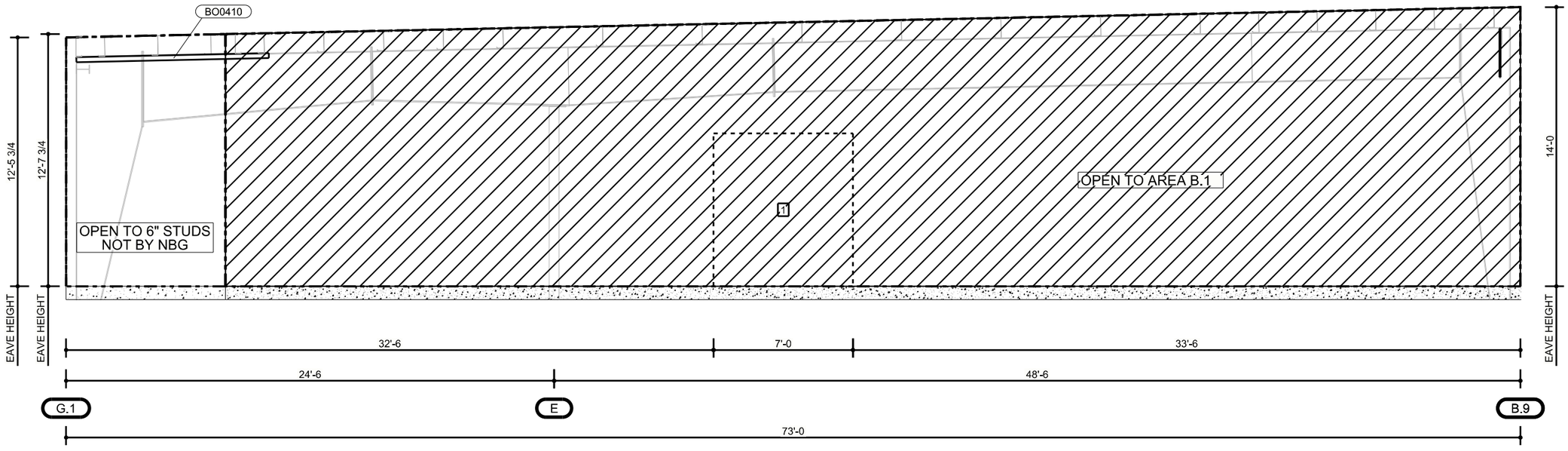
DRAWING TITLE
FRAMING ELEVATION - SIDEWALL AT LINE G.1 (AREA A.2)

SHEET
E36

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	7'-0"	7'-8"							Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - ENDWALL AT LINE 7.1 (AREA A.2)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

MBMA MEMBER
IAS ACCREDITED
CWB CERTIFIED CSA W47.1
CERTIFIED CSA A660

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

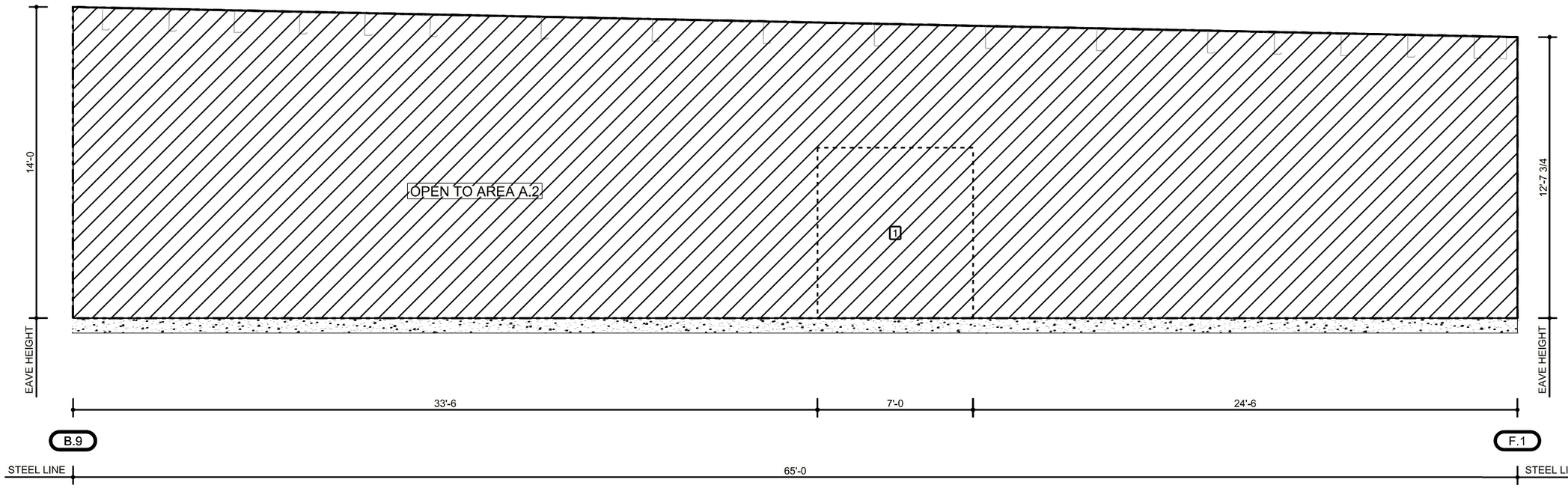
05/23/2025 09:25:33am

JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE FRAMING ELEVATION - ENDWALL AT LINE 7.1 (AREA A.2)
SHEET E37

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	7'-0"	7'-8"							Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - ENDWALL AT LINE 7.1 (AREA B.1)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

MBMA MEMBER
IAS ACCREDITED
CWB CERTIFIED CSA W47.1
CERTIFIED CSA A660

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

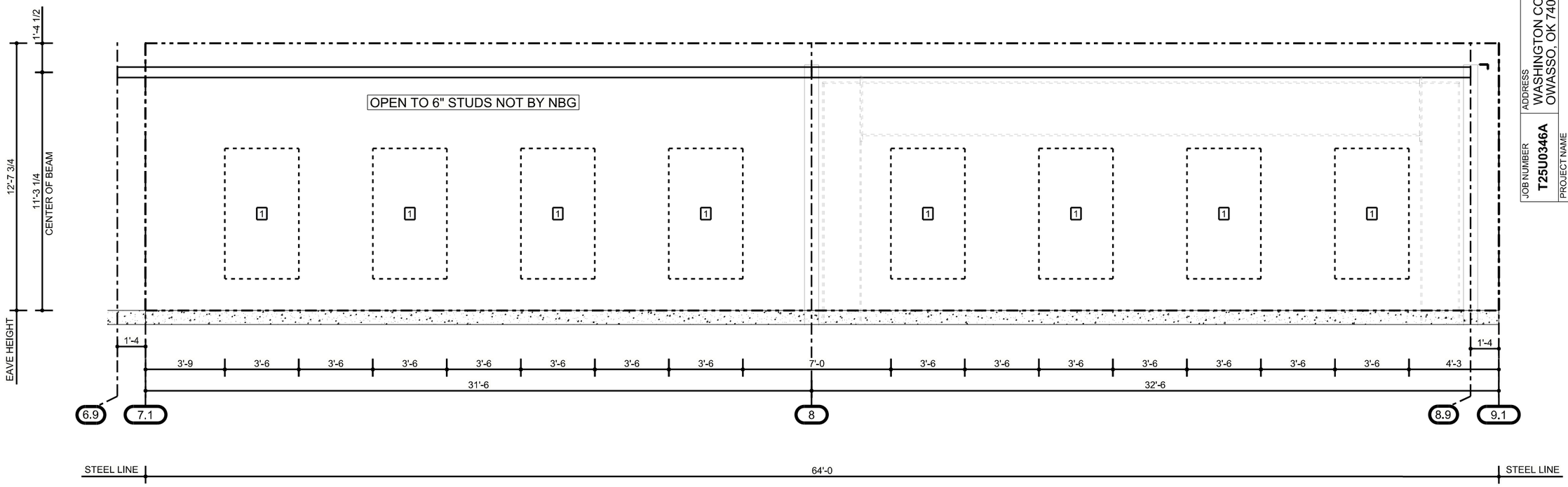
05/23/2025 09:25:34am

JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE FRAMING ELEVATION - ENDWALL AT LINE 7.1 (AREA B.1)
SHEET E38

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	3'-6"	6'-2"						1'-6"	Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - SIDEWALL AT LINE F.1 (AREA B.1)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

JOB NUMBER **T25U0346A**

ADDRESS WASHINGTON COUNTY OWASSO, OK 74055

PROJECT NAME CYL-HUB1-1,2,&3

BUYER NAME DLR GROUP

DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

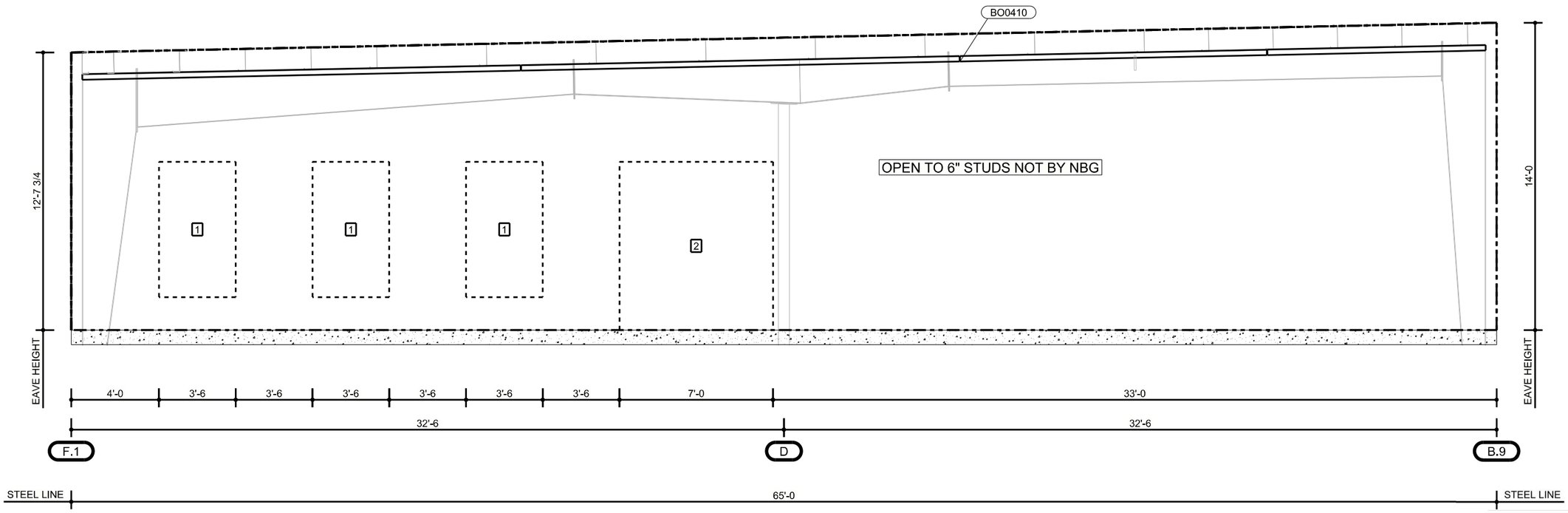
DRAWING TITLE FRAMING ELEVATION - SIDEWALL AT LINE F.1 (AREA B.1)

SHEET E39

05/23/2025 09:25:36am

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	3'-6"	6'-2"						1'-6"	Y
2	7'-0"	7'-8"							Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - ENDWALL AT LINE 9.1 (AREA B.1)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

MBMA MEMBER
IAS ACCREDITED MANUFACTURING PLANT #141
AWS CERTIFIED D1.3 WAF.1
CERTIFIED CSA A660

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:38am

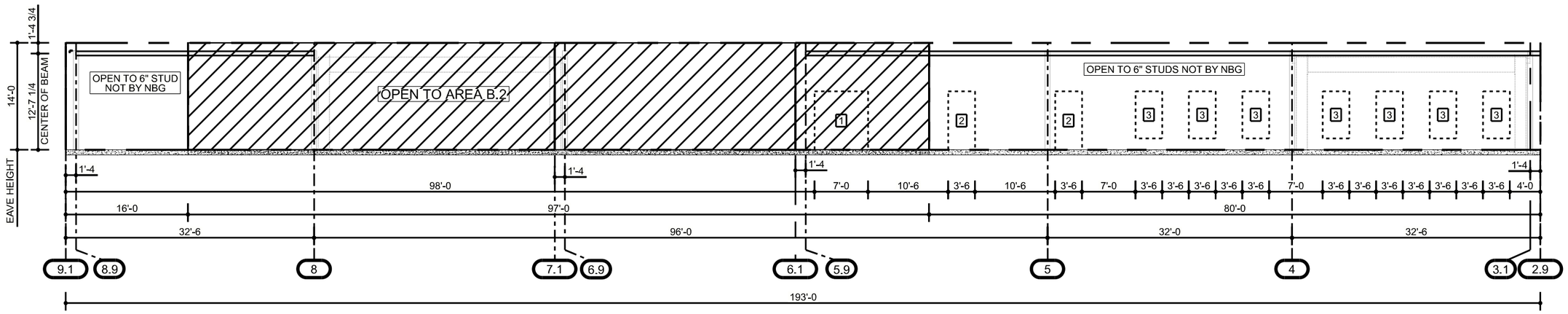
JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE FRAMING ELEVATION - ENDWALL AT LINE 9.1 (AREA B.1)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

SHEET E40

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	7'-0"	7'-8"							Y
2	3'-6"	7'-8"							Y
3	3'-6"	6'-2"						1'-6"	Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - SIDEWALL AT LINE B.9 (AREA A.1, A.2 & B.1)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

MBMA MEMBER
IAS ACCREDITED MANUFACTURING AC172
CWB CERTIFIED CSA W47.1
CERTIFIED CSA A660
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

09/09/2025 08:47:07 am

JOB NUMBER: T25U0346A

ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055

PROJECT NAME: CYL-HUB1-1,2,&3

BUYER NAME: DLR GROUP

DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

DRAWING TITLE: FRAMING ELEVATION - SIDEWALL AT LINE B.9 (AREA A.1, A.2 & B.1)

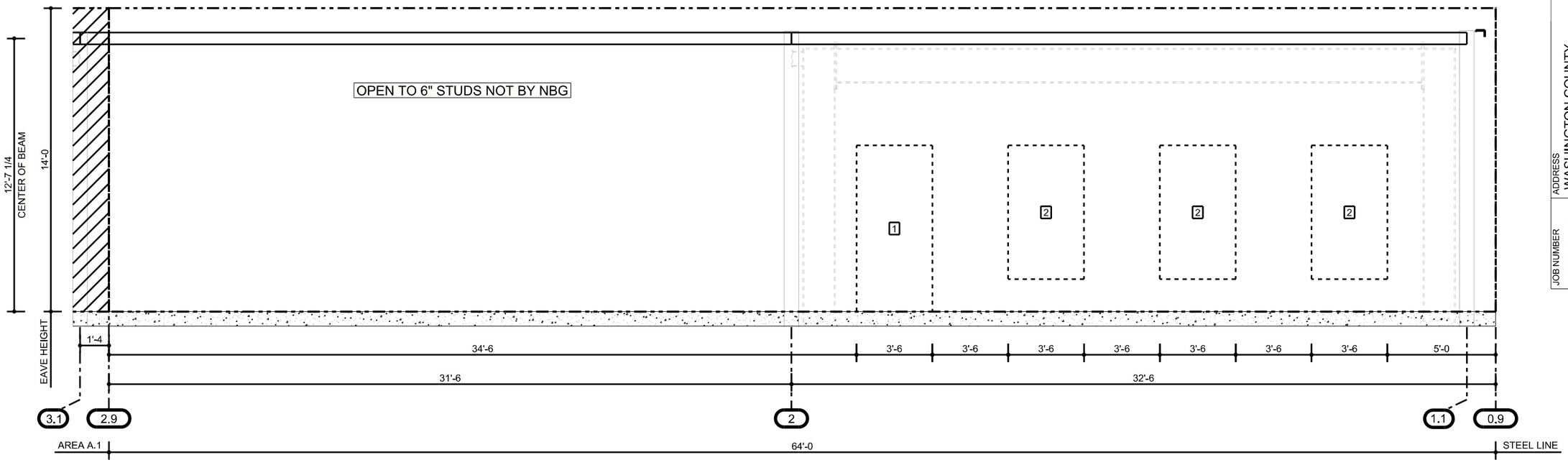
SHEET: E41

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	3'-6"	7'-8"							Y
2	3'-6"	6'-2"						1'-6"	Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - SIDEWALL AT LINE B.9 (AREA C)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

MBMA MEMBER
IAS ACCREDITED MANUFACTURING PLANT AC172
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384
CERTIFIED CSA A660
CSSBI

05/23/2025 09:25:42am

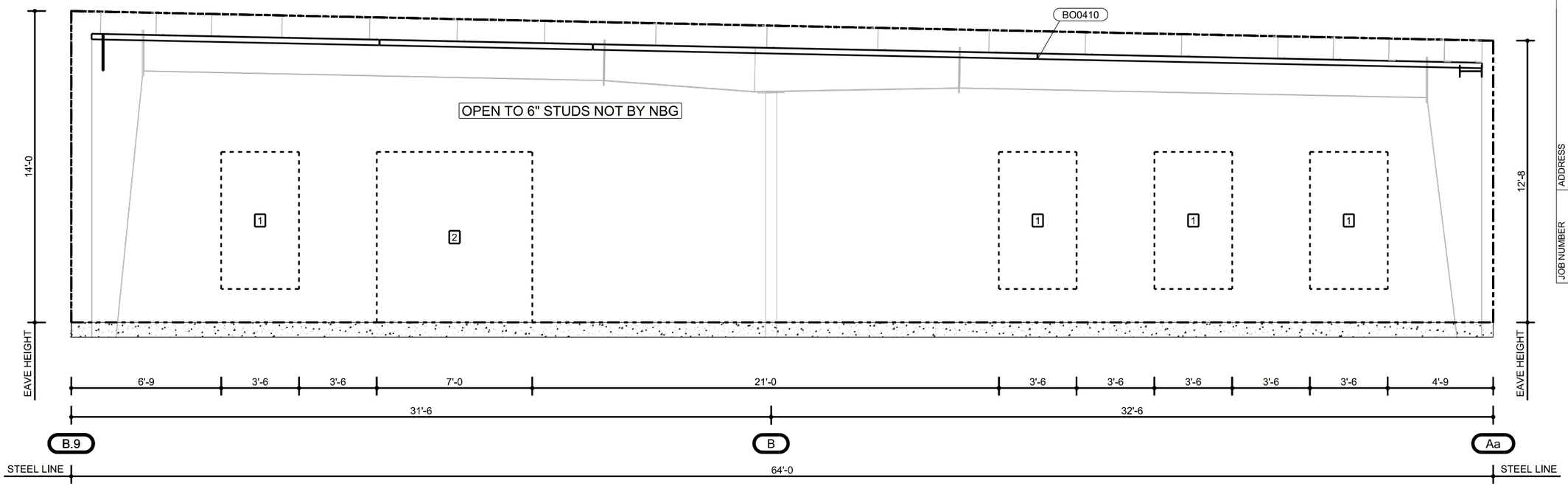
JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY
	NOT FOR CONSTRUCTION
DRAWING TITLE	FRAMING ELEVATION - SIDEWALL AT LINE B.9 (AREA C)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	3'-6"	6'-2"						1'-6"	Y
2	7'-0"	7'-8"							Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - ENDWALL AT LINE 8.6 (AREA B.2)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

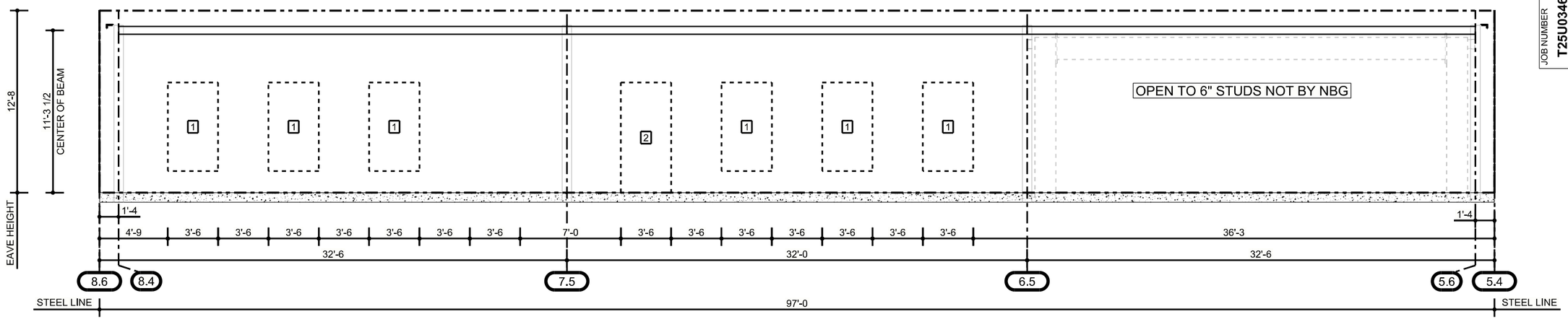
JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE FRAMING ELEVATION - ENDWALL AT LINE 8.6 (AREA B.2)
DATE 05/23/2025 09:25:44am
SHEET E43

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/06/2025
	PERMITS	TAK / JMW	WIZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	3'-6"	6'-2"						1'-6"	Y
2	3'-6"	7'-8"							Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - SIDEWALL AT LINE Aa (AREA B.2)

WALL FRAMING GENERAL NOTES

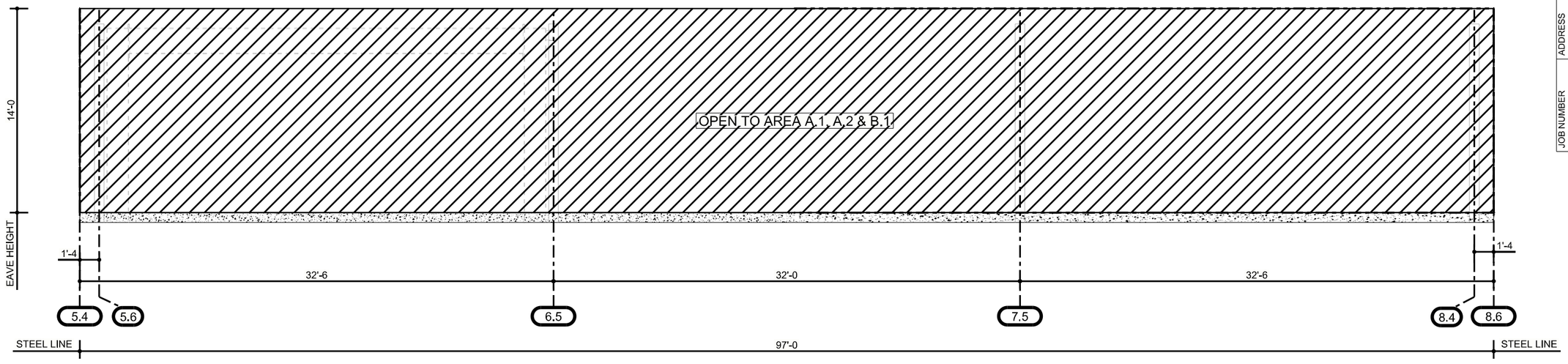
WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE: FRAMING ELEVATION - SIDEWALL AT LINE AA (AREA B.2)
SHEET: E44
05/23/2025 09:25:46am

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/06/2025
	PERMITS	TAK / JMW	WIZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



FRAMING ELEVATION - SIDEWALL AT LINE B.9 (AREA B.2)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

JOB NUMBER	ADDRESS
T25U0346A	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	
CYL-HUB1-1,2,&3	
BUYER NAME	
DLR GROUP	
DRAWING STATUS	
FOR PERMITS ONLY	**NOT FOR CONSTRUCTION**
DRAWING TITLE	
FRAMING ELEVATION - SIDEWALL AT LINE B.9 (AREA B.2)	

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

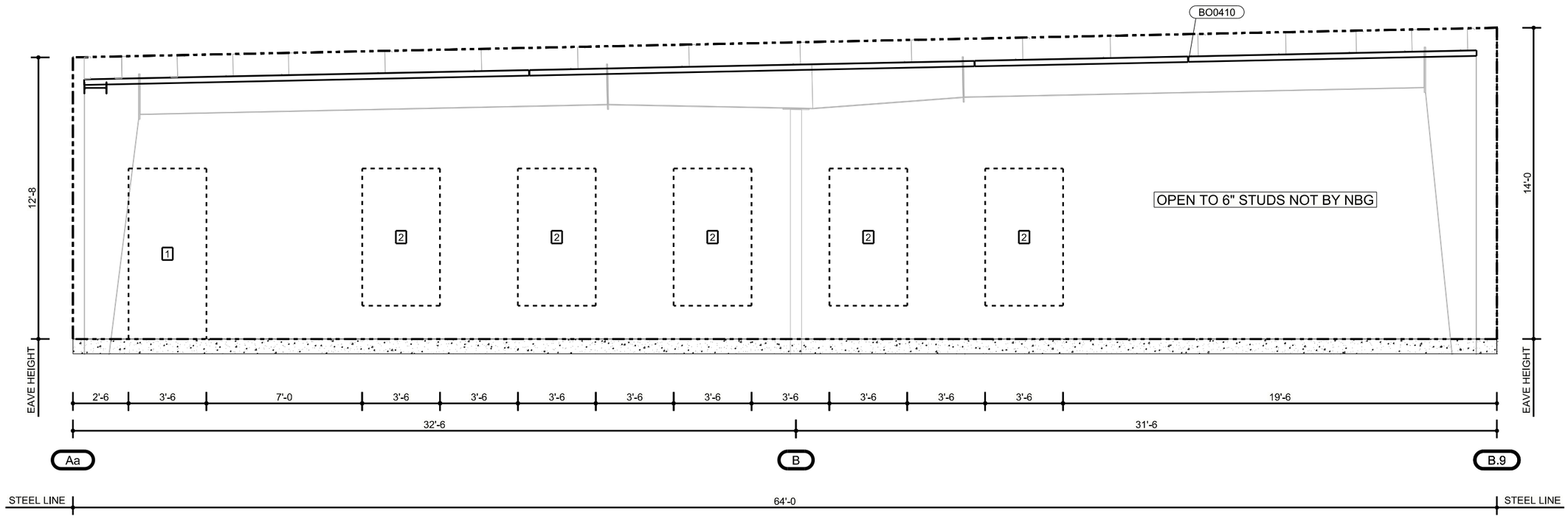
MBMA MEMBER
IAS ACCREDITED
CERTIFIED CSA W47.1
CERTIFIED CSA A660

05/23/2025 09:25:48am

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/06/2025
	PERMITS	TAK / JMW	WIZ	09/06/2025

FRAMED OPENING TABLE									
MARK	WIDTH	HEIGHT	HEADER	DRUM SUPPORT	LEFT JAMB	RIGHT JAMB	SILL	SILL HEIGHT	FIELD LOCATED
1	3'-6"	7'-8"							Y
2	3'-6"	6'-2"						1'-6"	Y

NOTE: FRAMING FOR FRAMED OPENINGS NOT BY NBG



FRAMING ELEVATION - ENDWALL AT LINE 5.4 AREA B.2)

WALL FRAMING GENERAL NOTES

WN1P: GIRT ELEVATIONS ARE SUBJECT TO CHANGE UPON FINAL DESIGN.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

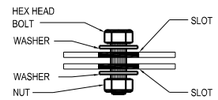
MBMA MEMBER
IAS ACCREDITED MANUFACTURING AC472
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
CERTIFIED CSA A660
ICSSP

PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:50am

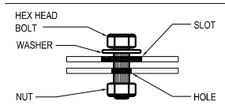
JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE FRAMING ELEVATION - ENDWALL AT LINE 5.4 AREA B.2)
SHEET E46

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025



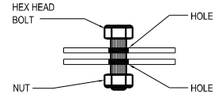
SLOT TO SLOT CONNECTIONS

WASHERS REQUIRED ON BOTH SIDES OF MATERIAL IF SLOTS ARE ON BOTH SIDES. (EXCEPTION: SEE DETAIL AT RIGHT FOR LAPPED ZEE MEMBERS)



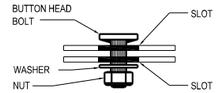
SLOT TO HOLE CONNECTIONS

ONE WASHER REQUIRED ON SLOTTED SIDE ONLY.



HOLE TO HOLE CONNECTIONS

NO WASHERS REQUIRED WHEN SLOTS ARE NOT USED.



SLOT TO SLOT CONNECTIONS

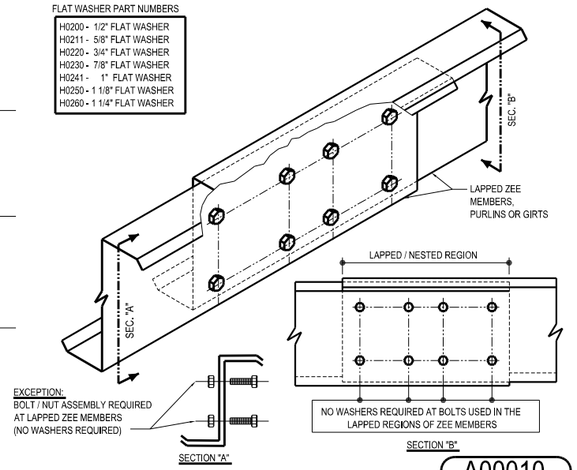
WASHER REQUIRED AT NUT SIDE ONLY FOR BUTTON HEAD BOLTS. (BUTTON HEAD BOLTS HAVE MATERIAL GRABBING FINS UNDER THE HEAD, A WASHER IS NOT NEEDED ON BOLT HEAD SIDE).

WASHER REQUIREMENTS ERECTOR NOTE

(UNLESS NOTED OTHERWISE ON DRAWINGS)

FLAT WASHER PART NUMBERS

H0200 -	1/2" FLAT WASHER
H0211 -	5/8" FLAT WASHER
H0220 -	3/4" FLAT WASHER
H0230 -	7/8" FLAT WASHER
H0241 -	1" FLAT WASHER
H0250 -	1 1/8" FLAT WASHER
H0260 -	1 1/4" FLAT WASHER



A00010

FIELD WELD REQUIREMENTS ERECTOR NOTE

(UNLESS NOTED OTHERWISE ON DRAWINGS)

ALL FIELD WELDING MUST BE PERFORMED BY AWS/CWB CERTIFIED WELDERS WHO ARE QUALIFIED FOR THE WELDING PROCESSES AND POSITIONS INDICATED. ALL WORK MUST BE COMPLETED AND INSPECTED IN ACCORDANCE WITH THE APPLICABLE AWS/CWB SPECIFICATIONS. WELD ELECTRODES USED FOR THE SMAW (OR STICK) WELD PROCESS MUST BE 70 KSI/483 MPa MATERIAL AND LOW HYDROGEN CONTENT.

FIELD WELDING GALVANIZED STEEL RECOMMENDATIONS

PREPARATION OF WELD AREA

AWS D-19.0, WELDING ZINC COATED STEEL, CALLS FOR WELDS TO BE MADE ON STEEL THAT IS FREE OF ZINC IN THE AREA TO BE WELDED. FOR GALVANIZED STRUCTURAL COMPONENTS, THE ZINC COATING SHOULD BE REMOVED AT LEAST ONE TO FOUR INCHES (2.5-10 CM) FROM EITHER SIDE OF THE INTENDED WELD ZONE AND ON BOTH SIDES OF THE WORKPIECE. GRINDING BACK THE ZINC COATING IS THE PREFERRED AND MOST COMMON METHOD; BURNING THE ZINC AWAY OR PUSHING BACK THE MOLTEN ZINC FROM THE WELD AREA ALSO ARE EFFECTIVE.

TOUCH-UP OF WELD AREA

WELDING ON GALVANIZED SURFACES DESTROYS THE ZINC COATING ON AND AROUND THE WELD AREA. RESTORATION OF THE AREA WILL BE PERFORMED IN ACCORDANCE WITH ASTM A 780, STANDARD PRACTICE FOR REPAIR OF DAMAGED AND UNCOATED AREAS OF HOT-DIP GALVANIZED COATINGS, WHICH SPECIFIES THE USE OF PAINTS CONTAINING ZINC DUST, ZINC-BASED SOLDERS OR SPRAYED ZINC. ALL TOUCHUP AND REPAIR METHODS ARE CAPABLE OF BUILDING A PROTECTIVE LAYER TO THE THICKNESS REQUIRED BY ASTM A 780.

SAFETY & HEALTH

WHEN WELDING DIRECTLY ON GALVANIZED STEEL IS UNAVOIDABLE, OSHA PERMISSIBLE EXPOSURE LIMITS (PELS) MAY BE EXCEEDED AND EVERY PRECAUTION, INCLUDING HIGH-VELOCITY CIRCULATING FANS WITH FILTERS, AIR RESPIRATORS AND FUME-EXTRACTION SYSTEMS SUGGESTED BY AWS, SHOULD BE EMPLOYED.

FUMES FROM WELDING GALVANIZED STEEL CAN CONTAIN ZINC, IRON AND LEAD. FUME COMPOSITION TYPICALLY DEPENDS ON THE COMPOSITION OF MATERIALS USED, AS WELL AS THE HEAT APPLIED BY THE PARTICULAR WELDING PROCESS. IN ANY EVENT, GOOD VENTILATION MINIMIZES THE AMOUNT OF EXPOSURE TO FUMES.

PRIOR TO WELDING ON ANY METAL, CONSULT ANSI/ASC Z-49.1, SAFETY IN WELDING, CUTTING AND ALLIED PROCESSES, WHICH CONTAINS INFORMATION ON THE PROTECTION OF PERSONNEL AND THE GENERAL AREA, VENTILATION AND FIRE PREVENTION.

INFORMATION COURTESY OF AMERICAN GALVANIZERS ASSOCIATION

A00020

STANDARD ANGLE SCHEDULE

MAE0_	EAVE ANGLE GALVANIZED 4" x 5" x 120"	MAL01	LINER LOW EAVE ANGLE GALVANIZED 6" x 7-3/4" x 120"
MAF0_	EAVE ANGLE GALVANIZED 5" x 8" x 120"	MAL0_	LINER EAVE ANGLE GALVANIZED 3" x 3" x 120"
MAG01	GIRT ANGLE GALVANIZED 1" x 2-1/2" x 12"	MAL_	LINER EAVE ANGLE GALVANIZED 3" x 5" x 120"
MAG02	GIRT ANGLE GALVANIZED 1" x 2-1/2" x 24"	MAL1_	LINER EAVE ANGLE GALVANIZED 3" x 7-3/4" x 120"
MAG03	GIRT ANGLE GALVANIZED 1" x 2-1/2" x 30"	MAP01	RAKE PARAPET ANGLE GALVANIZED 2" x 12" x 120"
MAG10	GIRT ANGLE GALVANIZED 1" x 2-1/2" x 120"	MAP02	RAKE PARAPET ANGLE GALVANIZED 6" x 6" x 120"
MAH0_	EAVE STRUT ANGLE GALVANIZED 1" x 2-1/2" x 12"	MAR01	RAKE ANGLE GALVANIZED 3" x 5" x 242"
MAH1_	EAVE STRUT ANGLE GALVANIZED 1" x 2-1/2" x 12"	MAR02	STANDING SEAM RAKE/ BASE ANGLE GALVANIZED 2" x 3" x 242"

A00030

MBMA MEMBER · IAS ACCREDITED MANUFACTURING PLANT AC431 · CERTIFIED CSA W47.1 · CERTIFIED CSA A660 · CERTIFIED CSA S16

NUCOR BUILDING SYSTEMS

PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:51am

NOT FOR CONSTRUCTION

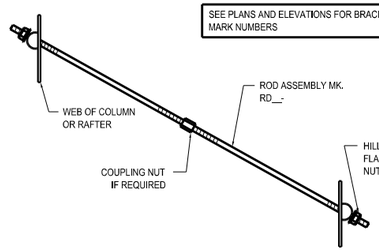
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ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY
DRAWING TITLE	GENERAL DETAILS
SHEET	D1

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

ROD DIAMETER	MARK NUMBER	HILLSIDE WASHERS	FLAT WASHERS	A307/A325 NUTS	COUPLING NUTS (QTY VARIES)
5/8" ▯	RD05-	(2) H0280	(2) H0210	(2) H0310	H0810
3/4" ▯	RD06-	(2) H0285	(2) H0220	(2) H0320	H0820
7/8" ▯	RD07-	(2) H0285	(2) H0230	(2) H0325	H0830
1" ▯	RD08-	(2) H0290	(2) H0240	(2) H0330	H0840
1 1/8" ▯	RD09-	(2) H0290	(2) H0250	(2) H0450	H0850
1 1/4" ▯	RD10-	(2) H0295	(2) H0260	(2) H0340	H0860

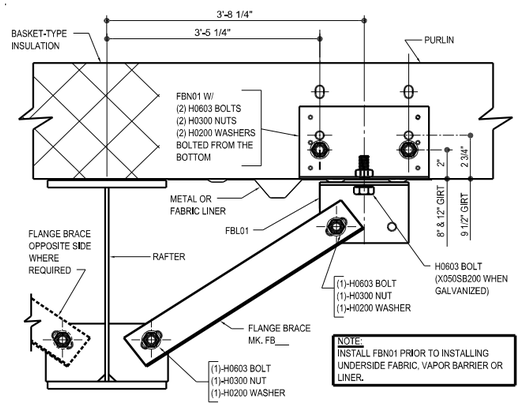
SEE PLANS AND ELEVATIONS FOR BRACING MARK NUMBERS



ROD BRACE DETAIL

WEB TO WEB

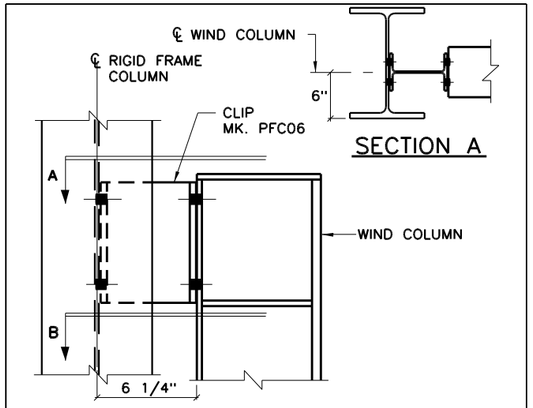
AF0011



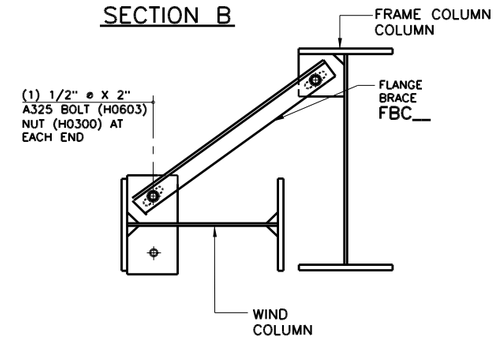
FLANGE BRACE WITH BASKET INSUL OR LINER AT RAFTER

SEE PLANS AND ELEVATIONS FOR FLANGE BRACE LOCATIONS, PART MARKS, & QUANTITIES

AG0110



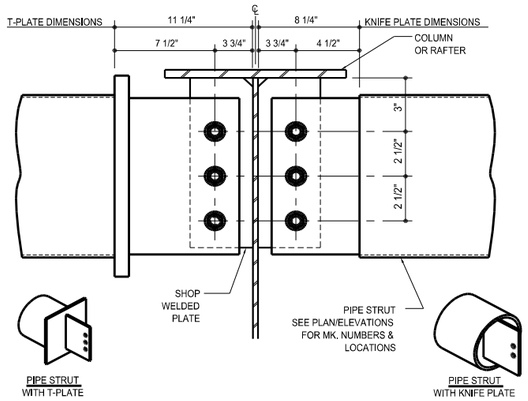
USE (8) 3/4" x 3" A325 BOLTS H0633 / NUTS H0320



PORTAL FRAME COLUMN TO RIGID FRAME

USE (2) 1/2" x 2" A325 BOLTS H0603 / NUTS H0300
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

AJ-X1



NOTE: USE (3) 1" X 3 1/4" A325 BOLTS H0640/NUTS H0330

3-BOLT 8" PIPE STRUT AT COLUMN/RAFTER

STIFFENER CONNECTION WITH 10" MIN. COLUMN/RAFTER
SEE PLANS & ELEVATIONS FOR MARK NUMBERS AND LOCATIONS

AK0170

MBMA MEMBER | IAS ACCREDITED MANUFACTURING PLANT AC172 | AWS CERTIFIED D1.1 CSA W47.1 | CERTIFIED CSA A660 | CERTIFIED CSA A660

NUCOR BUILDING SYSTEMS

PHONE: (260) 837-7891
FAX: (260) 837-7384

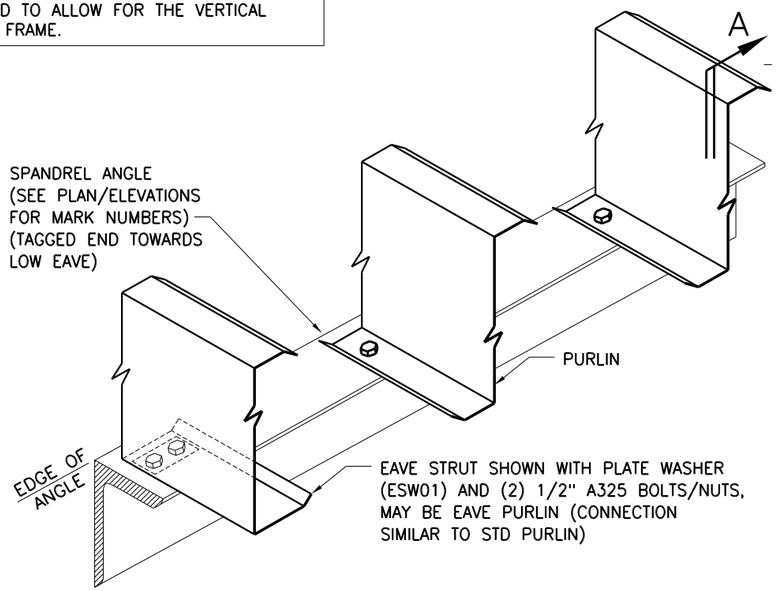
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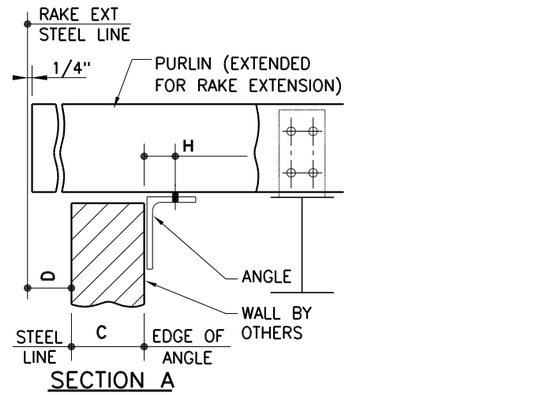
JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE PRIMARY DETAILS
SHEET D2

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SUPPLY AND DESIGN OF CONNECTION OF ANGLE TO WALL BY OTHERS NOT BY NUCOR. ATTACHMENT OF ANGLE SHOULD BE NO MORE THAN 6" AWAY FROM EACH PURLIN LOCATION. NUCOR WILL NOT PREP THE ANGLE FOR THIS ATTACHMENT TO THE WALL, HOWEVER THE ANGLE MAY NEED TO BE SLOTTED TO ALLOW FOR THE VERTICAL DEFLECTION OF THE FRAME.



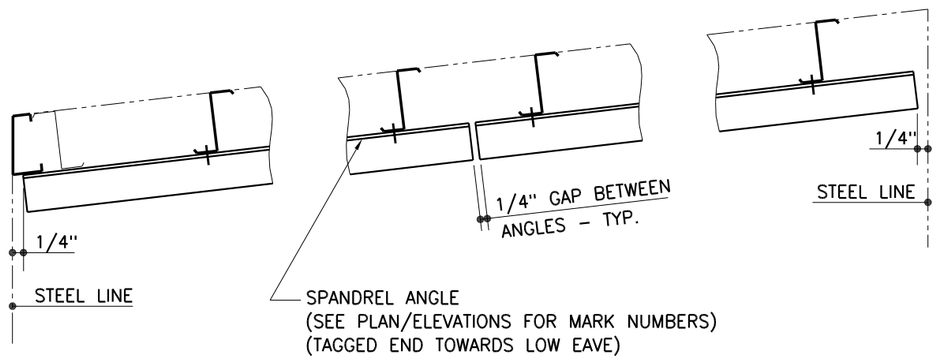


SECTION A

DOWNWARD: MAXIMUM
UNDER DESIGN LIVE LOAD: E

UPWARD: MAXIMUM
UNDER DESIGN UPLIFT: F

DEFLECTION OF FRAME
UNDER FULL DEAD LOAD: G



AT LOW EAVE AT SPLICE AT RIDGE OR HIGHSIDE

SPANDREL ANGLE DETAIL

USE (1) 1/2" x 2" A325 BOLT H0603/NUT H0300 AT EACH PURLIN LOCATION
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

BO0410

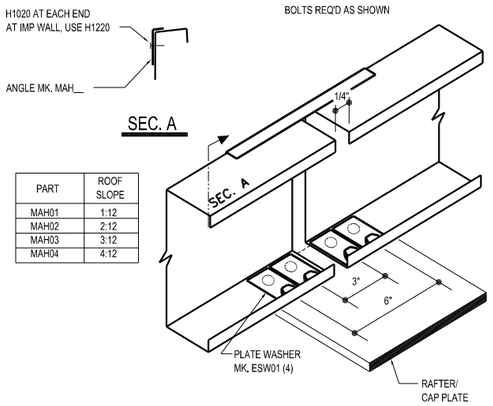
MBMA MEMBER
IAS ACCREDITED MANUFACTURING PLANT #141
CWB CERTIFIED CSA W47.1
CERTIFIED CSA A660
CSSBI
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:54am

JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE PRIMARY DETAILS
SHEET D3

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

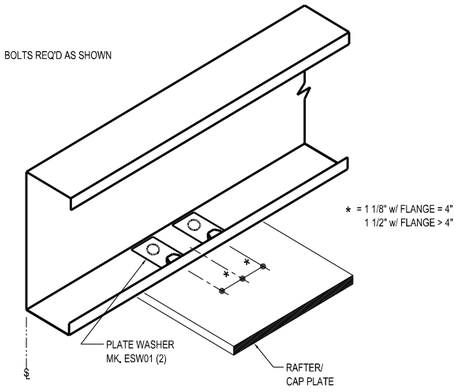


PART	ROOF SLOPE
MAH01	1:12
MAH02	2:12
MAH03	3:12
MAH04	4:12

EAVE STRUT AT INTERIOR FRAME

LOW EAVE FLUSH/INSET SW GIRT CONDITION
USE (4) 1/2" X 2" A325 BOLT H0603/NUT H0300 U.N.O.

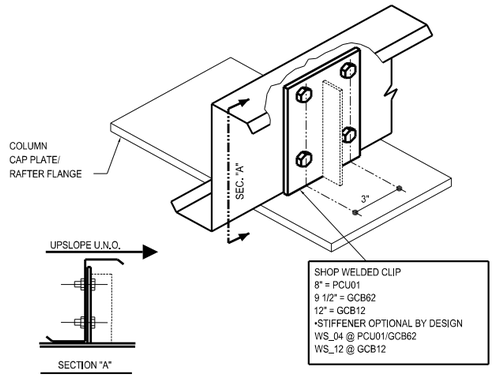
BA0010



EAVE STRUT AT ENDWALL FRAME

LOW EAVE - FLUSH/INSET SW GIRT CONDITION
USE (2) 1/2" x 2" A325 BOLT H0603/NUT H0300 U.N.O.

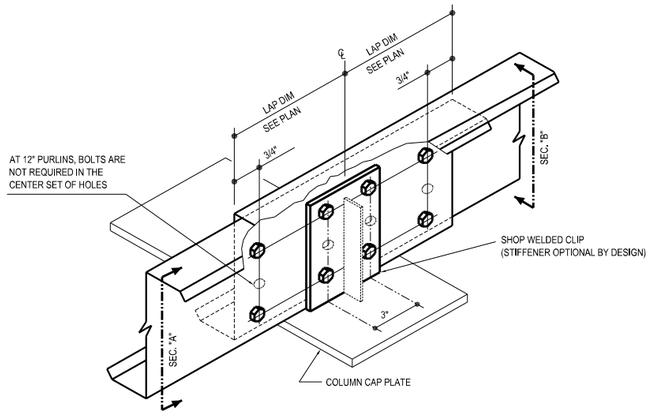
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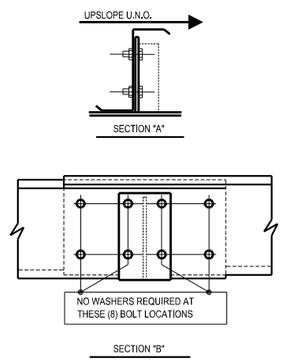


WELDED CLIP @ END FRAME

USE (4) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400 U.N.O.
REFERENCE ERECTOR NOTE FOR TYP. WASHER REQUIREMENTS

BB0050





WELDED CLIP @ INTERIOR FRAME

USE (8) 1/2" x 1 1/4" A307 BOLTS H0500/NUTS H0400 U.N.O.

BB0055

MBMA MEMBER
IAS ACCREDITED MANUFACTURING PLANT
AWS CERTIFIED D1.3 WPS
CERTIFIED CSA W47.1
CERTIFIED CSA A660
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:55am

JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE ROOF FRAMING DETAILS
SHEET D4

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

INSTALLATION INSTRUCTIONS

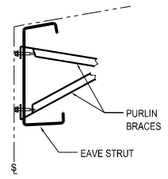
1) FOR PURLIN BRACE "X", INSERT ANGLES "BACK-TO-BACK" INTO THE FACTORY PUNCHED SLOTS. BEND TABS AS SHOWN AND FASTEN THROUGH TAB WITH (1) H1020 FASTENER PER END. WHEN IMP WALL IS PRESENT, USE H1220 AT STEEL LINE WITH EAVE STRUTS.

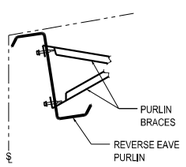
2) CONNECT PURLIN BRACE "X" AT THE ANGLE INTERSECTION WITH (1) H1020 FASTENER.

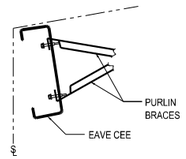
3) PURLIN BRACING IS NOT TO DISTORT OR ALTER PURLINS FROM THEIR INTENDED SHAPE OR LOCATION.

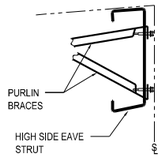
4) SEE DETAILS BELOW FOR ADDITIONAL INFORMATION WHEN ATTACHING TO ALTERNATE FRAMING MEMBERS.

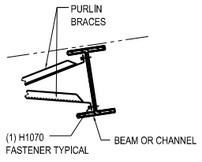
5) IF A BRACE IS USED IN A SPACING THAT IS LESS THAN 1'-3", THEN THE BRACE WILL BE SUPPLIED AT 1'-3". ERECTOR TO FIELD CUT AND CREATE A TAB AS NEEDED TO FIT IN SMALL SPACE.



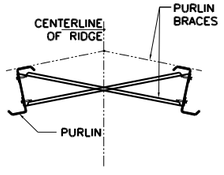




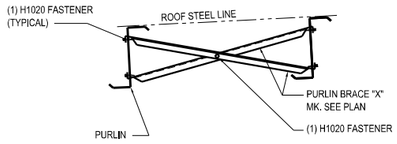


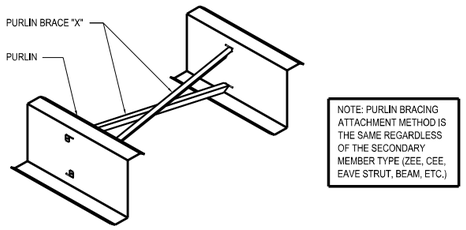


NOTE: IF CHANNEL, IT MAY BE TOED UP OR DOWN.



PURLIN BRACING ATTACHMENT METHODS



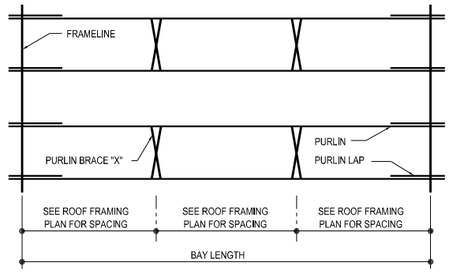


NOTE: PURLIN BRACING ATTACHMENT METHOD IS THE SAME REGARDLESS OF THE SECONDARY MEMBER TYPE (ZEE, CEE, EAVE STRUT, BEAM, ETC.)

PLAN VIEW OF PURLIN BRACING LOCATIONS PER BAY

1) SEE ROOF FRAMING PLAN(S) FOR PURLIN BRACE MARK NUMBERS, QUANTITIES AND LOCATIONS.

2) (2) ROWS OF PURLIN BRACING IS SHOWN BELOW FOR REFERENCE ONLY, ACTUAL NUMBER OF ROWS MAY VARY PER BAY AND PER PROJECT, SEE ROOF FRAMING PLAN(S) FOR SPACING.



BE0001

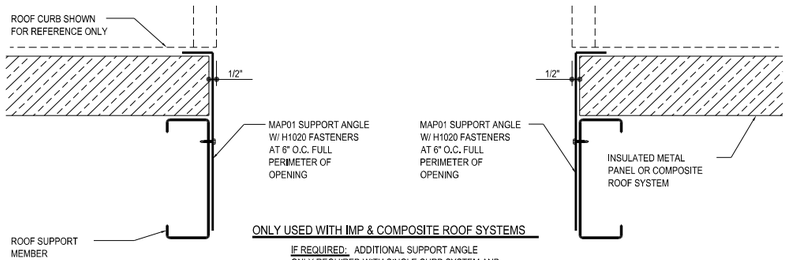
MBMA MEMBER
IAS ACCREDITED MANUFACTURING AC472
CWB CERTIFIED CSA W47.1
CERTIFIED CSA A660
ICBO ES

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE ROOF FRAMING DETAILS
DATE 05/23/2025 09:25:56am
SHEET D5

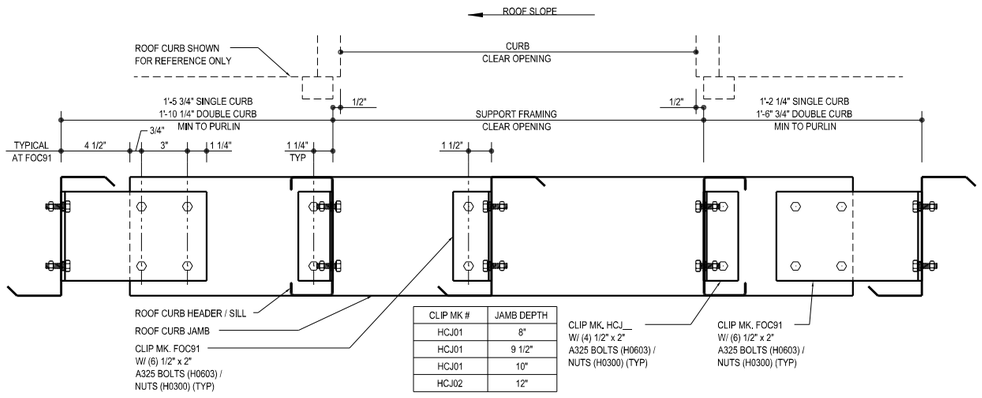
#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



ONLY USED WITH IMP & COMPOSITE ROOF SYSTEMS

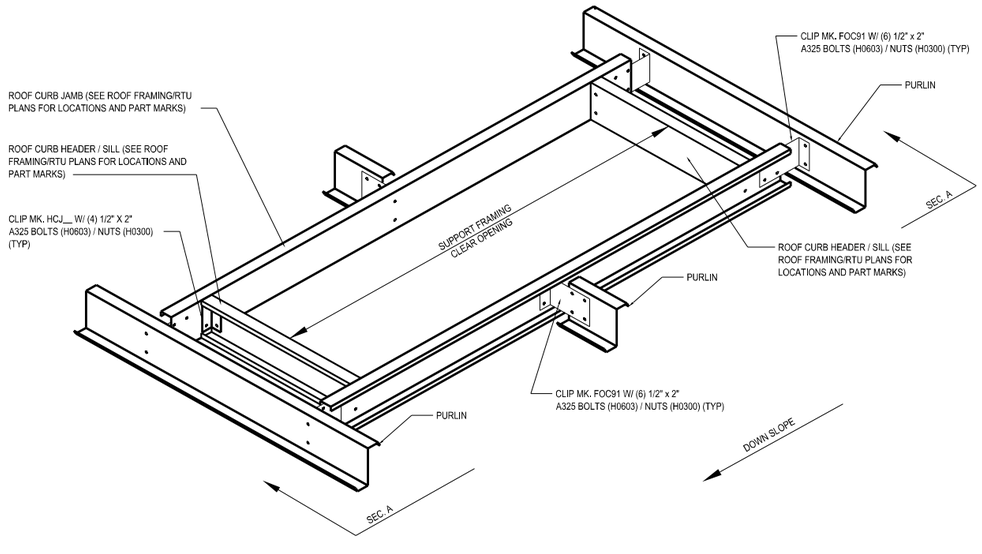
IF REQUIRED: ADDITIONAL SUPPORT ANGLE ONLY REQUIRED WITH SINGLE CURB SYSTEM AND INSULATED METAL PANEL OR COMPOSITE ROOF SYSTEMS TO ACCOMODATE THE THICKNESS OF THE SYSTEM



CLIP MK #	JAMB DEPTH
HCJ01	8"
HCJ01	9 1/2"
HCJ01	10"
HCJ02	12"

SECTION A

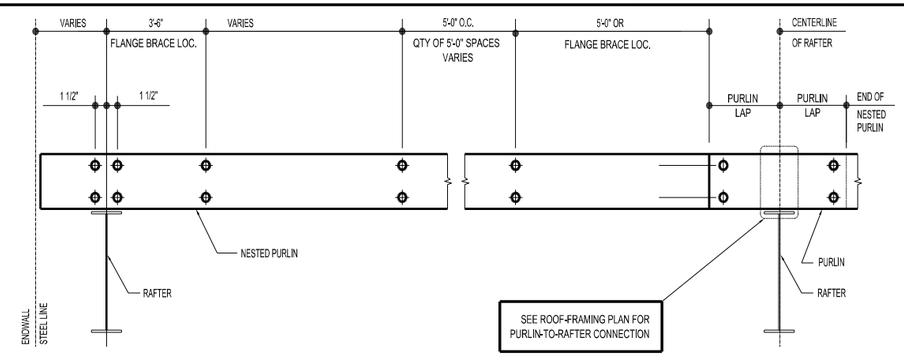
NOTE: JAMB IS FLUSH WITH TOP OF PURLINS. FOR ROOF CURBS NOT BY NBG, CONSIDERATION SHOULD BE GIVEN TO KEEP THE CURB FLANGE IN PLANE WITH THE ROOF PANEL.



RTU SUPPORT FRAMING

CUT SECONDARY MEMBERS, SUPPORT FRAMING INSTALLATION, USED FOR ALL SINGLE AND DOUBLE CURB SYSTEMS
REFERENCE STANDARD WASHER DETAIL FOR TYPICAL WASHER REQUIREMENTS

BK0150



ENDBAY NESTED PURLIN - CONTINUOUS THROUGH LAP

BOLTS REQUIRED ONLY AS SHOWN, NOT AT ALL HOLES
USE 1/2"Ø A307 BOLTS (MK. H0500) AND NUTS (MK. H0400) AT ALL BOLTED CONNECTIONS SHOWN

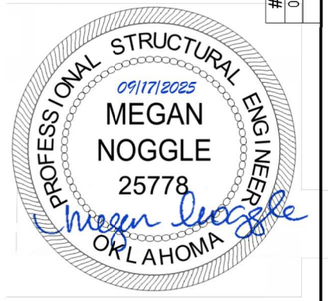
BM0020

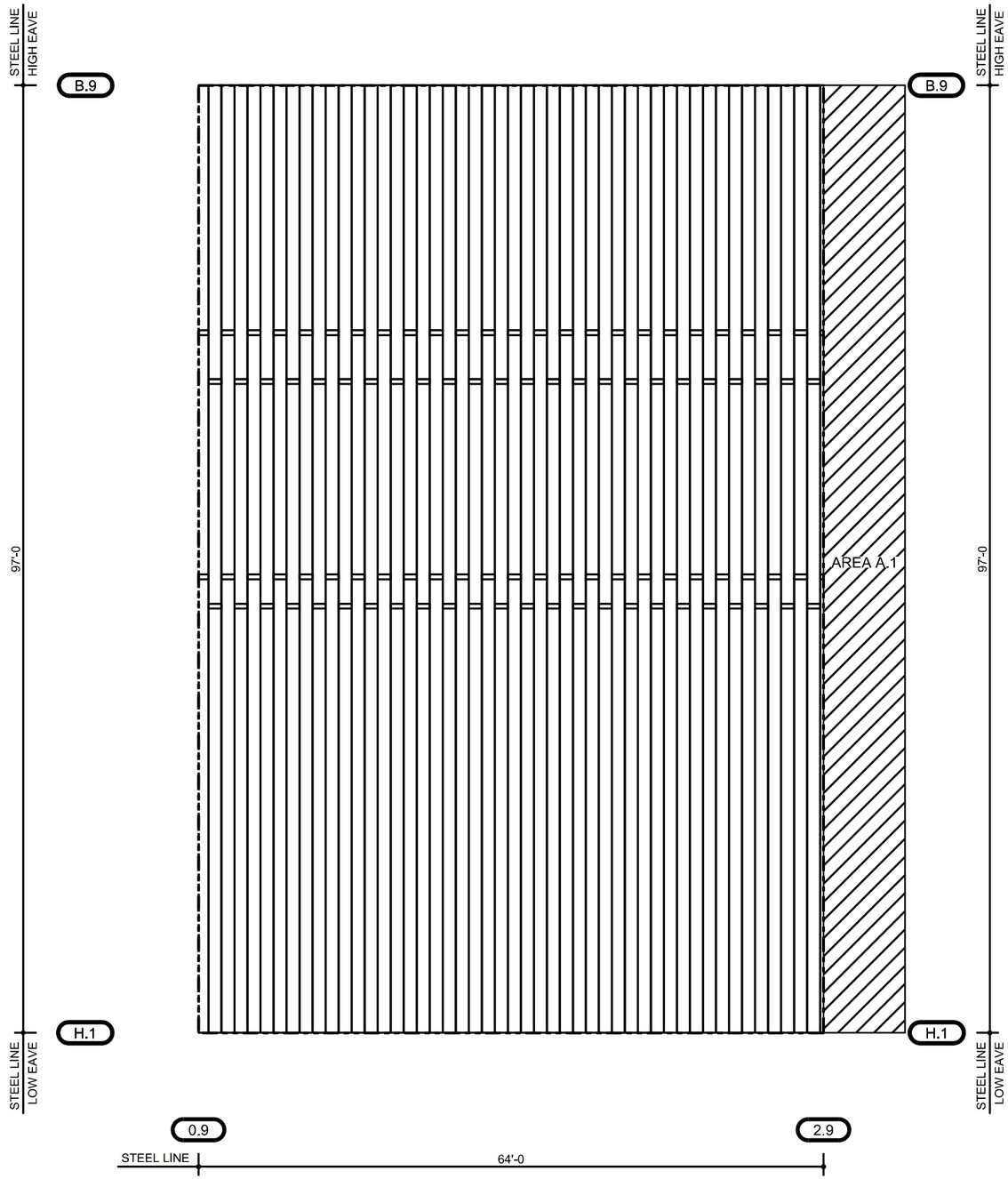
MBMA MEMBER
IAS ACCREDITED MANUFACTURING INSPECTION AC 472
CWB CERTIFIED CSA W47.1
CERTIFIED CSA A660
AISC
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/23/2025 09:25:57am

JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY
NOT FOR CONSTRUCTION
SHEET D6
DRAWING TITLE ROOF FRAMING DETAILS

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/08/2025





ROOF SHEETING PLAN (AREA C)

NOTE: ROOF PANELS WILL EXTEND OVER THE 6" STUD & 3" IMP

ROOF SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

DRAWING TITLE
ROOF SHEETING PLAN (AREA C)

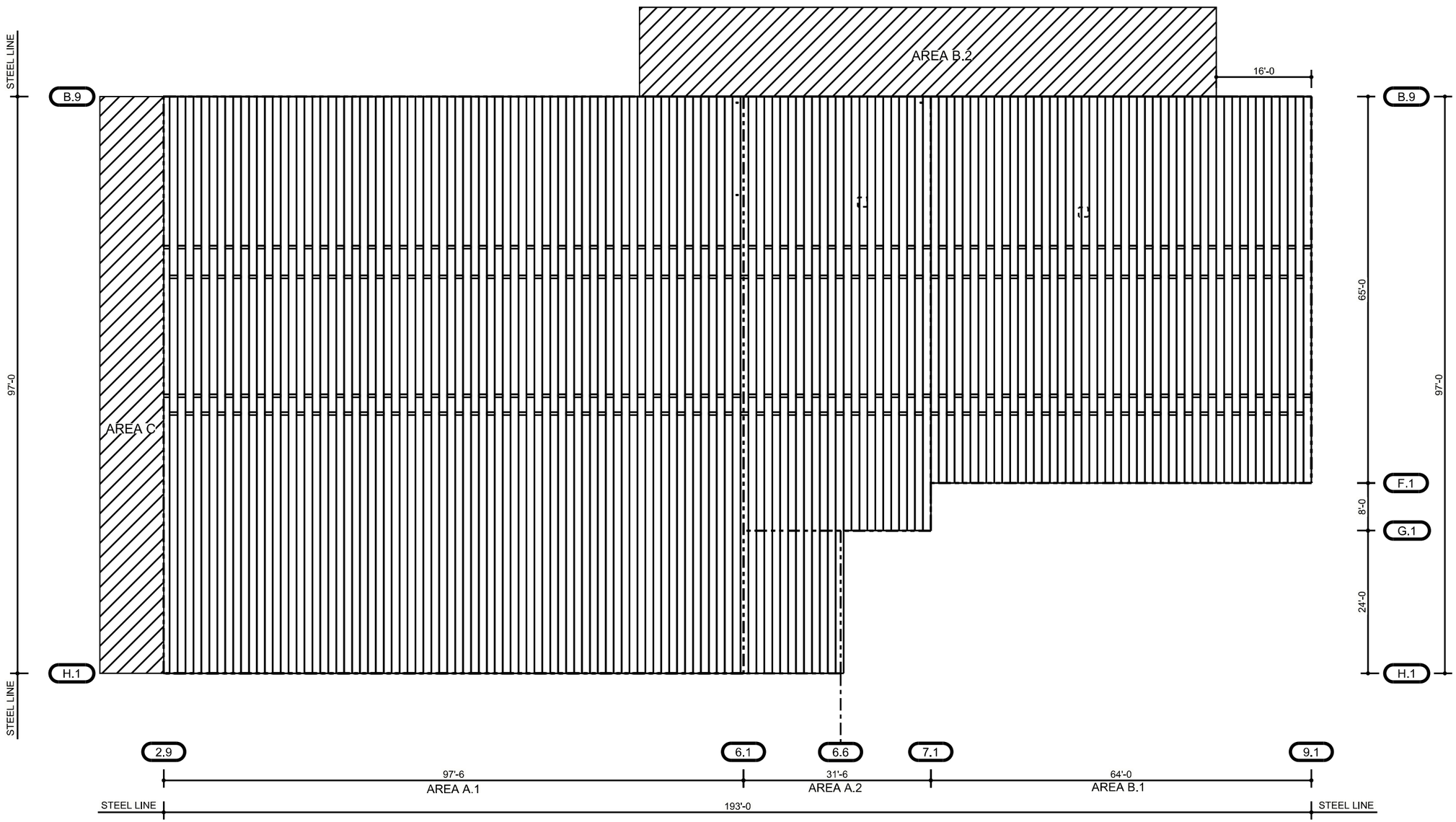
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

MBMA MEMBER
IAS ACCREDITED AC472
CWB CERTIFIED CSA W47.1
CSSBI CERTIFIED CSA A660

05/23/2025 09:25:59am

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



ROOF SHEETING PLAN (AREA A.1, A.2 & B.1)

NOTE: ROOF PANELS WILL EXTEND OVER THE 6" STUDS & 3" IMP

JOB NUMBER	T25U0346A
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
DRAWING TITLE	ROOF SHEETING PLAN (AREA A.1, A.2 & B.1)
	NOT FOR CONSTRUCTION

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

MBMA MEMBER · IAS ACCREDITED · CERTIFIED CSA W47.1 · CERTIFIED CSA A660 · ICC-ES

05/23/2025 09:26:04am

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

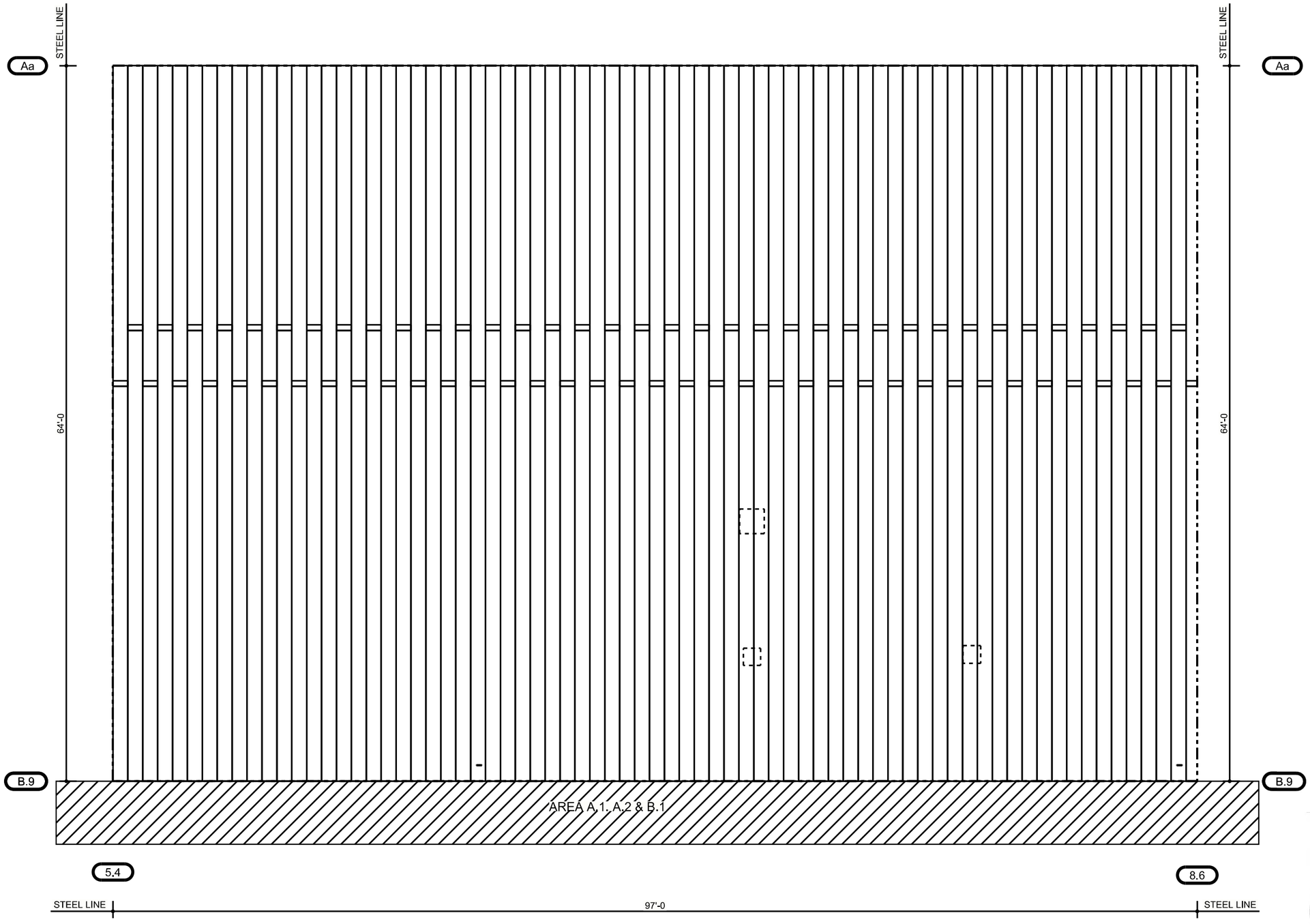
PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

ROOF SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.



NOTE: ROOF PANELS WILL EXTEND OVER THE 6" STUDS & 3" IMP

ROOF SHEETING PLAN (AREA B.2)

ROOF SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

DRAWING TITLE
ROOF SHEETING PLAN (AREA B.2)

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

MBMA MEMBER · IAS ACCREDITED · CERTIFIED CSA W47.1 · CERTIFIED CSA A660

05/23/2025 09:26:06am

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	3'-6"	6'-2"		

FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

WALL PANEL ALIGNMENT WITH DOORS AND WINDOWS WILL BE VERY DIFFICULT TO ACHIEVE DUE TO VARIATION IN PANEL JOINT WIDTH UPON INSTALLATION AND IS THE RESPONSIBILITY OF THE INSTALLER.

FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

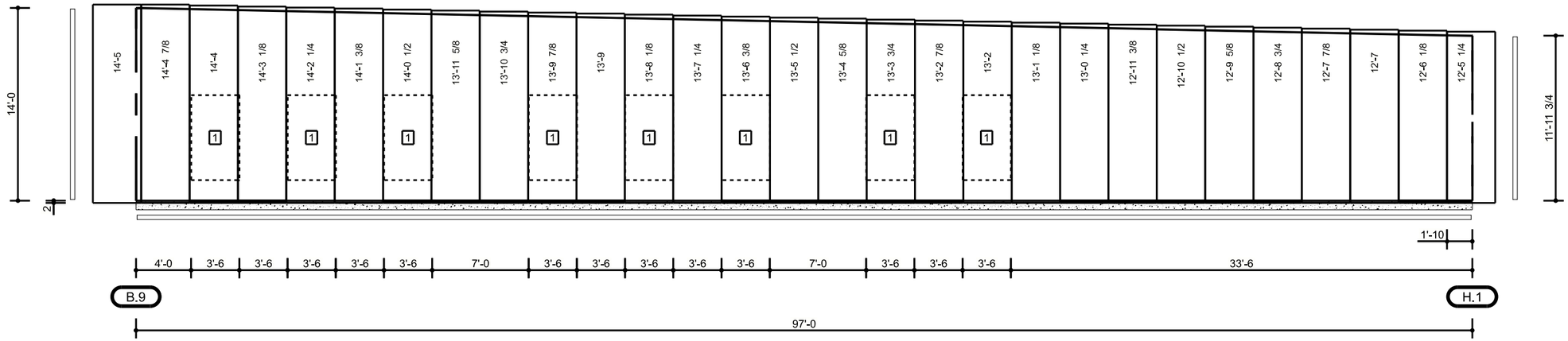
INSULATED METAL PANELS DO NOT MODULATE TO THE NET DIMENSION OF THE PANEL.

NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W17	1196	TBK	GA4000, GA4001, GA4035, GA4200, GA4120



PANEL TYPE	SANTA FE	
CORE MATERIAL	POLYURETHANE	
CORE THICKNESS	3"	
COVERAGE	42"	
	EXTERIOR FACE	INTERIOR FACE
GAUGE	22	26
MATERIAL	G-90 GALV. or AZ50 STEEL	G-90 GALV. or AZ50 STEEL
FINISH	TBK	POLYESTER
COLOR	TBK	IGLOO WHITE
TEXTURE	HEAVY EMBOSSED	EMBOSSED



SHEETING ELEVATION - ENDWALL AT LINE 0.9
AREA C

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

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MBMA MEMBER
IAS ACCREDITED MANUFACTURING INSPECTION
AWS CERTIFIED D1.3
CERTIFIED CSA W47.1
CERTIFIED CSA A660
NUCOR Building Systems
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/20/2025 12:55:48pm

JOB NUMBER **T25U0346A**

ADDRESS
WASHINGTON COUNTY
OWASSO, OK 74055

PROJECT NAME
CYL-HUB1-1,2,&3

BUYER NAME
DLR GROUP

DRAWING STATUS
FOR PERMITS ONLY
NOT FOR CONSTRUCTION

DRAWING TITLE
SHEETING ELEVATION - ENDWALL AT LINE 0.9 (AREA C)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

SHEET S4

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	3'-6"	6'-2"		

DOWNSPOUT LOCATION & TRIM CHART		
MARK	TRIM	DETAIL
MAX SPACING OF DOWNSPOUT DROPS: 40'-0" O.C. MAX.		
SEE ELEVATION BELOW FOR DROP LOCATIONS (DS1), (DS2), ETC.		

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W18	1194	TBK	GA4000, GA4001, GA4035, GA4200, GA4100
W18	1195	TBK	GA4000, GA4001, GA4035, GA4200, GA4100

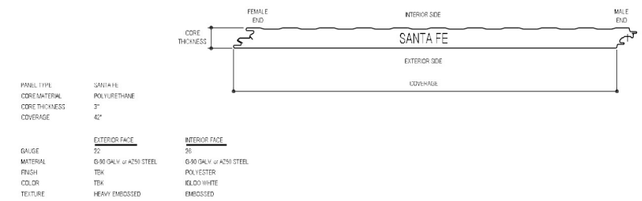
FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

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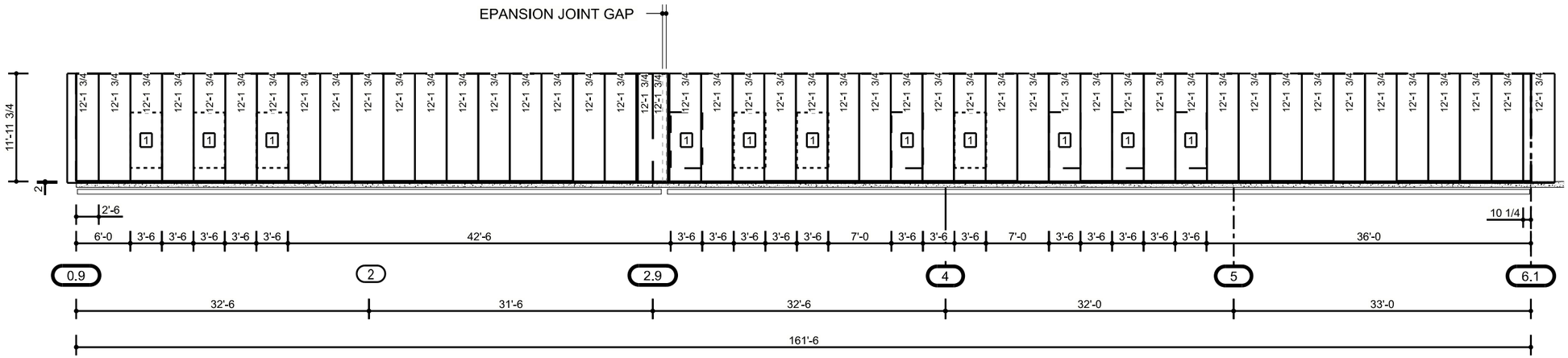
FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

INSULATED METAL PANELS DO NOT MODULATE TO THE NET DIMENSION OF THE PANEL.

NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.



		EXTERIOR FACE	INTERIOR FACE
PANEL TYPE	SANTA FE		
CORE MATERIAL	POLYURETHANE		
CORE THICKNESS	3"		
COVERAGE	42"		
GAUGE		22	26
MATERIAL		G-90 GALV. or A250 STEEL	G-90 GALV. or A250 STEEL
FINISH		TBK	POLYESTER
COLOR		TBK	IGLOO WHITE
TEXTURE		HEAVY EMBOSSED	EMBOSSED



SHEETING ELEVATION - SIDEWALL AT LINE H.1
AREA C & AREA A.1

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

MBMA METAL BUILDING MANUFACTURERS ASSOCIATION
IAS ACCREDITED MANUFACTURER #0102
AWS CERTIFIED CSA W47.1
NUCOR Building Systems
PHONE: (260) 837-7891
FAX: (260) 837-7384
CERTIFIED CSA A660
CERTIFIED CSA A660

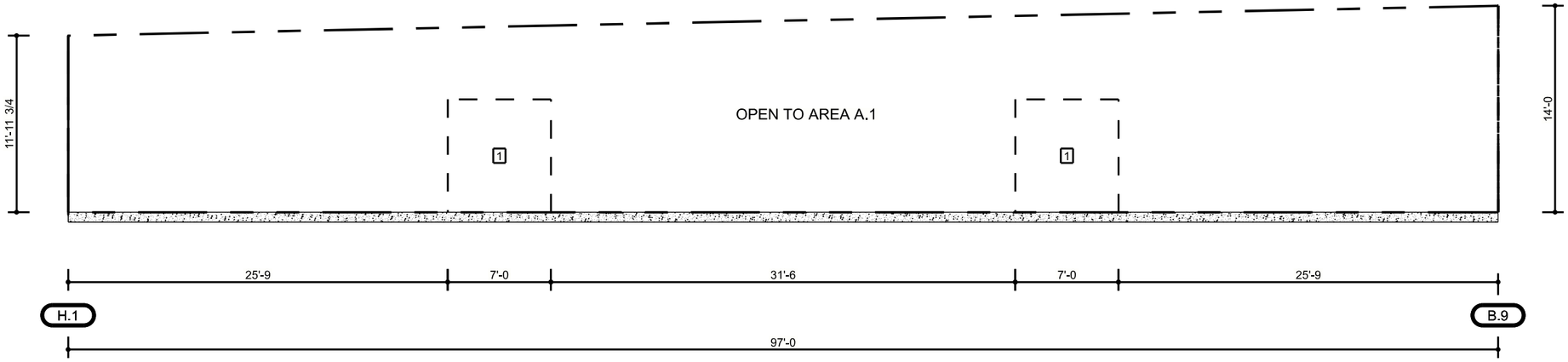
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JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY
NOT FOR CONSTRUCTION
DRAWING TITLE: SHEETING ELEVATION - SIDEWALL AT LINE H.1 (AREA C & AREA A.1)
SHEET: S5

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	7'-0"	7'-8"		



SHEETING ELEVATION - ENDWALL AT LINE 2.9
AREA C

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

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MBMA MEMBER
IAS ACCREDITED MANUFACTURING AC172
CWB CERTIFIED CSA W47.1
CSSBI CERTIFIED CSA A660
NUCOR building systems
PHONE: (260) 837-7891
FAX: (260) 837-7384

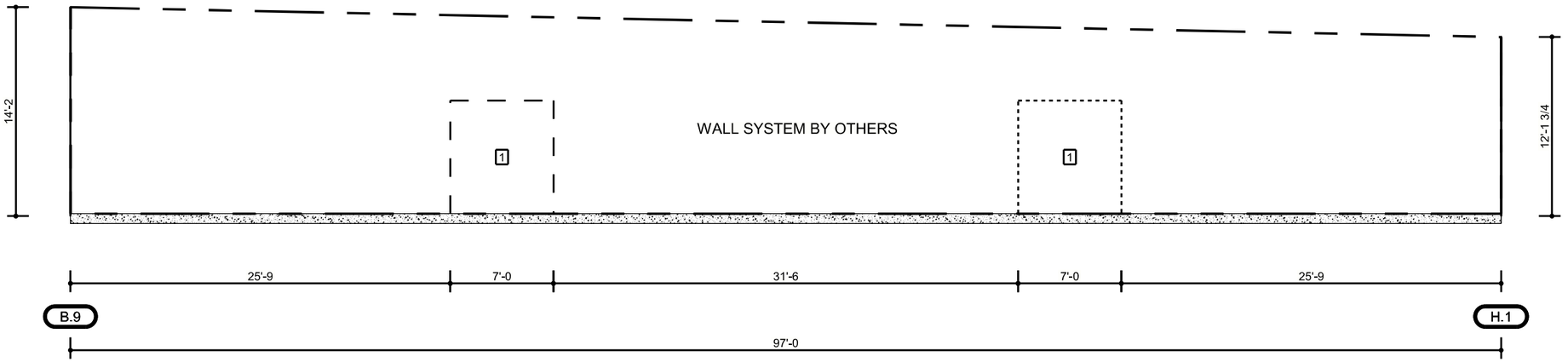
05/20/2025 12:55:52pm

JOB NUMBER: **T25U0346A**
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE: SHEETING ELEVATION - ENDWALL AT LINE 2.9 (AREA C)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	7'-0"	7'-8"		



SHEETING ELEVATION - ENDWALL AT LINE 2.9
AREA A.1

WALL SHEETING GENERAL NOTES

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MBMA MEMBER
IAS ACCREDITED
CWB CERTIFIED CSA W47.1
CERTIFIED CSA A660
CSSBI
NUCOR building systems
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/20/2025 12:55:52pm

JOB NUMBER: **T25U0346A**
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE: SHEETING ELEVATION - ENDWALL AT LINE 2.9 (AREA A.1)
SHEET: S7

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

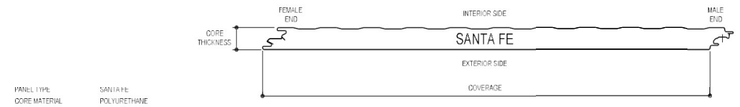
WALL PANEL ALIGNMENT WITH DOORS AND WINDOWS WILL BE VERY DIFFICULT TO ACHIEVE DUE TO VARIATION IN PANEL JOINT WIDTH UPON INSTALLATION AND IS THE RESPONSIBILITY OF THE INSTALLER.

FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

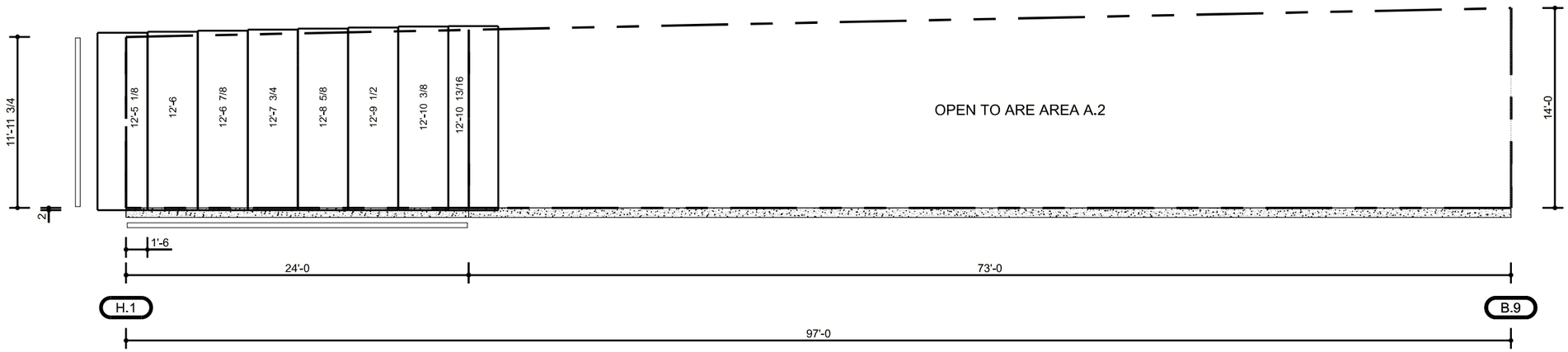
INSULATED METAL PANELS DO NOT MODULATE TO THE NET DIMENSION OF THE PANEL.

NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W03	1198	TBK	GA4000, GA4001, GA4035, GA4200, GA4120



PANEL TYPE	SANTA FE	
CORE MATERIAL	POLYURETHANE	
CORE THICKNESS	3"	
COVERAGE	42"	
	EXTERIOR FACE	INTERIOR FACE
GAUGE	22	26
MATERIAL	G-90 GALV. or AZ50 STEEL	G-90 GALV. or AZ50 STEEL
FINISH	TBK	POLYESTER
COLOR	TBK	IGLOO WHITE
TEXTURE	HEAVY EMBOSSED	EMBOSSED



SHEETING ELEVATION - ENDWALL AT LINE 6.1
AREA A.1

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

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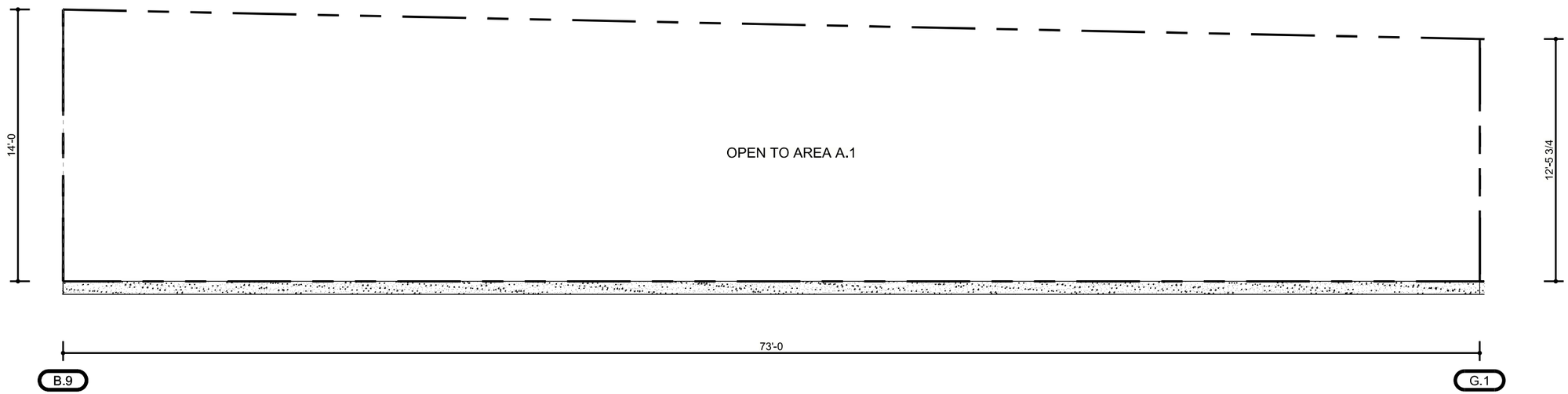
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/20/2025 12:55:53pm

JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
SHEET: S8
DRAWING TITLE: SHEETING ELEVATION - ENDWALL AT LINE 6.1 (AREA A.1)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



SHEETING ELEVATION - ENDWALL AT LINE 6.1
AREA A.2

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

MBMA MEMBER
IAS ACCREDITED AC172
CWB CERTIFIED CSA W47.1
CSSEA CERTIFIED CSA A660

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/20/2025 12:55:54pm

JOB NUMBER	ADDRESS
T25U0346A	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE	SHEETING ELEVATION - ENDWALL AT LINE 6.1 (AREA A.2)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

SHEET S9

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	10'-6"	7'-8"		
2	3'-6"	6'-2"		

DOWNSPOUT LOCATION & TRIM CHART		
MARK	TRIM	DETAIL
MAX SPACING OF DOWNSPOUT DROPS: 40'-0" O.C. MAX.		
SEE ELEVATION BELOW FOR DROP LOCATIONS (DS1), (DS2), ETC.		

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W06	1199	TBK	GA4000, GA4001, GA4035, GA4200, GA4100



PANEL TYPE	SANTA FE		
CORE MATERIAL	POLYURETHANE		
CORE THICKNESS	3"		
COVERAGE	42"		
		EXTERIOR FACE	INTERIOR FACE
GAUGE		22	26
MATERIAL		G-90 GALV. or A-250 STEEL	G-90 GALV. or A-250 STEEL
FINISH		TBK	POLYESTER
COLOR		TBK	IKLOO WHITE
TEXTURE		HEAVY EMBOSSED	EMBOSSED

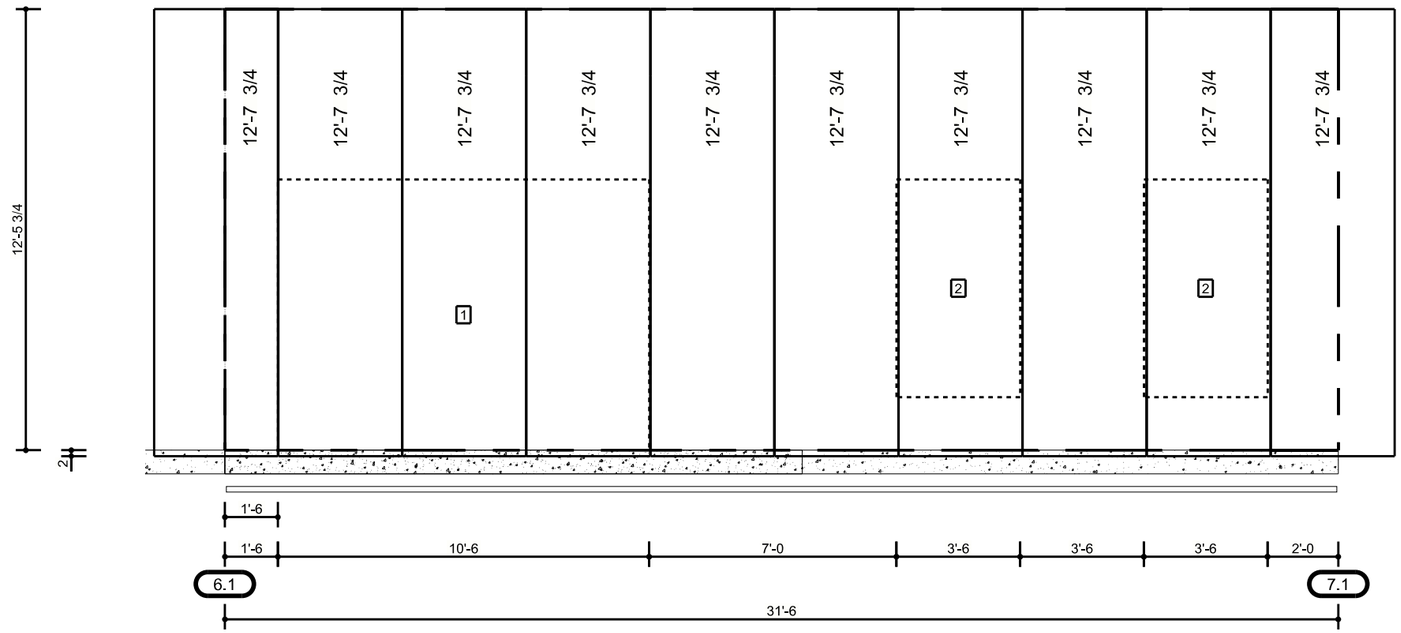
FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

WALL PANEL ALIGNMENT WITH DOORS AND WINDOWS WILL BE VERY DIFFICULT TO ACHIEVE DUE TO VARIATION IN PANEL JOINT WIDTH UPON INSTALLATION AND IS THE RESPONSIBILITY OF THE INSTALLER.

FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

INSULATED METAL PANELS DO NOT MODULATE TO THE NET DIMENSION OF THE PANEL.

NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.



SHEETING ELEVATION - SIDEWALL AT LINE G.1
AREA A.2

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

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MBMA METAL BUILDING MANUFACTURERS ASSOCIATION
IAS ACCREDITED MANUFACTURER #0161
AWS CERTIFIED CSA W47.1
NUCOR buildings group
PHONE: (260) 837-7891
FAX: (260) 837-7384
CERTIFIED CSA A660
CSSEA

05/20/2025 12:55:55pm

JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE SHEETING ELEVATION - SIDEWALL AT LINE G.1 (AREA A.2)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	7'-0"	7'-8"		

FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

WALL PANEL ALIGNMENT WITH DOORS AND WINDOWS WILL BE VERY DIFFICULT TO ACHIEVE DUE TO VARIATION IN PANEL JOINT WIDTH UPON INSTALLATION AND IS THE RESPONSIBILITY OF THE INSTALLER.

FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

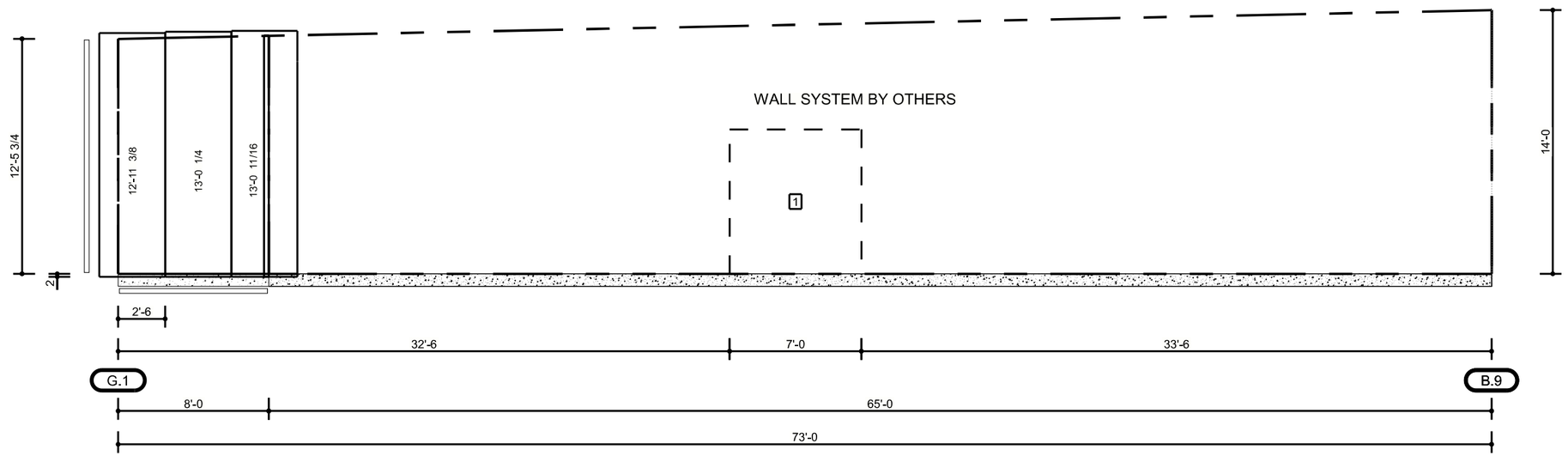
INSULATED METAL PANELS DO NOT MODULATE TO THE NET DIMENSION OF THE PANEL.

NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W07	1201	TBK	GA4000, GA4001, GA4035, GA4200, GA4120



PANEL TYPE	SANTA FE		
CORE MATERIAL	POLYURETHANE		
CORE THICKNESS	3"		
COVERAGE	42"		
		EXTERIOR FACE:	INTERIOR FACE:
GAUGE		22	26
MATERIAL		G-90 GALV. or A250 STEEL	G-90 GALV. or A250 STEEL
FINISH		TBK	POLYESTER
COLOR		TBK	IGLOO WHITE
TEXTURE		HEAVY EMBOSSED	EMBOSSED



SHEETING ELEVATION - ENDWALL AT LINE 7.1
AREA A.2

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

MBMA MEMBER
IAS ACCREDITED MANUFACTURING AC172
CWB CERTIFIED CSA W47.1
NUCOR building systems
CERTIFIED CSA A660
CSSB
PHONE: (260) 837-7891
FAX: (260) 837-7384

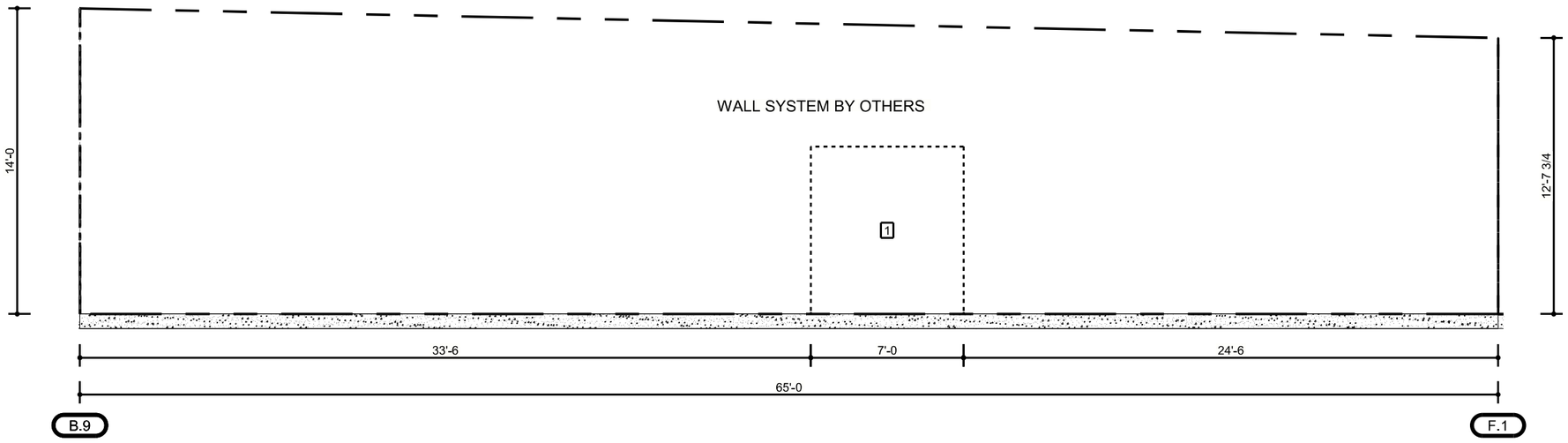
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JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
SHEET: S11
DRAWING TITLE: SHEETING ELEVATION - ENDWALL AT LINE 7.1 (AREA A.2)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	7'-0"	7'-8"		



SHEETING ELEVATION - ENDWALL AT LINE 7.1
AREA B.1

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

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MBMA MEMBER
IAS ACCREDITED AC472
CWB CERTIFIED CSA W47.1
CERTIFIED CSA A660
CSSBI
NUCOR Building Systems
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/20/2025 12:55:57pm

JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE: SHEETING ELEVATION - ENDWALL AT LINE 7.1 (AREA B.1)
SHEET: S12

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	3'-6"	6'-2"		

DOWNSPOUT LOCATION & TRIM CHART		
MARK	TRIM	DETAIL
MAX SPACING OF DOWNSPOUT DROPS: 40'-0" O.C. MAX		
SEE ELEVATION BELOW FOR DROP LOCATIONS (DS1), (DS2), ETC.		

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W10	1202	TBK	GA4000, GA4001, GA4035, GA4200, GA4100

FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

WALL PANEL ALIGNMENT WITH DOORS AND WINDOWS WILL BE VERY DIFFICULT TO ACHIEVE DUE TO VARIATION IN PANEL JOINT WIDTH UPON INSTALLATION AND IS THE RESPONSIBILITY OF THE INSTALLER.

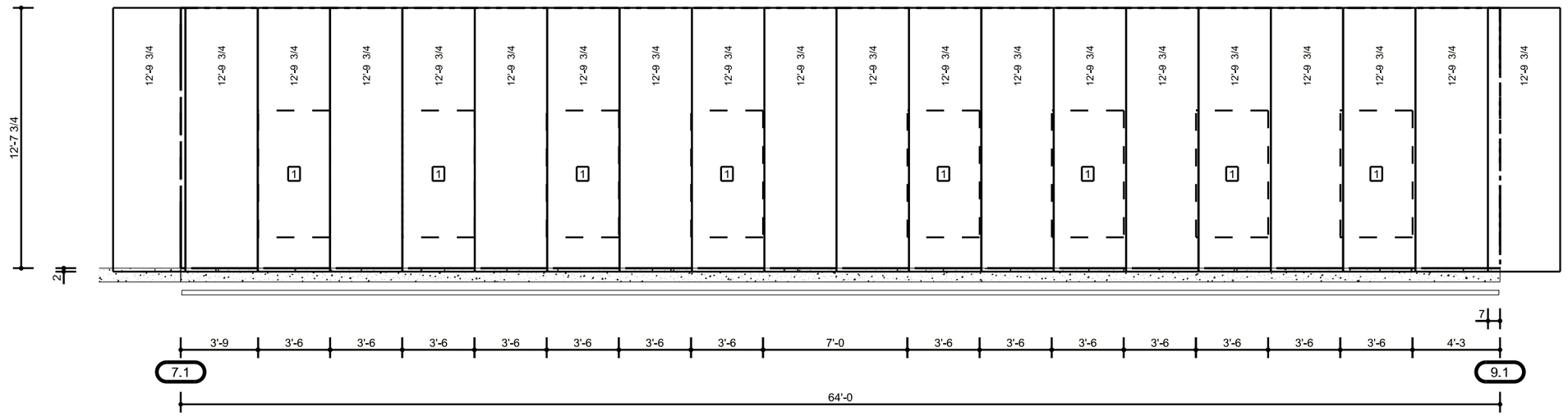
FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

INSULATED METAL PANELS DO NOT MODULATE TO THE NET DIMENSION OF THE PANEL.

NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.



		EXTERIOR FACE	INTERIOR FACE
PANEL TYPE	SANTA FE		
CORE MATERIAL	POLYURETHANE		
CORE THICKNESS	3"		
COVERAGE	42"		
GAUGE		22	26
MATERIAL		G-90 GALV. or AZ50 STEEL	G-90 GALV. or AZ50 STEEL
FINISH		TBK	POLYESTER
COLOR		TBK	IGLOO WHITE
TEXTURE		HEAVY EMBOSSED	EMBOSSED



SHEETING ELEVATION - SIDEWALL AT LINE F.1
AREA B.1

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

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MBMA METAL BUILDING MANUFACTURERS ASSOCIATION
IAS ACCREDITED MANUFACTURER #161
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
CERTIFIED CSA A660
CERTIFIED CSSBI
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/20/2025 12:55:58pm

JOB NUMBER **T25U0346A**
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE SHEETING ELEVATION - SIDEWALL AT LINE F.1 (AREA B.1)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
1	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
0	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	3'-6"	6'-2"		
2	7'-0"	7'-8"		

FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

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FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

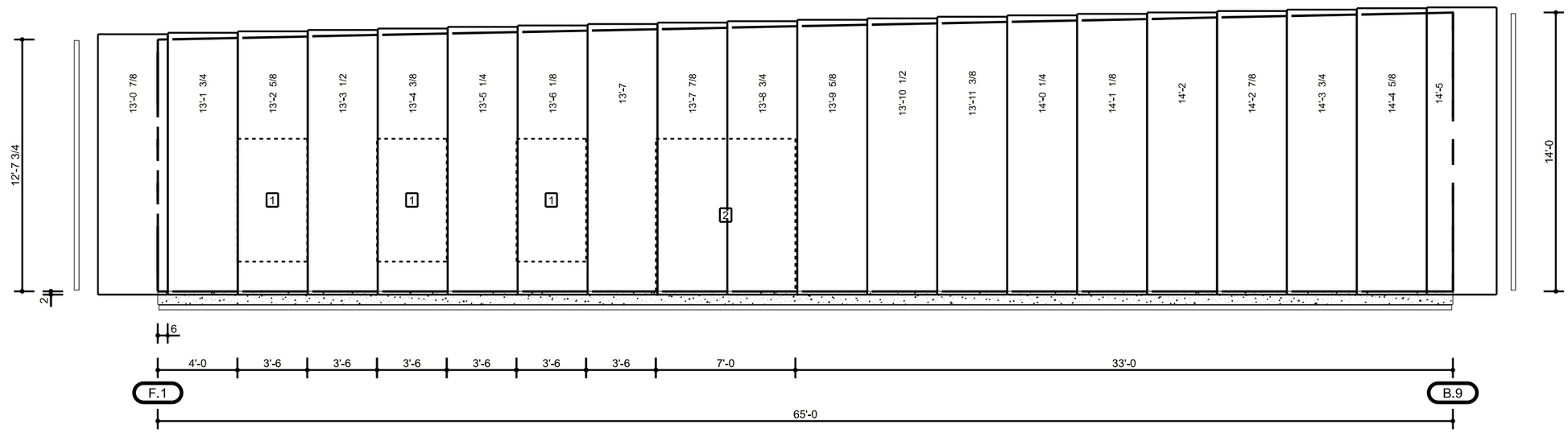
INSULATED METAL PANELS DO NOT MODULATE TO THE NET DIMENSION OF THE PANEL.

NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W11	1203	TBK	GA4000, GA4001, GA4035, GA4200, GA4120



PANEL TYPE	SANTA FE		
CORE MATERIAL	POLYURETHANE		
CORE THICKNESS	3"		
COVERAGE	42"		
	EXTERIOR FACE	INTERIOR FACE	
GAUGE	22	26	
MATERIAL	G-90 GALV. or AZ50 STEEL	G-90 GALV. or AZ50 STEEL	
FINISH	TBK	POLYESTER	
COLOR	TBK	IGLOO WHITE	
TEXTURE	HEAVY EMBOSSED	EMBOSSED	



SHEETING ELEVATION AT LINE 9.1
AREA B.1

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

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PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

MBMA MEMBER
IAS ACCREDITED MANUFACTURING AC172
AWS CERTIFIED D1.3 WAF1
CERTIFIED CSA A660
CERTIFIED CSA W47.1

nucor buildings
PHONE:(260) 837-7891
FAX: (260) 837-7384

05/20/2025 12:55:59pm

JOB NUMBER	ADDRESS
T25U0346A	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	
CYL-HUB1-1,2,&3	
BUYER NAME	
DLR GROUP	
DRAWING STATUS	
FOR PERMITS ONLY	**NOT FOR CONSTRUCTION**
DRAWING TITLE	
SHEETING ELEVATION - ENDWALL AT LINE 9.1 (AREA B.1)	

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

SHEET S14

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	3'-6"	6'-2"		
2	7'-0"	7'-8"		

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W13	1204	TBK	GA4000, GA4001, GA4035, GA4200, GA4120

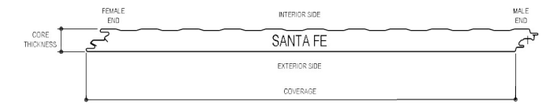
FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

WALL PANEL ALIGNMENT WITH DOORS AND WINDOWS WILL BE VERY DIFFICULT TO ACHIEVE DUE TO VARIATION IN PANEL JOINT WIDTH UPON INSTALLATION AND IS THE RESPONSIBILITY OF THE INSTALLER.

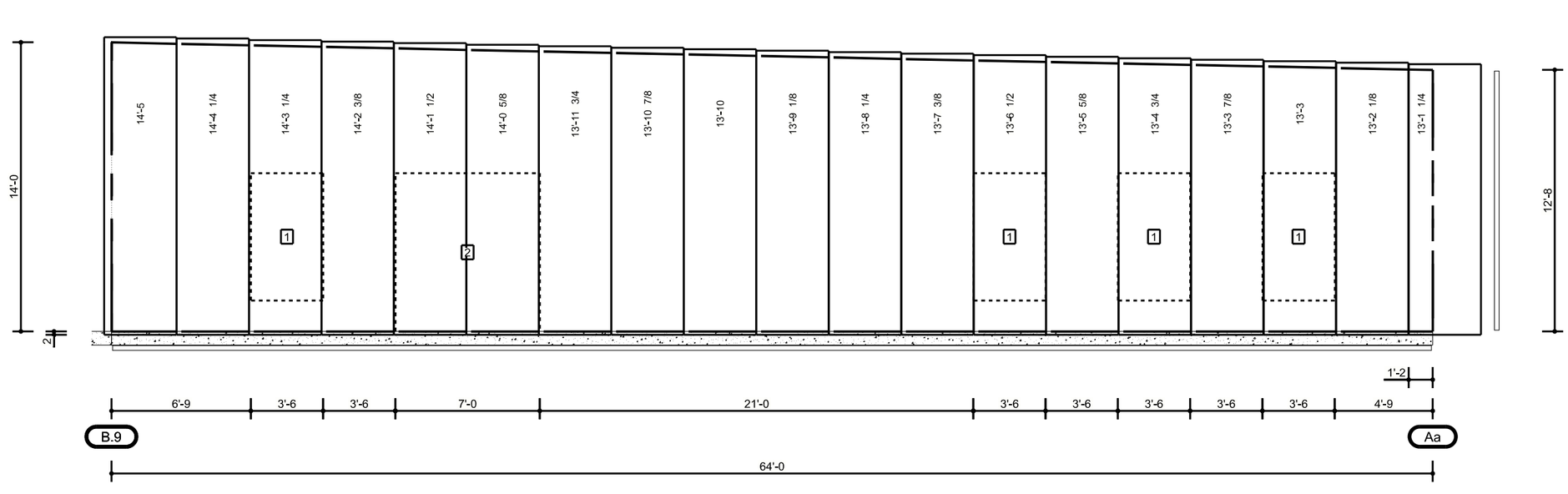
FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

INSULATED METAL PANELS DO NOT MODULATE TO THE NET DIMENSION OF THE PANEL.

NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.



PANEL TYPE	SANTA FE		
CORE MATERIAL	POLYURETHANE		
CORE THICKNESS	3"		
COVERAGE	42"		
		EXTERIOR FACE	INTERIOR FACE
GAUGE		22	26
MATERIAL		G-90 GALV. or AZ50 STEEL	G-90 GALV. or AZ50 STEEL
FINISH		TBK	POLYESTER
COLOR		TBK	KYNAR WHITE
TEXTURE		HEAVY EMBOSSED	EMBOSSED



SHEETING ELEVATION - ENDWALL AT LINE 8.6
AREA B.2

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

MBMA METAL BUILDING MANUFACTURERS ASSOCIATION
IAS ACCREDITED MANUFACTURER
AWS CERTIFIED CSA W47.1
CERTIFIED CSA A660
CSSB
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/20/2025 12:56:01pm

JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY, OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY — **NOT FOR CONSTRUCTION**
SHEET: S15
DRAWING TITLE: SHEETING ELEVATION - ENDWALL AT LINE 8.6 (AREA B.2)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/06/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	3'-6"	6'-2"		
2	3'-6"	7'-8"		

DOWNSPOUT LOCATION & TRIM CHART		
MARK	TRIM	DETAIL
MAX SPACING OF DOWNSPOUT DROPS: 40'-0" O.C. MAX		
SEE ELEVATION BELOW FOR DROP LOCATIONS (DS1), (DS2), ETC.		

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W14	1205	TBK	GA4000, GA4001, GA4035, GA4200, GA4100

FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

WALL PANEL ALIGNMENT WITH DOORS AND WINDOWS WILL BE VERY DIFFICULT TO ACHIEVE DUE TO VARIATION IN PANEL JOINT WIDTH UPON INSTALLATION AND IS THE RESPONSIBILITY OF THE INSTALLER.

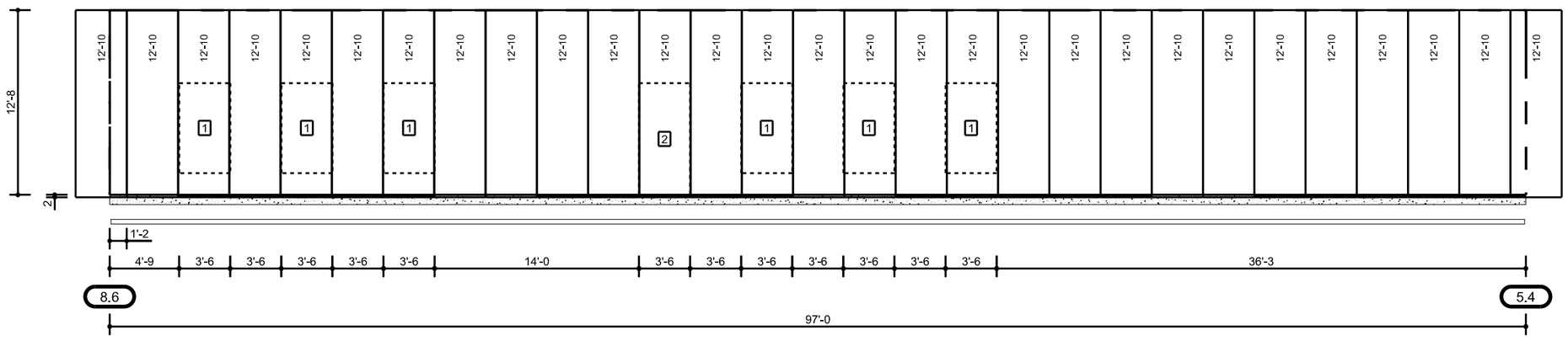
FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

INSULATED METAL PANELS DO NOT MODULATE TO THE NET DIMENSION OF THE PANEL.

NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.



PANEL TYPE	SANTA FE	
CORE MATERIAL	POLYURETHANE	
CORE THICKNESS	3"	
COVERAGE	42"	
	EXTERIOR FACE	INTERIOR FACE
GAUGE	22	26
MATERIAL	G-90 GALV. or AZ50 STEEL	G-90 GALV. or AZ50 STEEL
FINISH	TBK	POLYESTER
COLOR	TBK	IGLOO WHITE
TEXTURE	HEAVY EMBOSSED	EMBOSSED



SHEETING ELEVATION - SIDEWALL AT LINE Aa
AREA B.2

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

GN1: REQUIRED DETAILS ARE NOT ALWAYS CALLED OUT ON THE PLAN/ELEVATION. ALL DETAILS AND INFO ON THE D & SD PAGES SHOULD BE REVIEWED PRIOR TO INSTALLATION.

PHONE:(260) 837-7891
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05/20/2025 12:56:02pm

JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,&3
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE SHEETING ELEVATION - SIDEWALL AT LINE AA (AREA B.2)

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/06/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

DATE 09/17/2025
SHEET S16

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	3'-6"	7'-8"		
2	3'-6"	6'-2"		

FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

WALL PANEL ALIGNMENT WITH DOORS AND WINDOWS WILL BE VERY DIFFICULT TO ACHIEVE DUE TO VARIATION IN PANEL JOINT WIDTH UPON INSTALLATION AND IS THE RESPONSIBILITY OF THE INSTALLER.

FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

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NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W15	1206	TBK	GA4000, GA4001, GA4035, GA4200, GA4120



PANEL TYPE	SANTA FE	
CORE MATERIAL	POLYURETHANE	
CORE THICKNESS	3"	
COVERAGE	42"	
	EXTERIOR FACE	INTERIOR FACE
GAUGE	22	29
MATERIAL	G-90 GALV. or AZ50 STEEL	G-90 GALV or AZ50 STEEL
FINISH	TBK	POLYESTER
COLOR	TBK	IGLOO WHITE
TEXTURE	HEAVY EMBOSSED	EMBOSSED

SHEETING ELEVATION - ENDWALL AT LINE 5.4
AREA B.2

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

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NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

05/20/2025 12:56:03pm

JOB NUMBER: T25U0346A
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
SHEET: S17
DRAWING TITLE: SHEETING ELEVATION - ENDWALL AT LINE 5.4 (AREA B.2)
NOT FOR CONSTRUCTION

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

FRAMED OPENING TABLE				
MARK	WIDTH	HEIGHT	TRIM	DETAIL
1	7'-0"	7'-8"		
2	3'-6"	7'-8"		
3	3'-6"	6'-2"		

FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

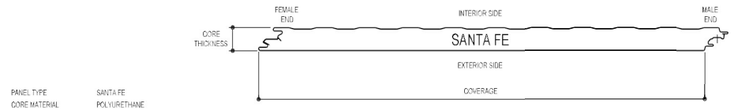
WALL PANEL ALIGNMENT WITH DOORS AND WINDOWS WILL BE VERY DIFFICULT TO ACHIEVE DUE TO VARIATION IN PANEL JOINT WIDTH UPON INSTALLATION AND IS THE RESPONSIBILITY OF THE INSTALLER.

FRAMING FOR FRAMED OPENINGS NOT BY NUCOR.

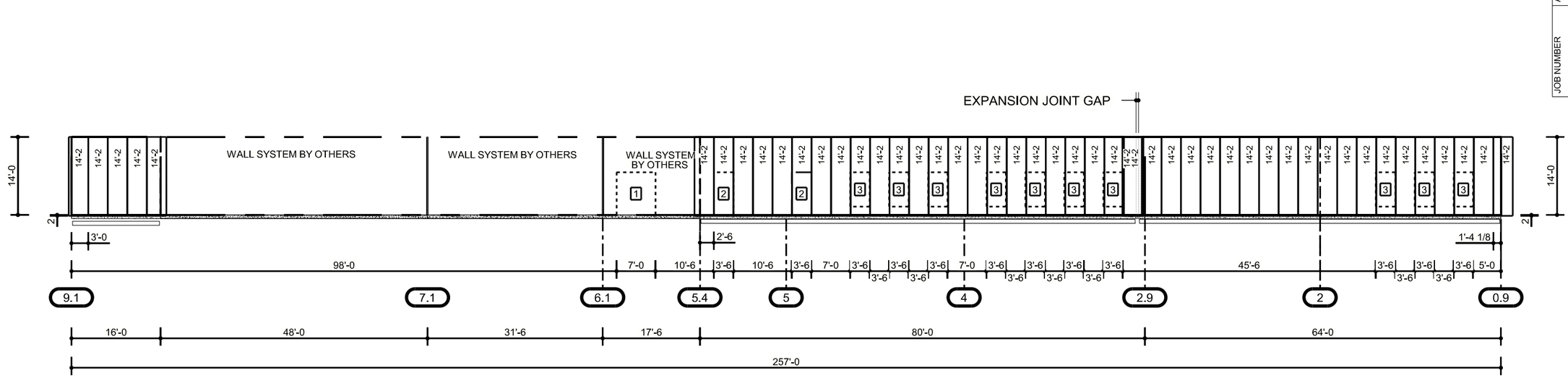
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NOTE: FOR 42" WIDE X 3" THICK METL-SPAN SANTA FE IMP (22 Ga / 26 Ga) THE MINIMUM SPACING IS 3'-6" ON CENTER. THE MAXIMUM ALLOWABLE SPACING IS 4'-0" ON CENTER WHEN USING FP1 CONNECTION AT EACH SUPPORT. ATTACHMENT MUST BE TO MINIMUM 16 Ga THICKNESS MATERIAL.

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
W12	1209	TBK	GA4000, GA4001, GA4035, GA4200, GA4100
W12	1210	TBK	GA4000, GA4001, GA4035, GA4200, GA4100
W12	1211	TBK	GA4000, GA4001, GA4035, GA4200, GA4100



		EXTERIOR FACE	INTERIOR FACE
PANEL TYPE	SANTA FE		
CORE MATERIAL	POLYURETHANE		
CORE THICKNESS	3"		
COVERAGE	42"		
GAUGE		22	26
MATERIAL		G-90 GALV. or A250 STEEL	G-90 GALV. or A250 STEEL
FINISH		TBK	POLYESTER
COLOR		TBK	IGLOO WHITE
TEXTURE		HEAVY EMBOSSED	EMBOSSED



SHEETING ELEVATION - SIDEWALL AT LINE B.9

AREAS A.1, A.2, B.1 & C

WALL SHEETING GENERAL NOTES

GSN1: PRE-DRILLING MAY BE REQUIRED WHEN FASTENING TO HOT-ROLL, NESTED, LAPPED, OR HEAVY GAUGE MEMBERS.

GSN2: THERMAL BLOCKS AND FOAM CLOSURES MAY NOT BE PROVIDED UNLESS SPECIFIED IN THE ORDER DOCUMENTS OR OTHERWISE REQUIRED.

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PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

JOB NUMBER: T25U0346A
ADDRESS: WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE: SHEETING ELEVATION - SIDEWALL AT LINE B.9 (AREAS A.1, A.2, B.1 & C)
SHEET: S18
05/20/2025 12:56:05pm

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WIZ	09/08/2025
	PERMITS	TAK / JMW	WIZ	09/08/2025

LINE AND TERMINATION TRIM CHART		
MARK	TRIM	DETAIL

PANEL PLANE ID			
PLANE NAME	PLANE ID#	COLOR	DETAILS
R04	1212	TBK	

FIELD NOTE: NUCOR DOES NOT RECOMMEND LINING UP FRAMED OPENING JAMBS WITH WALL PANEL SIDE LAPS DUE TO WEATHER TIGHTNESS CONCERNS. THE WEATHER TIGHTNESS PERFORMANCE OF THE BUILDING AT THE LOCATIONS OF THE CONDITION CANNOT BE GUARANTEED BY NUCOR.

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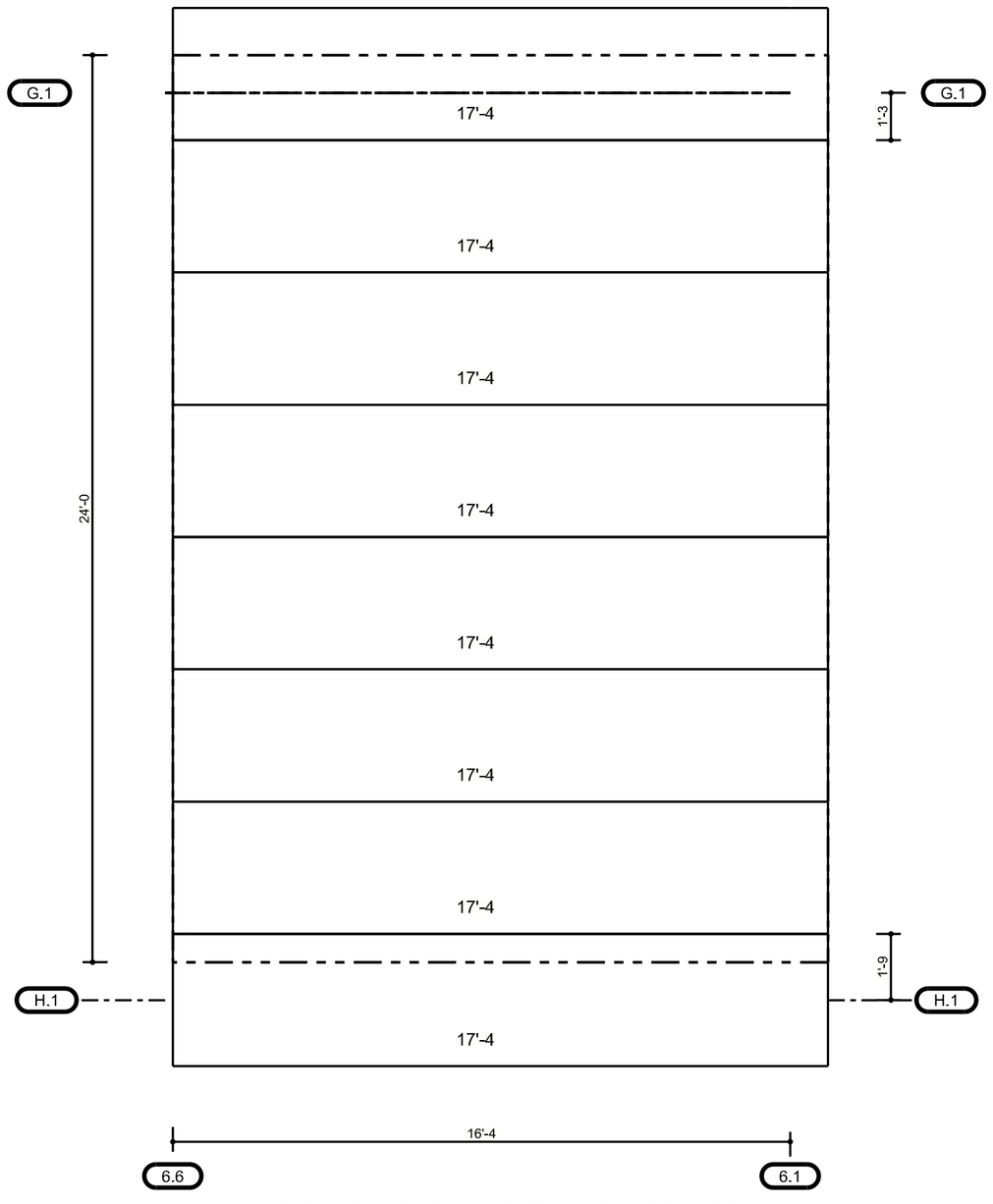
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		EXTERIOR FACE	INTERIOR FACE
PANEL TYPE	SANTA FE	GAUGE	22	26
CORE MATERIAL	POLYURETHANE	MATERIAL	G-90/GALV or AZ50 STEEL	G-90/GALV or AZ50 STEEL
CORE THICKNESS	3"	FINISH	TEK	POLYESTER
COVERAGE	42"	COLOR	TEK	KLOO WHITE
		TEXTURE	HEAVY EMBOSSED	EMBOSSED



CANOPY SOFFIT SHEETING AT LINES 6.1 & 6.6

NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384

JOB NUMBER	ADDRESS
T25U0346A	WASHINGTON COUNTY OWASSO, OK 74055

PROJECT NAME: CYL-HUB1-1,2,&3
BUYER NAME: DLR GROUP
DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE: CANOPY SOFFIT SHEETING AT LINES 6.1 & 6.6
SHEET: S19
05/20/2025 12:56:06pm

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
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OKLAHOMA

DESIGN AND PERFORMANCE CRITERIA

ROOF SYSTEM
THE ROOF SYSTEM CONSISTS OF 24 GAUGE PANELS WITH A NOMINAL COVERAGE OF 1'-4" AND A PANEL SEAM THAT IS 2 1/2" OR 3 1/2" HIGH DEPENDING ON CLIP TYPE USED. REFER TO THE DETAILS AND SECTIONS FOR SPECIFIC PANEL CLIP TYPE.

PANEL CLIP SPACING
THE ROOF SYSTEM USES A CLIP TO ATTACH THE PANELS TO THE ROOF SECONDARY MEMBERS. PANEL CLIP SPACING REQUIREMENTS AS A STANDARD ARE REQUIRED AT EVERY PURLIN AND/OR ROOF JOIST.

PANEL CLIP FASTENING REQUIREMENTS
STANDARD CLIP FASTENERS ARE DESIGNED TO FASTEN TO A STEEL STRUCTURAL MEMBER OF .060" MINIMUM THICKNESS (16 GA.). A MINIMUM OF TWO FASTENERS ARE REQUIRED TO ENGAGE THE STRUCTURAL MEMBER AT EVERY PANEL CLIP LOCATION. IN CERTAIN INSTANCES, THREE FASTENERS MAY BE REQUIRED PER CLIP REQUIRED. LOOK ON CHART AT RIGHT AND IN THE ERECTION DRAWINGS FOR YOUR SPECIFIC FASTENER REQUIREMENTS. FASTENER PULLOUT VALUES ARE DEPENDENT UPON PROJECT LOCATION, SIZE, BUILDING CODE AND LOADING.

ROOF TOP UNITS AND CURB SUPPORTS
THE ROOF SYSTEM IS ELEVATED ABOVE THE TOP OF THE ROOF SECONDARY STRUCTURAL MEMBERS. THE ROOF CURB SUB-FRAMING IS LEVEL WITH THE SECONDARY STRUCTURAL MEMBERS. REFER TO THE DETAILS FOR PROPER JAMB LOCATIONS AND DIMENSIONS.

THE ROOF SYSTEM IS DESIGNED AS A FLOATING SYSTEM. CURB FRAMING AND FLASHING MUST BE DESIGNED ACCORDINGLY TO ALLOW THE CURB SYSTEM TO FLOAT WITH THE ROOF DURING THERMAL EXPANSION AND CONTRACTION. ROOF CURBS SHALL NOT SPAN THE RIDGE OF A BUILDING.

INSULATION REQUIREMENTS
INSULATION IS RECOMMENDED TO BE USED IN ALL ROOF APPLICATIONS TO AVOID PROBLEMS WITH CONDENSATION FORMING ON THE UNDERSIDE OF THE SHEETING. THIS ALSO PROVIDES A BUFFER BETWEEN THE PURLINS AND THE ROOF TO ELIMINATE NOISE AND POSSIBLE DAMAGE DUE TO METAL-TO-METAL CONTACT. NOISE REDUCING FOAM TAPE CAN BE SUPPLIED FOR USE IN LIMITED APPLICATIONS (CANOPIES, ETC.) WHEN INCLUDED AS PART OF THE ROOF ORDER. REFER TO THE DETAILS FOR FOAM TAPE REQUIREMENTS.

PAINTED ROOF
PAINTED Loc Seam ROOF PANELS ARE OFTEN PROVIDED BY MBS. IN THIS CASE, GUTTER BRACKETS AND OUTSIDE CLOSURES WILL BE PAINTED TO MATCH THE ROOF COLOR AS A STANDARD.

MASTIC APPLICATION

TEMPERATURE EXTREMES
TEMPERATURE EXTREMES MUST BE CONSIDERED DURING INSTALLATION OF THE ROOF DUE TO THE SENSITIVITY OF MASTICS. THE RECOMMENDED INSTALLATION TEMPERATURE RANGE IS 20-120 DEGREES FAHRENHEIT. AT COLDER TEMPERATURES, THE MASTIC STIFFENS RESULTING IN LOSS OF ADHESION AND COMPRESSIBILITY. AT HOTTER TEMPERATURES, THE MASTIC BECOMES TOO SOFT FOR PRACTICAL HANDLING. ON COLD BUT SUNNY DAYS, THE PANEL SURFACE MAY BECOME WARM ENOUGH TO ACCEPT THE APPLICATION OF HEATED MASTIC EVEN THOUGH THE AIR TEMPERATURE IS BELOW 20 DEGREES FAHRENHEIT.

WHEN OVERNIGHT TEMPERATURES FALL BELOW FREEZING, THE MASTIC SHOULD BE STORED IN A HEATED ROOM SO IT WILL BE WARM ENOUGH TO USE THE FOLLOWING DAY. ON HOT DAYS, THE MASTIC CARTONS SHOULD BE STORED OFF THE ROOF IN A COOL AND SHADED AREA. WHILE ON THE ROOF, MASTIC ROLLS SHOULD BE KEPT SHADED UNTIL ACTUAL USE.

IN VERY COLD WEATHER, IT IS RECOMMENDED THAT THE FASTENERS BE TIGHTENED SLOWLY AND ONLY TIGHT ENOUGH THAT THE MASTIC IS IN FULL CONTACT WITH THE PANEL OR FLASHING. THEN ON THE NEXT SUNNY DAY, COMPLETE THE TIGHTENING PROCESS AFTER THE SUN WARMS THE PANEL AND FLASHING SURFACES.

CONTAMINATION
TO ASSURE PROPER ADHESION AND SEALING, THE MASTIC MUST HAVE COMPLETE CONTACT WITH ADJOINING SURFACES. CONTAMINANTS SUCH AS WATER OIL, DIRT AND DUST PREVENT SUCH CONTACT. THE PANEL AND FLASHING SURFACES MUST BE DRY AND THOROUGHLY CLEANED OF ALL CONTAMINANTS. BEFORE APPLYING TAPE MASTIC, THE MASTIC SHOULD BE CHECKED FOR CONTAMINANTS. IF THE MASTIC SURFACES ARE CONTAMINATED, IT MUST NOT BE USED.

DURING COOL WEATHER, CONDENSATION OR LIGHT MIST CAN ACCUMULATE ON THE PANEL AND FLASHING SURFACE AND NOT BE EASILY NOTICED. IT IS RECOMMENDED THAT THE MASTICS ALWAYS BE KEPT UNDER PROTECTIVE COVER AND THAT THE PANEL AND FLASHING SURFACES BE WIPED DRY IMMEDIATELY BEFORE INSTALLATION.

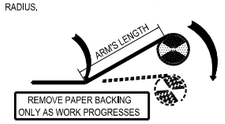
TAPE MASTIC IS PROVIDED WITH A PROTECTIVE PAPER TO REDUCE CONTAMINATION. INCOMPLETE REMOVAL OF THE PROTECTIVE PAPER WILL PREVENT THE MASTIC ADHESION TO THE PANEL OR FLASHING SURFACES. ALWAYS CHECK THAT THE PROTECTIVE PAPER IS COMPLETELY REMOVED. DO NOT REMOVE THE PROTECTIVE PAPER UNTIL IMMEDIATELY BEFORE THE PANEL OR FLASHING IS INSTALLED OVER THE MASTIC.

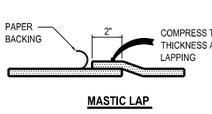
COMPRESSION
TO ASSURE PROPER COMPRESSION AND SEAL, THE TAPE MASTIC MUST BE COMPRESSED BETWEEN THE PANEL AND FLASHING SURFACES WITH FIRM AND UNIFORM PRESSURE. IN MOST CASES, THE REQUIRED PRESSURE IS APPLIED BY THE CLAMPING ACTION OF SCREWS PULLING THE ADJOINING SURFACES TOGETHER. HOWEVER, THE TAPE SEALANT'S RESISTANCE TO PRESSURE BECOMES GREATER IN COLD WEATHER.

DURING COLD WEATHER, THE FASTENERS MUST BE TIGHTENED SLOWLY TO ALLOW THE MASTIC TIME TO COMPRESS. IF THE FASTENERS ARE TIGHTENED TOO FAST, THE FASTENERS MAY STRIP OUT BEFORE THE MASTIC COMPRESSES ADEQUATELY, OR THE PANEL OR FLASHING MAY DEFORM IN THE IMMEDIATE AREA OF THE FASTENER, LEAVING THE REST OF THE MASTIC INSUFFICIENTLY COMPRESSED.

INSIDE CORNERS
AN INSIDE RADIUS, SUCH AS WHERE THE PANEL FLAT MEETS A RIB, IS USUALLY THE MOST CRITICAL AREA TO SEAL. A COMMON MISTAKE FOR THE INSTALLER IS TO BRIDGE THE MASTIC ACROSS THE INSIDE RADIUS.

WHEN THE LAPPING PANEL OR FLASHING IS PUSHED INTO PLACE, THE BRIDGED MASTIC IS STRETCHED AND THINNED. THE MASTIC MAY THEN BE TOO THIN TO ADEQUATELY SEAL THIS CRITICAL AREA. WHEN TAPE MASTIC IS APPLIED AT AN INSIDE RADIUS, IT IS RECOMMENDED THAT THE MASTIC BE FOLDED BACK, THEN PUSH THE MASTIC FOLD INTO THE RADIUS.





MASTIC LAP

ERECTORS RESPONSIBILITY

REGULATIONS
REGULATIONS SET FORTH BY THE OCCUPATIONAL SAFETY AND HEALTH ACT, LOCAL, STATE, AND/OR FEDERAL AGENCIES SHOULD BE ADHERED TO AT ALL TIMES. MBS IS NOT RESPONSIBLE FOR INJURY, DAMAGE, OR FAILURE, WHICH MAY BE THE RESULT FROM FAILING TO MEET ANY OF THESE REGULATIONS.

IN COMPLIANCE WITH THE HAZARD COMMUNICATION RULE 1910.1200, MATERIAL SAFETY DATA SHEETS (MSDS) HAVE BEEN PROVIDED FOR YOUR USE AND SAFETY. THESE DATA SHEETS SHOULD BE MADE AVAILABLE TO ALL PERSONNEL THAT COME IN CONTACT WITH THESE PRODUCTS. THESE DATA SHEETS WILL GIVE YOU THE NECESSARY INFORMATION TO PROPERLY HANDLE SUCH MATERIALS AND WHAT TO DO IN CASE OF AN EMERGENCY. (THE MSDS SHEETS ARE LOCATED ONLINE AND ARE AVAILABLE UPON REQUEST).

THE ERECTOR OF THE ROOF SYSTEM IS RESPONSIBLE FOR THE SAFE EXECUTION OF THIS DETAIL. THESE INSTRUCTIONS ARE INTENDED TO DESCRIBE THE SEQUENCE AND PROPER PLACEMENT OF PARTS. THEY ARE NOT INTENDED TO PRESCRIBE COMPREHENSIVE SAFETY PROCEDURES. THE PROCEDURES IN THIS DETAIL ARE BELIEVED TO BE RELIABLE. HOWEVER, MBS SHALL NOT BE RESPONSIBLE FOR INJURY, DAMAGE, OR FAILURE DUE TO THE MISAPPLICATION OF THESE PROCEDURES, IMPROPER ERECTION TECHNIQUES, OR NEGLIGENCE

WALKING AND WORKING ON ROOF PANELS
DO NOT PLACE BUNDLES OF PANELS ON THE ROOF STRUCTURE WITHOUT FIRST VERIFYING THE STRUCTURE WILL SAFELY SUPPORT THE CONCENTRATED WEIGHT OF THE PANELS AND THE WEIGHT OF THE INSTALLATION CREW. SOME ROOF STRUCTURES MAY NOT BE DESIGNED TO SUPPORT THE WEIGHT OF A FULL PANEL BUNDLE WITHOUT ADDITIONAL STRUCTURE SUPPORT.

DO NOT USE A ROOF PANEL AS A WORKING PLATFORM. AN UNSECURED PANEL COULD COLLAPSE UNDER THE WEIGHT OF A PERSON STANDING BETWEEN PURLINS OR AT THE PANEL END.

DO NOT WALK ON THE LAST INSTALLED PANEL RUN, AS THE UNSECURED EDGE COULD COLLAPSE UNDER A PERSON'S WEIGHT. WHEN INSTALLING CLIPS OR MAKING END LAP CONNECTIONS, ETC., STAND WHERE THE ROOF STRUCTURAL WILL SUPPORT YOUR WEIGHT.

AN APPROVED AND SAFE WALKING PLATFORM SHOULD BE USED IN HIGH TRAFFIC AREAS TO PREVENT THE ROOF PANEL FROM BEING DEFORMED, SCRATCHED, OR SCUFFED.

SAFETY EQUIPMENT
THE USE OF SAFETY EQUIPMENT FOR THE ROOF PANEL INSTALLATION IS RECOMMENDED AT ALL TIMES DURING THE INSTALLATION PROCESS. HOWEVER, WHEN USING LANYARDS, ENSURE THAT THE CLASP, BELT HOOKS AND WIRE CABLES ARE COVERED IN SUCH A MANNER THAT THEY WILL NOT SCRATCH THE PANEL SURFACE IF ACCIDENTALLY DRAGGED ALONG THE PANEL.

CREW SIZE
THE LENGTH OF THE INDIVIDUAL ROOF PANELS SHOULD BE CONSIDERED WHEN DETERMINING CREW SIZE. IT IS RECOMMENDED THAT UNDER NORMAL CONDITIONS, THERE BE ONE PERSON FOR EVERY TEN FEET OF PANEL LENGTH, PLUS ONE.

PANEL OVERHANG
DO NOT STAND ON THE END OF UNSUPPORTED (CANTILEVERED) PANELS AT THE EAVE OR RIDGE. STANDING ON THE CANTILEVER PORTION MAY RESULT IN PANEL COLLAPSE.

POINT LOADS
WHEN PROPERLY SUPPORTED BY THE STRUCTURAL STEEL, PANELS ARE DESIGNED TO SUPPORT UNIFORM LOADS, WHICH ARE EVENLY DISTRIBUTED OVER THE PANEL SURFACES. POINT LOADS THAT OCCUR IN SMALL OR CONCENTRATED AREAS, SUCH AS HEAVY EQUIPMENT, LADDER, OR PLATFORM FEET, ETC., MAY CAUSE PANEL DEFORMATION OR EVEN PANEL COLLAPSE.

SLICK SURFACES
PANEL SURFACES AND STRUCTURAL STEEL SURFACES ARE HARD, SMOOTH, AND NONABSORBENT, WHICH CAUSES THESE SURFACES TO BE VERY SLICK WHEN WET OR COVERED WITH SNOW OR ICE. EVEN BLOWING SAND OR HEAVY DUST CAN MAKE THESE SURFACES DIFFICULT TO WALK ON WITHOUT SLIPPING.

UNPAINTED PANEL SURFACES ARE OFTEN COATED WITH OIL TO ACCOMMODATE THE PANEL-FABRICATION PROCESS. ALTHOUGH DESIGNED TO WASH AWAY OR EVAPORATE DURING NORMAL WEATHER, THE OIL ON NEW PANELS CAN BE EXTREMELY SLICK, ESPECIALLY DURING PERIODS OF LIGHT RAIN AND DEW.
CAUTION MUST BE EXERCISED TO PREVENT SLIPPING AND FALLING ONTO THE ROOF SURFACE OR EVEN SLIDING OFF THE ROOF. NON-SLIP FOOTWEAR IS A NECESSITY AND NON-SLIP WORKING PLATFORMS ARE RECOMMENDED.

ELECTRICAL CONDUCTANCE
METAL PANELS ARE EXCELLENT ELECTRICAL CONDUCTORS. A COMMON CAUSE OF INJURY IS THE CONTACT OF METAL PANELS WITH POWER LINES DURING HANDLING AND INSTALLATION. THE LOCATION OF ALL POWER LINES MUST BE NOTED AND, IF POSSIBLE, FLAGGED. THE INSTALLATION PROCESS MUST BE ROUTED TO AVOID ACCIDENTAL CONTACT WITH ALL POWER LINES AND HIGH VOLTAGE SERVICES AND EQUIPMENT. ALL TOOLS AND POWER CORDS MUST BE PROPERLY INSULATED AND GROUNDED AND THE USE OF APPROVED GROUND FAULT CIRCUIT BREAKERS IS RECOMMENDED.

FALSE SECURITY OF INSULATION
BLANKET AND RIGID BOARD INSULATION BLOCK THE INSTALLER'S VIEW OF THE GROUND BELOW THE ROOF. SERIOUS INJURY CAN OCCUR WHEN THE INSTALLER GETS A FALSE SENSE OF SECURITY BECAUSE HE CANNOT SEE THE GROUND AND STEPS THROUGH THE INSULATION.

SHARP EDGES
SOME EDGES OR PANELS AND FLASHING ARE RAZOR SHARP AND CAN CAUSE SEVERE CUTS IF PROPER PROTECTIVE HAND GEAR IS NOT WORN. BE CAREFUL NOT TO INJURE OTHERS WHILE MOVING PANELS AND FLASHING.

COORDINATION WITH OTHER TRADES
SUPPORTS FOR THE ROOF SYSTEM SHALL BE PROVIDED AND ARE REQUIRED AS SHOWN IN THE SECTIONS AND AS NOTED IN THESE SPECIFICATIONS. ALL NECESSARY CLEARANCE DIMENSIONS FOR PROPER ELEVATIONS RELATIVE TO THE ROOF PANELS HAVE BEEN SHOWN. THE ERECTOR SHALL BE RESPONSIBLE FOR COORDINATING THESE DIMENSIONAL REQUIREMENTS WITH OTHER TRADES ASSOCIATED WITH THE BUILDING ROOF SYSTEM.

ERECTION CARE
THE ERECTOR MUST BE SKILLED IN THE ERECTION OF METAL BUILDING SYSTEMS AND IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, FEDERAL AND STATE CONSTRUCTION AND SAFETY REGULATIONS INCLUDING OSHA REGULATIONS AS WELL AS ANY APPLICABLE REQUIREMENTS OF LOCAL, NATIONAL OR INTERNATIONAL UNION RULES OR PRACTICES. THE ERECTOR REMAINS SOLELY RESPONSIBLE FOR THE SAFETY AND APPROPRIATENESS OF ALL TECHNIQUES AND METHODS UTILIZED BY ITS CREWS IN THE ERECTION OF THE METAL BUILDING SYSTEM AND/OR THE ROOF SYSTEM. THE ERECTOR IS ALSO RESPONSIBLE FOR SUPPLYING ANY SAFETY DEVICES SUCH AS SCAFFOLDS, RUNWAYS, NETS, ETC. WHICH MAY BE REQUIRED TO SAFELY ERECT THE METAL BUILDING SYSTEM AND/OR ROOF SYSTEM.

THE ERECTOR OF THE ROOF SYSTEM SHALL EXERCISE GREAT CARE AND ATTENTION TO THE DETAILS AS SHOWN ON THESE DRAWINGS TO INSURE A SECURE AND PROPER FIT OF ALL COMPONENTS. MBS SHALL NOT BE RESPONSIBLE FOR SUPERVISING AND/OR COORDINATING THE ERECTION OF THE ROOF SYSTEM WITH OTHER TRADES.

DUE CONSIDERATION MUST BE GIVEN BY THE ERECTOR TO THE EFFECTS OF THERMAL EXPANSION AND CONTRACTION WHEN ERECTING A ROOF TIE-IN TO AN EXISTING STRUCTURE TO INSURE A SAFE, SECURE, WEATHER TIGHT CONDITION. FLASHING FOR TIE-INS TO EXISTING BUILDINGS IS TYPICALLY NOT INCLUDED AS PART OF THE MATERIAL PROVIDED BY MBS. REFER TO THE SECTIONS/DETAILS FOR SPECIFIC MATERIALS PROVIDED BY MBS.

THERMAL BLOCKS

PURPOSE
THERMAL BLOCKS ARE USED IN BOTH INSULATED AND UN-INSULATED CONDITIONS. THEY PROVIDE IMPROVED THERMAL PERFORMANCE WHERE INSULATION HAS BEEN COMPRESSED AT THE SECONDARY MEMBERS UNDER THE PANEL. THEY ALSO PROVIDE SUPPORT TO THE PANEL AND REDUCE PANEL FLUTTERING AND RUMBLE IN UN-INSULATED CONDITIONS. UN-INSULATED CONDITIONS UTILIZE THERMAL BLOCKS OR FOAM SPACERS THAT HAVE ADHESIVE TO ADHERE TO THE SECONDARY MEMBER TO PREVENT THEM FROM FALLING OUT OF PLACE.

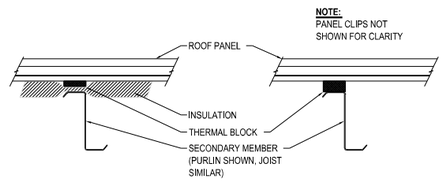
LOCATIONS
THERMAL BLOCKS OR FOAM SPACERS ARE TO BE USED OVER ANY SECONDARY MEMBER WITH THE EXCEPTION OF THE EAVE MEMBER WHERE THE EAVE PLATE IS LOCATED.

INSULATED ROOF

	THERMAL BLOCK		
CLIP	THICK	MIN. R-VALUE	MK. #
SHORT	N/A	N/A	N/A
TALL	13/16"	R-3.5	H4400
TALL	1"	R-5	H4445

UNINSULATED ROOF

	THERMAL BLOCK	
CLIP	THICK	MK. #
SHORT	1/2"	H3310
TALL	1 1/2"	H3305
FIELD CUT H3305 TO LENGTH FOR PROPER FITTING BETWEEN PANEL CLIPS		



ROOF SYSTEM COMPONENT WITH DETAILING

DEFINITION
COMPONENTS WITH DETAILING DEFINITION IS A CASE WHERE MBS IS PROVIDING THE ROOF SYSTEM TO BE USED IN CONJUNCTION WITH ANOTHER STRUCTURE. MBS REFERS TO THAT AS A "COMPONENTS WITH DETAILING." THIS SIMPLY MEANS THAT MBS SHALL CALCULATE THE QUANTITIES AND LENGTHS FOR THE MATERIAL REQUIRED. MBS IS PERFORMING NO ENGINEERING STUDY OF THE EXISTING STRUCTURE. THE ENGINEER OF RECORD ON THE PROJECT SHALL BE RESPONSIBLE FOR COORDINATING THE ROOF SYSTEM WITH THE OTHER TRADES OF THE PROJECT TO INSURE A SAFE, QUALITY AND PROPER APPLICATION OF THE ROOF SYSTEM.

DIAPHRAGM
THE ROOF IS DESIGNED TO ACCOMMODATE THERMAL EXPANSION AND CONTRACTION AND WILL NOT ACT AS A DIAPHRAGM FOR RESISTING LATERAL LOAD FORCES OR PROVIDING LATERAL STABILITY TO THE ROOF STRUCTURAL MEMBERS. DUE CONSIDERATION FOR THIS MUST BE ADDRESSED BY THE PROJECT ENGINEER OF RECORD. IN ADDITION, THE ROOF SYSTEM, BECAUSE IT IS DESIGNED TO FLOAT, WILL NOT SUPPORT STRUCTURAL MEMBERS LATERALLY. WHEN REPLACING AN EXISTING SCREW DOWN ROOF, ADDITIONAL BRACING MAY BE REQUIRED TO LATERALLY SUPPORT THE MEMBERS. ENGINEERING AND MATERIAL FOR THESE USES SHALL NOT BE PROVIDED BY MBS.

BUILDING & PANEL PREPARATION

STEP 1: PLUMB AND SQUARE
THE FIRST STEP IN THE SUCCESSFUL INSTALLATION OF WALL PANELS IS TO HAVE THE PRIMARY FRAMING PLUMB AND SQUARE. FOR BEST RESULTS, IT IS RECOMMENDED THAT A TRANSIT BE USED WHEN ERECTING THE STRUCTURAL STEEL. MAKE SURE THAT THE FOUNDATION AND BUILDING STRUCTURE IS SQUARE, LEVEL, AND CORRECT TO THE OUT-TO-OUT STEEL LINE DIMENSIONS.
SEE FIGURE "A"

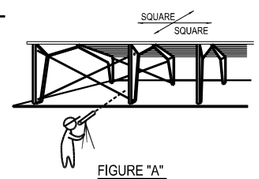


FIGURE "A"

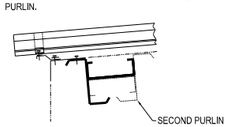
FIELD CUTTING PANELS

WHEN FIELD CUTTING OR MITERING WALL PANELS, NON-ABRASIVE CUTTING TOOLS SUCH AS NIBBLERS OR TIN-SNIPS SHALL BE USED. ABRASIVE CUTTING TOOLS SUCH AS MECHANICAL GRINDERS OR POWER SAWS CAN DAMAGE THE MATERIAL FINISH AND CREATE EXCESS METAL SHAVINGS THAT CAN CORRODE THE PANELS. THE USE OF NON-APPROVED CUTTING DEVICES MAY VOID THE FACTORY WARRANTY.

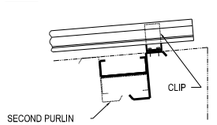
ANY METAL SHAVINGS THAT ARE CREATED NEED TO BE CLEANED FROM THE PANEL TO PREVENT SCRATCHING AND/OR CORROSION. THE MANUFACTURER WILL NOT ACCEPT CLAIMS FOR DAMAGE/DETERIORATION DUE TO USE OF UNAPPROVED TOOLS.

SPECIAL CONDITION AT A STRONG-BACK EAVE BEAM

IF THIS PROJECT HAS AN EAVE BEAM WITH (2) PURLINS, AS SHOWN, DO NOT ATTACH ROOF CLIPS TO THE "SECOND" PURLIN.



EAVE BEAM AT LOW EAVE



EAVE BEAM AT HIGH EAVE

FASTENER INSTALLATION

RECOMMENDED TOOL TYPES: SEE ALSO FASTENER SCHEDULE
4 AMP OR HIGHER RATED TOOLS (DO NOT USE IMPACTING TOOLS)
2000 - 2500 RPM SCREW GUN WITH TORQUE ADJUSTABLE CLUTCH
MANUAL OR ELECTRIC RIVET TOOL

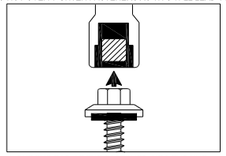
DO NOT USE IMPACTING TOOLS
TO ASSURE PROPER VOLTAGE TO THE TOOL, EXTENSION CORDS SHOULD BE CHECKED FOR PROPER WIRE SIZE/CHORD LENGTH.
16 GAGE WIRE, MAXIMUM CHORD LENGTH = 100'
14 GAGE WIRE, MAXIMUM CHORD LENGTH = 200'
12 GAGE WIRE, MAXIMUM CHORD LENGTH = 300'

DRIVING TIPS:
SET THE NUT DRIVER AS DESCRIBED BELOW PRIOR TO INSTALLING FASTENERS TO PREVENT FASTENER WOBBLE...

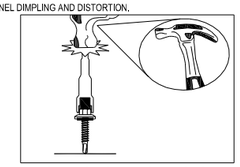
SOCKET EXTENSIONS (4" OR 6") ARE RECOMMENDED TO BE USED FOR INSTALLING PANEL CLIP FASTENERS TO MAINTAIN VERTICAL FASTENER INSTALLATION.

EXCESSIVE PRESSURE CAN CAUSE DRILL POINT FAILURE. LET THE FASTENER DO THE WORK.

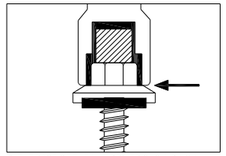
DO NOT OVER TIGHTEN FASTENERS AS THIS WILL LEAD TO PANEL DIMPLING AND DISTORTION.



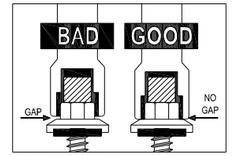
1. PUT THE TOP OF THE FASTENER INTO THE NUT DRIVER. NOTE: FOR PAINTED FASTENERS, PLACE A SINGLE OR DOUBLED LAYER OF PLASTIC BETWEEN THE FASTENER HEAD AND THE NUT DRIVER.



2. PLACE THE POINT OF THE FASTENER ONTO A HARD SURFACE AND FIRMLY HIT THE TOP OF THE NUT DRIVER 2-3 TIMES.

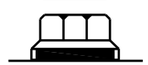


3. THE BASE OF THE NUT DRIVER SHOULD NOW BE CONTACTING THE TOP OF THE HEAD OF THE FASTENER WITH NO GAPS.



4. BAD SET VS. GOOD SET.

CORRECT



SEALING MATERIAL COMPRESSED UNDER CAP OF FASTENER.

TOO LOOSE



SEALING MATERIAL VISIBLE UNDER CAP OF FASTENER.

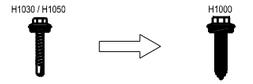
TOO TIGHT



SEALING MATERIAL COMPRESSED BUT DIMPLED THE PANEL / TRIM.

STRIP A FASTENER?
IF YOU STRIP H1030 OR H1050 REPLACE IT WITH H1000

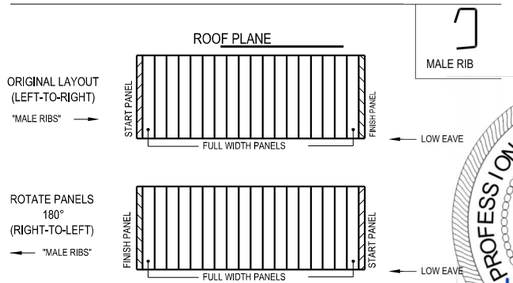
IF YOU STRIP H1000 IN ENDLAP YOU MUST REBUILD THE ENDLAP



ROOF SHEETING DIRECTION

1.) THE ROOF SHEETING PLAN IS SHOWN WITH THE ROOF PANELS BEING ERECTED FROM "LEFT-TO-RIGHT". IF THE DESIRE IS TO ERECT THE ROOF PANELS FROM "LEFT-TO-RIGHT", FOLLOW THE ROOF SHEETING PLAN AS SHOWN. IF THE DESIRE IS TO ERECT THE ROOF PANELS FROM "RIGHT-TO-LEFT", FOLLOW THE INSTRUCTIONS SHOWN BELOW.

2.) WHEN SETTING BUNDLES OF PANELS ON THE ROOF, THE "MALE RIB" MUST ALWAYS BE AWAY FROM THE END OF THE BUILDING WHERE THE SHEETING WILL BEGIN.



Loc Seam NOTES
EAVE GUTTER DETAIL w/ WALL PANELS
SEE WALL SHEETING ERECTION NOTES FOR WALL PANEL FASTENER LOCATIONS

EA3010

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JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,83
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY
NOT FOR CONSTRUCTION
DRAWING TITLE ROOF SHEETING DETAILS
05/23/2025 09:26:06am

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

SHEET SD1

BASIC INSTALLATION SEQUENCE

THE FOLLOWING STEPS OUTLINE THE BASIC INSTALLATION OF THE ROOF SYSTEM. REFERENCE THE SPECIFIC DETAILS WITHIN THIS ERECTION DRAWING SET FOR CONDITIONS SPECIFIC TO THIS PROJECT.

START PANEL PREPARATION
THE ROOF SYSTEM IS DESIGNED TO BE ELEVATED AND FLOAT ABOVE THE ROOF SUPPORT MEMBERS. BEGIN AT THE LOWER RAKE CORNER BY INSTALLING THE EAVE PLATE. (REFERENCE EAVE PLATE INSTALLATION BELOW)

AFTER EAVE PLATE HAS BEEN INSTALLED, STITCH THE FIRST ROLL OF ROOF INSULATION FROM RIDGE / HIGH EAVE TO LOW EAVE.

INSTALL THE RAKE CLIPS AND RAKE ANGLE TO SUPPORT / SECURE THE START PANEL. (REFERENCE RAKE ANGLE / RAKE CLIP PREPARATION TO THE RIGHT)

FIELD CUT AND INSTALL START PANEL
THE START PANEL IS SUPPLIED AS A FULL SHEET AND WILL NEED TO BE CUT. REFER TO THE ROOF SHEETING PLAN FOR START / FINISH DIMENSIONS AND RAKE DETAILS TO DETERMINE PROPER PANEL CUT. INSTALL THE START PANEL (LOW EAVE PANEL FIRST IF PANEL RUN IS LONG ENOUGH TO REQUIRE ENDLAPS) BY SECURING THE PANEL TO THE EAVE PLATE AND RAKE ANGLE. (REFERENCE LOW EAVE AND RAKE DETAILS). INSTALL PANEL CLIPS ON LEADING EDGE OF PANEL AS SHOWN IN THE PANEL CLIP DETAIL. CONTINUE TO INSTALL UPSLOPE START PANEL IF ENDLAPS ARE REQUIRED. REFERENCE THE BACKUP PLATE DETAIL AND ENDLAP DETAIL FOR ATTACHMENT OF START PANEL(S) AT RAKE ANGLE.

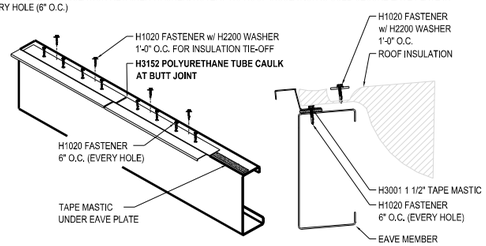
INTERMEDIATE PANEL & MODULARITY
THE INTERMEDIATE PANELS (FULL PANELS) SHOULD BE INSTALLED BY ROLLING THE PANEL INTO PLACE ENSURING THE SEAM IS FULLY ENGAGED. SECURE THE PANELS WITH PANEL CLIPS AND THE LOW EAVE ACROSS THE ROOF. IT IS RECOMMENDED TO INSTALL THE OUTSIDE CLOSURE AT THE HIGH EAVE / RIDGE AS THE ROOF PROGRESSES. THIS WILL HELP MAINTAIN MODULARITY. (REFERENCE HIGH EAVE / RIDGE DETAILS)

FINISH PANEL
THE FINISH PANEL IS SIMILAR TO THE START PANEL INSTALLATION. THE RAKE ANGLE CLIPS AND RAKE ANGLE NEEDS TO BE INSTALLED ON TOP OF THE INSULATION PRIOR TO INSTALLING THE FINISH PANEL. THE FINISH PANEL SHOULD BE FIELD CUT AND ROLLED INTO PLACE AND SECURED TO THE RAKE ANGLE SIMILAR TO THE START PANEL.

TRIM INSTALLATION
TRIM INSTALLATION CAN BE DONE AFTER THE ROOF PANELS ALL HAVE BEEN INSTALLED OR CAN BE INSTALLED AS ENOUGH PANELS HAVE BEEN INSTALLED FOR ATTACHMENT OF TRIMS. (REFERENCE TRIM DETAILS)

EAVE PLATE INSTALLATION

PLACE TAPE MASTIC ON TOP OF EAVE MEMBER PRIOR TO INSTALLING EAVE PLATE. INSTALL EAVE PLATE BY FASTENING EVERY HOLE TO EAVE MEMBER (6" O.C.) PRIOR TO INSULATION BEING INSTALLED. SECURE INSULATION WITH FASTENER & INSULATION RETAINER WASHER. NOTE: IF NO ROOF INSULATION IS USED SECURE EAVE PLATE IN EVERY HOLE (6" O.C.)

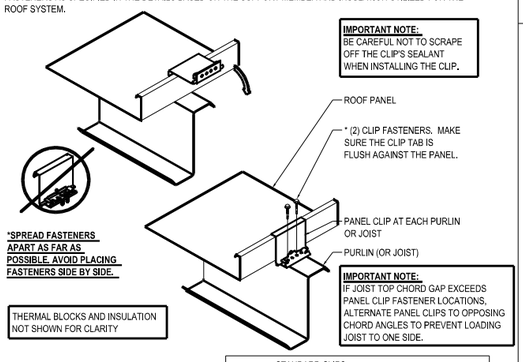


NOTE: H1020/H1070 (PURLIN/JOIST) FASTENER w/ H2200 WASHER
1'-0" O.C. FOR INSULATION TIE-OFF PROVIDED AT HIGH SIDE / RIDGE

SHORT EAVE PLATE		TALL EAVE PLATE	
EPS108	BASIC EAVE / GUTTER	EPT108	BASIC EAVE / GUTTER

PANEL CLIP INSTALLATION

BEFORE INSTALLING THE PANEL CLIP, FEEL FOR THE SUPPORT MEMBER BELOW THE INSULATION. ALIGN CLIP CENTERED OVER THE SUPPORT MEMBER AND ROLL CLIP OVER THE MALE HOOK OF THE PANEL. FASTEN CLIP WITH FASTENERS AS SPECIFIED IN THE DETAILS BASED ON THE SUPPORT MEMBER AND INSULATION UTILIZED FOR THE ROOF SYSTEM.



STANDARD CLIPS	
PART #	PART DESCRIPTION
H4550	UTILITY FIXED CLIP
LSBC-1	SHORT BEARING CLIP (USED WITH RIGID BOARD)
LSEC-1	SHORT SLIDING CLIP
LSEC-2T	TALL SLIDING CLIP

CLIP FASTENER SELECTION

PURLIN APPLICATION
H1020 FOR INSULATION ≤ R-19 (6 3/8")
H1025 FOR INSULATION = R-25 (8")
H1220 FOR UTILITY CLIP

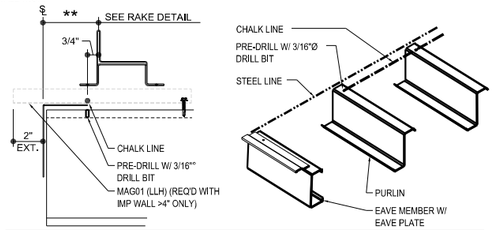
JOIST APPLICATION
H1070 FOR INSULATION ≤ R-19 (6 3/8")
H1075 FOR INSULATION = R-25 (8")

RAKE ANGLE / RAKE CLIP PREPARATION

PRIOR TO INSTALLING THE ROOF INSULATION THE SECONDARY MEMBER WILL NEED TO BE PRE-DRILLED FOR THE RAKE CLIPS. PRE-DRILLING WILL MAKE INSTALLATION OF THE RAKE AND CLIPS MUCH EASIER AFTER INSULATION IS IN PLACE. DO NOT INSTALL RAKE CLIPS UNTIL INSULATION (IF REQUIRED) IS INSTALLED. **RAKE CLIP IS INSTALLED ON TOP OF THE INSULATION.**

SNAP A CHALK LINE AS SHOWN BELOW FROM HIGH EAVE / RIDGE TO LOW EAVE. DRILL 3/16" Ø HOLE CENTERED ON SECONDARY MEMBER. THIS IS HELPS TO ALIGN THE START PANEL.

NOTE: IMP WALL PANEL >4" THICK REQUIRE ANGLES ON TOP OF SECONDARY MEMBER EXTENDED BEYOND STEEL LINE TO ALLOW FOR RAKE CLIP ATTACHMENT. ATTACH WITH (1) H1020 / H1070 TO PURLIN / JOIST PRIOR TO RAKE CLIP INSTALLATION.

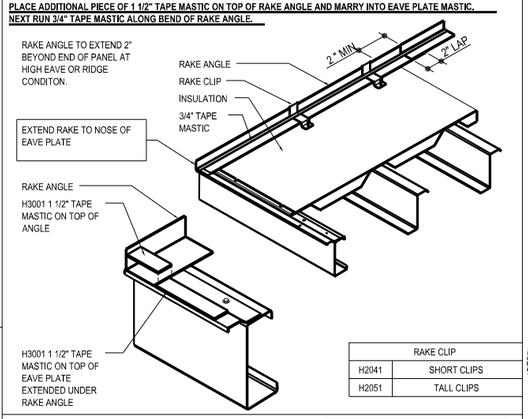


RAKE ANGLE / RAKE CLIP INSTALLATION

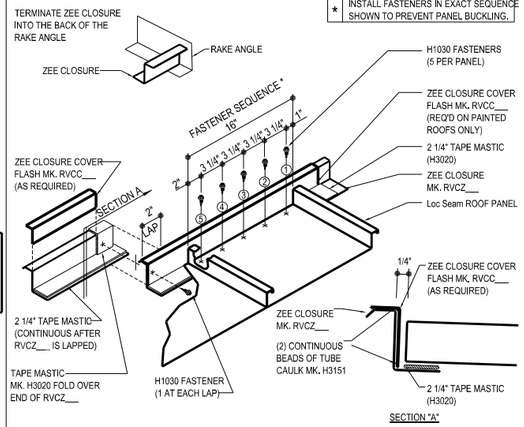
AFTER INSULATION IS IN PLACE AND PRIOR TO INSTALLING THE RAKE CLIPS AND RAKE ANGLE APPLY 1 1/2" TAPE MASTIC ON TOP OF THE EAVE PLATE BUT ONLY REMOVE PAPER BACKING WHERE THE RAKE ANGLE WILL REST. THIS WILL SEAL BETWEEN THE EAVE PLATE AND THE RAKE ANGLE.

SLIDE RAKE CLIPS ONTO RAKE ANGLE PRIOR TO SECURING THE RAKE CLIPS TO THE SECONDARY MEMBERS. PLACE THE RAKE CLIPS AND ANGLE OVER THE INSULATION USING A SMALL DRIFT PIN TO LOCATE THE PRE-DRILLED HOLE. INSTALL FASTENER THROUGH OPPOSITE CLIP HOLE INTO SECONDARY MEMBER. REMOVE DRIFT PIN AND INSTALL SECOND FASTENER TO SECURE CLIP. NOTE: (2) SCREWS ARE REQUIRED IN EVERY CLIP. DO NOT CUT INSULATION OUT FROM AROUND THE CLIP.

PLACE ADDITIONAL PIECE OF 1 1/2" TAPE MASTIC ON TOP OF RAKE ANGLE AND MARRY INTO EAVE PLATE MASTIC. NEXT RUN 3/4" TAPE MASTIC ALONG BEND OF RAKE ANGLE.



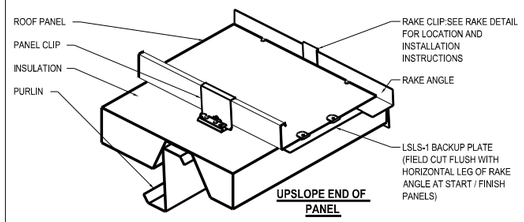
RAKE CLIP	
H2041	SHORT CLIPS
H2051	TALL CLIPS

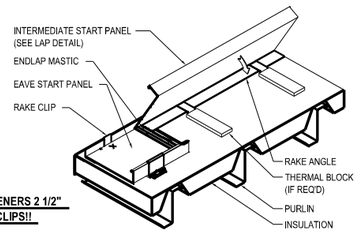


RIDGE/HIGHSIDE ZEE CLOSURE DETAIL

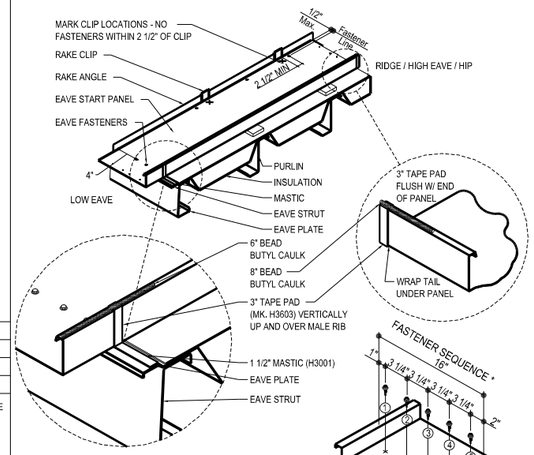
BACKUP PLATE INSTALLATION

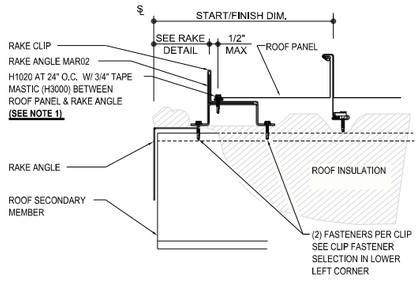
THE BACKUP PLATE PROVIDES SUPPORT AT THE ENDLAP OF THE PANEL TO ALLOW FOR COMPRESSION OF SEALANTS. THE BACK UP PLATE HAS NOTCHES THAT SLIDE ONTO THE PANEL TO LOCATE AND HOLD THE BACKUP PLATE IN PLACE. AT THE RAKE CONDITION, THE BACKUP PLATE IS TO BE FIELD CUT FLUSH WITH THE HORIZONTAL LEG OF THE RAKE ANGLE. DO NOT EXTEND BACKUP PLATE ON TOP OF RAKE ANGLE.





NOTE 1: KEEP FASTENERS 2 1/2" AWAY FROM RAKE CLIPS!!





LOC SEAM BASIC INSTALLATION DETAIL

BASIC PANEL INSTALLATION INSTRUCTIONS
SEE ROOFLINE TRIM DETAILS FOR FURTHER INFORMATION

EA3011

MBMA MEMBER
IAS ACCREDITED MANUFACTURING AC472
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
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CERTIFIED CSA A660
CESSER

05/23/2025 09:26:08am

JOB NUMBER	ADDRESS
T25U0346A	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY
NOT FOR CONSTRUCTION	
DRAWING TITLE	ROOF SHEETING DETAILS
SHEET	SD2

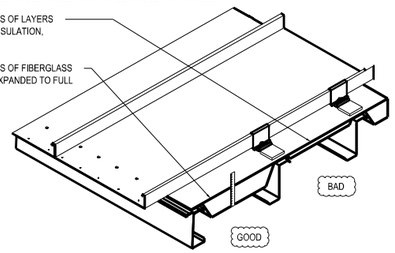
#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

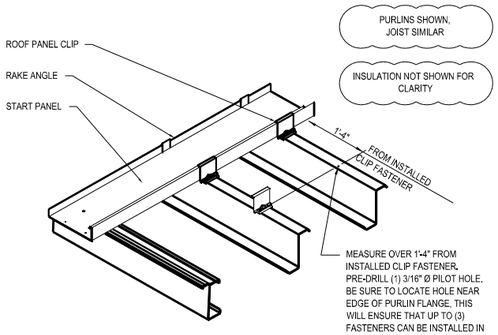
SPECIAL ATTENTION MUST BE GIVEN TO INSULATION SAG AND RECOMMEND PRE-DRILLING TO LOCATE CLIPS. MODULARITY TOOLS ARE AVAILABLE TO AID IN MODULARITY.

ENSURE THE INSULATION IS PERMITTED TO SAG AT MID-SPAN BETWEEN ROOF SECONDARY MEMBERS AND EXPANDED TO THE FULL THICKNESS WHILE STILL KEEPING CONTACT WITH BOTTOM OF PANEL.

DO NOT PULL THE INSULATION TAUT AS THIS WILL SIGNIFICANTLY REDUCE THE THERMAL PERFORMANCE OF THE ROOF SYSTEM AND COULD CAUSE ROOF PANEL MODULARITY ISSUES.



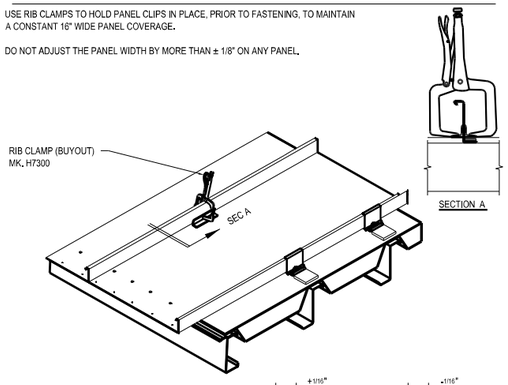
PRE-DRILL ONE PILOT HOLE FOR ROOF PANEL CLIPS AT MID-SPANS, HIGH SIDE OR RIDGE AND PANEL END LAPS, IF ANY.



MEASURE OVER 1'-4" FROM INSTALLED CLIP FASTENER. PRE-DRILL (1) 3/16" Ø PILOT HOLE. BE SURE TO LOCATE HOLE NEAR EDGE OF PURLIN FLANGE. THIS WILL ENSURE THAT UP TO (3) FASTENERS CAN BE INSTALLED IN CLIP BASE (IF REQ'D BY DESIGN. REF. ERECTION DRAWINGS FOR FASTENER REQUIREMENTS).

USE RIB CLAMPS TO HOLD PANEL CLIPS IN PLACE, PRIOR TO FASTENING, TO MAINTAIN A CONSTANT 16" WIDE PANEL COVERAGE.

DO NOT ADJUST THE PANEL WIDTH BY MORE THAN ± 1/8" ON ANY PANEL.



CORRECT PANEL MODULARITY

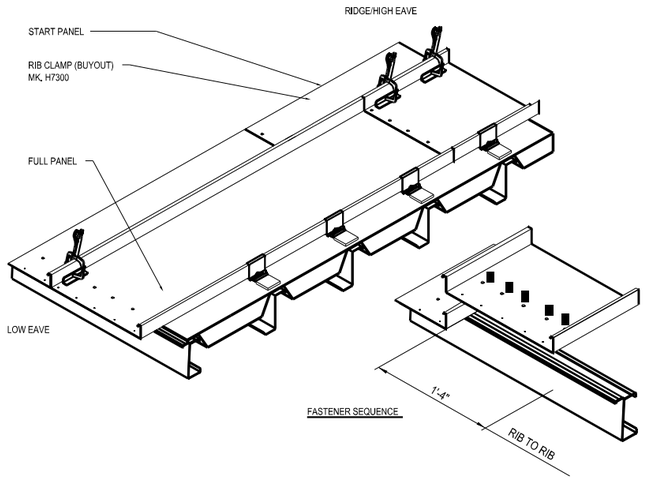
ADJUSTING PANEL MODULARITY

PANEL MODULARITY SEQUENCE

THE PROCEDURES AND SEQUENCE SHOWN ARE RECOMMENDED TO AID IN MAINTAINING PANEL MODULARITY.
THE TOOLS SHOWN ARE NOT REQUIRED BUT RECOMMENDED TO AID INSTALLATION.

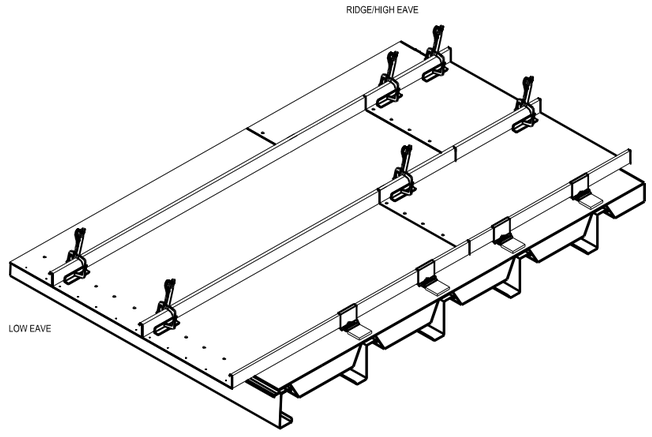
STAGE #1

1. ROLL FIRST FULL PANEL IN PLACE AND ALIGN CENTER OF PANEL FLAT TO SQUARE AS SHOWN BELOW.
2. APPLY THE LOW EAVE CLAMP AS SHOWN TO DRAW PANEL TIGHT TO CLOSURE.
3. INSTALL THE EAVE FASTENERS STARTING AT LEADING RIB.
4. AS PANEL INSTALLATION PROGRESSES, INSTALL MORE CLAMPS UPSLOPE AS SHOWN.
5. ADD, ADJUST OR LEAVE CLAMPS OFF TO MAINTAIN PANEL MODULARITY AS NECESSARY.
6. LEAVE CLAMPS ON FIRST FULL SEAM.



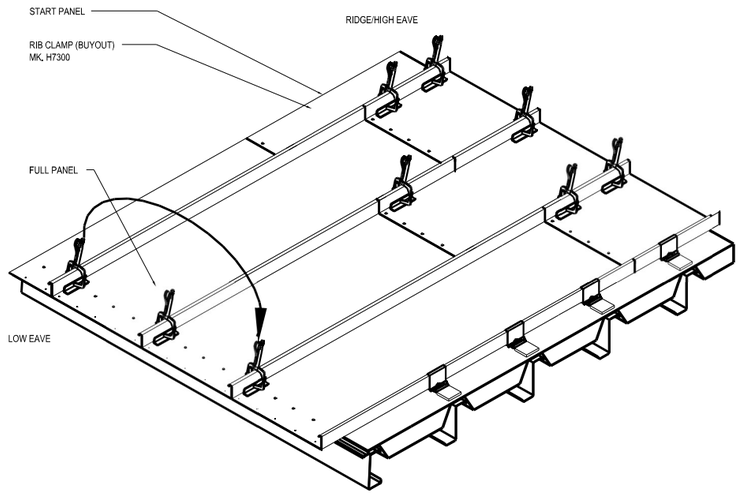
STAGE #2

1. INSTALL THE NEXT LOW EAVE PANEL AND ADD CLAMP.
2. REPEAT STEPS 2 THROUGH 6 FROM STAGE #1 NOTES.
3. LEAVE CLAMPS ON FIRST AND SECOND FULL SEAM.
4. INSTALL THE OUTSIDE CLOSURE IN THE FIRST FULL PANEL.



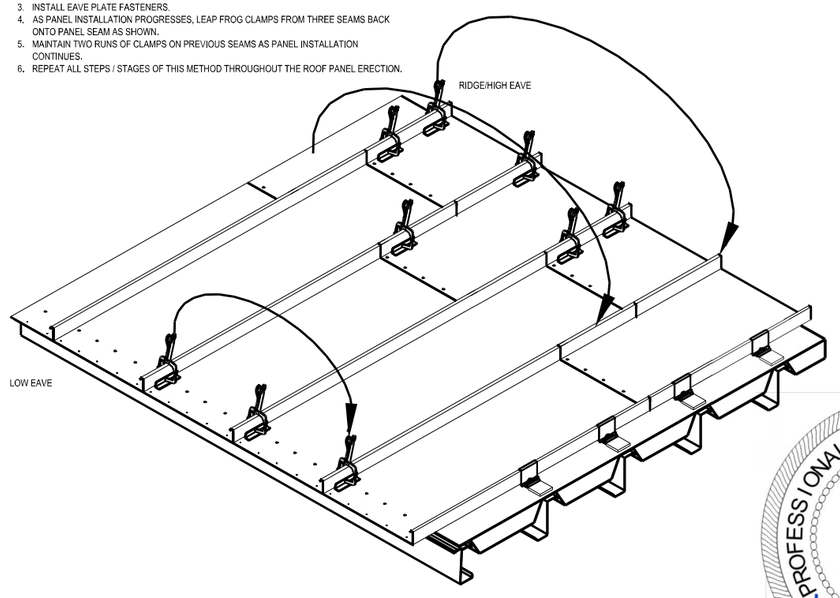
STAGE #3

1. KEEP CLAMPS IN PLACE ON THE FIRST TWO SEAMS WITH THE EXCEPTION OF THE LOW EAVE CLAMP.
2. INSTALL THE NEXT LOW EAVE PANEL AND LEAP FROG CLAMP AS SHOWN.
3. REPEAT STEPS 2 THROUGH 5 FROM STAGE #1 NOTES.



STAGE #4

1. KEEP CLAMPS IN PLACE ON THE FIRST TWO SEAMS WITH THE EXCEPTION OF THE LOW EAVE CLAMP.
2. INSTALL THE NEXT LOW EAVE PANEL AND LEAP FROG THE CLAMP AS SHOWN.
3. INSTALL EAVE PLATE FASTENERS.
4. AS PANEL INSTALLATION PROGRESSES, LEAP FROG CLAMPS FROM THREE SEAMS BACK ONTO PANEL SEAM AS SHOWN.
5. MAINTAIN TWO RUNS OF CLAMPS ON PREVIOUS SEAMS AS PANEL INSTALLATION CONTINUES.
6. REPEAT ALL STEPS / STAGES OF THIS METHOD THROUGHOUT THE ROOF PANEL ERECTION.



MODULARITY GUIDANCE

SPECIAL ATTENTION TO ABOVE STEPS TO MAINTAIN PROPER PANEL MODULARITY AND THERMAL PERFORMANCE IS CRITICAL, FAILURE TO DO SO WILL RESULT IN UNSIGHTLY PANEL APPEARANCE.

EA3012

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

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CSSEA CERTIFIED CSA A660

NUCOR BUILDING SYSTEMS
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#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

IMPORTANT NOTE:

THE INSTRUCTIONS ON THIS PAGE ONLY ADDRESS THE USE OF THE HAND CRIMPING TOOLS. INSTRUCTIONS FOR MECHANICAL SEAMING, IF REQUIRED, ARE OUTLINED IN THE SEAMING MANUAL, WHICH IS INCLUDED WITH THE MECHANICAL SEAMER KIT PROVIDED BY D.I. ROOF SEAMERS.

SPECIALIZED SEAMING AND HAND CRIMPING TOOLS
THE FINISHED SEAM OF THE ROOF PANELS REQUIRES SPECIAL SEAMING TOOLS THAT ARE AVAILABLE ONLY THROUGH D.I. ROOF SEAMERS. CAUTION: THE USE OF OTHER SEAMING / CRIMPING EQUIPMENT WILL LIKELY RESULT IN FAULTY AND / OR DAMAGED SEAMS AND SHALL INVALIDATE ANY OF THE ROOF SYSTEM'S MATERIAL AND WEATHER TIGHTNESS WARRANTIES.

SEAMING TOOL SOURCE
CONTACT D.I. ROOF SEAMERS TO PURCHASE ANY NECESSARY CRIMPING TOOLS AND FOR RENTAL INFORMATION OF THE MECHANICAL SEAMER IF REQUIRED.

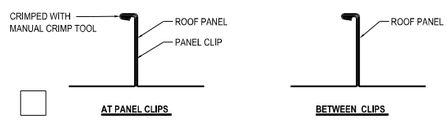
CRIMPING & SEAMING REQUIREMENTS

THE DESIGN OF THIS STRUCTURE REQUIRES SEAMING TO MEET DESIGN AND CODE REQUIREMENTS. SEE THE SEAMING PLAN FOR ROOF PLANE SPECIFIC SEAMING REQUIREMENTS.
THERE ARE THE TWO SEAM TYPES POSSIBLE WITH THE NBG Loc Seam AS NOTED BELOW. ALL OF THESE SEAM TYPES CAN BE ACHIEVED WITH THE AVAILABLE CRIMPERS. IT IS RECOMMENDED TO RENT A MECHANICAL SEAMER TO AID IN THE SEAMING PROCESS.

1. **NBG Loc Seam 90**
   THE Loc Seam 90 SEAM REQUIRES HAND CRIMPING THE ROOF PANEL WITH THE MANUAL SEAMING TOOL AT THE STARTING EAVE OR RIDGE END OF THE PANELS, END LAPS, AND AT ALL ROOF CLIPS. ONCE THE HAND CRIMPING HAS BEEN COMPLETED, THEN SEAM THE FULL LENGTH OF THE ROOF PANELS WITH THE MOTORIZED SEAMING TOOL.

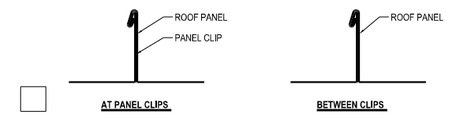
2. **NBG Loc Seam 360**
   THE Loc Seam 360 SEAM IS ACHIEVED BY RUNNING THE SINGLE DIRECTIONAL SEAMER OVER THE ENTIRE ROOF. THE ERECTOR MUST FIRST SEAM THE ENTIRE ROOF PANEL TO THE Loc Seam 90 SEAM WITH THE MOTORIZED SEAMING TOOL. **IT IS RECOMMENDED TO HAND CRIMP PANEL TO THE Loc Seam 90 SEAM PROFILE AT ALL PANEL CLIP LOCATIONS PRIOR TO MECHANICALLY SEAMING TO THE REQUIRED Loc Seam 360 SEAM PROFILE**. BEFORE THE SEAMER IS LOCKED ON, THE LOW END OF THE PANEL MUST BE HAND CRIMPED INTO A NBG Loc Seam 360 SEAM, UTILIZING THE HAND CRIMPER THAT IS SUPPLIED IN THE SEAMER KIT. THIS WILL ENABLE YOU TO LOCK THE SEAMER ONTO THE PANEL SEAM. THEN SEAM THE FULL LENGTH OF THE ROOF PANEL.

NBG Loc Seam 90 SEAM



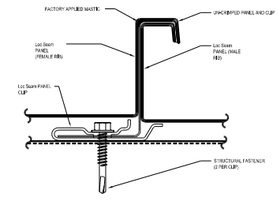
☐ **AT PANEL CLIPS** **BETWEEN CLIPS**

NBG Loc Seam 360 SEAM



☐ **AT PANEL CLIPS** **BETWEEN CLIPS**

CHECK PANEL ASSEMBLY



SIDE LAP FIT-UP
BEFORE SEAMING, INSPECT THE FULL LENGTH OF EACH ROOF PANEL SIDE LAP. CHECK THAT THE TWO PANELS ARE PROPERLY HAND CRIMPED AT ALL CLIP LOCATIONS, LOW EAVE, HIGH EAVE AND END LAPS. ANY CONDITIONS WHERE THE PANEL **IS NOT** CRIMPED PROPERLY **MUST** BE CORRECTED BEFORE ATTEMPTING TO SEAM THE ROOF PANELS. **UN-SEAMED ROOF PANELS CANNOT PROVIDE THEIR DESIGNED WIND LOAD AND WEATHER RESISTANCE.**

CLIP ALIGNMENT
BEFORE CRIMPING AND / OR SEAMING, INSPECT THAT EACH ROOF PANEL CLIP **IS** PROPERLY ENGAGED IN THE SIDE LAP ASSEMBLY. ANY DISPLACED CLIPS MUST BE CORRECTED BEFORE ATTEMPTING TO CRIMP / SEAM THE ROOF PANELS. PANEL CLIPS THAT ARE NOT PROPERLY ENGAGED AND ALIGNED CAN CAUSE FAULTY CRIMP / SEAM AND OBJECTIONABLE SEAM APPEARANCE. **THE MBS NOR D.I. ROOF SEAMERS CAN BE HELD RESPONSIBLE FOR ANY CONCERNS RELATED TO IMPROPERLY ALIGNED CLIPS.**

SEAM DAMAGE
BEFORE CRIMPING AND / OR SEAMING, INSPECT THAT EACH ROOF PANEL MALE AND FEMALE ARE FREE FROM DISTORTION AND KINKS WHICH CAN LEAD TO DIFFICULTY AND / OR DAMAGE TO THE PANEL WHILE ATTEMPTING TO CRIMP / SEAM THE PANEL. ANY DISTORTIONS / KINKS MUST BE CORRECTED BEFORE ATTEMPTING TO CRIMP / SEAM THE PANELS. **THE MBS NOR D.I. ROOF SEAMERS CAN BE HELD RESPONSIBLE FOR ANY CONCERNS RELATED TO DAMAGE CAUSED IN THE FIELD.**

CRITICAL SEAMER ORDERING INFORMATION

ROOF TYPE	-
PANEL GAUGE	- GA.
SQUARE FOOTAGE (ENTIRE ROOF)	- SQ. FT
ROOF PITCH	- :12
SEAM HEIGHT	2"
ENDLAPS	☐ YES ☐ NO
GALVALUME OR PAINTED ROOF	☐ GALVALUME ☐ PAINTED
PERIMETER CLIPS REQUIRED	☐ YES ☐ NO

PLEASE NOTE THAT ALL SEAMER ORDERS WILL TAKE APPROXIMATELY 5-7 WORKING DAYS FOR DELIVERY TO JOB SITE FROM DATE OF ORDER.

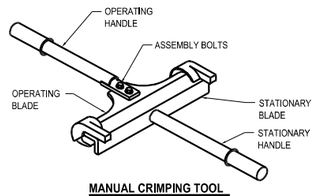
DIROOFSEAMERS.COM
PHONE (888) 343-0456

MANUAL CRIMPING TOOL OPERATION FOR Loc Seam 90 SEAM

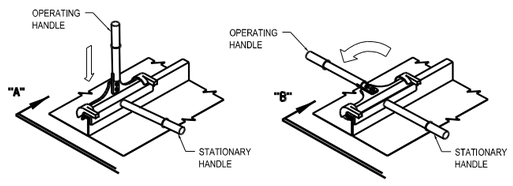
ASSEMBLE THE SEAMING TOOL
WHEN RECEIVED, THE MANUAL CRIMPING TOOL MAY BE DISASSEMBLED. ASSEMBLE THE HANDLE TO THE TOOL BODY WITH THE PROVIDED BOLTS.

TOOL ORIENTATION TO SEAM
ORIENT THE TOOL TO FIT CORRECTLY ON THE ROOF PANEL SEAM (SEE SECTION A BELOW). THE STATIONARY HANDLE MUST BE IN THE HORIZONTAL POSITION AND THE OPERATING HANDLE MUST BE ROTATED UP TO THE OPEN OR VERTICAL POSITION

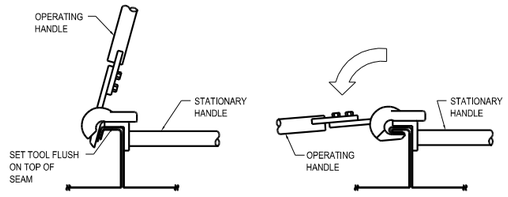
FORMING THE SEAM
WHEN THE TOOL IS CORRECTLY POSITIONED ON THE PANEL, PUSH THE STATIONARY BLADE SOLIDLY AGAINST THE TOP OF THE SEAM. WHILE HOLDING THE STATIONARY HANDLE IN THE HORIZONTAL POSITION, ROTATE THE OPERATING HANDLE DOWN TO THE HORIZONTAL POSITION. THIS WILL FORM THE SEAM (SEE SECTION B BELOW).



MANUAL CRIMPING TOOL



STEP 1 **STEP 2**



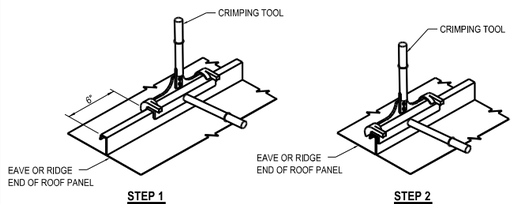
SECTION "A" **SECTION "B"**

MANUAL CRIMPING TOOL OPERATION FOR Loc Seam 90 SEAM CONT.

TOOL POSITION ON THE ROOF
WHEN HAND SEAMING AT THE LOW EAVE, RIDGE END, END LAP AND **ALL** ROOF CLIP LOCATIONS. THE SEAMING MUST BE DONE IN TWO STEPS.
STEP 1: POSITION THE CRIMPING TOOL AS SHOWN BELOW IN THE VARIOUS AREAS OF THE ROOF. ROTATE THE MOVEABLE HANDLE DOWN TO FORM A Loc Seam 90 SEAM. RELEASE HANDLE.

STEP 2: RE-POSITION THE CRIMPING TOOL AS SHOWN BELOW AND REPEAT STEP 1.

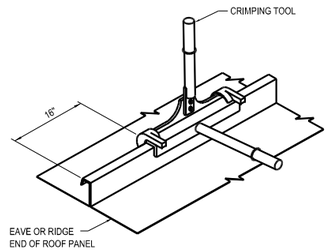
CHECKING THE FINISHED SEAM
ROTATE THE OPERATING HANDLE TO THE OPEN POSITION. REMOVE THE TOOL AND CHECK THAT THE SEAM IS CORRECTLY FORMED, AS SHOWN BELOW.



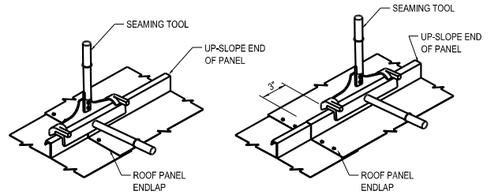
STEP 1 **STEP 2**

MANUAL CRIMPING AT THE EAVE

ERECTOR NOTES:
THE ROOF SEAM PROFILE IS COMPLETE ONLY AFTER THE ENTIRE ROOF HAS BEEN MECHANICALLY SEAMED. IF BUILDING HAS LOC SEAM 360 SEAM, DO NOT SEAM / CRIMP THE PANEL INTO A LOC SEAM 360 SEAM 16" UP FROM THE LOW EAVE, OTHERWISE THE GUTTER BRACKET WILL NOT FIT UP PROPERLY.

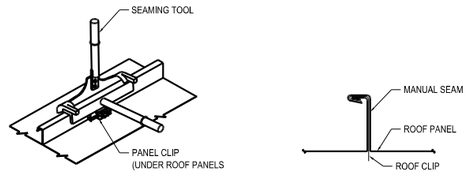


MANUAL CRIMPING AT THE EAVE



STEP 1 **STEP 2**

MANUAL CRIMPING AT THE ENDLAP

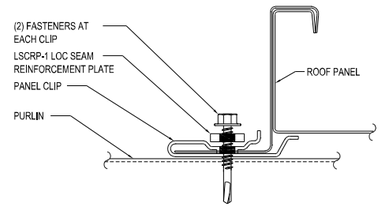


MANUAL CRIMPING AT ALL CLIPS **FINISHED MANUAL HAND CRIMP**

LOC SEAM HAND CRIMPING NOTES

HAND CRIMING TOOLS AND PROCEDURES

EA3015



CLIP FASTENER SELECTION

PURLIN APPLICATION
H1020 FOR INSULATION ≤ R-19
H1025 FOR INSULATION > R-19 AND ≤ R-25

JOIST APPLICATION
H1070 FOR INSULATION ≤ R-19
H1075 FOR INSULATION > R-19 AND ≤ R-25

IMPORTANT NOTE:
IF JOIST TOP CHORD GAP EXCEEDS PANEL CLIP FASTENER LOCATIONS, ALTERNATE PANEL CLIPS TO OPPOSING CHORD ANGLES TO PREVENT LOADING JOIST TO ONE SIDE.

THERMAL BLOCKS AND INSULATION NOT SHOWN FOR CLARITY

REINFORCED CLIPS	
PART #	PART DESCRIPTION
LSEC-1	SHORT CLIP
LSEC-2T	TALL CLIP

LOC SEAM REINFORCEMENT PLATE

FACTORY MUTUAL APPROVED
FM CLASS 1-120 @ 5'-0" PURLIN SPACING
FM CLASS 1-180 @ 2'-6" PURLIN SPACING

EA3018

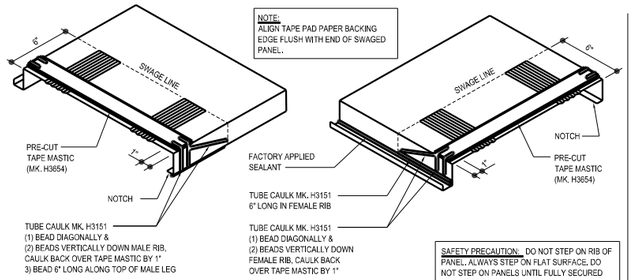
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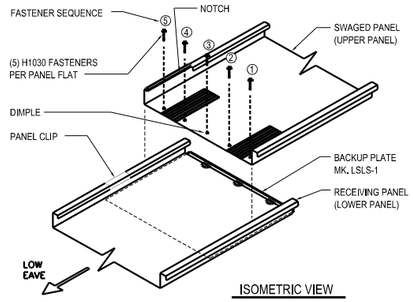
PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



NOTE: ALIGN TAPE PAD PAPER BACKING EDGE FLUSH WITH END OF SWAGED PANEL.

SAFETY PRECAUTION: DO NOT STEP ON RIB OF PANEL, ALWAYS STEP ON FLAT SURFACE, DO NOT STEP ON PANELS UNTIL FULLY SECURED WITH FASTENERS.

SWAGED PANEL UNDERSIDE VIEW



ISOMETRIC VIEW

NOTE: ALL AREAS ON ALUMINUM COATED PANELS THAT REQUIRE MASTIC SHOULD BE WIPED CLEAN WITH A MILD ALL PURPOSE DETERGENT CLEANER BEFORE MASTIC APPLICATION.

1) WHEN ENDLAPS ARE REQUIRED THE LOWER 6 INCHES OF THE UPPER PANEL ARE SWAGED, WHICH ALLOWS FOR A BETTER LAP ON TO THE LOWER RECEIVING PANEL. THIS LAP WILL OCCUR APPROXIMATELY 12 INCHES UPSLOPE FROM A PURLIN OR JOIST RUN.

2) PRIOR TO SETTING THE SWAGED PANEL, INSTALL THE BACKUP PLATE ONTO THE LOWER RECEIVING PANEL AS SHOWN.

3) NEXT INSTALL A PIECE OF PRE-CUT TAPE MASTIC ACROSS THE WIDTH OF THE UNDERSIDE OF THE SWAGED PANEL BEGINNING AND ENDING AT THE VERTICAL SEAMS (LEGS). ALSO APPLY TUBE CAULK ON THE MALE AND FEMALE RIBS OF THE SWAGED PANEL AS SHOWN IN DETAIL ABOVE.

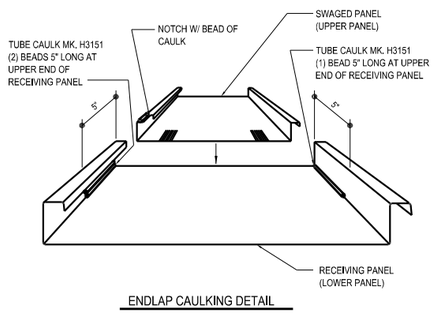
4) NEXT APPLY TUBE CAULK ALONG BOTH PANEL RIBS OF THE LOWER RECEIVING PANEL AS SHOWN IN THE ENDLAP CAULKING DETAIL.

5) INSTALL THE UPPER SWAGED PANEL. BOW PANEL IN THE MIDDLE DURING INSTALLATION TO AVOID SWIPING CAULK FROM THE VERTICAL LEGS OF THE PANEL AT THE ENDLAP.

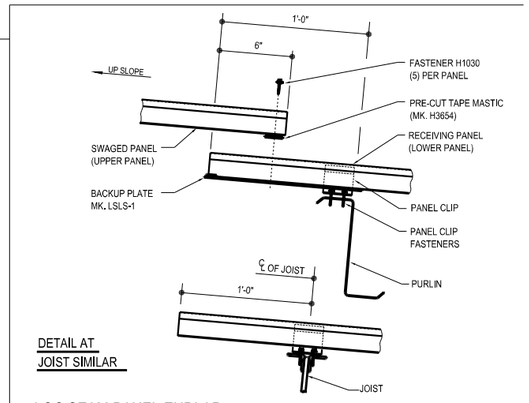
6) NEXT SECURE THE LAP WITH (5) H1030, ROOF FASTENERS IN THE PRE-DIMPLED LOCATIONS.

7) HAND SEAM PANEL RIBS TOGETHER AT ENDLAP PRIOR TO MECHANICALLY SEAMING.

NOTE: PRIOR TO INSTALLING LAP FASTENERS, PANELS MUST BE HAND SEAMED TOGETHER AT THE ENDLAP.



ENDLAP CAULKING DETAIL



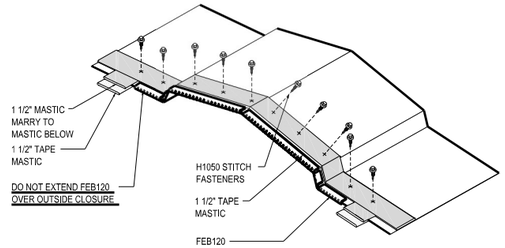
DETAIL AT JOIST SIMILAR

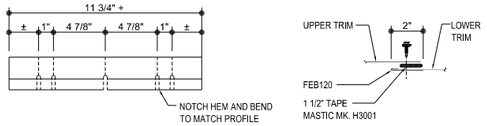
LOC SEAM PANEL ENDLAP

EA3021

RIDGE CAP LAP & FLASHING BACKER

SLIDE FIELD CUT SECTION FLASHING ENDLAP BACKER ONTO THE LOWER TRIM PIECE, PLACE TAPE MASTIC NEXT TO HEM OF THE BACKER (NOT ON TOP OF HEM). MARRY LAP MASTIC WITH MASTIC BETWEEN RIDGE CAP AND RIDGE CLOSURE ZEE.



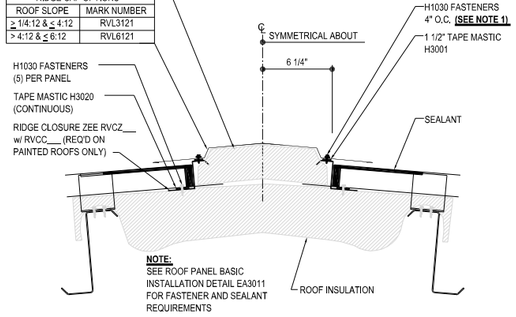


FLASHING ENDLAP BACKER
FIELD CUT FROM STANDARD FEB120

FILL RIDGE CAP WITH INSULATION TO PREVENT CONDENSATION

NOTE 1: REFERENCE DETAIL EA3076 FOR ADDITIONAL REQUIRED TRIM LAP FASTENER

RIDGE CAP OPTIONS	
ROOF SLOPE	MARK NUMBER
≥ 1/4:12 & ≤ 4:12	RVL3121
> 4:12 & ≤ 6:12	RVL6121



RIDGE TRIM DETAIL
RIDGE TRIM DETAIL

EG3010

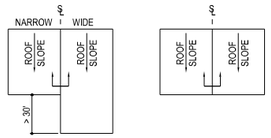
MBMA MEMBER
IAS ACCREDITED AC472
CWD CERTIFIED CSA W47.1
CERTIFIED CSA A660
NUCOR BUILDING SYSTEMS
PHONE: (260) 837-7891
FAX: (260) 837-7384
ICC-ES
05/23/2025 09:26:14am

JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,83
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY
NOT FOR CONSTRUCTION
DRAWING TITLE ROOF SHEETING DETAILS
SHEET SD5

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

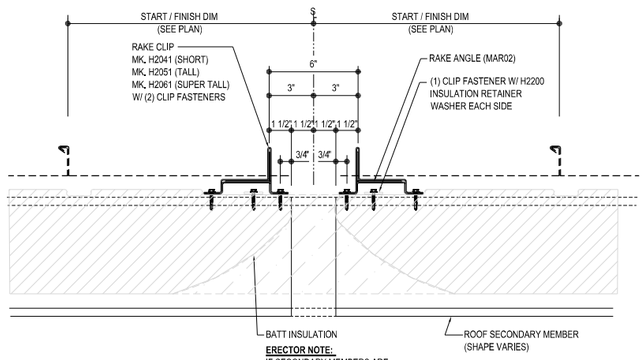
PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

1. SLIDE THE RAKE ANGLE CLIPS ONTO THE MAR02 RAKE ANGLE PRIOR TO ATTACHING THE RAKE ANGLE CLIPS TO THE SECONDARY MEMBER. THEN FASTEN THE RAKE ANGLE CLIPS TO THE TOP LEG OF THE SECONDARY MEMBER IT IS RECOMMENDED TO RUN A STRING LINE TO LOCATE AND PREDRILL ONE HOLE ALONG THE SECONDARY MEMBER FOR EASE OF ATTACHMENT AND ALIGNMENT.



BUILDING OFFSET >30' WITH OR WITHOUT SECONDARY MEMBERS TIED TOGETHER

NO BUILDING OFFSET SECONDARY MEMBERS NOT TIED TOGETHER (STRUCTURAL EXPANSION)



ERECTOR NOTE:
IF SECONDARY MEMBERS ARE TIED TOGETHER, INSULATION CAN BE CONTINUOUS.

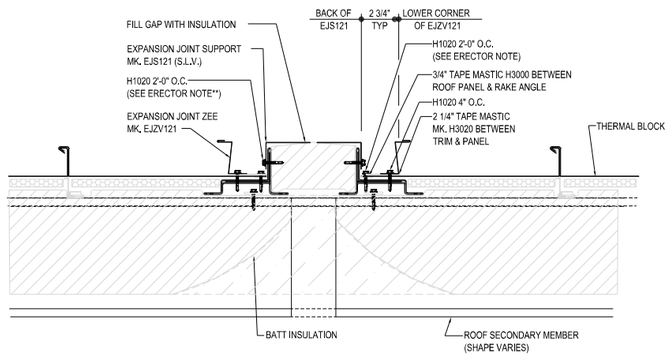
2. AFTER THE RAKE ANGLE CLIPS AND RAKE ANGLE HAVE BEEN INSTALLED THE FINISH AND START PANELS CAN BE INSTALLED. PLACE TAPE MASTIC BETWEEN PANEL AND RAKE ANGLE AND FASTEN PANEL TO RAKE ANGLE. THIS PROVIDES A TEMPORARY SEAL FOR THE PANEL UNTIL THE TRIM IS INSTALLED. FASTENERS MUST BE A MINIMUM OF 2 1/2" AWAY FROM RAKE CLIP TO AVOID PINNING THE ROOF SYSTEM.

NEXT INSTALL THE EXPANSION JOINT SUPPORT TO THE VERTICAL LEG OF THE RAKE ANGLE. FASTENERS MUST BE A MINIMUM OF 2 1/2" AWAY FROM RAKE CLIP TO AVOID PINNING THE ROOF SYSTEM.

PLACE MASTIC BETWEEN THE EXPANSION JOINT ZEE AND THE PANEL AND FASTEN THROUGH THE ZEE AND PANEL INTO RAKE ANGLE. FASTENERS MUST BE A MINIMUM OF 2 1/2" AWAY FROM RAKE CLIP TO AVOID PINNING THE ROOF SYSTEM. THESE TRIMS SUPPORT THE EXPANSION TRIMS THAT ARE SHOWN IN THE NEXT STEP.

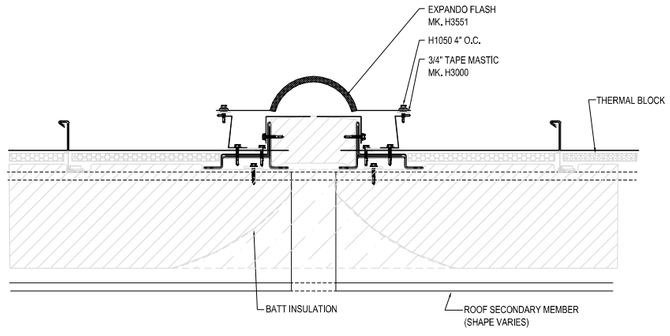
FILL THE CAVITY BETWEEN WITH LOOSE FILL INSULATION.

ERECTOR NOTE:
KEEP FASTENER MINIMUM 2 1/2" AWAY FROM RAKE ANGLE CLIP TO AVOID PINNING ROOF SYSTEM



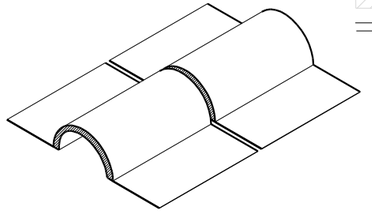
3. PLACE 3/4" TAPE MASTIC ON THE ZEE TRIM AS SHOWN.

NEXT INSTALL THE EXPANDO FLASH AND FASTEN TO THE ZEE. ENSURE FASTENER PENETRATES THROUGH THE MASTIC.



EXPANDO FLASH SPLICE

THE EXPANDO FLASH COMES WITH A SPLICE KIT IN THE BOX WHEN OVER 50' RUN IS REQUIRED. THE KIT INCLUDES INSTRUCTIONS ON PROPERLY SPLICING THE METAL WINGS AND MEMBRANE.



TRANSVERSE EXPANSION DETAIL

STRUCTURAL TRANSVERSE EXPANSION JOINT DETAIL

EJ3400

MBMA MEMBER
IAS ACCREDITED MANUFACTURING AC472
CWB CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
CERTIFIED CSA A660
CSSBI
PHONE: (260) 837-7891
FAX: (260) 837-7384
05/23/2025 09:26:15am

JOB NUMBER	T25U0346A
ADDRESS	WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME	CYL-HUB1-1,2,&3
BUYER NAME	DLR GROUP
DRAWING STATUS	FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
SHEET	SD6
DRAWING TITLE	ROOF SHEETING DETAILS

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA

SUGGESTED INITIAL PROCEDURES FOR INSTALLER:

1) CHECK ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES TO VERIFY COMPLIANCE WITH THE CODE.

2) BE CERTAIN THAT SITE CONDITIONS ARE SUCH THAT SAFE WORKING PRACTICES ARE STRICTLY OBSERVED.

3) REVIEW ALL INSTALLATION DRAWINGS AND ASSOCIATED PROJECT DOCUMENTS.

4) CONSULT WITH THE GENERAL CONTRACTOR, DESIGN ENGINEER, ARCHITECT AND/OR OWNER TO CONFIRM THOSE RECOMMENDED.

5) COMPLY WITH ALL SAFETY REGULATIONS.

IT IS THE RESPONSIBILITY OF THE DESIGNER / CONTRACTOR / INSTALLER TO ENSURE THAT THE DETAILS AND INSTALLATION PROCEDURES ARE ADAPTED TO MEET PARTICULAR BUILDING REQUIREMENTS. THE METAL BUILDING / PANEL SUPPLIER SHALL NOT BE HELD LIABLE FOR ANY AND ALL CLAIMS ARISING FROM LACK OF PROPER INSTALLATION. THE DESIGNER / INSTALLER MUST BE AWARE OF AND ALLOW FOR EXPANSION AND CONTRACTION OF WALL PANELS WHEN DESIGNING AND/OR INSTALLING WALL PANELS.

SOME FIELD CUTTING IS PART OF NORMAL ERECTION WORK. WORKMANSHIP SHALL CONFORM TO THE HIGHEST INDUSTRY STANDARDS. A CERTAIN AMOUNT OF WAVINESS CALLED "OIL CANNING" MAY EXIST IN THE PANEL. MINOR WAVINESS IS NOT SUFFICIENT CAUSE FOR REJECTION AND DOES NOT AFFECT THE STRUCTURAL INTEGRITY OF THE PANEL. MINIMIZING OR ELIMINATION THIS EFFECT CAN BE ACCOMPLISHED BY USING SIMPLE INDUSTRY STANDARD PROCEDURES DURING SURFACE PREPARATION.

NOTES FOR HANDLING PANELS AND COMPONENTS:

INSULATED PANELS ARE CAREFULLY INSPECTED AND BUNDLED PRIOR TO LOADING FOR SHIPMENT. IT IS THE RESPONSIBILITY OF THE TRANSPORTATION COMPANY TO DELIVER THESE COMPONENTS UNDAMAGED. IT IS THE CONSIGNEE'S RESPONSIBILITY TO INSPECT THE SHIPMENT FOR DAMAGE AND SHORTAGES WHEN IT IS RECEIVED.

WHEN A SHIPMENT IS RECEIVED, CHECK EACH ITEM AGAINST THE BILL OF LADING FOR QUANTITY, LENGTH, DAMAGE, ETC. IF A SHORTAGE OR DAMAGE IS FOUND, MAKE SURE A NOTATION OF IT IS MADE ON THE BILL OF LADING AND SIGNED BY THE DRIVER. THE MANUFACTURE CANNOT BE RESPONSIBLE FOR SHORTAGES OR DAMAGED MATERIALS UNLESS THEY ARE NOTED ON THE BILL OF LADING.

IN THE CASE OF PACKAGED COMPONENTS (SUCH AS CLIPS, FASTENERS, AND SEALANTS, ECT.), THE QUANTITIES ARE MARKED ON THEIR CONTAINER AND SHOULD BE CHECKED AGAINST THE BILL OF MATERIALS.

IT IS THE CUSTOMER'S RESPONSIBILITY TO MAKE ANY DAMAGE CLAIM. IMMEDIATELY NOTIFY THE DESIGNATED CUSTOMER SERVICE COORDINATOR OF ANY SHORTAGES OR DAMAGED MATERIALS. THIS WILL HELP TO MINIMIZE ANY ERECTION DELAYS THAT MAY RESULT FROM THE SHORTAGE OR DAMAGED MATERIALS.

UPON ARRIVAL OF PANELS, FORKLIFTS OR HOISTING EQUIPMENT WILL BE REQUIRED TO UNLOAD AND POSITION THE PANEL BUNDLES AND ACCESSORY CRATES FOR JOBSITE STORAGE AND INSTALLATION.

EXTREME CARE SHOULD BE TAKEN TO AVOID BUMPING THE PANELS WHILE LIFTING AND MANEUVERING. IN ALL CASES PANELS SHOULD NOT DEFLECT SIGNIFICANTLY IN THE LIFTING PROCESS.

IN HANDLING PANELS INDIVIDUALLY, ALL PERSONNEL MUST WEAR THE PROPER CLOTHING, PROTECTIVE EYE WEAR, AND GLOVES.

TO HELP PREVENT DAMAGES TO THE SURFACES AND EDGES:
- ALWAYS LIFT THE PANELS WHEN REMOVING THEM FROM BUNDLES. NEVER DRAG THEM.
- NEVER LIFT THE PANEL FROM THE FLAT POSITION BY THE OVERLAPPING RIB.
- DO NOT CARRY PANELS IN THE FLAT POSITION.

UNLOADING:

PANELS ARE SPIRAL WRAPPED WITH STRETCH-FILM AND SHIPPED FLAT. PANEL BUNDLES ARE REINFORCED AT SPECIFIED LIFTING POINTS TO PREVENT DAMAGE WHEN LIFTING. SEE FIGURES 1 AND 2 IN THIS SECTION TO DETERMINE WHERE THE LIFTING POINTS ARE FOR THE PANEL BUNDLES.

UNLOADERS MUST TAKE CARE THAT FORKLIFT FORKS ARE LOCATED AT THE PARTICLE BOARD ON THE PANEL BUNDLES BEFORE LIFTING.

EXTREME CARE SHOULD BE TAKEN TO AVOID BUMPING OR DROPPING THE PANELS WHEN LIFTING AND MANEUVERING.

WHEN UNLOADING BUNDLES OF 36'-0" OR LONGER IN LENGTH, TWO OR MORE LIFTING POINTS MAY BE REQUIRED. OVER ENGAGEMENT OF FORKS WILL CAUSE DAMAGE TO THE MATERIALS LOCATED ON THE OPPOSITE SIDE OF THE BUNDLE BEING LIFTED.

WHEN AN OVERHEAD CRANE IS USED, REINFORCED NYLON SLINGS OR STRAPS SHOULD BE USED (NO CHAINS OR CABLES SHOULD COME IN CONTACT WITH THE PANELS), ALONG WITH SUITABLE STIFF INSERTS LOCATED AT TOP AND BOTTOM OF THE BUNDLES AT THE SLING POSITIONS TO PROTECT THE PANELS FROM DAMAGE. ALSO, PLACE FOAM BLOCKS ON THE SIDES OF BUNDLES AT ALL SLING LOCATIONS.

NOTES:

REINFORCED LIFTING POINTS ARE CLEARLY MARKED ON THE PANEL BUNDLE (SEE FIGURES 1 & 2)

LONG LENGTH PANELS HAVE TWO OR MORE LIFTING POINTS (SEE FIGURE 2).

USE EXTREME CARE TO AVOID BUMPING OR DROPPING THE PANELS WHILE LIFTING AND MANEUVERING.

HOIST THE PANELS TO THE ROOF WITH THE AID OF NYLON SLINGS AND A SPREADER BAR TO PREVENT ANY CHANCE OF BENDING OR BUCKLING THE PANELS.

UNLOADING WITH A FORKLIFT:

- OVER ENGAGEMENT OF FORKS WILL CAUSE DAMAGE TO THE MATERIALS LOCATED ON THE OPPOSITE SIDE OF THE BUNDLE BEING LIFTED.
- PANELS SHOULD NOT DEFLECT SIGNIFICANTLY IN THE LIFTING PROCESS.
- ENSURE THE FORKS STRADDLE THE DESIGNATED LIFT POINT.
- LIFT BUNDLES ONE AT A TIME WITH THE FORKLIFT.

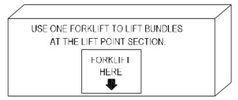


FIGURE 1
STANDARD LENGTH BUNDLES

- BE CAREFUL WHEN UNLOADING OR MOVING LONG LENGTH BUNDLES.
- DO NOT POSITION YOUR LIFT AT THE CENTER OF THE BUNDLE, THIS MAY CAUSE PANEL DAMAGE.
- EACH FORKLIFT SHOULD STRADDLE ONE LIFT POINT.



FIGURE 2
LONG LENGTH BUNDLES

UNLOADING WITH AN OVERHEAD CRANE:

- USE NYLON REINFORCED SLINGS OR STRAPS LOCATED AT A MINIMUM OF TWO POINTS ALONG THE LENGTH OF THE BUNDLE FOR CRANE LIFTING OF THE INDIVIDUAL BUNDLES.
- CHAINS OR CABLES SHOULD NOT COME IN CONTACT WITH THE PANELS.
- SUITABLY STIFF INSERTS SHOULD BE LOCATED AT TOP AND BOTTOM OF THE BUNDLES AT THE SLING POSITIONS TO PROTECT THE EDGES OF THE UPPER AND LOWER PANELS.
- PLACE FOAM BLOCKS ON THE SIDES OF BUNDLES AT ALL SLING LOCATIONS.
- WHEN BUNDLES ARE LONGER THAN 15'-0" IT IS SUGGESTED THAT A PROPERLY DESIGNED AND FABRICATED LIFTING BEAM IS USED.

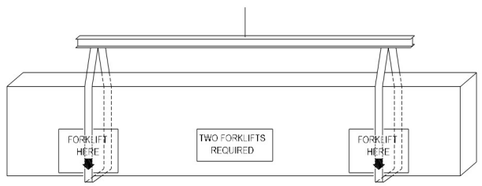


FIGURE 3
BUNDLES UNDER 4,000 LBS AND LESS THAN 44'-0"

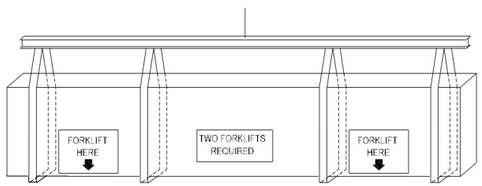


FIGURE 4
BUNDLES OVER 4,000 LBS AND LESS THAN 44'-0"

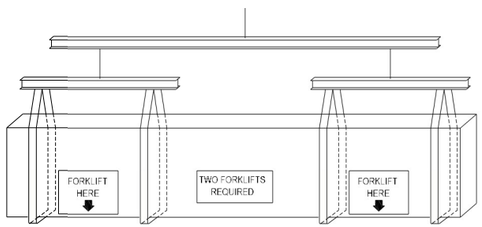


FIGURE 4
BUNDLES OVER 4,000 LBS AND MORE THAN 44'-0"

MANUALLY UNLOADING:
- ON SMALL PROJECTS UNLOADING OF THE PANELS MAY BE CARRIED OUT BY HAND. NOTE: SPECIAL CARE SHOULD BE TAKEN WHEN HANDLING. ALWAYS LIFT THE PANELS WHEN REMOVING FROM A BUNDLE. NEVER DRAG THEM.
- WARNING: TO PREVENT JOINT DAMAGE, NEVER LIFT THE PANEL FROM THE FLAT POSITION FROM THE OVERLAPPING RIB. LIFT PANELS FROM THE BOTTOM SKIN.
- IT IS IMPORTANT THAT WHENEVER A PANEL IS HANDLED, PICKED-UP, MOVED OR CARRIED IT SHOULD BE TURNED ON EDGE FIRST. DO NOT CARRY PANEL WHILE FLAT.
- IMPORTANT NOTE: ALL PERSONNEL DOING THESE PROCEDURES MUST WEAR AT ALL TIMES THE PROPER CLOTHING, PROTECTIVE EYE WEAR AND GLOVES.

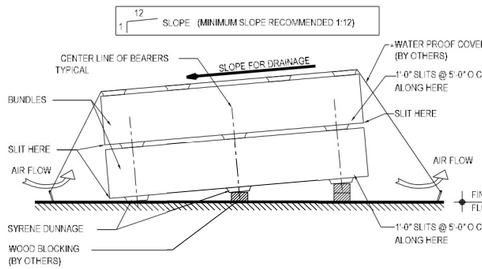


THE METAL BUILDING/PANEL SUPPLIER DOES NOT TAKE ANY RESPONSIBILITY FOR DAMAGE CAUSED FROM MISHANDLING OF PANELS. DAMAGED PANELS SHALL BE REPLACED OR CORRECTED TO APPROVAL OF THE ARCHITECT AND ANY COST INCURRED SHALL BE BORNE BY THE PARTIES RESPONSIBLE FOR THE DAMAGE.

JOBSITE STORAGE:

UPON ACCEPTANCE OF THE SHIPMENT, THE CUSTOMER IS RESPONSIBLE FOR PROPER HANDLING, STORAGE, AND SECURITY OF THE RECEIVED MATERIALS. THE MANUFACTURER IS NOT RESPONSIBLE FOR DAMAGE OR LOSS OF MATERIALS AT THE JOB SITE.

PANELS NOT REQUIRED FOR IMMEDIATE USE SHOULD BE:
- CAREFULLY UNLOAD AND PLACE DIRECTLY IN A PROTECTED STORAGE AREA ON A FIRM, LEVEL SURFACE CLEAR OF DEBRIS, PREFERABLY UNDER WATER PROOF COVER AND SLIT PLASTIC WRAP AT BASE TO ALLOW AIR FLOW. FOR NO LONGER THAN 30 DAYS.
- CUT / SLIT THE BOTTOM OF THE PLASTIC WRAP IN 1'-0" INCREMENTS AT 5'-0" O.C. ALONG THE LENGTH OF THE BUNDLES. A CONTINUOUS CUT / SLIT SHOULD BE MADE ALONG THE WIDTH OF THE BUNDLE.
- ELEVATE WITH WOOD BLOCKING, TO ALLOW AIR CIRCULATION UNDER THE BUNDLE, ON A FIRM, LEVEL SURFACE CLEAR OF DEBRIS, STANDING WATER, DIRECT SUN, AND DRIFTING SNOW.
- SEPARATE FLAT-LAID BUNDLES WITH THE STYRENE DUNNAGE PROVIDED WITH THE SHIPMENT.
- BUNDLES CAN BE STACKED, NO MORE THAN (2) BUNDLES HIGH.
- SLOPE AT A MINIMUM OF 1:12 FOR DRAINAGE OF MOISTURE FROM PANELS.
- INSPECTED DAILY FOR MOISTURE. INSURE NO SAGS ARE PRESENT. TRAPPED MOISTURE CAN DAMAGE THE PANEL FINISH AND VOID APPLICABLE FINISH WARRANTIES. IF PANEL BUNDLES CONTAIN MOISTURE OR SAGS, THE PANEL BUNDLE SHOULD BE DRIED AND RESTACKED. USE CARE IN RESTACKING TO AVOID DAMAGE TO PANELS.



PANELS FOR IMMEDIATE USE:
IF THE PANELS ARE TO BE USED IMMEDIATELY, THE BUNDLES SHOULD BE PLACED AT PRE-PLANNED STRATEGIC LOCATIONS AROUND THE PERIMETER OF THE BUILDING, AS CLOSE AS POSSIBLE TO THE PLANNED WORK AREAS, TO AVOID UNDUE SITE MANEUVERING.

WHEN MOVING PANEL BUNDLES, EXTREME CAUTION SHOULD BE TAKEN TO PREVENT DAMAGE TO THE PANEL SURFACES AND EDGES.

WHEN HANDLING PANELS INDIVIDUALLY, THEY SHOULD BE CARRIED IN A VERTICAL, NOT FLAT POSITION. NEVER DRAG PANELS WHEN REMOVING THEM FROM BUNDLES.

(SEE "HANDLING PANELS AND COMPONENTS)

INSTALLATION TOOLS:

"READ BEFORE YOU START"

- SLIDING PANELS TOGETHER WILL SCUFF, DISCOLOR OR DAMAGE THE FINISH.
- IT IS IMPORTANT TO NOTE THAT, DUE TO THE HIDDEN FASTENER SIDE LAP CONNECTIONS OF THESE PANELS, EXTRA CARE SHOULD BE TAKEN WHEN HANDLING THESE COMPONENTS.
- THE FOLLOWING IS A LIST OF COMMON TOOL REQUIREMENTS. REFER TO "FIELD CUTTING" FOR PANEL CUTTING GUIDELINES.
- WEARING CLEAN GLOVES, HANDLING THE PANELS BY EDGES AND TAKING A LITTLE EXTRA CARE WILL PAY OFF BY PRODUCING A GOOD CLEAN FINISHED WALL.

COMMON TOOL REQUIREMENTS:

CIRCULAR SAW	POWER DRILL	CARPENTER'S SQUARE
RIVET GUN	LEVEL	CHALK LINE
TAPE MEASURE	CAULK GUN	SCREW GUN
POWER SHEARS	HAMMER DRILL	POWER NIBBLER

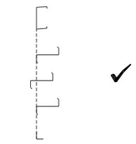
CAUTION: ANY METAL FILINGS OR BURRS SHOULD BE CLEANED OFF THE FACE OF THE PANELS AS SOON AS POSSIBLE TO PREVENT RUST FROM FORMING ON THE PAINT. (SEE "CLEANING PROCEDURES")

ALIGNMENT & SHIMMING
PRIOR TO INSTALLATION, WALL SECONDARY MEMBERS SHOULD BE CHECKED FOR OVERALL DIMENSIONS AND EVENNESS OF PLANE. THE WALL SECONDARY MEMBERS SHOULD ALSO BE CHECKED TO VERIFY THE WALL SYSTEM CAN BE INSTALLED WITHOUT INTERFERENCE. PRIOR TO INSTALLATION OF INSULATED PANEL, INSPECT EACH WALL FOR COMPONENT ALIGNMENT AND PLANE FLATNESS.

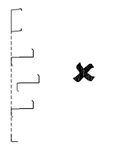
CHECK SUPPORT ALIGNMENT AGAINST THESE TOLERANCES:
< 8'-0" SPACING: +1/8", -0"
≥ 8'-0" SPACING: +1/4", -0"

(ARCHITECTURAL FLAT PANELS) < 4'-0" SPACING: +1/16", -0"

MISALIGNED SECONDARY STEEL MAY REQUIRE THE ERECTOR TO SHIM THE INSULATED WALL PANELS AT SOME LOCATIONS. SHIMS AND LABOR FOR INSTALLING SHIMS ARE BY OTHERS.



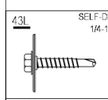
OUTWARD ALIGNMENT WITHIN TOLERANCE = ACCEPTABLE



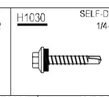
INWARD ALIGNMENT = NOT ACCEPTABLE

FASTENERS:

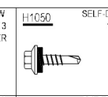
INSULATED WALL PANEL FASTENERS VARY BASED ON LOCATION AND PANEL THICKNESS. THE FASTENERS LISTED BELOW ARE TYPICAL FASTENERS. ADDITIONAL FASTENERS, WHEN REQUIRED BY DESIGN, WILL BE INDICATED ELSE WHERE ON THE ERECTION DRAWING SET.



43L — SELF-DRILLING SCREW 1/4-14 x 1 1/4" TYPE 2



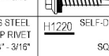
H1030 — SELF-DRILLING SCREW 1/4-14 x 1 1/4" TOP 3 W/ WASHER



H1050 — SELF-DRILLING SCREW 1/4-14 x 7/8" TOP 1 W/ WASHER



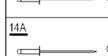
H1100 — 1/8" STAINLESS STEEL BLIND POP RIVET GRIP RANGE: 1/8" - 3/16"



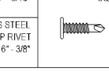
17 — SELF-DRILLING SCREW 12-14 x 1" TOP 3 W/ WASHER



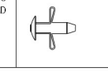
4 — SELF-DRILLING SCREW 1/4-14 x 7/8" TOP 1 W/ WASHER



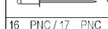
14 — 1/8" STAINLESS STEEL BLIND POP RIVET GRIP RANGE: 1/8" - 3/16"



H1220 — SELF-DRILLING SCREW 12-14 x 1" TOP 3 SQUARE / PHILLIPS PANCAKE HEAD



2605ANC — LOCK RIVET, 9/32 BT DOME HEAD W/ WASHER



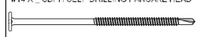
14A — 1/8" STAINLESS STEEL BLIND POP RIVET GRIP RANGE: 5/16" - 3/8"

16_PNC / 17_PNC
#14 X _ SDHH (SELF DRILLING HEX HEAD)



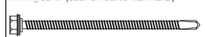
STRUCTURAL FASTENING AT PANEL HIDDEN JOINT			
PANEL THICK	HIDDEN FASTENER	(TEK 3) MARK#:	(TEK 5) MARK #:
2"	1/4 - 14 X 2 SDHH W/O WASHER	1615PNC	N/A
2 1/2" & 3"	1/4 - 14 X 3 SDHH W/O WASHER	1624PNC	1724PNC
4"	1/4 - 14 X 4 SDHH W/O WASHER	1632PNC	1732PNC

14_PNC
#14 X _ SDPH SELF DRILLING PANCAKE HEAD



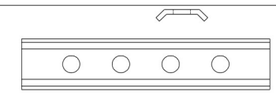
STRUCTURAL FASTENER AT PANEL FACE		
PANEL THICK	THROUGH FASTENER	(TEK 3) MARK#
2"	#14 X 3 SDPH	1424PNC
2 1/2" & 3"	#14 X 4 SDPH	1432PNC
4"	#14 X 5 SDPH	1440PNC

11_PS99
#14 X _ SDHH (SELF DRILLING HEX HEAD)



STRUCTURAL FASTENING FOR THROUGH CONDITIONS		
PANEL THICK	THROUGH FASTENER	(TEK 3) MARK#
2"	1/4 - 14 X 4 SDHH W/ WASHER	1132P999
2 1/2" & 3"	1/4 - 14 X 5 SDHH W/ WASHER	1140P999
4"	1/4 - 14 X 6 SDHH W/ WASHER	1148P999
5"	1/4 - 14 X 7 SDHH W/ WASHER	1156P999
6"	1/4 - 14 X 8 SDHH W/ WASHER	1164P999

4633GNC
4 HOLE PANEL JOINT WASHER



NOTES
THE USE OF A CENTER PUNCH TO SLIGHTLY DIMPLE THE PANEL FACE PRIOR TO INSTALLING THROUGH FASTENERS IS RECOMMENDED TO PREVENT "WALKING" OF THE FASTENERS. EXCESSIVE DAMAGE TO THE PANEL FINISH CAUSED DURING INSTALLATION MAY VOID THE PANEL FINISH WARRANTY.

PROJECT PREPERATION NOTES

INSULATED WALL PANELS
INITIAL GUIDELINES, UNLOADING, HANDLING PANELS & COMPONENTS, JOBSITE STORAGE, & REQ'D TOOLING FOR INSTALLATION

GA4000

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
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05/20/2025 12:56:07pm

JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,83
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY
NOT FOR CONSTRUCTION
DRAWING TITLE WALL SHEETING DETAILS
SHEET SD7

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

INSTALLATION PROCEDURES:

NOTE: INSULATED PANELS, DUE TO THEIR JOINERY, DO NOT PROVIDE DIAPHRAGM STIFFNESS FOR THE BUILDING WALL TO RESIST LATERAL FORCES INCLUDING WIND. LATERAL BRACING IS TO BE PROVIDED BY CROSS BRACING SYSTEMS CONNECTED TO THE PRIMARY BUILDING FRAMING.

PRIOR TO PANEL INSTALLATION VERIFY:

BUILDING WALLS ARE PLUMB: ENSURE BUILDING WALLS TO BE SHEETED ARE PLUMB AND THAT ANY CROSS-BRACING REQUIRED IS IN PLACE AND SNUG TO PREVENT WALL MOVEMENT DURING PANEL INSTALLATION. ALL SECONDARY MEMBERS ARE IN PLACE AND PLUMB.

SAG BRACING: IF SAG BRACING IS REQUIRED FOR YOUR JOB, THEN IT NEEDS TO BE INSTALLED PRIOR TO PANEL INSTALLATION. INSULATED PANELS ARE NOT DESIGNED TO CARRY THOSE LOADS.

WALL PLANE IS FREE OF OBSTRUCTIONS - SEE "INSTALLATION GUIDELINES" SECTION BELOW.

PANEL LAYOUT – REVIEW CUT DIMENSIONS FOR INSULATED PANELS AT ERECTION DRAWING PANEL LAYOUTS AND BECOME FAMILIAR WITH STARTING AND ENDING PANEL REQUIREMENTS.

WALL OPENING LOCATIONS – LOCATIONS OF OPENINGS MAY NEED TO BE ADJUSTED SLIGHTLY (INCHES) DUE TO PANEL JOINERY, TYPICALLY, PANELS ABOVE AND BELOW OPENINGS ARE TO BE INSTALLED AS WORK PROGRESSES. IF POSSIBLE, KEEP SIDE PANEL JOINTS 4" AWAY FROM FRAMED OPENINGS AS A MINIMUM.

PERSONNEL WALK DOORS – INSTALL PRIOR TO PANEL INSTALLATION. NOTIFY YOUR CUSTOMER SERVICE COORDINATOR IF YOU FIND A POTENTIAL ERECTION PROBLEM.

ONCE ALL OF THE ABOVE ITEMS HAVE BEEN VERIFIED, BEGIN INSTALLATION PROCESS:

1. TO ENSURE A PROPER VAPOR BARRIER AND WATER TIGHTNESS, APPLY A 3/8" BEAD OF BUTYL TUBE CAULK (MK: I3151 TYP.) AT FEMALE END OF THE PANEL IF CAULK IS NOT PRESENT. ALSO, APPLY A CONTINUOUS 3/8" BEAD OF BUTYL TUBE CAULK RUN AT ALL PERIMETER SUPPORT MEMBERS: BASE, EAVE, HEADER, SILL, AND HORIZONTAL TRANSITIONS. NOTE: THIS CAULK IS NOT REQUIRED AT MID-SPAN (INTERMEDIATE) MEMBERS.

2. OBTAIN FIRST PANEL STARTING PANEL CUT DIMENSION WILL BE SUPPLIED ON ERECTION DRAWINGS. REFER TO "FIELD CUTTING".

3. PLACE THE FIRST PANEL IN THE LOCATION AS DETAILED ON THE SHEETING PLANS WITH THE BASE OF THE FIRST PANEL IN THE PROPER POSITION. PLUMB THE PANEL AND SECURE IN PLACE.

4. PREPARE ADJACENT PANEL EDGE (VERIFY/ADD BUTYL CAULK, ETC.) PLACE INTO POSITION.

5. MAINTAIN AN EVEN AND UNIFORM GAP AT THE PANEL SIDE JOINT (1/8" MAX), THEN FASTEN PANEL INTO POSITION USING ALL REQUIRED SIDE JOINT FASTENERS. REFER TO "WALL OPENINGS" FOR SPECIFIC INFORMATION AT OPENINGS.

6. REPEAT THE INSTALLATION PROCESS OCCASIONALLY CHECKING FOR PLUMB. IF ANY MINOR 'OUT-OF-PLUMB' IS DETECTED, TAKE CORRECTIVE ACTION IN MINOR STEPS WITH SUBSEQUENT PANELS TO BRING THE SHEETING PROCESS BACK TO PLUMB.

INSTALLATION GUIDELINES:

INSULATED PANELS PROVIDE INSULATION PERFORMANCE SUPERIOR TO CONVENTIONAL METAL WALL PANELS WITH FIELD ASSEMBLED INSULATION SYSTEMS. THE FULL ENERGY SAVINGS POTENTIAL CAN ONLY BE REALIZED WHEN THE INSULATED PANELS ARE INSTALLED WITH CAREFUL ATTENTION TO THE DETAILS AFFECTING THE QUALITY OF AIR AND MOISTURE SEAL.

TO ENSURE A PROPER VAPOR BARRIER AND WATER TIGHTNESS, A 3/8" BEAD OF BUTYL CAULK IS REQUIRED AT LOCATIONS INDICATED ON THE ERECTION DRAWINGS. JOINT CAULK MAY BE FACTORY OR FIELD APPLIED. IT IS HOWEVER, THE INSTALLERS RESPONSIBILITY TO FIELD APPLY CONTINUOUS BUTYL CAULK AT AREAS WITH VOIDS OR MISSING CAULK. CONTINUITY, SIZE AND PROPER BEAD PLACEMENT ARE CRITICAL IN OBTAINING A SATISFACTORY SEAL AT EACH PANEL EDGE. DETAILS FOR PLACEMENT OF CAULK AT PANEL EDGES SHOULD BE REVIEWED IN ADVANCE. APPLICATION OF CAULK SHOULD BE CONTINUOUS.

SPECIAL CARE IN HANDLING IS REQUIRED TO PREVENT DAMAGE OR CONTAMINATION BY FIELD DEBRIS WITHIN THE PANEL JOINT. ALL SECONDARY SUPPORT STEEL SHOULD BE IN PLACE FOR CONTINUOUS ATTACHMENT OF PANELS ACROSS THE SURFACE OF PRIMARY FRAMING MEMBERS, INCLUDING OUTER EXTREMES OF CORNERS, OPENINGS, GABLES, ETC.

PRIOR TO INSTALLATION OF INSULATED PANEL, INSPECT EACH WALL FOR COMPONENT ALIGNMENT AND PLANE FLATNESS. WALL COMPONENTS SHOULD NOT VARY MORE THAT 1/8" OVER THE ENTIRE WALL SURFACE, INCLUDING FASTENER HEADS AND OTHER OBSTRUCTIONS THAT WOULD INTERFERE WITH CONTINUOUS BEARING OF THE INSULATED PANEL LINER FACE.

ALIGNMENT AT TRANSITION AREAS, SUCH AS CORNERS AND EAVE, SHALL BE WITHIN 1/8" OF THE THEORETICAL PLANE TO ACCOMMODATE CORNER PANELS AND FORMED FLASHING.

MISALIGNED SECONDARY STEEL MAY REQUIRE THE ERECTOR TO SHIM THE INSULATED WALL PANELS AT SOME LOCATIONS. SHIMS AND LABOR FOR INSTALLING SHIMS ARE NOT BY MBS.

DO NOT OVERDRIVE FASTENERS: OVERDRIVING FASTENERS CAN CAUSE DAMAGE AND DISTORTION OF THE PANEL FACE.

DO NOT SKIP ATTACHMENTS AT SECONDARY SUPPORT MEMBERS: PANELS MUST BE ATTACHED AT EACH PURLIN LINE IN PROGRESSION. SECURING PANELS AT TOP AND BOTTOM ONLY CAN CAUSE PANELS TO BOW AND IT MIGHT BE IMPOSSIBLE FOR THEM TO RETURN TO THEIR NORMAL POSITION.

WEATHER TIGHTNESS REQUIREMENTS:

TO PREVENT CONDENSATION ISSUES CARE MUST BE TAKEN BY THE INSULATED PANEL INSTALLER TO ENSURE PROPER SEALING OF THE BUILDING.

NOTE THE FOLLOWING:

- ALL MATERIALS MUST BE INSTALLED AS SHOWN ON THE PROVIDED ERECTION DETAILS.
- ALL PERIMETER CAULKING AND BUTYL TAPE APPLICATIONS MUST BE INSTALLED AS AS SHOWN ON THE ERECTION DETAILS.
- CONTINUOUS CAULK AND TAPE MASTIC APPLICATIONS (FACTORY OR FIELD) MUST BE CAREFULLY INSPECTED AND ANY VOIDS FOUND MUST BE FIELD APPLIED.
- GAPS, VOIDS OR AIR SPACE CREATED AT PANEL TO PANEL TRANSITIONS, AS AT RAKE, LOW EAVE, RIDGE, HIGH SIDE EAVE, ROOF TO WALL OR CORNERS MUST BE FIELD FILLED WITH FOAM SPRAY IN PLACE INSULATION (BY OTHERS).

MBS WILL NOT BE RESPONSIBLE FOR ANY CONDENSATION ISSUES THAT MAY OCCUR DUE TO IMPROPER INSTALLATION.

IF THE ERECTOR IS NOT EXPERIENCED WITH THE INSULATED PANELS SUPPLIED, IT IS STRONGLY RECOMMENDED THAT A FIELD TECHNICIAN BE ON SITE BEFORE BEGINNING PANEL INSTALLATION. CONTACT YOUR PROJECT COORDINATOR TO REQUEST AND SCHEDULE A FIELD TECHNICIAN.

FIELD CUTTING:

SOME FIELD CUTTING OF PANELS AND FLASHING WILL BE REQUIRED. IT IS THE WORKERS RESPONSIBILITY TO MAKE SURE ALL SAFETY PRECAUTIONS ARE FOLLOWED. SOME SAFETY PRECAUTIONS INCLUDE, BUT ARE NOT LIMITED TO; EYE PROTECTION, ADEQUATE VENTILATION, NO SMOKING AND AVOID EXPOSING PANELS TO HIGH HEAT.

PANELS ARE TO BE CUT ONE METAL SIDE AT A TIME AND THE INSULATION CAN BE REMOVED WITH A SERRATED KNIFE. A CIRCULAR SAW WITH AN APPROPRIATE BLADE SET TO CUT THROUGH THE METAL SKIN ONLY CAN BE USED. CIRCULAR SAWS WITH ABRASIVE BLADES ARE NOT ACCEPTABLE. BE SURE TO CUT COMPLETELY THROUGH THE METAL SKIN AT THE PANEL SIDE JOINTS. A CIRCULAR SAW WITH A **PROPER CARBIDE BLADE** MAY BE USED. **CHECK THE SAW BLADE MANUFACTUER'S SPECIFICATIONS FOR PROPER APPLICATION .**

RECOMMENDED CUTTING TOOLS INCLUDE:

(1) CIRCULAR SAW
(2) PANEL NIBBLER
(3) PANEL SAW
(4) SERRATED KNIFE
(5) BLADE OF A CARPENTER'S HAND SAW

IMP CUTTING PROCEDURES:

- MEASURE THE AREA TO CUT & MARK A LINE ON PANEL SURFACE (DO NOT USE GRAPHITE TO MARK PANEL).
- USE ADHESIVE TAPE ON BOTH SIDES OF THE CUTTING LINE TO PROTECT PANEL SURFACE.
- CONFIRM MEASUREMENT, AND PROCEED WITH CUTTING OPERATION.
- ALWAYS PROMPTLY CLEAN PANEL SURFACES TO REMOVE ANY METAL DUST OR FILINGS FROM CUTTING OPERATIONS.
- IF NECESSARY TURN PANEL OVER AND REPEAT STEPS ABOVE ON OPPOSITE SIDE.
- FILE OR SAND OFF ANY BURRS ON THE CUT EDGE OF THE PANEL. THE PANEL WILL THEN BE READY FOR INSTALLMENT. THE INSTALLER MUST CONSIDER THE APPLICATION OF THE CONTINUOUS BEAD OF SEALANT, & IF NECESSARY, THE CUTTING OF THERMAL BREAKS PRIOR TO INSTALLATION; SUCH TASKS SHALL BE DONE ON THE GROUND.
- FIELD CUT EDGES SHOULD ALWAYS BE COVERED WITH TRIMS.

THE PANEL/BLDG MANUFACTURER **WILL NOT** BE RESPONSIBLE FOR DAMAGE TO PANELS CAUSED BY IMPROPER CUTTING METHODS.

- **NEVER** USE A RECIPROCATING SAW TO CUT INSULATED PANELS. RECIPROCATING SAWS CAN CAUSE STRUCTURAL DAMAGE TO THE INSULATED PANELS BY DELAMINATING THE PANEL FACE METAL FROM THE FOAM CORE MATERIAL.
- **NEVER** USE ANY TYPE OF TORCH TO CUT INSULATED PANEL.
- **NEVER** SUBJECT AN INSULATED PANEL TO THE HEAT OF A TORCH EVEN WHEN CUTTING NEARBY STEEL. HIGH HEAT WILL DAMAGE THE PANEL FINISH AND CAN CAUSE THE FOAM CORE TO PRODUCE FUMES WHICH MAY BE IRRITATING TO SOME INDIVIDUALS.
- **NEVER** BURN REMNANTS. DISPOSE OF INSULATED PANEL REMNANTS BY DEPOSITING IN PROPER CONTAINER.

ACCESSORIES:

- TRIMS LENGTHS SUPPLIED WILL VARY AND MAY REQUIRE SOME FIELD CUTTING.
- TRIM COLOR AVAILABILITY MATCHES PANEL COLOR AVAILABILITY.

TRIM ATTACHMENT:

TRIMS ARE FASTENED WITH BLIND RIVETS OR STITCH SCREWS, PAINTED TO MATCH TRIM COLOR. REFER TO THE ERECTION DETAILS AND THE ERECTION DRAWINGS FOR LOCATIONS AND FASTENING SPACING.

THERMAL WINDOW:

DUE TO THE ISOLATIVE PROPERTIES AND CONNECTION REQUIREMENTS OF THE WALL SYSTEM, THERMAL BREAK WINDOWS ARE RECOMMENDED FOR USE WITH INSULATED WALL PANELS .

SURFACE CLEANING PROCEDURES:

GENERAL:

DIRT, OIL, GREASE, FINGERPRINTS OR ANY OTHER TYPE ON CONTAMINATE MUST BE COMPLETELY REMOVED WHEN INSTALLATION IS COMPLETE IN ORDER TO MAXIMIZE COATING PERFORMANCE.

STEEL FILINGS FROM ADJACENT WORK MAY BECOME EMBEDDED IN THE PAINT SURFACE. THESE FILINGS WILL RUST AND FORM UNSIGHTLY RED SPOTS ON THE PAINTED SURFACE THAT CAN BECOME LARGER THAN THE ORIGINAL FILING. WHEN USING SAWS, DRILLS OR CUTTING DISCS, PROTECT THE PAINTED SURFACED WITH A NON-FLAMMABLE COVER AND REMOVE OR COVER ADJACENT OR NEARBY PANELS IF POSSIBLE.

BRUSH ANY FILINGS OF STEEL OFF THE PAINTED SURFACE. EMBEDDED FILINGS SHOULD BE REMOVED MECHANICALLY. CARE SHOULD BE TAKEN BY WORKMEN TO AVOID STEPPING ON OR EXERTING PRESSURE AGAINST ANY STEEL FILINGS WHICH MAY BECOME EMBEDDED IN THE PAINTED SURFACE.

THINGS TO REMEMBER WHEN CLEANING:

USE ONLY MILD DETERGENTS	(NO LEMON, ALCOHOL OR AMMONIA INGREDIENTS)
USE ONLY SOFT BRISTLE BRUSHES	(NO SCRUB TYPE OR WIRE BRISTLES)
USE ONLY LUKEWARM WATER	(NO HOT WATER)

LIGHT OR PERIODIC CLEANING MAY BE ACCOMPLISHED ON A REGULAR BASIS BY WASHING WITH PLAIN WATER USING A STANDARD GARDEN HOSE OR LOW PRESSURE SPRAYER IS USUALLY SUFFICIENT TO REMOVE MOST CONTAMINATION.

CAULKING COMPOUNDS, OIL, GREASE, TARS, WAX AND SIMILAR SUBSTANCES CAN BE REMOVED BY WIPING WITH A CLOTH SOAKED IN MINERAL SPIRITS. WIPE ONLY CONTAMINATED AREAS AND FOLLOW WITH DETERGENT AND THOROUGHLY CLEAN WITH WATER.

SURFACE REPAIR PROCEDURES:

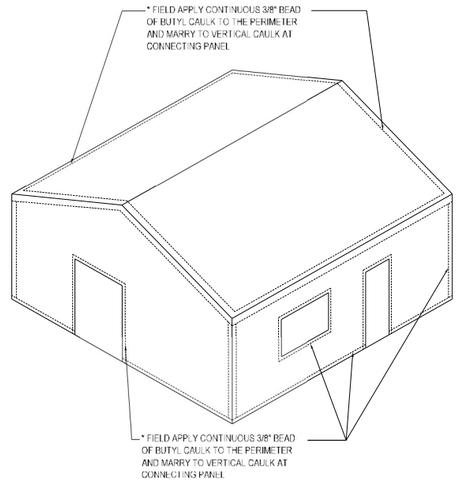
IF "TOUCH UP" PAINT IS REQUIRED CONTACT YOUR PROJECTS CUSTOMER SERVICE COORDINATOR.

PRECAUTIONS:

PROTECT EYES, FACE, AND HANDS FROM DIRECT CONTACT WITH TOUCH-UP PAINT AND/OR SOLVENTS. PROVIDE GOOD VENTILATION IN WORK AREA. ENFORCE NO SMOKING. REMOVE ALL SOURCES OF IGNITION. THESE COATINGS AND SOLVENTS ARE FLAMMABLE.

1. LIGHTLY SAND OR FEATHER EDGES OF DEEP SCRATCHES USING #400 GRIT SAND PAPER.
2. WIPE SCRATCHES AND ADJACENT AREAS USING A LINT FREE CLOTH DAMPENED IN MINERAL SPIRITS.
3. ALLOW AREA TO DRY THOROUGHLY BEFORE APPLYING TOUCH-UP PAINT.
4. SHAKE / STIR PAINT TO MIX THOROUGHLY BEFORE APPLYING.
5. CHECK TOUCH-UP PAINT FOR CORRECT MATCH BEFORE APPLYING.
6. APPLY THIN LAYER OF TOUCH-UP PAINT TO DAMAGED AREA. REPEAT LAYERS AS REQUIRED.

PERIMETER CAULKING:



PERIMETER CAULKING IS A CRITICAL PART OF THE PANEL INSTALLATION. NOT INSTALLING THE PERIMETER CAULKING WILL LEAD TO AIR LEAKS, WHICH WILL LEAD TO CONDENSATION AND / OR FROST. REFERENCE THE DETAILS AND THE ERECTION MANUAL FOR PROPER CAULKING PLACEMENT.

FIELD INSTALLED INSULATION NOTE

IT IS THE RESPONSIBILITY OF THE ERECTOR TO FIELD FILL ALL AIR VOIDS WITH INSULATION. UNINSULATED AREAS WILL CAUSE HOT AND COLD SPOTS THAT CAN CAUSE CONDENSATION AND/OR FROST. THESE VOIDS COMMONLY HAPPEN AROUND THE PERIMETER OF THE BUILDING. FAILURE TO DO SO WILL CAUSE FUTURE PROBLEMS.

PROJECT INSTALLATION NOTES AND GUIDELINES

INSULATED WALL PANEL

INSTALLATION PROCEDURES & GUIDELINES,WEATHER TIGHTNESS REQUIREMENTS, FIELD CUTTING & ACCESSORY INFO,& SURFACE, CLEANING/REPAIR INFORMATION

GA4001

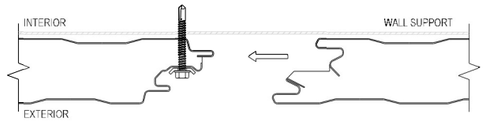
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IAS ACCREDITED AC10
CWD CERTIFIED CSA W47.1
NUCOR BUILDING SYSTEMS
CERTIFIED CSA A660
CESSER
PHONE:(260)837-7891
FAX: (260)837-7384

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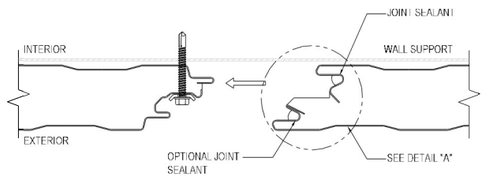
JOB NUMBER T25U0346A
ADDRESS WASHINGTON COUNTY OWASSO, OK 74055
PROJECT NAME CYL-HUB1-1,2,83
BUYER NAME DLR GROUP
DRAWING STATUS FOR PERMITS ONLY **NOT FOR CONSTRUCTION**
DRAWING TITLE WALL SHEETING DETAILS
SHEET SD8

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
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	PERMITS	TAK / JMW	WZ	09/08/2025

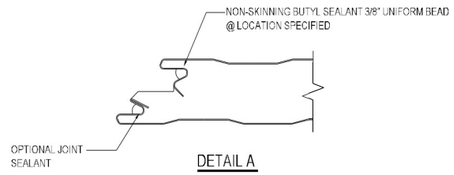
PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
MEGAN NOGGLE
25778
OKLAHOMA



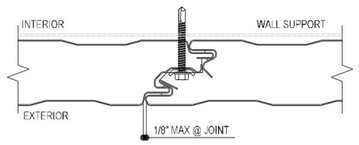
CLIP AND FASTENER ASSEMBLY



JOINT SEALANT APPLICATION



DETAIL A

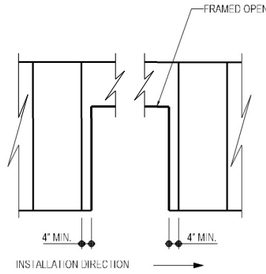


PANEL JOINT DETAIL

WALL PANEL JOINT

GA4035

ERECTOR NOTE:
4" (MINIMUM) DISTANCE FROM EDGE OF FIELD-CUT PANEL TO JAMB.



MINIMUM PANEL WIDTH AT F.O. JAMB

(ELEVATION VIEW)

GD4010

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05/20/2025 12:56:09pm

JOB NUMBER	ADDRESS
T25U0346A	WASHINGTON COUNTY OWASSO, OK 74055

PROJECT NAME: CYL-HUB1-1,2,&3

BUYER NAME: DLR GROUP

DRAWING STATUS: FOR PERMITS ONLY **NOT FOR CONSTRUCTION**

DRAWING TITLE: WALL SHEETING DETAILS

SHEET: SD9

#	RELEASE / REVISION	DWN / CHK	ENG	DATE
0	ANCHOR BOLTS	TEK / JMW	WZ	09/08/2025
	PERMITS	TAK / JMW	WZ	09/08/2025

PROFESSIONAL STRUCTURAL ENGINEER
09/17/2025
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OKLAHOMA

ABBREVIATIONS

Fire Protection Abbreviations

(D)	DEMOLISHED
(E)	EXISTING
(R)	RELOCATED
Ø	DIAMETER
AAP	ALARM ANNUNCIATOR PANEL
ACC	ACCESSIBLE
ADO	AUTOMATIC DOOR OPENER
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BAT	BATTERY
BC	BARE COPPER
BFF	BELOW FINISH FLOOR
C	CONDUIT
CD	CONSTRUCTION DOCUMENTS
CF	CUBIC FEET
CKT	CIRCUIT
COMM	COMMUNICATIONS
CTL	CONTROL
DB	DECIBEL
DC	DIRECT CURRENT
EA	EACH
ELEV	ELEVATOR
F	FIRE WATER PIPING
F.V.	FIELD VERIFY
FA	FIRE ALARM
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FD	FIRE DAMPER
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
FPC	FIRE PROTECTION CONTRACTOR
FS	FLOW SWITCH
FSD	FIRE SMOKE DAMPER
GPM	GALLONS PER MINUTE
HZ	HERTZ (FREQUENCY)
JB	JUNCTION BOX
MOP	MIDDLE OF PIPE
MTG	MOUNTING
NEC	NATIONAL ELECTRIC CODE
NOM	NOMINAL
PB	PULL BOX
PERP	PERPENDICULAR
PIV	POST INDICATOR VALVE
PNL	PANEL
PSI	POUNDS PER SQUARE INCH
PWR	POWER
RAD	RADIUS
RCP	REFLECTED CEILING PLAN
REF	REFERENCE
SD	SMOKE DAMPER
SPR	SPRINKLER PIPING
STOR	STORAGE
SUSP	SUSPENDED
SWBD	SWITCHBOARD
TS	TAMPER SWITCH
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
V	VOLT
VA	VOLT-AMPERE
W	WIRE
W	WATT
WG	WIRE GUARD
WP	WEATHER-PROOF (NEMA 3R)

SHEET INDEX

FP0.1	GENERAL NOTES, FIRE PROTECTION SYMBOLS & ABBREVIATIONS
FP1.01	FIRE PROTECTION OVERALL PLAN
FP1.11	FIRE PROTECTION PLAN - AREA A
FP1.21	FIRE PROTECTION PLAN - AREA B
FP1.31	FIRE PROTECTION PLAN - AREA C
FP3.1	FIRE PROTECTION DETAILS

GENERAL NOTES

1. REMOVE ALL UNUSED PIPING, DUCTWORK AND ACCESSORIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID, ALL EXISTING CONDITIONS FOR PLUMBING AND MECHANICAL SYSTEMS WITHIN SCOPE OF WORK AND WITHIN CLOSE PROXIMITY OF SCOPE OF WORK.
3. THE CONTRACTOR SHALL PERFORM, DURING PHASE 2, 3, AND 4, SERVICE AND REPAIR ON THE EXISTING EQUIPMENT AND ITS ACCESSORIES AS FOLLOWS: CLEAN ALL COILS, REPLACE THE FILTERS AND BELTS, INSPECT, REPAIR, OR REPLACE THE ECONOMIZERS, DRIVES AND FAN BEARINGS, MOTORS, CONTROL COMPONENTS, VALVES AND ANY OTHER ITEM NECESSARY FOR A COMPLETE AND PROPER OPERATING SYSTEM. THIS CONTRACTOR SHALL ALSO VISIT THE SITE, PRIOR TO FINAL BIDDING, AND VERIFY ALL EXISTING SITE CONDITIONS. PROVIDE ALL MATERIAL AND COMPONENTS AS NEEDED TO BRING THE UNITS TO FULL COMPLIANCE OF THE LANDLORD'S CRITERIA AND LOCAL AUTHORITY HAVING JURISDICTION.
4. WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING DRAIN BODY BY SEALING DRAIN OPENING PRIOR TO START OF WORK. UNSEAL DRAINS AT COMPLETION OF CONSTRUCTION.
5. COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, AND EQUIPMENT TO PREVENT CONFLICTS.
6. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.
7. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE
8. LOCATE EQUIPMENT REQUIRING ACCESS 2'-0" MAXIMUM ABOVE CEILING.
9. ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF ROOF.
10. LOCATE DUCTWORK, PIPING AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS. TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT.
11. FIRE SEAL AROUND DUCT AND PIPING PENETRATIONS OF FIRE RATED WALLS. REFER TO SPECIFICATION.
12. PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF.
13. ADJUST PIPING AND DUCTWORK SIZES TO PROPERLY CONNECT TO MECHANICAL EQUIPMENT.
14. REFER TO PIPING SERIES DRAWINGS FOR REFRIGERANT AND CONDENSATE DRAIN PIPING.
15. PIPE SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.
16. FOR DETAILS, EQUIPMENT CONNECTIONS, AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, EQUIPMENT MANUALS, AND SPECIFICATIONS.
17. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.
18. LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWING, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.
19. INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL, TIGHT TO STRUCTURE, IN ROOMS WITHOUT CEILINGS.
20. CONTRACTOR SHALL NOT DRILL, NOTCH, OR PENETRATE ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN CONSTENT OF STRUCTURAL ENGINEER. COORDINATE REQUIRED NOTCHES, HOLES, AND PENETRATIONS WITH THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
21. AREAS, SCHEDULES, AND DETAILS, MARKED "NOT USED", GREYED/HALFTONED, OR LABELED PHASE 2, 3, OR 4, ARE NOT PART OF THE CURRENT SCOPE OF WORK, THEY PERTAIN TO FUTURE PHASES TO BE CONSTRUCTED AT A LATER DATE. PROVIDE WITHIN CURRENT PHASE PROVISIONS FOR FUTURE PHASE WORK/CONNECTIONS WHERE INDICATED IN DRAWINGS.
22. ALL EXPOSED STEEL DUCTWORK SHALL HAVE PAINT GRIP SURFACE, PAINT AND COLOR PER ACHITECTURAL DIV. 09.
23. ALL PIPE INSULATION SHALL HAVE PAINTABLE JACKET. PAINT AND COLOR PER ARCHITECTURAL DIV. 09.

GENERAL FIRE PROTECTION NOTES

1.1
- A. ALL FIRE PROTECTION WORK PERFORMED SHALL COMPLY WITH ALL CODES, LAWS AND GOVERNING BODIES. IF THE DRAWINGS AND/OR SPECIFICATIONS ARE MORE RESTRICTIVE OR EXCEED THE GOVERNING CODE REQUIREMENTS, THESE DRAWINGS AND SPECIFICATIONS SHALL GOVERN.
- B. THE SPRINKLER DESIGN SHALL BE COORDINATED WITH ALL OTHER ASPECTS OF THE BUILDING. TO THAT END, THE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND CIVIL DRAWINGS.
  1. REFER TO THE ARCHITECTURAL DRAWINGS FOR BUILDING ELEVATIONS, CEILING DETAILS, PARTITIONS, AND OCCUPANCIES.
  2. REFER TO STRUCTURAL DRAWINGS TO COORDINATE PIPING LAYOUT WITH STRUCTURAL ELEMENTS OF THE BUILDING.
  3. REFER TO THE PLUMBING AND MECHANICAL DRAWINGS TO ASSESS THE CONGESTION ABOVE THE CEILINGS. THE SPRINKLER CONTRACTOR SHALL SPECIFICALLY BE CONSCIOUS OF ANY HORIZONTAL MECHANICAL EQUIPMENT LOCATIONS AS WELL AS THEIR SERVICE REQUIREMENTS.
     - a. THE MECHANICAL UNITS HAVE BEEN LOCATED IN AREAS THAT ALLOW FOR EASY ACCESS TO THE EQUIPMENT AND ACCESS PANELS. LEAVE ENOUGH SPACE FOR SERVICE PERSONNEL TO PERFORM MAINTENANCE OR REPAIR. PROVIDE SUFFICIENT ROOM TO MAKE WATER, ELECTRICAL AND DUCT CONNECTIONS.
     - b. IF ANY SPRINKLER PIPING IS RUN WITHIN THE EQUIPMENT SERVICE AREAS, THE PIPE SHALL BE REMOVED AND RE-ROUTED SO IT IS NOT WITHIN THE SERVICE AREA AT NO ADDITIONAL COST TO THE TENANT.
     - c. ALLOW ADEQUATE ROOM BELOW THE MECHANICAL UNIT FOR ACCESS. DO NOT LOCATE ANY PIPING SYSTEMS BELOW ANY SUSPENDED MECHANICAL EQUIPMENT.
  4. REFER TO THE ELECTRICAL DRAWINGS FOR THE INTERFACE BETWEEN THE FIRE SPRINKLER AND ALARM SYSTEMS.
  5. PROVIDE PROTECTION ABOVE CEILINGS WHEN/WHERE COMBUSTIBLE MATERIALS ARE LOCATED WITHIN THE CEILING PLENUM.
  6. PROVIDE HEAVY DUTY PROTECTIVE GUARDS FOR SPRINKLER HEADS IN ALL EXPOSED AREAS SUBJECT TO ABUSE (INCLUDING LOCKER ROOMS, MULTI-PURPOSE ROOMS, STORAGE, MECHANICAL AND ELECTRICAL ROOMS).
  7. PER NFPA 13, FIRE SPRINKLER PIPING SHALL BY SUPPORTED BY AN INDEPENDENT PIPE HANGER SYSTEM. FIRE SPRINKLER PIPING NOT BE SUPPORTED FROM OTHER PIPING, CONDUIT, OR DUCTWORK HANGING SYSTEMS.
  8. WHERE CEILINGS ARE TO BE INSTALLED, SPRINKLER PIPING SHALL BE INSTALLED WITHIN THE CEILING PLENUM UNLESS NOTED OTHERWISE ON THE DRAWINGS. WRITTEN AUTHORIZATION SHALL BE OBTAINED FROM THE ARCHITECT PRIOR TO EXPOSING ANY PIPING IN ANY ROOM WHICH HAS A SUSPENDED CEILING.
- C. THE SPRINKLER SYSTEM FOR THIS FACILITY SHALL BE UP-SIZED TO ACCOMMODATE THE ANTICIPATED FUTURE PHASES AS SHOWN ON THESE PLANS.
- D. THE SUCCESSFUL SPRINKLER CONTRACTOR SHALL CONDUCT A WATER FLOW TEST PRIOR TO THE DESIGN OF THE SPRINKLER SYSTEM.

1.2
- A. THIS DRAWING INDICATES A GENERAL PIPING ARRANGEMENT AND SUGGESTED SIZING ONLY. THE SPRINKLER CONTRACTOR SHALL DETERMINE THE ACTUAL PIPE SIZING REQUIRED AND COORDINATE WORK WITH ALL OTHER TRADES TO AVOID CONFLICTS.
- B. ROUTE SPRINKLER PIPING SUCH THAT IT DOES NOT RUN ABOVE ELECTRICAL PANELS, SWITCHGEAR, OR SIMILAR EQUIPMENT. SPRINKLER MAINS SHALL NOT RUN THROUGH ELECTRICAL OR COMMUNICATION ROOMS. SPRINKLER HEADS IN THESE ROOMS SHALL BE SERVED BY A DEDICATED BRANCH LINE FOR EACH ROOM.
- C. AESTHETICS AND FUNCTIONALITY ARE A PRIMARY CONSIDERATION WHEN INSTALLING SPRINKLERS AND SPRINKLER PIPING IN ALL AREAS.
  1. THE DRAWINGS SHOW THE GENERAL INTENDED ROUTING FOR THE SPRINKLER MAINS. ALL PIPING AND DEVICES SHALL BE INSTALLED AS HIGH AS POSSIBLE.
  2. APPROVAL PRIOR TO INSTALLATION: NO WORK SHALL COMMENCE PRIOR TO APPROVAL OF SHOP DRAWINGS BY THE APPROVING AUTHORITIES. ANY CHANGE IN WORK THAT HAS BEEN INSTALLED PRIOR TO APPROVAL OF THE SHOP DRAWINGS SHALL BE MADE WITHOUT ADDITIONAL COMPENSATION TO CONTRACTOR.
  3. ANY FACET OF SPRINKLER INSTALLATION THAT DEVIATES FROM THE APPROVED SHOP DRAWINGS AND DOES NOT MEET WITH ENGINEER AND TENANT'S APPROVAL SHALL BE REVISED BY CONTRACTOR TO TENANT'S SATISFACTION AT NO ADDITIONAL COST.

FIRE PROTECTION LEGEND

- OS & Y VALVE
- VALVE IN RISER
- XX — PIPING IDENTIFIER, SEE ABBREVIATIONS
- FIRE DEPARTMENT CONNECTION
- FS — FLOW SWITCH
- GAUGE, AIR OR WATER AS NOTED ON DRAWINGS
- XXX — FLOW CALCULATION NODE

* NOTE *

ALL NOTES ON THIS SHEET ARE APPLICABLE TO ALL OTHER SHEETS IN THIS SET.

THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE APPLICABLE IN THIS SET OF DRAWINGS.

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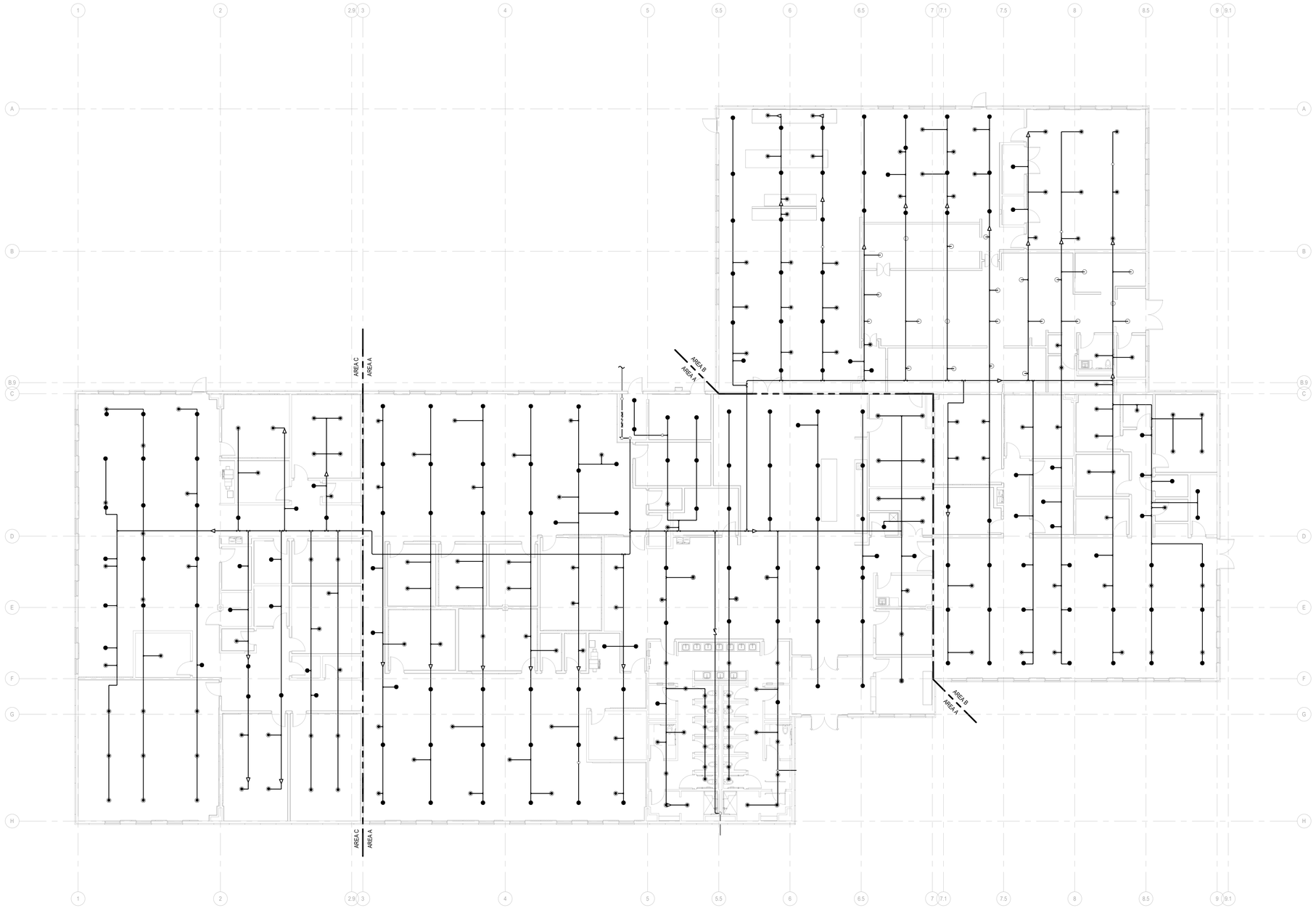
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GENERAL NOTES, FIRE PROTECTION SYMBOLS & ABBREVIATIONS

SCALE: As indicated

SHEET NUMBER:
FP0.1

PHASE: BUILDING PERMIT DOCUMENTS



FIRE PROTECTION OVERALL PLAN
SCALE: 1" = 10'-0"

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KEY PLAN (AREAS)
N
B
C
A

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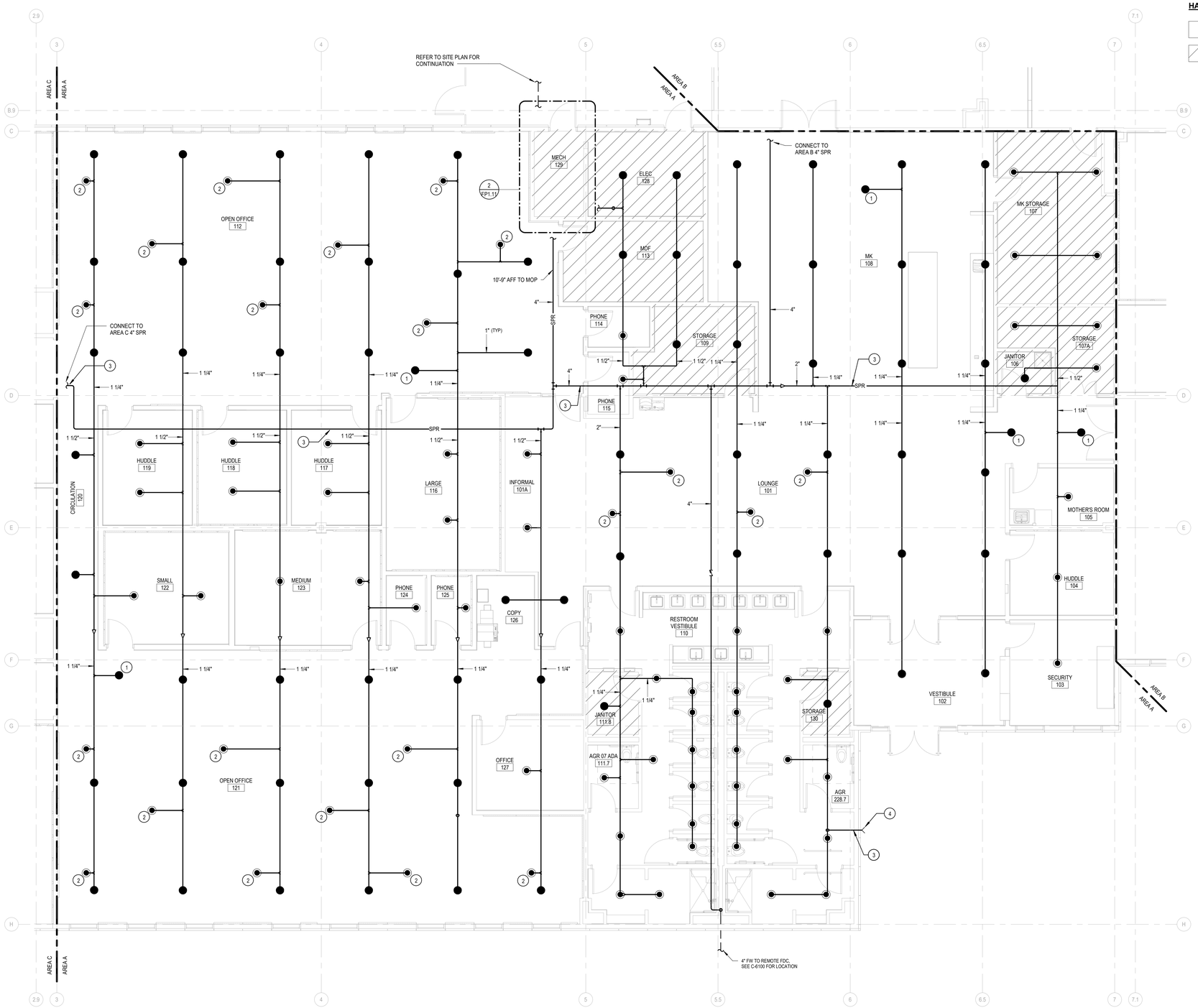
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FIRE PROTECTION OVERALL PLAN
SCALE: 1" = 10'-0"

SHEET NUMBER:
FP1.01
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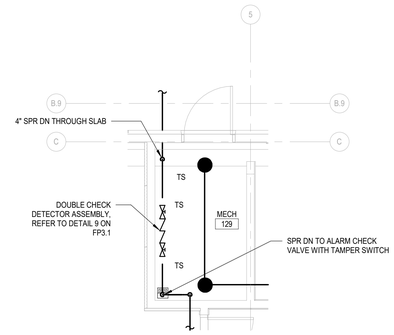


FIRE PROTECTION PLAN - AREA A

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

HAZARD CLASSIFICATION

- LIGHT HAZARD OCCUPANCY (ENTIRE BUILDING UNLESS NOTED OTHERWISE)
- ORDINARY HAZARD, GROUP 1 OCCUPANCY



2 FP1.11 MECHANICAL ROOM PLAN

SCALE: 1/4" = 1'-0"

SHEET NOTES

1. LOCATE SPRINKLER HEAD ABOVE AND BELOW AC UNIT.
2. LOCATE CONCEALED SPRINKLER HEAD IN THE CENTER OF ACOUSTIC CEILING PANEL.
3. PIPE PENETRATION. REFER TO STRUCTURAL DRAWINGS FOR WEB HOLE CUTTING DETAIL.
4. PROVIDE VIKING VK188 EXTENDED COVERAGE QUICK RESPONSE DRY HORIZONTAL SIDEWALL SPRINKLER HEAD 6" BELOW ENTRY CANOPY SOFFIT.

SPRINKLER LEGEND - AREA A

SYMBOL	MANUFACTURER	MODEL	K-FACTOR	TYPE	RESPONSE
●	VICTAULIC	FL-QR	5.6	PENDENT	QUICK
◉	VICTAULIC	FL-SC	5.6	PENDENT	QUICK

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KEY PLAN (AREAS)

N, B, C, A

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FIRE PROTECTION PLAN - AREA A
SCALE: As indicated

SHEET NUMBER:
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HAZARD CLASSIFICATION

LIGHT HAZARD OCCUPANCY (ENTIRE BUILDING UNLESS NOTED OTHERWISE)

ORDINARY HAZARD, GROUP 1 OCCUPANCY

SPRINKLER LEGEND - AREA B						
SYMBOL	MANUFACTURER	MODEL	K-FACTOR	TYPE	RESPONSE	TEMPERATURE
●	VICTAULIC	FL-QR	5.6	PENDENT	QUICK	155 °F
◉	VICTAULIC	FL-SC	5.6	PENDENT	QUICK	155 °F
○	VICTAULIC	FL-QR	5.6	PENDENT	QUICK	200 °F



SHEET NOTES

1. LOCATE SPRINKLER HEAD ABOVE AND BELOW AC UNIT.
2. TYPE I HOODS HAVE CHEMICAL SUPPRESSION, TYPE II HOODS REQUIRE SPRINKLER COVERAGE. SEE FOOD SERVICE DRAWINGS AND COORDINATE WITH EQUIPMENT LOCATIONS.
3. LOCATE CONCEALED SPRINKLER HEAD IN THE CENTER OF ACOUSTIC CEILING PANEL.
4. PIPE PENETRATION, REFER TO STRUCTURAL DRAWINGS FOR WEB HOLE CUTTING DETAIL.

FIRE PROTECTION PLAN - AREA B

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

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KEY PLAN (AREAS)

N

B
C A

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1		

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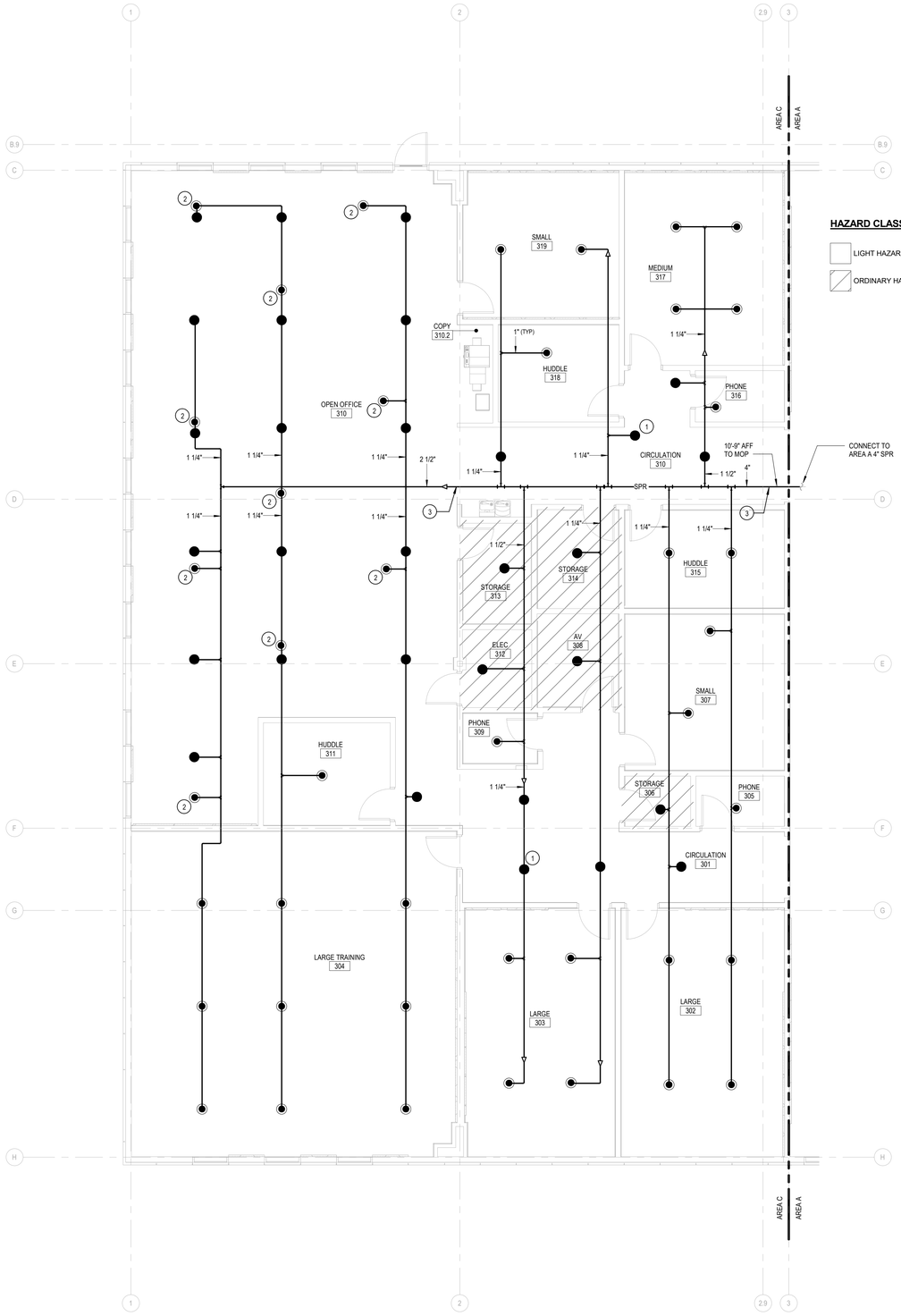
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FIRE PROTECTION PLAN - AREA B

SCALE: As indicated

SHEET NUMBER:
FP1.21

PHASE: BUILDING PERMIT DOCUMENTS



HAZARD CLASSIFICATION

- LIGHT HAZARD OCCUPANCY (ENTIRE BUILDING UNLESS NOTED OTHERWISE)
- ORDINARY HAZARD, GROUP 1 OCCUPANCY

SHEET NOTES

1. LOCATE SPRINKLER HEAD ABOVE AND BELOW AC UNIT.
2. LOCATE CONCEALED SPRINKLER HEAD AT THE CENTER OF ACOUSTIC CEILING PANEL
3. PIPE PENETRATION, REFER TO STRUCTURAL DRAWINGS FOR WEB HOLE CUTTING DETAIL.

SPRINKLER LEGEND - PHASE 3

SYMBOL	MANUFACTURER	MODEL	K-FACTOR	TYPE	RESPONSE
●	VICTAULIC	FL-QR	5.6	PENDENT	QUICK
◉	VICTAULIC	FL-SC	5.6	PENDENT	QUICK

FIRE PROTECTION PLAN - AREA C

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

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KEY PLAN (AREAS)

N, A, B, C

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FIRE PROTECTION PLAN - AREA C

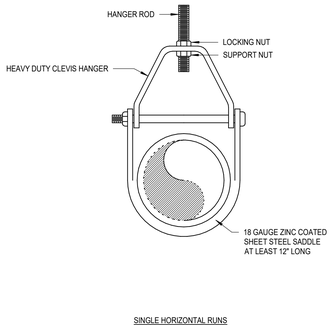
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FP1.31

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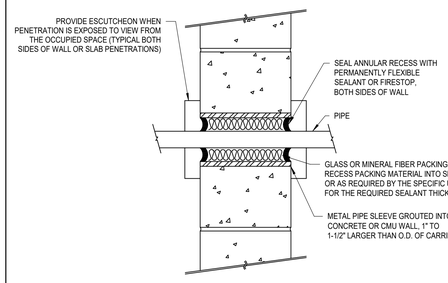
CLEVIS HANGER DETAIL



SINGLE HORIZONTAL RUNS

2

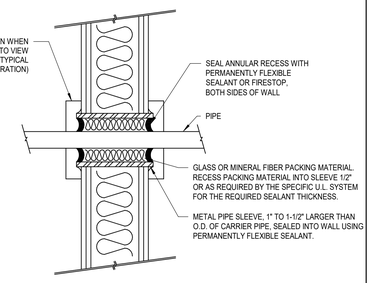
AIR-TIGHT & RESILIENT PIPE PENETRATION (BLOCK OR CONCRETE WALL OR SLAB)



NOTES:
1. PIPE SHALL PENETRATE PERPENDICULARLY

3

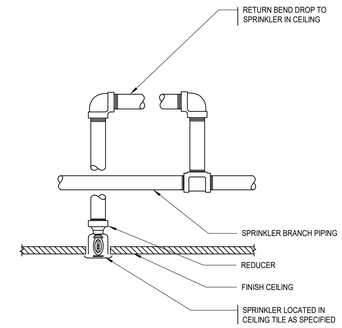
AIR-TIGHT & RESILIENT PIPE PENETRATION (FRAMED WALL)



NOTES:
1. PIPE SHALL PENETRATE PERPENDICULARLY

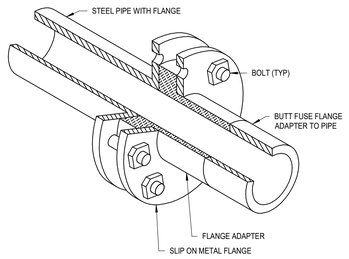
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SPRINKLER DIAGRAM



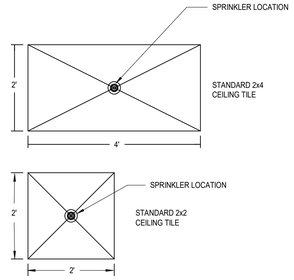
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DISMILAR PIPING MATERIAL COUPLING DETAIL



6

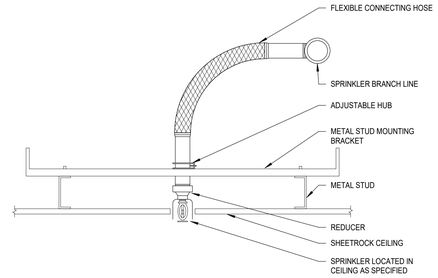
LOCATION OF SPRINKLERS AT ACOUSTICAL CEILING TILES



NOTE : REFER TO SPECIFICATION FOR SPRINKLER TYPES AND LOCATION REQUIREMENTS.

7

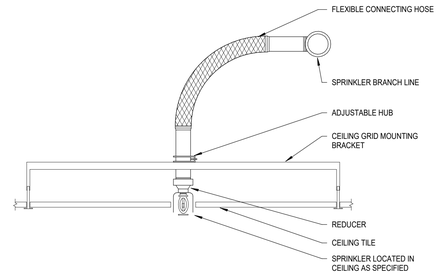
FLEXHEAD SHEETROCK CEILING DETAIL



NOTES:
1. ALL FLEX HOSES SHALL BE 3'-0" MAXIMUM LENGTH. ANYTHING OVER 3'-0" LONG SHALL BE ATTACHED TO SCHEDULE 40 BLACK STEEL PIPE.

8

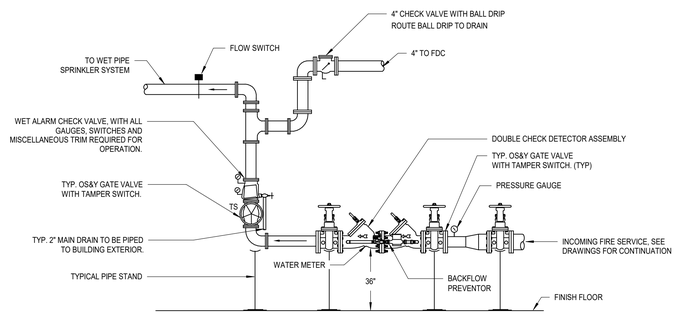
FLEXIBLE SPRINKLER CONNECTION FOR SUPSENDED CEILING



NOTES:
1. ALL FLEX HOSES SHALL BE 3'-0" MAXIMUM LENGTH. ANYTHING OVER 3'-0" LONG SHALL BE ATTACHED TO SCHEDULE 40 BLACK STEEL PIPE.

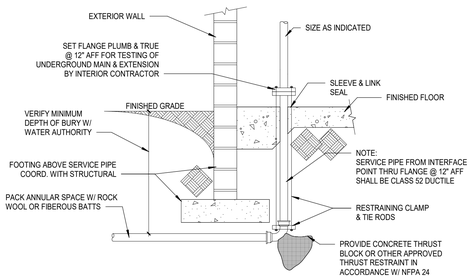
9

WET SPRINKLER RISER ASSEMBLY DIAGRAM



10

FIRE WATER SERVICE ENTRANCE DETAIL



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fsi ENGINEERS
Seattle // Spokane // Baltimore

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: IGH
APPRV'D: BPR

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

FIRE PROTECTION DETAILS

SCALE: 1/8" = 1'-0"

SHEET NUMBER:
FP3.1

PHASE: BUILDING PERMIT DOCUMENTS

PLUMBING ABBREVIATIONS

(D)	DEMOLISHED
(E)	EXISTING
(R)	RELOCATED
°C	DEGREES CELSIUS
°F	DEGREES FAHRENHEIT
Ø	DIAMETER
A/C	AIR CONDITIONING(ER)
AAV	AUTOMATIC AIR VENT
ACC	ACCESSIBLE
AD	AREA DRAIN
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AGF	AIR GAP FITTING
AHU	AIR HANDLING UNIT
ANCH	ANCHOR
AR	ACID RESISTING
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
AUTO	AUTOMATIC
AV	AUDIO-VIDEO, AUDIO-VISUAL
AV	ACID VENT
AV	AIR VENT
BBO	BOILER BLOW OFF
BC	BALANCING COCK
BF	BOILER FEED
BFF	BELOW FINISH FLOOR
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BLKG	BLOCKING
BLKHD	BULKHEAD
BOT	BOTTOM
BPIP	BOILER PLANT INSTRUMENTATION PANEL
BV	BALL VALVE
C	CONDUIT
C	CONDENSER WATER
CD	CONDENSATE DRAIN
CD	CONSTRUCTION DOCUMENTS
CF	CUBIC FEET
CI	CAST IRON
CI	CI/PB INLET
CIP	CAST IRON PIPE
CIRC	CIRCULATING
CLR	CLEAR
CO	CLEAN OUT
COMB	COMBINATION
CR	CORROSION RESISTANT
CS	COUNTERSINK
CS	COMBINATION SEWER
CSP	COMBINATION STANDPIPE
CT	COOLING TOWER
CTL	CONTROL
CU	CONDENSING UNIT
CW	COLD WATER
D	DRAIN
DBL	DOUBLE
DE	DEIONIZED WATER
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DFR	DIESEL FUEL RETURN
DFS	DIESEL FUEL SUPPLY
DFV	DIESEL FUEL VENT
DISCH	DISCHARGE
DSN	DOWNSPOUT NOZZLE
DSP	DRY STAND/PIPE
DW	DISHWASHER
EA	EACH
EEW	EMERGENCY EYE WASH
EEWS	EMERGENCY EYE WASH SHOWER
EFF	EFFICIENCY
ELEV	ELEVATOR
EMER	EMERGENCY
ENT	ENTERING
EWC	ELECTRIC WATER COOLER
EXP	EXPOSED

PLUMBING ABBREVIATIONS

F	FAHRENHEIT
F	FIRE WATER PIPING
F.V.	FIELD VERIFY
FAB	FABRICATE(D)
FCO	FLOOR CLEAN OUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FDNDR	FOUNDATION DRAIN
FF	FINISH FLOOR
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIX	FIXTURE
FLEX	FLEXIBLE
FM	FIRE MAIN
FM	FORCE MAIN
FOF	FUEL OIL FILL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FPC	FIRE PROTECTION CONTRACTOR
FPD	FIRE PUMP DISCHARGE
FPM	FEET PER MINUTE
FS	FLOW SWITCH
FS	FLOOR SINK
FVC	FIRE VALVE CABINET
G	NATURAL GAS
GA	GAUGE
GAL	GALLON
GCO	GRADE CLEAN OUT
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GATE VALVE
GV	GREASE VENT
GVBF	GREASE VENT BELOW FLOOR
GW	GREASE WASTE
HB	HOSE BIB
HGR	HANGER
HID	HIGH INTENSITY DISCHARGE
HP	HEAT PUMP
HP	HIGH PRESSURE
HR	HOUR
HUM	HUMIDIFIER
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HW	DOMESTIC HOT WATER
HWC	DOMESTIC HOT WATER RECIRCULATING
IAW	IN ACCORDANCE WITH
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IES	ILLUMINATING ENGINEERING SOCIETY
INSUL	INSULATION
IP	IRON PIPE
IW	INDIRECT WASTE
JAN	JANITOR
LAV	LAVATORY
LF	LINEAR FOOT
LG	LENGTH (LONG)
LIN	LINEAR
LPG	LIQUIFIED PETROLEUM GAS
LS	LAWN SPRINKLER
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAV	MANUAL AIR VENT
MFRG	MANUFACTURING
MH	MANHOLE
MPG	MEDIUM PRESSURE GAS

PLUMBING ABBREVIATIONS

MTD	MOUNTED
MTG	MOUNTING
MV	MEDICAL VACUUM
N	NITROGEN
N2O	NITROUS OXIDE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NO	NUMBER
NO2	NITROGEN DIOXIDE
NOM	NOMINAL
O&M	OPERATION AND MAINTENANCE
OD	OUTSIDE DIAMETER
ORD	OVERFLOW ROOF DRAIN
OS&Y	OUTSIDE SCREW AND YOKE
OVFL	OVERFLOW
OX	OXYGEN
P	PUMP
P/T	PRESSURE/TEMPERATURE TEST PORT
PC	PUMPED CONDENSATE
PCF	POUNDS PER CUBIC FOOT
PD	PRESSURE DROP
PD	PUMP DISCHARGE
PDI	PLUMBING & DRAINAGE INSTITUTE
PG	PRESSURE GAUGE
PI	PRESSURE INDICATOR
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
POC	POINT OF CONNECTION
PR	PAIR
PSI	POUNDS PER SQUARE INCH
PT	PLASTER TRAP
PVC	POLYVINYL CHLORIDE
R	RISER
RAD	RADIUS
RCP	REFLECTED CEILING PLAN
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REM	REMOVABLE
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
S	SANITARY SEWER
S	SPRINKLER LINE
SAN	SANITARY WASTE
SCW	SOFT COLD WATER
SD	STORM DRAIN
SE	STEAM EXHAUST VENT
SH	SHOWER
SHW	SOFT HOT WATER
SK	SINK
SM	SPRINKLER MAIN
SP	STATIC PRESSURE (H2O)
SP	STAND PIPE
SPD	SURGE PROTECTION DEVICE
SPR	SPRINKLER PIPING
SQ	SQUARE
SS	STAINLESS STEEL
SS	SERVICE SINK
SST	SECONDARY STORM DRAINAGE
ST	STORM DRAINAGE
STOR	STORAGE
SUSP	SUSPENDED
T	TEMPERED
TEMP	TEMPERATURE
THK	THICK(NESS)
TMV	THERMOSTATIC MIXING VALVE
TOIL	TOILET
TPV	TRAP PRIMER
TS	TEMPERATURE SENSOR
TT	TEMPERATURE TRANSMITTER
UC	UNIT COOLER
UG	UNDERGROUND
UR	URINAL
UTIL	UTILITY
V	VENT
V	VACUUM
VA	VALVE
VBF	VENT BELOW FLOOR
VCP	VITRIFIED CLAY PIPE
VOL	VOLUME
VP	VACUUM PUMP
VTR	VENT THROUGH ROOF
W	WATER SERVICE
W	WASTE (PLUG)
WC	WATER COLUMN
WC	WATER CLOSET
WCC	WATER COOLED CONDENSER
WCL	WATER CLOSET/LAVATORY COMBINATION
WCO	WALL CLEAN OUT
WF	WASH FOUNTAIN
WFMD	WATER FLOW MEASURING DEVICE
WH	WALL HYDRANT
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR
WPB	WHIRLPOOL BATH
WSP	WET STAND PIPE
YH	YARD HYDRANT
ZCB	ZONE CONTROL BOX
ZCV	ZONE CONTROL VALVE

GENERAL SYMBOLS

	POINT OF DISCONNECT - DEMOLITION REMOVED FROM EXISTING
	POINT OF CONNECTION - NEW CONNECTS TO EXISTING
	AREA NOT IN CONTRACT

GENERAL NOTES

1 REMOVE ALL UNUSED PIPING, DUCTWORK AND ACCESSORIES.

2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID, ALL EXISTING CONDITIONS FOR PLUMBING AND MECHANICAL SYSTEMS WITHIN SCOPE OF WORK AND WITHIN CLOSE PROXIMITY OF SCOPE OF WORK.

3 THE CONTRACTOR SHALL PERFORM, SERVICE AND REPAIR, ON ANY EXISTING EQUIPMENT MODIFIED DURING THE ACTIVE PHASE SCOPE, AND ITS ACCESSORIES AS FOLLOWS: CLEAN ALL COILS, REPLACE THE FILTERS AND BELTS, INSPECT, REPAIR, OR REPLACE THE, DRIVES AND FAN BEARINGS, MOTORS, CONTROL COMPONENTS, VALVES AND ANY OTHER ITEM NECESSARY FOR A COMPLETE AND PROPER OPERATING SYSTEM. THIS CONTRACTOR SHALL ALSO VISIT THE SITE, PRIOR TO FINAL BIDDING, AND VERIFY ALL EXISTING SITE CONDITIONS. PROVIDE ALL MATERIAL AND COMPONENTS AS NEEDED TO BRING THE UNITS TO FULL COMPLIANCE OF THE TENTANT'S CRITERIA AND LOCAL AUTHORITY HAVING JURISDICTION.

4 WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING DRAIN BODY BY SEALING DRAIN OPENING PRIOR TO START OF WORK. UNSEAL DRAINS AT COMPLETION OF CONSTRUCTION.

5 COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, AND EQUIPMENT TO PREVENT CONFLICTS.

6 THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.

7 FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE.

8 LOCATE EQUIPMENT REQUIRING ACCESS 2'-0" MAXIMUM ABOVE CEILING.

9 ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF ROOF.

10 LOCATE DUCTWORK, PIPING AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS, TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT.

11 FIRE SEAL AROUND DUCT AND PIPING PENETRATIONS OF FIRE RATED WALLS. REFER TO SPECIFICATION.

12 PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF.

13 ADJUST PIPING AND DUCTWORK SIZES TO PROPERLY CONNECT TO MECHANICAL EQUIPMENT.

14 REFER TO PIPING SERIES DRAWINGS FOR REFRIGERANT AND CONDENSATE DRAIN PIPING.

15 PIPE SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.

16 FOR DETAILS, EQUIPMENT CONNECTIONS, AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, EQUIPMENT MANUALS, AND SPECIFICATIONS.

17 INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.

18 LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWING, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.

19 INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL, TIGHT TO STRUCTURE, IN ROOMS WITHOUT CEILINGS.

20 CONTRACTOR SHALL NOT DRILL, NOTCH, OR PENETRATE ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN CONSTENT OF STRUCTURAL ENGINEER. COORDINATE REQUIRED NOTCHES, HOLES, AND PENETRATIONS WITH THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.

21 ALL EXPOSED STEEL DUCTWORK AND MECHANICAL EQUIPMENT SHALL HAVE PAINT GRIP SURFACE, PAINT AND COLOR PER ACHITECTURAL DIV. 09.

22 ALL PIPE INSULATION SHALL HAVE PAINTABLE JACKET. PAINT AND COLOR PER ARCHITECTURAL DIV. 09.

GENERAL PLUMBING NOTES

1 FIELD VERIFY ALL NEW WATER, WASTE, AND VENT PIPING CONNECTIONS AND PROVIDE NEW CONNECTIONS AS REQUIRED FOR PROPERLY OPERATING SYSTEMS.

2 PITCH UNDERFLOOR SANITARY WASTE PIPING LESS THAN 3" AT A 1/4" PER FOOT, UNLESS STATED OTHERWISE. PITCH UNDERFLOOR SANITARY WASTE PIPING 3" AND GREATER AT 1/8" PER FOOT, UNLESS NOTED OTHERWISE.

3 PITCH UNDERFLOOR STORM PIPING 3" AND GREATER AT 1/8" PER FOOT, UNLESS NOTED OTHERWISE. PITCH ALL OTHER STORM PIPING AT 1/4" PER FOOT UNLESS OTHERWISE NOTED.

4 FIELD VERIFY LOCATION AND INVERTS OF SITE UTILITIES PRIOR TO INSTALLATION.

5 ROUTE DOMESTIC WATER, FIRE PROTECTION, SANITARY SEWER, AND STORM SEWER SERVICES TO SITE UTILITIES 5'-0" FROM BUILDING UNLESS NOTED OTHERWISE. REFER TO CIVIL PLANS.

6 WASTE AND VENT PIPING BELOW FLOOR AND THROUGH FLOOR SHALL BE 2" MINIMUM.

PLUMBING SYMBOLS

SCHEMATIC	3D	DESCRIPTION
CW	CW	DOMESTIC COLD WATER
		DOMESTIC COLD WATER (LINETYPE)
HW	HW	DOMESTIC HOT WATER
		DOMESTIC HOT WATER (LINETYPE)
110 HW	110 HW	DOMESTIC HOT WATER (110 °F)
140 HW	140 HW	DOMESTIC HOT WATER (140 °F)
HWC	HWC	DOMESTIC HOT WATER RECIRCULATING
		DOMESTIC HOT WATER RECIRC (LINETYPE)
110 HWC	110 HWC	DOMESTIC HOT WATER RECIRCULATING (110 °F)
140 HWC	140 HWC	DOMESTIC HOT WATER RECIRCULATING (140 °F)
FCW	FCW	FILTERED COLD WATER
HCW	HCW	HARD COLD WATER
T	T	TEMPERED WATER
RCW	RCW	RECLAIMED WATER
SD	SD	STORM DRAIN
OSD	OSD	OVERFLOW STORM DRAIN
GV	GV	GREASE VENT
GW	GW	GREASE WASTE
CWV	CWV	COMBINATION WASTE AND VENT
FM	FM	FORCED MAIN
IW	IW	INDIRECT WASTE
PD	PD	PUMP DISCHARGE
W	W	SANITARY WASTE
V	V	SANITARY VENT
FDNDR	FDNDR	FOUNDATION DRAIN
CO	CO	CLEAN OUT
WCO	WCO	WALL CLEAN OUT
FCO	FCO	FLOOR CLEAN OUT
GCO	GCO	GRADE CLEAN OUT (DOUBLE CLEAN OUT)
		FLOOR DRAIN / FLOOR SINK
		ROOF DRAIN / OVERFLOW DRAIN
		DOWNSPOUT NOZZLE
		WALL HYDRANT
		HOSE BIBB
X		WATER HAMMER ARRESTER
XX		RISER TAG
8" ORD 1,500 SF		ROOF DRAIN TAG
3" FS:		PLUMBING FIXTURE TAG

PIPING ANNOTATIONS

SCHEMATIC	3D	DESCRIPTION
		EXISTING TO REMAIN - (E) or EXIST
		ITEM TO BE DEMOLISHED - (D) or DEMO
18" CWS	18" CWS	PIPE SIZE TAG (DIAMETER WITH SYSTEM NAME)
		ABOVE GROUND PIPING
		BELOW GROUND PIPING
1/8" / 12" SLOPE	1/8" / 12" SLOPE	PIPE SLOPE
INVERT: -9'3" - 1"	INVERT: -9'3" - 8"	PIPE INVERT ELEVATION
DDC-xx		MECHANICAL EQUIPMENT TAG
		MECHANICAL EQUIPMENT CLEARANCE

PIPING VALVES AND FITTINGS

SCHEMATIC	3D	DESCRIPTION
		PIPE DROP
		PIPE RISE
		PIPE TEE DOWN
		PIPE TEE UP
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		PIPE CAP
		PIPE ALIGNMENT GUIDE
		PIPE ANCHOR
		FLOW DIRECTION
		EXPANSION JOINT
		FLEXIBLE CONNECTION
		UNION
		DIRECTION OF PIPE PITCH
		AQUASTAT
		EXPANSION LOOP
		BALANCING VALVE
		BALANCING VALVE W/ METERING POINTS
		BALL VALVE
		BUTTERFLY VALVE
		CHECK VALVE
		STEAM TRAP
		GATE VALVE
		CIRCUIT SETTER
		MANUAL AIR VENT
		AUTOMATIC AIR VENT
		PLUG VALVE
		PRESSURE GAUGE
		SOLENOID VALVE
		ANGLE VALVE
		AUTOMATIC CONTROL VALVE 2-WAY
		AUTOMATIC CONTROL VALVE 3-WAY
		AUTOMATIC FLOW CONTROL VALVE
		STRAINER
		PRESSURE AND TEMPERATURE TEST PORT
		THERMOMETER
		PRESSURE REDUCING VALVE (WATER SYSTEMS) PRESSURE REGULATING VALVE (GAS SYSTEMS)
		RELIEF VALVE
		FLOW MEASURING DEVICE
		BACKFLOW PREVENTER
		UNION

SHEET INDEX

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P1.21.0	UNDERGROUND PLUMBING PLAN - AREA B (4.0)
P1.31	UNDERGROUND PLUMBING PLAN - AREA C
P2.01.0	PLUMBING OVERALL PLAN (4.0)
P2.11	PLUMBING PLAN - AREA A
P2.21.0	PLUMBING PLAN - AREA B (4.0)
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P3.01.0	ENLARGED PLUMBING PLANS (4.0)
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P5.01	PLUMBING DETAILS
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P5.03	PLUMBING DETAILS
P5.04	PLUMBING DETAILS

* NOTE *

ALL NOTES ON THIS SHEET ARE APPLICABLE TO ALL OTHER SHEETS IN THIS SET.

THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE APPLICABLE IN THIS SET OF DRAWINGS.

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LICENSED PROFESSIONAL ENGINEER
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9-22-25
22462
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

GENERAL NOTES & SYMBOLS & ABBREVIATIONS FOR PLUMBING

SCALE: 1/8" = 1'-0"

SHEET NUMBER:
P0.01

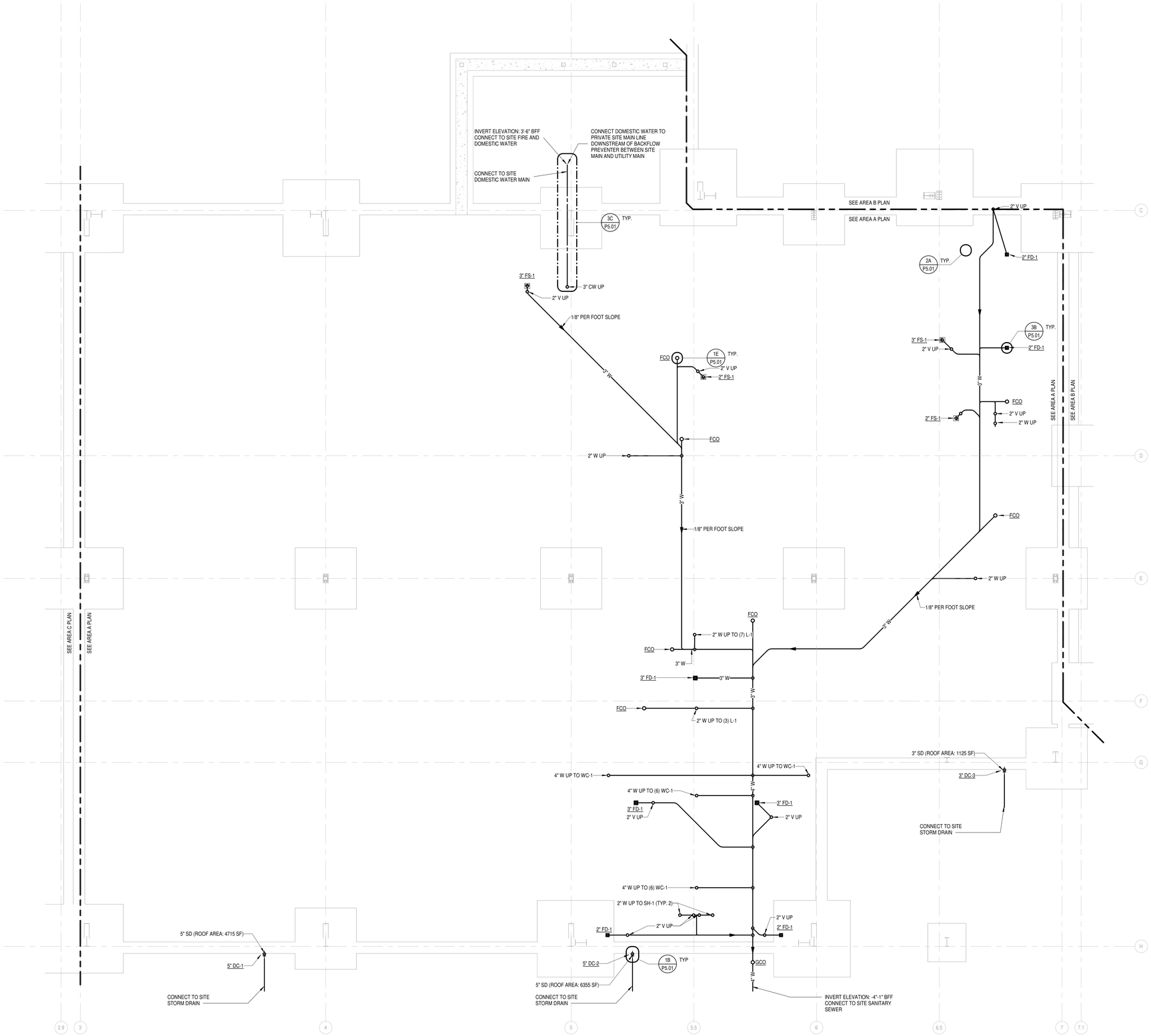
PHASE: BUILDING PERMIT DOCUMENTS

GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING P0.1

C CONTRACTOR SHALL NOT DRILL, NOTCH, OR PENETRATE ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN CONSENT OF STRUCTURAL ENGINEER. COORDINATE REQUIRED NOTCHES, HOLES, AND PENETRATIONS WITH THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.

SHEET NOTES



UNDERGROUND PLUMBING PLAN - AREA A

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

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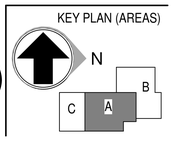
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KEY PLAN (AREAS)



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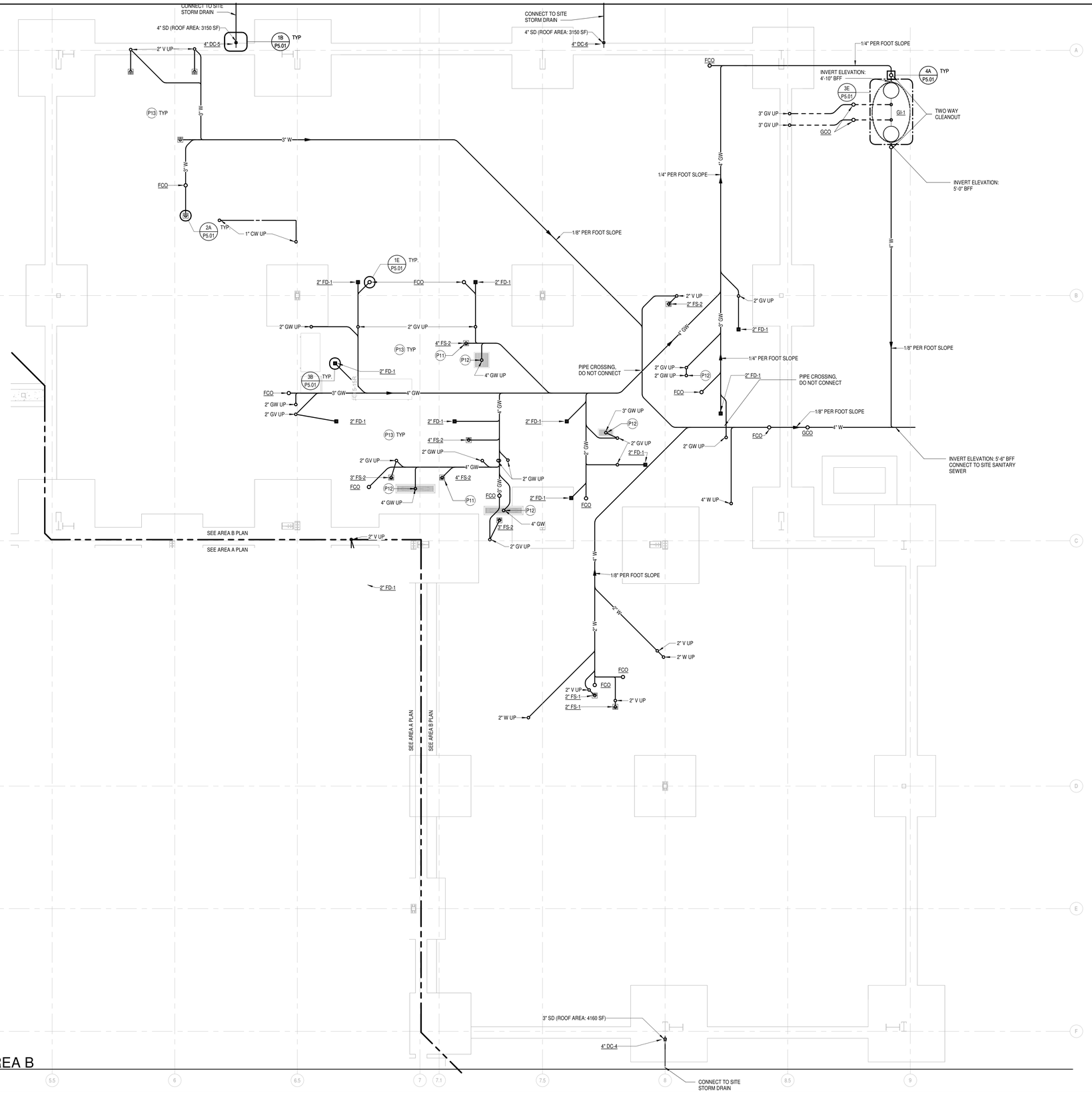
PROJ. NO. 43-25105-00

UNDERGROUND PLUMBING PLAN - AREA A

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

SHEET NUMBER: P1.11

PHASE: BUILDING PERMIT DOCUMENTS



GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING P0.1

C CONTRACTOR SHALL NOT DRILL, NOTCH, OR PENETRATE ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN CONSENT OF STRUCTURAL ENGINEER. COORDINATE REQUIRED NOTCHES, HOLES, AND PENETRATIONS WITH THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.

SHEET NOTES

P11 PROVIDE HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS PER SPECIFICATIONS FOR FIRST 10' OF DRAIN LINE DOWNSTREAM OF DISHWASHER AND STEAM COOKER SANITARY WASTE DISCHARGES.

P12 CONNECT TO IN-FLOOR FOOD SERVICE FIXTURES. REFER TO FOOD SERVICE DRAWINGS/SCHEDULES FOR BASIS OF DESIGN, DETAILS, AND CONNECTIONS.

P13 REFER TO FOOD SERVICE DRAWINGS FOR FIXTURE SCHEDULE, BASIS OF DESIGN, DETAILS AND CONNECTIONS AND CONNECTION LOCATIONS AFF. PROVIDE ALL WATER, DRAIN AND VENT PIPES INCLUDING INDIRECT WASTE LINES PER FOOD SERVICE DRAWINGS. PROVIDE LAV GUARDS, TRAPS, SUPPLY STOPS, POINT OF USE TMV, AND APPURTENANCES AS REQUIRED FOR FOOD SERVICE EQUIPMENT AND FIXTURES. COORDINATE ALL FLOOR SINKS AND FLOOR DRAINS WITH FOOD SERVICE EQUIPMENT AND SCHEDULES.

UNDERGROUND PLUMBING PLAN - AREA B

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

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LICENSED PROFESSIONAL ENGINEER SHAWN COCHRAN 9-22-25 22482 OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

UNDERGROUND PLUMBING PLAN - AREA B (4.0)

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

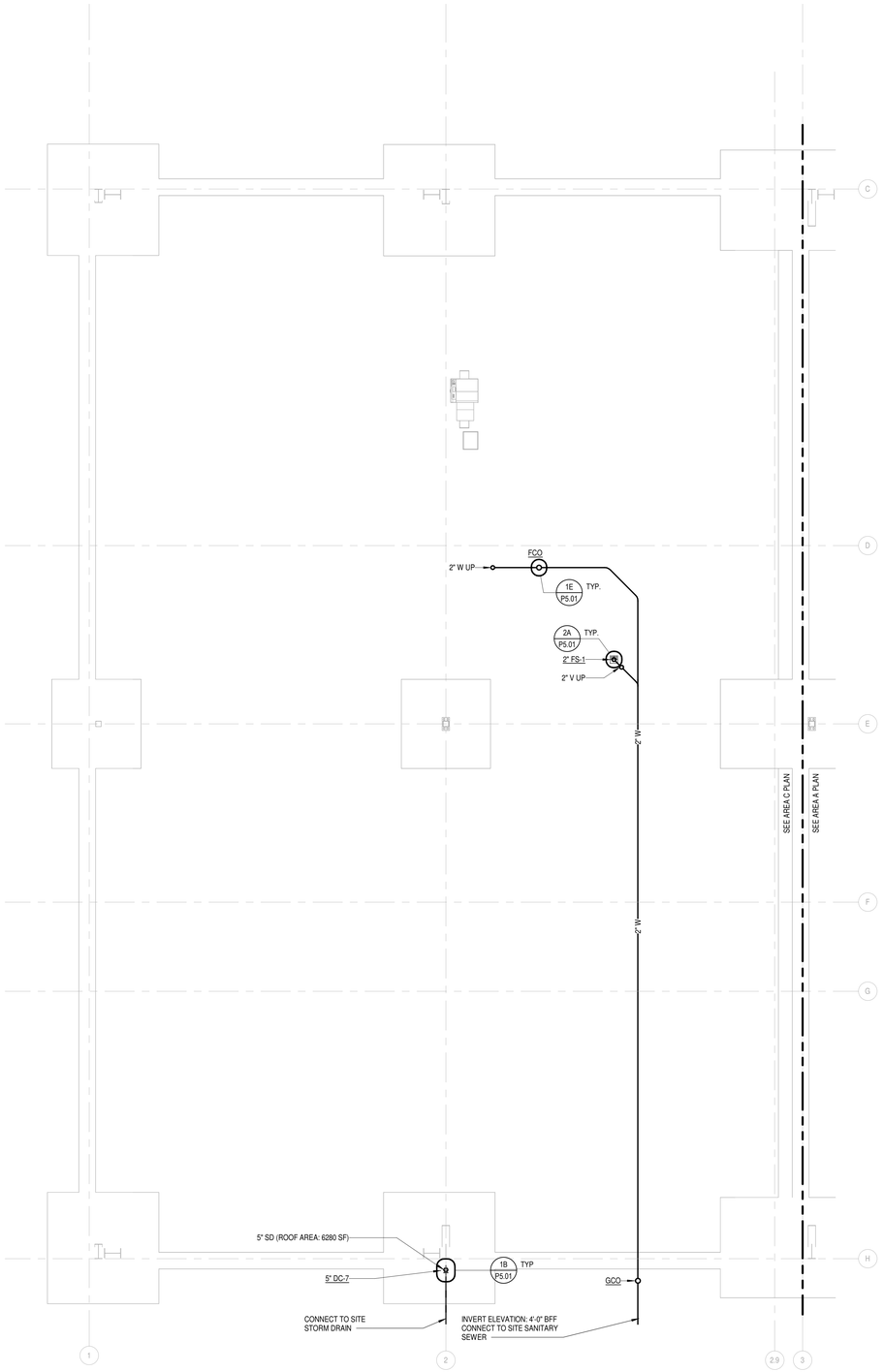
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PHASE: BUILDING PERMIT DOCUMENTS

GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING P0.1

C CONTRACTOR SHALL NOT DRILL, NOTCH, OR PENETRATE ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN CONSENT OF STRUCTURAL ENGINEER. COORDINATE REQUIRED NOTCHES, HOLES, AND PENETRATIONS WITH THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.



UNDERGROUND PLUMBING PLAN - AREA C

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

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22462
OKLAHOMA

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KEY PLAN (AREAS)

N
B
C
A

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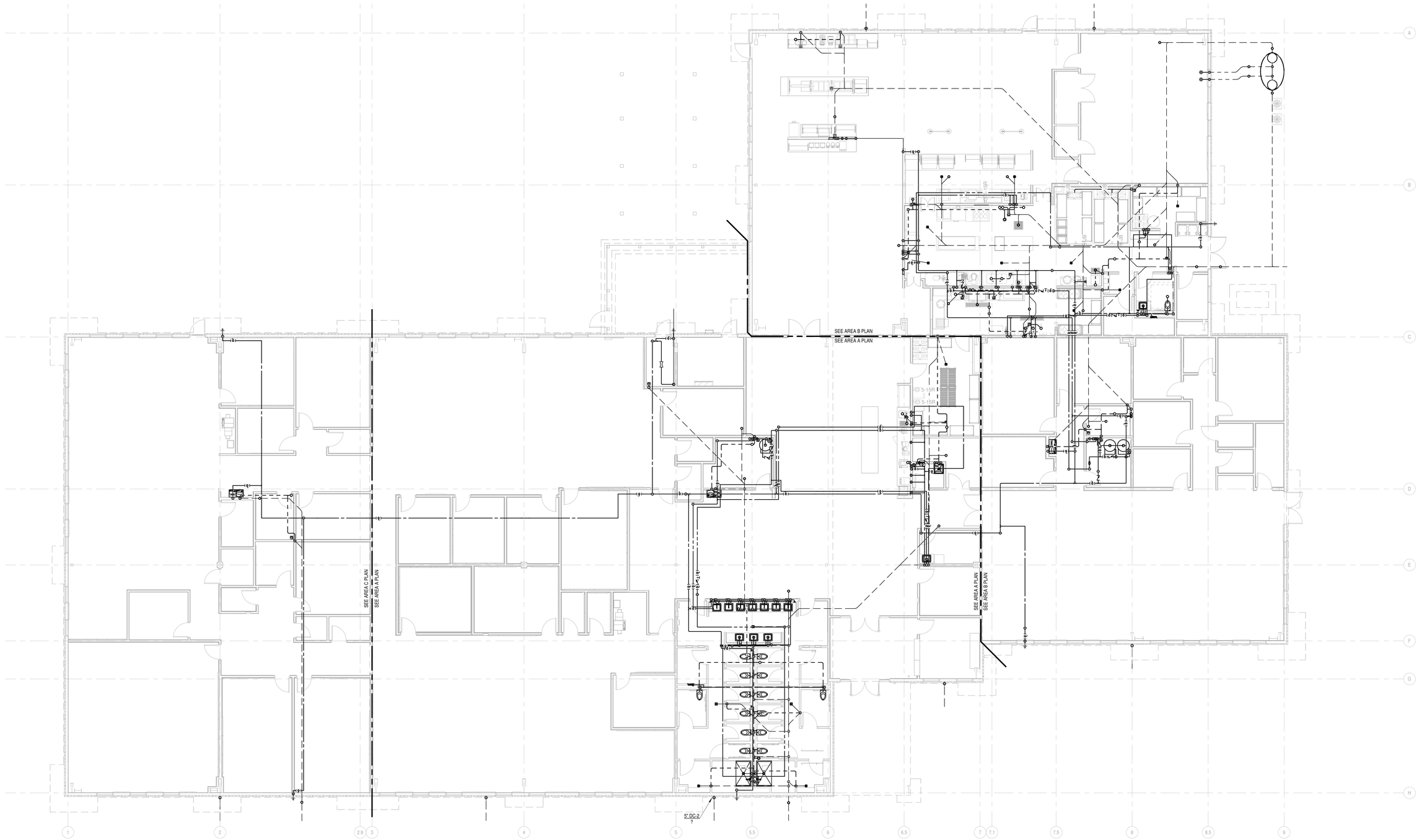
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UNDERGROUND PLUMBING PLAN - AREA C

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

SHEET NUMBER:
P1.31

PHASE: BUILDING PERMIT DOCUMENTS



PLUMBING OVERALL PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING P0.1

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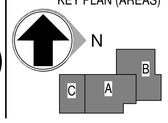
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KEY PLAN (AREAS)



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PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

PLUMBING OVERALL PLAN (4.0)

SCALE: 1/8" = 1'-0"

SHEET NUMBER:
P2.01.0

PHASE: BUILDING PERMIT DOCUMENTS

GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING P0.1

C CONTRACTOR SHALL NOT DRILL, NOTCH, OR PENETRATE ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN CONSENT OF STRUCTURAL ENGINEER. COORDINATE REQUIRED NOTCHES, HOLES, AND PENETRATIONS WITH THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.

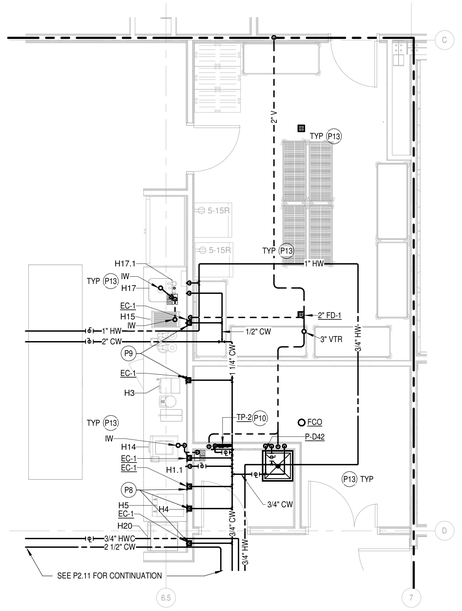
SHEET NOTES

P8 INSTALL WATTS SD-3 DUAL CHECK VALVE WITH VENT OR APPROVED EQUAL ASSE 1022 DEVICE. PIPE VENT TO NEARBY FLOOR SINK. INSTALL TIGHT TO WALL AND ATTACHED TO WATER OUTLET BOX UNDER COUNTER PRIOR TO CONNECTION TO BEVERAGE DISPENSER, SEE FOOD SERVICE EQUIPMENT.

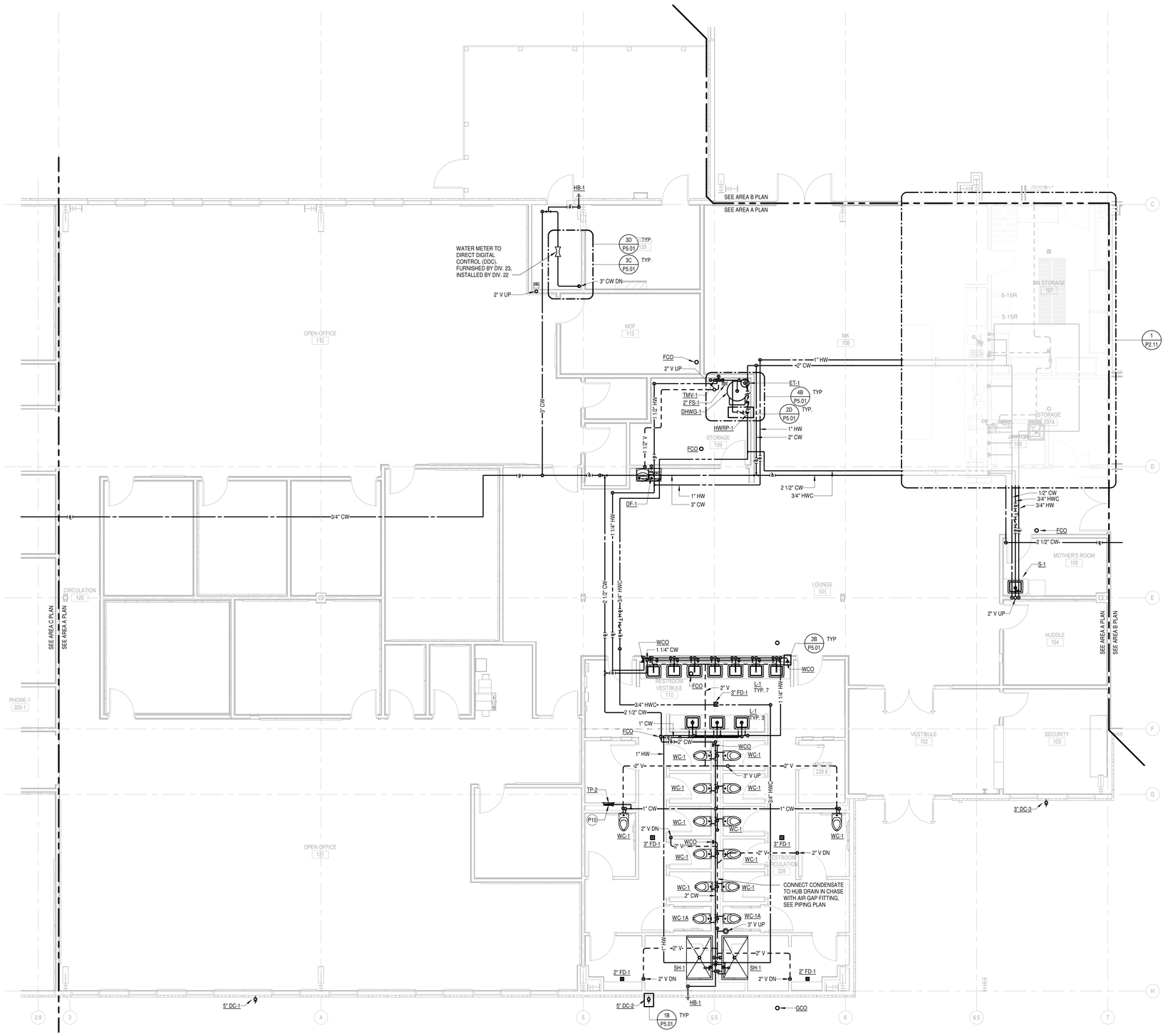
P9 INSTALL WATTS LF7 DUAL CHECK VALVE OR APPROVED EQUAL ASSE 1024 DEVICE. INSTALL TIGHT TO WALL AND ATTACHED TO WATER OUTLET BOX UNDER COUNTER PRIOR TO CONNECTION TO COFFEE MACHINE AND ICE-MAKER, SEE FOOD SERVICE EQUIPMENT.

P10 CW TO TP-#. INSTALL TRAP PRIMER INSIDE WALL OR CHASE AND PROVIDE ACCESS PANEL WITH VANDAL-PROOF SCREW. ROUTE TRAP PRIMER LINES TO ALL FLOOR DRAINS AND FLOOR SINKS IN VICINITY. UNDERFLOOR COLD WATER LINES TO FLOOR SINKS AND FLOOR DRAINS ARE OMITTED FOR CLARITY.

P13 REFER TO FOOD SERVICE DRAWINGS FOR FIXTURE SCHEDULE, BASIS OF DESIGN, DETAILS AND CONNECTIONS AND CONNECTION LOCATIONS AFF. PROVIDE ALL WATER, DRAIN AND VENT PIPES INCLUDING INDIRECT WASTE LINES PER FOOD SERVICE DRAWINGS. PROVIDE LAV GUARDS, TRAPS, SUPPLY STOPS, POINT OF USE TMV, AND APPURTENANCES AS REQUIRED FOR FOOD SERVICE EQUIPMENT AND FIXTURES. COORDINATE ALL FLOOR SINKS AND FLOOR DRAINS WITH FOOD SERVICE EQUIPMENT AND SCHEDULES.



1 P2.11 MK ENLARGED PLAN
SCALE: 1/4" = 1'-0"



PLUMBING PLAN - AREA A
SCALE: 3/16" = 1'-0"

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LICENSED PROFESSIONAL ENGINEER SHAWN COCHRAN 22462 PLUMBING
9-22-25

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2025-09-22

KEY PLAN (AREAS)

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PROJ. NO. 43-25105-00

PLUMBING PLAN - AREA A
SCALE: As indicated

SHEET NUMBER: **P2.11**
PHASE: BUILDING PERMIT DOCUMENTS

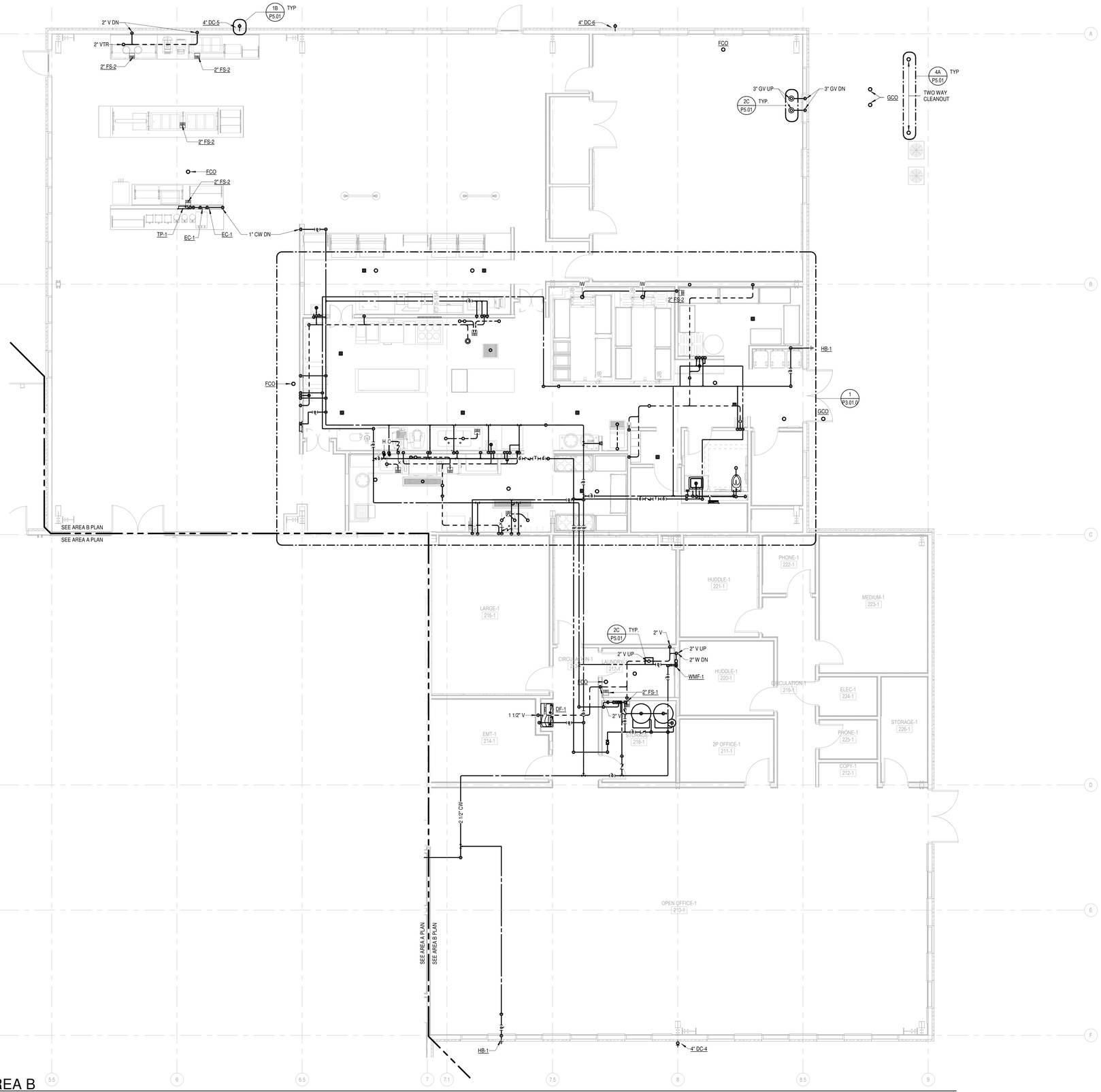
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GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING P0.1

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SHEET NOTES



PLUMBING PLAN - AREA B

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

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2025-09-22

KEY PLAN (AREAS)

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REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

PLUMBING PLAN - AREA B (4.0)

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

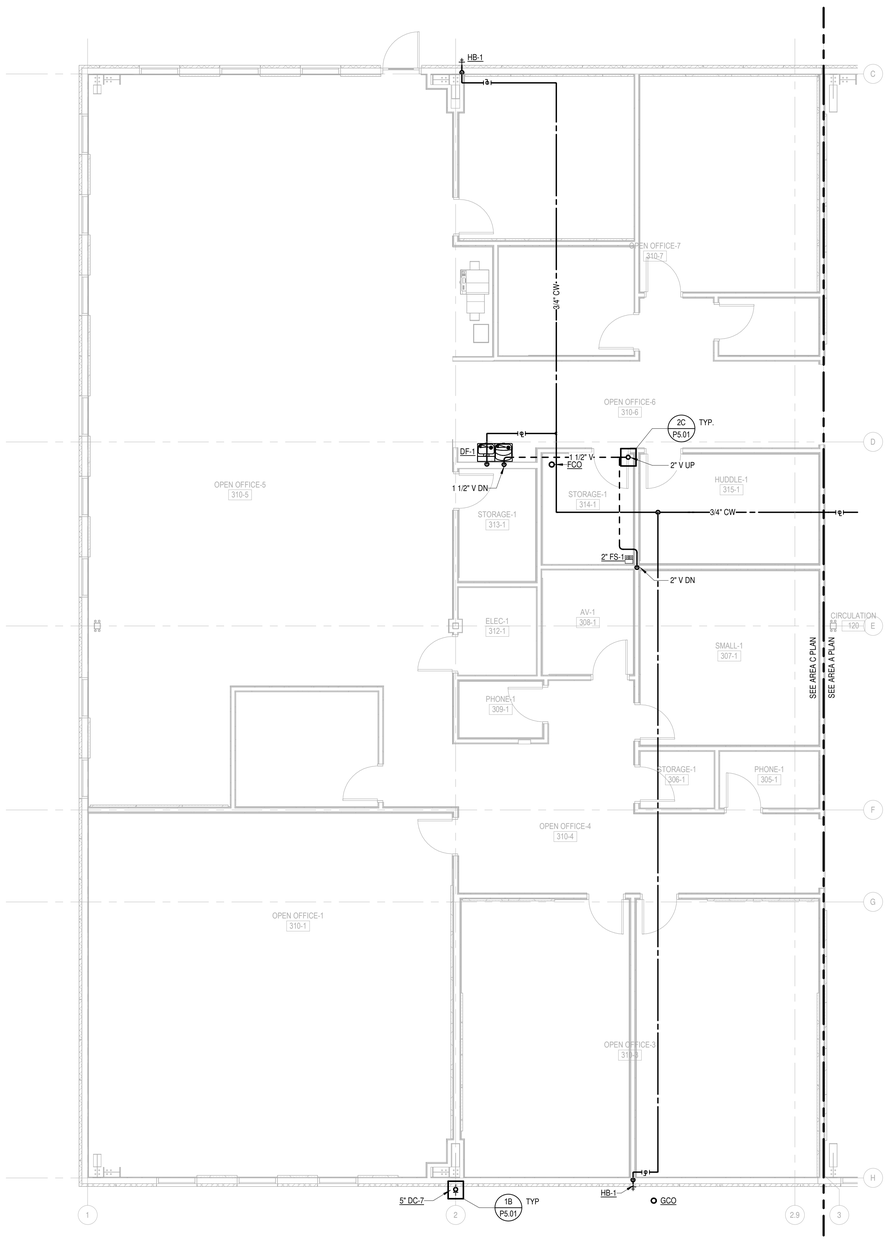
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PHASE: BUILDING PERMIT DOCUMENTS

GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING P0.1

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PLUMBING PLAN - AREA C

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

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KEY PLAN (AREAS)

N
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APPRV'D: Approver

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PROJ. NO. 43-25105-00

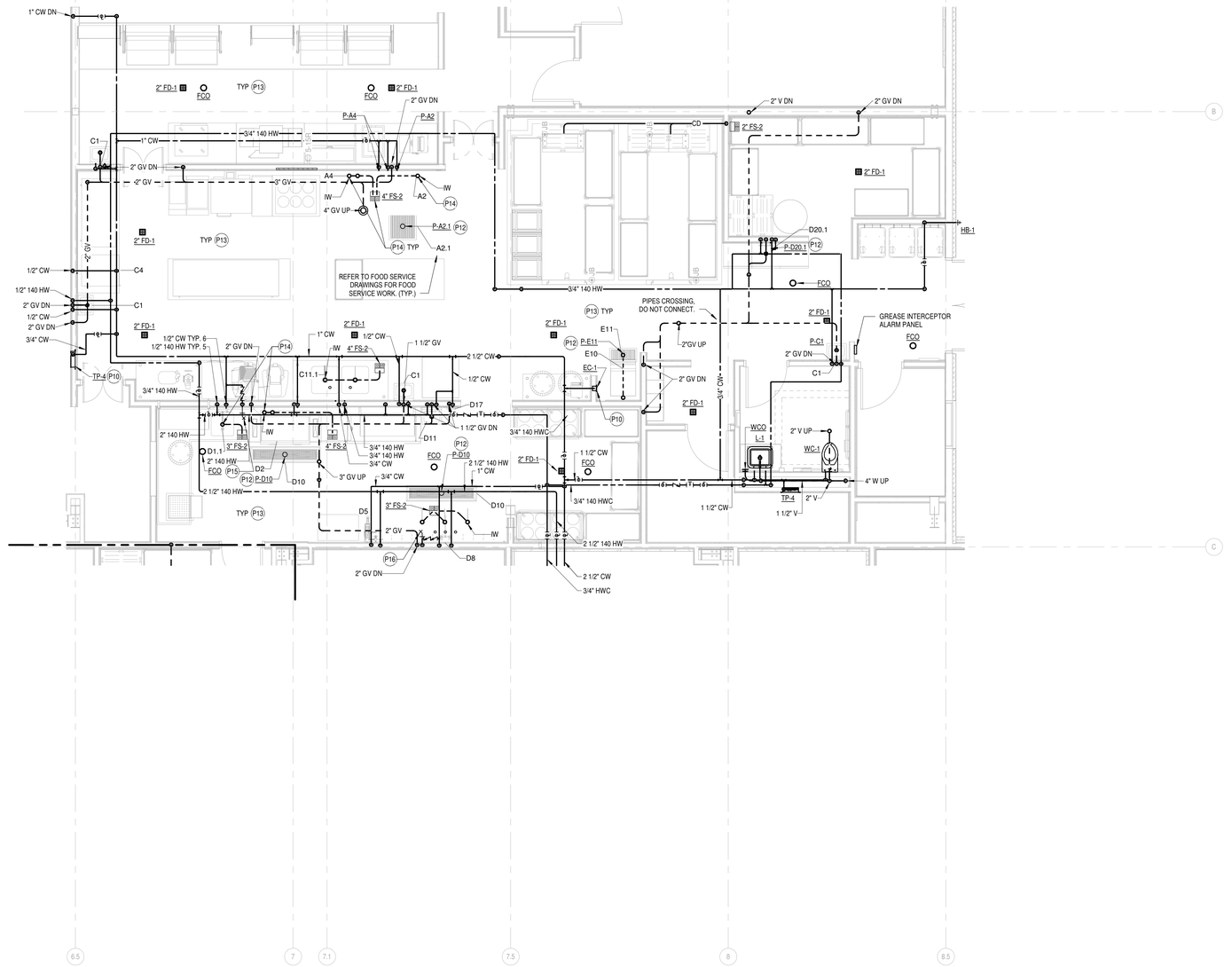
PLUMBING PLAN - AREA C
SCALE: 3/16" = 1'-0"

SHEET NUMBER:
P2.31
PHASE: BUILDING PERMIT DOCUMENTS

GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING P0.1

C CONTRACTOR SHALL NOT DRILL, NOTCH, OR PENETRATE ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN CONSENT OF STRUCTURAL ENGINEER. COORDINATE REQUIRED NOTCHES, HOLES, AND PENETRATIONS WITH THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.



1 P3.01.0/ FRONT/BACK OF HOUSE ENLARGED PLAN
SCALE: 1/4" = 1'-0"

SHEET NOTES

P10 CW TO TP-#. INSTALL TRAP PRIMER INSIDE WALL OR CHASE AND PROVIDE ACCESS PANEL WITH VANDAL-PROOF SCREW. ROUTE TRAP PRIMER LINES TO ALL FLOOR DRAINS AND FLOOR SINKS IN VICINITY. UNDERFLOOR COLD WATER LINES TO FLOOR SINKS AND FLOOR DRAINS ARE OMITTED FOR CLARITY.

P12 CONNECT TO IN-FLOOR FOOD SERVICE FIXTURES. REFER TO FOOD SERVICE DRAWINGS/SCHEDULES FOR BASIS OF DESIGN, DETAILS, AND CONNECTIONS.

P13 REFER TO FOOD SERVICE DRAWINGS FOR FIXTURE SCHEDULE, BASIS OF DESIGN, DETAILS AND CONNECTIONS AND CONNECTION LOCATIONS AFF. PROVIDE ALL WATER, DRAIN AND VENT PIPES INCLUDING INDIRECT WASTE LINES PER FOOD SERVICE DRAWINGS. PROVIDE LAV GUARDS, TRAPS, SUPPLY STOPS, POINT OF USE TMV, AND APPURTENANCES AS REQUIRED FOR FOOD SERVICE EQUIPMENT AND FIXTURES. COORDINATE ALL FLOOR SINKS AND FLOOR DRAINS WITH FOOD SERVICE EQUIPMENT AND SCHEDULES.

P14 PROVIDE COPPER INDIRECT WASTE PIPE AND FITTINGS CONNECTED TO EQUIPMENT, SIZE PER FOOD SERVICE DRAWINGS BETWEEN EQUIPMENT AND RECEIVING DRAIN.

P15 PROVIDE SINGLE INLET, DUAL OUTLET, DUAL BALL VALVE ANGLE STOP (BRASSCRAFT CR1901DVXC) INSTALLED 6" ABOVE TOP OF COUNTER/BACKSPLASH WITH 3/8" FLEXIBLE BRAIDED HOSES AND MALE THREADED ENDS FOR CONNECTION TO FOOD SERVICE DEVICES. COORDINATE LENGTH AND CONNECTION WITH FOOD SERVICE. INSTALL WATTS SD3 IN SUPPLY LINE ABOVE CEILING, ROUTE VENT/DRAIN THROUGH WALL TO NEAREST FLOOR SINK.

P16 PROVIDE SINGLE INLET/OUTLET BALL VALVE ANGLE STOP (BRASSCRAFT KTCR19XC) INSTALLED 6" ABOVE TOP OF COUNTER/BACKSPLASH WITH 3/8" FLEXIBLE BRAIDED HOSE AND MALE THREADED END FOR CONNECTION TO FOOD SERVICE DEVICE. COORDINATE LENGTH AND CONNECTION WITH FOOD SERVICE. INSTALL WATTS SD3 IN SUPPLY LINE ABOVE CEILING. ROUTE VENT/DRAIN THROUGH WALL TO NEAREST FLOOR SINK.

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OKLAHOMA

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REVISIONS

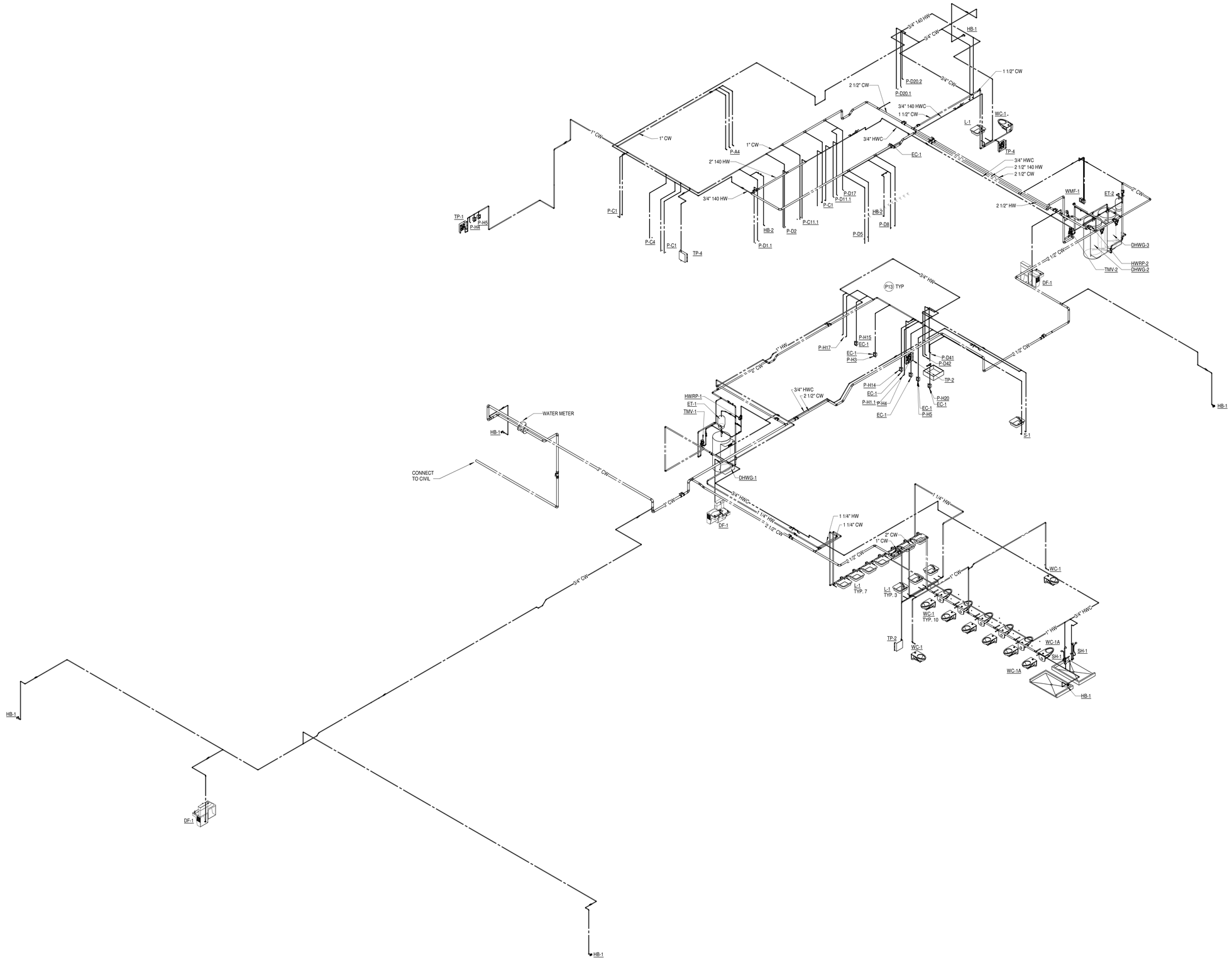
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PROJECT ADDRESS:
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PROJ. NO. 43-25105-00

ENLARGED PLUMBING PLANS (4.0)
SCALE: 1/4" = 1'-0"

SHEET NUMBER:
P3.01.0
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1 P4.01.0 DOMESTIC WATER RISER DIAGRAM

SHEET NOTES

P13 REFER TO FOOD SERVICE DRAWINGS FOR FIXTURE SCHEDULE, BASIS OF DESIGN, DETAILS AND CONNECTIONS AND CONNECTION LOCATIONS AFF. PROVIDE ALL WATER, DRAIN AND VENT PIPES INCLUDING INDIRECT WASTE LINES PER FOOD SERVICE DRAWINGS. PROVIDE LAV GUARDS, TRAPS, SUPPLY STOPS, POINT OF USE TMV, AND APPURTENANCES AS REQUIRED FOR FOOD SERVICE EQUIPMENT AND FIXTURES. COORDINATE ALL FLOOR SINKS AND FLOOR DRAINS WITH FOOD SERVICE EQUIPMENT AND SCHEDULES.

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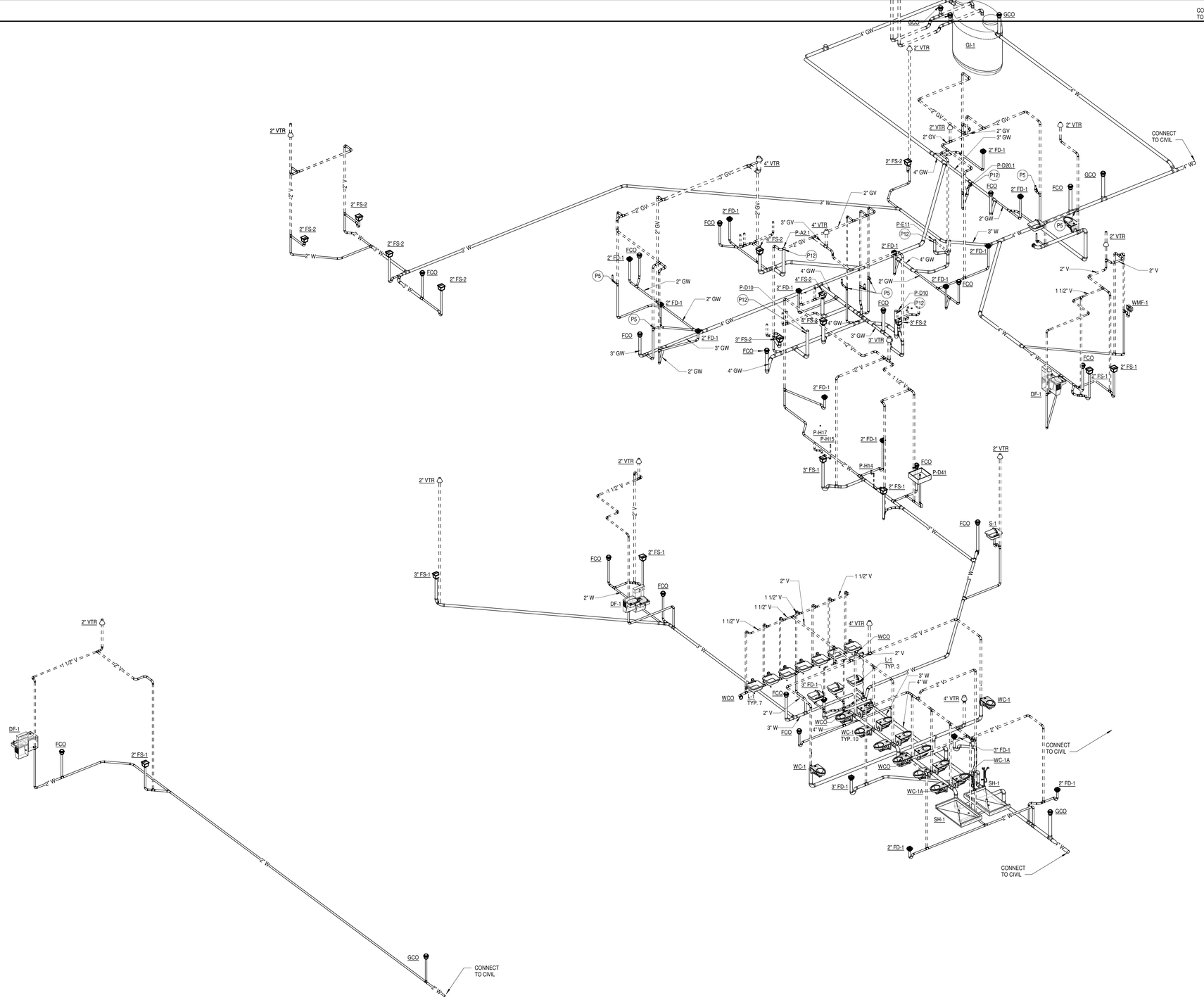
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PROJ. NO. 43-25105-00

DOMESTIC WATER RISER DIAGRAM (4.0)
SCALE:

SHEET NUMBER: **P4.01.0**
PHASE: BUILDING PERMIT DOCUMENTS



SHEET NOTES

P5 STUB PIPE, SEAL AND CAP FOR FUTURE CONNECTION.

P12 CONNECT TO IN-FLOOR FOOD SERVICE FIXTURES. REFER TO FOOD SERVICE DRAWINGS/SCHEDULES FOR BASIS OF DESIGN, DETAILS, AND CONNECTIONS.

1 P4.02.0 WASTE & VENT RISER DIAGRAM

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LICENSED PROFESSIONAL ENGINEER SHAWN COCHRAN 9-22-25 22462 OKLAHOMA

CYL HUB1-1-3 PERMIT SET
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2025-09-22

REVISIONS		
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PROJECT ADDRESS:
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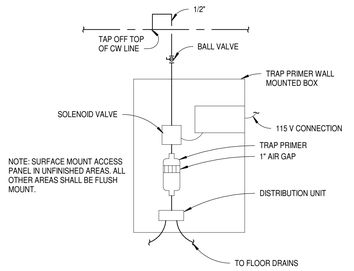
PROJ. NO. 43-25105-00

WASTE & VENT RISER DIAGRAM (4.0)

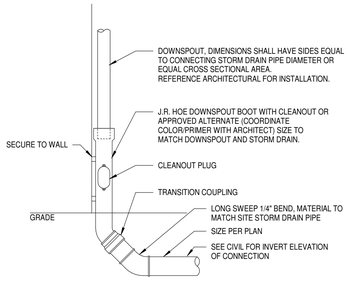
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SHEET NUMBER: **P4.02.0**

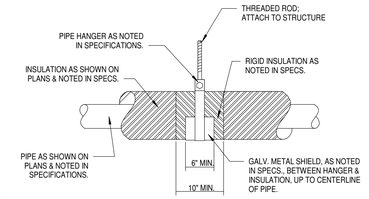
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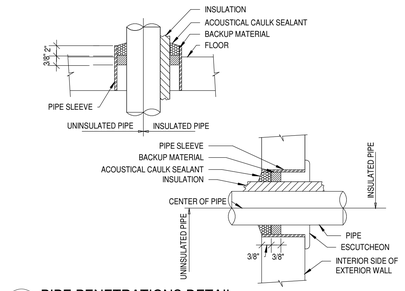
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NO SCALE



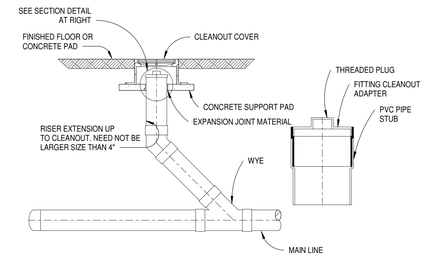
1B P5.01 **DOWNSPOUT CONNECTOR DETAIL**
NO SCALE



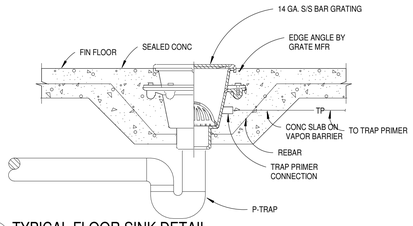
1C P5.01 **INSULATED PIPE HANGER DETAIL**
NO SCALE



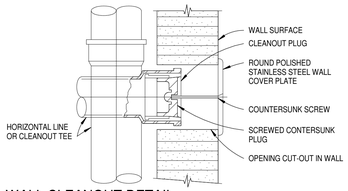
1D P5.01 **PIPE PENETRATIONS DETAIL**
NO SCALE



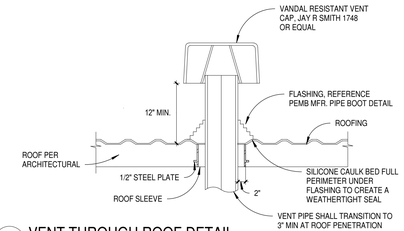
1E P5.01 **FINISHED FLOOR CLEANOUT DETAIL**
NO SCALE



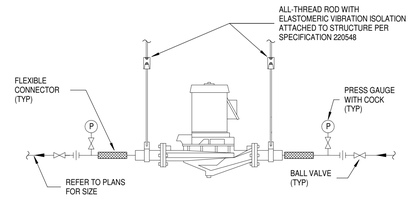
2A P5.01 **TYPICAL FLOOR SINK DETAIL**
NO SCALE



2B P5.01 **WALL CLEANOUT DETAIL**
NO SCALE

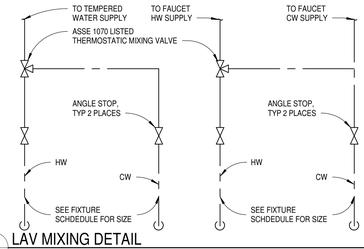


2C P5.01 **VENT THROUGH ROOF DETAIL**
NO SCALE

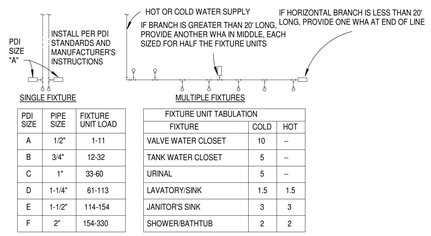


2D P5.01 **INLINE CIRCULATOR PUMP DETAIL**
NO SCALE

NOTE:
A. TYPICAL FOR BAR SINKS, HANDWASH STATIONS, AND LAVS.
B. MOUNT PIPING UNDER SINK AS CLOSE AS POSSIBLE TO BOTTOM OF FIXTURE.
C. TEMPERED WATER SUPPLY MAY BE SUPPLIED TO MAX 3 FIXTURES WITH FIXED TEMP. SUPPLY FAUCETS.



2E P5.01 **LAV MIXING DETAIL**
NO SCALE



PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	154-330

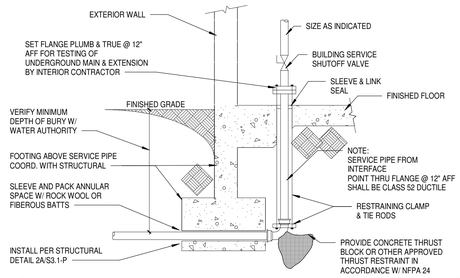
FIXTURE UNIT TABULATION

FIXTURE	COLD	HOT
VALVE WATER CLOSET	10	--
TANK WATER CLOSET	5	--
URINAL	5	--
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	2

INSTALL WATER HAMMER ARRESTERS IN WATER PIPING ACCORDING TO PDI-WH 201. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN IN PDI-WH 201 OR PER THE TABLES SHOWN ABOVE.
PROVIDE WHA ON HW/CW FOR ALL TOILET GROUPS AND CLOTHES WASHERS.

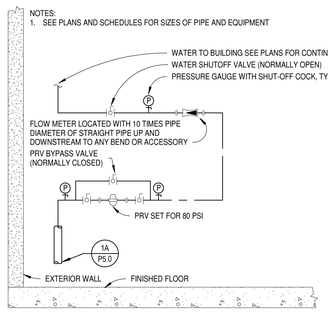
3A P5.01 **WATER HAMMER ARRESTOR DETAIL**
NO SCALE

3B P5.01 **TYPICAL FLOOR DRAIN DETAIL**
NO SCALE

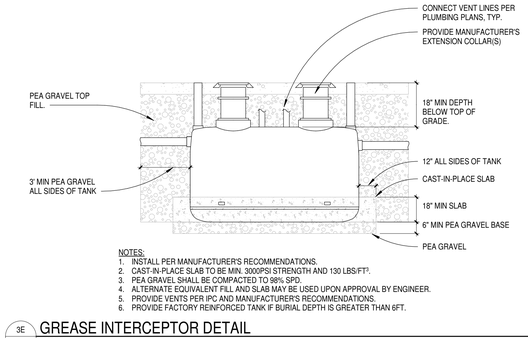


3C P5.01 **DOMESTIC WATER ENTRANCE DETAIL**
NO SCALE

NOTES:
1. SEE PLANS AND SCHEDULES FOR SIZES OF PIPE AND EQUIPMENT

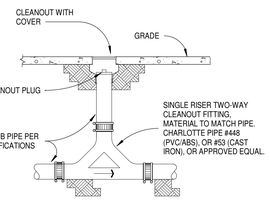


3D P5.01 **DOMESTIC WATER PIPING DETAIL**
NO SCALE

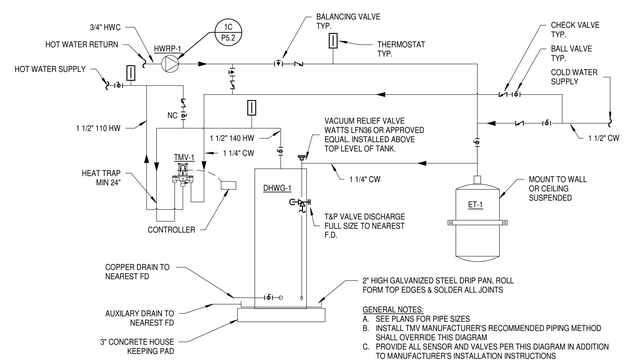


NOTES:
1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. CAST-IN-PLACE SLAB TO BE MIN. 3000PSI STRENGTH AND 130 LBS/FT³.
3. PEA GRAVEL SHALL BE COMPACTED TO 96% SPD.
4. ALTERNATE EQUIVALENT FILL AND SLAB MAY BE USED UPON APPROVAL BY ENGINEER.
5. PROVIDE VENTS PER IPC AND MANUFACTURER'S RECOMMENDATIONS.
6. PROVIDE FACTORY REINFORCED TANK IF BURIAL DEPTH IS GREATER THAN 6FT.

3E P5.01 **GREASE INTERCEPTOR DETAIL**
NO SCALE

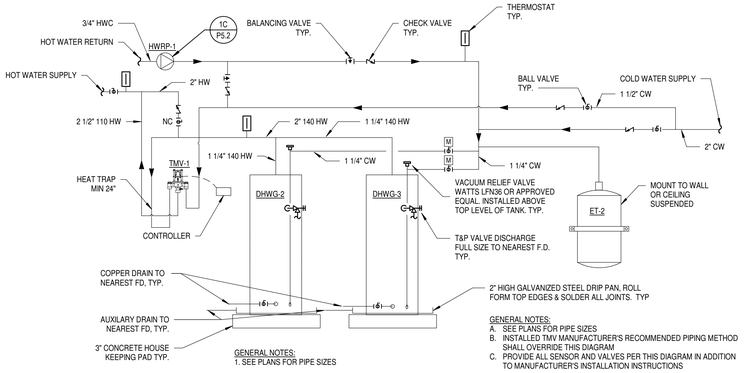


4A P5.01 **2-WAY EXTERIOR CLEANOUT DETAIL**
NO SCALE



GENERAL NOTES:
A. SEE PLANS FOR PIPE SIZES
B. INSTALL TMV MANUFACTURER'S RECOMMENDED PIPING METHOD SHALL OVERRIDE THIS DIAGRAM
C. PROVIDE ALL SENSOR AND VALVES PER THIS DIAGRAM IN ADDITION TO MANUFACTURER'S INSTALLATION INSTRUCTIONS

4B P5.01 **ELECTRIC WATER HEATER 1 UNIT PIPING DIAGRAM**
NO SCALE



GENERAL NOTES:
1. SEE PLANS FOR PIPE SIZES

GENERAL NOTES:
A. SEE PLANS FOR PIPE SIZES
B. INSTALLED TMV MANUFACTURER'S RECOMMENDED PIPING METHOD SHALL OVERRIDE THIS DIAGRAM
C. PROVIDE ALL SENSOR AND VALVES PER THIS DIAGRAM IN ADDITION TO MANUFACTURER'S INSTALLATION INSTRUCTIONS

4D P5.01 **ELECTRIC WATER HEATER 2 UNIT PIPING DIAGRAM**
NO SCALE

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CA-0443

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6457 FRANCES ST., STE. 200
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KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
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(918) 380-8868

LICENSED PROFESSIONAL ENGINEER
SHAWN COCHRAN
9-22-25
22482
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

PLUMBING DETAILS
SCALE: As indicated

SHEET NUMBER: **P5.01**
PHASE: BUILDING PERMIT DOCUMENTS

PLUMBING FIXTURE SCHEDULE

GENERAL NOTES:
A. SEE PLANS FOR LOCATIONS AND QUANTITIES OF FIXTURES INSTALLED PER PHASE.

NOTES:
1. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
2. PROVIDE LAVS/SINKS WITH DRAINS, TRAPS, AND APPURTENANCES PER SPECIFICATIONS. PROVIDE WITH LAVGUARD FOR SUPPLIES, TRAP, AND OFFSET TAILPIECES
3. PROVIDE WITH ASSE 1070 OR 1016 THERMOSTATIC MIXING VALVE. SEE DETAIL FOR SINGLE OR DUAL SUPPLY TO FIXTURE.
4. PROVIDE ACCESS PANEL WITH LOCK.
5. SEE FOOD SERVICE PLANS FOR INSTALLATION HEIGHT AFF FOR CORRESPONDING FOOD SERVICE EQUIPMENT SERVED BY EACH OUTLET BOX.
6. COORDINATE MOUNTING HEIGHT FOR ADA LOCATIONS WITH ARCHITECTURAL DRAWINGS.

ID	DESCRIPTION	MATERIAL DESCRIPTION	FINISH	BASIS OF DESIGN		FAUCET / TRIM				FLOW FIXTURE		PIPE CONNECTION SIZE (IN)				SPECIFICATION	NOTES
				MANUFACTURER	MODEL	MANUFACTURER	MODEL	TYPE	MOTION SENSOR CONTROL	WATER FLOW (GPM)	TIMER DURATION (SEC)	WASTE	VENT	WATER			
												PRIMARY		COLD	HOT		
DF-1	WATER COOLER - DUAL HEIGHT	GALVANIZED STEEL	STAINLESS STEEL CABINET	ELKAY	LZSTLG8WSSK			ELECTRONIC	No	0.13	15	2"	1-1/2"	1/2"		TWO LEVEL WALL HUNG WATER COOLER WITH LEFT HAND HIGH SIDE AND RIGHT HAND BOTTLE FILLING STATION. THE UNIT SHALL BE COMPLETE WITH CABINET, MOUNTING FRAME, SELF CLOSING EASY TOUCH SIDE AND FRONT PUSHBAR CONTROLS, FLEXIGUARD SAFETY BUBBLER, REFRIGERATING SYSTEM, AIR COOLED, 120 VOLT, 60HZ. SINGLE PHASE POWER CONNECTION, FULLY AUTOMATIC.	1
EC-1	WATER OUTLET BOX	ABS PLASTIC	WHITE	IPS CORP.	AB9700HA				No	0.5	0			1/2"		EQUIPMENT WATER CONNECTION - SHUT-OFF VALVE IN PLASTOC BOX, UNPAINTED, W/ FACE PLATE, W/ HAMMER ARRESTOR, BRASS QTR-TURN VALVE. APPLIANCE AND FINAL CONNECTION BY OTHERS.	5
HB-1	EXTERIOR WALL HYDRANT			WOODFORD	67			MANUAL	No	2.5	0			3/4"		NON-FREEZE TYPE WALL HYDRANT, WITH DOUBLE CHECK BACKFLOW PREVENTER, VALVE ON THE INSIDE OF THE WALL, SPOUT WITH BACKFLOW PREVENTER, AND LOOSE KEY SOCKET ON THE OUTSIDE OF THE WALL. MAKE ARRANGEMENTS WITH THE GENERAL CONTRACTOR TO PROVIDE THE NECESSARY RECESS IN THE WALL. WHERE A RISER TO A WALL HYDRANT OCCURS IN AN OUTSIDE WALL THE CONTRACTOR SHALL INSULATE THE CHASE WITH 2" STYROFOAM INSULATION ON ALL SIDES OF THE CHASE, EXCEPT THE INSIDE WALL OF THE CHASE. PROVIDE SHUTOFF VALVE IN ACCESSIBLE LOCATION.	
L-1	LAVATORY - COUNTER	WHITE VITREOUS CHINA	WHITE	KOHLER	#K-2211-0	TOTO	#TEL105-D10E#CP	ELECTRONIC	Yes	0.5	12	1-1/2"	1-1/2"	1/2"	1/2"	WHITE UNDERMOUNT LAVATORY, CHROME FAUCET, GRID STRAINER, POWERS LFLM495 MIXING VALVE, P-TRAP, BRAIDED STAINLESS STEEL SUPPLIES, CHROME ANGLE STOP AND CHROME ESCUTCHEONS.	1,2,3
S-1	SINGLE BOWL SINK	STAINLESS STEEL	LUSTROUS SATIN	ELKAY	#ELUHAD111645	ELKAY	#K72218-CP	ELECTRONIC	Yes	1.5	240	1-1/2"	1-1/2"	1/2"	1/2"	UNDERCOUNTER MOUNT SINK, KOHLER POLISHED CHROME 1.5 GPM SINGLE HANDLE KITCHEN FAUCET. DEARBORN BRASS DB1120 SINK STRAINER, BRASSCROFT G2CR19 STOPS, FLUIDMASTER B1F20 20" CONNECTORS, 1 1/2" P-TRAP, ELECTRICAL TO PROVIDE POWER RECEPTACLE.	1,2,3
SH-1	SHOWER STALL			KOHLER	#K-72420-H-CP	KOHLER	#K-T45112-4-CP	MANUAL	No	1.25	0	2"	1-1/2"	1/2"	1/2"	ZURN #FD2254 FLOOR DRAIN PIPED FOR CONCRETE/TILE SHOWER PAN. #K-28304-KS-NA ROUGH-IN VALVE, KOHLER #K-TS74042-4-CP CHROME VALVE TRIM, KOHLER #K-45129-CP CHROME ARM & FLANGE KIT, KOHLER #K-72420-H-CP CHROME 1.75 GPM HAND SHOWER, KOHLER #K-98341-CP CHROME SLIDE BAR, KOHLER #K-9514-CP CHROME HOSE AND KOHLER #K-22173-CP CHROME SUPPLY ELBOW.	3
TP-1	TRAP PRIMER - FLUSH MOUNT - 4 PORT			PRECISION PLUMBING PRODUCTS	PT-4					0				3/4"		HARDWIRED ELECTRICAL CONNECTION 120V/1PH. CONNECT TO TRAP PRIMERS IN AREA. CAP ALL UNUSED TRAP PRIMER SUPPLIES.	4
TP-2	TRAP PRIMER - FLUSH MOUNT - 8 PORT			PRECISION PLUMBING PRODUCTS	PT-8					0				3/4"		HARDWIRED ELECTRICAL CONNECTION 120V/1PH. CONNECT TO TRAP PRIMERS IN AREA. CAP ALL UNUSED TRAP PRIMER SUPPLIES.	4
TP-3	TRAP PRIMER - FLUSH MOUNT - 8 PORT			PRECISION PLUMBING PRODUCTS	PT-8					0				3/4"		HARDWIRED ELECTRICAL CONNECTION 120V/1PH. CONNECT TO TRAP PRIMERS IN AREA. CAP ALL UNUSED TRAP PRIMER SUPPLIES.	4
TP-4	TRAP PRIMER - FLUSH MOUNT - 20 PORT			PRECISION PLUMBING PRODUCTS	PT-1320					0				3/4"		HARDWIRED ELECTRICAL CONNECTION. CONNECT TO TRAP PRIMERS IN AREA. CAP ALL UNUSED TRAP PRIMER SUPPLIES.	4
WC-1	WATER CLOSET - WALL HUNG - ADA	WHITE VITREOUS CHINA	WHITE	SLOAN	ST-2459	SLOAN	WES-111	MANUAL	No			4"	2"	1"		WATER CLOSET WITH OPEN FRONT SEAT AND MANUAL DUAL FLUSH FLUSHOMETER (1.1/1.6 GPF)	6
WC-1A	WATER CLOSET - WALL HUNG - ADA	WHITE VITREOUS CHINA	WHITE	SLOAN	ST-2459	SLOAN	WES-111	MANUAL	No			4"	2"	1"		WATER CLOSET WITH OPEN FRONT SEAT AND MANUAL DUAL FLUSH FLUSHOMETER (1.1/1.6 GPF)	6
WMF-1	WASHING MACHINE OUTLET BOX	ABS PLASTIC	WHITE	GUY GRAY	WB200HA				No	0.5	0	2"	2"	1/2"	1/2"	FULLY RECESSED WASHING MACHINE SUPPLY BOX WITH COVER. PROVIDE 1/4 TURN BALL VALVES AND WATER HAMMER ARRESTORS IN BOX. PROVIDE A 2" TRAPPED STANDPIPE IN CONCEALED WALL SPACE.	

FLOOR DRAIN SCHEDULE

GENERAL NOTES:
A. SEE PLANS FOR LOCATIONS, SIZES AND QUANTITIES OF FIXTURES INSTALLED PER PHASE.

NOTES:
1. HALF GRATE TOP, COORDINATE WITH DRAWINGS AND FOOD SERVICE.
2. NO HUB OUTLET.
3. TRAP PRIMER CONNECTION.
4. PROVIDE WITH BARRIER-TYPE TRAP SEAL PER IPC 2018 1002.4.1

ID	DESCRIPTION	MATERIAL DESCRIPTION		SPECIFICATION	BASIS OF DESIGN		NOTES
		DRAIN BODY	STRAINER		MANUFACTURER	MODEL	
FD-1	FLOOR DRAIN	EPOXY COATED CAST IRON	NICKEL BRONZE	EPOXY COATED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR WITH PRIMARY & SECONDARY WEEPHOLES, ADJUSTABLE SQUARE HEEL PROOF NICKEL BRONZE STRAINER, AND NO HUB OUTLET.	WATTS	FD-100-M	2,3
FS-1	FLOOR SINK - WITH BARRIER TRAP SEAL	STAINLESS STEEL	STAINLESS STEEL	12" SQUARE X 6" DEEP SANITARY FLOOR SINK, STAINLESS STEEL BODY, GRATE, AND INTERIOR DOME STRAINER WITH BARRIER TRAP SEAL.	ZURN	Z1750	1,2,4
FS-2	FLOOR SINK - WITH TRAP PRIMER	STAINLESS STEEL	STAINLESS STEEL	12" SQUARE X 6" DEEP SANITARY FLOOR SINK, STAINLESS STEEL BODY, GRATE, AND INTERIOR DOME STRAINER WITH TRAP PRIMER.	ZURN	Z1750	1,2,3

THERMOSTATIC MIXING VALVE SCHEDULE

GENERAL NOTES:
A. REFER TO PLANS AND FIXTURE SCHEDULE FOR ADDITIONAL POINT OF USE MIXING VALVES FOR INDIVIDUAL FIXTURES.
B. MIXING VALVE PIPING METHOD SHALL BE PER MANUFACTURER'S RECOMMENDATIONS. INSTALL ALL BALANCING VALVES AND CHECK VALVES AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONS.
C. INSTALL RIGHT SIDE UP.

ID	LOCATION		MATERIAL	FINISH	FLUID DATA					VALVE DATA						ELECTRICAL DATA		SPECIFICATION	BASIS OF DESIGN	
	NO.	NAME			TYPE	LVG WATER TEMP SETPOINT (°F)	ENT WATER TEMP (°F) HOT	ENT WATER TEMP (°F) COLD	MIN FLOW (GPM)	RATED FLOW (GPM)	RATED PRESS DROP (FT WC)	CONN SIZE (IN) INLET	CONN SIZE (IN) OUTLET	MAX ALLOW WORKING PRESS (PSI)	MAX ALLOW WORKING TEMP (°F)	VOLT (V)	PH		MANUFACTURER	MODEL
TMV-1	109	STORAGE	LEAD FREE BRASS	ROUGH BRONZE	DIGITAL	110	140	40	0.25	40	5	1"	1 1/4"	200 psi	180	120	1	ASSE 1017 COMPLIANT	LEONARD VALVE	NV-125-LF
TMV-2	206	STORAGE	LEAD FREE BRASS	ROUGH BRONZE	DIGITAL	110	140	40	0.25	50	5	1 1/4"	1 1/2"	200 psi	180	120	1	ASSE 1017 COMPLIANT	LEONARD VALVE	PNV-150-LF

ELECTRIC WATER HEATER SCHEDULE

GENERAL NOTES:
A. UNIT TO BE UL LISTED.
B. ASME TANK, INSULATED, 150 PSIG STANDARD WORKING PRESSURE OR HIGHER.
C. ELECTRICAL TO PROVIDE POWER DISCONNECT.
D. MEETS OR EXCEEDS THERMAL EFFICIENCY OR STANDBY LOSS REQUIREMENTS OF US DEPT. OF ENERGY AND ASHRAE 90.1.
E. REFER TO DETAILS FOR ADDITIONAL INFORMATION

ID	LOCATION		TYPE	HEATING CAPACITY (KW)	WATER SIDE DATA				HEATING ELEMENT DATA			ELECTRICAL DATA					WEIGHT (LBS)	BASIS OF DESIGN	
	NO.	NAME			STORAGE RECOVERY (GAL/H)	STORAGE VOL (GAL)	TEMPERATURE (°F) ENT	TEMPERATURE (°F) LVG	QTY	KW	SCR	FLA (A)	MCA (A)	MOCP (A)	VOLT (V)	PH		MANUFACTURER	MODEL
DHWG-1	109	STORAGE	STORAGE TANK	12.3	50	120	40	140	1	12	Yes	14.8	18.5	20	480	3	1,451	AO SMITH	DSE-120A-12
DHWG-2	206	STORAGE	STORAGE TANK	60	246	120	40	140	4	15	Yes	72	90	100	480	3	1,451	AO SMITH	DSE-120A-60
DHWG-3	206	STORAGE	STORAGE TANK	60	246	120	40	140	4	15	Yes	72	90	100	480	3	1,451	AO SMITH	DSE-120A-60

DOMESTIC CIRCULATING PUMP SCHEDULE

GENERAL NOTES:
A. PUMPS SHALL BE NSF-61 COMPLIANT FOR POTABLE WATER SUPPLY.

ID	DESCRIPTION	LOCATION		TYPE	PUMP DATA					ELECTRICAL DATA		WEIGHT (LBS)	BASIS OF DESIGN	
		NO.	NAME		DESIGN FLOW (GPM)	HEAD (FT)	MOTOR WATTS	MOTOR RPM	MOTOR ECM	VOLT (V)	PH		MANUFACTURER	MODEL
HWRP-1	PUMP	109	STORAGE	INLINE DOMESTIC CIRCULATOR	1.5	13	70	4202	Yes	115	1	6	BELL & GOSSETT	ECOCIRC+ 20-18
HWRP-2	PUMP	218	STORAGE	INLINE DOMESTIC CIRCULATOR	1	6.5	70	2998	Yes	115	1	6	BELL & GOSSETT	ECOCIRC+ 20-18

DOMESTIC EXPANSION TANK SCHEDULE

GENERAL NOTES:
A. TANK SHALL BE ASME RATED

ID	LOCATION		MATERIAL	SYSTEM	TYPE	ARRANGEMENT	VOLUME (GAL)	ACCEPT VOLUME (GAL)	MAX TANK PRESSURE (PSI) (PSI)	PRE CHARGE PRESS (PSI)	UNIT DIMENSIONS (IN) DIA	UNIT DIMENSIONS (IN) HEIGHT	WEIGHT (LBS)	BASIS OF DESIGN	
	NO.	NAME												MANUFACTURER	MODEL
ET-1	109	STORAGE	CARBON STEEL	DOM. WATER	DIAPHRAM	VERTICAL FLOOR MOUNT	8	5.3	140	40	12"	21"	78	BELL & GOSSETT	PTA-20V
ET-2	218	STORAGE	CARBON STEEL	DOM. WATER	DIAPHRAM	VERTICAL FLOOR MOUNT	8	5.3	140	40	12"	21"	78	BELL & GOSSETT	PTA-20V

STORM DRAIN AREA CONNECTION SCHEDULE

GENERAL NOTES:
A. SIZES OF DOWNSPOUT CONNECTORS TO BE MINIMUM OF SAME SIZE AS SITE STORM DRAIN AND ARCHITECTURAL DOWNSPOUT.
B. RAINFALL RATES SHALL BE DETERMINED BASED ON SITE LOCATION
C. INSTALL SO CLEANOUT IS ACCESSIBLE ABOVE GRADE.
D. SEE PLUMBING PLANS FOR LOCATIONS OF DOWNSPOUT CONNECTORS
E. SEE DETAIL 2B/P5.1 FOR DOWNSPOUT CONNECTOR DETAIL

ID	DESCRIPTION	HORIZONTAL PROJECTED ROOF AREA (SF)	DRAIN PIPE DIAMETER	RAINFALL RATE (IN/HR)	SPECIFICATION
DC-1	DOWNSPOUT CONNECTOR	4,715	5"	4.0	J.R. HOE DOWNSPOUT CONNECTOR BOOT WITH CLEANOUT
DC-2	DOWNSPOUT CONNECTOR	6,355	5"	4.0	J.R. HOE DOWNSPOUT CONNECTOR BOOT WITH CLEANOUT
DC-3	DOWNSPOUT CONNECTOR	1,125	3"	4.0	J.R. HOE DOWNSPOUT CONNECTOR BOOT WITH CLEANOUT
DC-4	DOWNSPOUT CONNECTOR	4,160	4"	4.0	J.R. HOE DOWNSPOUT CONNECTOR BOOT WITH CLEANOUT
DC-5	DOWNSPOUT CONNECTOR	3,150	4"	4.0	J.R. HOE DOWNSPOUT CONNECTOR BOOT WITH CLEANOUT
DC-5	DOWNSPOUT CONNECTOR	3,150	4"	4.0	J.R. HOE DOWNSPOUT CONNECTOR BOOT WITH CLEANOUT
DC-6	DOWNSPOUT CONNECTOR	3,150	4"	4.0	J.R. HOE DOWNSPOUT CONNECTOR BOOT WITH CLEANOUT
DC-7	DOWNSPOUT CONNECTOR	6,280	5"	4.0	J.R. HOE DOWNSPOUT CONNECTOR BOOT WITH CLEANOUT
Grand total: 8		32,085			

FIXTURE UNIT SUMMARY - GREASE

GENERAL NOTES:
A. BLACKED OUT CELLS HAVE NO FIXTURE CONNECTION/CONTRIBUTION TO FIXTURE UNIT COUNT
B. WSFU = WATER SUPPLY FIXTURE UNIT, CWFU = COLD WATER FU, HWFU = HW FU, DFU = DRAINAGE FU
C. FIXTURES BEGINNING WITH "P" ARE SPECIFIED BY FOOD SERVICE, SEE FOOD SERVICE DRAWNGS AND SCHEDULES FOR DETAILS.
D. FIXTURES BELOW ARE ALL FIXTURES CURRENT OR PLANNED TO CONNECT TO THE GREASE INTERCEPTOR.

TYPE ID	FIXTURE DESCRIPTION	QTY	FIXTURE UNIT TOTAL PER TYPE DFU
FS-2	FLOOR SINK - WITH TRAP PRIMER	5	15
HB-2	HOSE BIBB	2	0
P-A2	VARIO COOKER	1	3
P-A2.1	FLOOR TROUGH	1	2
P-A4	COMBI-STEAMER	2	6
P-C1	HAND SINK	4	8
P-C4	HOLDING CABINET	1	0.5
P-C11.1	2-COMPARTMENT PREP SINK	1	3
P-D1.1	PRE-RINSE FAUCET	1	3
P-D2	DISHWASHER	1	7
P-D5	OPEN HOSE REEL	1	6
P-D8	3-COMPARTMENT SINK	1	4
P-D10	FLOOR TROUGH	2	4
P-D11.1	HAND SINK	1	2
P-D17	EYE/FACE WASH	1	3
P-D20.1	1-COMPARTMENT SINK	1	3
P-D20.2	HOSE BIB FAUCET	1	3
P-E11	FLOOR TROUGH	1	2
Grand total: 28			74.5

GREASE INTERCEPTOR SCHEDULE

GENERAL NOTES
A. GREASE INTERCEPTOR INSTALLED IN PHASE 2.
B. UNDERGROUND INSTALLATION AND RISERS TO WITHSTAND SURFACE LOADS OF VEHICLE AND TRUCK TRAFFIC.
C. FILL WITH CLEAN WATER PRIOR TO START-UP OF SYSTEM.
D. PROVIDE RISERS AS NEEDED TO GRADE AND INSTALL VEHICLE RATED COVER PLATES FLUSH WITH SURFACE.
E. PROVIDE WITH LEVEL ALARM TIED TO BUILDING CONTROLS, VISUAL AND AUDIBLE ALARM SET AT LEVEL TO ALARM BEFORE OIL/GREASE SPILLS INTO OUTLET PIPE.
F. SEE FIXTURE UNIT SUMMARY - GREASE WASTE FIXTURES SCHEDULE FOR TOTAL DRAINAGE FIXTURE UNITS (DFUs) FOR GREASE INTERCEPTOR SIZING PER UPC 2018 TABLE 1014.3.6.

ID	TYPE	MATERIAL DESCRIPTION	COVER		DESIGN FLOW (GPM)	CAPACITY		INSTALLATION			PIPE CONNECTIONS		DIMENSIONS (FT-IN)			BASIS OF DESIGN	
			DESCRIPTION	CONN		LIQUID (GAL)	GREASE (LBS)	ARRANGEMENT	BTM OF EQUIPMENT ELEV (FT-IN)	ESTIMATED RISER HEIGHT (FT-IN)	INLET CONN	OUTLET CONN	LENGTH	WIDTH	HEIGHT	MANUFACTURER	MODEL
GI-1	GRAVITY	FIBERGLASS REINFORCED PLASTIC	CAST IRON	24"	43	1,300	707	BELOW GRADE	10' - 2"	2' - 5"	4"	4"	8' - 0"	5' - 2"	7' - 9"	ZURN	GMC-1300

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LICENSED PROFESSIONAL ENGINEER
SHAWN COCHRAN
22462
9-22-25
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

PLUMBING SCHEDULES
SCALE:

SHEET NUMBER: P6.01
PHASE: BUILDING PERMIT DOCUMENTS

ABBREVIATIONS

(D)	DEMOLISHED
(E)	EXISTING
(R)	RELOCATED
°C	DEGREES CELSIUS
°F	DEGREES FAHRENHEIT
Ø	DIAMETER
A	AMPERE
A/C	AIR CONDITIONING(ER)
AABC	ASSOCIATED AIR BALANCE COUNCIL
AAV	AUTOMATIC AIR VENT
ACC	ACCESSIBLE
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AF	AIR FILTER
AFF	ABOVE FINISHED FLOOR
AHRI	AIR-CONDITIONING HEATING AND REFRIGERATION INSTITUTE
AHU	AIR HANDLING UNIT
AMB	AMBIENT
AMBA	AMERICAN BOILER MANUFACTURERS ASSOCIATION
AMP	AMPERE
AP	ACCESS PANEL
AS	AIR SEPARATOR
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASHRAE	AMERICAN SOCIETY OF HEATING REFRIGERATION AND AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AUTO	AUTOMATIC
AV	ACID VENT
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BAT	BATTERY
BBO	BOILER BLOW OFF
BC	BALANCING COCK
BC	BARE COPPER
BDD	BACK DRAFT DAMPER
BF	BOILER FEED
BFF	BELOW FINISH FLOOR
BFV	BUTTERFLY VALVE
BHP	BREAK HORSEPOWER
BLKG	BLOCKING
BLKHD	BULKHEAD
BMS	BUILDING MANAGEMENT SYSTEM
BOD	BOTTOM OF DUCT
BOT	BOTTOM
BPIP	BOILER PLANT INSTRUMENTATION PANEL
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CONDUIT
CA	COMBUSTION AIR
CAP	CAPACITY
CD	CONSTRUCTION DOCUMENTS
CENT	CENTRIFUGAL
CF	CUBIC FEET
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CIRC	CIRCULATING
CLR	CLEAR
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
COMB	COMBINATION
CONV	CONVECTOR
CP	CONDENSATE PUMP
CPS	CYCLES PER SECOND
CR	CONDENSER WATER RETURN
CR	CORROSION RESISTANT
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CS	COUNTERSINK
CS	CONDENSER WATER SUPPLY
CT	COOLING TOWER
CTL	CONTROL
CU	CONDENSING UNIT

ABBREVIATIONS

CUH	CABINET UNIT HEATER
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
CYL	CYLINDER
D	DIFFUSER
DB	DECIBEL
DB	DRY BULB
DBL	DOUBLE
DC	DUST COLLECTOR
DEPT	DEPARTMENT
DH	DUCT HEATER
DI	DISTILLED WATER
DIAG	DIAGONAL
DIC	DISCHARGE
DISCH	DISCHARGE
DISTR	DISTRIBUTION
DSTB	DISTRIBUTED
EA	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EFF	EFFICIENCY
EFF	EFFICIENCY
EH	ELECTRICAL HEATER
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENT	ENTERING
ESP	EXTERNAL STATIC PRESSURE
EST	ESTIMATE
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXP	EXPOSED

ABBREVIATIONS

F	FAHRENHEIT
F	FURNACE
F.V.	FIELD VERIFY
FA	FACE
FAB	FABRICATE(D)
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FF	FINISH FLOOR
FLEX	FLEXIBLE
FME	FLOW MEASURING EQUIPMENT
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FS	FLOW SWITCH
FSD	FIRE SMOKE DAMPER
FT	FIN TUBE
G	GRILLE
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GFI, GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GHR	GLYCOL-WATER HEATING RETURN
GHS	GLYCOL-WATER HEATING SUPPLY
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HCR	HOT/CHILLED WATER RETURN
HCS	HOT/CHILLED WATER SUPPLY
HGR	HANGER
HID	HIGH INTENSITY DISCHARGE
HP	HORSE POWER
HP	HEAT PUMP
HP	HIGH PRESSURE
HPR	HIGH PRESSURE STEAM RETURN
HPS	HIGH PRESSURE STEAM SUPPLY
HR	HOUR
HTG	HEATING

ABBREVIATIONS

HTR	HEATER
HTWR	HIGH TEMPERATURE HOT WATER RETURN
HTWS	HIGH TEMPERATURE HOT WATER SUPPLY
HUM	HUMIDIFIER
HV	HEATING VENTILATING UNIT
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ (FREQUENCY)
IAQ	INDOOR AIR QUALITY
IAW	IN ACCORDANCE WITH
ID	INSIDE DIAMETER
IH	INTAKE HOOD
INSUL	INSULATION
KH	KITCHEN HOOD
LAT	LEAVING AIR TEMPERATURE
LF	LINEAR FOOT
LG	LENGTH (LONG)
LIN	LINEAR
LOX	LIQUID OXYGEN
LPG	LIQUIFIED PETROLEUM GAS
LPR	LOW PRESSURE STEAM RETURN
LPS	LOW PRESSURE STEAM SUPPLY
LTD	LINED TRANSFER DUCT
LV	LOUVER
LVG	LEAVING
MA	MIXED AIR
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAU	MAKEUP AIR UNIT
MAV	MANUAL AIR VENT
MBH	THOUSAND BTU PER HOUR
MFRG	MANUFACTURING
ML	MOTORIZED LOUVER
MPG	MEDIUM PRESSURE GAS
MTD	MOUNTED
MTG	MOUNTING
MTWR	MEDIUM TEMP HOT WATER RETURN
MTWS	MEDIUM TEMP HOT WATER SUPPLY
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSN.
NO	NUMBER
NOM	NOMINAL
O&M	OPERATION AND MAINTENANCE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
P	PUMP
P/T	PRESSURE/TEMPERATURE TEST PORT
PB	PUSH BUTTON
PCF	POUNDS PER CUBIC FOOT
PD	PRESSURE DROP
PERF	PERFORATED
PERP	PERPENDICULAR
PG	PRESSURE GAUGE
PI	POINT OF INTERSECTION
PI	PRESSURE INDICATOR
PL	PLATE
PLBG	PLUMBING
PNEU	PNEUMATIC
PNL	PANEL
POC	POINT OF CONNECTION
PR	PAIR
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PWR	POWER
RA	RETURN AIR
RAD	RADIUS

ABBREVIATIONS

RAD	RADIATOR
RAD	RADIATED
RCP	REFLECTED CEILING PLAN
RCU	RECIPROCATING CHILLER UNIT
RD	REFRIGERANT DISCHARGE
REFR	REFRIGERANT
REG	REGISTER
REM	REMOVABLE
RESP	RESPONSIVE
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RH	REFLIEF HOOD
RHC	REHEAT COIL
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
S	SMOKE DAMPER
SA	SUPPLY AIR
SC	SECURITY
SD	SMOKE DAMPER
SD	SMOKE DETECTOR
SD	SOAP DISPENSER
SE	STEAM EXHAUST VENT
SGL	SINGLE
SP	STATIC PRESSURE (H2O)
SPD	SURGE PROTECTION DEVICE
SQ	SQUARE
SS	STAINLESS STEEL
STOR	STORAGE
SUSP	SUSPENDED
SV	SOLENOID VALVE
SWP	STEAM WORKING PRESSURE
T	THERMOSTAT
T&B	TOP AND BOTTOM
TA	TRANSFER AIR
TB	TERMINAL BOX
TC	TEMPERATURE CONTROL
TD	TRANSFER DUCT
TEMP	TEMPERATURE
THK	THICK(NESS)
TOD	TOP OF DUCT
TS	TEMPERATURE SENSOR
TSP	TOTAL STATIC PRESSURE
TT	TEMPERATURE TRANSMITTER
UC	UNIT COOLER
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UV	UNIT VENTILATOR
V	VOLT
VA	VOLT-AMPERE
VA	VALVE
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VEL	VELOCITY
VENT	VENTALATOR(TION)
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VP	VACUUM PUMP
VSMP	VARIABLE SPEED MOTOR CONTROLLER
W	WIDE
W	WATT
WB	WET BULB
WC	WATER COLUMN
WCC	WATER COOLED CONDENSER
WFMD	WATER FLOW MEASURING DEVICE
WH	WATER HEATER
WLR	WATER LOOP RETURN
WLS	WATER LOOP SUPPLY
WP	WEATHERPROOF
WT	WEIGHT

GENERAL SYMBOLS

	POINT OF DISCONNECT - DEMOLITION REMOVED FROM EXISTING
	POINT OF CONNECTION - NEW CONNECTS TO EXISTING
	AREA NOT IN CONTRACT

GENERAL NOTES

1 REMOVE ALL UNUSED PIPING, DUCTWORK AND ACCESSORIES.

2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID, ALL EXISTING CONDITIONS FOR PLUMBING AND MECHANICAL SYSTEMS WITHIN SCOPE OF WORK AND WITHIN CLOSE PROXIMITY OF SCOPE OF WORK.

3 THE CONTRACTOR SHALL PERFORM, SERVICE AND REPAIR, ON ANY EXISTING EQUIPMENT MODIFIED DURING THE ACTIVE PHASE SCOPE, AND ITS ACCESSORIES AS FOLLOWS: CLEAN ALL COILS, REPLACE THE FILTERS AND BELTS, INSPECT, REPAIR, OR REPLACE THE, DRIVES AND FAN BEARINGS, MOTORS, CONTROL COMPONENTS, VALVES AND ANY OTHER ITEM NECESSARY FOR A COMPLETE AND PROPER OPERATING SYSTEM. THIS CONTRACTOR SHALL ALSO VISIT THE SITE, PRIOR TO FINAL BIDDING, AND VERIFY ALL EXISTING SITE CONDITIONS. PROVIDE ALL MATERIAL AND COMPONENTS AS NEEDED TO BRING THE UNITS TO FULL COMPLIANCE OF THE TENTANT'S CRITERIA AND LOCAL AUTHORITY HAVING JURISDICTION.

4 WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING DRAIN BODY BY SEALING DRAIN OPENING PRIOR TO START OF WORK. UNSEAL DRAINS AT COMPLETION OF CONSTRUCTION.

5 COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, AND EQUIPMENT TO PREVENT CONFLICTS.

6 THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.

7 FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE.

8 LOCATE EQUIPMENT REQUIRING ACCESS 2'-0" MAXIMUM ABOVE CEILING.

9 ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF ROOF.

10 LOCATE DUCTWORK, PIPING AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS, TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT.

11 FIRE SEAL AROUND DUCT AND PIPING PENETRATIONS OF FIRE RATED WALLS. REFER TO SPECIFICATION.

12 PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF.

13 ADJUST PIPING AND DUCTWORK SIZES TO PROPERLY CONNECT TO MECHANICAL EQUIPMENT.

14 REFER TO PIPING SERIES DRAWINGS FOR REFRIGERANT AND CONDENSATE DRAIN PIPING.

15 PIPE SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.

16 FOR DETAILS, EQUIPMENT CONNECTIONS, AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, EQUIPMENT MANUALS, AND SPECIFICATIONS.

17 INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.

18 LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWING, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.

19 INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL, TIGHT TO STRUCTURE, IN ROOMS WITHOUT CEILINGS.

20 CONTRACTOR SHALL NOT DRILL, NOTCH, OR PENETRATE ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN CONSTENT OF STRUCTURAL ENGINEER. COORDINATE REQUIRED NOTCHES, HOLES, AND PENETRATIONS WITH THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.

21 ALL EXPOSED STEEL DUCTWORK AND MECHANICAL EQUIPMENT SHALL HAVE PAINT GRIP SURFACE, PAINT AND COLOR PER ACHITECTURAL DIV. 09.

22 ALL PIPE INSULATION SHALL HAVE PAINTABLE JACKET, PAINT AND COLOR PER ARCHITECTURAL DIV. 09.

GENERAL HVAC NOTES

1 REFRIGERANT PIPING CONNECTIONS SHALL BE SIZED AS INDICATED BY THE MANUFACTURER.

2 CONTRACTOR SHALL LOCATE THERMOSTATS AND TEMPERATURE SENSORS AT 48" AFF MAX, A MINIMUM OF 2" FROM LIGHT SWITCH.

3 REFER TO HVAC AND PIPING DRAWINGS FOR TEMPERATURE AND OTHER SPACE SENSOR LOCATIONS. UNLESS NOTED OTHERWISE MECHANICAL UNIT CONTROLS ARE TO BE TIED TO SENSORS IN THE SPACE THEY SERVE. MULTIPLE UNITS LOCATED IN A SINGLE SPACE SHALL USE COMMON SENSORS IN THE SPACE. UNITS SERVING MULTIPLE SPACES WITH MULTIPLE SPACE SENSORS SHALL USE THE WEIGHTED (ADJ) AVERAGE OF THE SPACE SENSORS FOR CONTROL. SEE CONTROLS DRAWINGS AND SCHEDULES FOR FURTHER DETAILS.

4 CONDENSATE DRAINS SHALL BE SUPPLIED FOR ALL COOLING EQUIPMENT. CONTRACTOR SHALL ENSURE PROPER INSTALLATION AND DRAINAGE AS REQUIRED BY FEDERAL, STATE, AND LOCAL CODES. CONDENSATE PIPING SHALL BE TYPE "L" COPPER.

5 PROVIDE A 4" HOUSEKEEPING PAD FOR EACH PIECE OF MECHANICAL EQUIPMENT. COORDINATE SIZES WITH MECHANICAL EQUIPMENT SELECTED AND COORDINATE CONSTRUCTION OF SLAB WITH STRUCTURAL ENGINEER.

6 ALL DUCTWORK SHALL BE RATED FOR PRESSURE CLASS PER DUCT SCHEDULE IN SPECIFICATION 233113.

7 CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH.

8 PROVIDE VOLUME DAMPERS PER PLANS AND SPECIFICATIONS. FOR VOLUME DAMPERS LOCATED ABOVE HARD LID CEILINGS PROVIDE REMOTE CABLE OPERATED VOLUME DAMPERS PER SPECIFICATIONS.

9 TYPE 1 GREASE DUCT TO HAVE CLEANOUTS PER APPLICABLE LOCAL MECHANICAL CODE. GREASE DUCT SHALL SLOPE TOWARD HOOD AT 2% OR 1/4" PER FOOT, APPLICABLE LOCAL MECHANICAL CODE.

10 TYPE 1 GREASE EXHAUST DUCT AND EQUIPMENT TO HAVE CLEARANCES PER APPLICABLE LOCAL MECHANICAL CODE.

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HVAC SYMBOLS

SCHEMATIC	3D	DESCRIPTION
EA	EA	GENERAL EXHAUST AIR
GEA	GEA	GREASE EXHAUST AIR
ERA	ERA	ENERGY RECOVERY AIR
RA	RA	RETURN AIR
TA	TA	TRANSFER AIR
OA	OA	OUTSIDE AIR
SA	SA	SUPPLY AIR
		DIFFUSER (SUPPLY)
		GRILLE (RETURN)
		GRILLE (EXHAUST)
		WALL REGISTER
		LINEAR DIFFUSER (SLOT)
AFMS	return filter	AIR FLOW MEASURING STATION
BDD	BDD	BACKDRAFT DAMPER
RD	RD	BAROMETRIC RELIEF DAMPER
DP	DP	DIFFERENTIAL PRESSURE SENSOR
DD	DD	DUCT DETECTOR
GD	GD	GRAVITY DAMPER
M	M	MOTORIZED DAMPER
PR	PR	PRESSURE REDUCING DAMPER
SB	SB	SECURITY BARS
SP	SP	STATIC PRESSURE SENSOR
VD	VD	VOLUME DAMPER
RVD	RVD	REMOTE VOLUME DAMPER
F	FD	FIRE DAMPER
FS	FS	COMBINATION FIRE / SMOKE DAMPER
S	S	SMOKE DAMPER
		ROUND DUCT UP
		RECTANGULAR DUCT UP
		OVAL DUCT UP
		ROUND DUCT DOWN
		RECTANGULAR DUCT DOWN
		OVAL DUCT DOWN
		MITERED ELBOW WITH VANES
		MITERED ELBOW WITHOUT VANES
		RADIUSED ELBOW
		TEE WITH VANES
		RADIUSED TEE
		DUCT WITH INSULATION
		DUCT WITH LINING
		DUCT IS FABRIC
		FLEXIBLE DUCT
		TRANSFER DUCT
		DUCT SMOKE DETECTOR
		SUPPLY ARROW
		RETURN ARROW
		EXHAUST ARROW
UC 100		DOOR UNDERCUT ARROW WITH CFM
D-1 12"x12" 200 CFM		DIFFUSER, REGISTER OR GRILLE TAG NECK SIZE (00"x00" - SQ / RECT) (0"ø ROUND) AIR FLOW (CUBIC FEET PER MINUTE)
24"x12"		TYPICAL DUCT - SIZE AS INDICATED (WIDTH x DEPTH) SIZE INDICATED FREE AREA
DDC-xx		MECHANICAL EQUIPMENT TAG
		MECHANICAL EQUIPMENT CLEARANCE
CO2		CARBON DIOXIDE SENSOR - WALL MOUNTED
CO2		CARBON DIOXIDE SENSOR - CEILING MOUNTED
CO		CARBON MONOXIDE SENSOR - WALL MOUNTED
CO		CARBON MONOXIDE SENSOR - CEILING MOUNTED
H		HUMIDISTAT - WALL MOUNTED
H		HUMIDISTAT - CEILING MOUNTED
P		PRESSURE SENSOR - WALL MOUNTED
P		PRESSURE SENSOR - CEILING MOUNTED
T		TEMPERATURE SENSOR - WALL MOUNTED
T		TEMPERATURE SENSOR - CEILING MOUNTED
T		THERMOSTAT - WALL MOUNTED
T		THERMOSTAT - CEILING MOUNTED

PIPING ANNOTATIONS

SCHEMATIC	3D	DESCRIPTION
		EXISTING TO REMAIN - (E) or EXIST
		ITEM TO BE DEMOLISHED - (D) or DEMO
18" CWS	18" CWS	PIPE SIZE TAG (DIAMETER WITH SYSTEM NAME)
		ABOVE GROUND PIPING
		BELOW GROUND PIPING
1/8" / 12" SLOPE	1/8" / 12" SLOPE	PIPE SLOPE
INVERT: -93' - 1"	INVERT: -93' - 8"	PIPE INVERT ELEVATION
DDC-xx		MECHANICAL EQUIPMENT TAG
		MECHANICAL EQUIPMENT CLEARANCE

MECHANICAL PIPING SYSTEMS

SCHEMATIC	3D	DESCRIPTION
RD	RD	REFRIGERANT DISCHARGE
RHG	RHG	REFRIGERANT HOT GAS
RL	RL	REFRIGERANT LIQUID
RS	RS	REFRIGERANT SUCTION
RV	RV	REFRIGERANT VENT
CD	CD	CONDENSATE DRAIN
SCD	SCD	SECONDARY CONDENSATE DRAIN

PIPING VALVES AND FITTINGS

SCHEMATIC	3D	DESCRIPTION
		PIPE DROP
		PIPE RISE
		PIPE TEE DOWN
		PIPE TEE UP
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		PIPE CAP
		PIPE ALIGNMENT GUIDE
		PIPE ANCHOR
		FLOW DIRECTION
		EXPANSION JOINT
		FLEXIBLE CONNECTION
		UNION
		DIRECTION OF PIPE PITCH
		AQUASTAT
		EXPANSION LOOP
		BALANCING VALVE
		BALANCING VALVE W/ METERING POINTS
		BALL VALVE
		BUTTERFLY VALVE
		CHECK VALVE
		STEAM TRAP
		GATE VALVE
		CIRCUIT SETTER
		MANUAL AIR VENT
		AUTOMATIC AIR VENT
		PLUG VALVE
		PRESSURE GAUGE
		SOLENOID VALVE
		ANGLE VALVE
		AUTOMATIC CONTROL VALVE 2-WAY
		AUTOMATIC CONTROL VALVE 3-WAY
		AUTOMATIC FLOW CONTROL VALVE
		STRAINER
P/T		PRESSURE AND TEMPERATURE TEST PORT
		THERMOMETER
		PRESSURE REDUCING VALVE (WATER SYSTEMS) PRESSURE REGULATING VALVE (GAS SYSTEMS)
		RELIEF VALVE
		FLOW MEASURING DEVICE
		BACKFLOW PREVENTER
		UNION

" NOTE "

ALL NOTES ON THIS SHEET ARE APPLICABLE TO ALL OTHER SHEETS IN THIS SET.

THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE APPLICABLE IN THIS SET OF DRAWINGS.

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HDR, ENGINEERING INC.
1917 SOUTH 67th STREET
OMAHA, NEBRASKA 68106
(402) 399-1000
CA-0443

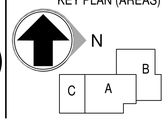
DLR GROUP
6457 FRANCES ST., STE. 200
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KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

LICENSED PROFESSIONAL ENGINEER
SHAWN COCHRAN
9-22-25
22462
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRVD: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

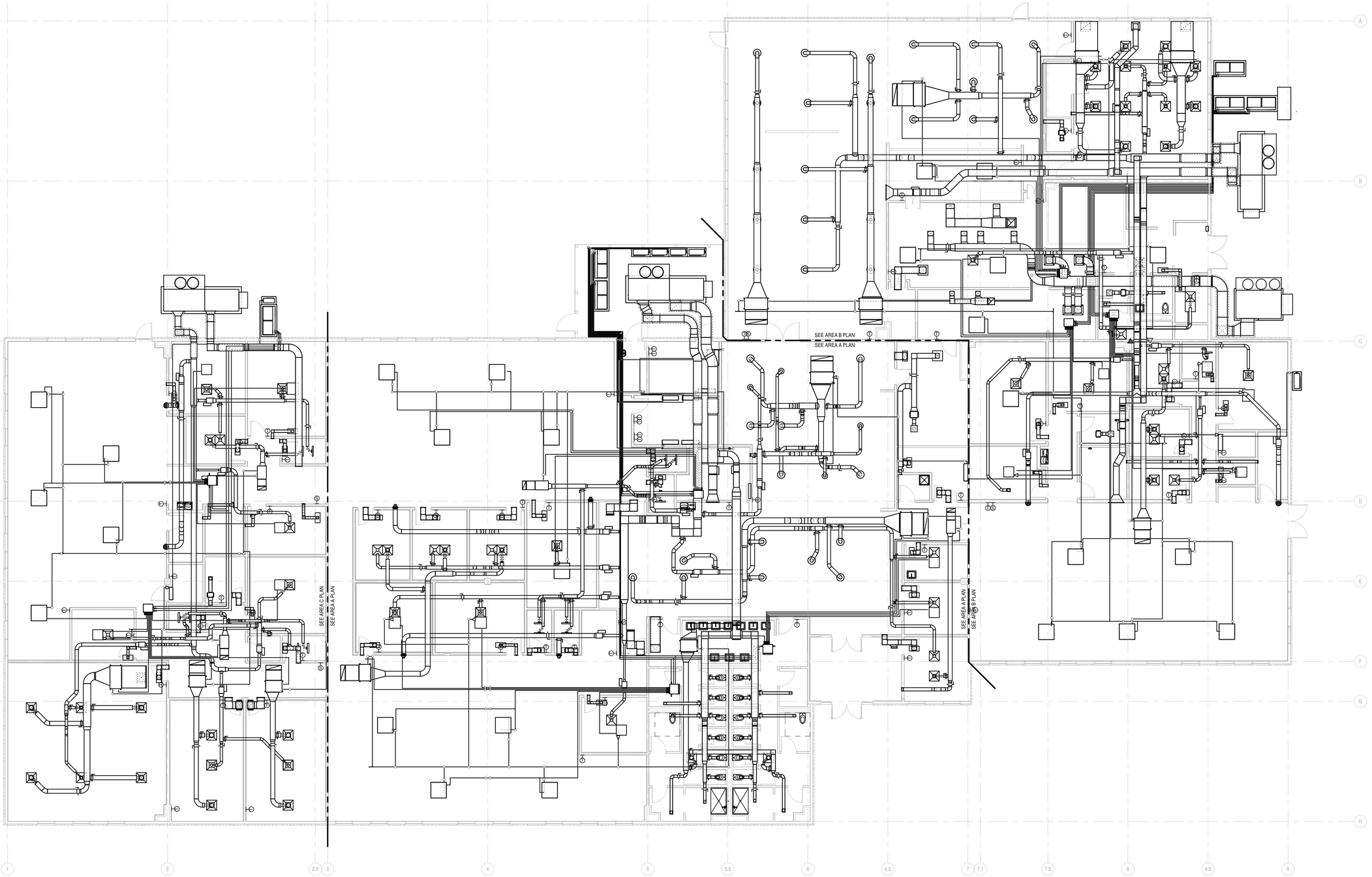
PROJ. NO. 43-25105-00

GENERAL NOTES & SYMBOLS & ABBREVIATIONS FOR MECHANICAL

SCALE: 1/8" = 1'-0"

SHEET NUMBER:
M0.01

PHASE: BUILDING PERMIT DOCUMENTS



MECHANICAL OVERALL PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING M0.1

B CONTRACTOR SHALL NOT DRILL, NOTCH, OR PENETRATE ANY STRUCTURAL ELEMENT WITHOUT PRIOR WRITTEN CONSENT OF STRUCTURAL ENGINEER. COORDINATE REQUIRED NOTCHES, HOLES, AND PENETRATIONS WITH THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.

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22462
OKLAHOMA

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KEY PLAN (AREAS)

N

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REVISIONS		
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PROJ. NO. 43-25105-00

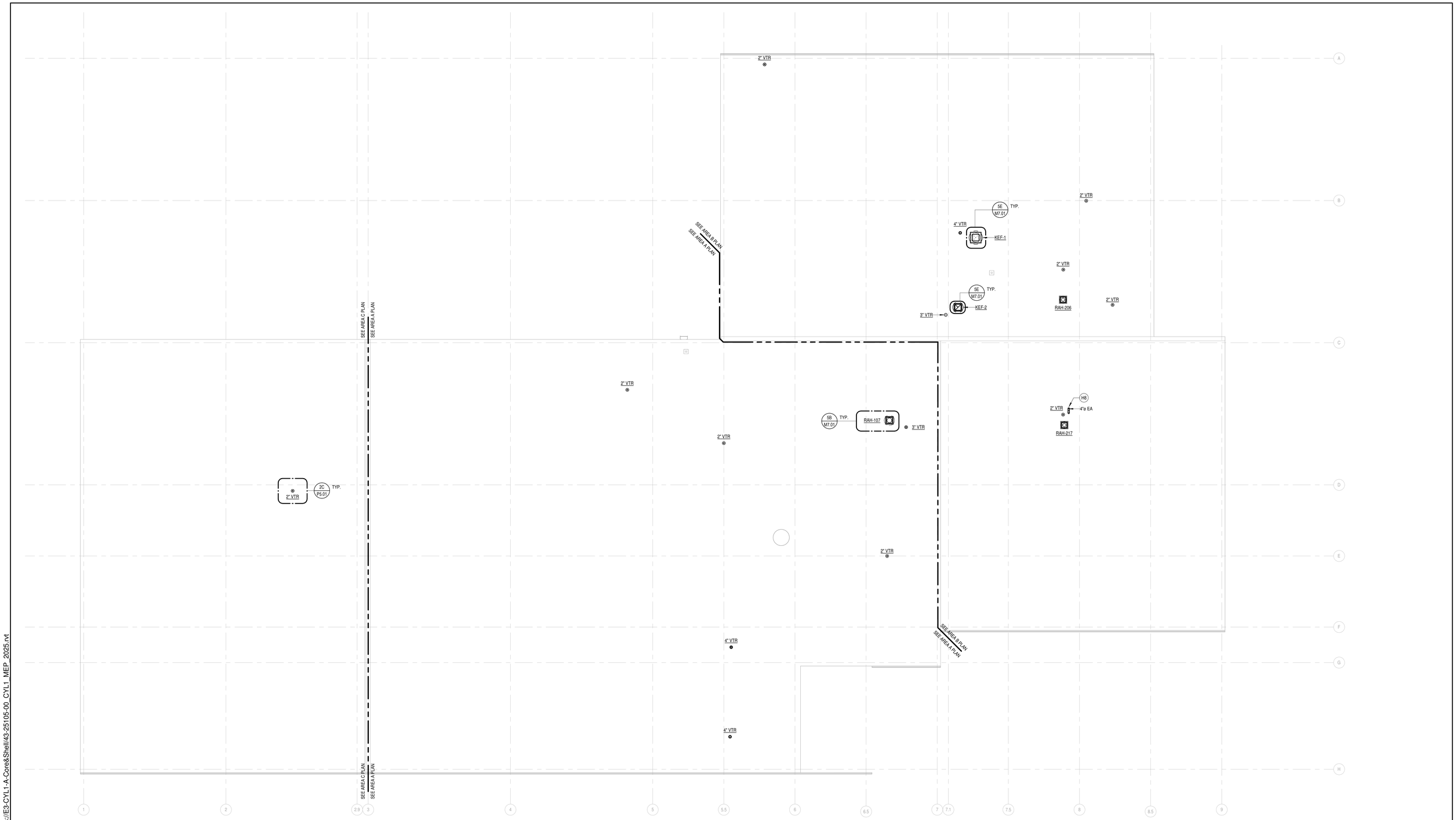
MECHANICAL OVERALL PLAN (4.0)

SCALE: 1/8" = 1'-0"

SHEET NUMBER:
M1.01.0

PHASE: BUILDING PERMIT DOCUMENTS

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MECHANICAL ROOF PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

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SHEET NOTES

H8 4" DRYER VENT TO BE ROLLED ROUND ALUMINUM, TERMINATE WITH GOOSE-NECK AND BIRD SCREEN AT DUCT OPENING.

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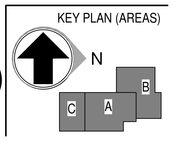
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KEY PLAN (AREAS)



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PROJ. NO. 43-25105-00

MECHANICAL OVERALL ROOF PLAN (4.0)

SCALE: 1/8" = 1'-0"

SHEET NUMBER:
M1.04.0

PHASE: BUILDING PERMIT DOCUMENTS

GENERAL NOTES

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SHEET NOTES

H1 4" HOUSEKEEPING PAD BELOW ALL UNITS, TYP. SEE STRUCTURAL FOR CONSTRUCTION. CONTRACTOR TO VERIFY SIZE AND LOCATION WITH UNIT SUPPLIER AND DIMENSIONED CLEARANCES PER PLANS. PROVIDE VIBRATION ISOLATION AT CONNECTIONS TO THE UNIT PER SPECIFICATION 230548.13

H2 MAINTAIN ALL DIMENSIONED AND MANUFACTURER CLEARANCES BETWEEN EQUIPMENT AND SURROUNDING BARRIERS. VERIFY CLEARANCES WITH UNIT SUPPLIER, TYP.

H3 INSTALL TIGHT TO STRUCTURE. SEE ARCHITECTURAL INTERIOR ELEVATIONS FOR COORDINATION.

H6 CONNECT TO HOOD, SEE HOOD DETAILS FROM FOOD SERVICE DRAWINGS. EXHAUST DUCT ONLY, TO BE STAINLESS STEEL, CONFORM TO METAL DUCT SPEC 233113.10-B. VENTILATION SUPPLY DUCT CONNECTED TO HOODS SHALL NOT BE REQUIRED TO BE STAINLESS STEEL, CONFORM TO METAL DUCT SPEC 233113.10-B.

HVAC PLAN - AREA A

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

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CYL HUB1-1-3 PERMIT SET
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KEY PLAN (AREAS)

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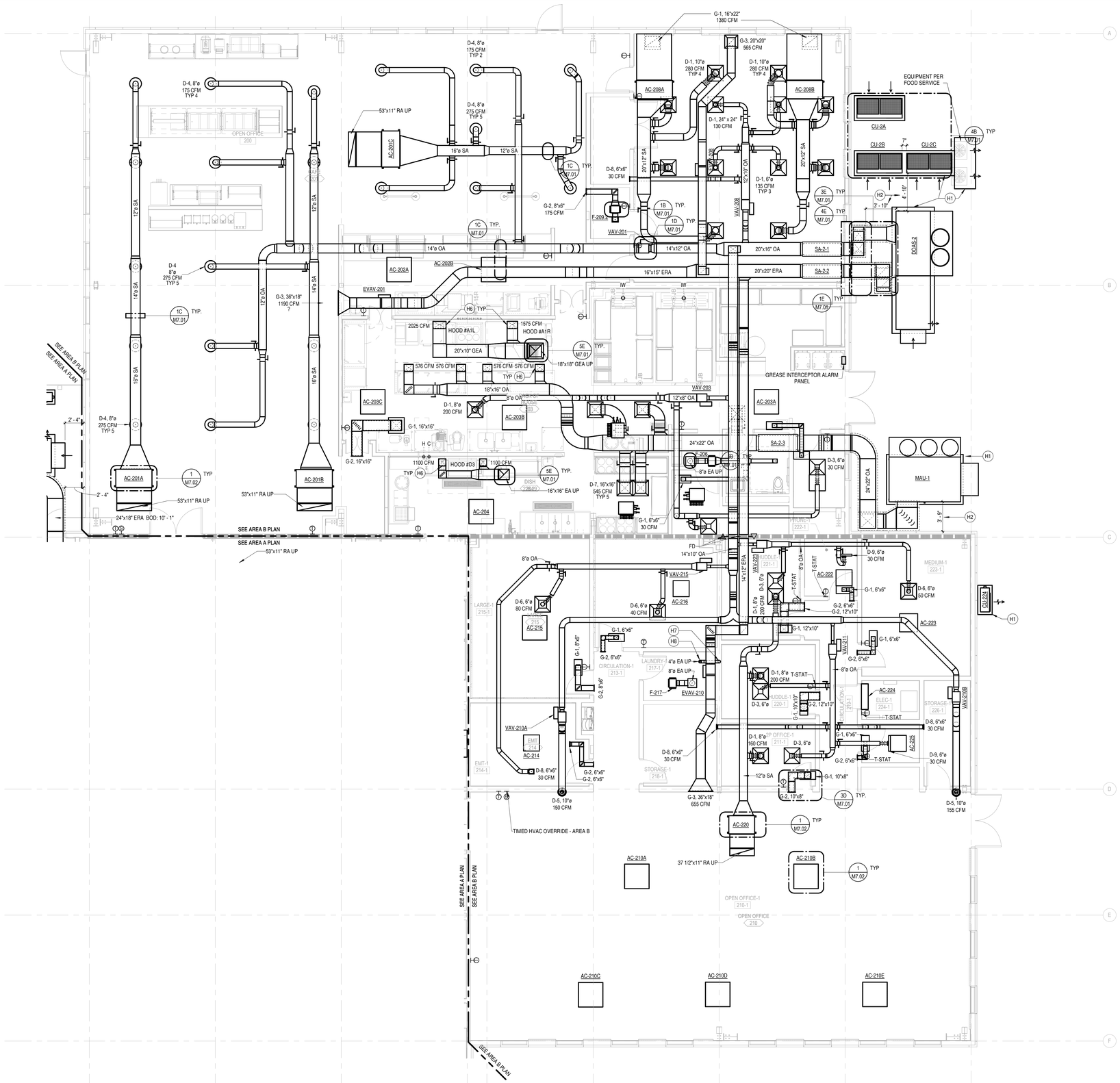
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HVAC PLAN - AREA A
SCALE: 3/16" = 1'-0"

SHEET NUMBER: M1.11

PHASE: BUILDING PERMIT DOCUMENTS



GENERAL NOTES

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H7 CONNECT DRYER VENT TO RECESSED DRYER CONNECTION BOX WITH VERTICAL EXHAUST CONNECTION, CAP AT DRYER BOX FOR FUTURE CONNECTION.

H8 4" DRYER VENT TO BE ROLLED ROUND ALUMINUM, TERMINATE WITH GOOSE-NECK AND BIRD SCREEN AT DUCT OPENING.

HVAC PLAN - AREA B

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

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LICENSED PROFESSIONAL ENGINEER
SHAWN COCHRAN
22462
9-22-25

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KEY PLAN (AREAS)

N

B
C A

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PROJ. NO. 43-25105-00

HVAC PLAN - AREA B (4.0)

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

SHEET NUMBER:
M1.21.0

PHASE: BUILDING PERMIT DOCUMENTS

GENERAL NOTES

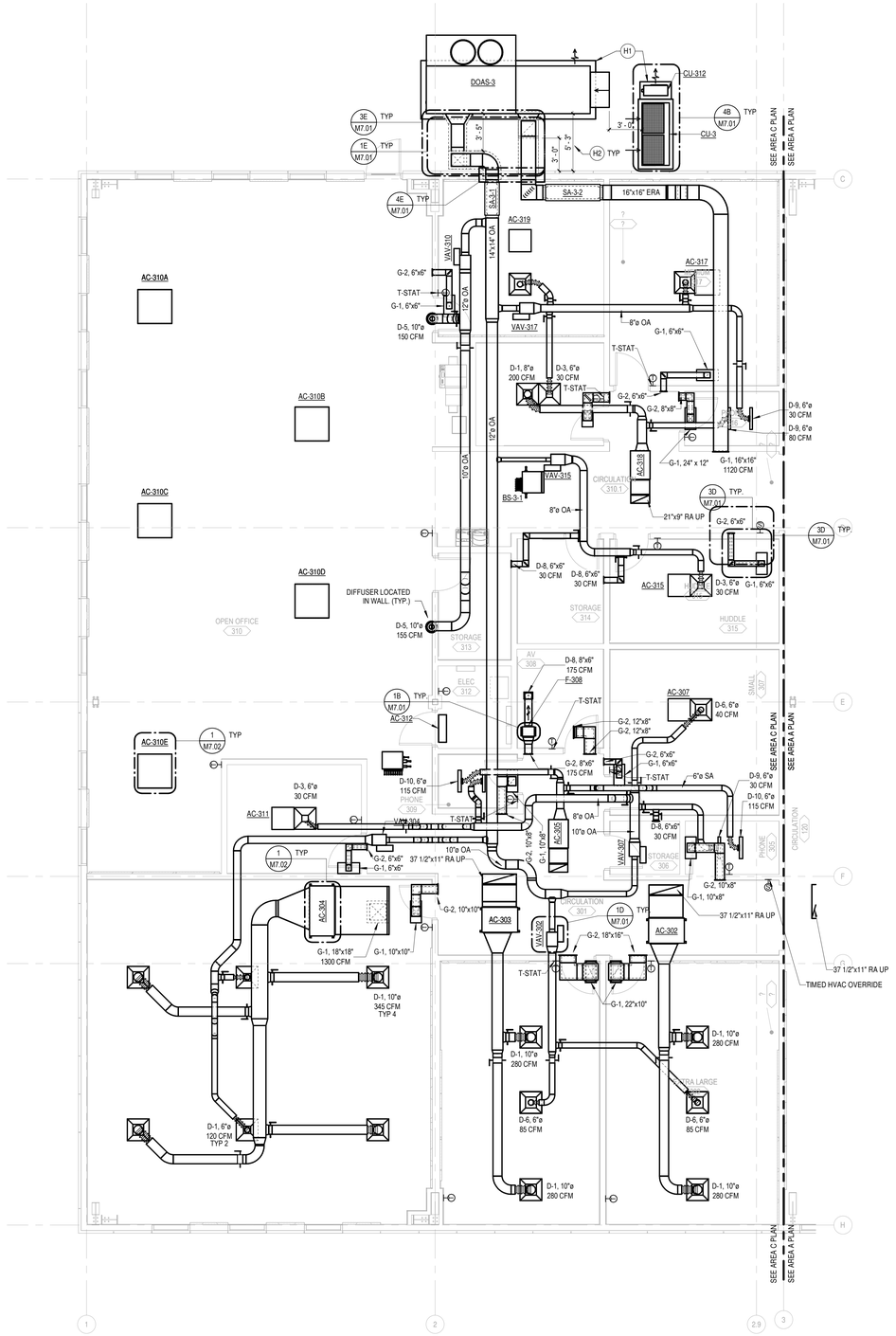
A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING M0.1

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HVAC PLAN - AREA

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

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LICENSED PROFESSIONAL ENGINEER SHAWN COCHRAN 9-22-25 22462 OKLAHOMA

CYL HUB1-1-3 PERMIT SET
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2025-09-22

KEY PLAN (AREAS)

N, B, C, A

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PROJECT ADDRESS:
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PROJ. NO. 43-25105-00

HVAC PLAN - AREA C

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

SHEET NUMBER: M1.31

PHASE: BUILDING PERMIT DOCUMENTS

GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING M0.1.

B PLANS INDICATE GENERAL ARRANGMENTS OF EQUIPMENT AND PIPING PER BASIS OF DESIGN MANUFACTURER AND DOES NOT INDICATE ALL REQUIRED COMPONENTS OR PIPE SIZES. CONSULT WITH THE MANUFACTURER FOR ACTUAL LENGTHS, SIZES, QUANTITIES OF PIPING SPECIALTIES, AND VALVES BASED ON UNIT LOCATIONS SHOWN ON PLANS, AND SPECIFICATIONS.

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SHEET NOTES

PIPING PLAN - AREA A

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

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LICENSED PROFESSIONAL ENGINEER
SHAWN COCHRAN
9-22-25
22462
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)

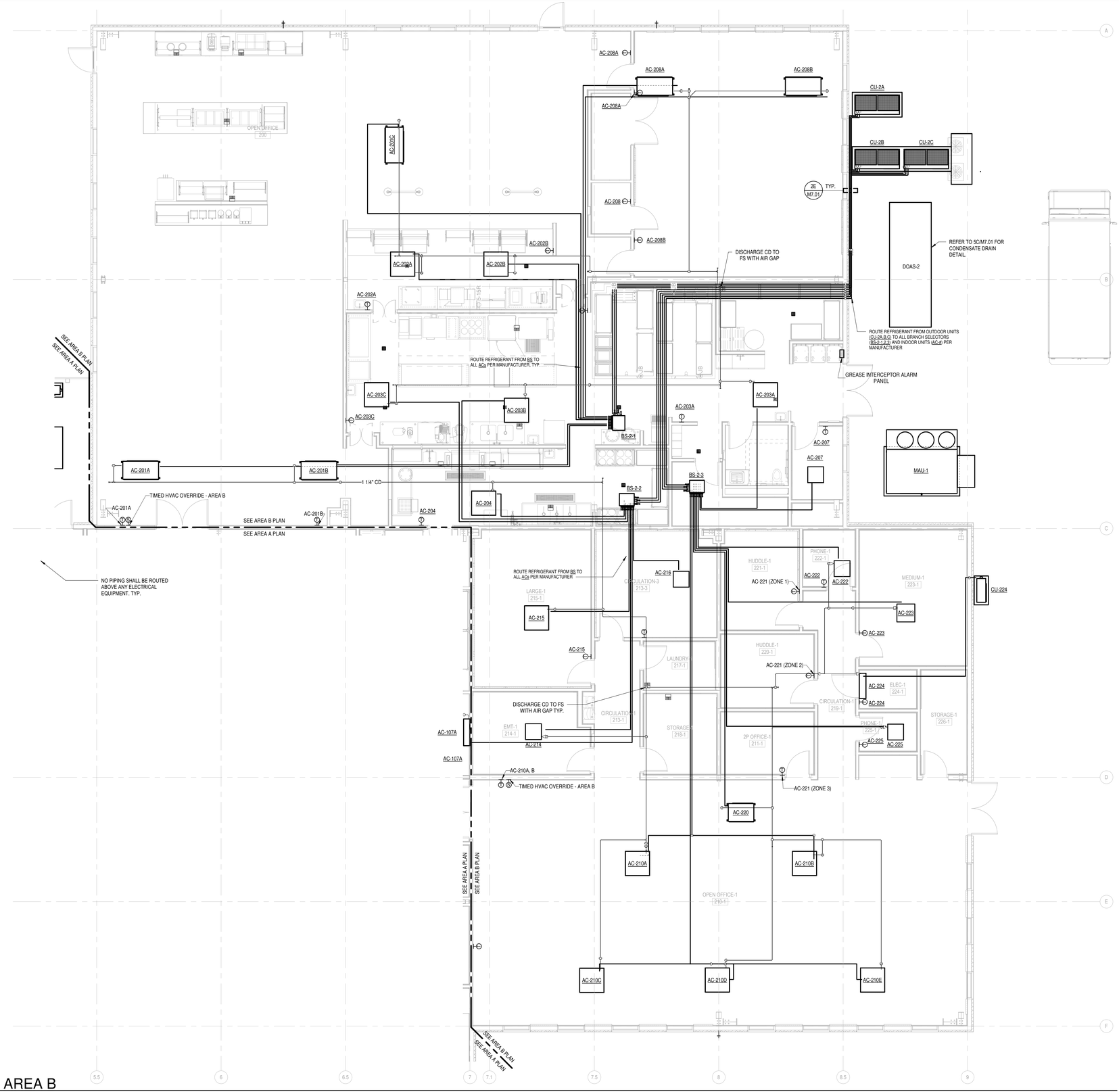
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PROJECT ADDRESS:
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PROJ. NO. 43-25105-00

PIPING PLAN - AREA A
SCALE: 3/16" = 1'-0"

SHEET NUMBER: M2.11
PHASE: BUILDING PERMIT DOCUMENTS



GENERAL NOTES

A FOR SYMBOLS AND ABBREVIATIONS SEE DRAWING M0.1.

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SHEET NOTES

PIPING PLAN - AREA B

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

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22462
OKLAHOMA
9-22-25

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)

N

C A B

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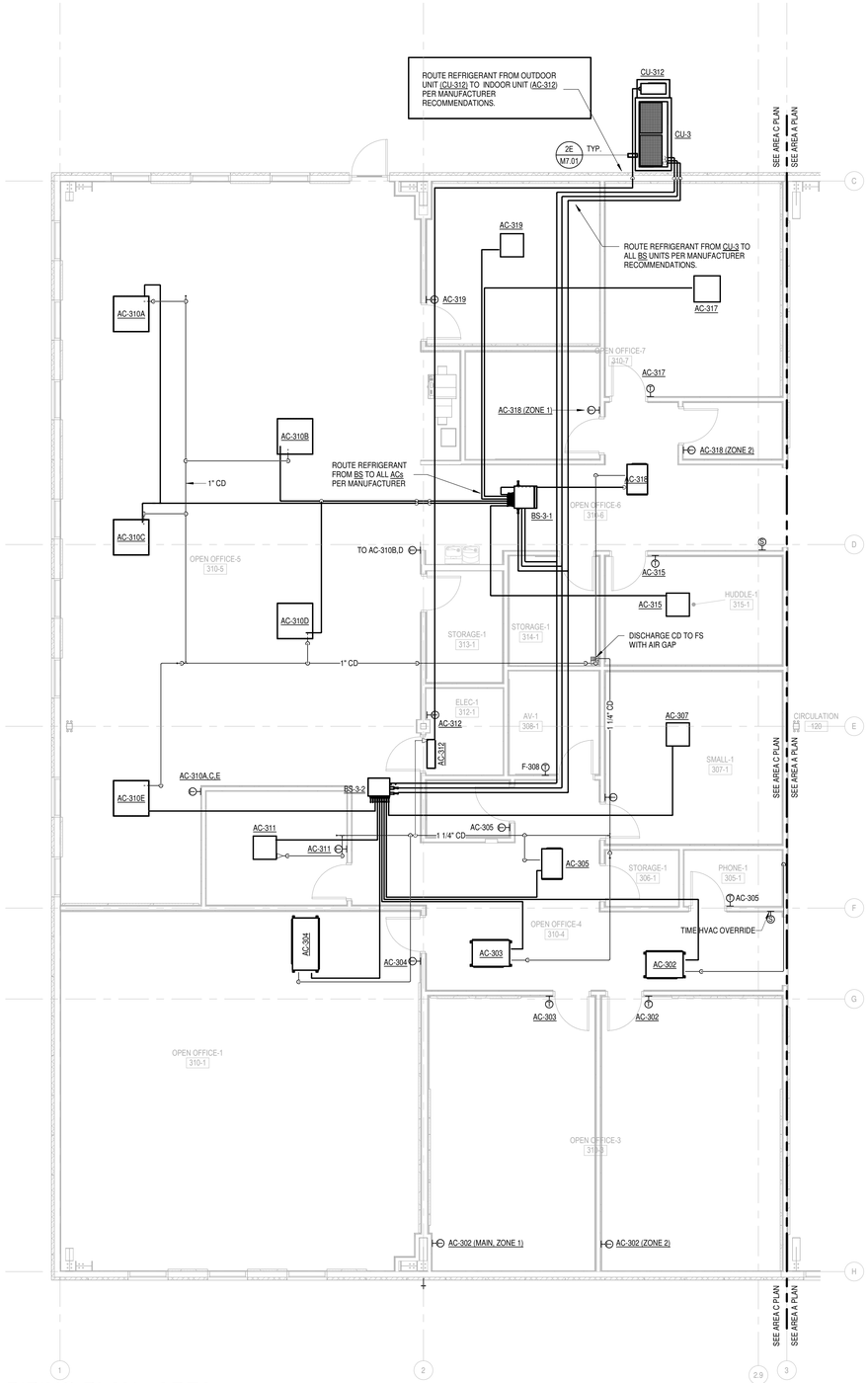
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PIPING PLAN - AREA B (4.0)

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

SHEET NUMBER:
M2.21.0

PHASE: BUILDING PERMIT DOCUMENTS



PIPING PLAN - AREA

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

GENERAL NOTES

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SHEET NOTES

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CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)

N

B C A

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PROJECT ADDRESS:
TULSA COUNTY, OK

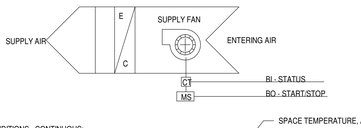
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PIPING PLAN - AREA C

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

SHEET NUMBER:
M2.31

PHASE: BUILDING PERMIT DOCUMENTS



RUN CONDITIONS - CONTINUOUS:
THE UNIT SHALL RUN TO MAINTAIN A HEATING SETPOINT OF 45°F (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

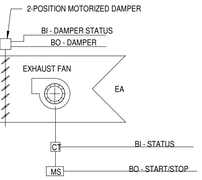
ZONE SETPOINT ADJUST:
THE OCCUPANT SHALL BE ABLE TO ADJUST THE ZONE TEMPERATURE HEATING AND COOLING SETPOINTS AT THE ZONE SENSOR.

FAN:
THE FAN SHALL RUN ANYTIME THE ZONE TEMPERATURE DROPS BELOW HEATING SETPOINT, UNLESS SHUTDOWN ON SAFETIES.

HEATING COIL:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND ENERGIZE THE HEATING COIL TO MAINTAIN ITS HEATING SETPOINT.

THE HEATING SHALL BE ENABLED WHENEVER:
- OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
- AND THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT.
- AND THE FAN IS ON.

1 ELECTRIC UNIT HEATER
M5.01 NO SCALE



SEQUENCE: SCHEDULED EXHAUST FAN:

RUN CONDITIONS - SCHEDULED:
THE FAN SHALL RUN ACCORDING TO A USER DEFINABLE SCHEDULE AND EXHAUST DAMPER PROOF OF OPEN.

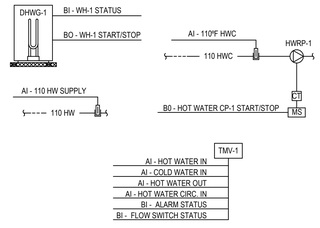
FAN:
THE FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME OF 30 MINUTES.

EXHAUST AIR DAMPER:
THE EXHAUST AIR DAMPER WILL OPEN ANYTIME THE FAN RUN STATUS IS CONFIRMED AND WILL CLOSE ANYTIME THE FAN STOPS. THE EXHAUST AIR DAMPER WILL CLOSE 30 SECONDS (ADJ.) AFTER THE FAN STOPS. FAILURE OF CONFIRMATION OF DAMPER STATUS BEING OPEN WILL PREVENT THE OPERATION OF THE EXHAUST FAN. EXHAUST DAMPER WILL CLOSE IF THE EXHAUST FAN STATUS IS NOT CONFIRMED AFTER A USER DEFINED LIMIT OF 20 SECONDS (ADJ)
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

NOTE:
REFERENCE FAN SCHEDULE FOR FANS CONTROLLED THUS.

2 EXHAUST FAN - SCHEDULED
M5.01 NO SCALE



DOMESTIC HOT WATER CONTROL:
INDIVIDUAL WATER HEATERS (DHWG-1) SHALL BE ENABLED ON A USER DEFINABLE SCHEDULE (INITIAL SCHEDULE: 24/7. VERIFY W/ OWNER DURING CX) AND SHALL PROVIDE INDICATED TEMPERATURES PER SCHEDULE.

HOT WATER PUMP CONTROL:
WHEN ENABLED, THE PUMP (HWRP-X) ASSOCIATED WITH THE WATER HEATER AND SPECIFIC WATER TEMPERATURE LOOP WILL BE STARTED. IF THE PUMP STATUS DOES NOT MATCH THE COMMAND, AN ALARM WILL BE GENERATED AND THE WATER HEATER WILL BE STOPPED. UPON LOSS OF STATUS, THE PUMP WILL RESTART AFTER THE SYSTEM IS MANUALLY RESET. AFTER THE WATER HEATER IS COMMANDED OFF, THE PUMP WILL CONTINUE TO RUN FOR A SHORT TIME TO DISSIPATE THE HEAT.

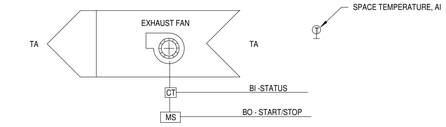
DOMESTIC HOT WATER CIRCULATING PUMPS SHALL BE COMMANDED TO RUN BASED ON A USER DEFINABLE SCHEDULE (INITIAL SCHEDULE: 24/7. VERIFY W/ OWNER DURING CX)
AND SHALL CYCLE BASED ON DOMESTIC HOT WATER RECIRCULATION TEMPERATURE AS FOLLOWS. ALL TEMPERATURE SETTINGS SHALL BE ADJUSTABLE:

110 °F DOMESTIC HOT WATER (HWRP-1):
PUMP ON AT 95 °F (ADJ.) HWC TEMPERATURE. PUMP OFF AT 110 °F (ADJ.) HWC TEMPERATURE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- 120° F SUPPLY TEMP: IF THE SUPPLY TEMPERATURE IS GREATER THAN 125°F (ADJ.).
- 120° F SUPPLY TEMP: IF THE SUPPLY TEMPERATURE IS LESS THAN 90°F (ADJ.).

ADDITIONAL POINTS MONITORED BY THE BMS:
- WATER HEATER STATUS
- WATER HEATER ALARM
- WATER HEATER LEAVING WATER TEMPERATURE
- WATER HEATER ENTERING WATER TEMPERATURE

3 DOMESTIC HOT WATER CONTROLS (DHWG-1)
M5.01 NO SCALE



SEQUENCE OF OPERATION: EXHAUST/TRANSFER FAN - THERMOSTATICALLY CONTROLLED

RUN CONDITIONS - CONTINUOUS:
THE UNIT SHALL BE CONTINUOUSLY ENABLED TO MAINTAIN A ZONE TEMPERATURE COOLING SETPOINT OF 90°F (ADJ.).

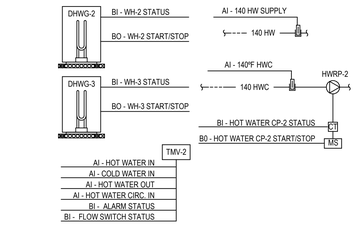
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT FOR 10 MINUTES (ADJ.).

FAN:
THE FAN SHALL RUN ANYTIME THE ZONE TEMPERATURE RISES ABOVE COOLING SETPOINT, UNLESS SHUTDOWN ON SAFETIES.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

NOTE:
REFERENCE FAN SCHEDULE FOR FANS CONTROLLED THUS.

4 FAN - THERMOSTATIC
M5.01 NO SCALE



DOMESTIC HOT WATER CONTROL, PHASE 2:
WATER HEATERS (DHWG-2 & -3) SHALL BE AVAILABLE TO RUN BASED ON A USER DEFINABLE SCHEDULE (INITIAL SCHEDULE: 24/7. VERIFY W/ OWNER DURING CX) BUT SHALL OPERATE ON INTERNAL CONTROLS (PRIMARY-BACKUP, WITH ALTERNATING PRIMARY UNIT) TO PROVIDE INDICATED TEMPERATURES PER SCHEDULES. THE PRIMARY UNIT SHALL RUN FIRST AND THE BACKUP UNIT SHALL RUN ONLY ON FAILURE OF THE PRIMARY UNIT. THE BACKUP UNIT SHALL MAINTAIN TANK TEMPERATURE ONLY DURING OPERATION.

HOT WATER PUMP CONTROL:
WHEN ENABLED, THE PUMP (HWRP-X) ASSOCIATED WITH THE WATER HEATER AND SPECIFIC WATER TEMPERATURE LOOP WILL BE STARTED. IF THE PUMP STATUS DOES NOT MATCH THE COMMAND, AN ALARM WILL BE GENERATED AND THE WATER HEATER WILL BE STOPPED. UPON LOSS OF STATUS, THE PUMP WILL RESTART AFTER THE SYSTEM IS MANUALLY RESET. AFTER THE WATER HEATER IS COMMANDED OFF, THE PUMP WILL CONTINUE TO RUN FOR A SHORT TIME TO DISSIPATE THE HEAT.

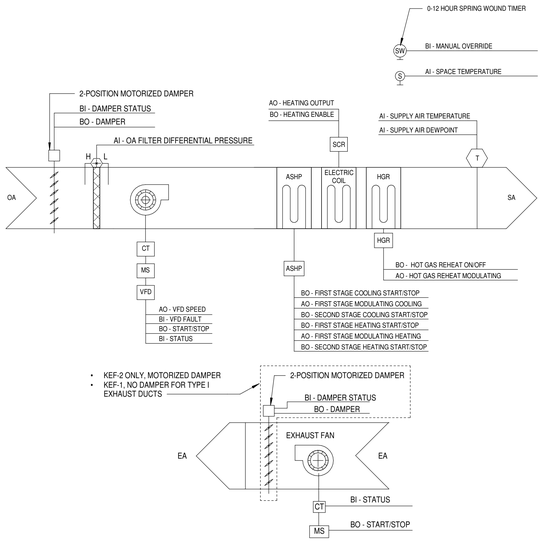
DOMESTIC HOT WATER CIRCULATING PUMPS SHALL BE COMMANDED TO RUN BASED ON A USER DEFINABLE SCHEDULE (INITIAL SCHEDULE: 24/7. VERIFY W/ OWNER DURING CX)
AND SHALL CYCLE BASED ON DOMESTIC HOT WATER RECIRCULATION TEMPERATURE AS FOLLOWS. ALL TEMPERATURE SETTINGS SHALL BE ADJUSTABLE:

140 °F DOMESTIC HOT WATER (HWRP-2):
PUMP ON AT 125 °F (ADJ.) HWC TEMPERATURE. PUMP OFF AT 140 °F (ADJ.) HWC TEMPERATURE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- 140° F SUPPLY TEMP: IF THE SUPPLY TEMPERATURE IS GREATER THAN 145°F (ADJ.).
- 140° F SUPPLY TEMP: IF THE SUPPLY TEMPERATURE IS LESS THAN 110°F (ADJ.).

ADDITIONAL POINTS MONITORED BY THE BMS:
- WATER HEATER STATUS
- WATER HEATER ALARM
- WATER HEATER LEAVING WATER TEMPERATURE
- WATER HEATER ENTERING WATER TEMPERATURE

5 DOMESTIC HOT WATER CONTROLS (DHWG-2&3)
M5.01 NO SCALE



MAKEUP AIR UNIT - SUPPLY AIR TEMP (MAU-1)
UNIT TO BE CONTROLLED BY CONTROL CONTRACTOR CONTROL PACKAGE THROUGH TERMINAL STRIP INTERFACING. IT WILL BE THE RESPONSIBILITY OF THE INSTALLING CONTROLS CONTRACTOR TO ENSURE THAT THEIR CONTROLS PACKAGE CAN CONTROL THE UNIT TO PROVIDE A FULLY FUNCTIONAL UNIT WITH SEQUENCE OF OPERATIONS AS DESCRIBED HERE.

THE UNITS SHALL RUN WHENEVER:
- ANY KITCHEN HOOD AND INTERLOCKED EXHAUST FANS ARE ON

OUTSIDE AIR/RETURN AIR DAMPER:

THE OUTSIDE AIR DAMPER SHALL OPEN PRIOR TO THE SUPPLY FAN STARTING BY USER ADJUSTABLE DELAY.

ALARMS SHALL BE PROVIDED AS FOLLOWS;
- OUTSIDE AIR DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
- OUTSIDE AIR DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

SUPPLY FAN:
THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN AND THE OUTSIDE AIR DAMPER IS PROVEN OPEN. TO PREVENT SHORT CYCLING, THE SUPPLY FAN SHALL HAVE A MINIMUM RUNTIME OF 30 MIN. (ADJ). UNLESS SHUTDOWN ON SAFETIES. THE MINIMUM RUNTIME SHALL BE THE SAME FOR THE MAU-1 SUPPLY FAN AS KEF-1 AND KEF-2.

THE SUPPLY FAN SHALL BE INTERLOCKED TO KEF-1 AND KEF-2 SUCH THAT THE SUPPY AIRFLOW DELIVERED IS EQUIVALENT TO THE TOTAL OF THE ACTIVE EXHAUST FAN OR FANS OPERATING. SEE SCHEDULES FOR AIRFLOWS.
- KEF-1
- KEF-2

ALARMS SHALL BE PROVIDED AS FOLLOWS;
- SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).
- VFD FAULT

SUPPLY AIR TEMPERATURE SETPOINT:
THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE AND SHALL MODULATE HEATING, COOLING AND DEHUMIDIFICATION TO MAINTAIN THE SETPOINTS BELOW.
IF DEHUMIDIFICATION IS NOT ENABLED THE SUPPLY AIR TEMP SHALL BE OPTIMIZED BASED ON INDOOR VRF UNIT OPERATING MODE FOR AC-203A/B/C, AND AC-204 PER THE BELOW SEQUENCE
- IF ALL OF THE INDOOR VRF UNITS ARE NOT IN HEATING OR COOLING MODE
  - THE MAU SUPPLY AIR TEMP SETPOINT SHALL BE:
    - 70°F (ADJ.) IN HEATING
    - 75°F (ADJ.) IN COOLING
- IF ALL OF THE INDOOR VRF UNITS ARE IN COOLING MODE
  - AND OUTSIDE AIR TEMP IS BETWEEN 55 - 75°F (ADJ), THE UNIT SHALL BE IN ECONOMIZER MODE
  - OR OUTSIDE AIR TEMP IS LESS THAN 55°F (ADJ), THE SUPPLY AIR TEMP SETPOINT SHALL BE 65°F (ADJ).
- IF ALL OF THE INDOOR VRF UNITS ARE IN HEATING MODE
  - AND OUTSIDE AIR TEMP IS BETWEEN 70 - 85°F (ADJ), THE UNIT SHALL BE IN ECONOMIZER MODE
  - OR OUTSIDE AIR TEMP IS GREATER THAN 85°F (ADJ), THE SUPPLY AIR TEMP SETPOINT SHALL BE 85°F (ADJ).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 120 ° F (ADJ.)
- LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

ASHP AND ELECTRIC HEATING:
THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE ASHP COIL AND ELECTRIC COIL TO MAINTAIN ITS SUPPLY AIR SETPOINT (ADJ).
- ASHP SHALL BE THE PRIMARY HEATING/COOLING COIL
- SECONDARY HEATING SHALL BE ELECTRIC COIL

MAKEUP AIR UNIT - SUPPLY AIR TEMP (MAU-1) CONTINUED...

HOT GAS REHEAT:
THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND DEWPOINT AND STAGE THE COOLING AND HOT GAS REHEAT TO MAINTAIN ITS SUPPLY AIR AND DEWPOINT SETPOINTS.

THE HOT GAS REHEAT SHALL BE ENABLED WHENEVER:
- COOLING (DEHUMIDIFICATION) IS ENABLED
- AND THE SUPPLY AIR TEMPERATURE IS LESS THAN SUPPLY AIR SETPOINT BY 1°F (ADJ.)
- AND THE SUPPLY/EXHAUST FANS STATUS IS ON

SUPPLY AIR DEWPOINT:
THE CONTROLLER SHALL MONITOR THE SUPPLY AIR DEWPOINT.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH SUPPLY AIR DEWPOINT: IF THE SUPPLY AIR DEWPOINT IS GREATER THAN 60° F (ADJ.).

FILTER DIFFERENTIAL PRESSURE MONITOR:
THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTERS.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FILTER CHANGE REQUIRED: FILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

KITCHEN HOOD EXHAUST FAN (KEF-1 & KEF-2):

RUN CONDITIONS - KITCHEN HOOD INTERLOCK:
THE FAN SHALL RUN WHEN KITCH HOOD CONTROL SIGNALS IT TO RUN AND EXHAUST DAMPER (IF PRESENT) PROOF OF OPEN.

FAN:
THE FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME OF 30 MINUTES, MAU-1 SHALL HAVE THE SAME MINIMUM RUNTIME.

EXHAUST AIR DAMPER:
THE EXHAUST AIR DAMPER WILL OPEN ANYTIME THE FANS RUN STATUS IS CONFIRMED AND WILL CLOSE ANYTIME THE FAN STOPS. THE EXHAUST AIR DAMPER WILL CLOSE 30 SECONDS (ADJ.) AFTER THE FAN STOPS. FAILURE OF CONFIRMATION OF DAMPER STATUS BEING OPEN WILL PREVENT THE OPERATION OF THE EXHAUST FAN. EXHAUST DAMPER WILL CLOSE IF THE EXHAUST FAN STATUS IS NOT CONFIRMED AFTER A USER DEFINED LIMIT OF 20 SECONDS (ADJ)
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

REFRIGERANT LEAK DETECTION CONTROL
THE MAU SHALL INCLUDE REFRIGERANT LEAK DETECTION AND FACTORY CONTROLS FOR MITIGATION IN ACCORDANCE WITH UL60335-2-40 AND AHU.

THE MAU SHALL ALSO PROVIDE CONTACTS TO SEND LEAK DETECTION ALARM TO BMS. SEE A2L REFRIGERANT LEAK DETECTION CONTROLS FOR BMS CONTROLS UPON LEAK DETECTION ALARM.

6 MAKE-UP AIR UNIT & KITCHEN EXHAUST FANS
M5.01 NO SCALE

EXHAUST VAV TERMINAL UNIT SEQUENCE OF OPERATIONS:
REFER TO EXHAUST VAV SCHEDULE FOR UNITS CONTROLLED BELOW

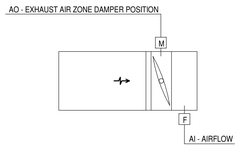
VARIABLE VOLUME TERMINAL UNIT - CONSTANT FLOW CONTROL (EVAV-110):
THIS UNIT SHALL RUN ANY TIME THE CONNECTED DOAS UNIT IS RUNNING IN THE OCCUPIED MODE.
THIS UNIT SHALL BE SHUT OFF ANY TIME THE CONNECTED DOAS UNIT IS RUNNING IN THE UNOCCUPIED MODE.

THE UNIT SHALL MAINTAIN ZONE AIRFLOW SETPOINT
- THE ZONE DAMPER WILL MODULATE TO MAINTAIN A CONSTANT EXHAUST ARIFLOW, PER SCHEDULES, (ADJ.) FROM THE ZONE.
- IF ZONE DAMPER IS OPEN 100% AND AIRFLOW IS LESS THAN SETPOINT FOR 10MIN (ADJ) MODULATE EVAV-100 DAMPER CLOSED IN 5% INCREMENTS EVERY 2MIN (ADJ) UNTIL ZONE AIRFLOW SETPOINT IS SATISFIED.

VARIABLE VOLUME TERMINAL UNIT - VARIABLE FLOW CONTROL (EVAV-100, 201, 208, 210):
THIS UNIT SHALL RUN ANY TIME THE CONNECTED DOAS UNIT IS RUNNING

THE UNIT SHALL MAINTAIN ZONE AIRFLOW SETPOINT PER UNIT AS DESCRIBED BELOW
- EVAV-100: THE ZONE DAMPER WILL MODULATE TO MAINTAIN AN EXHAUST ARIFLOW SETPOINT EQUAL TO THE DOAS EXHAUST FAN AIRFLOW SETPOINT MINUS THE EXHAUST AIRFLOW SETPOINT OF EVAV-110.

EVAV STATUS:
THE CONTROLLER SHALL MONITOR THE EVAV FAN STATUS.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW AIRFLOW: EVAV AIRFLOW IS LESS THAN SETPOINT FOR 20MIN (ADJ).



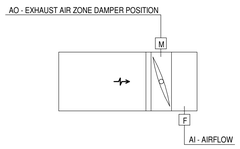
7 EXHAUST VAV TERMINAL UNIT (AREA A)
M5.01 NO SCALE

EXHAUST VAV TERMINAL UNIT SEQUENCE OF OPERATIONS:
REFER TO EXHAUST VAV SCHEDULE FOR UNITS CONTROLLED BELOW

VARIABLE VOLUME TERMINAL UNIT - VARIABLE FLOW CONTROL (EVAV-100, 201, 208, 210):
THIS UNIT SHALL RUN ANY TIME THE CONNECTED DOAS UNIT IS RUNNING

THE UNIT SHALL MAINTAIN ZONE AIRFLOW SETPOINT PER UNIT AS DESCRIBED BELOW
- EVAV-201: THE ZONE DAMPER WILL MODULATE TO MAINTAIN AN AIRFLOW SETPOINT EQUAL TO ACTUAL AIRFLOW OF VAV-201 PLUS VAV-207 MULTIPLIED BY THE SUPPLY AIR OFFSET OF DOAS-2.
- EVAV-208: THE ZONE DAMPER WILL MODULATE TO MAINTAIN AN AIRFLOW SETPOINT EQUAL TO ACTUAL AIRFLOW OF VAV-208 MULTIPLIED BY THE SUPPLY AIR OFFSET OF DOAS-2.
- EVAV-210: THE ZONE DAMPER WILL MODULATE TO MAINTAIN AN AIRFLOW SETPOINT EQUAL TO THE DOAS-2 EXHAUST AIRFLOW SETPOINT MINUS EVAV-201 PLUS EVAV-208.

EVAV STATUS:
THE CONTROLLER SHALL MONITOR THE EVAV FAN STATUS.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- LOW AIRFLOW: EVAV AIRFLOW IS LESS THAN SETPOINT FOR 20MIN (ADJ).

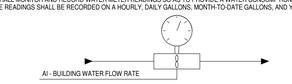


8 EXHAUST VAV TERMINAL UNIT (AREA B)
M5.01 NO SCALE

WATER METER:
THE CONTROLLER SHALL MONITOR THE WATER METER FOR WATER CONSUMPTION FOR EACH METER ON A CONTINUAL BASIS. VALUES FOR EACH METER SHALL BE MADE AVAILABLE TO THE SYSTEM AT ALL TIMES. DDC SHALL HAVE ABILITY TO TRANSMIT WATER CONSUMPTION OF ALL METERS TO TO THE BMS VIRTUAL DASHBOARD.

PEAK DEMAND HISTORY:
THE CONTROLLER SHALL MONITOR AND RECORD THE PEAK GALLONS (HIGH AND LOW) DEMAND READINGS FROM EACH WATER METER. PEAK READINGS SHALL BE RECORDED ON A DAILY GALLONS, MONTH-TO-DATE GALLONS, AND YEAR-TO-DATE GALLONS BASIS.

USAGE HISTORY:
THE CONTROLLER SHALL MONITOR AND RECORD WATER METER READINGS SO AS TO PROVIDE A WATER CONSUMPTION HISTORY IN GALLONS FOR EACH METER. USAGE READINGS SHALL BE RECORDED ON A HOURLY, DAILY GALLONS, MONTH-TO-DATE GALLONS, AND YEAR-TO-DATE GALLONS BASIS.



9 WATER CONSUMPTION MONITORING
M5.01 NO SCALE

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HDR, ENGINEERING INC.
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(402) 399-1000
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22462
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

CONTROLS DIAGRAMS
SCALE: As indicated

SHEET NUMBER:
M5.01
PHASE: BUILDING PERMIT DOCUMENTS

SEQUENCE- DEDICATED OUTSIDE AIR HEAT PUMP UNIT W/ ELECTRIC SECONDARY HEAT AND HEAT RECOVERY:
UNIT TO BE CONTROLLED BY CONTROL CONTRACTOR CONTROL PACKAGE THROUGH TERMINAL STRIP INTERFACING. IT WILL BE THE RESPONSIBILITY OF THE INSTALLING CONTROLS CONTRACTOR TO ENSURE THAT THEIR CONTROLS PACKAGE CAN CONTROL THE UNIT TO PROVIDE A FULLY FUNCTIONAL UNIT WITH SEQUENCE OF OPERATIONS AS DESCRIBED HERE.

UNIT OPERATION

THE UNIT SHALL RUN WHENEVER:
- A USER DEFINABLE SCHEDULE DETERMINES THE SYSTEM IS IN THE OCCUPIED MODE.
  INITIAL SCHEDULE: 24/7 (ADJ) VERIFY W/OWNER DURING CX
- OR ANY ZONE IS OCCUPIED AS DETERMINED BY LOCAL ZONE OVERRIDE BUTTON

UNIT TERMINAL STRIPS (PROVIDED BY UNIT MANUFACTURER) SHALL BE USED TO ACHIEVE THE FOLLOWING SEQUENCE OF OPERATIONS.

THE UNIT SHALL SHUT DOWN WHENEVER:
- A USER DEFINABLE SCHEDULE DETERMINES THE SYSTEM IS IN THE UNOCCUPIED MODE.
  INITIAL SCHEDULE: NEVER. VERIFY W/ OWNER DURING CX
- ALL ZONE OCCUPANCY SENSORS ARE INACTIVE

HIGH STATIC SHUTDOWN:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A HIGH STATIC SHUTDOWN SIGNAL WHEN STATIC PRESSURE OF 2 IN WC OR GREATER (ADJ.) IS REACHED. UNIT SHALL RESTART UPON ACKNOWLEDGEMENT OF ALARM AT USER INTERFACE.

SMOKE DETECTION:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A RETURN AIR SMOKE DETECTOR STATUS. UNIT SHALL SHUT DOWN. LOCAL MANUAL RESET AT THE SMOKE DETECTOR SHALL BE REQUIRED.

SUPPLY FAN:
THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS IN THE OCCUPIED MODE, UNLESS SHUTDOWN ON SAFETIES. IN THE UNOCCUPIED MODE THE SUPPLY FAN SHALL BE DISABLED

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.) (FOR FILTER CHANGE NOTIFICATION)
- SUPPLY FAN VFD FAULT.

SUPPLY AIR DUCT STATIC PRESSURE CONTROL:
THE CONTROLLER SHALL MEASURE DUCT STATIC PRESSURE AND MODULATE THE SUPPLY FAN VFD SPEED TO MAINTAIN A DUCT STATIC PRESSURE SETPOINT. THE SUPPLY FAN MINIMUM VFD SPEED SHALL NOT DROP BELOW 30% (ADJ.). THE STATIC PRESSURE SETPOINT SHALL BE RESET BASED ON TERMINAL UNIT DAMPER POSITIONS.

- THE INITIAL DUCT STATIC PRESSURE SETPOINT SHALL BE ADJUSTABLE, DETERMINED BY TAB TO PROVIDE THE DESIGN AIRFLOW
- THE BUILDING AUTOMATION SYSTEM SHALL CONTINUOUSLY MONITOR THE DAMPER POSITION OF ALL VAV TERMINAL UNITS. THE DISCHARGE DUCT STATIC PRESSURE SHALL BE SENSED IN A NON-TURBULENT LOCATION 2/3 OF THE WAY DOWN THE DUCT TEN DUCT WIDTHS FROM ANY ELBOW.
- WHEN ALL DAMPERS (EXCEPT THOSE AT 0%, SHUT OFF) ARE MORE THAN 95% (ADJ.) OPEN, THE SUPPLY FAN DISCHARGE DUCT STATIC PRESSURE SETPOINT SHALL BE RESET UPWARD BY 5% (ADJ.) OF THE MAXIMUM SYSTEM STATIC PRESSURE SETPOINT AT A FREQUENCY OF 10 MINUTES (ADJ.) UNTIL NO DAMPER IS MORE THAN 95% OPEN OR THE STATIC PRESSURE SETPOINT HAS RESET UPWARD TO THE SYSTEM MAXIMUM SETTING OR THE VARIABLE FREQUENCY DRIVE ARE AT THEIR MAXIMUM SETTING. WHEN ALL DAMPERS (EXCEPT THOSE AT 0%, SHUT OFF) ARE LESS THAN 85% (ADJ.) OPEN, THE SUPPLY FAN DISCHARGE DUCT STATIC PRESSURE SETPOINT SHALL BE RESET DOWNWARD BY 5% (ADJ.) OF THE MAXIMUM SYSTEM STATIC PRESSURE SETPOINT AT A FREQUENCY OF 10 MINUTES (ADJ.) UNTIL ANY DAMPER IS MORE THAN 85% OPEN OR THE STATIC PRESSURE SETPOINT HAS RESET DOWNWARD TO THE SYSTEM MINIMUM SETTING OR THE FAN MOTORS ARE AT THEIR MINIMUM SETTING.
- THE CONTROL BANDS, SETPOINT INCREMENT VALUES, SETPOINT DECREMENT VALUES AND ADJUSTMENT FREQUENCIES SHALL BE ADJUSTED TO MAINTAIN MAXIMUM STATIC PRESSURE OPTIMIZATION WITH STABLE SYSTEM CONTROL

SUPPLY FAN MINIMUM AIRFLOW CONTROL:
THE CONTROLLER SHALL MEASURE THE SUPPLY FAN VFD SPEED AND MODULATE VAV DAMPER POSITIONS TO MAINTAIN MINIMUM VFD SPEED AND SUPPLY AIRFLOW.

- WHEN VFD SPEED DROPS BELOW THE SUPPLY FAN MINIMUM VFD SPEED 30% (ADJ) THE CONTROLLER SHALL MODULATE ANY VAV DAMPER WHOSE POSITION IS CLOSED, 0%, TO OPEN 10%. THE CONTROLLER SHALL MODULATE VAVs OPEN IN THIS MANNER STARTING WITH VAV-101 AND CONTINUING IN SEQUENTIAL ORDER OR UNTIL SUPPLY FAN MINIMUM VFD SPEED IS MAINTAINED.
- WHEN VFD SPEED RISES ABOVE 40% (ADJ) THE CONTROLLER SHALL RETURN VAVs TO STANDARD VAV CONTROLS
- VAV DAMPER POSITION MAY BE OVERRIDEN TO OPEN WHEN COMMANDED BASED ON STANDARD VAV CONTROLS

EXHAUST FAN:
THE EXHAUST FAN SHALL RUN ANYTIME THE UNIT IS IN THE OCCUPIED MODE, UNLESS SHUTDOWN ON SAFETIES. THE EXHAUST FAN AIRFLOW SETPOINT SHALL MODULATING BETWEEN A MINIMUM AND MAXIMUM SUPPLY AIR OFFSET (BASED ON PERCENTAGE OF EXHAUST AIR TO SUPPLY AIR ACTUAL, DETERMINED DURING TAB) TO MAINTAIN THE BUILDING SPACE PRESSURIZATION SETPOINT. THE SPACE PRESSURIZATION SETPOINT SHALL BE 0.05" W.C. (ADJ) RELATIVE TO OUTDOORS. IN A SCENARIO IN WHICH THE BUILDING IS UNABLE TO MAINTAIN THE BUILDING PRESSURE SETPOINT AND THE FAN IS OPERATING AT THE MINIMUM SUPPLY AIR OFFSET SETPOINT, A NOTICE WILL BE GENERATED AT THE BMS AND THE MINIMUM SUPPLY AIR OFFSET SETPOINT WILL BE LOGGED.
IN THE UNOCCUPIED MODE THE EXHAUST FAN SHALL BE DISABLED.
- BUILDING SPACE PRESSURIZATION SETPOINT: 0.05" WC (ADJ.) RELATIVE TO OUTDOORS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- EXHAUST FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- EXHAUST FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- EXHAUST FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.) (FOR FILTER CHANGE NOTIFICATION)
- EXHAUST FAN VFD FAULT.
- HIGH SPACE PRESSURE: ABOVE 0.07" W.C. (ADJ)
- LOW SPACE PRESSURE: BELOW 0.00" W.C. (ADJ)

SUPPLY TEMPERATURE SETPOINT:
OCCUPIED:
THE CONTROLLER SHALL MONITOR THE OUTDOOR AIR TEMPERATURE, SUPPLY AIR TEMPERATURE AND SUPPLY AIR DEWPOINT. THE CONTROLLER SHALL MODULATE THE ASHP COOLING, ASHP HEATING, HOT GAS REHEAT, AND ELECTRIC HEAT TO MAINTAIN THE SUPPLY AIR DEWPOINT AT 55°F OR BELOW, AND MODULATE THE SUPPLY AIR TEMPERATURE TO MAINTAIN A SUPPLY AIR TEMPERATURE SETPOINT OF 75°F (ADJ.) IN COOLING AND 70°F (ADJ.) IN HEATING.

SUPPLY AIR ENERGY OPTIMIZATION:
- IF DEHUMIDIFICATION IS NOT ENABLED THE SUPPLY AIR TEMP SHALL BE OPTIMIZED BASED ON INDOOR VRF UNIT DEMANDS PER THE BELOW SEQUENCE
  - A COUNT NUMBER VARIABLE SHALL BE CALCULATED BY THE DDC SYSTEM USING A WEIGHTING FACTOR AND MULTIPLIER. EACH VRF UNIT WEIGHTING FACTOR IS EQUAL TO THE COOLING CAPACITY PER SCHEDULE DIVIDED BY THE TOTAL COOLING CAPACITY OF ALL UNITS. IN COOLING, MULTIPLY THE WEIGHTING FACTOR BY 100. IN HEATING, MULTIPLY THE WEIGHTING FACTOR BY 200. IF NEITHER HEATING OR COOLING THEN MULTIPLY BY 150. THE COUNT NUMBER IS EQUAL TO THE SUM OF THIS VALUE CALCULATED FOR ALL VRF UNITS. THE CLOSER THE COUNT NUMBER IS TO 100 THE MORE OF THE LOAD IS IN COOLING AND CLOSER TO 200 THE MORE LOAD IN HEATING.
- THE MAJORITY OF INDOOR VRF UNIT LOAD IS IN COOLING
  - IF THE COUNT NUMBER IS LESS THAN 150 (ADJ) FOR 10 MIN (ADJ)
    - AND OUTSIDE AIR TEMP IS BETWEEN 55 - 75°F (ADJ), THE UNIT SHALL BE IN ECONOMIZER MODE
    - OR OUTSIDE AIR TEMP IS LESS THAN 55°F (ADJ), THE SUPPLY AIR TEMP SETPOINT SHALL BE 65°F (ADJ).
- THE MAJORITY OF INDOOR VRF UNIT LOAD IS IN HEATING
  - IF THE COUNT NUMBER IS MORE THAN 150 (ADJ) FOR 10 MIN (ADJ),
    - AND OUTSIDE AIR TEMP IS BETWEEN THAN 70 - 85°F (ADJ), THE UNIT SHALL BE IN ECONOMIZER MODE
    - OR OUTSIDE AIR TEMP IS GREATER THAN 85°F (ADJ), THE SUPPLY AIR TEMP SETPOINT SHALL BE 85°F (ADJ).

ASHP COOLING:
THE ASHP COOLING SHALL BE ENABLED WHENEVER:
- SUPPLY AIR DEWPOINT IS ABOVE 50% RH (ADJ)
- OR THE SUPPLY AIR TEMPERATURE IS GREATER THAN SUPPLY AIR SETPOINT BY 1°F (ADJ.)
- AND THE SUPPLY/EXHAUST FANS STATUS IS ON

HOT GAS REHEAT:
THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND DEWPOINT AND STAGE THE COOLING AND HOT GAS REHEAT TO MAINTAIN ITS SUPPLY AIR TEMPERATURE AND DEWPOINT SETPOINTS.

THE HOT GAS REHEAT SHALL BE ENABLED WHENEVER:
- COOLING (DEHUMIDIFICATION) IS ENABLED
- AND THE SUPPLY AIR TEMPERATURE IS LESS THAN SUPPLY AIR SETPOINT BY 1°F (ADJ.)
- AND THE SUPPLY/EXHAUST FANS STATUS IS ON

ASHP HEATING:
THE ASHP HEATING SHALL BE ENABLED WHENEVER:
- THE SUPPLY AIR TEMPERATURE IS LESS THAN SUPPLY AIR SETPOINT BY 1°F (ADJ.)
- AND THE SUPPLY/EXHAUST FANS STATUS IS ON..

SECONDARY HEATING:
THE ELECTRIC HEATER SHALL BE ENABLED WHENEVER:
- THE HOT GAS REHEAT OR ASHP HEATING IS AT 100%
- AND THE SUPPLY/EXHAUST FANS STATUS IS ON.

HEAT RECOVERY WHEEL - VARIABLE SPEED:
THE CONTROLLER SHALL MODULATE THE HEAT WHEEL FOR ENERGY RECOVERY AS FOLLOWS.

COOLING MODE - THE ENTHALPY WHEEL SHALL RUN FOR FULL COOL RECOVERY (HOT HUMID DAYS) WHENEVER:
- THE OUTSIDE AIR ENTHALPY IS GREATER THAN THE RETURN AIR ENTHALPY.
- AND THE ZONE TEMPERATURE IS ABOVE COOLING SETPOINT.
- AND THE SUPPLY/EXHAUST FANS STATUS IS ON.

PARTIAL COOLING MODE - THE ENTHALPY WHEEL SHALL RUN FOR PARTIAL COOL RECOVERY (HOT DRY DAYS) WHENEVER:
- THE OUTSIDE AIR HUMIDITY RATIO IS LESS THAN THE RETURN AIR HUMIDITY RATIO
- AND THE OUTSIDE AIR TEMPERATURE IS GREATER THAN THE RETURN AIR TEMPERATURE
- AND THE UNIT DISCHARGE AIR DRYBULB DOES NOT DROP BELOW THE ENTHALPY WHEEL SUPPLY AIR DEWPOINT
- AND THE ZONE TEMPERATURE IS ABOVE COOLING SETPOINT
- AND THE SUPPLY/EXHAUST FANS STATUS IS ON.

HEATING MODE - THE ENTHALPY WHEEL SHALL RUN FOR FULL HEAT RECOVERY WHENEVER:
- OUTSIDE AIR ENTHALPY IS LESS THAN RETURN AIR ENTHALPY
- AND THE OUTSIDE AIR TEMPERATURE IS LESS THAN THE RETURN AIR TEMPERATURE
- AND THE ZONE TEMPERATURE IS BELOW HEATING SETPOINT.
- AND THE SUPPLY/EXHAUST FANS STATUS IS ON.

ECONOMIZER MODE:
HEAT WHEEL SHALL BE DISABLED WHEN THE OUTSIDE AIR TEMPERATURE IS WITHIN 2°F (ADJ.) OF SUPPLY AIR SETPOINT.

PERIODIC SELF-CLEANING:
THE HEAT WHEEL SHALL RUN AT 5% SPEED (ADJ.) FOR 25 SEC (ADJ.) EVERY 4HRS (ADJ.) THE UNIT RUNS.

FROST PROTECTION:
THE HEAT WHEEL SHALL RUN AT 5% SPEED (ADJ.) WHENEVER:
- OUTSIDE AIR TEMPERATURE DROPS BELOW 15°F (ADJ.)
- OR WHENEVER EXHAUST AIR TEMPERATURE DROPS BELOW 20°F (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HEAT WHEEL ROTATION FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- HEAT WHEEL IN HAND: COMMANDED OFF, BUT THE STATUS IS ON
- HEAT WHEEL RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

OUTSIDE AIR AND EXHAUST AIR DAMPER CONTROL:
OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL OPEN WHEN UNIT IS OPERATING IN THE OCCUPIED MODE. DAMPERS SHALL BE CLOSED ALL OTHER TIMES, EXCEPT AS INDICATED.

UNOCCUPIED MODE
UNIT SHALL GO INTO UNOCCUPIED MODE AS SCHEDULED OR COMMANDED MANUALLY. UNIT SHALL SHUT DOWN AND OA/EXHAUST AIR DAMPERS BE CLOSED.

UNOCCUPIED HUMIDITY CONTROL SHALL BE AVAILABLE TO RUN IF SPACE RELATIVE HUMIDITY IS GREATER THAN 60%. CLOSE OA/EXHAUST AIR DAMPERS, OVERRIDE EVAV-1 TO DAMPER TO CLOSED POSITION (RESTROOM EXHAUST), OPEN RECIRCULATION DAMPER AND RUN UNIT IN DEHUMIDIFICATION MODE UNTIL SPACE Rh IS LESS THAN 60% FOR 10MIN (ADJ).

UNOCCUPIED OVERRIDE:
A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR A MIN ADJUSTABLE PERIOD OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE.

SUPPLY AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE:
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH SUPPLY AIR TEMP: SUPPLY AIR TEMP IS MORE THAN 5°F (ADJ) ABOVE SETPOINT FOR MORE THAN 5 MINUTES (ADJ).
- LOW SUPPLY AIR TEMP: SUPPLY AIR TEMP IS MORE THAN 5°F (ADJ) BELOW SETPOINT FOR MORE THAN 5 MINUTES (ADJ).

SUPPLY AIR DEWPOINT:
THE CONTROLLER SHALL MONITOR THE SUPPLY AIR DEWPOINT.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH SUPPLY AIR DEWPOINT: IF THE SUPPLY AIR DEWPOINT IS GREATER THAN 60°F (ADJ.).

FILTER DIFFERENTIAL PRESSURE MONITOR:
THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTERS.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FILTER CHANGE REQUIRED: FILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

RETURN AIR HUMIDITY:
THE CONTROLLER SHALL MONITOR THE RETURN AIR HUMIDITY AND USE AS REQUIRED FOR ECONOMIZER CONTROL.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH RETURN AIR HUMIDITY: IF THE RETURN AIR HUMIDITY IS GREATER THAN 70% (ADJ.).

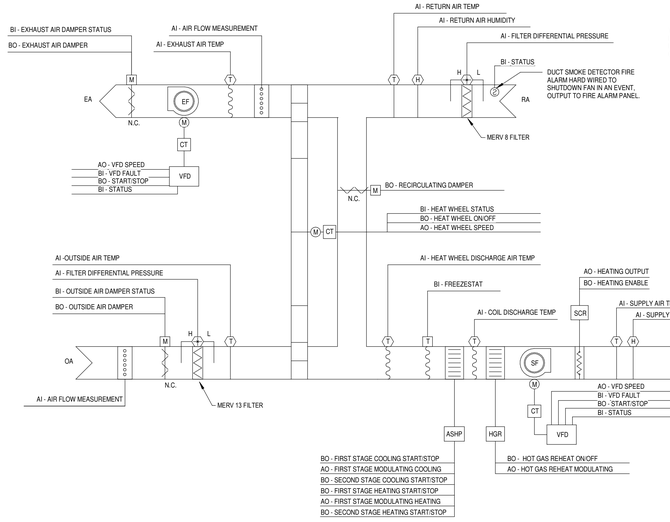
RETURN AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE RETURN AIR TEMPERATURE AND USE AS REQUIRED FOR SETPOINT CONTROL OR ECONOMIZER CONTROL.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS GREATER THAN 80°F (ADJ.).
- LOW RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS LESS THAN 50°F (ADJ.).

REFRIGERANT LEAK DETECTION CONTROL
THIS EQUIPMENT SHALL INCLUDE REFRIGERANT LEAK DETECTION AND FACTORY CONTROLS FOR MITIGATION IN ACCORDANCE WITH UL60335-2-40 AND AHJ.

THIS EQUIPMENT SHALL ALSO PROVIDE CONTACTS TO SEND LEAK DETECTION ALARM TO BMS. SEE A2L REFRIGERANT LEAK DETECTION CONTROLS FOR BMS CONTROLS UPON LEAK DETECTION ALARM.

GENERAL NOTES:
1. UNLESS EXPLICITLY INDICATED IN DIVISION 26 CONTRACT DOCUMENTS, ALL ELECTRICAL WIRING, RACEWAY, ENCLOSURES, OVERCURRENT PROTECTION, MISC. COMPONENTS AND CONNECTIONS NECESSARY FOR A COMPLETE AND OPERATING CONTROLS SYSTEM SHALL BE PROVIDED AS PART OF SPECIFICATION SECTION 230900. CONVENIENCE OUTLETS INDICATED IN DIVISION 26 CONTRACT DOCUMENTS SHALL NOT BE USED AS A POWER SOURCE. ALL WORK SHALL BE IN ACCORDANCE WITH DIVISION 26 REQUIREMENTS.
2. FULL CONTROL FUNCTIONALITY SHALL BE AVAILABLE VIA THE INTERNET WITHOUT NEED FOR ANY SPECIAL SOFTWARE, EQUIPMENT OR DEVICES (DONGLES).
3. ALL DDC INPUT/OUTPUT CONTROL POINTS SHALL BE TRENDABLE AND ADJUSTABLE

COMMISSIONING
CONTRACTOR SHALL REFER TO COMMISSIONING TREND REQUIREMENTS IN DIV. 23 SPECIFICATION.



COUNT NUMBER CALCULATION EXAMPLES

MARK NO.	CLG. CAP.	HTG. CAP.	WEIGHTING FACTOR	HEATING OR COOLING	MULTIPLIER	COUNT NUMBER
IU-1	1,000	1,300	0.032	HTG	200	6.4
IU-2	5,000	6,500	0.161	HTG	200	32.2
IU-3	10,000	13,000	0.323	HTG	200	64.6
IU-4	15,000	19,500	0.484	CLG	100	48.4
TOTAL	31,000	40,300	1	-	-	151.6

MAJORITY OF VRF LOAD IN HEATING (SUM OF COUNT NUMBER > 150)

MARK NO.	CLG. CAP.	HTG. CAP.	WEIGHTING FACTOR	HEATING OR COOLING	MULTIPLIER	COUNT NUMBER
IU-1	1,000	1,300	0.032	CLG	100	3.2
IU-2	5,000	6,500	0.161	HTG	200	32.2
IU-3	10,000	13,000	0.323	HTG	200	64.6
IU-4	15,000	19,500	0.484	CLG	100	48.4
TOTAL	31,000	40,300	1	-	-	148.4

MAJORITY OF VRF LOAD IN COOLING (SUM OF COUNT NUMBER < 150)

1 M5.02 DEDICATED OUTSIDE AIR HEAT PUMP WITH HEAT RECOVERY
NO SCALE

VAV TERMINAL UNIT SEQUENCE OF OPERATIONS
OCCUPANCY:

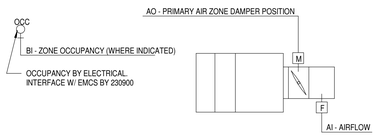
ZONE SHALL BE IN OCCUPIED MODE WHEN:
- ANY SPACE IN A VAV ZONE IS OCCUPIED AS DETERMINED BY OCCUPANCY SENSOR(S). SENSORS PROVIDED AS PART OF DIV. 26. INTERFACE BETWEEN SENSOR AND CONTROLLER BY DIV. 23.

ZONE SHALL BE IN UNOCCUPIED MODE WHEN:
- ALL SPACES IN A VAV ZONE ARE NOT OCCUPIED AS DETERMINED BY OCCUPANCY SENSOR(S). SENSORS PROVIDED AS PART OF DIV. 26. INTERFACE BETWEEN SENSOR AND CONTROLLER BY DIV. 23.

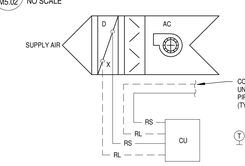
VARIABLE VOLUME TERMINAL UNIT - FLOW CONTROL:
THE UNIT SHALL MAINTAIN ZONE AIRFLOW SETPOINTS THROUGH ONE OF THE FOLLOWING:

OCCUPIED:
- THE ZONE DAMPER WILL MODULATE TO MAINTAIN A CONSTANT OCCUPIED ARIFLOW (ADJ.) DISTRIBUTED INTO THE ZONE.

UNOCCUPIED:
- WHEN THE ZONE IS UNOCCUPIED, THE ZONE DAMPER WILL MODULATE DOWN TO 0% (ADJ.) OPEN.
- WHEN IN AN UNOCCUPIED MODE THE DAMPER POSITION MAY BE OVERRIDEN TO OPEN BY THE DOAS CONTROL TO MAINTAIN DOAS MINIMUM AIRFLOW



2 M5.02 VAV TERMINAL WITH NO COIL
NO SCALE



MINI-SPLITS (COOLING ONLY UNITS):
RUN CONDITIONS - LEAD LAG
THE UNIT SHALL BE AVAILABLE TO RUN AT ANY TIME TO MAINTAIN SETPOINT AND OPERATE BASED ON MANUFACTURER CONTROLS:
- MULTIPLE UNITS IN THE SAME SPACE SHALL BE STAGED SUCH THAT NUMBER OF UNITS RUN ONLY AS NEEDED TO MAINTAIN SETPOINT.
- AT THE POINT WHERE THE CURRENTLY OPERATING UNIT(S) ARE OPERATING AT 100% CAPACITY AND ZONE TEMPERATURE IS GREATER THAN 1°F ABOVE SETPOINT THE NEXT UNIT IN SEQUENCE WILL BEGIN TO RUN UNTIL SPACE TEMPERATURE IS AT OR BELOW SETPOINT FOR 10 MIN (ADJ).
- THE LEAD UNIT SHALL ROTATE EVERY 7 (ADJ) DAYS

SPACE TEMPERATURE SETPOINT
- 85°F (ADJ.) COOLING

INFORMATION PROVIDED TO THE BMS:

PER INDOOR EQUIPMENT (MONITOR)
- ZONE ENABLE/DISABLE & STATUS
- ALARM
- MALFUNCTION CODE
- FAN MODE (HI, MED, LOW)
- ZONE TEMPERATURE(S) FOR EACH ZONE CONNECTED TO INDOOR EQUIPMENT
  - ZONE HIGH TEMPERATURE ALARM: ZONE TEMPERATURE IS GREATER THAN 2°F (ADJ) ABOVE ZONE SETPOINT
- ZONE SETPOINT

PER INDOOR EQUIPMENT (CONTROL)
- ZONE SCHEDULING
- ZONE TEMP SET-POINT

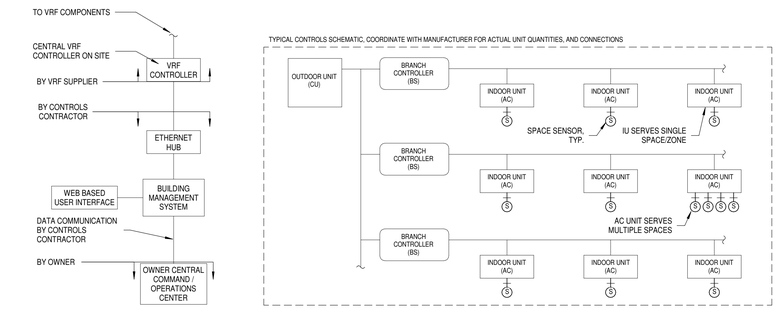
PER OUTDOOR EQUIPMENT (MONITOR)
- UNIT ENABLE/DISABLE & STATUS
- ALARM
- MALFUNCTION CODE
- DEFROST MODE ENABLED

PER OUTDOOR EQUIPMENT (CONTROL)
- UNIT ENABLE/DISABLE

REFRIGERANT LEAK DETECTION CONTROL
THIS EQUIPMENT SHALL INCLUDE REFRIGERANT LEAK DETECTION AND FACTORY CONTROLS FOR MITIGATION IN ACCORDANCE WITH UL60335-2-40 AND AHJ.

THIS EQUIPMENT SHALL ALSO PROVIDE CONTACTS TO SEND LEAK DETECTION ALARM TO BMS. SEE A2L REFRIGERANT LEAK DETECTION CONTROLS FOR BMS CONTROLS UPON LEAK DETECTION ALARM.

3 M5.02 SPLIT SYSTEM COOLING ONLY
NO SCALE



VRF CONTROL SCHEMATIC IS TYPICAL AND APPLIES TO ALL VRF SYSTEMS. REFERENCE VRF OUTDOOR UNIT SCHEDULE, BRANCH SELECTOR SCHEDULE, INDOOR UNIT SCHEDULE AND PLANS FOR SYSTEM LAYOUT, EQUIPMENT QUANTITIES AND ZONING.

RUN CONDITIONS - AUTOMATIC OPERATION:
THE VRF SYSTEM SHALL RUN BASED ON MANUFACTURER CONTROLS AND BMS SHALL MONITOR AND RECIEVE ALARMS FROM VRF CONTROLLER

THE UNIT SHALL RUN WHENEVER:
- A USER DEFINABLE SCHEDULE DETERMINES THE SYSTEM IS IN THE OCCUPIED MODE.
  INITIAL SCHEDULE: 24/7. VERIFY W/ OWNER DURING CX.

OCCUPIED MODE:
WHEN THE UNITS ARE CONTROLLED TO THE OCCUPIED MODE, THE FAN WILL RUN, SATISFYING HEATING OR COOLING DEMANDS TO MEET THE OCCUPIED SETPOINTS, UNLESS SHUTDOWN ON SAFETIES
UNITS SERVING MULTIPLE SPACES WITH MULTIPLE THERMOSTATS SHALL USE THE AVERAGE OF ALL CONNECTED THERMOSTATS TO DETERMINE UNIT OPERATING MODE.
- COOLING: 75°F (ADJ.)
- HEATING: 70°F (ADJ.)

UNOCCUPIED MODE:
WHEN THE UNITS ARE CONTROLLED TO THE UNOCCUPIED MODE, THE FAN WILL RUN ONLY DURING HEATING OR COOLING TO MEET THE UNOCCUPIED SETPOINTS, UNLESS SHUTDOWN ON SAFETIES
- COOLING: 85°F (ADJ.)
- HEATING: 55°F (ADJ.)

THE SYSTEM SHALL HAVE AN ONSITE CENTRAL VRF CONTROLLER BY THE VRF MANUFACTURER PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR WITH THE VRF SYSTEMS.

BMS SHALL INTERFACE WITH THE VARIABLE REFRIGERANT SYSTEM INTERFACE/ ADAPTER TO ALLOW ZONE SETPOINTS AND SCHEDULING TO BE MANAGEABLE THROUGH THE BMS.

ROOM SENSORS ARE TO BE PROVIDED BY THE EQUIPMENT MANUFACTURER WITH THE VRF SYSTEM AND INSTALLED BY THE MECHANICAL CONTRACTOR.

SPACE TEMPERATURE SENSING FOR CONTROL OF THE VRF UNIT SHALL TAKE PLACE AT THE WALL SENSOR AND NOT IN THE RETURN DUCT OR AT THE VRF UNIT.

UNITS SERVING MULTIPLE SPACES SHALL USE AVERAGE TEMPERATURE OF ALL SPACES SERVED BY A SINGLE UNIT FOR CONTROL. THE VRF CONTROLLER SHALL ALLOW THE REMOVAL OF ANY SPACE FROM TEMPERATURE AVERAGING.

ALL INDOOR UNITS SHALL HAVE A SHUT DOWN AND ALARM INTERLOCKED WITH UNIT AND ASSOCIATED CONDENSATE PUMP TO STOP UNIT IN THE EVENT OF A CLOGGED CONDENSATE DRAIN OR CONDENSATE PUMP FAILURE.

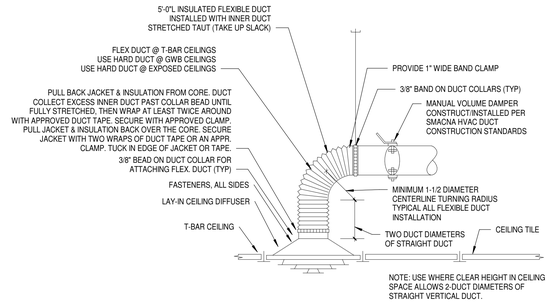
OPTIMAL START:
THE VRF SYSTEM SHALL PROVIDE A MORNING STARTUP SEQUENCE TO ENABLE THE VRF SYSTEMS TO BRING THE BUILDING TO SETPOINT PRIOR TO OCCUPANCY. THE BAS SHALL USE AN OPTIMAL START ALGORITHM FOR THE MORNING START-UP SEQUENCE. THIS ALGORITHM SHALL MINIMIZE THE UNOCCUPIED WARM-UP OR COOL DOWN PERIOD WHILE STILL ACHIEVING COMFORT CONDITIONS BY THE START OF SCHEDULED OCCUPIED PERIOD. OPTIMAL START TIME SHALL BE NO MORE THAN 3 HRS.

INFORMATION SHOWN IN BMS AND GRAPHICS

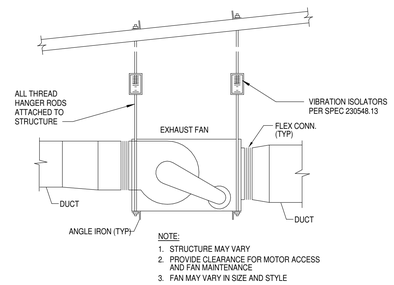
PER ZONE/PIECE OF INDOOR EQUIPMENT (MONITOR):
- ZONE ENABLE/DISABLE & STATUS
- ALARM
- MALFUNCTION CODE
- ZONE MODE (HEAT, COOL)
- FAN MODE (HI, MED, LOW)
- ZONE TEMPERATURE(S) FOR EACH ZONE CONNECTED TO INDOOR EQUIPMENT
- ZONE CONTROLLING SETPOINT

PER ZONE/PIECE OF INDOOR EQUIPMENT (CONTROL)
- ZONE SCHEDULING
- ZONE TEMP SET-POINT

PER OUT

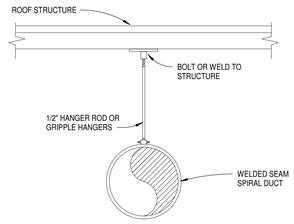


1A M7.01 CEILING SUPPLY DIFFUSER CONNECTION DETAIL
NO SCALE

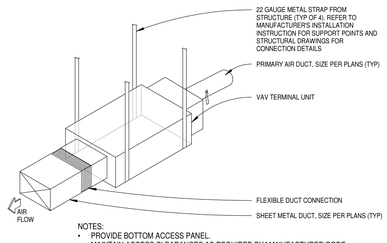


NOTE:
1. STRUCTURE MAY VARY
2. PROVIDE CLEARANCE FOR MOTOR ACCESS AND FAN MAINTENANCE
3. FAN MAY VARY IN SIZE AND STYLE

1B M7.01 IN-LINE FAN INSTALLATION DETAIL
NO SCALE

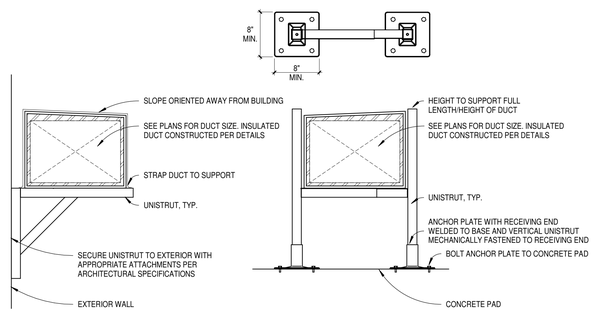


1C M7.01 EXPOSED ROUND DUCTWORK DETAIL
NO SCALE



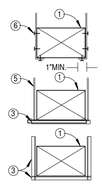
NOTES:
- PROVIDE BOTTOM ACCESS PANEL.
- MAINTAIN ACCESS CLEARANCES AS REQUIRED BY MANUFACTURER/CODE.
- CONTRACTOR TO COORDINATE LEFT OR RIGHT HANDED UNIT PRIOR TO FURNISHING MATERIAL.

1D M7.01 VAV BOX DETAIL
NO SCALE



1E M7.01 EXTERIOR DUCTWORK SUPPORTS DETAIL
NO SCALE

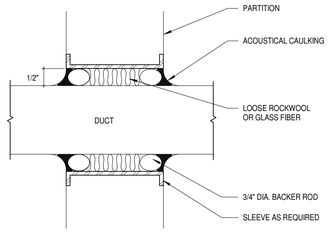
NOTE:
WHERE NO SEISMIC BRACING IS REQUIRED BY AHU USE DETAIL BELOW



KEY NOTES:
1. DUCT
2. SHEET METAL STRAP 1" (25.4mm) WIDE, OF SAME METAL GAUGE AS DUCT.
3. STEEL ANGLE, NOT LESS THAN 1"x 1"x 1/8" (25.4 x 25.4 x 3 mm), SIZED TO MATCH DUCT.
4. SHEET METAL BAND, 1" (25.4mm) WIDE OF SAME METAL GAUGE AS DUCT.
5. ALL THREAD HANGER ROD WITH ACCESSORIES AS USED FOR LIGHT PIPE HANGER.
6. SELF TAPPING CADMIUM PLATED HEX HEADED SHEET METAL SCREW. STRAPS TO BE TIGHT AGAINST DUCT.

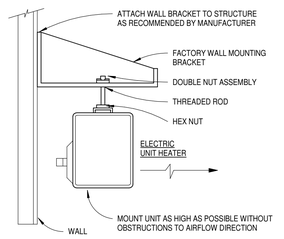
HANGER SIZES FOR RECTANGULAR DUCT			
MAX. LENGTH ANY SIDE	HANGER	HORIZONTAL SUPPORT ANGLE	MAXIMUM SPACING
30"	1"x 18 GAUGE STRAP	NONE REQUIRED	10'-0"
36"	1/4" ROUND ROD	1-1/2" x 1-1/2" x 1/8"	8'-0"
48"	1/4" ROUND ROD	2" x 2" x 1/8"	8'-0"
60"	5/16" ROUND ROD	2" x 2" x 1/8"	8'-0"
84"	3/8" ROUND ROD	2" x 2" x 1/8"	8'-0"

3A M7.01 DUCT HANGING DETAIL
NO SCALE

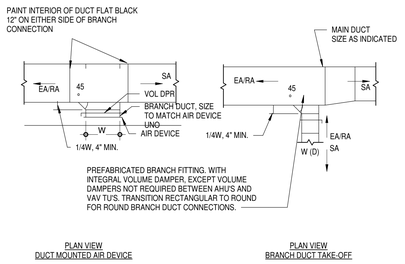


NOTE:
THIS DETAIL APPLIES TO ALL DUCTS PENETRATING WALLS, FLOOR OR CEILING OF ANY SPACE.

4A M7.01 WALL DUCT PENETRATION DETAIL
NO SCALE



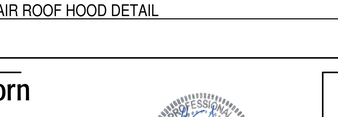
5A M7.01 UNIT HEATER MOUNTING DETAIL
NO SCALE



PLAN VIEW
DUCT MOUNTED AIR DEVICE

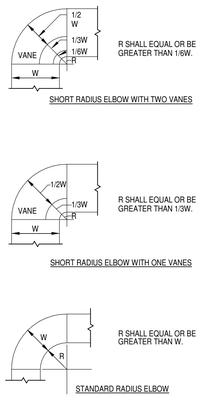
PLAN VIEW
BRANCH DUCT TAKE-OFF

NOTE:
SEAL ALL AROUND BRANCH DUCT CONNECTIONS.



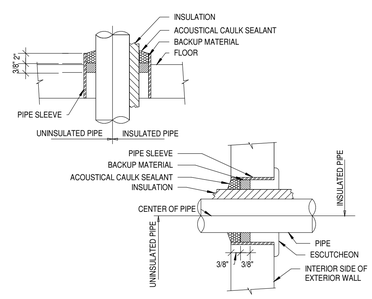
PLAN VIEW
AIR SPLIT TYPE DUCT TAKE-OFF

3B M7.01 DUCT TAKE-OFF DETAILS
NO SCALE

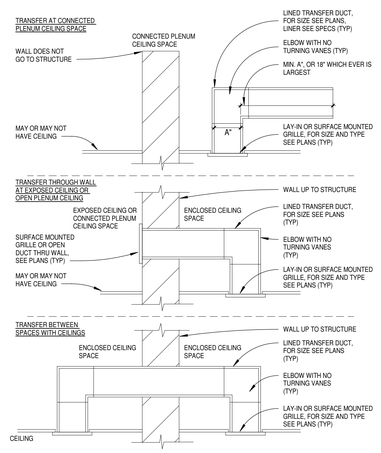


NOTES: 1. ALL STANDARD RADIUS ELBOWS SHOWN ON PLANS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

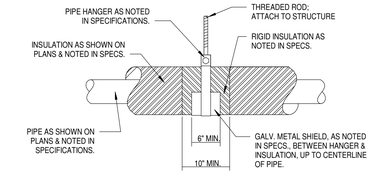
3C M7.01 RADIUS ELBOW DETAILS
NO SCALE



4C M7.01 PIPE PENETRATIONS DETAIL
NO SCALE

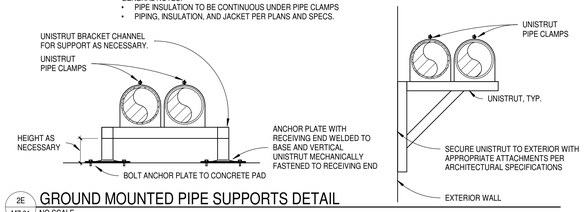


3D M7.01 TRANSFER DUCT DETAIL
NO SCALE

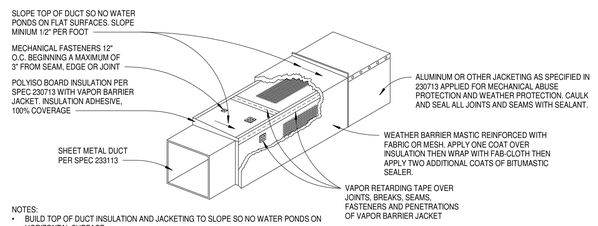


4D M7.01 INSULATED PIPE HANGER DETAIL
NO SCALE

GENERAL NOTES:
- PIPE INSULATION TO BE CONTINUOUS UNDER PIPE CLAMPS
- PIPING, INSULATION, AND JACKET PER PLANS AND SPECS.

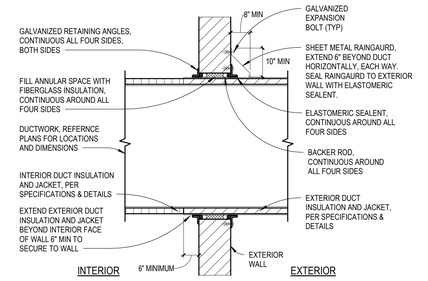


2E M7.01 GROUND MOUNTED PIPE SUPPORTS DETAIL
NO SCALE

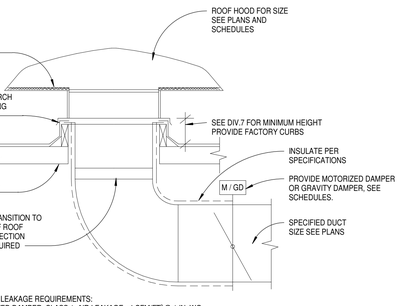


NOTES:
- BUILD TOP OF DUCT INSULATION AND JACKETING TO SLOPE SO NO WATER PONDS ON HORIZONTAL SURFACE
- REFER TO SPECIFICATIONS 230713 AND 233113 FOR PRODUCTS AND EXECUTION INFORMATION

3E M7.01 EXTERIOR DUCTWORK DETAIL
NO SCALE

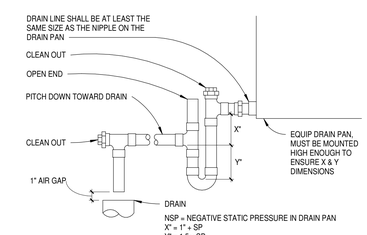


4E M7.01 DUCT PENETRATION THROUGH EXTERIOR WALL
NO SCALE

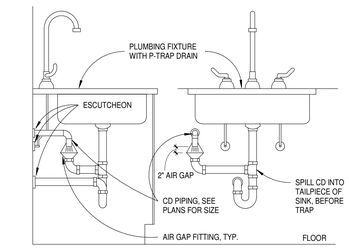


DAMPER AIR LEAKAGE REQUIREMENTS:
- MOTORIZED DAMPER, CLASS 1, AIR LEAKAGE <4 CFM/FT² @ 1 IN. WG.
- GRAVITY DAMPER/NON-MOTORIZED
  - IF LARGER THAN 24" IN ANY DIMENSION: 20 CFM/FT² @ 1 IN. WG.
  - IF SMALLER THAN 24" IN BOTH DIMENSIONS: 40 CFM/FT² @ 1 IN. WG.

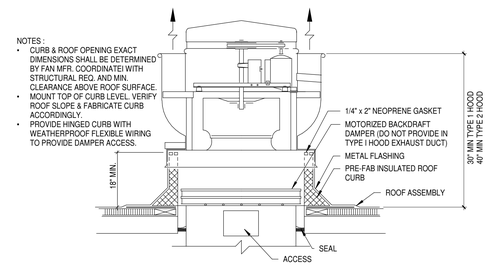
5B M7.01 RELIEF AIR ROOF HOOD DETAIL
NO SCALE



5C M7.01 EQUIPMENT CONDENSATE DRAIN P-TRAP DETAIL
NO SCALE



5D M7.01 CONDENSATE DRAIN TO SINK DETAIL
NO SCALE



5E M7.01 UPBLAST CENTRIFUGAL ROOF FAN DETAIL
NO SCALE

HDR, ENGINEERING INC.
1917 SOUTH 67th STREET
OMAHA, NEBRASKA 68106
(402) 399-1000
CA-0443

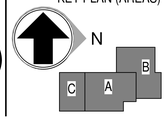
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(402) 742-4200

KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

LICENSED PROFESSIONAL ENGINEER
SHAWN COCHRAN
9-22-25
22462
OKLAHOMA

CYL HUB1-1-3 PERMIT SET (NOT FOR CONSTRUCTION)

KEY PLAN (AREAS)



REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

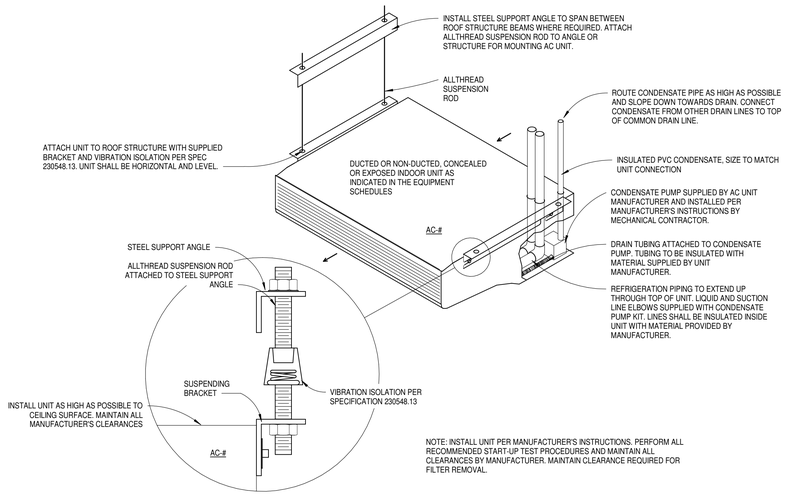
MECHANICAL DETAILS

SCALE: As indicated

SHEET NUMBER:
M7.01

PHASE: BUILDING PERMIT DOCUMENTS

9/17/2025 6:47:26 PM Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_MEP_2025.rvt



1 M7.02 VRF INDOOR UNIT INSTALLATION DETAIL

NO SCALE

9/17/2025 6:47:26 PM Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_MEP_2025.rvt

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OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

MECHANICAL DETAILS

SCALE: 1/8" = 1'-0"

SHEET NUMBER:
M7.02

PHASE: BUILDING PERMIT DOCUMENTS

ASHP & ELECTRIC HEAT DEDICATED OUTSIDE AIR UNIT WITH ENERGY RECOVERY WHEEL SCHEDULE

GENERAL NOTES:
A. MOUNT UNIT ON RAISED CONCRETE PAD MINIMUM 4" ABOVE SURROUNDING GRADE.
B. INSTALL UNIT WITH VIBRATION ISOLATION BETWEEN UNIT AND CONCRETE PAD PER SPECIFICATIONS.
C. PROVIDE UNIT WITH INTERNALLY ISOLATED FANS AND COMPRESSORS
D. PROVIDE WITH CLASS 1 MOTORIZED DAMPERS.
E. PROVIDE WITH MODULATING HOT GAS REHEAT AND HUMIDITY CONTROLLER.
F. CONTRACTOR TO COORDINATE ACCESS REQUIREMENTS TO ENSURE PROPER MAINTENANCE ACCESS.
G. HEATING AND COOLING PERFORMANCE SHALL BE CAPABLE OF PROVIDING 70°F LAT IN HEATING AND 75°F LAT IN COOLING AND EVALUATED BASED ON OUTDOOR DESIGN TEMPS. (ADJUSTED TO LOCALIZED SITE) OF 11.1°F DB IN HEATING, AND 93.1°F DB, 74.8°F WB IN COOLING.
H. DEHUMIDIFICATION COOLING PERFORMANCE SHALL BE CAPABLE OF 55°F LAT OR LESS AT OUTDOOR DESIGN CONDITIONS (ADJUSTED TO LOCALIZED SITE) OF 75°F DEW POINT, 83°F DB.
J. BIDDING GREENHECK REPRESENTATIVE SHALL CONTACT CHRIS WOOLDRIDGE AT CHRISW@DORSE.COM FOR DETAILS.

ID	OUTDOOR AIRFLOW PERCENT (%)	SUPPLY AIRFLOW (CFM)	EXHAUST AIRFLOW (CFM)	FAN DATA								ENERGY RECOVERY WHEEL DATA										ENTHALPY RECOVERY RATIO %	HEATING COIL DATA					COOLING COIL DATA												ELECTRICAL DATA						DIMENSIONAL DATA (FT - IN)				BASIS OF DESIGN	
				SUPPLY FAN				EXHAUST FAN				SUMMER					WINTER						PRIMARY HEATING		AIR SIDE	SECONDARY HEATING				CAPACITY (MBH)		AIR SIDE			HOT GAS REHEAT			COMPRESSOR																	
				STATIC PRESS (IN WG)		DRIVE TYPE	MOTOR HORSEPOWER (HP)	STATIC PRESS (IN WG)		DRIVE TYPE	MOTOR HORSEPOWER (HP)	EAT(db)	EAT(wb)	LAT(db)	LAT(wb)	TOTAL EFFECTIVENESS (%)	EAT(db)	EAT(wb)	LAT(db)	LAT(wb)	TOTAL EFFECTIVENESS (%)		TYPE	CAPACITY (MBH)	TEMP DB (°F) ENT	TEMP DB (°F) LVG	TYPE	KW	SCR	TYPE	TOTAL	SENSIBLE	TEMPERATURE (°F) ENT DB	TEMPERATURE (°F) ENT WB	TEMPERATURE (°F) LVG DB	TEMPERATURE (°F) LVG WB	INCLUDE HGR	CAPACITY (MBH)	LVG AIR TEMP DB (°F)	TYPE	QTY	ISCOP	ISMRE	PRE FILTER MERV RATING	FINAL FILTER MERV RATING	FLA (A)	MCA (A)	MOCP (A)	VOLT (V)	PH	MAX LENGTH	MAX WIDTH	MAX HEIGHT	WEIGHT (LBS)	MANUFACTURER	MODEL
				EXT	TOTAL		HP	EXT	TOTAL		HP																																							
DOAS-1	100	2,185	1735	2	3.4	DIRECT	3	1.7	2.73	DIRECT	3	100.1 °F	75.5 °F	83.1 °F	67.3 °F	77.04	13.6 °F	10.6 °F	49.8 °F	41.3 °F	77.86	66.96	ASHP	84.5	49.8	87.2	ELECTRIC-SECONDARY	15	Yes	ASHP	114.7	76.6	83.1	67.3	48.7	48.7	Yes	82.3	85.0	INVERTER SCROLL	1	3.63	8.2	8	13	51.4	61	70	480	3	16' - 11"	7' - 2"	5' - 5"	3,851	GREENHECK	RVE-40-41D-10A-1-D2
DOAS-2	100	2,590	2410	2	3.8	DIRECT	3	1.7	2.84	DIRECT	3	100.1 °F	75.5 °F	82.0 °F	66.7 °F	70.85	13.6 °F	10.6 °F	52.6 °F	43.1 °F	67.8	71.01	ASHP	84.6	52.6	84	ELECTRIC-SECONDARY	15	Yes	ASHP	118.6	82.7	82	66.7	50.8	50.7	Yes	90.6	85.0	INVERTER SCROLL	1	3.63	8.2	8	13	51.4	61	70	480	3	16' - 11"	7' - 2"	5' - 5"	3,826	GREENHECK	RVE-40-41D-10A-1-D2
DOAS-3	100	1,120	1120	2	2.06	DIRECT	1.5	0.75	1.45	DIRECT	1	100.1 °F	75.5 °F	80.5 °F	65.9 °F	75.5	13.6 °F	10.6 °F	57.0 °F	45.9 °F	75.19	76.54	ASHP	49.4	57	99.3	ELECTRIC-SECONDARY	15	Yes	ASHP	59.5	38.9	80.5	65.9	46.6	46.5	Yes	48.9	88.5	INVERTER SCROLL	1	3.91	8.5	8	13	34.7	41.7	45	480	3	16' - 11"	7' - 2"	5' - 5"	3,425	GREENHECK	RVE-40-30D-5A-1-D2

DUCT SOUND ATTENUATOR

GENERAL NOTES:
A. MINIMUM DYNAMIC INSERTION LOSS DETERMINED PER ASTM E477-13 IN A NVLAP-ACCREDITED ACOUSTICAL LABORATORY.

NOTES:
1. HTL (HIGH TRANSMISSION LOSS) SILENCER CASING.
2. NON-BASIS OF DESIGN SILENCER MANUFACTURER SHALL PROVIDE, FOR APPROVAL, PROFESSIONAL ENGINEER STAMPED ACOUSTICAL AND PRESSURE DROP CALCULATIONS FOR ALL SILENCERS OR TEST DATA PERFORMED BY A NVLAP ACCREDITED LAB.
3. NON-BASIS OF DESIGN PRODUCT SUPPLIED, CONTRACTOR IS FINANCIALLY RESPONSIBLE TO ENSURE NOISE CONTROL SOLUTION IS DELIVERED TO ACHIEVE MINIMUM DYNAMIC INSERTION LOSS PER SCHEDULE.

ID	SERVES	TYPE	ARRANGEMENT	CONNECTION SIZE (IN)	DIMENSIONS (IN)				AIRFLOW (CFM)	PRESSURE DROP (IN WG)	FACE VELOCITY (FPM)	MINIMUM DYNAMIC INSERTION LOSS, dB							BASIS OF DESIGN		NOTES
				RECTANGULAR	ATTENUATOR SIZE							63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	MANUFACTURER	MODEL	
				WIDTH	HEIGHT	LENGTH	RECATANGULAR WIDTH	RECATANGULAR HEIGHT														
SA-1-1	DOAS-1	RECTANGULAR	INLINE	20"	16"	60"	22"	18"	2,185	0.17	747	6	11	20	33	34	28	17	12	VIBRO-ACOUSTICS	RD-MLV-F4	1,2,3
SA-1-2	DOAS-1	RECTANGULAR	INLINE	24"	18"	36"	26"	20"	1,735	0.07	464	3	6	15	28	29	21	13	9	VIBRO-ACOUSTICS	RD-HV-F7	1,2,3
SA-2-1	DOAS-2	RECTANGULAR	INLINE	20"	16"	60"	22"	18"	2,590	0.2	824	3	7	16	26	29	26	20	17	VIBRO-ACOUSTICS	RD-LV-F8	1,2,3
SA-2-2	DOAS-2	RECTANGULAR	INLINE	20"	20"	60"	22"	22"	2,410	0.2	656	7	10	17	20	22	17	14	12	VIBRO-ACOUSTICS	RD-LV-F2	1,2,3
SA-2-3	MAU-1	RECTANGULAR	INLINE	24"	22"	60"	26"	24"	6,080	0.2	1,403	6	15	25	30	22	19	18	15	VIBRO-ACOUSTICS	RD-LV-F3	1,2,3
SA-3-1	DOAS-3	RECTANGULAR	INLINE	14"	14"	36"	16"	16"	1,120	0.2	632	3	6	14	27	38	32	22	15	VIBRO-ACOUSTICS	RD-LV-F9	1,2,3
SA-3-2	DOAS-3	RECTANGULAR	INLINE	16"	16"	60"	18"	18"	1,120	0.2	499	3	6	13	22	25	21	17	15	VIBRO-ACOUSTICS	RD-MV-F8	1,2,3

VARIABLE AIR VOLUME TERMINAL UNIT SCHEDULE

GENERAL NOTES
A. ALL PERFORMANCE BASED ON TESTS CONDUCTED IN ACCORDANCE WITH ASHRAE 130-2008 AND AHRI 880-2011.
B. ALL AIRFLOW, PRESSURE LOSSES AND HEATING PERFORMANCE VALUES HAVE BEEN CORRECTED FOR THE PROJECT SITE ALTITUDE.
C. COIL AIR PRESSURE DROP SHOWN IS FOR MAX CFM.
D. ALL NC LEVELS DETERMINED USING AHRI 885-2008 APPENDIX E
E. THE MCA AND MOCP RATINGS WERE CALCULATED IN ACCORDANCE WITH UL STANDARDS BASED ON MOTOR FULL LOAD CURRENT RATINGS.
F. PROVIDE ACOUSTICAL DUCT LINER FOR 10' DOWNSTREAM OF VAV INCLUDING ALL BRANCHES WITHIN 10'.

ID	LOCATION		SERVED BY	TYPE	DUCT CONNS (IN)		AIRFLOW (CFM)	STATIC PRESS (IN WG)		MAX NOISE CRITERIA (NC)		ELECTRICAL DATA				BASIS OF DESIGN	
	NO.	NAME			INLET (DIAMETER)	OUTLET WIDTH	OUTLET HEIGHT		INLET	DOWN	RAD	DISCH	MCA (A)	MOCP (A)	VOLT (V)	PH	MANUFACTURER	MODEL
VAV-101	101	LOUNGE	DOAS-1	SINGLE DUCT	8"	12"	10"	475	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-108	108	MK	DOAS-1	SINGLE DUCT	8"	12"	10"	575	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-112	101A	INFORMAL	DOAS-1	SINGLE DUCT	6"	12"	8"	315	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-114	101	LOUNGE	DOAS-1	SINGLE DUCT	4"	12"	8"	60	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-116	101A	INFORMAL	DOAS-1	SINGLE DUCT	6"	12"	8"	170	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-121	126	COPY	DOAS-1	SINGLE DUCT	6"	12"	8"	310	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-123	101A	INFORMAL	DOAS-1	SINGLE DUCT	6"	12"	8"	250	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-127	121	OPEN OFFICE	DOAS-1	SINGLE DUCT	4"	12"	8"	30	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-201	200	OPEN OFFICE	DOAS-2	SINGLE DUCT	10"	14"	12 1/2"	1,050	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-203	200.1	CORRIDOR	DOAS-2	SINGLE DUCT	6"	12"	8"	260	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-208	200	OPEN OFFICE	DOAS-2	SINGLE DUCT	8"	12"	10"	565	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-210A	214-1	EMT-1	DOAS-2	SINGLE DUCT	6"	12"	8"	150	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-210B	226-1	STORAGE-1	DOAS-2	SINGLE DUCT	6"	12"	8"	155	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-211	219-1	CIRCULATION-1	DOAS-2	SINGLE DUCT	4"	12"	8"	150	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-215	213-3	CIRCULATION-3	DOAS-2	SINGLE DUCT	4"	12"	8"	150	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-223	221-1	HUDDLE-1	DOAS-2	SINGLE DUCT	4"	12"	8"	110	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-302	310-4	OPEN OFFICE-4	DOAS-3	SINGLE DUCT	6"	12"	8"	170	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-304	310-5	OPEN OFFICE-5	DOAS-3	SINGLE DUCT	6"	12"	8"	240	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-307	306-1	STORAGE-1	DOAS-3	SINGLE DUCT	6"	12"	8"	160	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-310			DOAS-3	SINGLE DUCT	8"	12"	10"	305	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-315	310-6	OPEN OFFICE-6	DOAS-3	SINGLE DUCT	4"	12"	8"	90	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV
VAV-317			DOAS-3	SINGLE DUCT	6"	12"	8"	155	0.75	0.5	20	20	0.4	15	277	1	PRICE	SDV

EXHAUST VAV TERMINAL UNIT SCHEDULE

GENERAL NOTES
A. EXHAUST TERMINAL UNIT, SIZE AS LISTED, PRESSURE INDEPENDENT, CONTROLS BY OTHERS.
B. PROVIDE WITH FACTORY AIRFLOW SENSOR.
C. INSTALLED LOCATION SHALL ALLOW 36" CLEARANCE IN FRONT OF CONTROL PANEL.

ID	LOCATION		SERVED BY	TYPE	INLET/OUTLET		AIRFLOW (CFM)		STATIC PRESS (IN WG)		MAX NOISE CRITERIA (NC)		ELECTRICAL DATA				BASIS OF DESIGN		WEIGHT (LB)
	NO.	NAME			WIDTH	HEIGHT	DESIGN	MAX	INLET	DOWN	RAD	DISCH	MCA (A)	MOCP (A)	VOLT (V)	PH	MANUFACTURER	MODEL	
EVAV-100	109	STORAGE	DOAS-1	SINGLE DUCT EXHAUST	20"	17 1/2"	1,245	2,185	0.75	0.5	20	20	0.2	15	277	1	PRICE	SDE-14	100
EVAV-110	109	STORAGE	DOAS-1	SINGLE DUCT EXHAUST	14"	12 1/2"	940	940	0.75	0.5	20	20	0.2	15	277	1	PRICE	SDE-9	62
EVAV-201			DOAS-2	SINGLE DUCT EXHAUST	16"	15"	1,190	1,190	0.75	0.5	20	20	0.2	15	277	1	PRICE	SDE-12	75
EVAV-208	200	OPEN OFFICE	DOAS-2	SINGLE DUCT EXHAUST	12"	10"	565	565	0.75	0.5	20	20	0.2	15	277	1	PRICE	SDE-7	53
EVAV-210	217-1	LAUNDRY-1	DOAS-2	SINGLE DUCT EXHAUST	14"	12 1/2"	655	875	0.75	0.5	20	20	0.2	15	277	1	PRICE	SDE-9	62

ASHP & ELECTRIC HEAT MAKEUP AIR UNIT SCHEDULE

GENERAL NOTES:
A. MOUNT UNIT ON RAISED CONCRETE PAD MINIMUM 4" ABOVE SUROUNDING GRADE.
B. INSTALL UNIT WITH VIBRATION ISOLATION BETWEEN UNIT AND CONCRETE PAD PER SPECIFICATIONS.
C. PROVIDE UNIT WITH INTERNALLY ISOLATED FANS AND COMPRESSORS
D. PROVIDE WITH CLASS 1 MOTORIZED DAMPERS.
E. PROVIDE WITH MODULATING HOT GAS REHEAT AND HUMIDITY CONTROLER.
F. CONTRACTOR TO COORDINATE ACCESS REQUIREMENTS TO ENSURE PROPER MAINTENANCE ACCESS.
G. HEATING AND COOLING PERFORMANCE SHALL BE CAPABLE OF PROVIDING 70°F LAT IN HEATING AND 75°F LAT IN COOLING AND EVALUATED BASED ON OUTDOOR DESIGN TEMPS. (ADJUSTED TO LOCALIZED SITE) OF 11.1°F DB IN HEATING, AND 93.1°F DB, 74.8°F WB IN COOLING.
H. DEHUMIDIFICATION COOLING PERFORMANCE SHALL BE CAPABLE OF 55°F LAT OR LESS AT OUTDOOR DESIGN CONDITIONS (ADJUSTED TO LOCALIZED SITE) OF 75°F DEW POINT, 83°F DB.
J. BIDDING GREENHECK REPRESENTATIVE SHALL CONTACT CHRIS WOOLDRIDGE AT CHRISW@DORSE.COM FOR DETAILS.

ID	SERVES	DESIGN AIRFLOW (CFM)	MIN AIR FLOW (CFM)	OUTDOOR AIRFLOW PERCENT (%)	FAN DATA					HEATING COIL DATA						COOLING COIL DATA														ISCOP	ISMRE	PRE FILTER MERV RATING	FINAL FILTER MERV RATING	ELECTRICAL DATA					DIMENSIONAL DATA (FT - IN)			WEIGHT (LBS)	BASIS OF DESIGN	
					SUPPLY FAN					PRIMARY HEATING		AIR SIDE		SECONDARY HEATING			CAPACITY (MBH)		AIR SIDE				HOT GAS REHEAT		COMPRESSOR																		
					STATIC PRESS (IN WG)		DRIVE TYPE	MOTOR HORSEPOWER (HP)		TYPE	CAPACITY (MBH)	TEMP DB (°F) ENT	TEMP DB (°F) LVG	TYPE	KW	SCR	TYPE	TOTAL	SENSIBLE	TEMPERATURE (°F) ENT DB	TEMPERATURE (°F) ENT WB	TEMPERATURE (°F) LVG DB	TEMPERATURE (°F) LVG WB	INCLUDE HGR	CAPACITY (MBH)	LVG AIR TEMP DB (°F)	TYPE	QTY					FLA (A)	MCA (A)	MOCP (A)	VOLT (V)	PH	MAX LENGTH	MAX WIDTH	MAX HEIGHT		MANUFACTURER	MODEL
					EXT	TOTAL		QUANTITY	HP										DB																							
Phase 1																																										
MAU-1	BACK OF HOUSE	5,065	2,200	100	0.75	1.75	DIRECT	2	2	ASHP	211.2	13.6	55.5	ELECTRIC	100	Yes	ASHP	324.8	222.2	100.1	75.5	55.7	55.6	Yes	224.0	99.4	INVERTER SCROLL	2	3.37	6.8	8	13	189.1	196.1	200	460	3	11' - 5"	8' - 1"	6' - 5"	3,812	GREENHECK	RV-45-30A-1-F2

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

GENERAL NOTES:
A. CONTRACTOR SHALL COORDINATE MOUNTING AND SURFACE CONSTRUCTION PRIOR TO FURNISHING MATERIAL.
B. SEE PLANS FOR LOCATION, QUANTITY, NECK SIZE, FACE SIZE, AND CFM.
C. SEE PLANS FOR QUANTITIES INSTALLED PER PHASE.

NOTES:
1. BALANCE ALL DIFFUSERS TO 30 CFM.
2. PROVIDE 1" MERV-8 FILTER

ID	DESCRIPTION	MATERIAL	FINISH	MAX NC	BASIS OF DESIGN		NOTES
					MANUFACTURER	MODEL	
D-1	PLAQUE FACE DIFFUSER	STEEL	WHITE ENAMEL	15	TITUS	OMNI	
D-3	LOW FLOW PLAQUE FACE DIFFUSER	STEEL	WHITE ENAMEL	15	TITUS	TJD	1
D-4	ROUND ADJUSTABLE PLAQUE DIFFUSER	STEEL	WHITE ENAMEL	15	TITUS	R-OMNI	
D-5	EYEBALL TYPE NOZZLE DIFFUSER	ALUMINUM	WHITE ENAMEL	15	TITUS	TND-AA	
D-6	MODULAR CORE DIFFUSER	STEEL	WHITE ENAMEL	15	TITUS	MCD	
D-7	MODULAR CORE DIFFUSER - ALUMINUM	ALUMINUM	WHITE ENAMEL	15	TITUS	MCD-AA	
D-8	LOUVERED DOUBLE DEFLECTION DIFFUSER	ALUMINUM	WHITE ENAMEL	15	TITUS	300RL	
D-9	LINEAR SLOT DIFFUSER, SINGLE 1" SLOT	ALUMINUM	WHITE ENAMEL	15	TITUS	FL-10	
D-10	LINEAR SLOT DIFFUSER, SINGLE 1.5" SLOT	ALUMINUM	WHITE ENAMEL	15	TITUS	FL-15	
G-1	EGGCRATE RETURN GRILLE - ALUMINUM	ALUMINUM	WHITE ENAMEL	15	TITUS	50F	
G-2	LOUVERED DOUBLE DEFLECTION GRILLE	ALUMINUM	WHITE ENAMEL	15	TITUS	350RL	
G-3	HORIZONTAL LOUVER FILTER GRILLE	ALUMINUM	WHITE ENAMEL	15	TITUS	350FLF1	2

ELECTRIC UNIT HEATER SCHEDULE

GENERAL NOTES:
A. CONTROL ROOM TO MIN. 60 DEG. F (ADJ) FOR FREEZE PROTECTION.
B. PROVIDE EXTERNAL THERMOSTAT IF UNIT DOES NOT INCLUDE INTERNAL THERMOSTAT

NOTES:
1. WALL MOUNTED

ID	LOCATION		TYPE	FAN DATA		HEATING COIL DATA				ELECTRICAL DATA						WEIGHT (LBS)	BASIS OF DESIGN		NOTES
	NO.	NAME		AIR FLOW (CFM) DESIGN	DRIVE TYPE	AIR TEMP DB (°F) ENT	AIR TEMP DB (°F) LVG	HEATING ELEMENT QTY	HEATING ELEMENT KW	FLA (A)	MCA (A)	MOCP (A)	VOLT (V)	PH			MANUFACTURER	MODEL	
EUH-129	129	MECH	WALL MOUNTED	350	DIRECT	60	90	1	2.2	Yes	11	13.8	15	208	1	27	QMARK	MUH03-21	1

FAN SCHEDULE

GENERAL NOTES:
A. DISCONNECT SWITCH BY ELECTRICAL, STARTERS BY MECHANICAL.
B. MOTORIZED DAMPERS SHALL BE 24V, CLASS 1 EXHAUST DAMPER INTERLOCKED WITH FAN, SEE DETAIL 3E/M7.1 (EXCEPT IN TYPE I HOOD EXHAUST DUCT).

NOTES:
1. UL 762 LISTED. PROVIDE 2-HR FIRE WRAP PER DIV 23 SPECS FOR DUCT CONNECTED TO TYPE I HOOD.
2. PROVIDE WITH FACTORY CURBS TO MATCH UNIT WITH HINGED BASE AND FLEXIBLE WATERPROOF ELECTRICAL CABLE.
3. INTERLOCK FAN OPERATION WITH HOOD CONTROL PANEL PER FOOD SERVICE DRAWINGS. FAN TO RUN BASED ON HOOD SIGNAL.
4. PROVIDE ON/OFF SWITCH AT WALL FOR MANUAL OPERATION. HOOD MANUFACTURER PROVIDED TEMPERATURE SENSOR TO OVERRIDE MANUAL SWITCH IF OFF.
5. PROVIDE GREASE TRAP ON FAN DRAIN OUTLET PROVIDED BY MANUFACTURER.
6. FAN SHALL BE VARIABLE SPEED AS CONTROLLED BY THE FOOD SERVICE PROVIDED HOOD CONTROLLER.

ID	LOCATION		TYPE	ARRANGEMENT	FAN DATA					MOTOR			ELECTRICAL DATA					INTERLOCK ID	CONTROL TYPE	WEIGHT (LBS)	BASIS OF DESIGN		NOTES
	NO.	NAME			AIR FLOW (CFM) DESIGN	ESP (IN WG)	RPM	DRIVE TYPE	QTY	HP	ECM		FLA (A)	MCA (A)	MOCP (A)	VOLT (V)	PH				MANUFACTURER	MODEL	
F-107	107	MK STORAGE	EXHAUST	HORIZONTAL INLINE	445	0.75	1377	DIRECT	1	0.16	Yes		3.3	4.1	15	120	1	RH-107	SCHEDULED	36	GREENHECK	CSP-A780	
F-206	200.1	CORRIDOR	EXHAUST	HORIZONTAL INLINE	80	0.5	906	DIRECT	1	0.1	Yes		0.8	1	15	120	1	RH-206	SCHEDULED	23	GREENHECK	CSP-A290	
F-209.2			TRANSFER	HORIZONTAL INLINE	175	0.5	848	DIRECT	1	0.1	Yes		0.8	1	15	120	1	THERMOSTAT	THERMOSTATIC	23	GREENHECK	CSP-A290	
F-217	217-1	LAUNDRY-1	EXHAUST	HORIZONTAL INLINE	60	0.84	887	DIRECT	1	0.1	Yes		0.3	0.4	15	120	1	RH-217	SCHEDULED	12	GREENHECK	SP-A90-130-VG	
F-308	308-1	AV-1	TRANSFER	HORIZONTAL INLINE	175	0.5	848	DIRECT	1	0.1	Yes		0.8	1	15	120	1	THERMOSTAT	THERMOSTATIC	23	GREENHECK	CSP-A290	
KEF-1		ROOF	GREASE EXHAUST	UPBLAST	3,600	2	1526	DIRECT	1	3	Yes		4.7	5.9	15	460	3	KITCHEN HOOD	INTERLOCK	226	GREENHECK	CUE-200HP-VG	1,2,3,4,5,6
KEF-2		ROOF	EXHAUST	UPBLAST	2,200	1	1670	DIRECT	1	1	Yes		1.8	2.2	15	460	3	WAREWASHER HOOD	INTERLOCK	108	GREENHECK	CUE-140-VG	2,3,4

GRAVITY VENTILATOR SCHEDULE

GENERAL NOTES:
A. PROVIDE WITH FACTORY CURBS, MINIMUM 10" HEIGHT.
B. MOTORIZED DAMPERS SHALL BE 24V, CLASS 1 MOTORIZED EXHAUST DAMPER INTERLOCKED WITH FAN.
C. SEE DETAIL 6D/M7.01

ID	LOCATION	TYPE	ARRANGEMENT	DESIGN AIRFLOW (CFM)	PRESS DROP (IN WG)	DAMPER TYPE	BIRD SCREEN	WEIGHT (LBS)	BASIS OF DESIGN	
	NAME								MANUFACTURER	MODEL
RAH-107	ROOF	RELIEF	ROOF MOUNTED	445	0.1	MOTORIZED	Yes	8	GREENHECK	GRSR-10
RAH-206	ROOF	RELIEF	ROOF MOUNTED	80	0.1	GRAVITY	Yes	7	GREENHECK	GRSR-8
RAH-217	ROOF	RELIEF	ROOF MOUNTED	60	0.1	GRAVITY	Yes	7	GREENHECK	GRSR-8

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LICENSED PROFESSIONAL ENGINEER — SHAWN COCHRAN — 9-22-25 — 22462 — OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

MECHANICAL SCHEDULES
SCALE:

SHEET NUMBER: M8.11
PHASE: BUILDING PERMIT DOCUMENTS

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SPLIT SYSTEM INDOOR UNIT SCHEDULE

GENERAL NOTES:
A. CASSETTES SHALL BE RATED AT 37dBa OR LOWER AT DESIGN CONDITIONS.
B. PROVIDE DUCTED UNITS WITH MANUFACTURER'S RETURN AIR FILTER RACK.
C. UNITS TO INCLUDE INTEGRAL CONDENSATE PUMP AND OVERFLOW SENSOR TO SHUTDOWN UNIT ON HIGH LEVEL ALARM.
D. PROVIDE REFRIGERANT PIPING BETWEEN INDOOR UNITS, BRANCH SELECTORS (WHERE APPLICABLE), AND OUTDOOR UNITS PER MANUFACTURER'S PIPING DIAGRAM, PIPING PLANS SHOW GENERAL ARRANGEMENT ONLY. REFRIGERANT IS R-32.
E. REFRIGERANT SHALL BE R-32 OR OTHER REFRIGERANT COMPATIBLE WITH VRF SYSTEM WITH A GLOBAL WARMING POTENTIAL EQUAL TO OR LOWER THAN 700.
F. BIDDING DAIKIN REPRESENTATIVE SHALL CONTACT TIM KULINSKI, TIM@AIRREPS.COM FOR DETAILS.

NOTES:
1. UNIT IS COOLING ONLY, NO HEATING OR HEATING LOCKED OUT.
2. PROVIDE POWER TO INDOOR UNIT FROM OUTDOOR UNIT.
3. PROVIDE CONDENSATE PAN BELOW UNIT WITH GRAVITY DRAIN TO NEAREST FLOOR DRAIN/SINK.
4. NOT USED
5. PROVIDE RETURN AIR FILTER KIT WITH MERV 13 FILTER. CONNECT TO UPTURNED DUCT ELBOW WITH BIRD SCREEN FIXED TO OPEN END OR DUCT CONNECTION PER PLANS. SIZE TO MATCH UNIT CONNECTION....

ID	LOCATION		TYPE	BRANCH SELECTOR ID	OUTDOOR UNIT ID	FAN DATA		REQUIRED TOTAL COOLING LOAD (BTUH)	COOLING COIL DATA		REQUIRED HEATING LOAD (BTUH)	HEATING COIL DATA	ELECTRICAL DATA						WEIGHT (LBS)	BASIS OF DESIGN		NOTES
	NO.	NAME				DESIGN AIRFLOW (CFM)	MOTOR HP		NOMINAL CAPACITY (TON)	TOTAL CAPACITY (BTUH)		CAPACITY (BTUH)	FLA (A)	MCA (A)	MOCP (A)	VOLT (V)	PH			MANUFACTURER	MODEL	
CU-1A																						
AC-108	108	MK	DUCTED UNIT	BS-1-1	CU-1A	1,377	0.5	32,866	4	48,000	4,778	54,000	0.6	3.6	15	208	1	104	DAIKIN	FXMA48	5,6
AC-112A	112	OPEN OFFICE	CEILING CASSETTE	BS-1-1	CU-1A	547	0.06	15,391	1.5	24,000	737	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-112B	112	OPEN OFFICE	CEILING CASSETTE	BS-1-1	CU-1A	547	0.06	15,391	1.5	24,000	737	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-112C	112	OPEN OFFICE	CEILING CASSETTE	BS-1-1	CU-1A	547	0.06	15,391	1.5	24,000	737	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-112D	112	OPEN OFFICE	CEILING CASSETTE	BS-1-1	CU-1A	547	0.06	15,391	1.5	24,000	737	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-113-1	113	MDF	HIGH WALL DUCTLESS	BS-1-1	CU-1A	670	0.1	19,779	2	24,000	245	24,000	0.5	0.6	15	208	1	35	DAIKIN	FXAA24	1,3
AC-114	112	OPEN OFFICE	DUCTED UNIT	BS-1-1	CU-1A	318	0.5	6,333	0.8	9,600	758	10,500	0.6	0.8	15	208	1	55	DAIKIN	FXSA09	5,6
AC-116	116	LARGE	CEILING CASSETTE	BS-1-1	CU-1A	441	0.1	11,016	1	12,011	995	13,990	0.5	0.3	15	208	1	42	DAIKIN	FXFA12	
AC-128-1	128	ELEC	HIGH WALL DUCTLESS	BS-1-1	CU-1A	670	0.1	20,460	2	24,000	907	24,000	0.5	0.6	15	208	1	35	DAIKIN	FXAA24	1,3
CU-1B																						
AC-101	101	LOUNGE	DUCTED UNIT	BS-1-3	CU-1B	1,130	0.5	32,965	3	36,000	5,664	40,000	2.3	3.1	15	208	1	101	DAIKIN	FXMA36	5,6
AC-103	101	LOUNGE	DUCTED UNIT	BS-1-3	CU-1B	335	0.5	9,659	1	12,000	6,106	13,500	0.5	0.8	15	208	1	55	DAIKIN	FXSA12	5,6
AC-104	104	HUDDLE	CEILING CASSETTE	BS-1-3	CU-1B	300	0.1	4,386	0.5	6,000	618	6,500	0.2	0.3	15	208	1	35	DAIKIN	FXZA05	
AC-105	105	MOTHER'S ROOM	CEILING CASSETTE	BS-1-3	CU-1B	300	0.1	2,108	0.5	6,000	385	6,500	0.2	0.3	15	208	1	35	DAIKIN	FXZA05	
AC-110	110	RESTROOM VESTIBULE	DUCTED UNIT	BS-1-3	CU-1B	636	0.5	12,519	1.5	18,000	7,594	20,000	0.6	1.9	15	208	1	77	DAIKIN	FXMA18	5,6
AC-117	121	OPEN OFFICE	DUCTED UNIT	BS-1-2	CU-1B	636	0.5	13,557	1.5	18,000	1,603	20,000	0.6	1.9	15	208	1	77	DAIKIN	FXMA18	5,6
AC-121A	121	OPEN OFFICE	CEILING CASSETTE	BS-1-2	CU-1B	547	0.06	14,413	1.5	24,000	858	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-121B	121	OPEN OFFICE	CEILING CASSETTE	BS-1-2	CU-1B	547	0.06	14,413	1.5	24,000	858	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-121C	121	OPEN OFFICE	CEILING CASSETTE	BS-1-2	CU-1B	547	0.06	14,413	1.5	24,000	858	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-121D	121	OPEN OFFICE	CEILING CASSETTE	BS-1-2	CU-1B	547	0.06	14,413	1.5	24,000	858	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-122	122	SMALL/FITNESS	CEILING CASSETTE	BS-1-2	CU-1B	353	0.1	10,764	1	12,000	732	13,990	0.2	0.4	15	208	1	36	DAIKIN	FXZA12	
AC-123	123	MEDIUM	CEILING CASSETTE	BS-1-2	CU-1B	353	0.1	8,218	1	12,000	813	13,990	0.2	0.4	15	208	1	36	DAIKIN	FXZA12	
AC-127	127	OFFICE	CEILING CASSETTE	BS-1-2	CU-1B	300	0.1	4,949	0.5	6,000	629	6,500	0.2	0.3	15	208	1	35	DAIKIN	FXZA05	
CU-2A																						
AC-201A	200	OPEN OFFICE	DUCTED UNIT	BS-2-1	CU-2A	1,377	0.5	36,584	4	48,000	2,358	54,000	2.2	3.6	15	208	1	104	DAIKIN	FXMA48	5,6
AC-201B	200	OPEN OFFICE	DUCTED UNIT	BS-2-1	CU-2A	1,377	0.5	36,584	4	48,000	2,358	54,000	2.2	3.6	15	208	1	104	DAIKIN	FXMA48	5,6
AC-201C	200	OPEN OFFICE	DUCTED UNIT	BS-2-1	CU-2A	1,377	0.5	36,584	4	48,000	2,358	54,000	2.2	3.6	15	208	1	104	DAIKIN	FXMA48	5,6
AC-202A			CEILING CASSETTE	BS-2-1	CU-2A	1,059	0.1	23,651	2.5	18,000	289	20,700	0.5	1	15	208	1	58	DAIKIN	FXFA30	
AC-202B			CEILING CASSETTE	BS-2-1	CU-2A	1,059	0.1	23,651	2.5	18,000	289	20,700	0.5	1	15	208	1	58	DAIKIN	FXFA30	
AC-208A	200	OPEN OFFICE	DUCTED UNIT	BS-2-1	CU-2A	1,130	0.5	33,947	3	36,000	2,345	40,000	2.2	3.1	15	208	1	101	DAIKIN	FXMA36	5,6
AC-208B	200	OPEN OFFICE	DUCTED UNIT	BS-2-1	CU-2A	1,130	0.5	33,947	3	36,000	2,345	40,000	2.2	3.1	15	208	1	101	DAIKIN	FXMA36	5,6
CU-2B																						
AC-107A	107A	STORAGE	HIGH WALL DUCTLESS	BS-2-2	CU-2B	670	0.1	19,317	2	24,000	412	24,000	1	0.6	15	208	1	35	DAIKIN	FXAA24	1
AC-203B	200.1	CORRIDOR	CEILING CASSETTE	BS-2-2	CU-2B	1,253	0.1	25,305	4	30,000	724	34,000	0.5	1.6	15	208	1	58	DAIKIN	FXFA48	
AC-203C	200.1	CORRIDOR	CEILING CASSETTE	BS-2-2	CU-2B	1,253	0.1	25,305	4	30,000	724	34,000	0.5	1.6	15	208	1	58	DAIKIN	FXFA48	
AC-204			CEILING CASSETTE	BS-2-2	CU-2B	1,253	0.1	40,134	4	48,000	1,163	34,000	0.5	1.6	15	208	1	58	DAIKIN	FXFA48	
AC-214	214-1	EMT-1	CEILING CASSETTE	BS-2-2	CU-2B	300	0.1	3,658	0.5	6,000	646	6,500	0.2	0.3	15	208	1	35	DAIKIN	FXZA05	
AC-215	215-1	LARGE-1	CEILING CASSETTE	BS-2-2	CU-2B	512	0.1	11,966	1.25	18,000	976	20,700	0.5	0.4	15	208	1	42	DAIKIN	FXFA15	
AC-216	213-3	CIRCULATION-3	CEILING CASSETTE	BS-2-2	CU-2B	317	0.1	6,788	0.68	8,188	708	10,574	0.2	0.3	15	208	1	35	DAIKIN	FXZA09	
CU-2C																						
AC-203A	200.1	CORRIDOR	CEILING CASSETTE	BS-2-3	CU-2C	1,253	0.1	25,305	4	30,000	724	34,000	0.5	1.6	15	208	1	58	DAIKIN	FXFA48	
AC-207			CEILING CASSETTE	BS-2-3	CU-2C	300	0.1	4,173	0.5	6,000	1,445	6,500	0.2	0.3	15	208	1	35	DAIKIN	FXZA05	
AC-210A	210-1	OPEN OFFICE-1	CEILING CASSETTE	BS-2-3	CU-2C	547	0.06	14,302	1.5	24,000	813	27,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-210B	210-1	OPEN OFFICE-1	CEILING CASSETTE	BS-2-3	CU-2C	547	0.06	14,302	1.5	24,000	813	27,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-210C	210-1	OPEN OFFICE-1	CEILING CASSETTE	BS-2-3	CU-2C	547	0.06	14,302	1.5	24,000	813	27,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-210D	210-1	OPEN OFFICE-1	CEILING CASSETTE	BS-2-3	CU-2C	547	0.06	14,302	1.5	24,000	813	27,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-210E	210-1	OPEN OFFICE-1	CEILING CASSETTE	BS-2-3	CU-2C	547	0.06	14,302	1.5	24,000	813	27,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-220	210-1	OPEN OFFICE-1	DUCTED UNIT	BS-2-3	CU-2C	558	0.5	11,135	1.2	14,400	1,283	17,000	2.2	1.8	15	208	1	77	DAIKIN	FXMA15	5,6
AC-222	222-1	PHONE-1	CEILING CASSETTE	BS-2-3	CU-2C	300	0.1	1,644	0.5	6,000	3,771	6,500	0.2	0.3	15	208	1	35	DAIKIN	FXZA05	
AC-223	223-1	MEDIUM-1	CEILING CASSETTE	BS-2-3	CU-2C	353	0.1	10,119	1	12,000	2,838	13,990	0.5	0.4	15	208	1	36	DAIKIN	FXZA12	
AC-225	225-1	PHONE-1	CEILING CASSETTE	BS-2-3	CU-2C	300	0.1	1,895	0.5	6,000	227	6,500	0.2	0.3	15	208	1	35	DAIKIN	FXZA05	
CU-3																						
AC-302	310-4	OPEN OFFICE-4	DUCTED UNIT	BS-3-2	CU-3	558	0.5	10,903	1.2	14,400	2,237	17,000	2.3	1.8	15	208	1	77	DAIKIN	FXMA15	5,6
AC-303	310-4	OPEN OFFICE-4	DUCTED UNIT	BS-3-2	CU-3	558	0.5	10,905	1.2	14,400	265	17,000	2.3	1.8	15	208	1	77	DAIKIN	FXMA15	5,6
AC-304	310-1	OPEN OFFICE-1	DUCTED UNIT	BS-3-2	CU-3	1,377	0.5	32,144	4	48,000	8,367	54,000	2.3	3.6	15	208	1	104	DAIKIN	FXMA48	5,6
AC-305	310-4	OPEN OFFICE-4	DUCTED UNIT	BS-3-2	CU-3	281	0.5	2,725	0.5	6,000	322	6,790	2.3	0.8	15	208	1	55	DAIKIN	FXSA05	5,6
AC-307	307-1	SMALL-1	CEILING CASSETTE	BS-3-2	CU-3	307	0.1	6,617	0.6	7,200	714	8,600	0.2	0.3	15	208	1	35	DAIKIN	FXZA07	
AC-310A	310-5	OPEN OFFICE-5	CEILING CASSETTE	BS-3-1	CU-3	547	0.06	13,885	1.5	18,000	788	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-310B	310-5	OPEN OFFICE-5	CEILING CASSETTE	BS-3-1	CU-3	547	0.06	13,885	1.5	18,000	788	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-310C	310-5	OPEN OFFICE-5	CEILING CASSETTE	BS-3-1	CU-3	547	0.06	13,885	1.5	18,000	788	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-310D	310-5	OPEN OFFICE-5	CEILING CASSETTE	BS-3-1	CU-3	547	0.06	13,885	1.5	18,000	788	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-310E	310-5	OPEN OFFICE-5	CEILING CASSETTE	BS-3-2	CU-3	547	0.06	13,885	1.5	18,000	788	21,000	0.5	0.4	15	208	1	42	DAIKIN	FXFA18	
AC-311			CEILING CASSETTE	BS-3-2	CU-3	300	0.1	4,293	0.5	6,000	670	6,500	0.5	0.3	15	208	1	35	DAIKIN	FXZA05	
AC-315	315-1	HUDDLE-1	CEILING CASSETTE	BS-3-1	CU-3	300	0.1	4,465	0.5	6,000	501	6,500	0.2	0.3	15	208	1	35	DAIKIN	FXZA05	
AC-317	310-7	OPEN OFFICE-7	CEILING CASSETTE	BS-3-1	CU-3	353	0.1	9,401	1	12,000	1,964	13,990	0.2	0.4	15	208	1	36	DAIKIN	FXZA12	
AC-318	310-6	OPEN OFFICE-6	DUCTED UNIT	BS-3-1	CU-3	281	0.5	5,364	0.5	6,000	681	6,790	2.3	0.8	15	208	1	55	DAIKIN	FXSA05	5,6
AC-319			CEILING CASSETTE	BS-3-1	CU-3	307	0.1	6,760	0.6	7,200	1,722	8,600	0.2	0.3	15	208	1	35	DAIKIN	FXZA07	
CU-113-2																						
AC-113-2	113	MDF	HIGH WALL DUCTLESS	NONE	CU-113-2	713	0.1		2	24,000			0	0	0	208	1	27	DAIKIN	FTKF24	1,2,3
CU-113-3																						
AC-113-3	113	MDF	HIGH WALL DUCTLESS	NONE	CU-113-3	713	0.1		2	24,000			0	0	0	208	1	27	DAIKIN	FTKF24	1,2,3
CU-113-4																						
AC-113-4	113	MDF	HIGH WALL DUCTLESS	NONE	CU-113-4	713	0.1		2	24,000			0	0	0	208	1	27	DAIKIN	FTKF24	1,2,3
CU-128-2																						
AC-128-2	128	ELEC	HIGH WALL DUCTLESS	NONE	CU-128-2	713	0.1		2	24,000			0	0	0	208	1	27	DAIKIN	FTKF24	1,2,3
CU-224																						
AC-224	224-1	ELEC-1	HIGH WALL DUCTLESS	NONE	CU-224	713	0.1		2	24,000			1	0	0	208	1	27	DAIKIN	FTKF24	1,2
CU-309																						
AC-312	312-1	ELEC-1	HIGH WALL DUCTLESS	NONE	CU-309	434	0.1		1	12,000			0	0	0	208	1	18	DAIKIN	FTKF12	1,2,3

SPLIT SYSTEM CONDENSING UNIT SCHEDULE

GENERAL NOTES:
A. PROVIDE REFRIGERANT PIPING BETWEEN INDOOR UNITS, BRANCH SELECTORS (WHERE APPLICABLE), AND OUTDOOR UNITS PER MANUFACTURER'S PIPING DIAGRAM. REFRIGERANT IS R-32.
B. MOUNT UNIT ON RAISED CONCRETE PAD MINIMUM 4" ABOVE SUROUNDING GRADE.
C. INSTALL UNIT WITH VIBRATION ISOLATION BETWEEN UNIT AND CONCRETE PAD PER SPECIFICATIONS.
D. REFRIGERANT SHALL BE R-32 OR OTHER REFRIGERANT COMPATIBLE WITH VRF SYSTEM WITH A GLOBAL WARMING POTENTIAL EQUAL TO OR LOWER THAN 700.
E. BIDDING DAIKIN REPRESENTATIVE SHALL CONTACT TIM KULINSKI, TIM@AIRREPS.COM FOR DETAILS.

NOTES:
1. UNIT IS HEAT RECOVERY
2. UNIT IS COOLING ONLY. HEATING TO BE LOCKED OUT.

ID	COMPRESSOR DATA				AMBIENT TEMP DB (°F)					ELECTRICAL DATA						BASIS OF DESIGN		NOTES
	CAPACITY (TON)	TYPE	REFRIGERANT CHARGE (LBS)	LOW AMBIENT KIT	SUMMER	WINTER	COOLING CAPACITY (BTU/H)	HEATING CAPACITY (BTU/H)	SEER	EER	FLA (A)	MCA (A)	MOCP (A)	VOLT (V)	PH	WEIGHT (LBS)	MANUFACTURER	MODEL	
CU-1A	16	HERMETICALLY SEALED SCROLL TYPE	25.8	Yes	100	14	178,469	153,825		12.3	30.5	30.7	35	460	3	972	DAIKIN	REYA192	1
CU-1B	16	HERMETICALLY SEALED SCROLL TYPE	25.8	Yes	100	14	178,032	153,227		12.3	30.5	30.7	35	460	3	972	DAIKIN	REYA192	1
CU-2A	20	HERMETICALLY SEALED SCROLL TYPE	25.8	Yes	100	14	230,633	162,842		11	26.7	35.1	40	460	3	972	DAIKIN	REYA240	1
CU-2B	16	HERMETICALLY SEALED SCROLL TYPE	25.8	Yes	100	14	179,670	153,455		12.3	30.5	30.7	35	460	3	972	DAIKIN	REYA192	1
CU-2C	16	HERMETICALLY SEALED SCROLL TYPE	25.8	Yes	100	14	174,420	150,894		12.3	26.7	30.7	35	460	3	972	DAIKIN	REYA192	1
CU-3	18	HERMETICALLY SEALED SCROLL TYPE	25.8	Yes	100	14	199,893	162,751		11.5	28.5	32.8	40	460	3	972	DAIKIN	REYA216	1
CU-113-2	2	HERMETICALLY SEALED SWING TYPE	2.45	Yes	100	14	22,400		21	12	17.1	21.4	25	208	1	113	DAIKIN	FTKF24	2
CU-113-3	2	HERMETICALLY SEALED SWING TYPE	2.45	Yes	100	14	22,400		21	12	17.1	21.4	25	208	1	113	DAIKIN	FTKF24	2
CU-113-4	2	HERMETICALLY SEALED SWING TYPE	2.45	Yes	100	14	22,400		21	12	17.1	21.4	25	208	1	113	DAIKIN	FTKF24	2
CU-128-2	2	HERMETICALLY SEALED SWING TYPE	2.45	Yes	100	14	22,400		21	12	17.1	21.4	25	208	1	113	DAIKIN	FTKF24	2
CU-224	2	HERMETICALLY SEALED SWING TYPE	2.45	Yes	100	14	22,400		21	12	17.1	21.4	25	208	1	113	DAIKIN	FTKF24	2
CU-312	1	HERMETICALLY SEALED SWING TYPE	1.74	Yes	100	14	12,000		21	12.5	14.6	18.3	20	208	1	71	DAIKIN	FTKF12	2

VARIABLE REFRIGERANT FLOW BRANCH SELECTOR SCHEDULE

GENERAL NOTES:
A. SEE INDOOR UNIT SCHEDULE AND PLANS FOR INDOOR UNITS CONNECTED TO EACH BRANCH SELECTOR.
B. PROVIDE REFRIGERANT PIPING BETWEEN INDOOR UNITS, BRANCH SELECTORS, AND OUTDOOR UNITS PER MANUFACTURER'S PIPING LAYOUT.
C. REFRIGERANT SHALL BE R-32 OR OTHER REFRIGERANT COMPATIBLE WITH VRF SYSTEM WITH A GLOBAL WARMING POTENTIAL EQUAL TO OR LOWER THAN 700.
D. BIDDING DAIKIN REPRESENTATIVE SHALL CONTACT TIM KULINSKI, TIM@AIRREPS.COM FOR DETAILS.

ID	LOCATION		TYPE	MAX CAPACITY PER BRANCH (BTUH)	BRANCH QTY	ELECTRICAL DATA					OUTDOOR UNIT ID	WEIGHT (LBS)	BASIS OF DESIGN	
	NO.	NAME				FLA (A)	MCA (A)	MOCP (A)	VOLT (V)	PH			MANUFACTURER	MODEL
BS-1-1	109	STORAGE	BRANCH SELECTOR	54	8	1.5	1.9	15	208	1	CU-1A	110	DAIKIN	BSF8A54
BS-1-2	111.8	JANITOR	BRANCH SELECTOR	54	6	1.5	1.9	15	208	1	CU-1B	99	DAIKIN	BSF6A54
BS-1-3	110	RESTROOM VESTIBULE	BRANCH SELECTOR	54	6	1.5	1.9	15	208	1	CU-1B	99	DAIKIN	BSF6A54
BS-2-1	200.1	CORRIDOR	BRANCH SELECTOR	54	8	1.5	1.9	15	208	1	CU-2A	110	DAIKIN	BSF8A54
BS-2-2			BRANCH SELECTOR	54	8	1.5	1.9	15	208	1	CU-2B	110	DAIKIN	BSF8A54
BS-2-3			BRANCH SELECTOR	54	8	1.5	1.9	15	208	1	CU-2C	110	DAIKIN	BSF8A54
BS-3-1	310-6	OPEN OFFICE-6	BRANCH SELECTOR	54	6	1.5	1.9	15	208	1	CU-3	99	DAIKIN	BSF6A54
BS-3-2	310-5	OPEN OFFICE-5	BRANCH SELECTOR	54	8	1.5	1.9	15	208	1	CU-3	110	DAIKIN	BSF8A54

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TULSA, OK 74119
(918) 380-8868

LICENSED PROFESSIONAL ENGINEER SHAWN COCHRAN 22462 OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

MECHANICAL SCHEDULES
SCALE:

SHEET NUMBER: M8.12
PHASE: BUILDING PERMIT DOCUMENTS

ASHRAE 62.1 VENTILATION AIRFLOW SUMMARY (4.0)

Ventilation Zone	SPACE LOCATION NO.	SPACE LOCATION NAME	Occupancy Category	Occupants	Ventilation Rate Procedure: Outdoor Airflow Rate Per Person Rp (CFM/P)	Outdoor Airflow Rate Per Unit Area Ra (CFM/SF)	Area Az (SF)	Breathing Zone Outdoor Airflow Voz (CFM)	Zone Air Distribution Effectiveness Ez	Required Outdoor Air Intake Flow Vot (CFM)	Design Space/Zone Outdoor Airflow (CFM)	Design Exhaust: Airflow per Unit (CFM/U)	Airflow Per Area (CFM/SF)	Design Airflow (CFM)	Equip. Notes
DOAS-1							10,927				2185				
101	101	LOUNGE	Lobbies/Prefunction	22	7.5	0.06	1440	251.4	1	251					
101	101A	INFORMAL	Breakrooms	12	5	0.06	85	65.1	1	65					
101	102	VESTIBULE	Corridors	0	0	0.06	238	14.28	1	14					
101	106	JANITOR	Janitor closets	0	0	0	34		1				1	35	F-107
101	107A	STORAGE	Storage rooms	0	0	0.12	110	13.2	1	13	385		0.5	55	F-107
101	163	AGR CIRCULATION	Corridors	0	0	0.06	122	7.32	1	7					
101	212	AGR CIRCULATION	Corridors	0	0	0.06	122	7.32	1	7					
101	182	SHOWER CHANGING	Corridors	0	0	0.06	42	2.52	1	3					
101	224	SHOWER CHANGING	Corridors	0	0	0.06	39	2.34	1	2					
110	226	AGR LAVS	Corridors	0	0	0.06	283	16.98	1	17					
101	103	SECURITY	Office space	2	5	0.06	167	20.02	1	20	30				
101	104	HUDDLE	Office space	4	5	0.06	131	27.86	1	28	30				
101	105	MOTHER'S ROOM	Office space	1	5	0.06	88	10.28	1	10	30				
VAV-101							2901				475				EVAV-100
108	107	MK STORAGE	Kitchen (cooking)	3	7.5	0.12	281	56.22	1	56	60		1.3	360	F-107
108	108	MK	Cafeteria/fast-food dining	38	7.5	0.18	1092	481.56	1	482	485				
108	109	STORAGE	Storage rooms	0	0	0.12	142	17.04	1	17	30				
VAV-108							1515				575			360	EVAV-100
110	146	AGR	Toilets - private	1	0	0	47		1		0	50		50	
110	147	JANITOR	Janitor closets	1	0	0	46		1		0		1.1	50	
110	148	AGR	Toilets - private	1	0	0	15		1		0	50		50	
110	149	AGR	Toilets - private	1	0	0	18		1		0	50		50	
110	157	AGR	Toilets - private	1	0	0	18		1		0	50		50	
110	158	AGR	Toilets - private	1	0	0	18		1		0	50		50	
110	159	AGR	Toilets - private	1	0	0	18		1		0	50		50	
110	160	AGR	Toilets - private	1	0	0	18		1		0	50		50	
110	176	SHOWER	Toilets - public	1	0	0	51		1		0	70		70	
110	199	AGR	Toilets - private	1	0	0	47		1		0	50		50	
110	201	AGR	Toilets - private	1	0	0	18		1		0	50		50	
110	202	AGR	Toilets - private	1	0	0	18		1		0	50		50	
110	203	AGR	Toilets - private	1	0	0	18		1		0	50		50	
110	204	AGR	Toilets - private	1	0	0	18		1		0	50		50	
110	205	AGR	Toilets - private	1	0	0	18		1		0	50		50	
110	206	AGR	Toilets - private	1	0	0	15		1		0	50		50	
110	211	SHOWER	Toilets - public	1	0	0	50		1		0	70		70	
110	213	JANITOR	Janitor closets	0	0	0	42		1		0		1.1	50	
EVAV-110							493				0			940	EVAV-110
112	112	OPEN OFFICE	Office space	39	5	0.06	1976	313.56	1	314	315				
VAV-112							1976				315				EVAV-100
114	114	PHONE	Office space	1	5	0.06	38	7.28	1	7	30				
114	115	PHONE	Office space	1	5	0.06	38	7.28	1	7	30				
VAV-114							76				60				EVAV-100
116	116	LARGE	Office space	12	5	0.06	292	77.52	1	78	80				
116	117	HUDDLE	Office space	4	5	0.06	153	29.18	1	29	30				
116	118	HUDDLE	Office space	4	5	0.06	153	29.18	1	29	30				
116	119	HUDDLE	Office space	4	5	0.06	155	29.3	1	29	30				
VAV-116							753				170				EVAV-100
121	120	CIRCULATION	Corridors	0	0	0.06	142	8.52	1	9					
121	121	OPEN OFFICE	Office space	36	5	0.06	1951	297.06	1	297	310				
121	126	COPY	Office space	0	5	0.06	62	3.72	1	4					
VAV-121							2155				310				EVAV-100
123	122	SMALL/FITNESS	Gym	5	20	0.18	209	137.62	1	138	140				
123	123	MEDIUM	Office space	7	5	0.06	249	49.94	1	50	50				
123	124	PHONE	Office space	1	5	0.06	42	7.52	1	8	30				
123	125	PHONE	Office space	1	5	0.06	42	7.52	1	8	30				
VAV-123							542				250				EVAV-100
127	127	OFFICE	Office space	4	5	0.06	143	28.58	1	29	30				
VAV-127							143				30				EVAV-100
NONE	113	MDF	(none)	0			167		1						
NONE	128	ELEC	(none)	0			144		1						
NONE	129	MECH	(none)	0			62		1						
NONE							373								

	Area Az (SF)	Outdoor Airflow (CFM)	Return Airflow (CFM)	Exhaust Ariflow (CFM)
DOAS-1	10927	**2185**	**1735**	**450**
DOAS-2	10133	**2590**	**2410**	**180**
DOAS-3	5538	**1120**	**1120**	**0**

MAU - 1: ASHRAE 62.1 VENTILATION AIRFLOW SUMMARY

Ventilation Zone	LOCATION		Occupancy Category	Occupants	Make-up Air Flow (CFM)	Design Hood Exhaust (CFM)
KEF-1	203	BACK OF HOUSE	Kitchen (cooking)	3	5065	**3600**
KEF-2	204	DISH	Kitchen (cooking)	1		**2200**
MAU-1					**5065**	**5800**

ASHRAE 62.1 VENTILATION AIRFLOW SUMMARY (4.0)

Ventilation Zone	SPACE LOCATION NO.	SPACE LOCATION NAME	Occupancy Category	Occupants	Ventilation Rate Procedure: Outdoor Airflow Rate Per Person Rp (CFM/P)	Outdoor Airflow Rate Per Unit Area Ra (CFM/SF)	Area Az (SF)	Breathing Zone Outdoor Airflow Voz (CFM)	Zone Air Distribution Effectiveness Ez	Required Outdoor Air Intake Flow Vot (CFM)	Design Space/Zone Outdoor Airflow (CFM)	Design Exhaust: Airflow per Unit (CFM/U)	Airflow Per Area (CFM/SF)	Design Airflow (CFM)	Equip. Notes
DOAS-2							10,133				2,590				
201	201	CAFE	Cafeteria/fast-food dining	62	7.5	0.18	2905	987.9	1	988	1050				
201	202	KITCHEN FRONT OF HOUSE	Kitchen (cooking)	3	7.5	0.12	330	62.1	1	62					
VAV-201							3235				1050				EVAV-201
203	203	BACK OF HOUSE	Kitchen (cooking)	4	7.5	0.12	836	130.32	1	130					
203	204	DISH	Kitchen (cooking)	1	7.5	0.12	264	39.18	1	39	200				
203	204.2	DISH STORAGE	Storage rooms	0	0	0.12	96	11.52	1	12					
203	240	DRY STORAGE	Storage rooms	0	0	0.12	132	15.84	1	16			0.5	70	F-206
203	205	CHANGING ROOM	Office space	1	5	0.06	84	10.04	1	10	30				
203	207	OFFICE	Office space	1	5	0.06	62	8.72	1	9	30				
VAV-203							1831		0		260			70	EVAV-201
2	206	RESTROOM	Toilets - private	1			62		1				50	50	
F-206							62		0					50	F-206
208	208	FLEX SPACE	Office space	96	5	0.06	848	530.88	1	531	535				
208	209	AV	Storage rooms	0	0	0.12	32	3.84	1	4					
208	209	STORAGE	Storage rooms	0	0	0.12	55	6.6	1	7	30				
VAV-208							935				565				EVAV-208
210	210-2	OPEN OFFICE	Office space	33	5	0.06	2018	286.08	1	286					
210	212-2	COPY	Office space	0	5	0.06	21	1.26	1	1					
210	213-2	CIRCULATION	Corridors	0	0	0.06	107	6.42	1	6	305				
210	217-2	LAUNDRY	Janitor closets	0	0	0	58		1				1	60	F-217
210	219-2	CIRCULATION	Corridors	0	0	0.06	125	7.5	1	8					
VAV-210							2329				305			60	EVAV-210
211	211-2	2P OFFICE	Office space	2	5	0.06	98	15.88	1	16	30				
211	218-2	STORAGE	Storage rooms	0	0	0.12	99	11.88	1	12	30				
211	220-2	HUDDLE	Office space	4	5	0.06	114	26.84	1	27	30				
211	225-2	PHONE	Office space	1	5	0.06	37	7.22	1	7	30				
211	226-2	STORAGE	Storage rooms	0	0	0.12	79	9.48	1	9	30				
VAV-211							427				150				EVAV-210
215	214-2	EMT	Office space	1	5	0.06	154	14.24	1	14	30				
215	215-2	LARGE	Office space	12	5	0.06	308	78.48	1	78	80				
215	216-2	SMALL	Office space	5	5	0.06	214	37.84	1	38	40				
VAV-215							676				150				EVAV-210
223	221-2	HUDDLE	Office space	4	5	0.06	129	27.74	1	28	30				
223	222-2	PHONE	Office space	1	5	0.06	49	7.94	1	8	30				
223	223-2	MEDIUM	Office space	7	5	0.06	243	49.58	1	50	50				
VAV-223							421				110				EVAV-210
NONE	209.2	AV	(none)				32		1						
NONE	224-2	ELEC	(none)				37		1						
NONE	231	COLD STORAGE	(none)				327		1						
NONE							396								
DOAS-3							5,538				1,120				
302	302	EXTRA LARGE	Office space	12	5	0.06	386	83.16	1	83	85				
302	303	EXTRA LARGE	Office space	12	5	0.06	355	81.3	1	81	85				
VAV-302							741				170				
304	304	LARGE TRAINING	Office space	35	5	0.06	1001	235.06	1	235	240				
VAV-304							1742				240				
307	305-2	PHONE	Office space	1	5	0.06	42	7.52	1	8	30				
307	306-2	STORAGE	Storage rooms	0	0	0.12	32	3.84	1	4	30				
307	307-2	SMALL	Office space	5	5	0.06	238	39.28	1	39	40				
307	309-2	PHONE	Office space	1	5	0.06	37	7.22	1	7	30				
307	311	HUDDLE	Office space	4	5	0.06	123	27.38	1	27	30				
VAV-307							160				160				
310	301	CIRCULATION	Corridors	0	0	0.06	354	21.24	1	21					
310	310.1	CIRCULATION	Corridors	0	0	0.06	284	17.04	1	17	305				
310	310	OPEN OFFICE	Office space	30	5	0.06	1874	262.44	1	262					
310	310.2	COPY	Office space	0	5	0.06	33	1.98	1	2					
VAV-310							1907				305				
315	313-2	STORAGE	Storage rooms	0	0	0.12	66	7.92	1	8	30				
315	314-2	STORAGE	Storage rooms	0	0	0.12	77	9.24	1	9	30				
315	315-2	HUDDLE	Office space	4	5	0.06	150	29	1	29	30				
VAV-315							227				90				
317	316	PHONE	Office space	1	5	0.06	43	7.58	1	8	30				
317	317	MEDIUM	Office space	7	5	0.06	295	52.7	1	53	55				
317	318	HUDDLE	Office space	4	5	0.06	112	26.72	1	27	30				
317	319	SMALL	Office space	5	5	0.06	218	38.08	1	38	40				
VAV-317							330				155				
NONE	308-2	AV	(none)	0	0	0	73		1						
NONE	312-2	ELEC	(none)	0	0	0	51		1						
NONE							124								

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CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRVD': Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

MECHANICAL SCHEDULES

SCALE:

SHEET NUMBER:
M8.13

PHASE: BUILDING PERMIT DOCUMENTS

ABBREVIATIONS

(D)	DEMOLISHED
(E)	EXISTING
(R)	RELOCATED
Ø	PHASE
A	AMPERE
AC	ABOVE COUNTER
AF	AMP FRAME (CIRCUIT BREAKER)
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
AMP	AMPERE
AP	WIRELESS ACCESS POINT
AT	AMP TRIP (CIRCUIT BREAKER OR FUSE)
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO-VIDEO, AUDIO-VISUAL
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BJ	BONDING JUMPER
BKR	BREAKER
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CKT	CIRCUIT
CTL	CONTROL
CU	COPPER
DB	DECIBEL
DC	DIRECT CURRENT
DISC	DISCONNECT
DP	DISTRIBUTION PANELBOARD
DW	DISHWASHER
ECS	EMERGENCY COMMUNICATION SYSTEM
EGB	ELECTRICAL GROUNDING BUSBAR
EMD	ESTIMATED MAXIMUM DEMAND
EMGB	ELECTRICAL MAIN GROUNDING BUSBAR
EP	EXPLOSION PROOF
ER	EXISTING (TO BE) RELOCATED
ERMS	ENERGY REDUCTION MAINTENANCE SWITCH
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FC	FOOT CANDLE
FLA	FULL LOAD AMPS
FS	FLOW SWITCH
FSD	FIRE SMOKE DAMPER
G	EQUIPMENT GROUNDING CONDUCTOR
GEN	GENERATOR
GFI, GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	GROUND FAULT PROTECTION OF EQUIPMENT
GND	EQUIPMENT GROUNDING CONDUCTOR
HH	HANDHOLE
HOA	HAND-OFF-AUTOMATIC
HP	HORSE POWER
IC	INTERCOM
IG	ISOLATED GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CIRCUIT
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATT
LT	LIGHT
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MRTS	MOTOR RATED TOGGLE SWITCH
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MTG	MOUNTING
MTS	MAIN TRANSFER SWITCH
N	NEUTRAL
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NF	NON-FUSED
NL	NIGHT LIGHT
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OS&Y	OUTSIDE SCREW AND YOKE
P	POLE(S)
PA	PUBLIC ADDRESS
PB	PULL BOX
PH	PHASE
PIV	POST INDICATOR VALVE
PNL	PANEL
PWR	POWER
RCP	REFLECTED CEILING PLAN
RECPT	RECEPTACLE
REF	REFERENCE
RESP	RESPONSIVE
SCCR	SHORT CIRCUIT CURRENT RATING
SD	SMOKE DAMPER
SEC	SECONDARY
SPD	SURGE PROTECTION DEVICE
SWBD	SWITCHBOARD
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TC	TIME CLOCK
TGB	TELECOMMUNICATIONS GRONDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GRONDING BUSBAR
TO	TELECOMMUNICATIONS OUTLET
TR	TELECOMMUNICATIONS ROOM
TS	TAMPER SWITCH
TV	TELEVISION
UG	UNDERGROUND
UPS	UNINTERRUPTABLE POWER SUPPLY
V	VOLT
VA	VOLT-AMPERE
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
WA	TELECOMMUNICATIONS WORK AREA
WG	WIRE GUARD
WP	WEATHER-PROOF (NEMA 3R)
XFMR	TRANSFORMER

GENERAL SHEET NOTES

GENERAL SITE PLAN NOTES

1 ALL COMMUNICATIONS CONDUIT AND CABLES SHALL BE INSTALLED 36" (MINIMUM) BELOW FINISHED GRADE.

2 ALL CONDUCTORS FOR EXTERIOR LIGHTING AND POWER CIRCUITS SHALL BE #10 AWG MINIMUM.

GENERAL POWER NOTES

1 VERIFY ANY NEUTRAL WIRES REQUIRED ON 1Ø OR 3Ø MECHANICAL UNITS FURNISHED UNDER DIVISION 23. IF REQUIRED, PROVIDE NEUTRAL.

2 PROVIDE DEDICATED 120-VOLT CIRCUITS TO ALL HVAC BAS CONTROL DEVICES AND PANELS. COORDINATE QUANTITY WITH DIVISION 23. UTILIZE NEAREST SPARE 120-VOLT, 20/1 BREAKER. LABEL TYPED PANEL DIRECTORY ACCORDING TO LOAD BEING SERVED.

3 IN ADDITION TO DEVICES SHOWN, SEE SCHEDULE SHEETS FOR CONNECTIONS TO ALL MECHANICAL EQUIPMENT.

4 LOCATE SWITCHES FOR CONTROL OF FANS IN TWO-GANG BOX WITH LIGHT SWITCH WHERE APPLICABLE.

GENERAL LIGHTING NOTES

1 SEE LIGHT FIXTURE SCHEDULE AND SYMBOLS LEGEND FOR MOUNTING HEIGHTS, UNLESS NOTED OTHERWISE.

2 PROVIDE #10AWG MINIMUM CONDUCTORS FOR ALL EXTERIOR LIGHTING CIRCUITS.

3 SEE ARCHITECTURAL BUILDING ELEVATIONS FOR LOCATION OF BUILDING MOUNTED EXTERIOR LIGHT FIXTURES.

4 PROVIDE BEAD OF SILICON SEALANT AROUND RECESSED BACK BOX PERIMETER AT ALL BUILDING MOUNTED EXTERIOR LIGHT FIXTURE LOCATIONS.

5 CIRCUIT FIXTURES DENOTED WITH 'NL' AS UNSWITCHED NIGHT LIGHTS.

6 FIXTURES DENOTED WITH LOWER CASE LETTERS SHALL BE CONTROLLED BY SWITCHES DENOTED WITH THE SAME LOWER CASE LETTER IN EACH ROOM.

GENERAL DEVICE BOX NOTES

1 SEE SYMBOLS LEGEND THIS SHEET FOR MOUNTING HEIGHTS UNLESS NOTED OTHERWISE ON DRAWINGS.

2 ALL MOUNTING HEIGHTS ARE TO CENTERLINE OF BOXES UNLESS NOTES OTHERWISE.

3 PROVIDE BOX EXTENDER FOR FLUSH INSTALLATION OF DEVICES LOCATED IN ARCHITECTURAL CASEWORK THAT IS FLUSH WITH ADJACENT WALL (SUCH AS RECEPTACLES FOR GARBAGE DISPOSERS).

4 FLOOR BOXES: OBTAIN OWNER APPROVAL OF ALL BOX LOCATIONS PRIOR TO ROUGH IN. PROVIDE DEVICE PLATES AT DEVICES AND BLANK PLATES AT ALL UNUSED COMPARTMENTS.

5 COORDINATE LOCATION OF DEVICE BOXES FOR SWITCHES, RECEPTACLES, AND SYSTEMS DEVICES WITH MARKERBOARDS. ADJUST BOX LOCATIONS TO AVOID MARKERBOARDS.

6 COORDINATE LOCATION OF DEVICE BOXES FOR SWITCHES, RECEPTACLES, AND SYSTEMS DEVICES WITH TACKBOARDS. ADJUST BOX LOCATIONS TO AVOID TACKBOARDS. PROVIDE BOX EXTENDER FOR A FLUSH INSTALLATION WHERE DEVICES MUST BE MOUNTED AT TACKBOARD/TACKWALL.

7 CEILING MOUNTED RECEPTACLES: AT SUSPENDED CEILINGS, ROUTE POWER TO RECEPTACLE VIA FLEXIBLE METALLIC CONDUIT WITH 6-FOOT SERVICE LOOP. FEED FMC FROM A J-BOX RIGIDLY SUPPORTED A MAXIMUM OF 24-INCHES ABOVE SUSPENDED CEILING OR AT BOTTOM OF STRUCTURE ABOVE. WHICHEVER IS LOWER. LOCATE J-BOX DIRECTLY ABOVE RECEPTACLE AND SUPPORT VIA STRUCTURE, OR VIA THREAD ROD AND UNISTRUT HUNG FROM STRUCTURE ABOVE IN HIGH STRUCTURE APPLICATIONS.

8 DEVICES RECESSED IN MULLIONS: BACK BOXES TO BE RECESSED FOR FLUSH INSTALLATION OF DEVICE AND WALLPLATE. EXTEND CONCEALED CONDUIT IN MULLION UP TO WALL ABOVE AND STUB OUT ABOVE ACCESSIBLE CEILING. IN AREAS WITH NO CEILING, EXTEND CONDUIT TOWARDS CABLING SOURCE TO ABOVE NEAREST ACCESSIBLE CEILING.

GENERAL DEMOLITION NOTES

1 ITEMS INDICATED ON DEMOLITION PLANS ARE BASED ON AS-BUILT DRAWINGS AND FIELD OBSERVATIONS AND ARE INTENDED TO GIVE THE BIDDER A GENERAL REPRESENTATION OF EXISTING CONDITIONS.

2 REMOVE ALL ITEMS SHOWN FULL-TONE OR NOTED ELSEWHERE IN THE DOCUMENTS TO BE REMOVED OR DEMOLISHED. DEMOLISH ADDITIONAL ITEMS NOT SHOWN ON DRAWINGS, BUT WHICH MUST BE REMOVED TO COMPLETE THE PROJECT.

3 ITEMS SHOWN HALF-TONE ARE EXISTING TO REMAIN.

4 RELOCATE ITEMS DENOTED 'ER'. SEE LIGHTING, POWER AND/OR SPECIAL SYSTEM SHEETS FOR NEW LOCATIONS. 'ER' IS DEFINED AS EXISTING (TO BE) RELOCATED.

5 EXISTING CONDUIT MAY REMAIN IF ALL THE FOLLOWING ARE TRUE:
A. IT CAN BE REUSED TO FEED DEVICES INSTALLED UNDER THIS CONTRACT.
B. IT DOES NOT INTERFERE WITH OTHER TRADES.
C. IT WAS ORIGINALLY INSTALLED MEETING SPECIFICATIONS RELATED TO THIS PROJECT.
D. IT WILL NOT BE EXPOSED IN A FINISHED AREA (UNLESS NOTED OTHERWISE).

6 PROVIDE ELECTRICAL DEMOLITION ASSOCIATED WITH MECHANICAL EQUIPMENT TO BE REMOVED. IN ADDITION TO DEVICES SHOWN, REFER TO MECHANICAL AND ARCHITECTURAL DEMOLITION SHEETS TO DETERMINE EQUIPMENT TO BE REMOVED.

7 MAINTAIN FUNCTIONALITY OF ALL EXISTING LOW VOLTAGE SYSTEMS INCLUDING, BUT NOT LIMITED TO, TELECOM CABLING NETWORKS, INTERCOM, CLOCKS, FIRE ALARM, SAFETY AND SECURITY DURING ALL PHASES OF CONSTRUCTION. PROVIDE TEMPORARY INTERCONNECTIONS AS REQUIRED TO ACCOMMODATE CONSTRUCTION SCHEDULE.

GENERAL SYSTEMS NOTES

DIVISION 26

1 TELECOMMUNICATIONS OUTLETS: PROVIDE TWO-GANG BOX (2.25-INCH DEEP MINIMUM) WITH SINGLE-GANG STRAP MOUNT PLASTER RING AND 1-INCH CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE FINISHED CEILING (EXCEPTION: VOICE-ONLY OR VIDEO-ONLY OUTLETS PER NOTE BELOW).

2 TELECOMMUNICATIONS OUTLET INDICATED AS ROUGH IN ONLY (NO SUBSCRIPTS): INSTALL PER NOTE ABOVE, WITH BLANK 302SS SINGLE-GANG WALLPLATE.

3 VOICE-ONLY OR VIDEO-ONLY TELECOMMUNICATIONS OUTLET: PROVIDE SINGLE-GANG BOX WITH 1-INCH CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE FINISHED CEILING.

4 MISCELLANEOUS LOW VOLTAGE OUTLETS (CALL STATIONS, HANDSETS, VOLUME CONTROL, MICROPHONE OUTLETS, SURFACE-MOUNT WALL SPEAKERS AND FIRE ALARM DEVICES): PROVIDE SINGLE-GANG BOX WITH 3/4-INCH CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE FINISHED CEILING.

5 INSULATED BUSHINGS: PROVIDE BUSHINGS ON ALL CONDUIT STUB UPS, INCLUDING BUT NOT LIMITED TO, OUTLETS FOR TELECOMMUNICATIONS, FIRE ALARM, SECURITY, ACCESS CONTROL, MASS NOTIFICATION, PUBLIC ADDRESS, ALL OTHER LOW VOLTAGE INTERCOMMUNICATIONS AND UNUSED STUB-UPS OR STUB-UPS INDICATED FOR FUTURE USE.

6 FLOOR BOXES CONTAINING TELECOMMUNICATIONS OUTLETS: FOR EACH LOW-VOLTAGE COMPARTMENT, ROUTE 1-INCH CONDUIT WITH PULL STRING UNDERFLOOR, UP NEAREST WALL, AND STUB INTO ACCESSIBLE SPACE ABOVE FINISHED CEILING. LABEL CONDUIT END 'FLOOR BOX'

7 SLEEVES FOR LOW VOLTAGE CABLES: PROVIDE 2-INCH SLEEVES UNLESS NOTED OTHERWISE. COORDINATE WITH PATH OF DUCTWORK AND GWB CEILING TO ENSURE ACCESSIBILITY, EXTEND SLEEVES AS REQUIRED. INSTALL ALL SLEEVES 4-INCHES ABOVE HIGHER CEILING OF TWO ADJACENT SPACES. REFER TO ROOM FINISH SCHEDULES AND REFLECTED CEILING PLANS FOR CEILING HEIGHTS. STUB SLEEVES INTO JOIST SPACE OF FINISHED ROOMS WITH EXPOSED STRUCTURE. PROVIDE INSULATED BUSHINGS ON BOTH ENDS OF ALL SLEEVES, INCLUDING UNUSED SLEEVES. PROVIDE GROUT OR ESCUTCHEONS TO SECURE SLEEVES TO WALL. PROVIDE FIRE-RATED SLEEVES AT ALL FIRE-RATED WALLS.

8 PROVIDE ADDITIONAL CONDUIT, BOXES, CONDUCTORS AND OVERCURRENT PROTECTION FOR 120-VOLT BRANCH CIRCUITS NOT SPECIFICALLY COVERED UNDER DIVISION 26 WORK, BUT REQUIRED TO COMPLETE DIVISION 08 AND 28 WORK. DEVICES SHALL INCLUDE, BUT NOT BE LIMITED TO, POWER SUPPLIES FOR DOOR HARDWARE, ACCESS CONTROL, FIRE ALARM AND VIDEO SURVEILLANCE.

9 CARD READERS: PROVIDE RECESSED SINGLE-GANG BOX WITH GASKETED BLANK COVERPLATE AND EMPTY 1-INCH CONDUIT STUBBED INTO NEAREST ACCESSIBLE SPACE ABOVE FINISHED CEILING OR JOIST SPACE OF ADJACENT EXPOSED STRUCTURE. LABEL CONDUIT END 'CARD READER'.

10 PROVIDE WATERFALL DROPOUTS AT ALL CABLE TRAY LOCATIONS ABOVE RUNWAYS, WALL/FLOOR MOUNTED RACKS, AND EQUIPMENT ENCLOSURES.

11 AUDIO VISUAL (AV) SYSTEMS: PROVIDE RECESSED BOXES, CONDUIT AND PULL STRINGS FOR ALL SYSTEM COMPONENTS.

GENERAL SYSTEMS NOTES

DIVISION 27

1 PROVIDE SURFACE MOUNT ENCLOSURE AND BAFFLE FOR ALL SPEAKERS IN FINISHED SPACES WITH NO CEILINGS (EXPOSED STRUCTURE).

2 UTILIZE SLEEVES AND FIRE RATED SLEEVES AT RATED WALLS PROVIDED UNDER DIVISION 26 FOR INSTALLATION OF ALL LOW VOLTAGE CABLING. FOLLOW INDUSTRY STANDARDS TO MAINTAIN 40% FILL REQUIREMENTS IN ALL SLEEVES (SUPERSEDES NEC - DO NOT FILL SLEEVES TO CAPACITY). PROVIDE ADDITIONAL SLEEVES MEETING DIVISION 26 REQUIREMENTS AS REQUIRED.

3 SYSTEM PANEL LOCATIONS: AUXILIARY SYSTEM PANELS, POWER SUPPLIES OR OTHER EQUIPMENT ENCLOSURES SHALL NOT BE LOCATED IN TELECOM ROOMS UNLESS NOTED OTHERWISE. IF DRAWINGS DO NOT DEPICT LOCATIONS FOR AUXILIARY COMPONENTS, CONSULT OWNER OR A/E FOR APPROVED LOCATIONS PRIOR TO EQUIPMENT INSTALL.

GENERAL SYSTEMS NOTES

DIVISION 28

1 PROVIDE MINIMUM CANDELA RATINGS FOR ROOMS WITH WALL MOUNTED VISUAL NOTIFICATION APPLIANCES AS FOLLOWS:
- <20'x20' = 15cd
- <28'x28' = 30cd
- <40'x40' = 60cd
- >40'x40' = 110cd

2 PROVIDE MINIMUM CANDELA RATINGS FOR ROOMS WITH CEILING MOUNTED VISUAL NOTIFICATION APPLIANCES ON MAXIMUM 10' HIGH CEILING AS FOLLOWS:
- <20'x20' = 15cd
- <30'x30' = 30cd
- <40'x40' = 60cd
- >40'x40' = 110cd

3 INCREASE DEVICE RATINGS/SETTINGS WHEN LOCATED OFF-CENTER IN ROOMS TO MAINTAIN NFPA COVERAGE.

4 VISUAL DEVICES IN CORRIDORS SHALL BE 15cd. VISUAL DEVICES LOCATED IN OTHER AREAS SHALL BE 110cd UNLESS NOTED OTHERWISE.

5 IN ADDITION TO DEVICES SHOWN, SEE SCHEDULE SHEETS FOR FIRE ALARM SYSTEM DEVICES CONNECTIONS TO MECHANICAL EQUIPMENT.

6 PROVIDE FIRE ALARM MONITORING OF ALL FLOW AND TAMPER SWITCHES. CONFIRM QUANTITIES AND LOCATION WITH DIVISION 21.

7 UTILIZE SLEEVES AND FIRE RATED SLEEVES AT RATED WALLS PROVIDED UNDER DIVISION 26 FOR INSTALLATION OF ALL LOW VOLTAGE CABLING. FOLLOW INDUSTRY STANDARDS TO MAINTAIN 40% FILL REQUIREMENTS IN ALL SLEEVES (SUPERSEDES NEC - DO NOT FILL SLEEVES TO CAPACITY). PROVIDE ADDITIONAL SLEEVES MEETING DIVISION 26 REQUIREMENTS AS REQUIRED.

8 SYSTEM PANEL LOCATIONS: AUXILIARY SYSTEM PANELS, POWER SUPPLIES OR OTHER EQUIPMENT ENCLOSURES SHALL NOT BE LOCATED IN TELECOM ROOMS UNLESS NOTED OTHERWISE. IF DRAWINGS DO NOT DEPICT LOCATIONS FOR AUXILIARY COMPONENTS, CONSULT OWNER OR A/E PRIOR TO EQUIPMENT INSTALLATION.

9 DUCT SMOKE DETECTION: DETERMINE QUANTITY AND PLACEMENT OF DETECTORS REQUIRED FOR COVERAGE OF DUCTWORK BASED ON NFPA REQUIREMENTS. PROVIDE MECHANICAL EQUIPMENT FAN SHUTDOWN RELAY AT ALL DUCT DETECTORS. SEE HVAC PLANS FOR EQUIPMENT LOCATIONS. COORDINATE SHUTDOWN CONTROL WITH DIVISION 23.

10 SMOKE DAMPERS AND FIRE-SMOKE DAMPERS: PROVIDE FIRE ALARM CONNECTION AND 120-VOLT POWER TO EACH FIRE/SMOKE DAMPER SHOWN ON HVAC PLANS. PROVIDE DEDICATED CIRCUIT TO DAMPERS, ROUTED THROUGH NORMALLY CLOSED FIRE ALARM RELAY, MOUNTED ON WALL IN NEAREST ELECTRICAL ROOM. COORDINATE WITH DAMPER MANUFACTURER FOR SPECIFIC DAMPER LOAD REQUIREMENTS. RELAY SHALL BE CONTROLLED BY FACP, SUCH THAT, ON GENERAL ALARM DAMPERS CLOSE. FIRE ALARM CONNECTION TO DAMPER SHALL BE A SUPERVISORY CIRCUIT MONITORING STATUS OF INTEGRAL SMOKE DETECTOR, AND SHALL PROVIDE REMOTE FIRE/SMOKE DAMPER RESET. FACP SHALL INITIATE A SUPERVISORY SIGNAL WHEN INTEGRAL DETECTOR GOES INTO ALARM. FIRE/SMOKE DAMPERS MAY BE GROUPED TOGETHER ON SUPERVISORY CIRCUITS TO SIMPLIFY WIRING. COORDINATE REQUIREMENTS WITH FIRE/SMOKE DAMPER MANUFACTURER. UTILIZE SPARE 20/1 BREAKERS. LABEL TYPED PANEL DIRECTORY 'FIRE/SMOKE DAMPERS - (INDICATE AREA SERVED)'.

*** NOTE ***

ALL NOTES ON THIS SHEET ARE APPLICABLE TO ALL OTHER SHEETS IN THIS SET.

THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE APPLICABLE IN THIS SET OF DRAWINGS.

GENERAL SYMBOLS

	POINT OF DISCONNECT - DEMOLITION REMOVED FROM EXISTING
	POINT OF CONNECTION - NEW CONNECTS TO EXISTING
	AREA NOT IN CONTRACT

ELECTRICAL SYMBOLS

LIGHTING

LIGHTING FIXTURE TAG

XXX — FIXTURE TYPE
XXX-X — CKT DESIGNATION (PNL - CKT NO.)
XXX-X — RELAY PANEL - RELAY NO. OR LOCAL SWITCH DESIGNATION

LIGHTING FIXTURES

- LIGHTING FIXTURE
- LIGHTING FIXTURE ON EMERGENCY SYSTEM
- CEILING FIXTURE, SURFACE, RECESSED OR PENDANT
- LIGHTING FIXTURE ON EMERGENCY SYSTEM
- LIGHTING TRACK, TRACK MOUNTED LIGHT FIXTURES
- LIGHTING FIXTURE
- WALL MOUNTED LIGHTING FIXTURE
- WALL WASHER
- WALL MOUNTED LIGHTING FIXTURE
- EXIT SIGN, CEILING MOUNTED, DIRECTIONAL ARROW(S) AS INDICATED
- EXIT SIGN, WALL MOUNTED, DIRECTIONAL ARROW(S) AS INDICATED. MOUNT 94-INCHES AFF, UNO

AREA LIGHTING

- POLE WITH POLE MOUNTED AREA LIGHTING FIXTURE
- WALL MOUNTED AREA LIGHTING FIXTURE
- BOLLARD LIGHT FIXTURE

SWITCHES AND WALL-BOX CONTROLS

SWITCHES: MOUNT 42-INCHES AFF UNO

- SUPERSCRIPT , SWITCH SHALL CONTROL FIXUIRE DENOTED WITH SAME LOWER CASE LETTER
- SWITCH SYMBOL
- SUBSCRIPT, SWITCH TYPE - SEE BELOW
- LINE THRU SWITCH INDICATES A KEY OPERATED SWITCH

- S — SWITCH, SINGLE POLE
- S_2 — SWITCH, DOUBLE POLE
- S_3 — SWITCH, 3-WAY
- S_D — SWITCH, DIMMER
- S_{LV} — SWITCH, LOW VOLTAGE
- S_{OD} — SWITCH, WALL-BOX OCCUPANCY SENSOR, DIMMER
- S_{OS} — SWITCH, WALL-BOX OCCUPANCY SENSOR

CEILING MOUNTED LIGHTING CONTROL DEVICES
MAXIMUM MOUNTING HEIGHT OF 10-FEET AFF

- OS — OCCUPANCY SENSOR
- VS — VACANCY SENSOR

LIGHTING CONTROL DEVICES

- RP — LIGHTING CONTROL PANEL
- CV — CENTRAL INVERTER
- R — LOW VOLTAGE RELAY
- PC — PHOTOELECTRIC CELL
- LC — LIGHTING CONTACTOR
- BAT — REMOTE EMERGENCY BATTERY PACK

SAFETY

- FACP — FIRE ALARM CONTROL PANEL MOUNT CENTER OF DISPLAY 54-INCHES AFF
- FAA — FIRE ALARM ANNUNCIATOR PANEL MOUNT CENTER OF DISPLAY 54-INCHES AFF
- LOC — LOCAL OPERATOR'S CONSOLE MOUNT CENTER OF DISPLAY 54-INCHES AFF
- NAC — NOTIFICATION APPLIANCE CIRCUIT CABINET MOUNT CENTER OF DISPLAY 54-INCHES AFF
- F — MANUAL FIRE ALARM PULL STATION MOUNT 42-INCHES AFF

FIRE ALARM A/V DEVICES: MOUNT 94-INCHES AFF, OR 6-INCHES BELOW CEILING, WHICEVER IS HIGHER, UNO

- F — FIRE ALARM BELL
- F — FIRE ALARM HORN
- F — FIRE ALARM VISUAL WARNING SIGNAL
- F — FIRE ALARM BELL WITH VISUAL WARNING SIGNAL
- F — FIRE ALARM HORN WITH VISUAL WARNING SIGNAL
- F — MINI FIRE ALARM HORN WITH VISUAL WARNING SIGNAL
- F — FIRE ALARM SPEAKER WITH VISUAL WARNING SIGNAL
- F — FIRE ALARM SPEAKER, FLUSH IN CEILING
- F — FIRE ALARM SPEAKER WITH VISUAL WARNING SIGNAL, CEILING
- F — FIRE ALARM VISUAL WARNING SIGNAL, CEILING
- E — ECS SPEAKER, FLUSH IN CEILING
- E — ECS SPEAKER WITH VISUAL WARNING SIGNAL, CEILING
- E — ECS VISUAL WARNING SIGNAL, CEILING

- S — SPRINKLER SYSTEMS ELECTRIC BELL ALARM
- D — FIRE ALARM MAGNETIC DOOR HOLDER MOUNT 74-INCHES AFF
- L — REMOTE INDICATOR LAMP
- OSY — OS&Y VALVE
- FS — WATER FLOW ALARM SWITCH
- TS — TAMPER SWITCH
- T — BEAM TRANSMITTER
- R — BEAM RECEIVER
- FF — FIRE FIGHTERS TELEPHONE MOUNT 54-INCHES AFF
- DAS ANTENNA
- SFE — SITE SECURITY FIBER ENCLOSURE

- D — SMOKE DETECTOR - IONIZATION TYPE (D = DUCT)
- P D — SMOKE DETECTOR - PHOTOELECTRIC TYPE (D = DUCT)
- SMOKE DETECTOR - IONIZATION TYPE
- P — SMOKE DETECTOR - PHOTOELECTRIC TYPE
- HEAT DETECTOR RATE-OF-RISE AND FIXED TEMPERATURE, 135 F
- HEAT DETECTOR, RATE-OF-RISE AND FIXEDTEMPERATURE, 200 F
- HEAT DETECTOR, FIXED TEMPERATURE ONLY, 135 F
- HEAT DETECTOR, FIXED TEMPERATURE ONLY, 200 F

POWER

- CIRCUIT HOME RUN
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CONDUIT STUB-UP
- CONDUIT SLEEVE
- CONDUIT SEAL
- CONDUIT CONCEALED IN CEILING OR WALLS, POWER
- CONDUIT CONCEALED IN CEILING OR WALLS, OTHER (* = SEE ABBREVIATIONS)
- CONDUIT CONCEALED IN FLOOR OR UNDERGROUND, POWER
- CONDUIT CONCEALED IN FLOOR OR UNDERGROUND, OTHER (* = SEE ABBREVIATIONS)
- EXPOSED CONDUIT, POWER
- EXPOSED CONDUIT, OTHER (* = SEE ABBREVIATIONS)
- FRS — FIRE RATED SLEEVE
- T — TRANSFORMER
- XXX — BRANCH CIRCUIT PANELBOARD MOUNT 72-INCHES TO TOP
- XXX — MAIN DISTRIBUTION PANELBOARD MOUNT 72-INCHES TO TOP
- EQUIPMENT CABINET, AS NOTED
- UP — UNDERGROUND POWER CONDUIT(S)
- FO — UNDERGROUND FIBER CONDUIT(S)
- MOTOR STARTER OR DRIVE
- DISCONNECT SWITCH
- COMBINATION STARTER / DISCONNECT SWITCH
- CT — CURRENT TRANSFORMER ENCLOSURE
- M — METER
- GEN — GENERATOR
- ATS — AUTOMATIC TRANSFER SWITCH
- SYSTEM GROUND ELECTRODE
- T — THERMOSTAT
- MUSHROOM SWITCH
- MH — ELECTRICAL MANHOLE
- HH — ELECTRICAL HAND HOLE
- M — MOTOR CONNECTION, HORSEPOWER AS INDICATED
- S_F — FUSE AND SWITCH ASSEMBLY
- S_T — MANUAL CONTROLLER WITH THERMAL OVERLOAD
- S_M — MANUAL CONTROLLER W/O THERMAL OVERLOAD
- B — CIRCUIT BREAKER ENCLOSURE
- PB — PULL BOX
- EQUIPMENT CONNECTION
- CABLE TRAY, LADDER TYPE OR RUNWAY
- CABLE TRAY
- MULTI-OUTLET ASSEMBLIES MOUNT 18-INCHES AFF, UNO WHERE DENOTED 'AC', MOUNT ABOVE COUNTER
- DIVIDED SURFACE RACEWAY MOUNT 18-INCHES AFF, UNO WHERE DENOTED 'AC', MOUNT ABOVE COUNTER

PUSHBUTTON STATION: MOUNT 42-INCHES AFF UNO

- SWITCH, PUSH BUTTON, SINGLE
- SWITCH, PUSH BUTTON, DOUBLE
- SWITCH, PUSH BUTTON, TRIPLE

RECEPTACLES: MOUNT 18-INCHES AFF, UNO

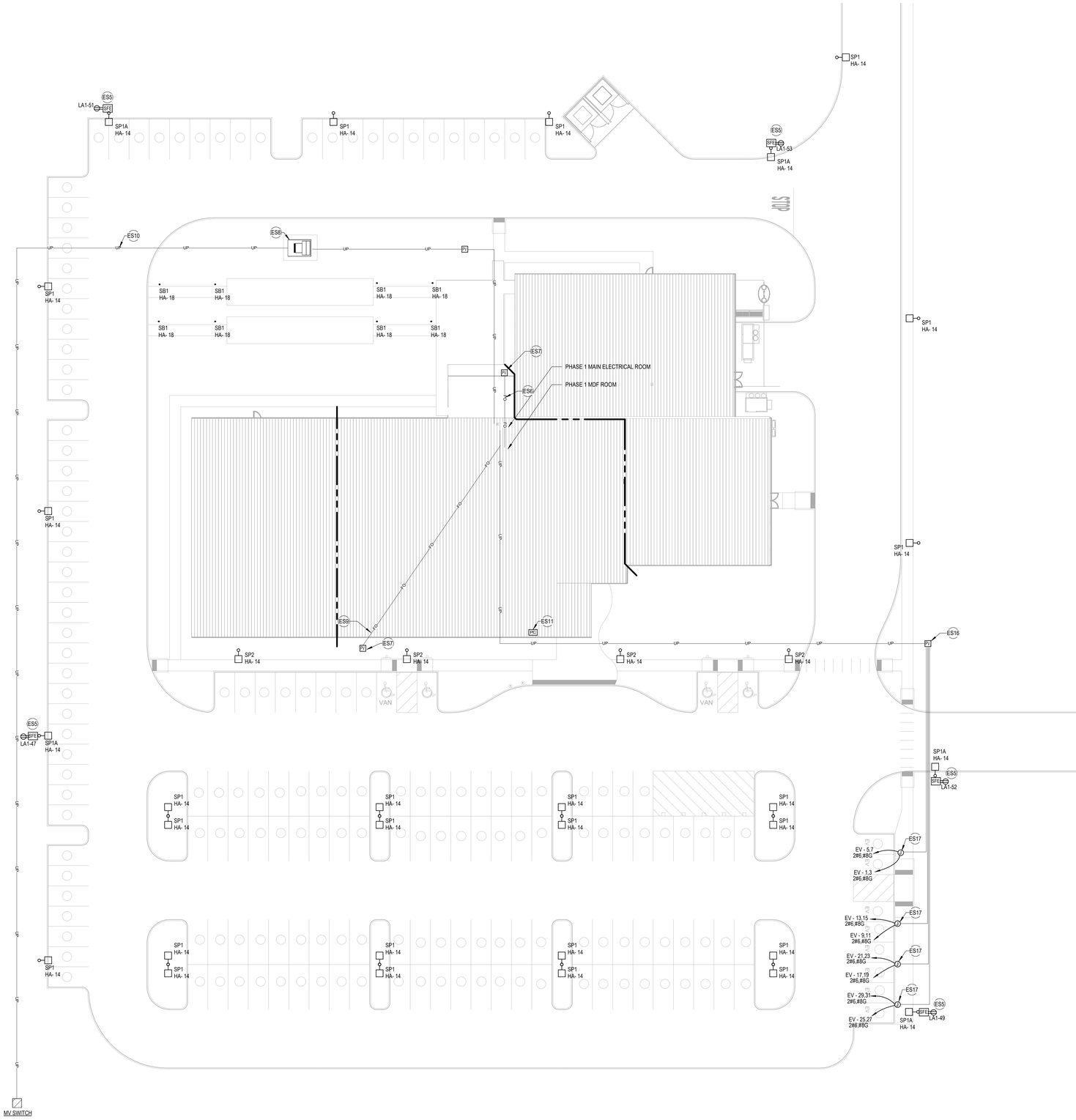
DIAGONAL LINE THROUGH SYMBOL OR DENOTED 'AC' INDICATES MOUNT DEVICE ABOVE COUNTER. WHERE INDICATED AS 'MOUNT ABOVE COUNTER' MOUNT BOTTOM OF BOX 2-INCHES ABOVE TOP OF BACKSPLASH OR 6-INCHES ABOVE COUNTERTOP IF NO BACKSPLASH EXISTS.

LABELS SHALL BE MACHINE PRINTED, UNO

- SIMPLEX RECEPTACLE
- DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE, GFI TYPE
- DUPLEX RECEPTACLE, MOUNT ABOVE COUNTER
- DUPLEX RECEPTACLE, GFI TYPE, MOUNT ABOVE COUNTER
- FOURPLEX RECEPTACLE
- FOURPLEX RECEPTACLE, GFI TYPE
- FOURPLEX RECEPTACLE, MOUNT ABOVE COUNTER
- FOURPLEX RECEPTACLE, GFI TYPE, MOUNT ABOVE COUNTER
- DUPLEX RECEPTACLE, FLUSH IN CEILING
- FOURPLEX RECEPTACLE, FLUSH IN CEILING
- CD — FOURPLEX RECEPTACLE, CORD DROP
- DUPLEX RECEPTACLE, HORIZONTALLY MOUNTED
- DUPLEX RECEPTACLE, HORIZ. MTD, GFI TYPE
- DUPLEX RECEPTACLE, HORIZ. MTD, ABOVE COUNTER
- DUPLEX RECEPTACLE, HORIZ. MTD, GFI TYPE, MOUNT ABOVE COUNTER
- R — WEATHER RESISTANT GFI DUPLEX RECEPTACLE, ROOF MOUNT 18-INCHES ABOVE ADJACENT STRUCTURE WITH A WEATHERPROOF, IN-USE COVER
- WP — WEATHER RESISTANT GFI DUPLEX RECEPTACLE, MOUNT 18-INCHES AFF WITH A WEATHERPROOF, IN-USE COVER
- EWC — STD DUPLEX RECEPTACLE TO SERVE ELECTRIC WATER COOLER, MOUNT AT HEIGHT PER EQUIPMENT MANUFACTURER'S INSTALLATION GUIDELINES. WIRE TO GFCI BKR IN PANELBOARD.
- TV — DUPLEX RECEPTACLE TO SERVE TELEVISION, MOUNT AT SAME HEIGHT AND WITHIN 8-INCHES OF ADJACENT TV OUTLET
- FOURPLEX RECEPTACLE, LEFT HALF SWITCH
- DUPLEX RECEPTACLE, EMERGENCY
- FOURPLEX RECEPTACLE, EMERGENCY
- DUPLEX RECEPTACLE, LOWER SWITCH
- DUPLEX RECEPTACLE, SWITCHED
- RANGE RECEPTACLE, MOUNT 8-INCHES AFF
- SPECIAL RECEPTACLE, DEEP WELL BOX
- FLUSH FLOOR OUTLET BOX UNO
- FLUSH FLOOR BOX WITH DUPLEX RECEPTACLE UNO
- MULTI-DEVICE FLOOR BOX WITH DUPLEX, RECEPTACLE AND TELECOMMUNICATIONS OUTLETS
- USB — USB ONLY RECEPTACLE
- USB — RECEPTACLE WITH USB PORTS
- J — FLUSH JUNCTION BOX, CEILING MOUNTED
- JP — JUNCTION BOX FOR FUTURE PROJECTOR POWER MOUNT 24-INCHES ABOVE SUSPENDED CEILING MOUNT TIGHT TO CEILING AT EXPOSED STRUCTURE LABEL BOX COVER 'PROJECTOR POWER'
- JUNCTION BOX ABOVE SUSPENDED CEILING WITH FLEX CONNECTION
- J — FLUSH JUNCTION BOX, WALL MOUNTED
- J — SURFACE JUNCTION BOX, WALL MOUNTED
- J — SURFACE JUNCTION BOX, CEILING MOUNTED
- HD — HAND DRYER, INSTALL HAND DRYER SPECIFIED IN DIV. 11
- UV — UTILITY VAULT
- PV — PULL VAULT

ONE-LINE DIAGRAM

- X — ENCLOSED CONTROLLER (ACROSS-THE-LINE UNO) MOUNT 60-INCHES AFF TO TOP
  X = STARTER NEMA SIZE
- XXX / XXAF / XX — ENCLOSED SWITCH; MOUNT 60-INCHES AFF TO TOP
  XXX = AMP RATING / NO. OF POLES
  XXAF = FUSE SIZE; AF=AMP FUSE; NF=NO FUSE
  X = STARTER NEMA SIZE
- XXX / XXAF / XX — COMBINATION CONTROLLER | DISCONNECT; MOUNT 60-INCHES AFF TO TOP
  XXX = AMP RATING / NO. OF POLES
  XXAF = FUSE SIZE: AF=AMP FUSE; NF=NO FUSE
  XX = ENCLOSURE NEMA RATING; BLANK=NEMA 1; WP=NEMA 3R
- M — METER SOCKET/METER
- SPD — SURGE PROTECTION DEVICE
- T / XX / Y — TRANSFORMER
  T = TRANSFORMER ID
  XX = SIZE
- XXXX / LSIG — BREAKER
  XXXX = AMP RATING / POLES
  LSIG = ADJUSTABLE SETTINGS (WHERE NOTED)
  L = LONG TIME
  S = SHORT TIME
  I = INSTANTANEOUS
  G = GROUND FAULT PROTECTION OF EQUIPMENT
  GFPE = GROUND FAULT PROTECTION OF EQUIPMENT
  ERMS = ENERGY REDUCTION M



SHEET NOTES

ES5 POLE MOUNTED SITE CAMERA. SEE CIVIL DRAWINGS FOR EXACT LOCATION. PROVIDE SECURITY ENCLOSURE MOUNTED DIRECTLY TO POLE FOR COPPER TO FIBER CONVERSION EQUIPMENT. FIBER TO BE ROUTED UNDERGROUND IN PVC CONDUIT BACK TO MDF ROOM. PROVIDE PULL BOX AT BASE OF POLE TO ALLOW FOR PULLING OF FIBER. SEE SHEET E6.2 FOR POLE REQUIREMENTS.

ES6 PROVIDE PULL VAULT TO INTERCEPT EXISTING FIBER COMMUNICATION CONDUIT DUCT BANK OF (4) 2" CONDUITS INSTALLED UNDER HUB SITE CONTRACT AND EXTEND CONDUITS TO MDF ROOM LOCATION. NEW CONDUITS ARE TO BE CONCRETE ENCASED. PROVIDE (1) 144 STRAND OS2 FIBER FROM 1A OR OTHER SSNR RACK. PROVIDE (1) 48 STRAND SM FIBER FOR CLASS X LOOP FA FROM DATA CENTER SSNR RAN IN SEPARATE CONDUIT FROM OS2 FIBER. PROCUREMENT, INSTALLATION, TERMINATION, AND TESTING OF FIBER AT BOTH SSNR AND HUB MDF RACK SHALL BE UNDER DCS LVC CONTRACT.

ES7 PROVIDE MINIMUM 24"X36" PULL VAULT FOR COMMUNICATION CONDUITS.

ES8 PROVIDE NEW MEDIUM VOLTAGE TRANSFORMER ON PAD FOR BUILDING SERVICE. PRECAST PAD FOR MADDOX TRANSFORMER PROVIDED BY OWNER, BASIS OF DESIGN OLDCASTLE. SEE ONE LINE DIAGRAM FOR CONDUIT SIZING.

ES9 PROVIDE PULL VAULT TO INTERCEPT EXISTING FIBER COMMUNICATION CONDUIT DUCT BANK OF (4) 2" CONDUITS INSTALLED UNDER HUB SITE CONTRACT AND EXTEND CONDUITS TO MDF ROOM LOCATION. NEW CONDUITS ARE TO BE CONCRETE ENCASED. PROVIDE (1) 144 STRAND OS2 FIBER FROM 1A OR OTHER SSNR RACK. PROCUREMENT, INSTALLATION, TERMINATION, AND TESTING OF FIBER AT BOTH SSNR AND HUB MDF RACK SHALL BE UNDER DCS LVC CONTRACT.

ES10 PROVIDE CONNECTION TO NEW MEDIUM VOLTAGE SWITCH FOR PRIMARY FEEDER TO BUILDING TRANSFORMER. CONFIRM CONDUIT SIZING WITH DC DISTRIBUTION DESIGN TEAM PRIOR TO INSTALLATION. COORDINATE MEDIUM VOLTAGE SWITCH REQUIREMENTS WITH UTILITY FOR NEW MEDIUM VOLTAGE SERVICE TO SITE.

ES11 PROVIDE PHOTO CELL MOUNTED TO EDGE OF EXTERIOR ROOFTOP FOR CONTROL OF PARKING LOT BOLLARD LIGHTS AND BUILDING MOUNTED SCONCES WITHOUT INTEGRAL PHOTOCELLS. CONTRACTOR TO FIELD VERIFY OPTIMUM LOCATION TO AVOID SHADING FROM EQUIPMENT OR BUILDING FEATURES. PHOTO CELL TO BE CONFIGURED SO THAT IN THE EVENT OF FAILURE FIXTURES WILL BE SET TO "ON".

ES16 PROVIDE PULL VAULT FOR CONNECTION TO EV CHARGER CONDUIT STUBS. SEE CIVIL DRAWINGS FOR EXACT LOCATIONS. PROVIDE (2) 2" CONDUITS FROM PULL VAULT TO PANEL EV LOCATION IN ELECTRICAL ROOM.

ES17 PROVIDE 1" SCHEDULE 40 PVC CONDUIT TO EACH EV CHARGER LOCATION. COORDINATE STUB UP LOCATION AND INSTALLATION REQUIREMENTS WITH CIVIL AND CHARGER MANUFACTURER INSTALLATION INSTRUCTIONS PRIOR TO TRENCHING.

N

ELECTRICAL SITE PLAN

SCALE: 1" = 20'-0"

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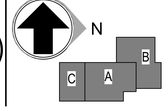
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CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



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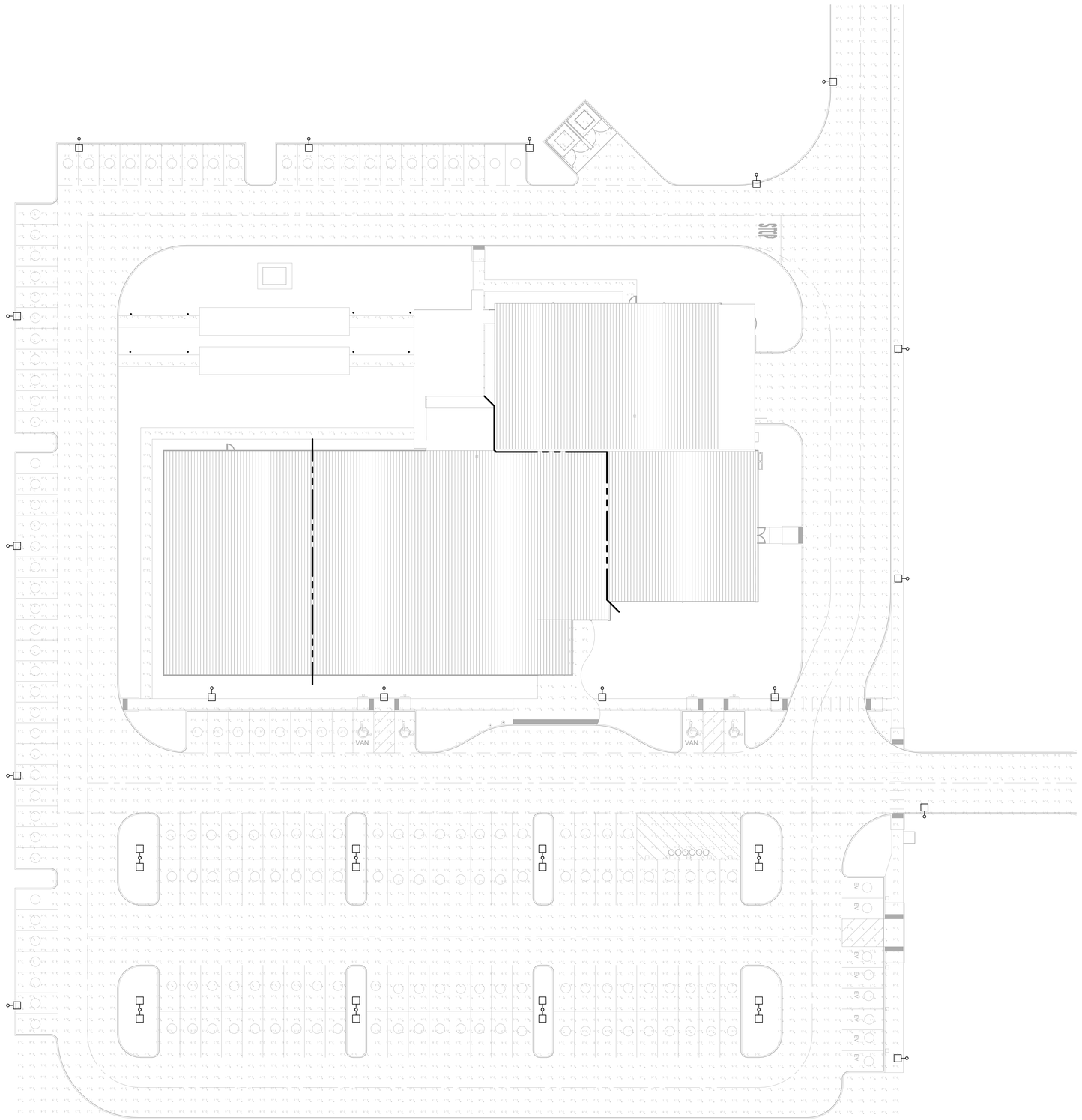
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ELECTRICAL SITE PLAN

SCALE: 1" = 20'-0"

SHEET NUMBER:
ES1.1A

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SITE PHOTOMETRIC PLAN
SCALE: 1" = 20'-0"

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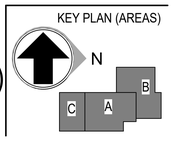
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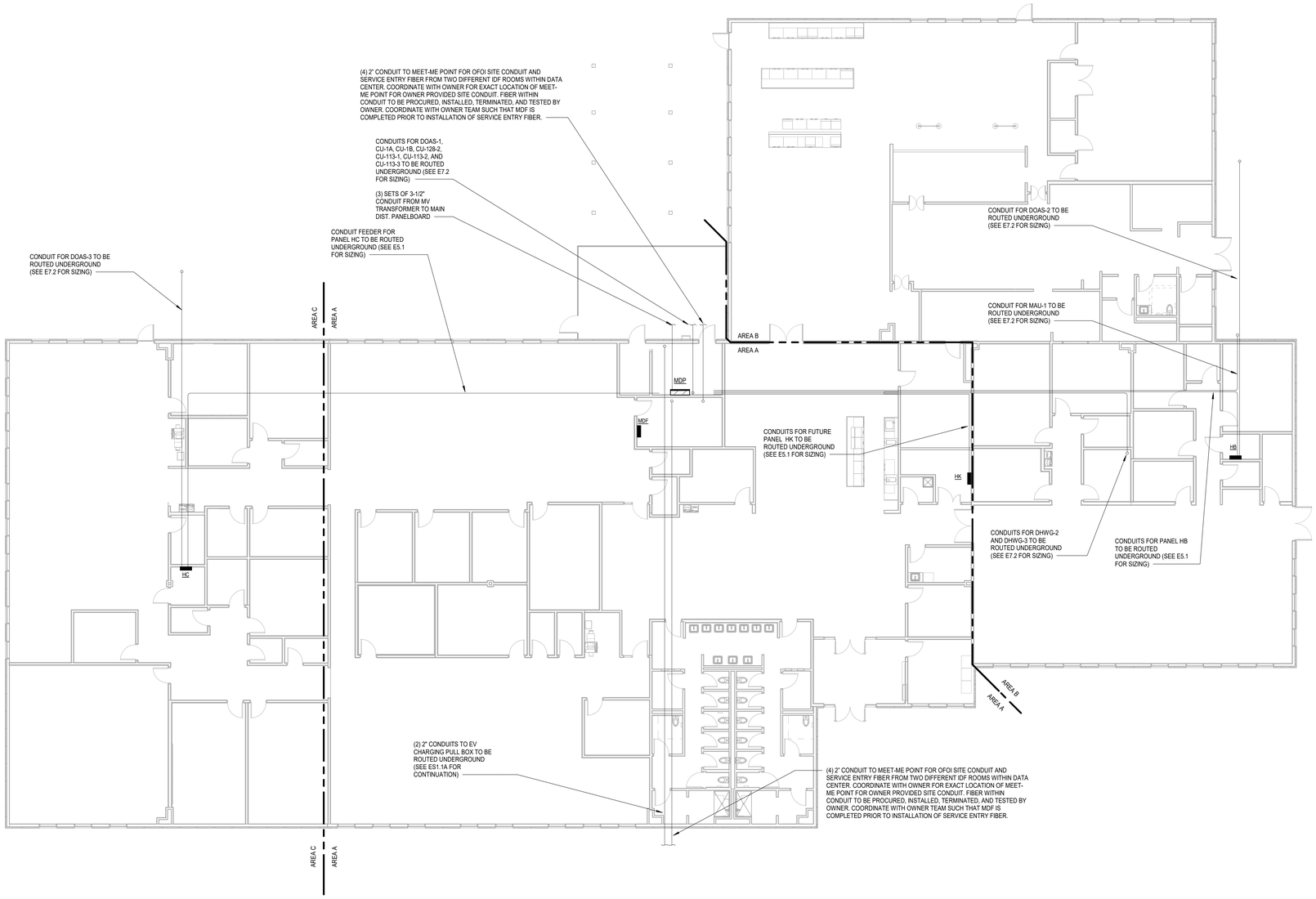
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SITE PHOTOMETRIC PLAN

SCALE: 1" = 20'-0"

SHEET NUMBER:
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ELECTRICAL UNDERGROUND UTILITY PLAN

SCALE: 1" = 10'-0"

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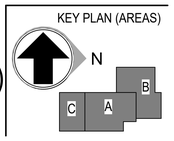
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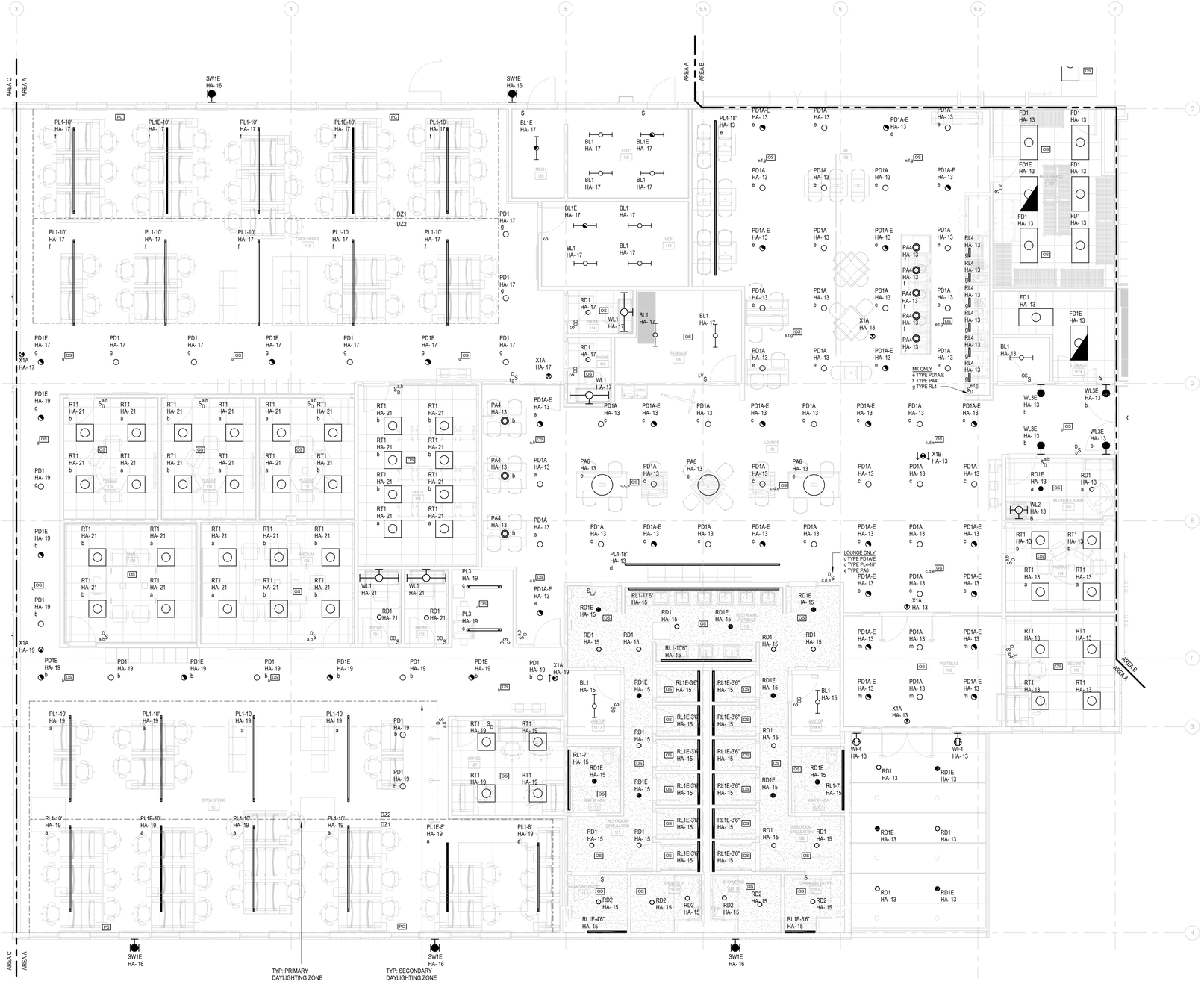
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ELECTRICAL UTILITY CONNECTIONS

SCALE: 1" = 10'-0"

SHEET NUMBER:
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AREA A MOUNTING SCHEDULE

ROOM	TYPE	MOUNTING HEIGHT	NOTES
OPEN OFFICE	PL1 SERIES	9'-0" AFF	
PHONE ROOMS	WL1	6'-6" AFF	
COPY AREA	PL3	9'-0" AFF	
CIRCULATION	PD1 SERIES	9'-0" AFF	
LOUNGE 101	PA4 PD1A SERIES PL4 PA6 WF3E	6'-8" AFF 9'-0" AFF 10'-6" AFF 6'-8" AFF 5'-0" AFF TO CENTER OF LUMINAIRE	IF THERE IS NO OBSTRUCTION TO LIGHT, INSTALL AS HIGH AS POSSIBLE
INFORMAL 101A	PA4	6'-8" AFF	
MK108	PA4 PD1A SERIES PL4 WF3	VARIABLE 9'-0" AFF 10'-6" AFF 4'-0" AFF TO CENTER OF LUMINAIRE	SEE INTERIOR ELEVATIONS IF THERE IS NO OBSTRUCTION TO LIGHT, INSTALL AS HIGH AS POSSIBLE
EXTERIOR	WF4 SW1	6'-0" AFF TO CENTER OF LUMINAIRE 7'-0" AFF	

NOTE: ALL AFF MEASUREMENTS ARE TO THE BOTTOM OF THE LUMINAIRE UNLESS OTHERWISE NOTED

LIGHTING PLAN - AREA A

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

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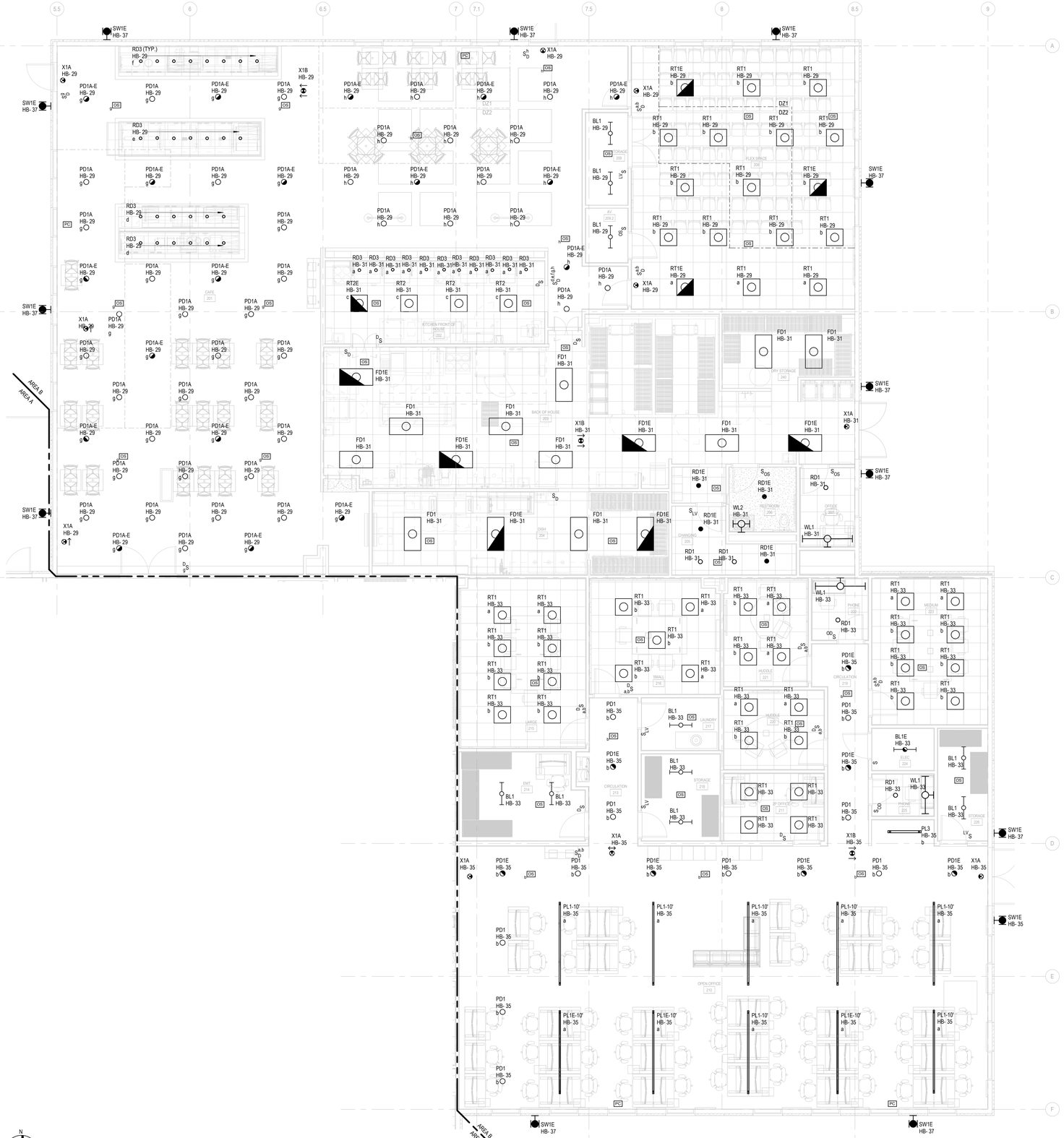
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LIGHTING PLAN - AREA A
SCALE: 3/16" = 1'-0"

SHEET NUMBER: E1.11
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AREA B MOUNTING SCHEDULE

ROOM	TYPE	MOUNTING HEIGHT	NOTES
OPEN OFFICE	PL1 SERIES	9'-0"	
PHONE ROOMS	WL1	6'-6" TO BOTTOM OF LUMINAIRE	
COPY AREA	PL3	9'-0" AFF	
CIRCULATION	PD1 SERIES	9'-0" AFF	
CAFE 201	PD1A SERIES PL4	9'-0" AFF 10'-6" AFF	IF THERE IS NO OBSTRUCTION TO LIGHT, INSTALL AS HIGH AS POSSIBLE
EXTERIOR	WF4 SW1	6'-0" AFF TO CENTER OF LUMINAIRE 7'-0" AFF	

NOTE: ALL AFF MEASUREMENTS ARE TO THE BOTTOM OF THE LUMINAIRE

LIGHTING PLAN - AREA B

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

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9/22/25
OKLAHOMA

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2025-09-22

KEY PLAN (AREAS)

N
B
C A

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LIGHTING PLAN - AREA B (4.0)

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

SHEET NUMBER:
E1.22.0

PHASE: BUILDING PERMIT DOCUMENTS



AREA C MOUNTING SCHEDULE

ROOM	TYPE	MOUNTING HEIGHT	NOTES
OPEN OFFICE	PL1 SERIES	9'-0"	
PHONE ROOMS	WL1	6'-6" TO BOTTOM OF LUMINAIRE	
COPY AREA	PD1	9'-0" AFF	
CIRCULATION	PD1 SERIES	9'-0" AFF	
EXTERIOR	SW1	7'-0" AFF	

NOTE: ALL AFF MEASUREMENTS ARE TO THE BOTTOM OF THE LUMINAIRE

N TRUE

LIGHTING PLAN - AREA C

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

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9/22/25
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KEY PLAN (AREAS)

N
B
C
A

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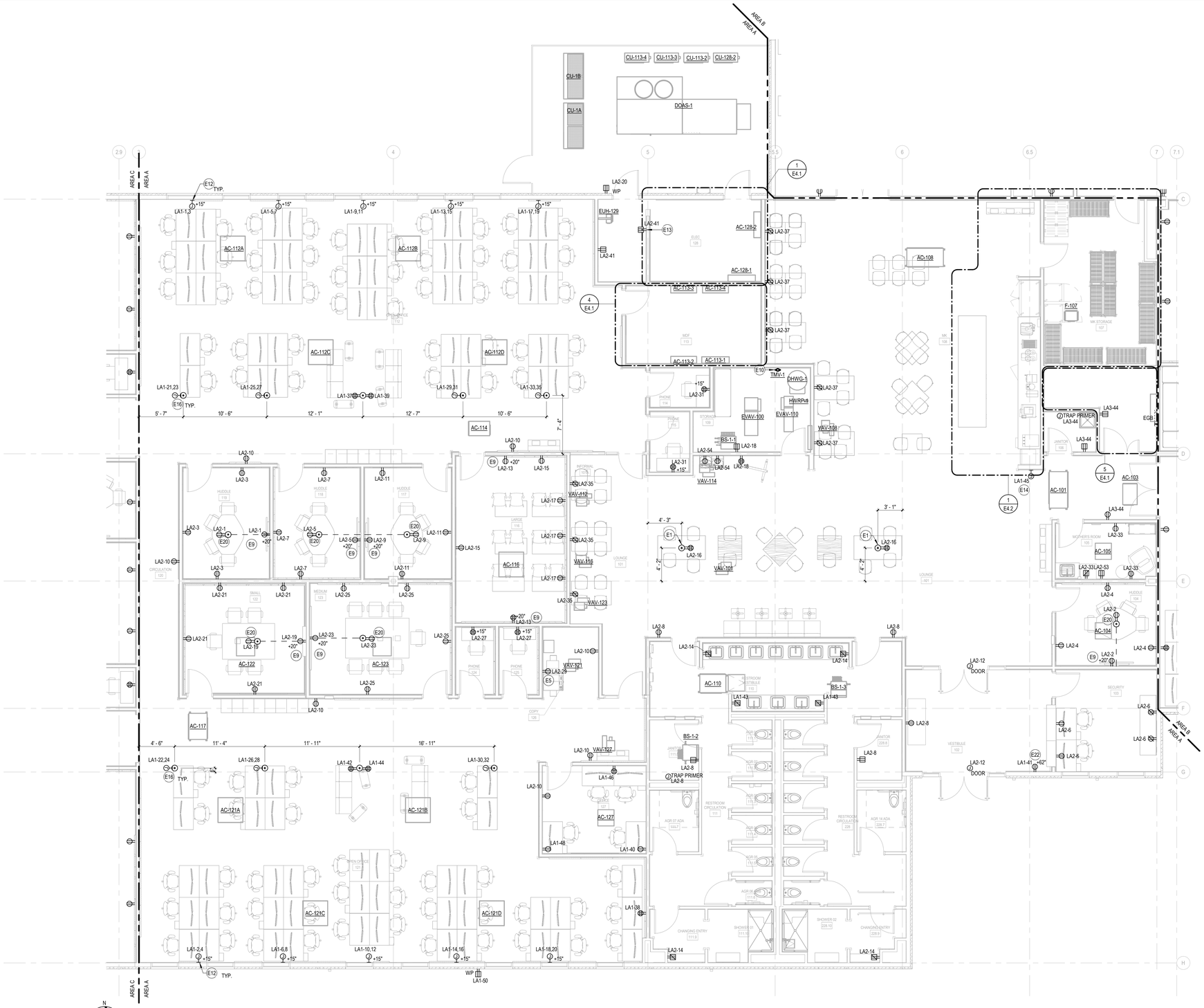
PROJ. NO. 43-25105-00

LIGHTING PLAN - AREA C

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

SHEET NUMBER:
E1.33

PHASE: BUILDING PERMIT DOCUMENTS



POWER PLAN - AREA A

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

SHEET NOTES

- E1 PROVIDE FLUSH FLOOR BOX FOR POWER DISTRIBUTION, BASIS OF DESIGN LEGRAND RFBA SERIES.
- E5 VERIFY CIRCUIT AND RECEPTACLE REQUIREMENTS FOR PRINTERS WITH OWNER.
- E9 COORDINATE DEVICE LOCATIONS WITH AV DRAWINGS PRIOR TO ROUGH-IN.
- E10 PROVIDE 120V CONNECTION TO THERMOSTATIC MIXING VALVE FROM GENERAL PURPOSE RECEPTACLE CIRCUIT WITHIN THIS SPACE. CONFIRM FINAL ROUGH IN REQUIREMENTS WITH SUBMITTALS AS TO WHAT CONNECTION TYPE MIXING VALVE WILL REQUIRE.
- E12 PROVIDE HARDWIRED CONNECTION TO 4+4 WIRE SYSTEMS FURNITURE POWER SPINE. SEE MANUFACTURER SHOP DRAWINGS FOR EXACT CONNECTION DETAILS AND REQUIREMENTS.
- E13 PROVIDE OUTLET FOR CONNECTION TO WATER SOFTENER SYSTEM. FIELD VERIFY EXACT LOCATION WITH MECHANICAL CONTRACTOR TO ENSURE THAT CORD FROM WATER SOFTENER IS ABLE TO REACH OUTLET WITH STOCK FACTORY PLUG CORD.
- E14 PROVIDE CONNECTION TO TRAKA KEY BOX. VERIFY FINAL MOUNTING HEIGHT AND LOCATION WITH SECURITY TEAM PRIOR TO ROUGH IN.
- E16 PROVIDE HARDWIRED CONNECTION TO 4+4 WIRE FURNITURE SYSTEM SPINE VIA FLOOR CORE AS SHOWN. BASIS OF DESIGN LEGRAND RFBA SERIES
- E20 PROVIDE SURFACE MOUNTED, DUAL CHANNEL RACEWAY, BY CONNECTRAC, FOR POWER AND A/V CABLING AS SHOWN. CONTRACTOR TO RUN POWER AND A/V FROM CABINET BELOW DISPLAY TO FURNITURE LOCATION AS SHOWN. PROVIDE ALL NECESSARY TRANSITION PIECES TO MEET LOCAL CODES. COORDINATE WITH A/V INSTALLER PRIOR TO ROUGH-IN.
- E22 CONFIRM FINAL MOUNTING HEIGHT AND CONNECTION TYPE FOR BIOMETRIC READER WITH SECURITY TEAM PRIOR TO ROUGH IN.

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KEY PLAN (AREAS)

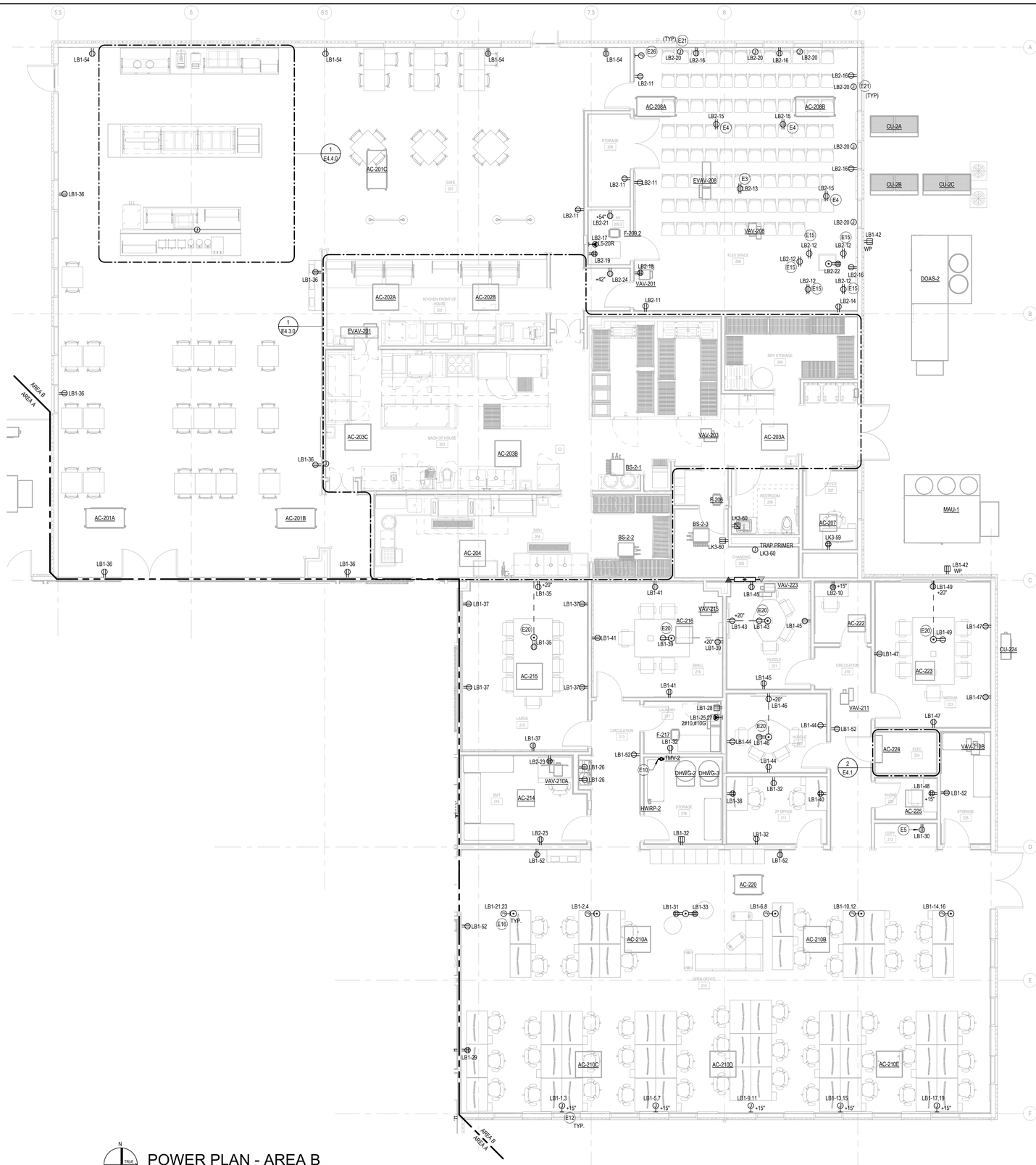
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PROJ. NO. 43-25105-00

POWER PLAN - AREA A
SCALE: 3/16" = 1'-0"

SHEET NUMBER:
E2.11
PHASE: BUILDING PERMIT DOCUMENTS



SHEET NOTES

E3 PROVIDE CEILING MOUNTED RECEPTACLE FOR PROJECTOR AS SHOWN. CONFIRM EXACT LOCATION AND INSTALLATION INSTRUCTIONS WITH AV DRAWINGS PRIOR TO ROUGH IN.

E4 PROVIDE CEILING MOUNTED RECEPTACLE FOR DISPLAY MONITOR FOR LECTURN. CONFIRM EXACT LOCATION AND INSTALLATION INSTRUCTIONS WITH AV DRAWINGS PRIOR TO ROUGH IN.

E5 VERIFY CIRCUIT AND RECEPTACLE REQUIREMENTS FOR PRINTERS WITH OWNER.

E10 PROVIDE 120V CONNECTION TO THERMOSTATIC MIXING VALVE FROM GENERAL PURPOSE RECEPTACLE CIRCUIT WITHIN THIS SPACE. CONFIRM FINAL ROUGH IN REQUIREMENTS WITH SUBMITTALS AS TO WHAT CONNECTION TYPE MIXING VALVE WILL REQUIRE.

E12 PROVIDE HARDWIRED CONNECTION TO 4+4 WIRE SYSTEMS FURNITURE POWER SPINE. SEE MANUFACTURER SHOP DRAWINGS FOR EXACT CONNECTION DETAILS AND REQUIREMENTS.

E15 PROVIDE CEILING MOUNTED RECEPTACLE FOR AV SYSTEM LIGHTING. PROVIDE ADDITIONAL JUNCTION BOX ADJACENT TO OUTLET FOR MOUNTING OF LIGHT FIXTURE. CONFIRM EXACT LOCATION AND INSTALLATION INSTRUCTIONS WITH AV DRAWINGS PRIOR TO ROUGH IN

E16 PROVIDE HARDWIRED CONNECTION TO 4+4 WIRE FURNITURE SYSTEM SPINE VIA FLOOR CORE AS SHOWN. BASIS OF DESIGN LEGRAND RFBA SERIES

E20 PROVIDE SURFACE MOUNTED, DUAL CHANNEL RACEWAY, BY CONNECTRAC, FOR POWER AND A/V CABLING AS SHOWN. CONTRACTOR TO RUN POWER AND A/V FROM CABINET BELOW DISPLAY TO FURNITURE LOCATION AS SHOWN. PROVIDE ALL NECESSARY TRANSITION PIECES TO MEET LOCAL CODES. COORDINATE WITH A/V INSTALLER PRIOR TO ROUGH-IN.

E21 PROVIDE SINGLE GANG JUNCTION BOX ON STRUCTURAL DECK FOR MOTORIZED SHADE CONTROLLER. COORDINATE EXACT POWER REQUIREMENTS WITH INSTALLER PRIOR TO ROUGH-IN. TIE INTO WALL-MOUNTED CONTROL SWITCH.

E26 PROVIDE SINGLE GANG JUNCTION BOX FOR MOTORIZED SHADE CONTROL AT 48" AFF. VERIFY EXACT REQUIREMENTS WITH INSTALLER PRIOR TO ROUGH-IN.

POWER PLAN - AREA B

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

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KEY PLAN (AREAS)

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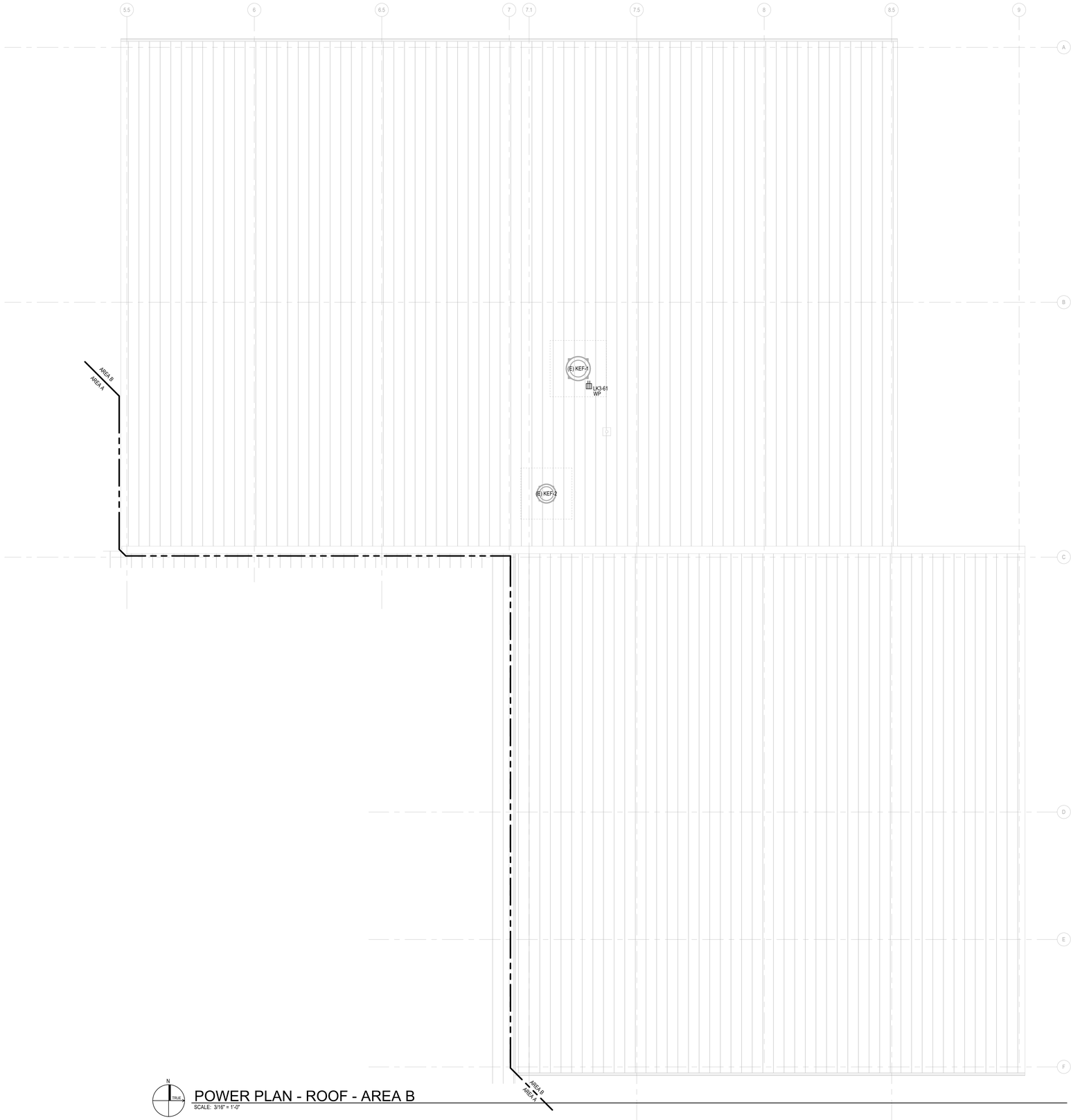
POWER PLAN - AREA B (4.0)

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

SHEET NUMBER:
E2.22.0

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TRUE

POWER PLAN - ROOF - AREA B
SCALE: 3/16" = 1'-0"

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KEY PLAN (AREAS)
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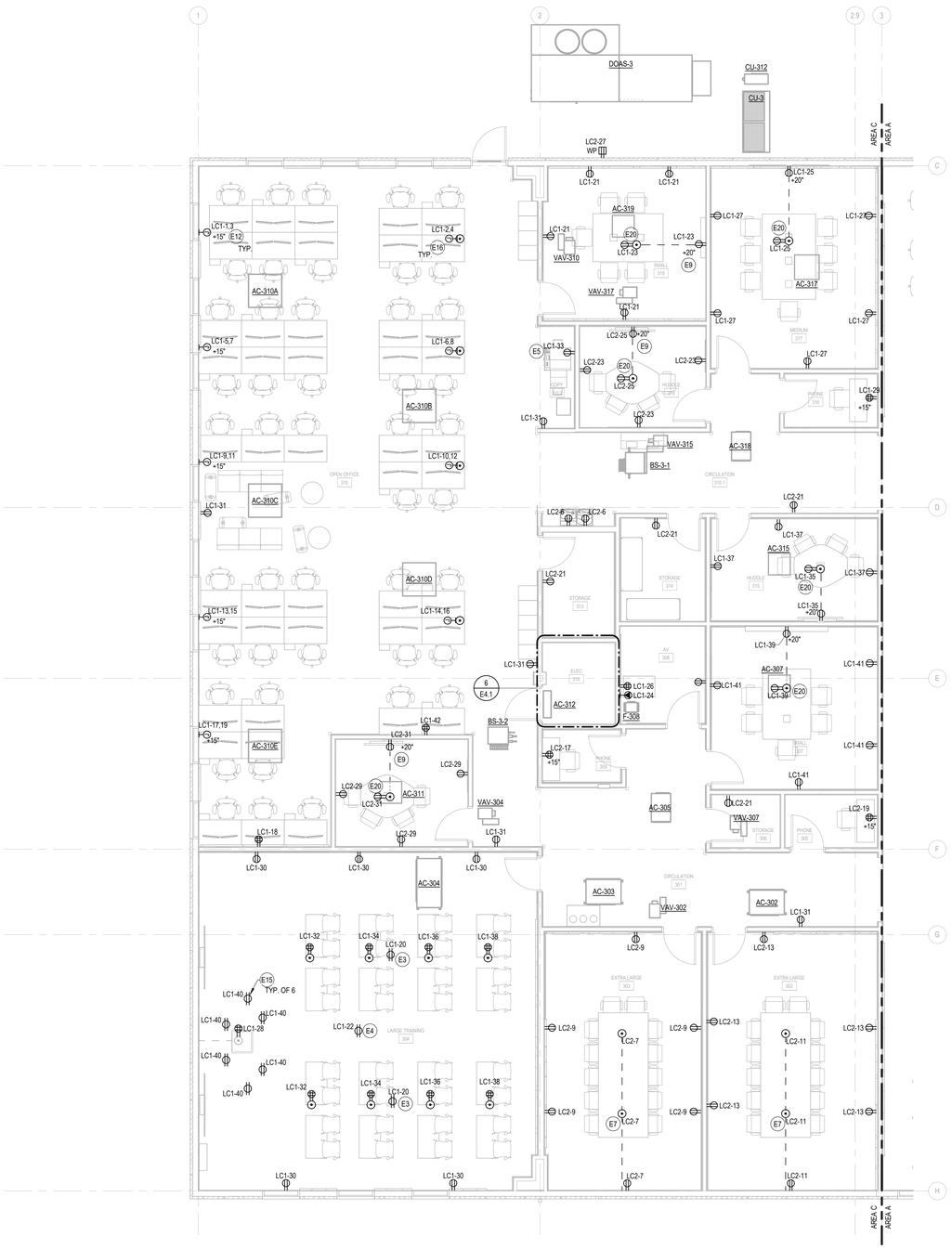
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POWER PLAN - AREA B - ROOF (4.0)

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

SHEET NUMBER:
E2.22R.0

PHASE: BUILDING PERMIT DOCUMENTS



N

TRUE

POWER PLAN - AREA C

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

SHEET NOTES

- E3 PROVIDE CEILING MOUNTED RECEPTACLE FOR PROJECTOR AS SHOWN. CONFIRM EXACT LOCATION AND INSTALLATION INSTRUCTIONS WITH AV DRAWINGS PRIOR TO ROUGH IN.
- E4 PROVIDE CEILING MOUNTED RECEPTACLE FOR DISPLAY MONITOR FOR LECTURN. CONFIRM EXACT LOCATION AND INSTALLATION INSTRUCTIONS WITH AV DRAWINGS PRIOR TO ROUGH IN.
- E5 VERIFY CIRCUIT AND RECEPTACLE REQUIREMENTS FOR PRINTERS WITH OWNER.
- E7 PROVIDE SURFACE MOUNTED, DUAL CHANNEL RACEWAY, BY CONNECTRAC, FOR POWER AND A/V CABLING AS SHOWN. CONTRACTOR TO RUN POWER AND A/V FROM CABINET BELOW DISPLAY TO FURNITURE LOCATION AS SHOWN. PROVIDE WHIP FROM RACEWAY TO FURNITURE. PROVIDE ALL NECESSARY TRANSITION PIECES TO MEET LOCAL CODES. COORDINATE WITH A/V INSTALLER PRIOR TO ROUGH-IN.
- E9 COORDINATE DEVICE LOCATIONS WITH AV DRAWINGS PRIOR TO ROUGH-IN.
- E12 PROVIDE HARDWIRED CONNECTION TO 4+4 WIRE SYSTEMS FURNITURE POWER SPINE. SEE MANUFACTURER SHOP DRAWINGS FOR EXACT CONNECTION DETAILS AND REQUIREMENTS.
- E15 PROVIDE CEILING MOUNTED RECEPTACLE FOR AV SYSTEM LIGHTING. PROVIDE ADDITIONAL JUNCTION BOX ADJACENT TO OUTLET FOR MOUNTING OF LIGHT FIXTURE. CONFIRM EXACT LOCATION AND INSTALLATION INSTRUCTIONS WITH AV DRAWINGS PRIOR TO ROUGH IN
- E16 PROVIDE HARDWIRED CONNECTION TO 4+4 WIRE FURNITURE SYSTEM SPINE VIA FLOOR CORE AS SHOWN. BASIS OF DESIGN LEGRAND RFBA SERIES
- E20 PROVIDE SURFACE MOUNTED, DUAL CHANNEL RACEWAY, BY CONNECTRAC, FOR POWER AND A/V CABLING AS SHOWN. CONTRACTOR TO RUN POWER AND A/V FROM CABINET BELOW DISPLAY TO FURNITURE LOCATION AS SHOWN. PROVIDE ALL NECESSARY TRANSITION PIECES TO MEET LOCAL CODES. COORDINATE WITH A/V INSTALLER PRIOR TO ROUGH-IN.

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KEY PLAN (AREAS)

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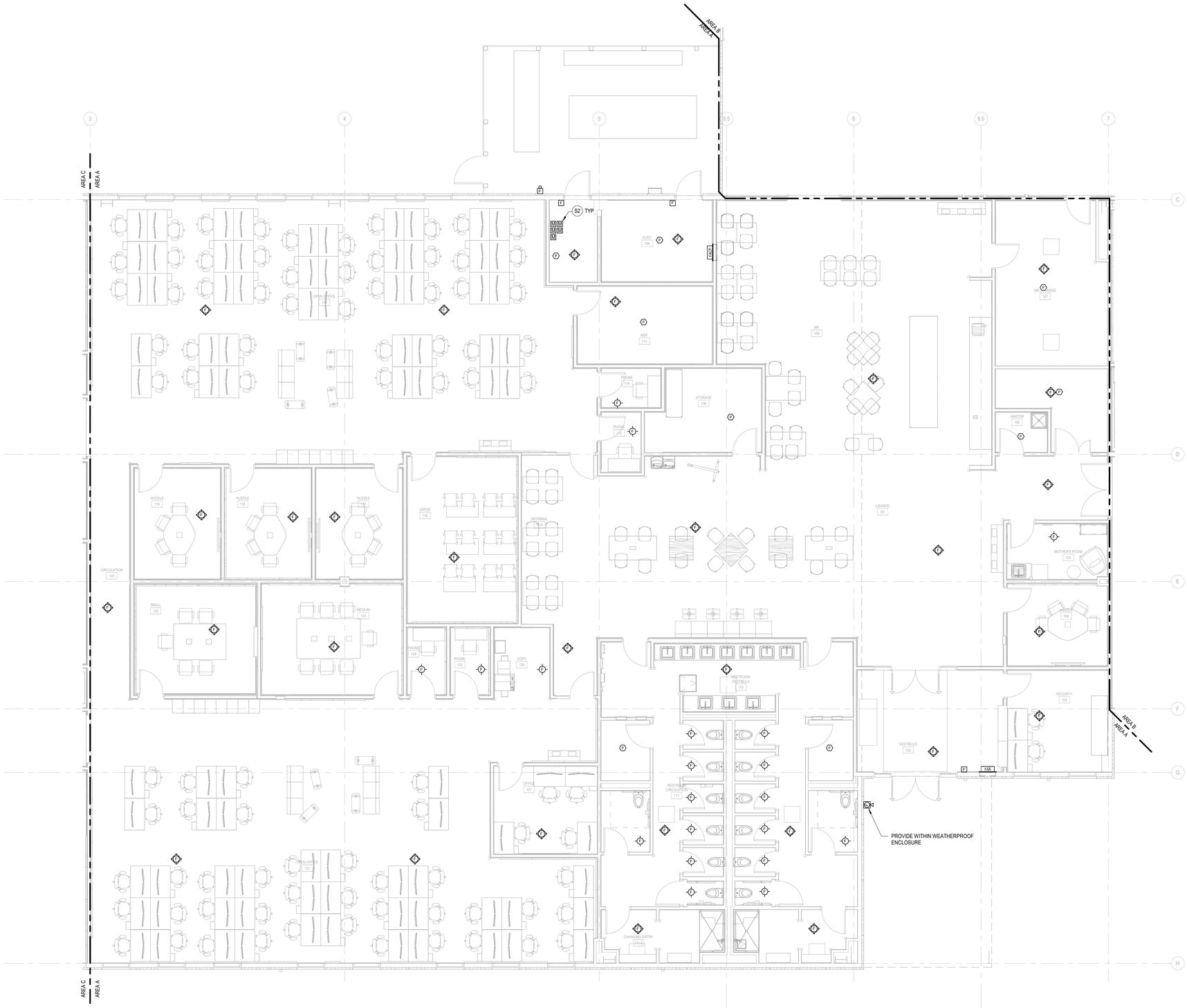
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POWER PLAN - AREA C

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

SHEET NUMBER:
E2.33

PHASE: BUILDING PERMIT DOCUMENTS



FIRE ALARM PLAN - AREA A

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

GENERAL NOTES

A EC SHALL COORDINATE ANY AND ALL NECESSARY INSTALLATION OF JUNCTION BOXES AND CONDUIT WITH LOW VOLTAGE, SECURITY, A/V INSTALLERS PRIOR TO ROUGH-IN.

B ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED BARRIERS TO BE FILLED WITH FIRE-STOPPING MATERIAL TO MAINTAIN RATING OF ASSOCIATED BARRIER.

C CONTRACTOR TO PROVIDE DEDICATED 120V/20A CIRCUIT TO DUCT MOUNTED SMOKE DETECTOR FOR EQUIPMENT SUPPLYING MORE THAN 2,000CFM OF AIRFLOW. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND REQUIREMENTS.

SHEET NOTES

S2 COORDINATE MOUNTING LOCATION FOR MONITORING FLOW AND TAMPER SWITCHES WITH FIRE SPRINKLER INSTALLER.

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KEY PLAN (AREAS)

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FIRE ALARM PLAN - AREA A

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

SHEET NUMBER:
E3.11

PHASE: BUILDING PERMIT DOCUMENTS



N
TRUE

FIRE ALARM PLAN - AREA B

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

GENERAL NOTES

A EC SHALL COORDINATE ANY AND ALL NECESSARY INSTALLATION OF JUNCTION BOXES AND CONDUIT WITH LOW VOLTAGE, SECURITY, A/V INSTALLERS PRIOR TO ROUGH-IN.

B ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED BARRIERS TO BE FILLED WITH FIRE-STOPPING MATERIAL TO MAINTAIN RATING OF ASSOCIATED BARRIER.

C CONTRACTOR TO PROVIDE DEDICATED 120V/20A CIRCUIT TO DUCT MOUNTED SMOKE DETECTOR FOR EQUIPMENT SUPPLYING MORE THAN 2,000CFM OF AIRFLOW. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND REQUIREMENTS.

SHEET NOTES

S15 PROVIDE SINGLE GANG JUNCTION BOX FOR CONNECTION OF AV RACK TO FIRE ALARM SYSTEM AND SECURITY SYSTEM. PROVIDE (2) 3/4" CONDUITS FROM JUNCTION BOX STUBBED UP TO CEILING SPACE ABOVE FOR CABLING. SEE AV DRAWING TA-401 FOR ADDITIONAL INFORMATION.

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KEY PLAN (AREAS)

N
B
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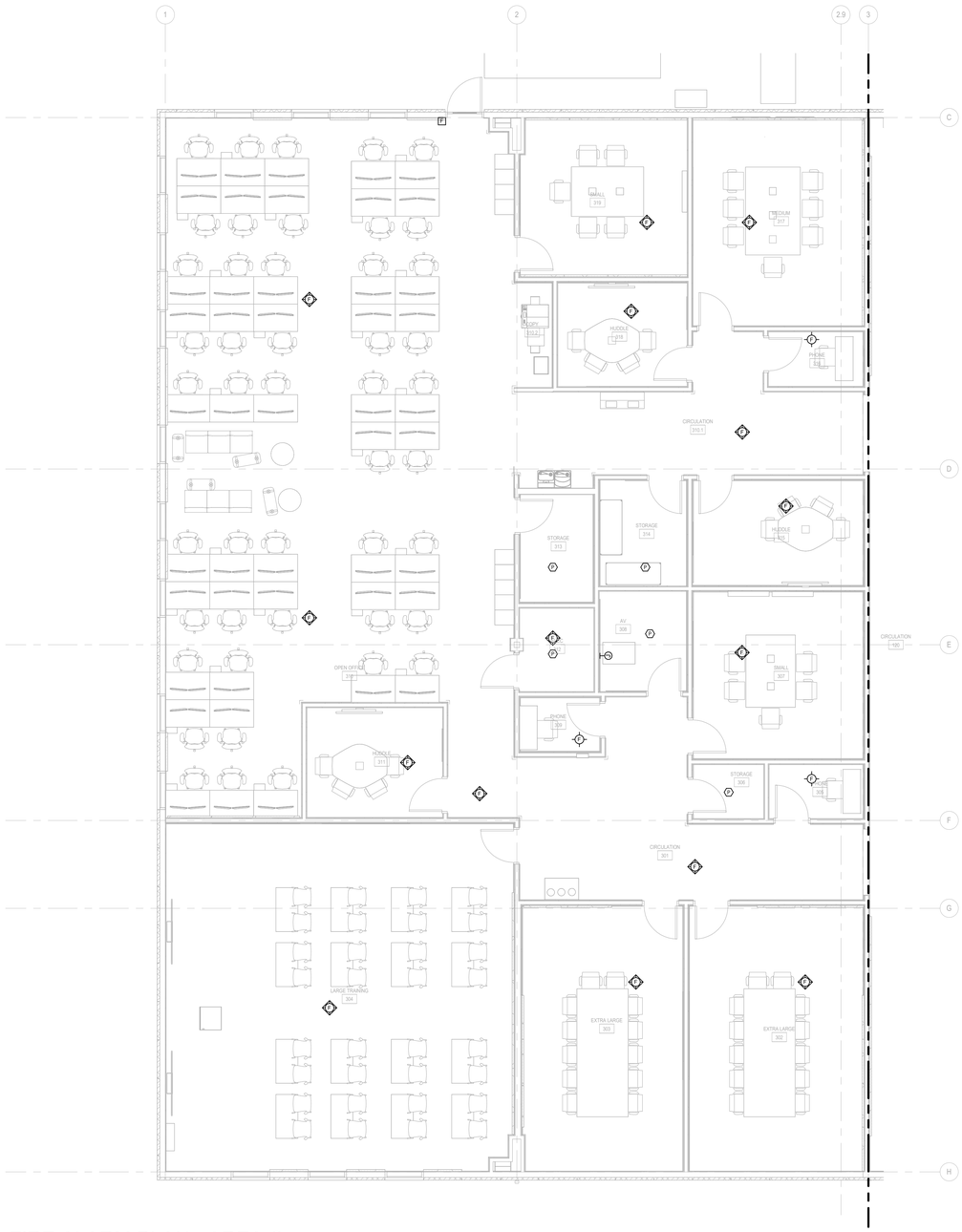
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FIRE ALARM PLAN - AREA B (4.0)

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

SHEET NUMBER:
E3.22.0

PHASE: BUILDING PERMIT DOCUMENTS



N

FIRE ALARM PLAN - AREA C

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

GENERAL NOTES

A EC SHALL COORDINATE ANY AND ALL NECESSARY INSTALLATION OF JUNCTION BOXES AND CONDUIT WITH LOW VOLTAGE, SECURITY, A/V INSTALLERS PRIOR TO ROUGH-IN.

B ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED BARRIERS TO BE FILLED WITH FIRE-STOPPING MATERIAL TO MAINTAIN RATING OF ASSOCIATED BARRIER.

C CONTRACTOR TO PROVIDE DEDICATED 120V/20A CIRCUIT TO DUCT MOUNTED SMOKE DETECTOR FOR EQUIPMENT SUPPLYING MORE THAN 2,000CFM OF AIRFLOW. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND REQUIREMENTS.

SHEET NOTES

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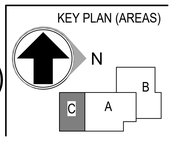
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KEY PLAN (AREAS)



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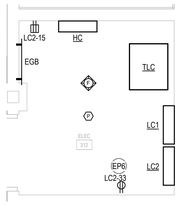
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FIRE ALARM PLAN - AREA C

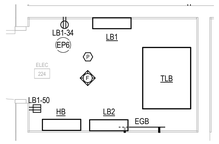
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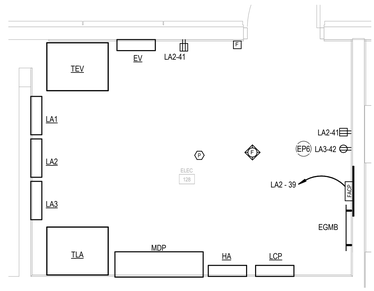
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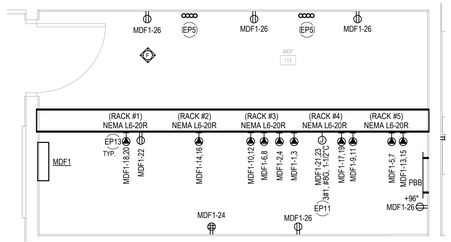
6 E4.1 ENLARGED ELEC 312
SCALE: 3/8" = 1'-0"



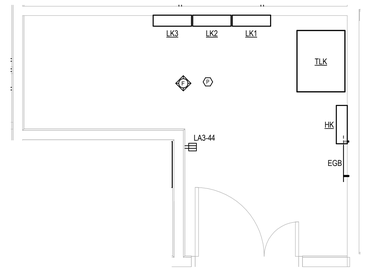
2 E4.1 ENLARGED ELEC 224
SCALE: 3/8" = 1'-0"



1 E4.1 ENLARGED ELEC 128
SCALE: 3/8" = 1'-0"



4 E4.1 POWER PLAN - ENLARGED MDF 113
SCALE: 3/8" = 1'-0"



5 E4.1 ENLARGED ELEC 107A
SCALE: 3/8" = 1'-0"

SHEET NOTES

EP5 FIBER SERVICE ENTRANCE CONDUITS, SEE ES1.1A FOR ADDITIONAL INFORMATION.

EP6 PROVIDE 120V/20A SINGLE POLE CIRCUIT FOR FUTURE SOUND MASKING GENERATOR. COORDINATE EXACT REQUIREMENTS PRIOR TO ROUGH-IN.

EP11 PROVIDE CONNECTION TO RACK MOUNTED UPS. VERIFY FINAL CONNECTION REQUIREMENTS WITH MANUFACTURER INSTALLATION DIRECTIONS PRIOR TO ROUGH IN.

EP13 JUNCTION BOXES FOR RACK OUTLETS AND POWER CONNECTIONS TO BE MOUNTED TO UNISTRUT SUPPORTS FOR CABLE TRAY ABOVE RACKS. FIELD VERIFY EXACT LOCATIONS.

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OKLAHOMA

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2025-09-22

KEY PLAN (AREAS)
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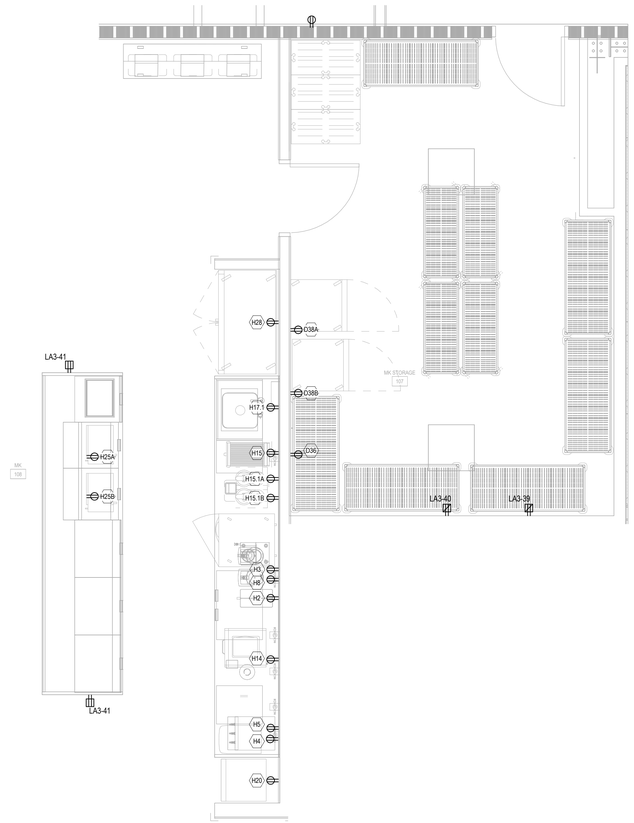
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NO.	DATE	DESCRIPTION

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APPRVD': Approver

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PROJ. NO. 43-25105-00

ENLARGED ELECTRICAL PLANS
SCALE: 3/8" = 1'-0"

SHEET NUMBER:
E4.1
PHASE: BUILDING PERMIT DOCUMENTS



1 E4.2 ENLARGED KITCHEN PLAN - AREA A
SCALE: 3/8" = 1'-0"

KITCHEN EQUIPMENT SCHEDULE

NOTES:
1. SEE E5.1 FOR FEEDER SCHEDULE

Equipment Serves	DESCRIPTION	ELECTRICAL DATA					MOCP	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	CONNECTION TYPE	NOTES
		LOAD		VOLT	PHASE	POLES						
		A	W									
D36	REACH-IN REFRIGERATOR	3.8	456	120	1	1	20 A	LA3	29	20-2W	NEMA 5-20R	
D38A	MOBILE HOLDING CABINET	13.8	1,656	120	1	1	20 A	LA3	31	20-2W	NEMA 5-20R	
D38B	MOBILE HOLDING CABINET	13.8	1,656	120	1	1	20 A	LA3	33	20-2W	NEMA 5-20R	
H2	COFFEE GRINDER	6	720	120	1	1	20 A	LA3	22	20-2W	NEMA 5-20R	
H3	COFFEE BREWER	16	1,920	120	1	1	20 A	LA3	36	20-2W	NEMA 5-20R	
H4	ICE AND WATER DISPENSER	4.5	540	120	1	1	20 A	LA3	26	20-2W	NEMA 5-20R	
H5	WATER DISPENSER	6	720	120	1	1	20 A	LA3	28	20-2W	NEMA 5-20R	
H8	UNDERCOUNTER REFRIGERATOR	2	240	120	1	1	20 A	LA3	20	20-2W	NEMA 5-20R	
H14	SURE IMMERSION	15	1,800	120	1	1	20 A	LA3	24	20-2W	NEMA 5-20R	
H15	ESPRESSO MACHINE	14.2	1,700	120	1	1	20 A	LA3	16	20-2W	NEMA 5-20R	
H15.1A	COFFEE GRINDER	3.3	400	120	1	1	20 A	LA3	18	20-2W	NEMA 5-20R	
H15.1B	COFFEE GRINDER	3.3	400	120	1	1	20 A	LA3	17	20-2W	NEMA 5-20R	
H17.1	ELECTRIC FAUCET	0.8	100	120	1	1	20 A	LA3	27	20-2W	NEMA 5-20R	
H20	WATER DISPENSER	12	1,440	120	1	1	20 A	LA3	15	20-2W	NEMA 5-20R	
H25A	MICROWAVE	13.4	1,608	120	1	1	20 A	LA3	30	20-2W	NEMA 5-20R	
H25B	MICROWAVE	13.4	1,608	120	1	1	20 A	LA3	32	20-2W	NEMA 5-20R	
H28	REACH-IN REFRIGERATOR	2.1	246	120	1	1	20 A	LA3	25	20-2W	NEMA 5-20R	

SHEET NOTES

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9/22/25
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)
N
A
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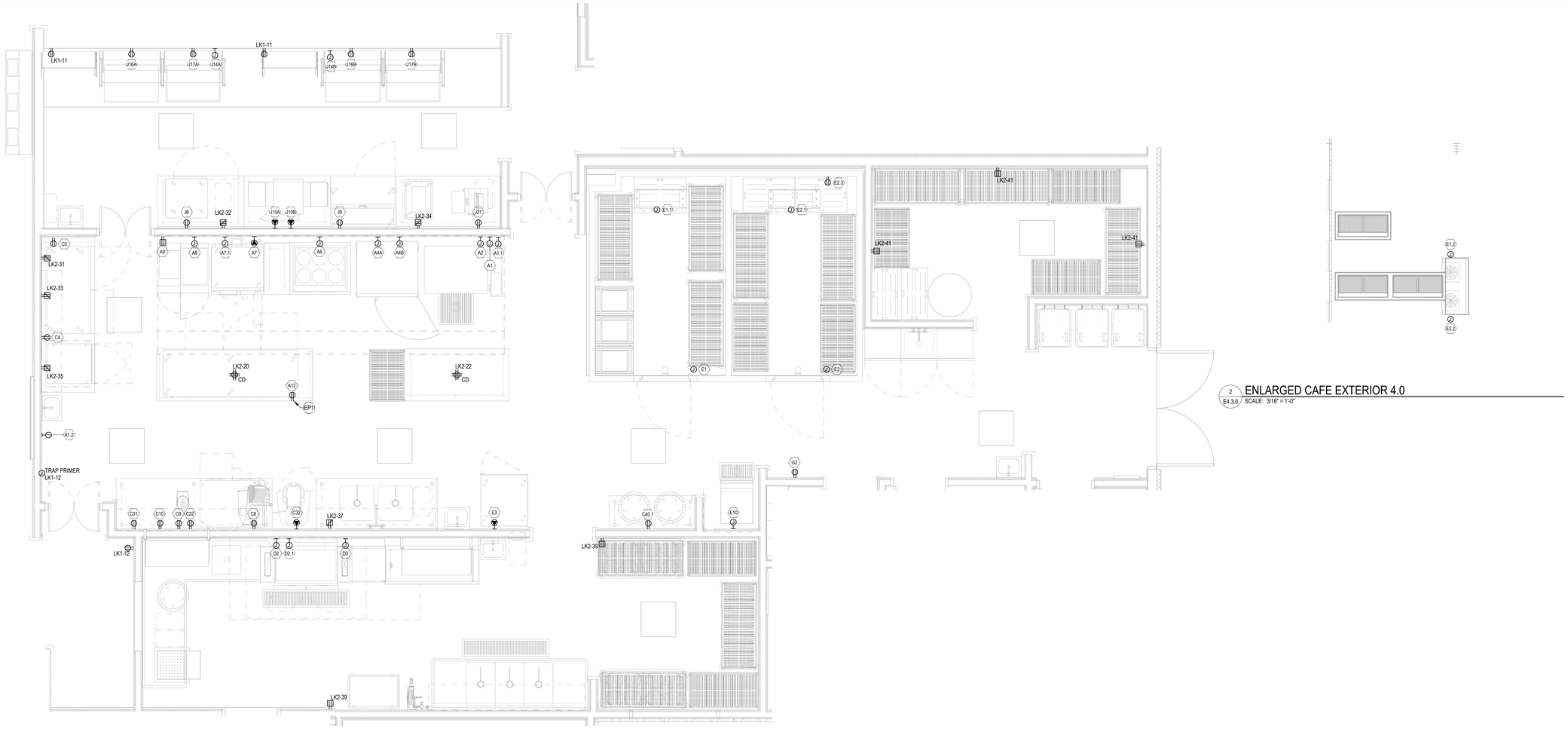
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DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

KITCHEN EQUIPMENT PLAN - AREA A
SCALE: 3/8" = 1'-0"

SHEET NUMBER:
E4.2
PHASE: BUILDING PERMIT DOCUMENTS



2 E4.3.0 ENLARGED CAFE EXTERIOR 4.0
SCALE: 3/16" = 1'-0"

1 E4.3.0 ENLARGED KITCHEN PLAN
SCALE: 3/8" = 1'-0"

SHEET NOTES

EP1 WIRING DEVICE TO BE FED FROM BELOW, PROVIDE CONDUIT WITHIN SLAB.

KITCHEN EQUIPMENT SCHEDULE

NOTES:
1. SEE E5.1 FOR FEEDER SCHEDULE

Equipment Serves	DESCRIPTION	ELECTRICAL DATA				MOCP	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	CONNECTION TYPE	NOTES
		LOAD		VOLT	POLES						
		A	W								
A1	EXHAUST HOOD GAS VALVE	10	1,200	120	1	20 A	LK1	10	20-2W	JUNCTION BOX	CONFIRM REQUIREMENTS WITH HOOD MANUFACTURER SHOP DRAWINGS
A1.1	FIRE SUPRESSION SYSTEM	10	1,200	120	1	15 A	LK1	13	20-2W	JUNCTION BOX	CONFIRM REQUIREMENTS WITH HOOD MANUFACTURER SHOP DRAWINGS
A1.2	DEMANDAIRE CONTROL PANEL	5	600	120	1	20 A	LK1	9	20-2W	JUNCTION BOX	CONFIRM REQUIREMENTS WITH HOOD MANUFACTURER SHOP DRAWINGS
A2	VARIOCOOKER	52.9	43,980.2	480	3	70 A	HK	25,27,29	70-3W	JUNCTION BOX	PROVIDE SHUNT TRIP CONNECTION FROM HOOD
A4A	ELECTRIC COMBI-STEAMER	26.9	22,364.2	480	3	35 A	HK	19,21,23	40-3W	JUNCTION BOX	PROVIDE SHUNT TRIP CONNECTION FROM HOOD
A4B	ELECTRIC COMBI-STEAMER	26.9	22,364.2	480	3	35 A	HK	20,22,24	40-3W	JUNCTION BOX	PROVIDE SHUNT TRIP CONNECTION FROM HOOD
A6	INDUCTION RANGE	58.3	21,003.5	208	3	80 A	LK1	41,43,45	80-3W	JUNCTION BOX	PROVIDE SHUNT TRIP CONNECTION FROM HOOD
A7	ELECTRIC GRIDDLE	23	19,121	480	3	30 A	HK	13,15,17	30-3W	NEMA L16-30R	PROVIDE SHUNT TRIP CONNECTION FROM HOOD
A7.1	CONVECTION OVEN	9	7,482.5	480	3	15 A	HK	7,9,11	20-3W	JUNCTION BOX	PROVIDE SHUNT TRIP CONNECTION FROM HOOD
A8	ELECTRIC FRYER	27	22,447.4	480	3	35 A	HK	14,16,18	40-3W	JUNCTION BOX	PROVIDE SHUNT TRIP CONNECTION FROM HOOD
A9	CRISP N' HOLD FOOD STATION	15.1	1,812	120	1	20 A	LK1	44	20-2W	NEMA 5-20R	PROVIDE SHUNT TRIP CONNECTION FROM HOOD
A12	UNDERCOUNTER REFRIGERATOR	2.2	264	120	1	20 A	LK1	26	20-2W	NEMA 5-20R	
C4	MOBILE HOLDING CABINET	19.4	2,328	120	1	20 A	LK1	22	20-2W	NEMA 5-20R	
C5	UNDERCOUNTER REFRIGERATOR	4	480	120	1	20 A	LK1	20	20-2W	NEMA 5-20R	
C8	SLICER	5.6	672	120	1	20 A	LK1	34	20-2W	NEMA 5-20R	
C9	FOOD PROCESSOR	7	840	120	1	20 A	LK1	30	20-2W	NEMA 5-20R	
C10	VEGETABLE SLICER	3	360	120	1	20 A	LK1	28	20-2W	NEMA 5-20R	
C22	UNDERCOUNTER REFRIGERATOR	5.1	612	120	1	20 A	LK1	32	20-2W	NEMA 5-20R	
C31	PREP N' TEMP PRO STATION	5	600	120	1	20 A	LK1	24	20-2W	NEMA 5-20R	
C32	40QT MIXER	5.6	2,017	208	3	20 A	LK1	47,49,51	20-3W	NEMA L15-20R	
C40.1	SCALE AND MONITOR	10	1,200	120	1	20 A	LK1	31	20-2W	NEMA 5-20R	
D2	RACK CONVEYOR DISHWASHER	68	56,534.1	480	3	90 A	HK	26,28,30	90-3W	NEMA 3R, 100A DISC.	
D2.1	BLOWER-DRYER	15.7	13,052.7	480	3	20 A	HK	8,10,12	20-3W	JUNCTION BOX	
D3	CONDENSATE HOOD	2	240	120	1	15 A	LK1	14	20-2W	JUNCTION BOX	
E1	WALK-IN COOLER	8.3	1,000	120	1	20 A	LK2	38	20-2W	JUNCTION BOX	CIRCUIT FOR COOLER ACCESSORIES, LIGHTS, ETC.
E1.1	EVAPORATOR COIL	5	1,040	208	2	15 A	LK2	8,10	20-2W	JUNCTION BOX	
E1.2	COOLER CONDENSING UNIT	11.5	4,143.1	208	3	15 A	LK2	1,3,5	20-3W	NEMA 3R, 30A DISC.	
E2	WALK-IN FREEZER	8.3	1,000	120	1	20 A	LK2	40	20-2W	JUNCTION BOX	CIRCUIT FOR FREEZER ACCESSORIES, LIGHTS, ETC.
E2.1	EVAPORATOR COIL	0.9	180	208	2	15 A	LK2	11,13	20-2W	JUNCTION BOX	
E2.2	FREEZER CONDENSING UNIT	10.9	3,926.9	208	3	20 A	LK2	2,4,6	20-3W	NEMA 3R, 30A DISC.	
E2.3	WALK-IN FREEZER HEAT TRACE	4	480	120	1	20 A	LK2	18	20-2W	NEMA 5-20R	OUTLET PROVIDED BY WALK-IN MANUFACTURER
E3	BLAST CHILLER	10	3,602	208	3	20 A	LK1	50,52,54	20-3W	NEMA L15-20R	
E10	ICE MACHINE	8.2	984	120	1	20 A	LK1	38	20-2W	JUNCTION BOX	
G2	TIME CLOCK	5	600	120	1	20 A	LK1	29	20-2W	NEMA 5-20R	
J6	HEATED PROOFING CABINET	15.8	1,896	120	1	20 A	LK1	27	20-2W	NEMA 5-20R	
J9	PIZZA PREP TABLE	3.9	468	120	1	20 A	LK1	33	20-2W	NEMA 5-20R	
J10A	COUNTERTOP IMPINGER	24	4,992	208	2	50 A	LK1	35,37	50-2W	NEMA 6-50R	
J10B	COUNTERTOP IMPINGER	24	4,992	208	2	50 A	LK1	40,42	50-2W	NEMA 6-50R	
J14A	CUSTOM SNEEZE GUARD	8.1	972	120	1	20 A	LK1	19	20-2W	JUNCTION BOX	
J14B	CUSTOM SNEEZE GUARD	8.1	972	120	1	20 A	LK1	21	20-2W	JUNCTION BOX	
J16A	BUILT-IN HEATED SHELVES	8	960	120	1	20 A	LK1	17	20-2W	NEMA 5-20R	
J16B	BUILT-IN HEATED SHELVES	8	960	120	1	20 A	LK1	23	20-2W	NEMA 5-20R	
J17A	COLD/HOT SHELF	6.9	828	120	1	20 A	LK1	15	20-2W	NEMA 5-20R	
J17B	COLD/HOT SHELF	6.9	828	120	1	20 A	LK1	25	20-2W	NEMA 5-20R	
J21	DOUGH ROLLER	7.5	900	120	1	20 A	LK1	18	20-2W	NEMA 5-20R	

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CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)
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B
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REVISIONS

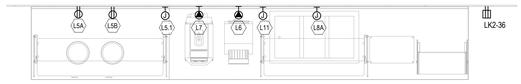
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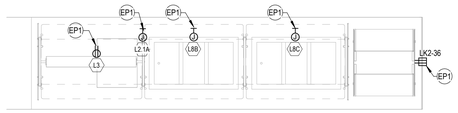
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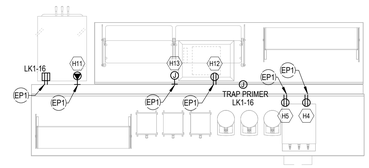
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PROJ. NO. 43-25105-00

KITCHEN EQUIPMENT PLAN - AREA B (4.0)
SCALE: As indicated

SHEET NUMBER:
E4.3.0
PHASE: BUILDING PERMIT DOCUMENTS







1 E4.4.0 ENLARGED VITALITY PLAN
SCALE: 3/8" = 1'-0"

KITCHEN EQUIPMENT SCHEDULE

NOTES:
1. SEE E5.1 FOR FEEDER SCHEDULE

Equipment Serves	DESCRIPTION	ELECTRICAL DATA				MOCP	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	CONNECTION TYPE	NOTES
		LOAD		VOLT	POLES						
		A	W								
H4	ICE AND WATER DISPENSER	4.5	540	120	1	20 A	LK3	56	20-2W	NEMA 5-20R	
H5	WATER DISPENSER	6	720	120	1	20 A	LK3	57	20-2W	NEMA 5-20R	
H11	SOFT SERVE FREEZER	12	2,225.6	208	2	20 A	LK2	12,14	20-2W	NEMA 6-20R	
H12	FROST TOP, DROP IN	6.7	804	120	1	20 A	LK2	25	20-2W	NEMA 5-20R	
H13	FOOD SHIELD	5	600	120	1	20 A	LK2	24	20-2W	JUNCTION BOX	
L2.1A	FOOD SHIELD	5	600	120	1	20 A	LK2	21	20-2W	JUNCTION BOX	
L3	BUILT-IN HEATED SHELVES	5	600	120	1	20 A	LK2	19	20-2W	NEMA 5-20R	
L5.1	FOOD SHIELD	5	600	120	1	20 A	LK2	30	20-2W	JUNCTION BOX	
L5A	ROUND FOOD WARMER	6.9	828	120	1	20 A	LK2	28	20-2W	NEMA 5-20R	
L5B	ROUND FOOD WARMER	6.9	828	120	1	20 A	LK2	26	20-2W	NEMA 5-20R	
L6	ELECTRIC CONVEYOR TOASTER	10.7	2,225.6	208	2	15 A	LK2	7,9	20-2W	NEMA 6-15R	
L7	SANDWICH PRESS	24	5,000	208	2	30 A	LK2	15,17	30-2W	NEMA 6-30R	
L8A	HOT & COLD PANS, DROP-IN	5.6	672	120	1	20 A	LK2	29	20-2W	JUNCTION BOX	
L8B	HOT & COLD PANS, DROP-IN	5.6	672	120	1	20 A	LK2	23	20-2W	JUNCTION BOX	
L8C	HOT & COLD PANS, DROP-IN	5.6	672	120	1	20 A	LK2	16	20-2W	JUNCTION BOX	
L11	FOOD SHIELD	5	600	120	1	20 A	LK2	27	20-2W	JUNCTION BOX	

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CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
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KEY PLAN (AREAS)
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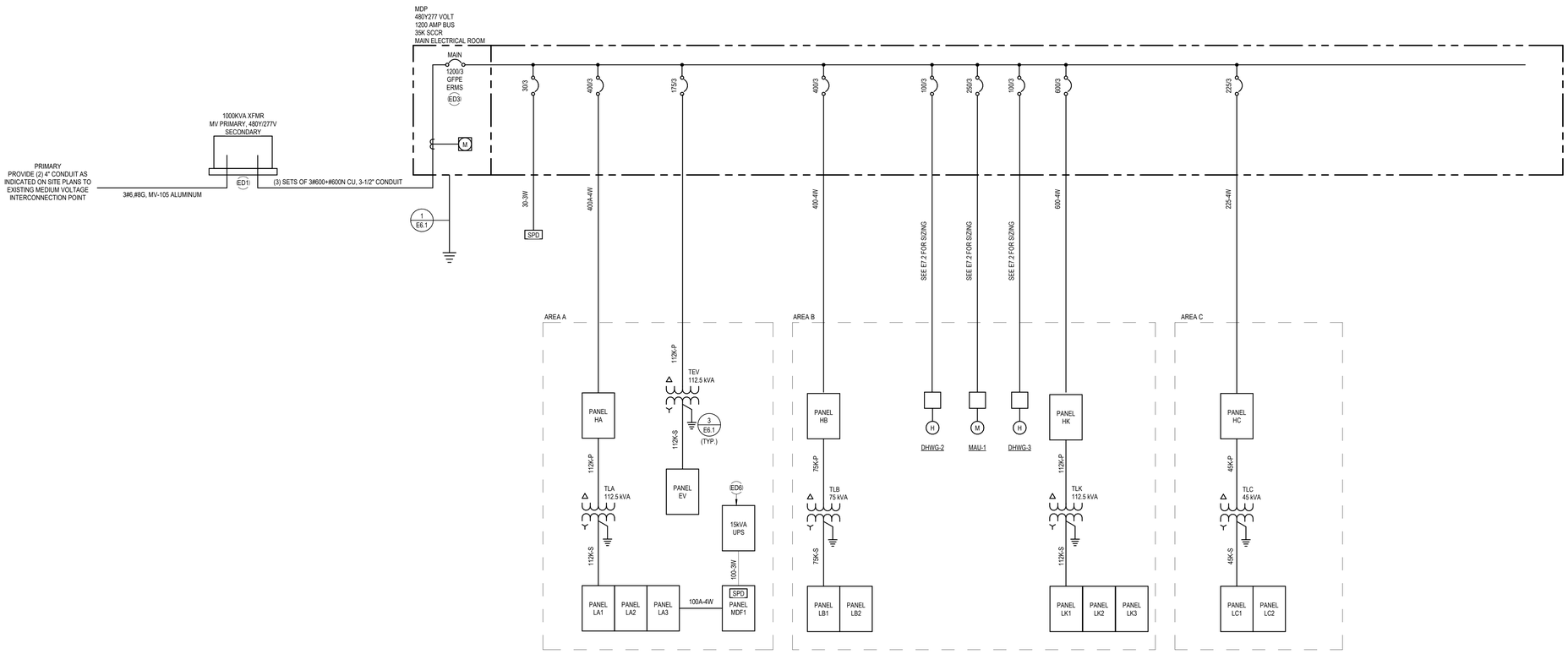
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KITCHEN EQUIPMENT PLAN - AREA B (4.0)
SCALE: 3/8" = 1'-0"

SHEET NUMBER:
E4.4.0
PHASE: BUILDING PERMIT DOCUMENTS



1 E5.1 ONE LINE DIAGRAM
NO SCALE

GENERAL SINGLE LINE NOTES

A. OVERCURRENT DEVICES OF ENTIRE DISTRIBUTION SYSTEM SHALL MEET STATED FAULT CURRENT VALUES WITH FULLY RATED EQUIPMENT.

B. REFER TO SWITCHBOARD SCHEDULES AND DISTRIBUTION PANEL SCHEDULES FOR ADDITIONAL REQUIREMENTS. WHERE A DISCREPANCY EXISTS BETWEEN EQUIPMENT ON THE SINGLE LINE DIAGRAM AND THE DETAILED SCHEDULES, THE ITEM OR ARRANGEMENT WITH BETTER QUALITY, GREATER QUANTITY, OR HIGHER COST SHALL BE USED.

C. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

D. REFER TO THE MOTOR AND SPECIAL CONNECTION SCHEDULE FOR ALL FEEDERS DESIGNATED "EQ".

E. GROUNDING ELECTRODE CONDUCTORS SIZES ARE NOT INDICATED ON THE SINGLE LINE DIAGRAM. REFER TO THE GROUNDING RISER DIAGRAM FOR CONNECTIONS AND CONDUCTOR SIZES.

F. UNLESS NOTED OTHERWISE, ALL PANELBOARDS, TRANSFORMERS, AND SWITCHBOARDS ARE OWNER FURNISHED AND CONTRACTOR INSTALLED. COORDINATE PROCUREMENT OF ALL EQUIPMENT WITH OWNER.

SHEET NOTES

ED1 MEDIUM VOLTAGE SITE TRANSFORMER IS TO BE OWNER FURNISHED, CONTRACTOR INSTALLED. CONFIRM PROCUREMENT WITH OWNER.

ED3 MAIN SERVICE BREAKER TO BE 100% RATED FOR AMPERAGE INDICATED.

ED6 PROVIDE 15KVA N+1 TOWER UPS. APC #SRYL15K15XLT18. PROVIDE REQUIRED ACCESSORIES FOR (12) NEMA L6-20R RECEPTS (3 PER BATTERY), ON BACK OF UPS. PROVIDE SHELF AT BOTTOM OF RACK TO SUPPORT UPS. SEE SHEET E4.1 FOR ADDITIONAL INFORMATION.

FEEDER SCHEDULE - ALUMINUM

MARK (AMPS)	# SETS	Ø & N	GND	CONDUIT SIZE MARK SUFFIX -4W	-3W	-2W
15				ALUMINUM IS NOT PERMITTED FOR SIZES 100AMP AND UNDER - USE COPPER		
20						
25						
30						
35						
40						
45						
50						
60						
70						
80						
90						
100						
110	1	1/0	4	2"	1-1/2"	1-1/4"
125	1	2/0	4	2"	2"	1-1/2"
150	1	3/0	4	2"	2"	1-1/2"
175	1	4/0	4	2-1/2"	2"	1-1/2"
200	1	250	4	2-1/2"	2-1/2"	2"
225	1	300	2	3"	2-1/2"	2"
250	1	350	2	3"	2-1/2"	2"
300	1	500	2	3-1/2"	3"	2-1/2"
350	1	750	1	4"	3-1/2"	3"
350	2	4/0	1	2-1/2"	2"	1-1/2"
400	2	250	1	2-1/2"	2-1/2"	2"
450	2	300	1/0	3"	2-1/2"	2"
500	2	350	1/0	3"	2-1/2"	2"
600	2	500	2/0	3-1/2"	3"	2-1/2"
700	2	750	3/0	4"	3-1/2"	3"
800	3	400	3/0	3"	3"	2-1/2"
1000	3	600	4/0	3-1/2"	3-1/2"	3"
1200	4	500	250	3-1/2"	3"	2-1/2"
1600	5	600	350	4"	3-1/2"	3"
2000	6	600	400	4"	3-1/2"	3"
2500	7	750	600	4"	4"	3-1/2"
3000	8	750	600	4"	4"	3-1/2"
4000	11	750	500 cu	4"	4"	3-1/2"

ABBREVIATIONS:

Ø	PHASE
N	NEUTRAL
GND	EQUIPMENT GROUNDING CONDUCTOR
-4W	FOUR WIRE + GROUND (3Ø,N,GND)
-3W	THREE WIRE + GROUND (3Ø,GND or 2Ø,N,GND)
-2W	TWO WIRE + GROUND

NOTES:

1. CONDUCTOR AMPACITIES ARE BASED ON NEC TABLE 310.15(B)(16).
2. CONDUIT SIZES ARE BASED ON A MAXIMUM FILL RATIO OF 40%.
3. SCHEDULE SHALL BE USED FOR FEEDERS AND BRANCH CIRCUITS WHERE APPLICABLE.
4. ALL FEEDERS AND BRANCH CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR.
5. SCHEDULE IS VALID FOR TYPE THHN, THWN-2, AND XHHW-2 CONDUCTORS. SEE SPECIFICATIONS FOR CONDUCTOR TYPES REQUIRED.
6. SCHEDULE IS VALID FOR TYPE EMT, IMC, FMC, LFMC, HDPE, AND RNC-40 RACEWAYS. SEE SPECIFICATIONS FOR RACEWAY APPLICATIONS.
7. OPTIONAL CONFIGURATIONS (1 OR 2 SETS) FOR SOME SIZES LISTED.
8. USE A COPPER GROUNDING CONDUCTOR FOR THE 4000 AMP FEEDER AS LISTED ABOVE.
9. NOT ALL SIZES USED.

FEEDER SCHEDULE - COPPER

MARK (AMPS)	# SETS	Ø & N	GND	CONDUIT SIZE MARK SUFFIX -4W	-3W	-2W
15	1	12	12	3/4"	3/4"	3/4"
20	1	12	12	3/4"	3/4"	3/4"
25	1	10	10	3/4"	3/4"	3/4"
30	1	10	10	3/4"	3/4"	3/4"
35	1	8	10	3/4"	3/4"	3/4"
40	1	8	10	3/4"	3/4"	3/4"
45	1	6	10	1"	3/4"	3/4"
50	1	6	10	1"	3/4"	3/4"
60	1	4	10	1-1/4"	1"	3/4"
70	1	4	8	1-1/4"	1"	3/4"
80	1	3	8	1-1/4"	1-1/4"	1"
90	1	2	8	1-1/4"	1-1/4"	1"
100	1	1	8	1-1/2"	1-1/2"	1-1/4"
110	1	1	6	1-1/2"	1-1/2"	1-1/4"
125	1	1	6	1-1/2"	1-1/2"	1-1/4"
150	1	1/0	6	2"	1-1/2"	1-1/4"
175	1	2/0	6	2"	1-1/2"	1-1/4"
200	1	3/0	6	2"	2"	1-1/2"
225	1	4/0	4	2-1/2"	2"	1-1/2"
250	1	250	4	2-1/2"	2"	1-1/2"
300	1	350	4	3"	2-1/2"	2"
350	1	500	3	3-1/2"	3"	2-1/2"
400	1	600	3	3-1/2"	3"	2-1/2"
400	2	3/0	3	2"	2"	1-1/2"
450	2	4/0	2	2-1/2"	2"	1-1/2"
500	2	250	2	2-1/2"	2-1/2"	2"
600	2	350	1	3"	2-1/2"	2"
700	2	500	1/0	3-1/2"	3"	2-1/2"
800	2	600	1/0	3-1/2"	3"	2-1/2"
1000	3	400	2/0	3"	3"	2-1/2"
1200	3	600	3/0	3-1/2"	3-1/2"	3"
1600	4	600	4/0	3-1/2"	3-1/2"	3"
2000	5	600	250	4"	3-1/2"	3"
2500	6	600	350	4"	3-1/2"	3"
3000	8	500	400	3-1/2"	3"	2-1/2"
4000	10	600	500	4"	3-1/2"	3"

ABBREVIATIONS:

Ø	PHASE
N	NEUTRAL
GND	EQUIPMENT GROUNDING CONDUCTOR
-4W	FOUR WIRE + GROUND (3Ø,N,GND)
-3W	THREE WIRE + GROUND (3Ø,GND or 2Ø,N,GND)
-2W	TWO WIRE + GROUND

NOTES:

1. CONDUCTOR AMPACITIES ARE BASED ON NEC TABLE 310.15(B)(16).
2. CONDUIT SIZES ARE BASED ON A MAXIMUM FILL RATIO OF 40%.
3. SCHEDULE SHALL BE USED FOR FEEDERS AND BRANCH CIRCUITS WHERE APPLICABLE.
4. ALL FEEDERS AND BRANCH CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR.
5. SCHEDULE IS VALID FOR TYPE THHN, THWN-2, AND XHHW-2 CONDUCTORS. SEE SPECIFICATIONS FOR CONDUCTOR TYPES REQUIRED.
6. SCHEDULE IS VALID FOR TYPE EMT, IMC, FMC, LFMC, HDPE, AND RNC-40 RACEWAYS. SEE SPECIFICATIONS FOR RACEWAY APPLICATIONS.
7. OPTIONAL CONFIGURATIONS (1 OR 2 SETS) ARE GIVEN FOR SOME SIZES.
8. NOT ALL SIZES USED.

3-PHASE TRANSFORMER PRIMARY AND SECONDARY SCHEDULE - COPPER

XFMR KVA	PRIMARY MARK	AMPS	# SETS	Ø	GND	C	SECONDARY MARK	AMPS	# SETS	Ø & N	BJ	C
15	15K-P	25	1	10	10	3/4"	15K-S	50	1	6	8	1"
30	30K-P	50	1	6	10	3/4"	30K-S	100	1	1	6	1-1/2"
45	45K-P	70	1	4	8	1"	45K-S	150	1	1/0	6	2"
75	75K-P	150	1	1/0	6	1-1/2"	75K-S	225	1	4/0	2	2-1/2"
112.5	112K-P	175	1	2/0	6	1-1/2"	112K-S	400	1	600	1/0	3-1/2"
150	150K-P	250	1	250	4	2"	150K-S	500	2	250	1/0	2-1/2"
225	225K-P	350	1	500	3	3"	225K-S	700	2	500	2/0	3-1/2"
300	300K-P	500	2	250	2	2-1/2"	300K-S	1000	3	400	3/0	3"

ABBREVIATIONS:

Ø	PHASE
BJ	BONDING JUMPER
C	CONDUIT SIZE
N	NEUTRAL
GND	EQUIPMENT GROUNDING CONDUCTOR
-P	PRIMARY - THREE WIRE + GROUND (3Ø,GND)
-S	SECONDARY - FOUR WIRE + BONDING JUMPER (3Ø, N, BJ)

NOTES:

1. CONDUCTOR AMPACITIES ARE BASED ON NEC TABLE 310.15(B)(16).
2. CONDUIT SIZES ARE BASED ON A MAXIMUM FILL RATIO OF 40%.
3. SCHEDULE SHALL BE USED FOR TRANSFORMERS WITH THE FOLLOWING CONFIGURATION: 480 V DELTA PRIMARY AND 208Y/120 V SECONDARY
4. ALL FEEDERS TO TRANSFORMERS SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR.
5. SCHEDULE IS VALID FOR TYPE THHN, THWN-2, AND XHHW-2 CONDUCTORS. SEE SPECIFICATIONS FOR CONDUCTOR TYPES REQUIRED.
6. SCHEDULE IS VALID FOR TYPE EMT, IMC, FMC, LFMC, HDPE, AND RNC-40 RACEWAYS. SEE SPECIFICATIONS FOR RACEWAY APPLICATIONS.
7. NOT ALL SIZES USED.

3-PHASE TRANSFORMER PRIMARY AND SECONDARY SCHEDULE - ALUMINUM

XFMR KVA	PRIMARY MARK	AMPS	# SETS	Ø	GND	C	SECONDARY MARK	AMPS	# SETS	Ø & N	BJ	C
15	15K-P	ALUMINUM NOT PERMITTED - USE COPPER					15K-S	ALUMINUM NOT PERMITTED - USE COPPER				
30	30K-P	ALUMINUM NOT PERMITTED - USE COPPER					30K-S	ALUMINUM NOT PERMITTED - USE COPPER				
45	45K-P	ALUMINUM NOT PERMITTED - USE COPPER					45K-S	150	1	3/0	4	2"
75	75K-P	150	1	3/0	4	2"	75K-S	225	1	300	1/0	3"
112.5	112K-P	175	1	4/0	4	2"	112K-S	350	1	750	3/0	4"
150	150K-P	250	1	350	2	2-1/2"	150K-S	500	2	350	3/0	3"
225	225K-P	350	1	750	1	3-1/2"	225K-S	700	2	750	4/0	4"
300	300K-P	500	2	350	1/0	2-1/2"	300K-S	1000	3	600	250	4"

ABBREVIATIONS:

Ø	PHASE
BJ	BONDING JUMPER
C	CONDUIT SIZE
N	NEUTRAL
GND	EQUIPMENT GROUNDING CONDUCTOR
-P	PRIMARY - THREE WIRE + GROUND (3Ø,GND)
-S	SECONDARY - FOUR WIRE + BONDING JUMPER (3Ø, N, BJ)

NOTES:

1. CONDUCTOR AMPACITIES ARE BASED ON NEC TABLE 310.15(B)(16).
2. CONDUIT SIZES ARE BASED ON A MAXIMUM FILL RATIO OF 40%.
3. SCHEDULE SHALL BE USED FOR TRANSFORMERS WITH THE FOLLOWING CONFIGURATION: 480 V DELTA PRIMARY AND 208Y/120 V SECONDARY
4. ALL FEEDERS TO TRANSFORMERS SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR.
5. SCHEDULE IS VALID FOR TYPE THHN, THWN-2, AND XHHW-2 CONDUCTORS. SEE SPECIFICATIONS FOR CONDUCTOR TYPES REQUIRED.
6. SCHEDULE IS VALID FOR TYPE EMT, IMC, FMC, LFMC, HDPE, AND RNC-40 RACEWAYS. SEE SPECIFICATIONS FOR RACEWAY APPLICATIONS.
7. NOT ALL SIZES USED.

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9/17/25
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)
N
C A B

REVISIONS

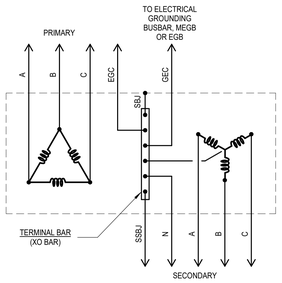
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DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

ELECTRICAL DIAGRAMS
SCALE: 12" = 1'-0"

SHEET NUMBER:
E5.1
PHASE: BUILDING PERMIT DOCUMENTS



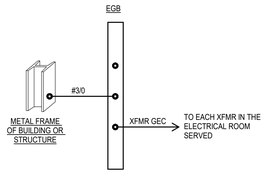
ABBREVIATIONS

A	PHASE A
B	PHASE B
C	PHASE C
N	NEUTRAL
EGC	EQUIPMENT GROUNDING CONDUCTOR
SSBJ	SUPPLY SIDE BONDING JUMPER
SBJ	SYSTEM BONDING JUMPER

NOTES

1. PROVIDE SYSTEM BONDING JUMPER AT TRANSFORMER AS INDICATED ON THIS DETAIL. DO NOT BOND NEUTRAL-GROUND AT LOAD SIDE PANELBOARD OR DISCONNECT.
2. SEE ONE-LINE DIAGRAM AND FEEDER SCHEDULES FOR SIZING OF FEEDER CONDUCTORS INCLUDING BJ.
3. BJ AND SBJ SHALL BE SIZED PER NEC TABLE 250.102(C)(1)
4. EGC SHALL BE SIZED PER NEC TABLE 250.122.

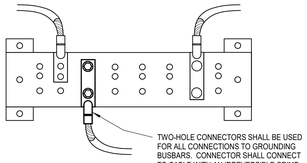
3 TRANSFORMER GROUNDING
E6.1 SCALE: NOT TO SCALE



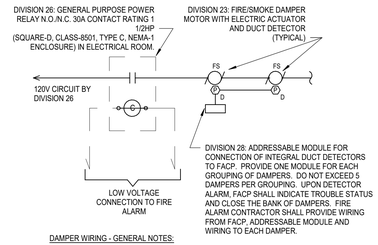
BUILDING / STRUCTURE GROUNDING NOTES:

1. PROVIDE AN ELECTRICAL GROUNDING BUSBAR IN EACH ELECTRICAL ROOM CONTAINING TRANSFORMER(S).
2. METAL FRAME OF BUILDING OR STRUCTURE. REF NEC 250.104(C) IF PRESENT IN BUILDING. BOND TO EGB. SEE TABLE FOR GROUNDING ELECTRODE CONDUCTOR (OR BONDING CONDUCTOR) SIZE.

6 SATELLITE ELECTRICAL ROOM GROUNDING
E6.1 SCALE: NOT TO SCALE



7 GROUNDING BUSBAR CONNECTIONS
E6.1 SCALE: NOT TO SCALE



DAMPER WIRING - GENERAL NOTES:

A. COORDINATE WITH DIVISION 23 QUANTITY, LOCATION AND ELECTRICAL CHARACTERISTICS OF ALL FIRE/SMOKE DAMPER MOTORS.

B. COORDINATE INTERCONNECTION REQUIREMENTS FROM RELAY TO FIRE ALARM SYSTEM WITH SYSTEM PROVIDER.

8 TYPICAL FIRE/SMOKE DAMPER WIRING
E6.1 NO SCALE



EQUIPMENT LABELING DETAIL GENERAL NOTES:

A. LABEL SHALL BE BLACK OR WHITE LAMINATED ACRYLIC OR MELAMINE WITH ENGRAVED LETTERING AND SELF-ADHESIVE BACK.

B. LETTERING SHALL BE WHITE ON BLACK OR BLACK ON WHITE BACKGROUND AND 3/8-INCH HIGH MINIMUM.

C. PROVIDE THE FOLLOWING INFORMATION ON SWITCHBOARD LABELS:
SWITCHBOARD TAG
SYSTEM VOLTAGE, PHASE, WIRE
SHORT CIRCUIT RATING, DATE
CONDUCTOR COLORS

D. PROVIDE THE FOLLOWING INFORMATION ON DISTRIBUTION PANELBOARD AND PANELBOARD LABELS:
DISTRIBUTION PANELBOARD OR PANELBOARD TAG
SYSTEM VOLTAGE, PHASE, WIRE
FED FROM
SHORT CIRCUIT RATING, DATE
CONDUCTOR COLORS

E. PROVIDE THE FOLLOWING INFORMATION ON TRANSFORMER LABELS:
TRANSFORMER TAG
SYSTEM PRIMARY AND SECONDARY VOLTAGE, WYE, DELTA, OR SINGLE PHASE
FED FROM

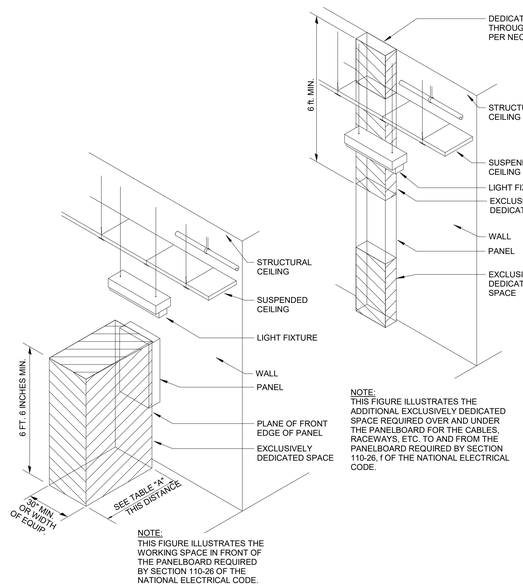
F. PROVIDE THE FOLLOWING INFORMATION ON SAFETY SWITCH OR CIRCUIT BREAKER ENCLOSURE LABELS:
SYSTEM VOLTAGE, PHASE, WIRE
FED FROM
FEEDS (LOAD BEING SERVED)

G. PROVIDE THE FOLLOWING INFORMATION AT INDIVIDUAL SWITCHBOARD AND DISTRIBUTION PANELBOARD BRANCH SWITCHES:
BRANCH SWITCH TAG (LOAD BEING SERVED)

H. PROVIDE THE FOLLOWING INFORMATION AT INDIVIDUAL SUB-FEED BREAKERS LOCATED IN BRANCH PANELS:
BRANCH SWITCH TAG (LOAD BEING SERVED)

I. CONDUCTOR COLORS SHALL ALSO FOLLOW REQUIREMENTS LISTED IN SPECIFICATIONS SECTION 260553.

2 EQUIPMENT LABELING
E6.1 NO SCALE



NOTE:
THIS FIGURE ILLUSTRATES THE ADDITIONAL EXCLUSIVELY DEDICATED SPACE REQUIRED OVER AND UNDER THE PANELBOARD FOR THE CABLES, RACEWAYS, ETC. TO AND FROM THE PANELBOARD REQUIRED BY SECTION 110-26, f OF THE NATIONAL ELECTRICAL CODE.

NOTE:
THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE PANELBOARD REQUIRED BY SECTION 110-26 OF THE NATIONAL ELECTRICAL CODE.

TABLE 110-26,(a) WORKING SPACES

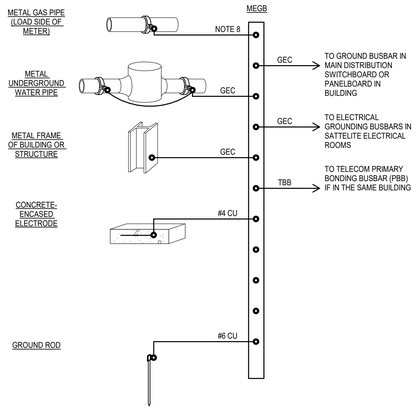
VOLTAGE TO GROUND, NOMINAL	MINIMUM CLEAR DISTANCE (FEET)			
CONDITION:	1	2	3	
0-150	3	3	3	
151-600	3	3 1/2	4	

WHERE THE "CONDITIONS" ARE AS FOLLOWS:

1. EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR OTHER INSULATING MATERIALS. INSULATED WIRE OR INSULATED BUSBARS OPERATING AT NOT OVER 300 VOLTS SHALL NOT BE CONSIDERED LIVE PARTS.
2. EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE. CONCRETE, BRICK OR TILE SHALL BE CONSIDERED AS GROUNDED.
3. EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.

NOTE:
NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES SHALL BE PERMITTED TO BE INSTALLED IN OR PASS THROUGH THE DEDICATED SPACES SHOWN ABOVE WITHOUT THE WRITTEN PERMISSION OF THE DESIGN ENGINEER AND THE AUTHORITY HAVING JURISDICTION.

5 ELECTRICAL WORKING CLEARANCES DETAIL
E6.1 SCALE: NOT TO SCALE



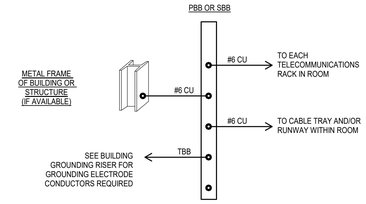
BUILDING / STRUCTURE GROUNDING NOTES:

1. PROVIDE A GROUNDING ELECTRODE SYSTEM FOR EACH BUILDING. REFER TO ARCHITECTURAL CODE PLAN FOR DEFINITION OF BUILDINGS.
2. BOND ALL GROUNDING ELECTRODES AS DEFINED IN NEC 250.52 THAT ARE PRESENT IN EACH BUILDING TO THE MAIN ELECTRICAL GROUNDING BUSBAR, MEGB, SERVING EACH BUILDING. COMMON ELECTRODES ARE INDICATED ON THIS RISER, OTHERS MAY BE PRESENT. PROVIDE ELECTRODES AS NOTED BELOW.
3. METAL UNDERGROUND WATER PIPE. REF NEC 250.52(A)(1). IF PRESENT IN BUILDING, BOND TO MEGB. SEE TABLE FOR GROUNDING ELECTRODE CONDUCTOR SIZE. PROVIDE BONDING JUMPER ACROSS WATER METER.
4. METAL FRAME OF BUILDING OR STRUCTURE. REF NEC 250.52(A)(2) OR REF NEC 250.104(C) IF METAL FRAME DOES NOT QUALIFY AS AN ELECTRODE. IF PRESENT IN BUILDING, BOND TO MEGB. SEE TABLE FOR GROUNDING ELECTRODE CONDUCTOR (OR BONDING CONDUCTOR) SIZE.
5. CONCRETE ENCASED ELECTRODE REF NEC 250.52(A)(3). PROVIDE 20-FT OF BARE #4 CU AT BOTTOM OF CONCRETE BLDG FOOTING. BOND TO MEGB. GROUNDING ELECTRODE CONDUCTOR SIZE SHALL BE #4 CU.
6. GROUND ROD REF NEC 250.52(A)(5) PROVIDE GROUND ROD. BOND TO MEGB. GROUNDING ELECTRODE CONDUCTOR SIZE SHALL BE #6 CU.
7. METAL GAS PIPE REF NEC 250.104(B) IF PRESENT IN BUILDING, BOND TO MEGB. SIZE PER TABLE 250.122

GROUNDING ELECTRODE CONDUCTOR SIZING (NEC 250.66)

SIZE OF LARGEST UNGROUNDED SERVICE CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS (AWG/KCMIL)		GROUNDING ELECTRODE SIZE (GEC)
COPPER	ALUMINUM	
#2 OR SMALLER	#1/0 OR SMALLER	#8 CU IN 3/4" C.
#1 OR #1/0	#2/0 OR #3/0	#6 CU IN 3/4" C.
#2/0 OR #3/0	#4/0 OR 250	#4 CU IN 3/4" C.
OVER #3/0 THROUGH 350	OVER 250 THROUGH 500	#2 CU IN 3/4" C.
OVER 350 THROUGH 600	OVER 500 THROUGH 900	#1/0 CU IN 3/4" C.
OVER 600 THROUGH 1100	OVER 900 THROUGH 1750	#2/0 CU IN 3/4" C.
OVER 1100	OVER 1750	#3/0 CU IN 1" C.

1 BUILDING OR STRUCTURE GROUNDING
E6.1 SCALE: NOT TO SCALE



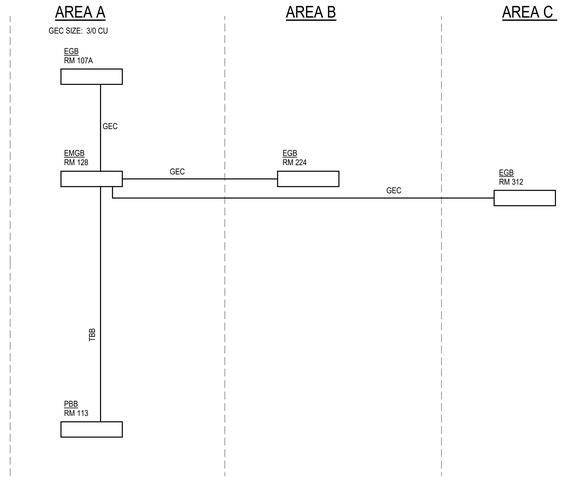
TELECOM ROOM GROUNDING NOTES:

1. PROVIDE A TELECOMMUNICATIONS GROUNDING BUSBAR (PBB OR SBB) IN EACH TELECOMMUNICATIONS ROOM.
2. SEE OVERALL BUILDING GROUNDING RISER ON E6.1 FOR TELECOMMUNICATIONS BONDING BACKBONE INFORMATION.

TELECOMMUNICATION BONDING BACKBONE SIZING (EIA 607C)

MAX PBB TO SBB LENGTH (FT)	TBB SIZE
13	#6
21	#4
26.5	#3
33	#2
42	#1
53	#1/0
66.5	#2/0
84	#3/0
106	#4/0
125	250 KCMIL
150	300 KCMIL
175	350 KCMIL
250	500 KCMIL
300	600 KCMIL
375	750 KCMIL

4 TELECOMMUNICATIONS ROOM GROUNDING
E6.1 NO SCALE



9 OVERALL GROUNDING RISER
E6.1 NO SCALE

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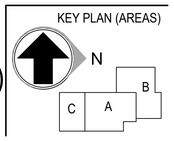
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CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS

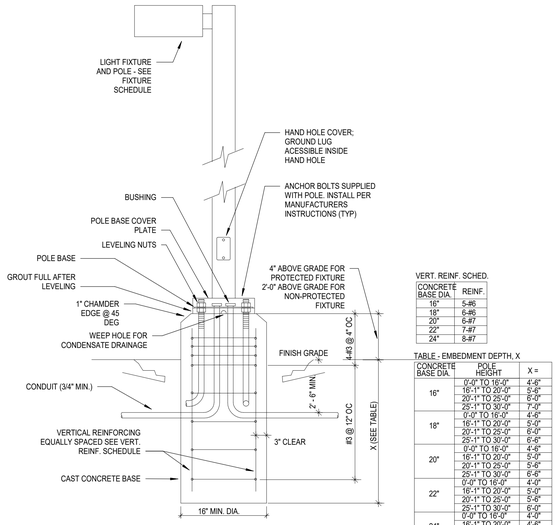
NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

ELECTRICAL DETAILS
SCALE: As indicated

SHEET NUMBER: E6.1
PHASE: BUILDING PERMIT DOCUMENTS



VERT. REINF. SCHED.

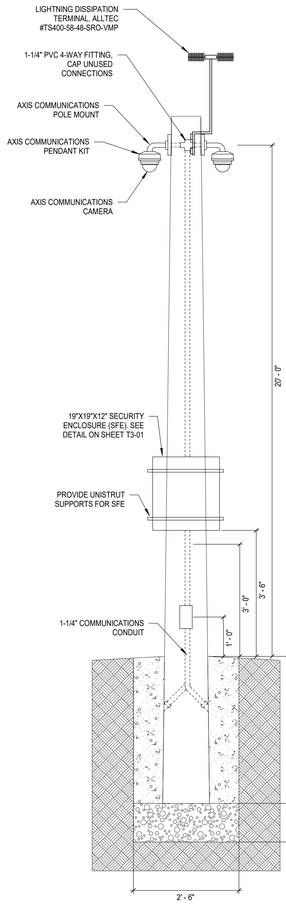
CONCRETE BASE DIA.	REINF.
16"	5-#6
18"	6-#6
20"	6-#7
22"	7-#7
24"	8-#7

TABLE - EMBEDMENT DEPTH, X

CONCRETE BASE DIA.	POLE HEIGHT	X =
16"	0'-0" TO 16'-0"	4'-6"
	16'-1" TO 20'-0"	5'-6"
	20'-1" TO 25'-0"	6'-0"
	25'-1" TO 30'-0"	7'-0"
18"	0'-0" TO 16'-0"	4'-6"
	16'-1" TO 20'-0"	5'-0"
	20'-1" TO 25'-0"	6'-0"
	25'-1" TO 30'-0"	6'-6"
20"	0'-0" TO 16'-0"	4'-6"
	16'-1" TO 20'-0"	5'-0"
	20'-1" TO 25'-0"	5'-6"
	25'-1" TO 30'-0"	6'-6"
22"	0'-0" TO 16'-0"	4'-0"
	16'-1" TO 20'-0"	5'-0"
	20'-1" TO 25'-0"	5'-6"
	25'-1" TO 30'-0"	6'-0"
24"	0'-0" TO 16'-0"	4'-0"
	16'-1" TO 20'-0"	4'-6"
	20'-1" TO 25'-0"	5'-0"
	25'-1" TO 30'-0"	6'-0"

NOTE: SACK RUB SMOOTH CONCRETE BASE OF ALL PHYSICAL DEFORMITIES.

2 / E6.2 LIGHT POLE DETAIL
NO SCALE



NOTES:

A. THE POLE-MOUNTED SECURITY ENCLOSURE AT EACH FIXED CAMERA POLE SHALL RECEIVE 12-STRANDS OF SINGLE-MODE OUTDOOR FIBER (FROM THE SPLICE ENCLOSURE) AND 120V SINGLE PHASE POWER.

B. PATHWAYS FOR FIBER OPTIC CABLE SHALL BE DESIGNED TO ALLOW SINGLE-MODE FIBER TO BE HOMERUNED IN A STAR TOPOLOGY FROM EACH POLE-MOUNTED SECURITY ENCLOSURE TO THE SPLICE ENCLOSURE. SIZE PATHWAYS TO ASSURE A MAXIMUM FILL RATIO OF NO MORE THAN 40 PERCENT FULL.

C. ELECTRICAL PATHWAYS SHALL COMPLY WITH ALL APPLICABLE LOCAL AND NATIONAL CODE REQUIREMENTS.

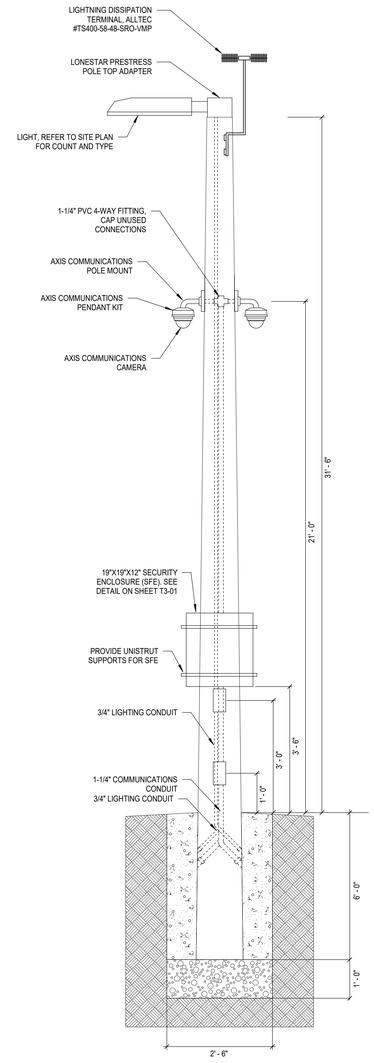
D. FIBER OPTIC PATHWAYS SHALL BE ARRANGED TO LIMIT MAXIMUM DISTANCE BETWEEN PULL POINTS TO 600' USING LONG RADIUS 90 DEGREE BENDS AND LIMITING THE MAXIMUM NUMBER OF BENDS TO NO MORE THAN 180 DEGREES (E.G., TWO 90 DEGREE BENDS) BETWEEN PULL POINTS, AND MEET OR EXCEED THE ANSI/TIA/EIA-758 CUSTOMER OWNED OUTSIDE PLANT TELECOMMUNICATIONS STANDARD.

E. THE GENERAL CONTRACTOR SHALL PROVIDE GEOTECHNICAL SOIL TESTING AT ALL POLE LOCATIONS TO ASSURE APPROPRIATE BEARING CAPACITY OF SOIL TO SUPPORT SECURITY POLES.

F. PROVIDE A BARE #8 COPPER WIRE GROUND CONDUCTOR FROM LIGHTNING DISSIPATION TERMINAL DOWN TO A GROUND ROD INSTALLED ADJACENT TO THE SECURITY POLE. PROVIDE AN ADDITIONAL CONDUCTOR TO GROUND THE SECURITY ENCLOSURE TO THE SAME GROUND ROD. CONDUCTORS ARE TO BE MOUNTED AND SECURED TO EXTERIOR OF CONCRETE POLE.

G. SEE SECURITY DRAWING T3-012 FOR CAMERA AND CAMERA MOUNTING HARDWARE REQUIREMENTS.

3 / E6.2 CONCRETE CAMERA POLE DETAIL
NO SCALE



NOTES:

A. THE POLE-MOUNTED SECURITY ENCLOSURE AT EACH FIXED CAMERA POLE SHALL RECEIVE 12-STRANDS OF SINGLE-MODE OUTDOOR FIBER (FROM THE SPLICE ENCLOSURE) AND 120V SINGLE PHASE POWER.

B. PATHWAYS FOR FIBER OPTIC CABLE SHALL BE DESIGNED TO ALLOW SINGLE-MODE FIBER TO BE HOMERUNED IN A STAR TOPOLOGY FROM EACH POLE-MOUNTED SECURITY ENCLOSURE TO THE SPLICE ENCLOSURE. SIZE PATHWAYS TO ASSURE A MAXIMUM FILL RATIO OF NO MORE THAN 40 PERCENT FULL.

C. ELECTRICAL PATHWAYS SHALL COMPLY WITH ALL APPLICABLE LOCAL AND NATIONAL CODE REQUIREMENTS.

D. FIBER OPTIC PATHWAYS SHALL BE ARRANGED TO LIMIT MAXIMUM DISTANCE BETWEEN PULL POINTS TO 600' USING LONG RADIUS 90 DEGREE BENDS AND LIMITING THE MAXIMUM NUMBER OF BENDS TO NO MORE THAN 180 DEGREES (E.G., TWO 90 DEGREE BENDS) BETWEEN PULL POINTS, AND MEET OR EXCEED THE ANSI/TIA/EIA-758 CUSTOMER OWNED OUTSIDE PLANT TELECOMMUNICATIONS STANDARD.

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G. SEE SECURITY DRAWING T3-012 FOR CAMERA AND CAMERA MOUNTING HARDWARE REQUIREMENTS.

1 / E6.2 CONCRETE CAMERA POLE DETAIL
NO SCALE

9/17/2025 9:43:10 AM Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_MEP_2025.rvt

HDR, ENGINEERING INC.
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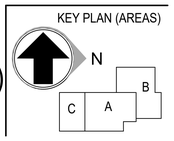
DLR GROUP
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1437 S BOULDER AVE.
TULSA, OK 74119
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LICENSED PROFESSIONAL ENGINEER
JOSHUA WETZIG
32927
9/17/25
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

ELECTRICAL DETAILS

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

SHEET NUMBER:
E6.2

PHASE: BUILDING PERMIT DOCUMENTS

LIGHTING CONTROL SEQUENCE OF OPERATION

		CONTROL TYPE						
				OCCUPANCY SENSOR			DAYLIGHT SENSOR	
		ZONE CONTROL	TARGET ILLUMINANCE	ON OPERATION	OFF OPERATION	TIMEOUT	ZONE 1	ZONE 2
ROOM TYPE	PHONE ROOMS	REFER TO PLANS FOR KEYED ZONING BY LOWERCASE LETTER	20-30FC	MANUAL ON @ OUTPUT LEVEL ROOM WAS LAST LEFT AT	AUTO OCCUPANCY OFF OR MANUAL OFF	15 MIN		
	TRAINING		30-40FC	MANUAL ON @ OUTPUT LEVEL ROOM WAS LAST LEFT AT	AUTO OCCUPANCY OFF OR MANUAL OFF	15 MIN	IN DAYLIT AREAS: CONTINUOUSLY DIM FIXTURES TO TARGET LEVEL WHEN 150% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR	CONTINUOUSLY DIM FIXTURES WHEN 200% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR
	CIRCULATION		10-20FC	TIMECLOCK ON OR MANUAL ON @ 80% OUTPUT: OWNERSHIP TO DEFINE SCHEDULE HOURS FOR TIMECLOCK CONTROL	WHEN NO OCCUPANCY DETECTED, LIGHTS IN ZONE DIM TO 50% OUTPUT. TIMECLOCK OFF	15 MIN	IN DAYLIT AREAS: CONTINUOUSLY DIM FIXTURES TO TARGET LEVEL WHEN 150% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR	CONTINUOUSLY DIM FIXTURES WHEN 200% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR
	OPEN OFFICE		30-40FC	AUTO ON @ OUTPUT LEVEL ROOM WAS LAST LEFT AT	AUTO OCCUPANCY OFF OR MANUAL OFF	15 MIN	IN DAYLIT AREAS: CONTINUOUSLY DIM FIXTURES TO TARGET LEVEL WHEN 150% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR	CONTINUOUSLY DIM FIXTURES WHEN 200% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR
	LOUNGE, MOTHER'S ROOM		10-20FC	MANUAL ON @ OUTPUT LEVEL ROOM WAS LAST LEFT AT	AUTO OCCUPANCY OFF OR MANUAL OFF	5 MIN	IN DAYLIT AREAS: CONTINUOUSLY DIM FIXTURES TO TARGET LEVEL WHEN 150% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR	CONTINUOUSLY DIM FIXTURES WHEN 200% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR
	INFORMAL ROOMS		10FC	MANUAL ON @ OUTPUT LEVEL ROOM WAS LAST LEFT AT	AUTO OCCUPANCY OFF OR MANUAL OFF	15 MIN	IN DAYLIT AREAS: CONTINUOUSLY DIM FIXTURES TO TARGET LEVEL WHEN 150% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR	CONTINUOUSLY DIM FIXTURES WHEN 200% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR
	ELEC/MECH/PLUMB		20FC	-	-	-	-	-
	JANITORIAL/STORAGE		20FC	MANUAL ON @ 100% OUTPUT	AUTO OCCUPANCY OFF OR MANUAL OFF	15 MIN	-	-
	HUDDLES		30FC	MANUAL ON @ OUTPUT LEVEL ROOM WAS LAST LEFT AT	AUTO OCCUPANCY OFF OR MANUAL OFF	15 MIN		
	OFFICES		30-40FC	MANUAL ON @ OUTPUT LEVEL ROOM WAS LAST LEFT AT	AUTO OCCUPANCY OFF OR MANUAL OFF	15 MIN		
	RESTROOM/LOCKER		15FC	AUTO ON @ OUTPUT LEVEL ROOM WAS LAST LEFT AT	AUTO OCCUPANCY OFF OR MANUAL OFF	10 MIN	-	-
	CONFERENCE ROOMS		30-40FC	MANUAL ON @ OUTPUT LEVEL ROOM WAS LAST LEFT AT	AUTO OCCUPANCY OFF OR MANUAL OFF	15 MIN	IN DAYLIT AREAS: CONTINUOUSLY DIM FIXTURES TO TARGET LEVEL WHEN 150% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR	CONTINUOUSLY DIM FIXTURES WHEN 200% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR
	CAFÉ, MK		20-30FC	TIMECLOCK ON OR MANUAL ON @ 80% OUTPUT: OWNERSHIP TO DEFINE SCHEDULE HOURS FOR TIMECLOCK CONTROL	WHEN NO OCCUPANCY DETECTED, LIGHTS IN ZONE DIME TO 50% OUTPUT. TIMECLOCK OFF	15 MIN	IN DAYLIT AREAS: CONTINUOUSLY DIM FIXTURES TO TARGET LEVEL WHEN 150% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR	CONTINUOUSLY DIM FIXTURES WHEN 200% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR
	FOOD SERVICE		50FC	AUTO ON @ OUTPUT LEVEL ROOM WAS LAST LEFT AT	AUTO OCCUPANCY OFF OR MANUAL OFF	15 MIN	IN DAYLIT AREAS: CONTINUOUSLY DIM FIXTURES TO TARGET LEVEL WHEN 150% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR	CONTINUOUSLY DIM FIXTURES WHEN 200% OF TARGET ILLUMINANCE IS MEASURED AT SENSOR
	EXTERIOR		N/A	AUTO ON VIA TIMECLOCK W/ PHOTOCELL OVERRIDE	AUTO OFF VIA TIMECLOCK W/ PHOTOCELL OVERRIDE	N/A	N/A	N/A

GENERAL CONTROL NOTES:
PROVIDE LIGHTING CONTROL PANEL FOR TIMECLOCK CONTROL OF ALL SPACES INDICATED.
PROVIDE NUMBER OF ZONES AS INDICATED ON PLANS.
LIGHTING CONTROLS INDICATED ARE FOR REFERENCE ONLY AND MUST BE COORDINATED WITH CONTROLS SHOP DRAWINGS FOR EXACT QUANTITIES OF SENSORS, DEVICES, AND ALL NECESSARY CONNECTIVITY EQUIPMENT.
COMPLETE COMMISSIONING OF CONTROL SYSTEM AND PROVIDE REPORT TO ENGINEER FOR REVIEW.

IECC COMMISSIONING NOTES:
PROJECT SHALL BE COMMISSIONED IN ACCORDANCE WITH SPECIFICATIONS. IN ADDITION TO OTHER PROJECT REQUIREMENTS, THE FOLLOWING DOCUMENTATION SHALL BE PROVIDED TO THE BUILDING OWNER WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

- OPERATING AND MAINTENANCE MANUAL WITH COMPONENTS INDICATED
- AS BUILT DRAWINGS FOR ELECTRICAL POWER SYSTEMS.
- DOCUMENTATION CERTIFYING LIGHTING SYSTEM FUNCTIONAL TESTING INCLUDING:
  1. OCCUPANT SENSOR CONTROLS
  2. TIME-SWITCH CONTROLS
  3. DAYLIGHT RESPONSIVE CONTROLS

NOTES: VERIFY ALL ON/OFF, OCCUPIED/UNOCCUPIED TIMES WITH OWNER PRIOR TO PROGRAMMING.

LIGHTING FIXTURE SCHEDULE

TYPE	Description	CONSTRUCTION	LIGHT SOURCE				ELECTRICAL				PRODUCT		Remarks
		MOUNTING	LAMP	LUMENS	CCT	CRI	BALLAST/DRIVER	VOLT	WATTS	WATTS PER FOOT	MFR	MODEL	
BL1	4' LINEAR LENSED STRIP FIXTURE	SEE NOTE	LED	5000 lm	3500 K	80	LED DRIVER, 0-10V DIMMABLE 10%	277 V	35 W		COLUMBIA LIGHTING OR APPROVED ALTERNATE	LCL SERIES	STRIPLIGHT TO BE CHAIN-MOUNTED, SURFACE-MOUNTED OR WALL-MOUNTED AROUND OBSTACLES AS NEEDED
BL1E	4' LINEAR LENSED STRIP FIXTURE WITH EMERGENCY BATTERY PACK	SEE NOTE	LED	5000 lm	3500 K	80	LED DRIVER, 0-10V DIMMABLE 10%	277 V	35 W		COLUMBIA LIGHTING OR APPROVED ALTERNATE	LCL SERIES	STRIPLIGHT TO BE CHAIN-MOUNTED, SURFACE-MOUNTED OR WALL-MOUNTED AROUND OBSTACLES AS NEEDED
FD1	2-FOOT BY 4-FOOT KITCHEN TROFFER	RECESSED	LED	6000 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE 10%	277 V	49 W		KENALL OR APPROVED ALTERNATE	CSEDO 24 45LD DIM1 5F 4H SYM	
FD1E	2-FOOT BY 4-FOOT KITCHEN TROFFER WITH EMERGENCY BATTERY BACKUP	RECESSED	LED	6000 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE 10%	277 V	45 W		KENALL OR APPROVED ALTERNATE	CSEDO 24 45LD DIM1 5F 4H SYM LEL	
PA4	10-INCH NOMINAL PENDANT	PENDANT	LED	1500 lm	2700 K	90	LED DRIVER, ELV DIMMABLE, 2%	277 V	18 W		FLUXWERX OR APPROVED ALTERNATE	TC1-P09-W2827	SEE INTERIORS ELEVATIONS FOR INFORMATION ABOUT MOUNTING AND SPECIFIC SELECTION
PA6	22-INCH NOMINAL PENDANT	PENDANT	LED	800 lm	2700 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	8 W		CERNO	CASIA PENDANT	SEE INTERIORS ELEVATIONS FOR INFORMATION ABOUT MOUNTING AND SPECIFIC SELECTION
PD1	5-INCH NOMINAL PENDANT WITH 20 UP, 80 DOWN, CORD-HUNG; WIDE DISTRIBUTION	PENDANT	LED	1900 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	16 W		FLUXWERX OR APPROVED ALTERNATE	TC1-P05-W2835	
PD1A	SAME AS PD1, EXCEPT 2700K	PENDANT	LED	1900 lm	2700 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	16 W		FLUXWERX OR APPROVED ALTERNATE	TC1-P05-W2827	
PD1A-E	SAME AS PD1A, EXCEPT EMERGENCY BATTERY BACKUP	PENDANT	LED	1900 lm	2700 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	16 W		FLUXWERX OR APPROVED ALTERNATE	TC1-P05-W2827	
PD1E	SAME AS PD1, EXCEPT WITH EMERGENCY BATTERY PACK	PENDANT	LED	1900 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	16 W		FLUXWERX OR APPROVED ALTERNATE	TC1-P05-W2835	
PL1-8'	8-FOOT NOMINAL DIRECT/INDIRECT PENDANT WITH INTEGRAL OCCUPANCY SENSORS	PENDANT	LED	6400 lm	3500 K	90	LED DRIVER, 0-10V DIMMING	277 V	60 W		FINELITE, COOPER OR APPROVED ALTERNATE	HP-4 ID SERIES	
PL1-10'	10-FOOT NOMINAL DIRECT/INDIRECT PENDANT WITH INTEGRAL OCCUPANCY SENSORS	PENDANT	LED	8000 lm	3500 K	90	LED DRIVER, 0-10V DIMMING	277 V	100 W		FINELITE, COOPER OR APPROVED ALTERNATE	HP-4 ID SERIES	
PL1E-8'	8-FOOT NOMINAL DIRECT/INDIRECT PENDANT WITH INTEGRAL OCCUPANCY SENSORS	PENDANT	LED	6400 lm	3500 K	90	LED DRIVER, 0-10V DIMMING	277 V	60 W		FINELITE, COOPER OR APPROVED ALTERNATE	HP-4 ID SERIES	
PL1E-10'	SAME AS PL1-10' EXCEPT WITH EMERGENCY BATTERY BACKUP	PENDANT	LED	8000 lm	3500 K	90	LED DRIVER, 0-10V DIMMING	277 V	100 W		FINELITE, COOPER OR APPROVED ALTERNATE	HP-4 ID SERIES	
PL3	4-FOOT LINEAR 20% INDIRECT/80% DIRECT PENDANT	PENDANT	LED	1840 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	23 W		FINELITE, COOPER OR APPROVED ALTERNATE	PROFILE 20UP 80DN	
PL4-18'	2-INCH NOMINAL PENDANT-MOUNTED WALL-WASHING LINEAR; LUMENS IS PER LINEAR FOOT	PENDANT	LED	550 lm	2700 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	0 W	6.1	VODE OR APPROVED ALTERNATE	WINGRAIL (CEILING CABLE)	
RD1	4-INCH NOMINAL DOWNLIGHT WITH MEDIUM OPTICS	RECESSED	LED	1500 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	14 W	---	WILLIAMS, ACUITY, ALPHABET OR APPROVED ALTERNATE	4DR SERIES	
RD1E	SAME AS RD1, EXCEPT WITH EMERGENCY BATTERY BACKUP	RECESSED	LED	1500 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	14 W	---	WILLIAMS, ACUITY, ALPHABET OR APPROVED ALTERNATE	4DR SERIES	
RD2	4-INCH NOMINAL DOWNLIGHT WITH MEDIUM OPTICS; SEMI-SPECULAR FINISH; WET-RATED	RECESSED	LED	1500 lm	3500 K	90	LED DRIVER, 0-10V DIMMING, 1%	277 V	14 W	---	WILLIAMS, ACUITY, ALPHABET OR APPROVED ALTERNATE	4DR SERIES	
RD3	2-INCH NOMINAL DOWNLIGHT WITH ADJUSTABLE GIMBALL, NARROW OPTICS	RECESSED	LED	1000 lm	2700 K	90	LED DRIVER, 0-10V DIMMING, 1%	277 V	12 W	---	ALPHABET OR APPROVED ALTERNATE	NU2RA SERIES	
RL1-7'	2-INCH NOMINAL RECESSED PERIMETER WALL-GRAZER; 7-FOOT LENGTH; FLANGE SLOT BACK BOX	RECESSED	LED	4900 lm	3500 K	90	NO DIMMING	277 V	0 W	7.65	NULITE, ACUITY, COOPER, FOCAL POINT OR APPROVED ALTERNATE	RZ4 SERIES	
RL1-8'	2-INCH NOMINAL RECESSED PERIMETER WALL-GRAZER; FLANGE SLOT BACK BOX	RECESSED	LED	765 lm	3500 K	90	NO DIMMING	277 V	0 W	7.65	NULITE, ACUITY, COOPER, FOCAL POINT OR APPROVED ALTERNATE	RZ4 SERIES	
RL1-10'	2-INCH NOMINAL RECESSED PERIMETER WALL-GRAZER; FLANGE SLOT BACK BOX	RECESSED	LED	765 lm	3500 K	90	NO DIMMING	277 V	0 W	7.65	NULITE, ACUITY, COOPER, FOCAL POINT OR APPROVED ALTERNATE	RZ4 SERIES	
RL1-10'6"	2-INCH NOMINAL RECESSED PERIMETER WALL-GRAZER; FLANGE SLOT BACK BOX	RECESSED	LED	5250 lm	3500 K	90	NO DIMMING	277 V	0 W	4.73	NULITE, ACUITY, COOPER, FOCAL POINT OR APPROVED ALTERNATE	RZ4 SERIES	
RL1-17'6"	2-INCH NOMINAL RECESSED PERIMETER WALL-GRAZER; 17-FOOT LENGTH; FLANGE SLOT BACK BOX	RECESSED	LED	8750 lm	3500 K	90	NO DIMMING	277 V	0 W	4.73	NULITE, ACUITY, COOPER, FOCAL POINT OR APPROVED ALTERNATE	RZ4 SERIES	
RL1E-3'6"	2-INCH NOMINAL RECESSED PERIMETER WALL-GRAZER; 3-FOOT LENGTH; FLANGE SLOT BACK BOX; BATTERY PACK	RECESSED	LED	2100 lm	3500 K	90	NO DIMMING	277 V	0 W	7.65	NULITE, ACUITY, COOPER, FOCAL POINT OR APPROVED ALTERNATE	RZ4 SERIES	
RL1E-4'6"	2-INCH NOMINAL RECESSED PERIMETER WALL-GRAZER; FLANGE SLOT BACK BOX; EMERGENCY BATTERY BACKUP	RECESSED	LED	765 lm	3500 K	90	NO DIMMING	277 V	0 W	7.65	NULITE, ACUITY, COOPER, FOCAL POINT OR APPROVED ALTERNATE	RZ4 SERIES	
RL4	10-CELL ADJUSTABLE WALL-WASHER WITH REMOTE DRIVER; SOFT EDGE, FLOOD OPTICS WITH SQUARE BLACK CHROME LOUVER	RECESSED	LED	1100 lm	2700 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	15 W		LUMENWERX, COOPER OR APPROVED ALTERNATE	CLUSTER ADJUSTABLE	
RT1	2-FOOT BY 2-FOOT RECESSED TROFFER WITH INDIRECT OPTICS	RECESSED	LED	3300 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE 10%	277 V	35 W		ACUITY, OR APPROVED ALTERNATE	ENVX	
RT1E	SAME AS RT1, EXCEPT WITH EMERGENCY BATTERY	RECESSED	LED	3300 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE 10%	277 V	35 W		ACUITY, OR APPROVED ALTERNATE	ENVX	
RT2	2-FOOT BY 2-FOOT FOOD-GRADE RECESSED TROFFER	RECESSED	LED	3300 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE 10%	277 V	35 W		KENALL, FAILSAFE OR APPROVED ALTERNATE	FES8 SERIES	
RT2E	SAME AS RT2, EXCEPT WITH EMERGENCY BATTERY	RECESSED	LED	3300 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE 10%	277 V	35 W		KENALL, FAILSAFE OR APPROVED ALTERNATE	FES8 SERIES	
SB1	3-FOOT NOMINAL BOLLARD WITH ASSYMETRIC OPTICS	SITE	LED	1710 lm	3000 K	80	LED DRIVER	277 V	15 W		BEGA OR APPROVED ALTERNATE	84413	
SP1	SITE LIGHT ON 20-FOOT POLE. REFER TO STRUCTURAL DETAIL	SITE	LED	11335 lm	3000 K	80	LED DRIVER	277 V	102 W		ACUITY, OR APPROVED ALTERNATE	DSX SERIES	PROVIDE WITH INTEGRAL PHOTOCELL CONTROL
SP1A	SITE LIGHT ON 30-FOOT POLE FOR CAMERA AND LIGHTING MOUNTING; CONCRETE BASE, REFER TO STRUCTURAL DETAIL ON E6.6	SITE	LED	11338 lm	3000 K	80	LED DRIVER	277 V	102 W		ACUITY, OR APPROVED ALTERNATE	DSX SERIES	PROVIDE WITH INTEGRAL PHOTOCELL CONTROL
SP2	SITE LIGHT ON 20-FOOT POLE. REFER TO STRUCTURAL DETAIL	SITE	LED	7300 lm	3000 K	80	LED DRIVER	277 V	51 W		ACUITY, OR APPROVED ALTERNATE	DSX SERIES	PROVIDE WITH INTEGRAL PHOTOCELL CONTROL
SW1E	18-INCH WALL PACK WITH FORWARD THROW; INTEGRAL BATTERY PACK, INTEGRAL PHOTOCELL	WALL	LED	6790 lm	3000 K	80	NO DIMMING	277 V	51 W		HUBBELL OR APPROVED ALTERNATE	TRP2-D-50-3K7-F-T-US	
WF4	2-FOOT NOMINAL WALL SCONCE WITH INDIRECT OPTICS	WALL	LED	1200 lm	3000 K	80	NO DIMMING	277 V	0 W		LIGHTWAY OR APPROVED ALTERNATE	NEFW-LED-426-LED 02C 2 B1 B1	
WL1	INDIRECT/DIRECT WALL-MOUNTED LINEAR; SEE LENGTHS IN DRAWINGS	WALL	LED	2000 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	0 W	14	ALW, LUMENWERX OR APPROVED ALTERNATE	LIGHTPLANE 2 WALL GRAZER	CONTRACTOR TO VERIFY BUILT CONDITIONS PRIOR TO ORDERING
WL2	2-FOOT WALL-MOUNTED INDIRECT/DIRECT VANITY	WALL	LED	2000 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	0 W	14	ALW, LUMENWERX OR APPROVED ALTERNATE	LIGHTPLANE 2 WALL GRAZER	
WL3E	4-FOOT WALL-MOUNTED INDIRECT/DIRECT LINEAR, VERTICAL ORIENTATION; EMERGENCY BATTERY	WALL	LED	2000 lm	3500 K	90	LED DRIVER, 0-10V DIMMABLE, 1%	277 V	0 W	7	LUMENWERX OR APPROVED ALTERNATE	WALO-HLO-LED-90-500-27-4-UNV-D1-1# EB-DMB-W	
X1A	EXIT SIGN; CEILING MOUNTED, SINGLE-SIDED		LED	0 lm	0 K	0		277 V	3 W		ACUITY OR APPROVED ALTERNATE	EDG SERIES	
X1B	SAME AS X1A, EXCEPT DOUBLE-SIDED		LED	0 lm	0 K	0		277 V	5 W		ACUITY OR APPROVED ALTERNATE	EDG SERIES	

NOTES:

1. FURNISH ALL LIGHTING FIXTURES COMPLETE WITH MOUNTING ACCESSORIES TO MEET JOB REQUIREMENTS. VERIFY FIXTURE MOUNTING, LOCATION, AND FIXED OPTICAL ORIENTATION AGAINST ARCHITECT'S PLANS, ELEVATIONS, AND DETAIL DRAWINGS. EXACT LOCATION OF ALL FIXTURES SHALL BE CONFIRMED WITH THE ARCHITECT PRIOR TO ROUGHING IN.
2. FIXTURES SHOWN IN CONTINUOUS RUNS TO SATISFY NOMINAL LENGTHS AS SHOWN ON DRAWINGS. FIXTURE TAGS SHOWN ONCE ON A CONTINUOUS ROW OF FIXTURES SHALL BE TYPICAL FOR THAT ROW UNLESS OTHERWISE NOTED.
3. ALL FIXTURES WILL BE SUPPORTED FROM THE BUILDING STRUCTURE, INDEPENDENT OF HUNG CEILING WITH ROD OR JACK CHAIN SUPPORT. AIRCRAFT CABLE LENGTHS, STEM LENGTHS, STEM FINISHES, AND STEM LOCATIONS OF ALL PENDANT FIXTURES TO BE VERIFIED AND CONFIRMED BY OWNER, ARCHITECT, AND CONSULTANT PRIOR TO ORDERING STEMS. AIRCRAFT CABLE HUNG FIXTURES TO BE PROVIDED WITH 18" OF EXTRA LENGTH WITH EXCESS TO BE LOCATED ABOVE THE CEILING ALONG WITH 18" OF EXTRA POWER CORD LENGTH.
4. LED FIXTURES WILL USE INTEGRAL DRIVERS UNLESS OTHERWISE NOTED. DIMMABLE DRIVERS SHALL BE COMPATIBLE WITH LAMPS AND DIMMERS/CONTROL SYSTEM.
5. ALL LIGHT FIXTURES ARE TO BE PROVIDED BY SPECIFIED MANUFACTURER OR APPROVED EQUAL. "ALTERNATE MANUFACTURER" AND "OR APPROVED" MEAN EQUIVALENT OR SUPERIOR IN PERFORMANCE, MATERIALS, WORKMANSHIP, AND APPEARANCE TO THE SPECIFIED EQUIPMENT.
6. CONTRACTOR TO PROVIDE AND INSTALL ALL TRANSFORMERS, DRIVERS, BATTERY PACKS, AND/OR BALLASTS REQUIRED TO OPERATE LAMPS SPECIFIED, INCLUDING REMOTE POWER SUPPLIES AND THE ENCLOSURES FOR SAME. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF COMPATIBILITY BETWEEN SPECIFIED LAMPS, SPECIFIED POWER SUPPLIES, DIMMING, AND OTHER CONTROL DEVICES SPECIFIED. NOTIFY ARCHITECT AND CONSULTANT OF AN INCOMPATIBILITY PRIOR TO ORDERING EQUIPMENT.
7. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE COORDINATION OF ALL LIGHTING EQUIPMENT AND CONTROL DEVICES WITH CEILING, WALL, AND GROUND TYPES SPECIFIED PRIOR TO ORDERING LIGHTING EQUIPMENT. NOTIFY ARCHITECT AND CONSULTANT OF ANY INCOMPATIBILITY PRIOR TO ORDERING EQUIPMENT.
8. ALL FIXTURES TO BE PROVIDED WITH A COLOR TEMPERATURE OF 3500K UNLESS OTHERWISE NOTED. ALL INTERIOR LIGHT SOURCES TO BE 85 CRI OR HIGHER. ALL LED LUMINAIRES TO HAVE A LIFE RATING OF 50,000 HOURS OR HIGHER AT L70 OR BETTER AND A FIVE-YEAR WARRANTY.
9. PRELIMINARY AIMING OF ALL ADJUSTABLE LIGHTING EQUIPMENT WILL BE DONE DURING INSTALLATION BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THE LIGHTING PLANS / AIMING DIAGRAM, WHERE SUCH A DIAGRAM IS INCLUDED IN CONTRACT.
10. SCHEDULED LUMEN OUTPUT REPRESENTS DELIVERED LUMENS.
11. NO PENDANTS ABOVE FURNITURE TO BE MOUNTED BELOW 7'-0" AFF UNLESS OTHERWISE SPECIFIED.
12. ENGINEER TO CONFIRM ALL WATTAGES, VOLTAGES, CIRCUITING, AND EMERGENCY COMPONENTS AS REQUIRED. ENGINEER TO VERIFY ALL CONTROLS REQUIRED WITH BASIS OF DESIGN AND SEQUENCE OF OPERATIONS.
13. LUMINAIRE CATALOG/MODEL NUMBERS ARE PROVIDED FOR CONVENIENCE ONLY AND ARE SUBJECT TO CHANGE. CONTRACTOR TO GENERATE EXACT CATALOG NUMBERS AT TIME OR ORDER. DEFER TO PERFORMANCE SPECIFICATIONS LISTED IN THIS SCHEDULE IN EVENT OF CONFLICT OR CHANGE.

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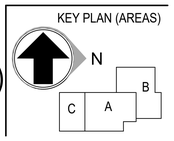
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KIMLEY-HORN & ASSOC, INC.
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LICENSED PROFESSIONAL ENGINEER
JOSHUA WETZIG
32927
9/22/25
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRVD: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

LIGHTING SCHEDULES

SCALE: 12" = 1'-0"

SHEET NUMBER:
E7.1

PHASE: BUILDING PERMIT DOCUMENTS

SPLIT SYSTEM CONDENSING UNIT SCHEDULE

NOTES:
1. WALL MOUNT WEATHERPROOF DISCONNECT ADJACENT TO UNIT AND PROVIDE LFMC CONNECTION.
2. PROVIDE CONTROL WIRING CONDUIT FROM OUTDOOR UNIT TO ASSOCIATED INDOOR UNITS PER MENUFACTURER'S RECOMMENDATION. OUTDOOR CONDUIT SHALL BE LMFC.

ID	LOAD					DISCONNECT	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
	FLA - UNIT A (A)	MCA - UNIT A (A)	MOCP - UNIT A (A)	VOLTAGE (V)	PHASE					
Phase 1										
CU-1A	30.5	30.7	35	460	3	NEMA 3R, FUSED	HA	2,4,6	40-3W	1
CU-1B	30.5	30.7	35	460	3	NEMA 3R, FUSED	HA	7,9,11	40-3W	1
CU-2A	26.7	35.1	40	460	3	NEMA 3R, FUSED	HB	1,3,5	40-3W	1
CU-2B	30.5	30.7	35	460	3	NEMA 3R, FUSED	HB	2,4,6	40-3W	1
CU-2C	26.7	30.7	35	460	3	NEMA 3R, FUSED	HB	13,15,17	40-3W	1
CU-3	28.5	32.8	40	460	3	NEMA 3R, FUSED	HC	1,3,5	40-3W	1
CU-113-2	17.1	21.4	25	208	1	NEMA 3R, 2P	LA2	44,46	25-2W	1,2
CU-113-3	17.1	21.4	25	208	1	NEMA 3R, 2P	LA1	34,36	25-2W	1,2
CU-113-4	17.1	21.4	25	208	1	NEMA 3R, 2P	LA2	48,50	25-2W	1,2
CU-128-2	17.1	21.4	25	208	1	NEMA 3R, 2P	LA2	43,45	25-2W	1,2
CU-224	17.1	21.4	25	208	1	NEMA 3R, 2P	LB1	22,24	25-2W	1,2
CU-312	14.6	18.3	20	208	1	NEMA 3R, 2P	LC2	1,3	20-2W	1,2

SPLIT SYSTEM AIR CONDITIONER SCHEDULE

NOTES:
1. INDOOR UNIT TO BE POWERED BY ASSOCIATED OUTDOOR UNIT (OU-).

ID	LOAD					VOLTAGE (V)	PHASE	DISCONNECT	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
	HP	FLA (A)	MCA (A)	MOCP (A)	TOTAL LOAD (VA)							
Phase 1												
AC-101	0.5	2.3	3.1	15	557	208	1	MRTS	LA3	11,13	15-2W	
AC-103	0.5	0.5	0.8	15	115	208	1	MRTS	LA3	11,13	15-2W	
AC-104	0.1	0.2	0.3	15	62	208	1	MRTS	LA3	11,13	15-2W	
AC-105	0.1	0.2	0.3	15	62	208	1	MRTS	LA3	11,13	15-2W	
AC-107A	0.1	1	0.6	15	208	208	1	MRTS	LB1	51,53	15-2W	
AC-108	0.5	0.6	3.6	15	166	208	1	MRTS	LA3	8,10	15-2W	
AC-110	0.5	0.6	1.9	15	166	208	1	MRTS	LA3	11,13	15-2W	
AC-112A	0.06	0.5	0.4	15	110	208	1	MRTS	LA3	8,10	15-2W	
AC-112B	0.06	0.5	0.4	15	110	208	1	MRTS	LA3	8,10	15-2W	
AC-112C	0.06	0.5	0.4	15	110	208	1	MRTS	LA3	8,10	15-2W	
AC-112D	0.06	0.5	0.4	15	110	208	1	MRTS	LA3	8,10	15-2W	
AC-113-1	0.1	0.5	0.6	15	100	208	1	MRTS	LA3	8,10	15-2W	
AC-113-2	0.1	0	0	0	0	208	1	MRTS			15-2W	1
AC-113-3	0.1	0	0	0	0	208	1	MRTS			15-2W	1
AC-113-4	0.1	0	0	0	0	208	1	MRTS			15-2W	1
AC-114	0.5	0.6	0.8	15	166	208	1	MRTS	LA3	8,10	15-2W	
AC-116	0.1	0.5	0.3	15	120	208	1	MRTS	LA3	8,10	15-2W	
AC-117	0.5	0.6	1.9	15	166	208	1	MRTS	LA3	7,9	15-2W	
AC-121A	0.06	0.5	0.4	15	110	208	1	MRTS	LA3	7,9	15-2W	
AC-121B	0.06	0.5	0.4	15	110	208	1	MRTS	LA3	7,9	15-2W	
AC-121C	0.06	0.5	0.4	15	110	208	1	MRTS	LA3	7,9	15-2W	
AC-121D	0.06	0.5	0.4	15	110	208	1	MRTS	LA3	7,9	15-2W	
AC-122	0.1	0.2	0.4	15	62	208	1	MRTS	LA3	7,9	15-2W	
AC-123	0.1	0.2	0.4	15	62	208	1	MRTS	LA3	7,9	15-2W	
AC-127	0.1	0.2	0.3	15	62	208	1	MRTS	LA3	7,9	15-2W	
AC-128-1	0.1	0.5	0.6	15	100	208	1	MRTS	LA3	8,10	15-2W	
AC-128-2	0.1	0	0	0	0	208	1	MRTS			15-2W	1
AC-201A	0.5	2.2	3.6	15	538	208	1	MRTS	LB1	18,20	15-2W	
AC-201B	0.5	2.2	3.6	15	538	208	1	MRTS	LB1	18,20	15-2W	
AC-201C	0.5	2.2	3.6	15	538	208	1	MRTS	LB1	18,20	15-2W	
AC-202A	0.1	0.5	1	15	110	208	1	MRTS	LB1	18,20	15-2W	
AC-202B	0.1	0.5	1	15	110	208	1	MRTS	LB1	18,20	15-2W	
AC-203A	0.1	0.5	1.6	15	110	208	1	MRTS	LB2	1,3	15-2W	
AC-203B	0.1	0.5	1.6	15	110	208	1	MRTS	LB1	51,53	15-2W	
AC-203C	0.1	0.5	1.6	15	110	208	1	MRTS	LB1	51,53	15-2W	
AC-204	0.1	0.5	1.6	15	110	208	1	MRTS	LB1	51,53	15-2W	
AC-207	0.1	0.2	0.3	15	62	208	1	MRTS	LB1	51,53	15-2W	
AC-208A	0.5	2.2	3.1	15	538	208	1	MRTS	LB1	18,20	15-2W	
AC-208B	0.5	2.2	3.1	15	538	208	1	MRTS	LB1	18,20	15-2W	
AC-210A	0.06	0.5	0.4	15	110	208	1	MRTS	LB2	1,3	15-2W	
AC-210B	0.06	0.5	0.4	15	110	208	1	MRTS	LB2	1,3	15-2W	
AC-210C	0.06	0.5	0.4	15	110	208	1	MRTS	LB2	1,3	15-2W	
AC-210D	0.06	0.5	0.4	15	110	208	1	MRTS	LB2	1,3	15-2W	
AC-210E	0.06	0.5	0.4	15	110	208	1	MRTS	LB2	1,3	15-2W	
AC-214	0.1	0.2	0.3	15	62	208	1	MRTS	LB1	51,53	15-2W	
AC-215	0.1	0.5	0.4	15	120	208	1	MRTS	LB2	1,3	15-2W	
AC-216	0.1	0.2	0.3	15	62	208	1	MRTS	LB1	51,53	15-2W	
AC-220	0.5	2.2	1.8	15	538	208	1	MRTS	LB2	1,3	15-2W	
AC-222	0.1	0.2	0.3	15	62	208	1	MRTS	LB1	51,53	15-2W	
AC-223	0.1	0.5	0.4	15	120	208	1	MRTS	LB2	1,3	15-2W	
AC-224	0.1	1	0	0	208	208	1	MRTS			15-2W	1
AC-225	0.1	0.2	0.3	15	62	208	1	MRTS	LB2	1,3	15-2W	
AC-302	0.5	2.3	1.8	15	557	208	1	MRTS	LC2	2,4	15-2W	
AC-303	0.5	2.3	1.8	15	557	208	1	MRTS	LC2	2,4	15-2W	
AC-304	0.5	2.3	3.6	15	557	208	1	MRTS	LC2	2,4	15-2W	
AC-305	0.5	2.3	0.8	15	557	208	1	MRTS	LC2	2,4	15-2W	
AC-307	0.1	0.2	0.3	15	62	208	1	MRTS	LC2	2,4	15-2W	
AC-310A	0.06	0.5	0.4	15	110	208	1	MRTS	LC2	8,10	15-2W	
AC-310B	0.06	0.5	0.4	15	110	208	1	MRTS	LC2	8,10	15-2W	
AC-310C	0.06	0.5	0.4	15	110	208	1	MRTS	LC2	8,10	15-2W	
AC-310D	0.06	0.5	0.4	15	110	208	1	MRTS	LC2	8,10	15-2W	
AC-310E	0.06	0.5	0.4	15	110	208	1	MRTS	LC2	2,4	15-2W	
AC-311	0.1	0.5	0.3	15	110	208	1	MRTS	LC2	2,4	15-2W	
AC-312	0.1	0	0	0	0	208	1	MRTS			15-2W	1
AC-315	0.1	0.2	0.3	15	62	208	1	MRTS	LC2	8,10	15-2W	
AC-317	0.1	0.2	0.4	15	62	208	1	MRTS	LC2	8,10	15-2W	
AC-318	0.5	2.3	0.8	15	557	208	1	MRTS	LC2	8,10	15-2W	
AC-319	0.1	0.2	0.3	15	62	208	1	MRTS	LC2	8,10	15-2W	

VARIABLE AIR VOLUME TERMINAL UNIT SCHEDULE

ID	LOAD				VOLTAGE (V)	PHASE	DISCONNECT	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
	FLA (A)	MCA (A)	MOCP (A)	TOTAL LOAD (VA)							
Phase 1											
EVAV-100	0.2	0.2	15	50	277	1	MRTS	HA	23	15-2W	
EVAV-110	0.2	0.2	15	50	277	1	MRTS	HA	23	15-2W	
EVAV-201	0.2	0.2	15	50	277	1	MRTS	HB	8	15-2W	
EVAV-208	0.2	0.2	15	50	277	1	MRTS	HB	8	15-2W	
EVAV-210	0.2	0.2	15	50	277	1	MRTS	HB	8	15-2W	
VAV-101	0.3	0.4	15	50	277	1	MRTS	HA	23	15-2W	
VAV-108	0.3	0.4	15	50	277	1	MRTS	HA	23	15-2W	
VAV-112	0.3	0.4	15	50	277	1	MRTS	HA	23	15-2W	
VAV-114	0.3	0.4	15	50	277	1	MRTS	HA	23	15-2W	
VAV-116	0.3	0.4	15	50	277	1	MRTS	HA	23	15-2W	
VAV-121	0.3	0.4	15	50	277	1	MRTS	HA	23	15-2W	
VAV-123	0.3	0.4	15	50	277	1	MRTS	HA	23	15-2W	
VAV-127	0.3	0.4	15	50	277	1	MRTS	HA	23	15-2W	
VAV-201	0.3	0.4	15	50	277	1	MRTS	HB	8	15-2W	
VAV-203	0.3	0.4	15	50	277	1	MRTS	HB	8	15-2W	
VAV-208	0.3	0.4	15	50	277	1	MRTS	HB	8	15-2W	
VAV-210A	0.3	0.4	15	50	277	1	MRTS	HB	8	15-2W	
VAV-210B	0.3	0.4	15	50	277	1	MRTS	HB	8	15-2W	
VAV-211	0.3	0.4	15	50	277	1	MRTS	HB	8	15-2W	
VAV-215	0.3	0.4	15	50	277	1	MRTS	HB	8	15-2W	
VAV-223	0.3	0.4	15	50	277	1	MRTS	HB	8	15-2W	
VAV-302	0.3	0.4	15	50	277	1	MRTS	HC	8	15-2W	
VAV-304	0.3	0.4	15	50	277	1	MRTS	HC	8	15-2W	
VAV-307	0.3	0.4	15	50	277	1	MRTS	HC	8	15-2W	
VAV-310	0.3	0.4	15	50	277	1	MRTS	HC	8	15-2W	
VAV-315	0.3	0.4	15	50	277	1	MRTS	HC	8	15-2W	
VAV-317	0.3	0.4	15	50	277	1	MRTS	HC	8	15-2W	

DOAS UNIT SCHEDULE

NOTES:
1. NEUTRAL CONDUCTORS (WHERE REQUIRED) SHALL BE EQUAL IN SIZE TO THE PHASE CONDUCTORS.
2. FOR UNITS REQUIRING SMOKE DETECTION: FURNISH AND WIRE SMOKE DETECTION IN RETURN AIR DUCTWORK. DETERMINE QUANTITY OF DETECTORS REQUIRED BASED ON DUCTWORK CONFIGURATION AND NFPA 72. DETECTOR(S) SHALL BE INSTALLED UNDER DIV. 23.
3. AT UNIT DETECTORS, RECESS REMOTE STATUS AND TEST INDICATOR DEVICE IN ACP BELOW DETECTOR UNLESS REMOTE DEVICE IS NOTED AS WALL MOUNTED ON PLANS.

ID	LOCATION		ECM	LOAD					VOLTAGE (V)	PHASE	DISCONNECT	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
	NO.	NAME		HP	FLA (A)	MCA (A)	MOCP (A)	TOTAL LOAD (VA)							
Phase 1															
DOAS-1		OUTDOOR	No	0	51.4	61	70	42,733	480	3	NEMA 3R, FUSED	HA	8,10,12	70-3W	1,2,3
DOAS-2		OUTDOOR	No	0	51.4	61	70	42,733	480	3	NEMA 3R, FUSED	HB	7,9,11	70-3W	1,2,3
DOAS-3		OUTDOOR	No	0	34.7	41.7	45	28,849	480	3	NEMA 3R, FUSED	HC	2,4,6	50-3W	1,2,3

PUMP SCHEDULE

ID	LOCATION		LOAD					VOLTAGE (V)	PHASE	DISCONNECT	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
	NO.	NAME	HP	FLA (A)	MCA (A)	MOCP (A)	TOTAL LOAD (VA)							
Phase 1														
HWRP-1	109	STORAGE	0.09	0.6	0.8	15	70	115	1	MRTS	LA2	52	15-2W	
HWRP-2	218	STORAGE	0.09	0.6	0.8	15	70	115	1	MRTS	LB2	9	15-2W	

KITCHEN EXHAUST FAN SCHEDULE

NOTES:
1. FAN SHALL BE ENABLED VIA KITCHEN HOOD CONTROL PANEL. PROVIDE INTERLOCK FROM FAN TO EXHAUST FAN CONTROLS.

ID	LOCATION	ECM	LOAD					VOLTAGE (V)	PHASE	DISCONNECT	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
	NAME		HP	FLA (A)	MCA (A)	MOCP (A)	TOTAL LOAD (VA)							
KEF-1	ROOF	Yes	3	4.7	5.9	15	3,266	460	3	NEMA 3R, FUSED	HK	1,3,5	20-3W	1
KEF-2	ROOF	Yes	1	1.8	2.2	15	2,600	460	3	NEMA 3R, FUSED	HK	2,4,6	20-3W	1

WATER HEATER SCHEDULE

NOTES:
1. DHWG-3 IS A REDUNDANT UNIT FOR DHWG-2, CONTROLS SEQUENCE SET TO ONLY POWER ON BACKUP UNIT IN THE EVENT OF FAILURE OF MAIN UNIT (DHWG-2)

ID	HEATING ELEMENT DATA			LOAD					VOLTAGE (V)	PHASE	DISCONNECT	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
	QTY	KW	SCR	HP	FLA (A)	MCA (A)	MOCP (A)	TOTAL LOAD (VA)							
Phase 1															
DHWG-1	1	12	Yes	0	14.8	18.5	20	12,304	480	3	MRTS	HA	1,3,5	20-3W	
DHWG-2	4	15	Yes	0	72	90	100	60,000	480	3	NEMA 1, FUSED	MDP	1	100-3W	
DHWG-3	4	15	Yes	0	72	90	100	1	480	3	NEMA 1, FUSED	MDP	10	100-3W	1

FAN SCHEDULE

ID	LOCATION		LOAD				VOLTAGE (V)	PHASE	DISCONNECT	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
	NO.	NAME	FLA (A)	MCA (A)	MOCP (A)	TOTAL LOAD (VA)							
F-107	107	MK STORAGE	3.3	4.1	15	396	120	1	MRTS	LA2	51	15-2W	
F-206	200.1	CORRIDOR	0.8	1	15	100	120	1	MRTS	LK3	55	15-2W	
F-209.2			0.8	1	15	96	120	1	MRTS	LB2	6	15-2W	
F-217	217-1	LAUNDRY-1	0.3	0.4	15	35	120	1	MRTS	LB2	8	15-2W	
F-308	308-1	AV-1	0.8	1	15	96	120	1	MRTS	LC2	5	15-2W	

AIR HANDLING UNIT SCHEDULE

NOTES:
1. KITCHEN HOOD MAU SHALL BE ENABLED VIA KITCHEN HOOD CONTROLS. ROUTE CIRCUIT VIA VFD FURNISHED BY DIV 23. CONCEAL ALL LINE AND LOW VOLTAGE CONNECTIONS IN CONDUIT. SEE MECHANICAL DETAILS SHEETS.
2. PROVIDE 120V INTERCONNECTION FROM MAKEUP AIR UNIT CONTROL SECTION TO SWITCH.
3. PROVIDE CONNECTION TO MOTORIZED BACKDRAFT DAMPER.

ID	SERVES	ELEC HEATING ELEMENT				ECM	LOAD					VOLTAGE (V)	PHASE	DISCONNECT	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
		QTY	KW	SCR	STAGES		HP	FLA (A)	MCA (A)	MOCP (A)	TOTAL LOAD (VA)							
MAU-1	BACK OF HOUSE	1	100	Yes		No	10	189.1	196.1	200	150,584	460	3	NEMA 3R, FUSED	MDP	11	250-3W	1,2,3

VARIABLE REFRIGERANT FLOW BRANCH SELECTOR SCHEDULE

ID	LOCATION		SERVES	LOAD				VOLTAGE (V)	PHASE	DISCONNECT	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
	NO.	NAME		FLA (A)	MCA (A)	MOCP (A)	TOTAL LOAD (VA)							
Phase 1														
BS-1-1	109	STORAGE	CU-1A	1.5	1.9	15	316	208	1	MRTS	LA3	8,10	20-2W	
BS-1-2	111.8	JANITOR	CU-1B	1.5	1.9	15	166	208	1	MRTS	LA3	7,9	20-2W	
BS-1-3	110	RESTROOM VESTIBULE	CU-1B	1.5	1.9	15	166	208	1	MRTS	LA3	11,13	20-2W	
BS-2-1	200.1	CORRIDOR	CU-2A	1.5	1.9	15	316	208	1	MRTS	LB1	18,20	20-2W	
BS-2-2			CU-2B	1.5	1.9	15	316	208	1	MRTS	LB1	51,53	20-2W	
BS-2-3			CU-2C	1.5	1.9	15	316	208	1	MRTS	LB2	1,3	20-2W	
BS-3-1	310-6	OPEN OFFICE-6	CU-3	1.5	1.9	15	166	208	1	MRTS	LC2	8,10	20-2W	
BS-3-2	310-5	OPEN OFFICE-5	CU-3	1.5	1.9	15	316	208	1	MRTS	LC2	2,4	20-2W	

UNIT HEATER SCHEDULE

NOTES:
1. LOCAL DISCONNECTING MEANS FURNISHED INTEGRAL WITH UNIT UNLESS NOTED OTHERWISE

ID	LOCATION		ELEC HEATING ELEMENT				ECM	LOAD					VOLTAGE (V)	PHASE	PANEL	CIRCUIT NO.	CONDUIT & WIRE SIZE	NOTES
	NO.	NAME	QTY	KW	SCR	STAGES		HP	FLA (A)	MCA (A)	MOCP (A)	TOTAL LOAD (VA)						
Phase 1																		
EUH-129	129	MECH	1	2	Yes		No	0	11	13.8	15	2,200	208	1	LA3	12,14	15-2W	1

9/17/2025 9:43:15 AM Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_MEP_2025.rvt

HDR, ENGINEERING INC.
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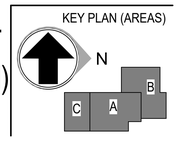
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LICENSED PROFESSIONAL ENGINEER
JOSHUA WETZIG
32927
9/22/25
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRVD: Approver

DATA CENTER OFFICE HUB

PROJECT ADDRESS:
TULSA COUNTY, OK

PROJ. NO. 43-25105-00

MECHANICAL CONNECTION SCHEDULES

SCALE:

SHEET NUMBER:
E7.2

PHASE: BUILDING PERMIT DOCUMENTS

SWITCHBOARD: MDP

LOCATION ELEC 128
BUS RATING 1200.0 A
MAIN BREAKER 1200.0 A

VOLTAGE: 480Y/277
PHASES: 3
WIRES: 4
SCCR: 35kA

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	LOAD (kVA)	NOTES
1	DHWG-2	100.0 A	3		H	60	
2	PANEL HB (NOTE 1)	400.0 A	3		Spare; ...	183	
3	PANEL EV VIA XFMR TEV	175.0 A	3		Spare; R	50	
4	PANEL HC	225.0 A	3		Spare; ...	94	
5	INTEGRAL SPD	--	3		--	--	
6	PANEL HK	600.0 A	3		Spare; ...	309	
7	SPACE	--	3		--	--	
8	PANEL HA	400.0 A	3		Spare; ...	225	
9	SPACE	--	1		--	--	
10	DHWG-3	100.0 A	3		H	0	
11	MAU-1 (NOTE 1)	200.0 A	3		LM	151	
					TOTAL LOAD:	1,071 kVA	
					TOTAL AMPS:	1289 A	

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	26245 VA	125.00%	32806 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	191270 VA	52.61%	100635 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFCI (30mA)	**CONNECTED LOAD:** 1,071 kVA
K	KITCHEN	304609 VA	65.00%	197996 VA	NON-DWELLING KITCHEN EQUIPMENT, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 929 kVA
M	MOTOR	278304 VA	103.84%	288987 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 1289 A
C	COOLING	1100 VA	100.00%	1100 VA			**EMD CURRENT:** 1117.4 A
H	HEATING	62601 VA	100.00%	62601 VA			
O	OTHER	28828 VA	100.00%	28828 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
MAIN BREAKER TO BE 100 PERCENT RATED.

1. BREAKER TO BE PROVIDED BY CONTRACTOR AND FIELD INSTALLED INTO OWNER PROVIDED PANELBOARD.

PANEL: LA2

LOCATION: ELEC 128
BUS RATING: 400.0 A
MAIN BREAKER: MLO

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: LA1
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1	R - HUDDLE 119 DISPLAY	20	1		R	180	180					R		1	20	R - HUDDLE 104 DISPLAY	2
3	R - HUDDLE 119 CONV.	20	1		R			540	540			R		1	20	R - HUDDLE 104 CONV.	4
5	R - HUDDLE 118 DISPLAY	20	1		R					180	720	R		1	20	R - SECURITY 103	6
7	R - HUDDLE 118 CONV.	20	1		R	540	1,080					R		1	20	R - VESTIBULE 102 / LOUNGE 101	8
9	R - HUDDLE 117 DISPLAY	20	1		R			180	1,620			R		1	20	R - PRIVATE OFFICE 127/COPY 126	10
11	R - HUDDLE 117 CONV.	20	1		R					540	300	M		1	20	M - VESTIBULE 102 ADA DOORS	12
13	R - LARGE MTG 128 DISPLAY	20	1		R	540	540					R		1	20	R - RESTROOMS VESTIBULE 110	14
15	R - LARGE 116 CONV.	20	1		R			360	1,440			R		1	20	R - LOUNGE 101	16
17	R - LARGE 116	20	1		R					540	600	R; M		1	20	R STORAGE 109	18
19	R - SMALL 122 DISPLAY	20	1		R	180	0					R		1	20	R - EXTERIOR CONVENIENCE	20
21	R - SMALL 122 CONV.	20	1		R			720	0			Spare		1	20	SPARE	22
23	R - MEDIUM 123 DISPLAY	20	1		R					180	0	Spare		1	20	SPARE	24
25	R - MEDIUM 123 CONV.	20	1		R	720	0					Spare		1	20	SPARE	26
27	R - PHONE 124/125	20	1		R			720	0			Spare		1	20	SPARE	28
29	R - COPY 126	20	1		R					1,000	0	Spare		1	20	SPARE	30
31	R - PHONE 114/115, STORAGE 109	20	1		R	720	0					Spare		1	20	SPARE	32
33	R - MOTHER'S ROOM 105	20	1		R			360	0			Spare		1	20	SPARE	34
35	R - LOUNGE 101	20	1		R					540	0	Spare		1	20	SPARE	36
37	R - MK 108	20	1		R	900	0					Spare		1	20	SPARE	38
39	FACP	20	1		O			500	0			Spare		1	20	SPARE	40
41	R - ELEC 128/MECH 129	20	1		R					360	0	Spare		1	20	SPARE	42
43	CU-128-2 (NOTE 1)	25	2		M	1,778	1,778					M		2	25	CU-113-2 (NOTE 1)	44
45								1,778	1,778								46
47	SPARE	20	2		Spare					0	1,778	M		2	525	CU-113-4 (NOTE 1)	48
49						0	1,778										50
51	F-107	15	1		M			396	70			M		1	15	M - PUMP P-1 STORAGE 109	52
53	R - REFRIG. MOTHER'S RM 105	20	1	G	R					600	900	R	G	1	20	R - EWC LOUNGE 101	54
					TOTAL LOAD:	29453 VA		28347 VA		26210 VA							
					TOTAL AMPS	248.2 A		239.0 A		218.4 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	20960 VA	73.85%	15480 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 84 kVA
K	KITCHEN	17210 VA	65.00%	11187 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 73 kVA
M	MOTOR	13635 VA	106.52%	14524 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 233.2 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 203.7 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	28648 VA	100.00%	28648 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
FED FROM LA1 VIA FEED THRU LUGS

1. BREAKER TO BE PROVIDED BY CONTRACTOR AND FIELD INSTALLED INTO OWNER PROVIDED PANELBOARD.

PANEL: EV

LOCATION: ELEC 128
BUS RATING: 400.0 A
MAIN BREAKER: 400.0 A

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: TEV
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1	EV CHARGER	40	2		R	3,120	0					Spare		2	40	FUTURE EV CHARGER	2
3								3,120	0								4
5	EV CHARGER	40	2		R					3,120	0	Spare		2	40	FUTURE EV CHARGER	6
7						3,120	0										8
9	EV CHARGER	40	2		R			3,120	0			Spare		2	40	FUTURE EV CHARGER	10
11										3,120	0						12
13	EV CHARGER	40	2		R	3,120	0					Spare		2	40	FUTURE EV CHARGER	14
15								3,120	0								16
17	EV CHARGER	40	2		R					3,120	0	Spare		2	40	FUTURE EV CHARGER	18
19						3,120	0										20
21	EV CHARGER	40	2		R			3,120	0			Spare		2	40	FUTURE EV CHARGER	22
23										3,120	0						24
25	EV CHARGER	40	2		R	3,120	0					Spare		2	40	FUTURE EV CHARGER	26
27								3,120	0								28
29	EV CHARGER	40	2		R					3,120	0	Spare		1	20	SPARE	30
31						3,120	0					Spare		1	20	SPARE	32
33	SPARE	20	1		Spare			0	0			Spare		1	20	SPARE	34
35	SPARE	20	1		Spare					0	0	Spare		1	20	SPARE	36
37	SPARE	20	1		Spare	0	0					Spare		1	20	SPARE	38
39	SPARE	20	1		Spare			0	0			Spare		1	20	SPARE	40
41	SPACE	--	1							--	0	Spare		1	20	SPARE	42
					TOTAL LOAD:	18720 VA		15600 VA		15600 VA							
					TOTAL AMPS	156.0 A		130.0 A		130.0 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	49920 VA	60.02%	29960 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 50 kVA
K	KITCHEN	0 VA	0.00%	0 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 30 kVA
M	MOTOR	0 VA	0.00%	0 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 138.6 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 83.2 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:

PANEL: HA

LOCATION: ELEC 128
BUS RATING: 400.0 A
MAIN BREAKER: MLO

VOLTS: 480Y/277
PHASES: 3
WIRES: 4
SCCR: 35kA

MOUNTING: SURFACE
FED FROM: MDP
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1						4,101	6,124										2
3	WATER HEATER (DHWG-1)	20	3		M			4,101	6,124			M		3	40	CU-1A	4
5										4,101	6,124						6
7						6,124	14,244										8
9	CU-1B	40	3		M			6,124	14,244			M		3	70	DOAS-1 (NOTE 1)	10
11										6,124	14,244						12
13	L - LOUNGE 101	20	1		L	1,282	3,162					L		1	20	L - EXTERIOR POLES	14
15	L - RESTROOMS	20	1		L			1,350	255			L		1	20	L - EXTERIOR	16
17	L - OPEN OFFICE NORTH	20	1		L					3,064	120	L		1	20	L - EXTERIOR BOLLARDS	18
19	L - OPEN OFFICE SOUTH	20	1		L	2,431	0					Spare		1	20	SPARE	20
21	L - HUDDLE/CONF/PHONE	20	1		L			1,081	0			Spare		1	20	SPARE	22
23	VAVS	15	1		C; M					500	0	Spare		1	20	SPARE	24
25	SPARE	20	1		Spare	0	0					Spare		1	20	SPARE	26
27	SPACE	--	1					--	--					1	--	SPACE	28
29	SPACE	--	1							--	--			1	--	SPACE	30
31	SPACE	--	1			--	--							1	--	SPACE	32
33	SPACE	--	1					--	--					1	--	SPACE	34
35	SPACE	--	1							--	--			1	--	SPACE	36
37	SPACE	--	1			--	--							1	--	SPACE	38
39	SPACE	--	1					--	--					1	--	SPACE	40
41	SPACE	--	1							--	--			1	--	SPACE	42
43						41,693	--										44
45	PANEL LA1 VIA TLA	175	3		Spare; R; K; O...			40,565	--					3	--	N/A	46
47										37,348	--						48
					TOTAL LOAD:	79162 VA		73845 VA		71627 VA							
					TOTAL AMPS	287.0 A		267.8 A		258.6 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	12746 VA	125.00%	15932 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	52820 VA	59.47%	31410 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 225 kVA
K	KITCHEN	17210 VA	65.00%	11187 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 211 kVA
M	MOTOR	94258 VA	111.33%	104941 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 270.2 A
C	COOLING	400 VA	100.00%	400 VA			**EMD CURRENT:** 253.9 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	28828 VA	100.00%	28828 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
1. BREAKER TO BE PROVIDED BY CONTRACTOR AND FIELD INSTALLED INTO OWNER PROVIDED PANELBOARD.

PANEL: LA3

LOCATION: ELEC 128
BUS RATING: 400.0 A
MAIN BREAKER: MLO

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: LA2
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1						0	10,680										2
3	SPARE	60	3		Spare			0	9,824			Spare; R; O		3	100	PANEL MDF1	4
5										0	9,184						6
7	VRF INDOOR UNITS - OPEN OFFICE 121/127	15	2		M	480	705					M		2	15	VRF INDOOR UNITS - OPEN OFFICE 112, MK...	8
9								480	705								10
11	VRF INDOOR UNITS - LOUNGE 101, MOTHER...	15	2		M	564	1,100					M		2	15	UH-129	12
13								564	1,100								14
15	K - WATER DISPENSER (H20)	20	1	G	K			1,440	1,700			K	G	1	20	K - ESPRESSO MACHINE (H15)	16
17	K - COFFEE GRINDER (H15.1B)	20	1	G	K					400	400	K	G	1	20	K - COFFEE GRINDER (H15.1A)	18
19	SPARE	20	1	G	Spare	0	240					K	G	1	20	K - U/C REFRIG. (H8)	20
21	SPARE	20	1	G	Spare			0	720			K	G	1	20	K - COFFEE GRINDER (H2)	22
23	SPARE	20	1	G	Spare					0	1,800	K	G	1	20	K - COFFEE BREWER (H14)	24
25	K - REFRIGERATOR (H28)	20	1	G	K	246	540					K	G	1	20	K - WATER DISPENSER (H5)	26
27	K - FAUCET SENSOR (H17.1)	20	1	G	K			100	720			K	G	1	20	K - ICE DISPENSER (H4)	28
29	K - REFRIGERATOR (D36)	20	1	G	K					456	1,608	K	G	1	20	R - MICROWAVE (H25A)	30
31	K - PASS THRU REFRIG. (D38A)	20	1	G	K	1,656	1,608					K	G	1	20	R - MICROWAVE (H25B)	32
33	K - PASS THRU REFRIG. (D38B)	20	1	G	K			1,656	0			Spare	G	1	20	SPARE	34
35	SPARE	20	1	G	Spare					0	1,920	K	G	1	20	K - COFFEE BREWER (H3)	36
37	SPARE	20	1		Spare	0	0					Spare		1	20	SPARE	38
39	R - CONV. - MK STORAGE 107	20	1		R			0	0			R		1	20	K - CONVENIENCE OUTLET	40
41	R - CONV. - MK 108	20	1		R					360	180	R		1	20	R - SOUND MASKING GENERATOR	42
43	SPARE	20	1		Spare	0	720					R		1	20	R - JANITOR 106	44
45	SPARE	20	1		Spare			0	0			Spare		1	20	SPARE	46
47	SPARE	20	1		Spare					0	0	Spare		1	20	SPARE	48
49	SPARE	20	1		Spare	0	0					Spare		1	20	SPARE	50
51	SPARE	20	1		Spare			0	0			Spare		1	20	SPARE	52
53	SPARE	20	1		Spare					0	0	Spare		1	20	SPARE	54
					TOTAL LOAD:	18539 VA		17345 VA		17972 VA							
					TOTAL AMPS	155.3 A		144.5 A		150.6 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	2800 VA	100.00%	2800 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 54 kVA
K	KITCHEN	17210 VA	65.00%	11187 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 48 kVA
M	MOTOR	5140 VA	110.70%	5690 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 149.5 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 134.3 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	28148 VA	100.00%	28148 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
FED FROM LA2 VIA FEED THRU LUGS

PANEL: LA1

LOCATION: ELEC 128
BUS RATING: 400.0 A
MAIN BREAKER: 400.0 A

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: TLA
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1	R - WORKSTATION FURNITURE	20	2		R	1,080	1,080					R		2	20	R - WORKSTATION FURNITURE	2
3								1,080	1,080								4
5	R - WORKSTATION FURNITURE	20	2		R					1,080	1,080	R		2	20	R - WORKSTATION FURNITURE	6
7						1,080	1,080										8
9	R - WORKSTATION FURNITURE	20	2		R			1,080	1,080			R		2	20	R - WORKSTATION FURNITURE	10
11										1,080	1,080						12
13	R - WORKSTATION FURNITURE	20	2		R	1,080	1,080					R		2	20	R - WORKSTATION FURNITURE	14
15								1,080	1,080								16
17	R - WORKSTATION FURNITURE	20	2		R					1,080	720	R		2	20	R - WORKSTATION FURNITURE	18
19						1,080	720										20
21	R - WORKSTATION FURNITURE	20	2		R			360	360			R		2	20	R - WORKSTATION FURNITURE	22
23										360	360						24
25	R - WORKSTATION FURNITURE	20	2		R	720	720					R		2	20	R - WORKSTATION FURNITURE	26
27								720	720								28
29	R - WORKSTATION FURNITURE	20	2		R					720	360	R		2	20	R - WORKSTATION FURNITURE	30
31						720	360										32
33	R - WORKSTATION FURNITURE	20	2		R			720	1,778			M		2	25	CU-113-3 (NOTE 1)	34
35										720	1,778						36
37	R - SYSTEM FURNITURE	20	1		R	360	360					R		1	20	R - SYSTEM FURNITURE	38
39	R - SYSTEM FURNITURE	20	1		R			360	180			R		1	20	R - SYSTEM FURNITURE	40
41	R - BIOMETRIC READER	20	1		R					180	360	R		1	20	R - SYSTEM FURNITURE	42
43	R - RESTROOM VESTIBULE 110 (PHASE 2)	20	1		R	360	360					R		1	20	R - SYSTEM FURNITURE	44
45	TRAKA KEY BOX	20	1		O			180	360			R		1	20	R - SYSTEM FURNITURE	46
47	R - SITE CAMERA FIBER ENCLOSURE	20	1		R					0	180	R		1	20	R - SYSTEM FURNITURE	48
49	R - SITE CAMERA FIBER ENCLOSURE	20	1		R	0	0					R		1	20	R - EXTERIOR CONVENIENCE	50
51	R - SITE CAMERA FIBER ENCLOSURE	20	1		R			0	0			R		1	20	R - SITE CAMERA FIBER ENCLOSURE	52
53	R - SITE CAMERA FIBER ENCLOSURE	20	1		R					0	0	Spare		1	20	SPARE	54
					TOTAL LOAD:	41693 VA		40565 VA		37348 VA							
					TOTAL AMPS	351.6 A		342.2 A		311.2 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	52820 VA	59.47%	31410 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 120 kVA
K	KITCHEN	17210 VA	65.00%	11187 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 93 kVA
M	MOTOR	17191 VA	105.17%	18080 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 332.0 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 258.3 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	28828 VA	100.00%	28828 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
1. BREAKER TO BE PROVIDED BY CONTRACTOR AND FIELD INSTALLED INTO OWNER PROVIDED PANELBOARD.

PANEL: MDF1

LOCATION: MDF 113
BUS RATING: 250.0 A
MAIN BREAKER: 100 A

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10k

MOUNTING: SURFACE
FED FROM: LA3
INTEGRAL SPD: YES
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1	RACK #4 L6-20R	20	2		O	1,500	1,500					O		2	20	RACK #4 L6-20R	2
3								1,500	1,500								4
5	RACK #5 L6-20R	20	2		O					1,500	1,500	O		2	20	RACK #3 L6-20R	6
7						1,500	1,500										8
9	RACK #5 L6-20R	20	2		O			1,500	1,500			O		2	20	RACK #3 L6-20R	10
11										1,500	1,500						12
13	RACK #5 L6-20R	20	2		O	1,500	750					O		2	20	RACK #2 L6-20R	14
15								1,500	750								16
17	RACK #5 L6-20R	20	2		O					1,500	750	O		2	20	RACK #1 L6-20R	18
19						1,500	750										20
21	18kVA UPS (NOTE 1)	100	2		O			574	1,000								22
23										574	360	R		1	20	R - ACCESS CONTROL PANEL	24
25	SPARE	20	1		Spare	0	180					R		1	20	R - MDF 113	26
27	SPARE	20	1		Spare			0	0			Spare		1	20	SPARE	28
29	SPARE	20	1		Spare					0	0	Spare		1	20	SPARE	30
31	SPARE	20	1		Spare	0	0					Spare		1	20	SPARE	32
33	SPARE	20	1		Spare			0	0			Spare		1	20	SPARE	34
35	SPARE	20	1		Spare					0	0	Spare		1	20	SPARE	36
37	SPARE	20	1		Spare	0	0					Spare		1	20	SPARE	38
39	SPARE	20	1		Spare			0	0			Spare		1	20	SPARE	40
41	SPARE	20	1		Spare					0	0	Spare		1	20	SPARE	42
					TOTAL LOAD

PANEL: HB

LOCATION: ELEC-1 224-1
BUS RATING: 400.0 A
MAIN BREAKER: 400A

VOLTS: 480Y/277
PHASES: 3
WIRES: 4
SCCR: 22kA

MOUNTING: SURFACE
FED FROM: MDP
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1						9,256	9,256										2
3	CU-2A	40	3		M			9,256	9,256			M		3	35	CU-2B (NOTE 1)	4
5										9,256	9,256						6
7						14,244	550					C; M		1	15	VAVS	8
9	DOAS-2	70	3		M			14,244	--					1	--	SPACE	10
11										14,244	--			1	--	SPACE	12
13						9,256	--							1	--	SPACE	14
15	CU-2C (NOTE 1)	35	3		M			9,256	--					1	--	SPACE	16
17										9,256	--			1	--	SPACE	18
19	SPACE	--	1			--	--							1	--	SPACE	20
21	SPACE	--	1					--	--					1	--	SPACE	22
23	SPACE	--	1							--	--			1	--	SPACE	24
25	SPACE	--	1			--	--							1	--	SPACE	26
27	SPACE	--	1					--	--					1	--	SPACE	28
29	L CAFE-2 221-2	20	1		L					1,119	0	Spare		1	20	SPARE	30
31	L - FRONT OF HOUSE 230	20	1		L	1,163	0					Spare		1	20	SPARE	32
33	L - CONF/HUDDLE/PHONE	20	1		L			1,570	0			Spare		1	20	SPARE	34
35	L - OPEN OFFICE 218	20	1		L					2,587	0	Spare		1	20	SPARE	36
37	L - EXTERIOR	20	1		L	612	0					Spare		1	20	SPARE	38
39	SPARE	20	1		Spare			0	--					1	--	SPACE	40
41	SPACE	--	1							--	--			1	--	SPACE	42
43					Spare; R; M	15,126	--										44
45	TRANSFORMER 'TLB'	150	3					15,459	--					3	--	N/A	46
47										18,858	--						48
					TOTAL LOAD:	59463 VA		59040 VA		64575 VA							
					TOTAL AMPS	214.9 A		213.1 A		233.4 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	7051 VA	125.00%	8813 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	39120 VA	62.78%	24560 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 183 kVA
K	KITCHEN	0 VA	0.00%	0 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 181 kVA
M	MOTOR	108740 VA	109.82%	119424 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 220.2 A
C	COOLING	400 VA	100.00%	400 VA			**EMD CURRENT:** 217.7 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
1. BREAKER TO BE PROVIDED BY CONTRACTOR AND FIELD INSTALLED INTO OWNER PROVIDED PANELBOARD.

PANEL: HK

LOCATION: STORAGE 107A
BUS RATING: 600.0 A
MAIN BREAKER: 600 A

VOLTS: 480Y/277
PHASES: 3
WIRES: 4
SCCR: 35kA

MOUNTING: SURFACE
FED FROM: MDP
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1						1,089	867										2
3	KEF-1	15	3		M			1,089	867			H		3	15	KEF-2	4
5										1,089	867						6
7						2,494	4,351										8
9	K - CONVECTION OVEN (A7.1)	20	3	ST	K			2,494	4,351			K		3	20	K - BLOWER/DRYER (D2.1)	10
11										2,494	4,351						12
13						6,374	7,482										14
15	K - ELECTRIC GRIDDLE (A7)	30	3	ST	K			6,374	7,482			K	ST	3	35	K - ELECTRIC FRYER (A8)	16
17										6,374	7,482						18
19						7,455	7,455										20
21	K - COMBI-STEAMER (A4A)	35	3	ST	K			7,455	7,455			K	ST	3	35	K - COMBI-STEAMER (A4B)	22
23										7,455	7,455						24
25						14,660	18,845										26
27	K - VARIOCOOKER (A2)	70	3	ST	K			14,660	18,845			K		3	90	K - WAREWASHER (D2)	28
29										14,660	18,845						30
31						0	0										32
33	SPARE	80	3	ST	Spare			0	0			Spare	ST	3	80	SPARE	34
35										0	0						36
37						0	0										38
39	SPARE	80	3	ST	Spare			0	0			Spare		3	60	SPARE	40
41										0	0						42
43					Spare; R; K; M	30,575	--										44
45	TRANSFORMER 'TLK'	175	3					33,553	--					3	--	N/A	46
47										31,914	--						48
					TOTAL LOAD:	101645 VA		104624 VA		102985 VA							
					TOTAL AMPS	367.0 A		378.4 A		372.5 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	13610 VA	86.74%	11805 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 309 kVA
K	KITCHEN	287399 VA	65.00%	186809 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 208 kVA
M	MOTOR	5646 VA	114.46%	6462 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 372.0 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 249.8 A
H	HEATING	2600 VA	100.00%	2600 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:

PANEL: LB1

LOCATION: ELEC-1 224-1
BUS RATING: 250.0 A
MAIN BREAKER: 225A

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: TLB
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1	R - WORKSTATION FURNITURE	20	2		R	1,080	720					R		2	20	R - WORKSTATION FURNITURE	2
3								1,080	720								4
5	R - WORKSTATION FURNITURE	20	2		R					1,080	360	R		2	20	R - WORKSTATION FURNITURE	6
7						1,080	360										8
9	R - WORKSTATION FURNITURE	20	2		R			1,080	720			R		2	20	R - WORKSTATION FURNITURE	10
11										1,080	720						12
13	R - WORKSTATION FURNITURE	20	2		R	1,080	360					R		2	20	R - WORKSTATION FURNITURE	14
15								1,080	360								16
17	R - WORKSTATION FURNITURE	20	2		R					1,080	1,612	M		2	20	VRF INDOOR UNITS - CAFE	18
19						1,080	1,612										20
21	R - WORKSTATION FURNITURE	20	2		R			360	1,778			M		2	25	CU-224 (NOTE 1)	22
23										360	1,778						24
25	R - LAUNDRY 217 NEMA 6-30R	30	2		R	1,350	900					R	G	1	20	R - EWC CIRCULATION 207	26
27								1,350	180			R		1	20	R - WASHER LAUNDRY 205	28
29	R - WORKSTATION FURNITURE	20	1		R					540	1,000	R		1	20	R - COPY 215	30
31	R - SYSTEM FURNITURE	20	1		R	360	780					R, M		1	20	R - STORAGE 218 / TMV-2	32
33	R - SYSTEM FURNITURE	20	1		R			360	180			R		1	20	R - SOUND MASKING GENERATOR	34
35	R - LARGE MTG 215 DISPLAY	20	1		R					180	1,080	R		1	20	R - CONV. - CAFE 201	36
37	R - LARGE MTG 215 CONV.	20	1		R	900	360					R		1	20	R - OFFICE 211 DESK	38
39	R - SMALL 216 DISPLAY	20	1		R			180	360			R		1	20	R - OFFICE 211 DESK	40
41	R - SMALL 216	20	1		R					540	360	R		1	20	R - EXTERIOR HVAC CONV.	42
43	R - HUDDLE 221 DISPLAY	20	1		R	180	540					R		1	20	R - HUDDLE 220 CONV.	44
45	R - HUDDLE 221	20	1		R			540	180			R		1	20	R - HUDDLE 220 DISPLAY	46
47	R - MEDIUM 223 CONV.	20	1		R					720	360	R		1	20	R - PHONE 225	48
49	R - MEDIUM 223	20	1		R	180	180					R		1	20	R- ELEC 224	50
51	VRF INDOOR UNITS - KITCHEN/BOH (NOTE 1)	15	2		M			552	1,080			R		1	20	R - CONV.	52
53										552	720	R		1	20	R - CONV. CAFE-201	54
					TOTAL LOAD:	15126 VA		15459 VA		18858 VA							
					TOTAL AMPS	126.1 A		129.2 A		157.6 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	39120 VA	62.78%	24560 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 49 kVA
K	KITCHEN	0 VA	0.00%	0 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 35 kVA
M	MOTOR	6767 VA	101.99%	6902 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 137.2 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 97.2 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
FED FROM LB1 VIA FEED THRU LUGS

1. BREAKER TO BE PROVIDED BY CONTRACTOR AND FIELD INSTALLED INTO OWNER PROVIDED PANELBOARD.

PANEL: LB2

LOCATION: ELEC-1 224-1
BUS RATING: 250.0 A
MAIN BREAKER: MLO

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: LB1
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1						909	0										2
3	VRF INDOOR UNITS - OPEN OFFICE 218	15	2		M			909	0			Spare		2	20	SPARE	4
5										0	96	M		1	15	F-208	6
7	SPARE	20	2		Spare	0	35					M		1	15	F-218	8
9	HWRP-2	15	1		M			70	360			R		1	20	R - PHONE 222	10
11	R - FLEX 208 CONV.	20	1		R					900	500	R		1	20	TECH TALK LECTERN LIGHTS	12
13	R - PROJECT / SCREEN CAFE 201	20	1		R	180	180					R		1	20	MIC CHARGING STATIONS	14
15	R - MONITOR CAFE 201	20	1		R			540	900			R		1	20	R - FLEX 208	16
17	R - AV RACK 209.2	20	1		R					2,160	360	R		1	20	R - CHARGING - FLEX 208	18
19	R - AV RACK 209.2	20	1		R	360	360					R		1	20	M - FLEX 208 SHADES	20
21	R - BASE RACK - AV 209.2	20	1		R			180	360			R		1	20	R - CAFE LECTURN	22
23	R - EMT 214	20	1		R					540	180	R		1	20	R - AUDIO DEVICES	24
25	SPARE	20	1		Spare	0	0					Spare		1	20	SPARE	26
27	SPARE	20	1		Spare			0	0			Spare		1	20	SPARE	28
29	SPARE	20	1		Spare					0	0	Spare		1	20	SPARE	30
31	SPARE	20	1		Spare	0	0					Spare		1	20	SPARE	32
33	SPARE	20	1		Spare			0	0			Spare		1	20	SPARE	34
35	SPARE	20	1		Spare					0	0	Spare		1	20	SPARE	36
37	SPARE	20	1		Spare	0	0					Spare		1	20	SPARE	38
39	SPARE	20	1		Spare			0	0			Spare		1	20	SPARE	40
41	SPARE	20	1		Spare					0	0	Spare		1	20	SPARE	42
43	SPACE	--	1			--	--							1	--	SPACE	44
45	SPACE	--	1					--	--					1	--	SPACE	46
47	SPACE	--	1							--	--			1	--	SPACE	48
49	SPACE	--	1			--	--							1	--	SPACE	50
51	SPACE	--	1					--	--					1	--	SPACE	52
53	SPACE	--	1							--	--			1	--	SPACE	54
					TOTAL LOAD:	2024 VA		3319 VA		4736 VA							
					TOTAL AMPS	16.9 A		29.3 A		41.1 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	7700 VA	100.00%	7700 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 10 kVA
K	KITCHEN	0 VA	0.00%	0 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 10 kVA
M	MOTOR	1841 VA	104.29%	1920 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 28.0 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 28.2 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
FED FROM LB1 VIA FEED THRU LUGS

PANEL: LK1

LOCATION: STORAGE 107A
BUS RATING: 400.0 A
MAIN BREAKER: 400.0 A

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: TLK
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1	SPACE	--	1			--	--							1	--	SPACE	2
3	SPACE	--	1					--	--					1	--	SPACE	4
5	SPACE	--	1							--	--			1	--	SPACE	6
7	SPACE	--	1			--	--							1	--	SPACE	8
9	K - HUMAN MACHINE INTERFACE (A1.2)	20	1		K			600	1,200			K		1	20	K - EXHAUST HOOD GAS VALVE (A1)	10
11	K - BADGE READER (J25A, J25B)	20	1		K					1,200	360	R, K		1	20	K - CONVENIENCE OUTLET	12
13	K - FIRE SUPRESSION SYSTEM (A1.1)	20	1		K	1,200	240					K		1	20	K - CONDENSATE HOOD (D3)	14
15	K - COLD/HOT SHELF (J17A)	20	1	G	K			828	360			R, M		1	20	R - CONVENIENCE OUTLET	16
17	K - BUILT-IN HEATED SHELF (J16A)	20	1	G	K					960	900	K	G	1	20	K - DOUGH ROLLER (J21)	18
19	K - SNEEZE GUARD (J14A)	20	1	G	K	972	480					K	G	1	20	K - UNDERCOUNTER REFRIGERATOR (C5)	20
21	K - SNEEZE GUARD (J14B)	20	1	G	K			972	2,328			K	G	1	20	K - MOBILE HOLDING CABINET (C4)	22
23	K - BUILT-IN HEATED SHELF (J16B)	20	1	G	K					960	600	K	G	1	20	K - PREP 'N' TEMP PRO STATION (C31)	24
25	K - COLD/HOT SHELF (J17B)	20	1	G	K	828	264					K	G	1	20	K - UNDERCOUNTER REFRIGERATOR (A12)	26
27	K - HEATED PROOFING CABINET (J5)	20	1	G	K			1,896	360			K	G	1	20	K - VEGETABLE SLICER (C10)	28
29	K - TIME CLOCK (G2)	20	1	G	K					600	840	K	G	1	20	K - FOOD PROCESSOR (C9)	30
31	K - SCALE AND MONITOR (C40.1)	20	1	G	K	1,200	612					K	G	1	20	K - UNDERCOUNTER REFRIGERATOR (C22)	32
33	K - PIZZA PREP TABLE (J9)	20	1	G	K			468	672			K	G	1	20	K- SLICER (C8)	34
35	K - COUNTERTOP IMPINGER (J10A)	50	2	G	K					2,496	100	M	G	1	20	K - CUSTOM SNEEZE GUARD (H13)	36
37						2,496	984					K	G	1	20	K - ICE MACHINE (E10)	38
39	SPACE RESERVED FOR SHUNT TRIP	--	1					--	2,496			K	G	2	50	K - COUNTERTOP IMPINGER (J10B)	40
41										7,001	2,496						42
43	K - INDUCTION RANGE (A6)	80	3	ST	K	7,001	1,812					K	ST	1	20	K - CRISP N' HOLD FOOD STATION (A9)	44
45								7,001	--					1	--	SPACE RESERVED FOR SHUNT TRIP	46
47										672	--			1	--	GFCI POD	48
49	K - 40QT MIXER (C32)	20	3	G	K	672	1,201										50
51								672	1,201			K	G	3	20	K - BLAST CHILLER (E3)	52
53	GFCI POD	--	1							--	1,201						54
					TOTAL LOAD:	30575 VA		33553 VA		31914 VA							
					TOTAL AMPS	254.8 A		281.3 A		267.7 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	13610 VA	86.74%	11805 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 96 kVA
K	KITCHEN	80052 VA	65.00%	52034 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 66 kVA
M	MOTOR	2380 VA	110.51%	2630 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 266.6 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 184.5 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:

PANEL: LK2

LOCATION: STORAGE 107A
BUS RATING: 400.0 A
MAIN BREAKER: MLO

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: LK1
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)		PHASE B (VA)		PHASE C (VA)		LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1						1,381	1,309										2
3	R - COOLER COND. UNIT (E1.2)	20	3		R			1,381	1,309			R		3	20	R - FREEZER COND. UNIT (E2.2)	4
5										1,381	1,309						6
7	K - TOASTER CONVEYOR (L6)	15	2	G	K	1,113	520					R		2	20	K - EVAPORATOR COIL (E1.1)	8
9								1,113	520								10
11	K - EVAPORATOR COIL (E2.1)	20	2		R	90	1,248			90	1,248	K	G	2	20	K - SOFT SERVE FREEZER (H11)	12
13								2,496	672								14
15	K - SANDWICH PRESS (L7)	30	2	G	K					2,496	480	K	G	1	20	K - HOT/COLD PANS, DROP-IN (L2C)	16
17												K	G	1	20	K - FREEZER HEAT TRACE (E2.3)	18
19	K - BUILT-IN HEATED SHELF (L3)	20	1	G	K	600	360					K	G	1	20	K - KITCHEN CORD DROP	20
21	K - FOOD SHIELD (L2.1A)	20	1	G	K			600	360			K	G	1	20	K - KITCHEN CORD DROP	22
23	K - HOT/COLD PANS, DROP-IN (L2B)	20	1	G	K					672	600	K	G	1	20	K - FOOD SHIELD (H13)	24
25	K - FROST TOP, DROP-IN (H12)	20	1	G	K	804	828					K	G	1	20	K - ROUND FOOD WARMER (L5B)	26
27	K - FOOD SHIELD (L11)	20	1	G	K			600	828			K	G	1	20	K - ROUND FOOD WARMER (L5A)	28
29	K - HOT & COLD PAN (L2A)	20	1	G	K					672	600	K	G	1	20	K - FOOD SHIELD (L5.1)	30
31	R - CONVENIENCE OUTLET	20	1		R	180	180					R		1	20	R - CONVENIENCE OUTLET	32
33	R - CONVENIENCE OUTLET	20	1		R			180	180			R		1	20	R - CONVENIENCE OUTLET	34
35	R - CONVENIENCE OUTLET	20	1		R					180	360	K		1	20	K - CONVENIENCE OUTLET	36
37	R - CONVENIENCE OUTLET	20	1		R	180	1,000					M		1	20	K - WALK-IN COOLER (E1)	38
39	R - CONVENIENCE OUTLET	20	1		R			360	1,000			M		1	20	K - WALK-IN FREEZER (E2)	40
41	R - CONVENIENCE OUTLET	20	1		R					540	0	Spare		1	20	SPARE	42
43	SPACE	--	1			--	--							1	--	SPACE	44
45	SPACE	--	1					--	--					1	--	SPACE	46
47	SPACE	--	1							--	--			1	--	SPACE	48
49	SPACE	--	1			--	--							1	--	SPACE	50
51	SPACE	--	1					--	--					1	--	SPACE	52
53	SPACE	--	1							--	--			1	--	SPACE	54
					TOTAL LOAD:	10612 VA		12499 VA		11528 VA							
					TOTAL AMPS	88.4 A		105.3 A		97.2 A							

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	13250 VA	87.74%	11626 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 35 kVA
K	KITCHEN	19290 VA	65.00%	12538 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 27 kVA
M	MOTOR	2100 VA	111.91%	2350 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 96.1 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 73.6 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
FED FROM LK1 VIA FEED THRU LUGS

HB	LB1	LB2
HK	LK1	LK2

Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_MEP_2025.rvt
9/17/2025 9:43:17 AM

PANEL: HC

LOCATION: ELEC-1 312-1
BUS RATING: 250.0 A
MAIN BREAKER: 225 A

VOLTS: 480Y/277
PHASES: 3
WIRES: 4
SCCR: 22kA

MOUNTING: SURFACE
FED FROM: MDP
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1						5,043	9,616							2
3	CU-3 (NOTE 1)	40	3		M		5,043	9,616	M		3	45	DOAS-3	4
5								5,043	9,616					6
7									C		1	15	VAVS	8
9	TRANSFORMER 'TLC'	70	3		Spare; R; M;...	15,306	300				1	--	SPACE	10
11							15,466	--			1	--	SPACE	12
13	SPACE	--	1			--	--	12,336	--		1	--	SPACE	14
15	SPACE	--	1								1	--	SPACE	16
17	SPACE	--	1			--	--	--	--		1	--	SPACE	18
19	SPACE	--	1			--	--				1	--	SPACE	20
21	SPACE	--	1				--	--	--		1	--	SPACE	22
23	SPACE	--	1			--	--	--	--		1	--	SPACE	24
25	SPACE	--	1								1	--	SPACE	26
27	SPACE	--	1				--	--	--		1	--	SPACE	28
29	SPACE	--	1			--	--	--	--		1	--	SPACE	30
31	SPACE	--	1								1	--	SPACE	32
33	SPARE	20	1		Spare		0	0	Spare		1	20	SPARE	34
35	SPARE	20	1		Spare			0	0	Spare	1	20	SPARE	36
37	SPARE	20	1		Spare	0	408		L		1	20	L - EXTERIOR	38
39	SPARE	20	1		Spare		0	4,792	L		1	20	L - OPEN OFFICE	40
41	SPARE	20	1		Spare			0	1,249	L	1	20	L - ENCLOSED ROOMS	42
					TOTAL LOAD:	30674 VA	34917 VA	28244 VA						
					TOTAL AMPS	112.1 A	127.4 A	102.0 A						

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	6448 VA	125.00%	8060 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	35800 VA	63.97%	22900 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 94 kVA
K	KITCHEN	0 VA	0.00%	0 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 90 kVA
M	MOTOR	36157 VA	119.95%	43369 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 112.9 A
C	COOLING	300 VA	100.00%	300 VA			**EMD CURRENT:** 108.0 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
1. BREAKER TO BE PROVIDED BY CONTRACTOR AND FIELD INSTALLED INTO OWNER PROVIDED PANELBOARD.

PANEL: LC1

LOCATION: ELEC-1 312-1
BUS RATING: 150.0 A
MAIN BREAKER: 150 A

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: TLC
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1	R - WORKSTATION FURNITURE	20	2		R	1,080	720		R		2	20	R - WORKSTATION FURNITURE	2
3							1,080	720						4
5	R - WORKSTATION FURNITURE	20	2		R	1,080	720		R		2	20	R - WORKSTATION FURNITURE	6
7								1,080	720					8
9	R - WORKSTATION FURNITURE	20	2		R		540	720	R		2	20	R - WORKSTATION FURNITURE	10
11								540	720					12
13	R - WORKSTATION FURNITURE	20	2		R	1,080	720		R		2	20	R - WORKSTATION FURNITURE	14
15							1,080	720						16
17	R - WORKSTATION FURNITURE	20	2		R			720	360	R	1	20	R - WORKSTATION FURNITURE	18
19						720	360			R	1	20	R - PROJ. LARGE TRAINING 304	20
21	R - SMALL 301C	20	1		R		720	180		R	1	20	R - MONITOR LARGE TRAINING 304	22
23	R - SMALL 301C - DISPLAY SCREEN	20	1		R			180	2,160	R	1	20	R - AV 308 RACK NEMA L5-20R	24
25	R - MEDIUM 316 DISPLAY	20	1		R	180	360			R	1	20	R - AV 308 L5-20R	26
27	R - XL CONF. RM 311 CONV.	20	1		R		900	360		R	1	20	R - LARGE TRAINING 304 LECTURN	28
29	R - PHONE 319	20	1		R			360	900	R	1	20	R - LARGE TRAINING 304	30
31	R - OPEN OFFICE 313	20	1		R	900	720			R	1	20	R - LARGE TRAINING 304 FLOOR BOXES	32
33	R - COPY 310	20	1		R		1,000	720		R	1	20	R - LARGE TRAINING 304 FLOOR BOXES	34
35	R - HUDDLE 314 DISPLAY	20	1		R			180	720	R	1	20	R - LARGE TRAINING 304 FLOOR BOXES	36
37	R - HUDDLE 314 CONV.	20	1		R	540	720			R	1	20	R - LARGE TRAINING 304 FLOOR BOXES	38
39	R - SMALL 315	20	1		R		180	600		R	1	20	TRAINING LECTERN LIGHTS	40
41	R - SMALL 315 CONV.	20	1		R			720	360	R	1	20	R - SYSTEM FURNITURE	42
					TOTAL LOAD:	15306 VA	15466 VA	12336 VA						
					TOTAL AMPS	131.4 A	132.7 A	102.8 A						

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	35800 VA	63.97%	22900 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 43 kVA
K	KITCHEN	0 VA	0.00%	0 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 30 kVA
M	MOTOR	4272 VA	103.26%	4411 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 119.7 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 84.2 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:

PANEL: LC2

LOCATION: ELEC-1 312-1
BUS RATING: 150.0 A
MAIN BREAKER: 150 A

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: LC1
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
1	CU-312 (NOTE 1)	20	2		M	1,518	1,413							2
3								1,518	1,413					4
5	F-308	15	1		M				96	900	R	G	R - EWC CIRCULATION 309	6
7	R - EXTRA LARGE 303 DISPLAY	20	1		R; Power	180	675							8
9	R - EXTRA LARGE 303	20	1		R			900	675					10
11	R - EXTRA LARGE 302 DISPLAY	20	1		R; Power				180	0	Spare		1 20 SPARE	12
13	R - EXTRA LARGE 302	20	1		R	900	0				Spare		1 20 SPARE	14
15	R - ELEC 312 SOUNBD MASKING	20	1		R			180	0		Spare		1 20 SPARE	16
17	R - PHONE 309	20	1		R				360	0	Spare		1 20 SPARE	18
19	R - PHONE 305	20	1		R	360	0				Spare		1 20 SPARE	20
21	R - CONV.	20	1		R			900	0		Spare		1 20 SPARE	22
23	R - HUDDLE 318	20	1		R				540	0	Spare		1 20 SPARE	24
25	R - HUDDLE 318 DISPLAY	20	1		R	180	0				Spare		1 20 SPARE	26
27	R - EXT. HVAC CONV.	20	1		R			180	0		Spare		1 20 SPARE	28
29	R - HUDDLE 311	20	1		R				540	0	Spare		1 20 SPARE	30
31	R - HUDDLE 311 DISPLAY	20	1		R	180	0				Spare		1 20 SPARE	32
33	R - ELEC 312	20	1		R			180	0		Spare		1 20 SPARE	34
35	SPARE	20	1		Spare				0	0	Spare		1 20 SPARE	36
37	SPARE	20	1		Spare	0	0				Spare		1 20 SPARE	38
39	SPARE	20	1		Spare			0	0		Spare		1 20 SPARE	40
41	SPARE	20	1		Spare				0	0	Spare		1 20 SPARE	42
					TOTAL LOAD:	5406 VA	5946 VA	2616 VA						
					TOTAL AMPS	48.6 A	53.1 A	21.8 A						

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	6660 VA	100.00%	6660 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 14 kVA
K	KITCHEN	0 VA	0.00%	0 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 14 kVA
M	MOTOR	4272 VA	103.26%	4411 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 38.8 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 39.2 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
1. BREAKER TO BE PROVIDED BY CONTRACTOR AND FIELD INSTALLED INTO OWNER PROVIDED PANELBOARD.

PANEL: LK3

LOCATION: STORAGE 107A
BUS RATING: 400.0 A
MAIN BREAKER: MLO

VOLTS: 208Y/120
PHASES: 3
WIRES: 4
SCCR: 10kA

MOUNTING: SURFACE
FED FROM: LK2
INTEGRAL SPD: N/A
LUG ACCESSORIES: SEE ONE-LINE

CKT	CIRCUIT DESCRIPTION	BKR TRIP	P	BKR TYPE	LOAD TYPE	PHASE A (VA)	PHASE B (VA)	PHASE C (VA)	LOAD TYPE	BKR TYPE	P	BKR TRIP	CIRCUIT DESCRIPTION	CKT
55	F-206	15	1		M	100	540		K	G	1	20	K - ICE AND WATER DISPENSER (H4)	56
57	K - WATER DISPENSER (H5)	20	1	G	K		720	180	R		1	20	R CHANGING 223	58
59	R - OFFICE 207	20	1		R			360	540	R	1	20	R - RESTROOM 206, CHANGING 205	60
61	R - ROOF CONV.	20	1		R	180	0			Spare	1	20	SPARE	62
63	SPARE	20	1		Spare		0	0		Spare	1	20	SPARE	64
65	SPARE	20	1		Spare			0	0	Spare	1	20	SPARE	66
67	SPARE	20	1		Spare	0	0			Spare	1	20	SPARE	68
69	SPARE	20	1		Spare		0	0		Spare	1	20	SPARE	70
71	SPARE	20	1		Spare			0	0	Spare	1	20	SPARE	72
73	SPARE	20	1		Spare	0	0			Spare	1	20	SPARE	74
75	SPARE	20	1		Spare		0	0		Spare	1	20	SPARE	76
77	SPARE	20	1		Spare			0	0	Spare	1	20	SPARE	78
79	SPARE	20	1		Spare	0	0			Spare	1	20	SPARE	80
81	SPARE	20	1		Spare		0	0		Spare	1	20	SPARE	82
83	SPARE	20	1		Spare			0	0	Spare	1	20	SPARE	84
85	SPARE	20	1		Spare	0	0			Spare	1	20	SPARE	86
87	SPARE	20	1		Spare		0	0		Spare	1	20	SPARE	88
89	SPARE	20	1		Spare			0	0	Spare	1	20	SPARE	90
91	SPARE	20	1		Spare	0	0			Spare	1	20	SPARE	92
93	SPARE	20	1		Spare		0	0		Spare	1	20	SPARE	94
95	SPARE	20	1		Spare			0	0	Spare	1	20	SPARE	96
97	SPACE	--	1			--	--				1	--	SPACE	98
99	SPACE	--	1				--	--			1	--	SPACE	100
101	SPACE	--	1					--	--		1	--	SPACE	102
103	SPACE	--	1			--	--				1	--	SPACE	104
105	SPACE	--	1				--	--			1	--	SPACE	106
107	SPACE	--	1					--	--		1	--	SPACE	108
					TOTAL LOAD:	820 VA	900 VA	900 VA						
					TOTAL AMPS	6.8 A	7.6 A	7.6 A						

LOAD TYPE	LOAD DESCRIPTION	CONNECTED LOAD (VA)	DEMAN D...	ESTIMATED DEMAND (VA)	DEMAND FACTOR NOTES	BKR TYPE	PANEL TOTALS
L	LIGHTING	0 VA	0.00%	0 VA	CONTINUOUS LOAD @ 125%	G = GFCI (5mA)	
R	RECEPTACLES	1260 VA	100.00%	1260 VA	FIRST 10KVA @ 100%, REMAINDER @ 50%	GP = GFP (30mA)	**CONNECTED LOAD:** 3 kVA
K	KITCHEN	1260 VA	100.00%	1260 VA	NON-DWELLING KITCHEN LOADS, NEC ART. 220	ST = SHUNT TRIP	**ESTIMATED DEMAND:** 3 kVA
M	MOTOR	100 VA	125.00%	125 VA	LARGEST MOTOR, NEC ART. 430	LO = LOCK OUT	**CONNECTED CURRENT:** 7.3 A
C	COOLING	0 VA	0.00%	0 VA			**EMD CURRENT:** 7.3 A
H	HEATING	0 VA	0.00%	0 VA			
O	OTHER	0 VA	0.00%	0 VA			
Spare	SPARE	0 VA	0.00%	0 VA			

NOTES:
FED FROM LK2 VIA FEED THRU LUGS

HC	LC1	LC2
LK3		

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HDR, ENGINEERING INC.
1917 SOUTH 67th STREET
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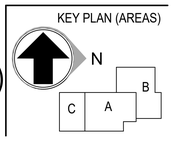
DLR GROUP
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OMAHA, NE 68106
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KIMLEY-HORN & ASSOC, INC.
1437 S BOULDER AVE.
TULSA, OK 74119
(918) 380-8868

LICENSED PROFESSIONAL ENGINEER
JOSHUA WETZIG
32927
9/22/25
OKLAHOMA

CYL HUB1-1-3 PERMIT SET
(NOT FOR CONSTRUCTION)
2025-09-22

KEY PLAN (AREAS)



REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: Author
APPRV'D: Approver

DATA CENTER OFFICE HUB
PROJECT ADDRESS:
TULSA COUNTY, OK
PROJ. NO. 43-25105-00

PANEL SCHEDULES
SCALE:

SHEET NUMBER:
E8.3
PHASE: BUILDING PERMIT DOCUMENTS

ABBREVIATIONS

(D)	DEMOLISHED
(E)	EXISTING
(R)	RELOCATED
Ø	PHASE
A	AMPERE
AC	ABOVE COUNTER
AF	AMP FRAME (CIRCUIT BREAKER)
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
AMP	AMPERE
AP	WIRELESS ACCESS POINT
AT	AMP TRIP (CIRCUIT BREAKER OR FUSE)
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO-VIDEO, AUDIO-VISUAL
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BJ	BONDING JUMPER
BKR	BREAKER
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CKT	CIRCUIT
CTL	CONTROL
CU	COPPER
DB	DECIBEL
DC	DIRECT CURRENT
DISC	DISCONNECT
DP	DISTRIBUTION PANELBOARD
DW	DISHWASHER
ECS	EMERGENCY COMMUNICATION SYSTEM
EGB	ELECTRICAL GROUNDING BUSBAR
EMD	ESTIMATED MAXIMUM DEMAND
EMGB	ELECTRICAL MAIN GROUNDING BUSBAR
EP	EXPLOSION PROOF
ER	EXISTING (TO BE) RELOCATED
ERMS	ENERGY REDUCTION MAINTENANCE SWITCH
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FC	FOOT CANDLE
FLA	FULL LOAD AMPS
FS	FLOW SWITCH
FSD	FIRE SMOKE DAMPER
G	EQUIPMENT GROUNDING CONDUCTOR
GEN	GENERATOR
GFI, GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	GROUND FAULT PROTECTION OF EQUIPMENT
GND	EQUIPMENT GROUNDING CONDUCTOR
HH	HANDHOLE
HOA	HAND-OFF-AUTOMATIC
HP	HORSE POWER
IC	INTERCOM
IG	ISOLATED GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CIRCUIT
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATT
LT	LIGHT
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MRTS	MOTOR RATED TOGGLE SWITCH
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MTG	MOUNTING
MTS	MAIN TRANSFER SWITCH
N	NEUTRAL
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NF	NON-FUSED
NL	NIGHT LIGHT
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OS&Y	OUTSIDE SCREW AND YOKE
P	POLE(S)
PA	PUBLIC ADDRESS
PB	PULL BOX
PH	PHASE
PIV	POST INDICATOR VALVE
PNL	PANEL
PWR	POWER
RCP	REFLECTED CEILING PLAN
RECPT	RECEPTACLE
REF	REFERENCE
RESP	RESPONSIVE
SCCR	SHORT CIRCUIT CURRENT RATING
SD	SMOKE DAMPER
SEC	SECONDARY
SPD	SURGE PROTECTION DEVICE
SWBD	SWITCHBOARD
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TC	TIME CLOCK
TGB	TELECOMMUNICATIONS GRONDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GRONDING BUSBAR
TO	TELECOMMUNICATIONS OUTLET
TR	TELECOMMUNICATIONS ROOM
TS	TAMPER SWITCH
TV	TELEVISION
UG	UNDERGROUND
UPS	UNINTERRUPTABLE POWER SUPPLY
V	VOLT
VA	VOLT-AMPERE
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
WA	TELECOMMUNICATIONS WORK AREA
WG	WIRE GUARD
WP	WEATHER-PROOF (NEMA 3R)
XFMR	TRANSFORMER

TELECOM SHEET INDEX

T0.1	TELECOM SYMBOLS, ABBREVIATIONS & NOTES
T2.11	TELECOM PLAN - AREA A
T2.22.0	TELECOM PLAN - AREA B (4.0)
T2.33	TELECOM PLAN - AREA C
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T6.1	TELECOM DETAILS
T6.2	TELECOM DETAILS
T6.3	TELECOM DETAILS
T6.4	TELECOM DETAILS
T6.5	TELECOM DETAILS
T6.6	TELECOM DETAILS
T6.7	TELECOM DETAILS

GENERAL SHEET NOTES

GENERAL SITE PLAN NOTES

1. ALL COMMUNICATIONS CONDUIT AND CABLES SHALL BE INSTALLED 36" (MINIMUM) BELOW FINISHED GRADE.
2. SEE ES1.1A FOR MORE INFORMATION.

GENERAL DEVICE BOX NOTES

1 SEE SYMBOLS LEGEND THIS SHEET FOR MOUNTING HEIGHTS UNLESS NOTED OTHERWISE ON DRAWINGS.

2 ALL MOUNTING HEIGHTS ARE TO CENTERLINE OF BOXES UNLESS NOTES OTHERWISE.

3 PROVIDE BOX EXTENDER FOR FLUSH INSTALLATION OF DEVICES LOCATED IN ARCHITECTURAL CASEWORK THAT IS FLUSH WITH ADJACENT WALL (SUCH AS RECEPTACLES FOR GARBAGE DISPOSERS).

4 FLOOR BOXES: OBTAIN OWNER APPROVAL OF ALL BOX LOCATIONS PRIOR TO ROUGH IN. PROVIDE DEVICE PLATES AT DEVICES AND BLANK PLATES AT ALL UNUSED COMPARTMENTS.

5 COORDINATE LOCATION OF DEVICE BOXES FOR SWITCHES, RECEPTACLES, AND SYSTEMS DEVICES WITH MARKERBOARDS. ADJUST BOX LOCATIONS TO AVOID MARKERBOARDS.

6 COORDINATE LOCATION OF DEVICE BOXES FOR SWITCHES, RECEPTACLES, AND SYSTEMS DEVICES WITH TACKBOARDS. ADJUST BOX LOCATIONS TO AVOID TACKBOARDS. PROVIDE BOX EXTENDER FOR A FLUSH INSTALLATION WHERE DEVICES MUST BE MOUNTED AT TACKBOARD/TACKWALL.

7 CEILING MOUNTED RECEPTACLES: AT SUSPENDED CEILINGS, ROUTE POWER TO RECEPTACLE VIA FLEXIBLE METALLIC CONDUIT WITH 6-FOOT SERVICE LOOP. FEED FMC FROM A J-BOX RIGIDLY SUPPORTED A MAXIMUM OF 24-INCHES ABOVE SUSPENDED CEILING OR AT BOTTOM OF STRUCTURE ABOVE, WHICHEVER IS LOWER. LOCATE J-BOX DIRECTLY ABOVE RECEPTACLE AND SUPPORT VIA STRUCTURE, OR VIA THREAD ROD AND UNISTRUT HUNG FROM STRUCTURE ABOVE IN HIGH STRUCTURE APPLICATIONS.

8 DEVICES RECESSED IN MULLIONS: BACK BOXES TO BE RECESSED FOR FLUSH NSTALLATION OF DEVICE AND WALLPLATE. EXTEND CONCEALED CONDUIT IN MULLION UP TO WALL ABOVE AND STUB OUT ABOVE ACCESSIBLE CEILING. IN AREAS WITH NO CEILING, EXTEND CONDUIT TOWARDS CABLING SOURCE TO ABOVE NEAREST ACCESSIBLE CEILING.

CAMERA LICENSING

VIDEO ARCHIVER LICENSING

DESCRIPTION	MANUF.	MODEL	FURNISHED / INSTALLED BY	UNIT OF MEASURE	NOTES
NVMS LICENSE ELITE	FLIR	LAT-NT-CHAN	CFOI	EA	LICENSE - SINGLE CAMERA SCENE CONNECTION FROM ENCODER ((1) FOR EACH NON-PANO CAMERA)
NVMS LICENSE 4I	FLIR	LAT-NT-CHAN-4I	CFOI	EA	LICENSE - PANORAMA CAMERA WITH (4) IMAGERS (ONE FOR EACH PANO CAMERA)
NVMS LICENSE DIRECT	FLIR	LAT-FODS	CFOI	EA	LICENSE - DIRECTORY FALL OVER ((1) LICENSE TOTAL)

GENERAL SYSTEMS NOTES

1. TELECOMMUNICATIONS OUTLETS: PROVIDE 4-11/16 SQUARE (2.25-INCH DEEP MINIMUM) WITH SINGLE-GANG PLASTER RING AND 1-1/4-INCH CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE FINISHED CEILING.
2. MISCELLANEOUS LOW VOLTAGE OUTLETS (CALL STATIONS, HANDSETS, VOLUME CONTROL, MICROPHONE OUTLETS, SURFACE-MOUNT WALL SPEAKERS AND FIRE ALARM DEVICES): PROVIDE SINGLE-GANG BOX WITH 1-1/4-INCH CONDUIT STUBBED INTO ACCESSIBLE SPACE ABOVE FINISHED CEILING, UNLESS OTHERWISE NOTED. SEE AUDIOVISUAL DRAWINGS FOR AV DEVICES.
3. INSULATED BUSHINGS: PROVIDE BUSHINGS ON ALL CONDUIT STUB UPS, INCLUDING BUT NOT LIMITED TO, OUTLETS FOR TELECOMMUNICATIONS, FIRE ALARM, SECURITY, ACCESS CONTROL, MASS NOTIFICATION, PUBLIC ADDRESS, ALL OTHER LOW VOLTAGE INTERCOMMUNICATIONS AND UNUSED STUB-UPS OR STUB-UPS INDICATED FOR FUTURE USE.
4. FLOOR BOXES CONTAINING TELECOMMUNICATIONS OUTLETS: FOR EACH LOW-VOLTAGE COMPARTMENT, ROUTE 1-1/2-INCH CONDUIT WITH PULL STRING UNDERFLOOR, UP NEAREST WALL, AND STUB INTO ACCESSIBLE SPACE ABOVE FINISHED CEILING. LABEL CONDUIT END 'FLOOR BOX'
5. SLEEVES FOR LOW VOLTAGE CABLES: PROVIDE 2-INCH SLEEVES UNLESS NOTED OTHERWISE. COORDINATE WITH PATH OF DUCTWORK AND CEILING TO ENSURE ACCESSIBILITY, EXTEND SLEEVES AS REQUIRED. INSTALL ALL SLEEVES 4-INCHES ABOVE HIGHER CEILING OF TWO ADJACENT SPACES. REFER TO ROOM FINISH SCHEDULES AND REFLECTED CEILING PLANS FOR CEILING HEIGHTS. STUB SLEEVES INTO JOIST SPACE OF FINISHED ROOMS WITH EXPOSED STRUCTURE. PROVIDE INSULATED BUSHINGS ON BOTH ENDS OF ALL SLEEVES, INCLUDING UNUSED SLEEVES. PROVIDE GROUT OR ESCUTCHEONS TO SECURE SLEEVES TO WALL. PROVIDE FIRE-RATED SLEEVES AT ALL FIRE-RATED WALLS.
6. PROVIDE ADDITIONAL CONDUIT, BOXES, CONDUCTORS AND OVERCURRENT PROTECTION FOR 120-VOLT BRANCH CIRCUITS NOT SPECIFICALLY COVERED UNDER DIVISION 26 WORK, BUT REQUIRED TO COMPLETE DIVISION 08 AND 28 WORK. DEVICES SHALL INCLUDE, BUT NOT BE LIMITED TO, POWER SUPPLIES FOR DOOR HARDWARE, ACCESS CONTROL, FIRE ALARM AND VIDEO SURVEILLANCE.
7. PROVIDE WATERFALL DROPOUTS AT ALL CABLE TRAY LOCATIONS ABOVE RUNWAYS, WALL/FLOOR MOUNTED RACKS, AND EQUIPMENT ENCLOSURES.
8. AUDIO VISUAL (AV) SYSTEMS: PROVIDE RECESSED BOXES, CONDUIT AND PULL STRINGS FOR ALL SYSTEM COMPONENTS.
9. COORDINATE DEVICES AND PATHWAYS ON TELECOM DRAWINGS WITH AUDIOVISUAL DRAWINGS AND NOTIFY DESIGNER OF ANY CONFLICTS IN WRITING.
10. PROVIDE SURFACE MOUNT ENCLOSURE AND BAFFLE FOR ALL SPEAKERS IN FINISHED SPACES WITH NO CEILINGS (EXPOSED STRUCTURE).
11. UTILIZE SLEEVES AND FIRE RATED SLEEVES AT RATED WALLS PROVIDED UNDER DIVISION 26 FOR INSTALLATION OF ALL LOW VOLTAGE CABLING. FOLLOW INDUSTRY STANDARDS TO MAINTAIN 40% FILL REQUIREMENTS IN ALL SLEEVES (SUPERSEDES NEC - DO NOT FILL SLEEVES TO CAPACITY). PROVIDE ADDITIONAL SLEEVES MEETING DIVISION 26 REQUIREMENTS AS REQUIRED.
12. SYSTEM PANEL LOCATIONS: AUXILIARY SYSTEM PANELS, POWER SUPPLIES OR OTHER EQUIPMENT ENCLOSURES SHALL BE LOCATED IN THE MDF UNLESS NOTED OTHERWISE. IF DRAWINGS DO NOT DEPICT LOCATIONS FOR AUXILIARY COMPONENTS, CONSULT OWNER OR A/E FOR APPROVED LOCATIONS PRIOR TO EQUIPMENT INSTALL.

*** NOTE ***

ALL NOTES ON THIS SHEET ARE APPLICABLE TO ALL OTHER SHEETS IN THIS SET.

THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE APPLICABLE IN THIS SET OF DRAWINGS.

TELECOM SYMBOLS

COMMUNICATIONS

TELECOMMUNICATIONS OUTLETS: MOUNT 18-INCHES AFF, UNO, AND WITHIN 8-INCHES OF ADJACENT RECEPTACLE WHERE DENOTED 'AC', MOUNT ABOVE COUNTER WHERE DENOTED 'C', MOUNT FLUSH IN CEILING

◁X TELECOMMUNICATIONS OUTLET
PROVIDE JACKS UNDER A COMMON FACEPLATE:
X = QTY OF DATA JACKS
SEE T6.07 FOR MORE INFORMATION.

◁R TELECOMMUNICATIONS OUTLET - ROUGH-IN
PROVIDE BLANK FACEPLATE ON OUTLET BOX AND HOMERUN CONDUIT TO CLOSEST CONSOLIDATION POINT. SEE T6.07 FOR MORE INFORMATION.

TELECOMMUNICATIONS OUTLET MOUNTED IN FLOOR BOX

CP ▽X WALL-MOUNTED CONSOLIDATION POINT. PROVIDE HINDGED TYPE BOX WITH (2) 24 PORT PATCH PANELS INSTALLED. SEE 2/T6.1 FOR MORE INFORMATION.
X=NUMBER OF CATEGORY CABLES TERMINATED AT PATCH PANEL WITHIN CP.

AP ▽ WIRELESS ACCESS POINT
SEE T6.07 FOR MORE INFORMATION.

◁DISP TELECOMMUNICATIONS OUTLET - DISPLAY
SEE T6.07 FOR MORE INFORMATION. REFER TO AV DRAWINGS FOR SPECIFIC REQUIREMENTS.

LOW VOLTAGE DEVICES:

S SPEAKER, WALL
PROVIDE SINGLE-GANG JUNCTION BOX.

Ⓢ SPEAKER, CEILING

M MICROPHONE OUTLET, CEILING
PROVIDE SINGLE-GANG JUNCTION BOX.

J PRIMARY J-HOOK PATHWAY. COORDINATE PATHWAY CAPACITY WITH CABLE QUANTITIES AND MANUFACTURER INSTALLATION INSTRUCTIONS. CONTRACTOR IS RESPONSIBLE FOR SECONDARY PATHWAYS.

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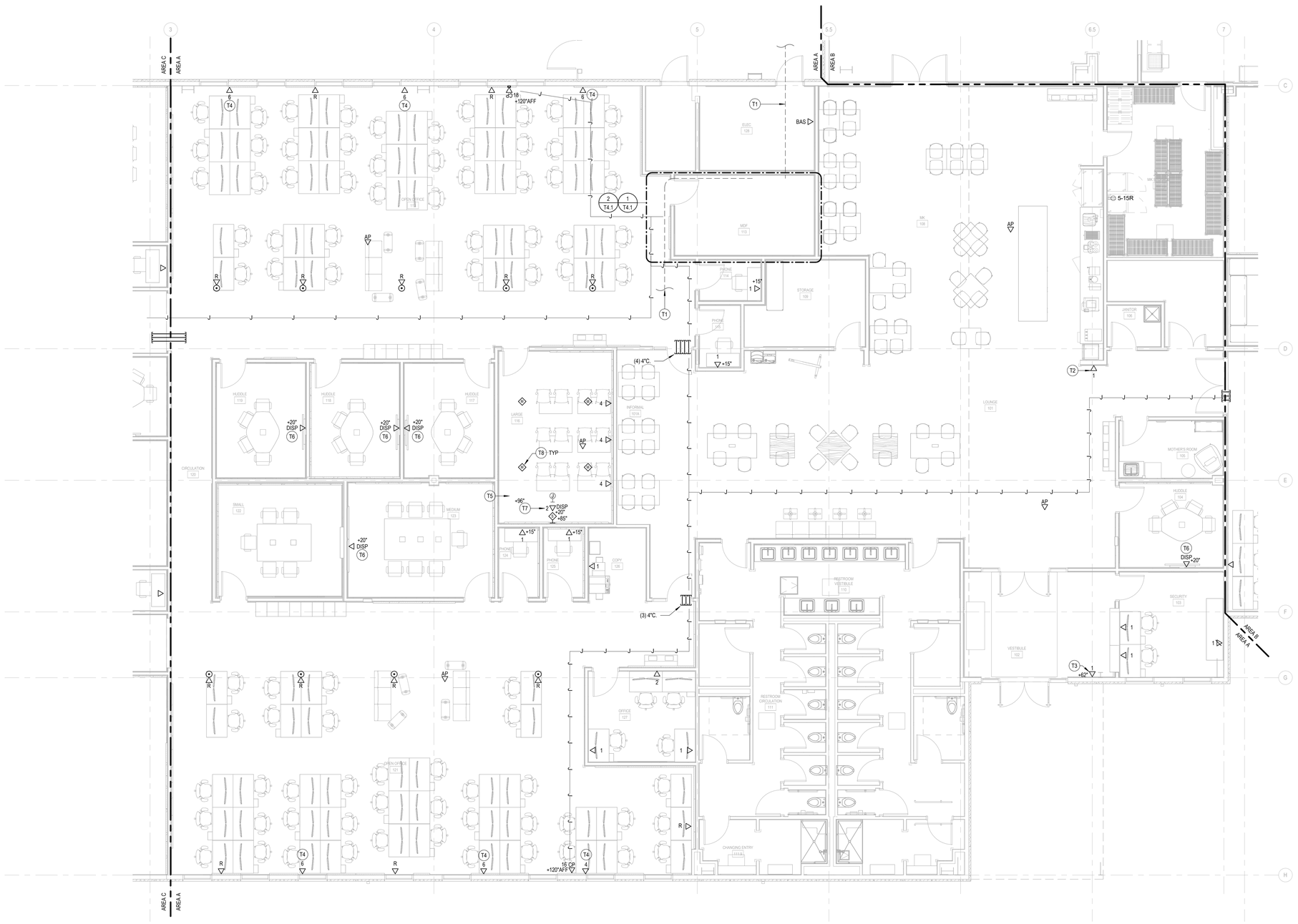
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TELECOM SYMBOLS, ABBREVIATIONS & NOTES

T0.1

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N TRUE

SPECIAL SYSTEMS PLAN - AREA A

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

GENERAL NOTES

A EC SHALL COORDINATE ANY AND ALL NECESSARY INSTALLATION OF JUNCTION BOXES AND CONDUIT WITH LOW VOLTAGE, SECURITY, A/V INSTALLERS PRIOR TO ROUGH-IN.

B ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED BARRIERS TO BE FILLED WITH FIRE-STOPPING MATERIAL TO MAINTAIN RATING OF ASSOCIATED BARRIER.

C CONTRACTOR TO PROVIDE DEDICATED 120V/20A CIRCUIT TO DUCT MOUNTED SMOKE DETECTOR FOR EQUIPMENT SUPPLYING MORE THAN 2,000CFM OF AIRFLOW. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND REQUIREMENTS.

SHEET NOTES

T1 (8) 2" SCHEDULE 80 PVC CONDUITS FROM MDF TO SITE FOR SERVICE ENTRY AND SITE CAMERAS. COORDINATE MEET-UP POINTS AND ROUTING WITH OWNER INFRASTRUCTURE TEAM.

T2 PROVIDE DATA FOR KEYBOX DEVICE. CONFIRM ROUGH IN HEIGHT WITH MANUFACTURER'S INSTALLATION REQUIREMENTS.

T3 PROVIDE DATA FOR BIOMETRIC SECURITY DEVICE AND TERMINATE ON USTAR PANEL. CONFIRM ROUGH IN HEIGHT WITH MANUFACTURER'S INSTALLATION REQUIREMENTS.

T4 PROVIDE CABLING FROM DATA OUTLET TO CONSOLIDATION POINT IN THIS SPACE.

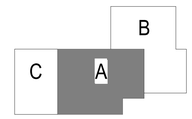
T5 PROVIDE SINGLE GANG JUNCTION BOX FOR IR EMITTER. SEE AV DRAWINGS FOR EXACT REQUIREMENTS.

T6 PROVIDE PATHWAYS FROM DISPLAY WALL TO CONFERENCE TABLE PER AV DRAWINGS.

T7 PROVIDE (2) CATEGORY CABLES/JACKS AT THIS LOCATION.

T8 SPEAKERS AND MICROPHONE OUTLETS IN THIS SPACE SHOWN AS REFERENCE FOR COORDINATION. SEE AV DRAWINGS FOR EXACT REQUIREMENTS.

KEY PLAN (AREAS)



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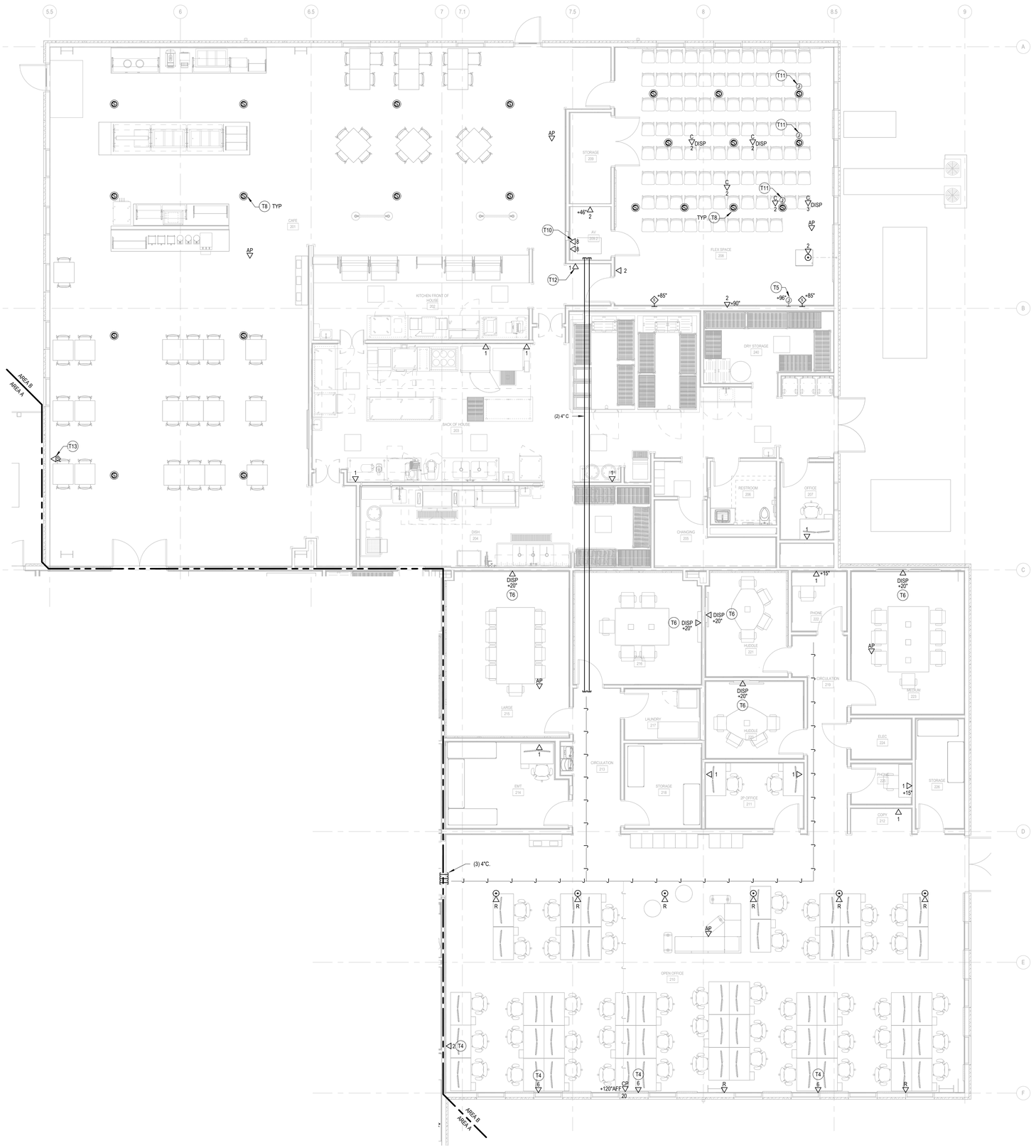
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TELECOM PLAN - AREA A

T2.11

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SPECIAL SYSTEMS PLAN - AREA B

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

GENERAL NOTES

A EC SHALL COORDINATE ANY AND ALL NECESSARY INSTALLATION OF JUNCTION BOXES AND CONDUIT WITH LOW VOLTAGE, SECURITY, A/V INSTALLERS PRIOR TO ROUGH-IN.

B ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED BARRIERS TO BE FILLED WITH FIRE-STOPPING MATERIAL TO MAINTAIN RATING OF ASSOCIATED BARRIER.

C CONTRACTOR TO PROVIDE DEDICATED 120V/20A CIRCUIT TO DUCT MOUNTED SMOKE DETECTOR FOR EQUIPMENT SUPPLYING MORE THAN 2,000CFM OF AIRFLOW. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND REQUIREMENTS.

SHEET NOTES

T4 PROVIDE CABLING FROM DATA OUTLET TO CONSOLIDATION POINT IN THIS SPACE.

T5 PROVIDE SINGLE GANG JUNCTION BOX FOR IR EMITTER. SEE AV DRAWINGS FOR EXACT REQUIREMENTS.

T6 PROVIDE PATHWAYS FROM DISPLAY WALL TO CONFERENCE TABLE PER AV DRAWINGS.

T8 SPEAKERS AND MICROPHONE OUTLETS IN THIS SPACE SHOWN AS REFERENCE FOR COORDINATION. SEE AV DRAWINGS FOR EXACT REQUIREMENTS.

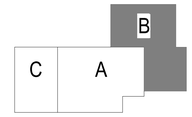
T10 PROVIDE DOUBLE GANG BOX WITH GROMMET PLATE AND (2) 1-1/2" CONDUITS TO CEILING CABLE PATH/CONTAINMENT FOR SPEAKER AND LECTERN AV CABLING. SEE TA401 FOR MORE INFORMATION.

T11 PROVIDE SINGLE GANG AV JUNCTION BOX. PROVIDE SINGLE GANG AV JUNCTION BOX. COORDINATE PATHWAYS WITH AV DRAWINGS.

T12 DATA OUTLET FOR TABLET CONNECTION AT TXESIGN TABLET SHELF (HTTPS://WWW.AMAZON.COM/TXESIGN-ADHESIVE-TABLET-SMARTPHONES-EREADER/DP/B07P41581L/REF=SR_1_57?TH=1). COORDINATE EXACT REQUIREMENTS WITH AV DRAWINGS.

T13 WIRELESS ACCESS POINT TO BE WALL MOUNTED AT 12'-0" AFF. PROVIDE WITH SLEEVE TO EXTERIOR WALL TO ALLOW FOR MOUNTING OF EXTERIOR EXTERNAL ANTENNA, ARUBA #AP-ANT-48.

KEY PLAN (AREAS)



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TELECOM PLAN - AREA B (4.0)

T2.22.0

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SPECIAL SYSTEMS PLAN - AREA C

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

GENERAL NOTES

A EC SHALL COORDINATE ANY AND ALL NECESSARY INSTALLATION OF JUNCTION BOXES AND CONDUIT WITH LOW VOLTAGE, SECURITY, A/V INSTALLERS PRIOR TO ROUGH-IN.

B ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED BARRIERS TO BE FILLED WITH FIRE-STOPPING MATERIAL TO MAINTAIN RATING OF ASSOCIATED BARRIER.

C CONTRACTOR TO PROVIDE DEDICATED 120V/20A CIRCUIT TO DUCT MOUNTED SMOKE DETECTOR FOR EQUIPMENT SUPPLYING MORE THAN 2,000CFM OF AIRFLOW. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND REQUIREMENTS.

SHEET NOTES

T4 PROVIDE CABLING FROM DATA OUTLET TO CONSOLIDATION POINT IN THIS SPACE.

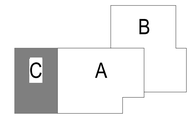
T5 PROVIDE SINGLE GANG JUNCTION BOX FOR IR EMITTER. SEE AV DRAWINGS FOR EXACT REQUIREMENTS.

T6 PROVIDE PATHWAYS FROM DISPLAY WALL TO CONFERENCE TABLE PER AV DRAWINGS.

T8 SPEAKERS AND MICROPHONE OUTLETS IN THIS SPACE SHOWN AS REFERENCE FOR COORDINATION. SEE AV DRAWINGS FOR EXACT REQUIREMENTS.

T11 PROVIDE SINGLE GANG AV JUNCTION BOX. PROVIDE SINGLE GANG AV JUNCTION BOX. COORDINATE PATHWAYS WITH AV DRAWINGS.

KEY PLAN (AREAS)



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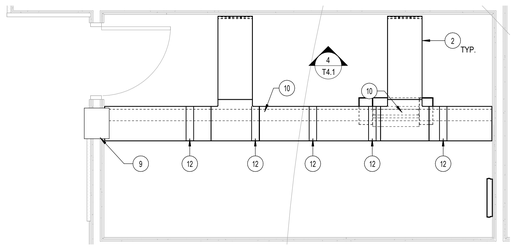
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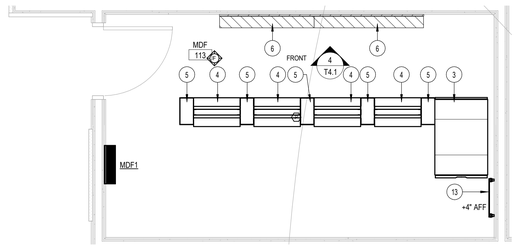
TELECOM PLAN - AREA C

T2.33

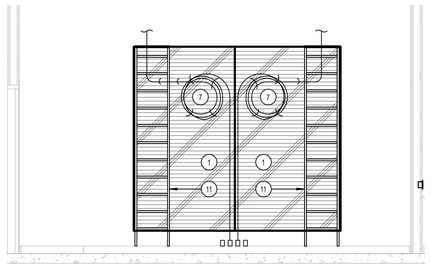
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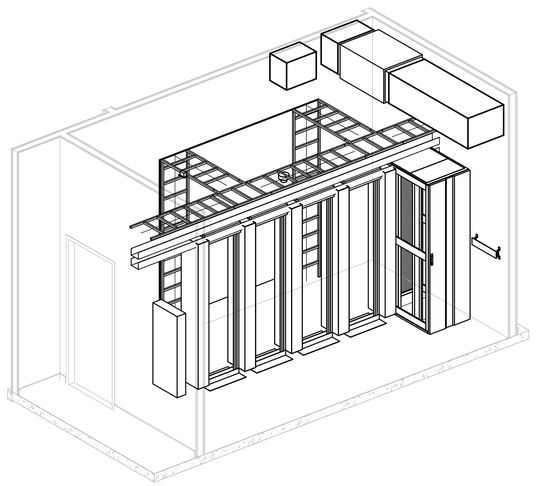
SYSTEMS PLAN - ENLARGED MDF 113
SCALE: 3/8" = 1'-0"



SYSTEMS PLAN - ENLARGED MDF 113
SCALE: 3/8" = 1'-0"



4 T4.1 MDF WALL ELEVATION - NORTH
SCALE: 3/8" = 1'-0"



MDF ISOMENTRIC VIEW
SCALE:

GENERAL NOTES

A. SEE SHEET E4.1 FOR POWER REQUIREMENTS WITHIN MDF.

B. SEE DRAWING T2-002 FOR RACK ELEVATIONS.

SHEET NOTES

1. PROVIDE FIRE TREATED PLYWOOD BACKBOARD AS SHOWN.
2. PROVIDE 18" X 1.5" LADDER CABLE RUNWAY AT 9' AFF.
3. PROVIDE LOCKABLE TELECOMMUNICATIONS CABINET WITH INTEGRATED VERTICAL CABLE MANAGEMENT.
4. PROVIDE TWO-POST TELECOMMUNICATIONS RACK.
5. PROVIDE 8" WIDE VERTICAL CABLE MANAGER.
6. WALL SPACE RESERVED FOR SERVICE ENTRY TO THE BUILDING.
7. WALL SPACE RESERVED FOR FIBER SERVICE LOOPS.
8. NOT USED
9. PROVIDE (4) EZ PATH 44+ SLEEVES.
10. PROVIDE 6" WIDE PLASTIC FIBER TROUGH AT 7'-10" AFF. PROVIDE WATERFALL DROP FROM TROUGH TO EACH RACK. CONFIRM FINAL MOUNTING HEIGHT AND LOCATION WITH OWNER PRIOR TO INSTALLATION.
11. VERTICAL LADDER CABLE RUNWAY.
12. PROVIDE CABLE WATERFALLS TO RACKS.
13. PRIMARY BONDING BUSBAR.

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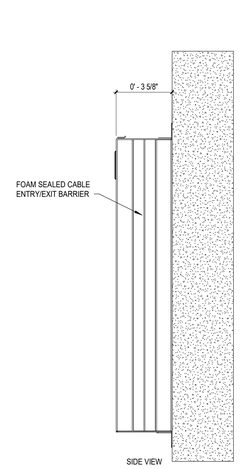
DATA DEVICE SCHEDULE

SERVICE TYPE	NUMBER OF CABLES	ROOM NAME	ROOM NUMBER	TELECOMM ROOM	JACK ID NUMBER
AUDIOVISUAL CONTROL	1	CAFE	201	MDF 113	
AUDIOVISUAL RACK	8	AV	209.2	MDF 113	
AUDIOVISUAL RACK	8	AV	209.2	MDF 113	
AUDIOVISUAL RACK	8	AV	308	MDF 113	
AUDIOVISUAL RACK	8	AV	308	MDF 113	
BASS	2	AV	209.2	MDF 113	
BIOMETRIC DEVICE	1	VESTIBULE	102	MDF 113	
CONSOLIDATION POINT	18	OPEN OFFICE	112	MDF 113	
CONSOLIDATION POINT	16	OPEN OFFICE	121	MDF 113	
CONSOLIDATION POINT	20	OPEN OFFICE	210	MDF 113	
CONSOLIDATION POINT	20	OPEN OFFICE	310	MDF 113	
COPIER	1	COPY	126	MDF 113	
COPIER	1	COPY	212	MDF 113	
COPIER	1	COPY	310-2	MDF 113	
DISPLAY SCREEN	1	HUDDLE	104	MDF 113	
DISPLAY SCREEN	2	LARGE	116	MDF 113	
DISPLAY SCREEN	1	HUDDLE	117	MDF 113	
DISPLAY SCREEN	1	HUDDLE	118	MDF 113	
DISPLAY SCREEN	1	HUDDLE	119	MDF 113	
DISPLAY SCREEN	1	SMALL/FITNESS	122	MDF 113	
DISPLAY SCREEN	1	MEDIUM	123	MDF 113	
DISPLAY SCREEN	2	FLEX SPACE	208	MDF 113	
DISPLAY SCREEN	2	FLEX SPACE	208	MDF 113	
DISPLAY SCREEN	3	FLEX SPACE	208	MDF 113	
DISPLAY SCREEN	1	CIRCULATION	213	MDF 113	
DISPLAY SCREEN	1	LARGE	215	MDF 113	
DISPLAY SCREEN	1	HUDDLE	220	MDF 113	
DISPLAY SCREEN	1	HUDDLE	221	MDF 113	
DISPLAY SCREEN	1	MEDIUM	223	MDF 113	
DISPLAY SCREEN	1	EXTRA LARGE	302	MDF 113	
DISPLAY SCREEN	1	EXTRA LARGE	303	MDF 113	
DISPLAY SCREEN	3	LARGE TRAINING	304	MDF 113	
DISPLAY SCREEN	1	SMALL	307	MDF 113	
DISPLAY SCREEN	1	HUDDLE	311	MDF 113	
DISPLAY SCREEN	1	HUDDLE	315	MDF 113	
DISPLAY SCREEN	1	MEDIUM	317	MDF 113	
DISPLAY SCREEN	1	HUDDLE	318	MDF 113	
DISPLAY SCREEN	1	SMALL	319	MDF 113	
ELECTRICAL ROOM	1	ELEC	128	MDF 113	
FLEX SPACE CAMERA	2	FLEX SPACE	208	MDF 113	
FLEX SPACE CAMERA	2	FLEX SPACE	208	MDF 113	
FLEX SPACE LECTERN	2	FLEX SPACE	208	MDF 113	
KEYBOX	1	LOUNGE	101	MDF 113	
KITCHEN EQUIPMENT	1	BACK OF HOUSE	203	MDF 113	
KITCHEN EQUIPMENT	1	BACK OF HOUSE	203	MDF 113	
KITCHEN EQUIPMENT	1	BACK OF HOUSE	203	MDF 113	
KITCHEN EQUIPMENT	1	BACK OF HOUSE	203	MDF 113	
MIC CHARGING STATION	2	FLEX SPACE	208	MDF 113	
MIC CHARGING STATION	1	LARGE TRAINING	304	MDF 113	
PHONE ROOM	1	PHONE	114	MDF 113	
PHONE ROOM	1	PHONE	115	MDF 113	
PHONE ROOM	1	PHONE	124	MDF 113	
PHONE ROOM	1	PHONE	125	MDF 113	
PHONE ROOM	1	PHONE	222	MDF 113	
PHONE ROOM	1	PHONE	225	MDF 113	
PHONE ROOM	1	PHONE	305	MDF 113	
PHONE ROOM	1	PHONE	309	MDF 113	
PHONE ROOM	1	PHONE	316	MDF 113	
PROJECTOR	2	FLEX SPACE	208	MDF 113	
PROJECTOR	2	LARGE TRAINING	304	MDF 113	
PROJECTOR	2	LARGE TRAINING	304	MDF 113	
SECURITY WORKSTATION	1	SECURITY	103	MDF 113	
SECURITY WORKSTATION	1	SECURITY	103	MDF 113	
SECURITY WORKSTATION	1	SECURITY	103	MDF 113	
TRAINING CAMERA	2	LARGE TRAINING	304	MDF 113	
TRAINING CAMERA	2	LARGE TRAINING	304	MDF 113	
TRAINING LECTERN	2	LARGE TRAINING	304	MDF 113	
WAP NOTE 1	2	LOUNGE	101	MDF 113	
WAP NOTE 1	2	MK	108	MDF 113	
WAP NOTE 1	2	OPEN OFFICE	112	MDF 113	
WAP NOTE 1	2	LARGE	116	MDF 113	
WAP NOTE 1	2	OPEN OFFICE	121	MDF 113	
WAP NOTE 1	2	CAFE	201	MDF 113	
WAP NOTE 1	2	CAFE	201	MDF 113	
WAP NOTE 1	2	CAFE	201	MDF 113	
WAP NOTE 1	2	FLEX SPACE	208	MDF 113	
WAP NOTE 1	2	OPEN OFFICE	210	MDF 113	
WAP NOTE 1	2	LARGE	215	MDF 113	
WAP NOTE 1	2	MEDIUM	223	MDF 113	
WAP NOTE 1	2	CIRCULATION	301	MDF 113	
WAP NOTE 1	2	EXTRA LARGE	303	MDF 113	

NOTE 1: OFCI

DATA DEVICE SCHEDULE

SERVICE TYPE	NUMBER OF CABLES	ROOM NAME	ROOM NUMBER	TELECOMM ROOM	JACK ID NUMBER
WAP NOTE 1	2	LARGE TRAINING	304	MDF 113	
WAP NOTE 1	2	SMALL	307	MDF 113	
WAP NOTE 1	2	OPEN OFFICE	310	MDF 113	
WAP NOTE 1	2	MEDIUM	317	MDF 113	
WORKSTATION	6	OPEN OFFICE	112	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	112	CONSOLIDATION POINT	
WORKSTATION	6	OPEN OFFICE	112	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	112	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	112	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	112	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	112	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	112	CONSOLIDATION POINT	
WORKSTATION	6	OPEN OFFICE	112	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	112	CONSOLIDATION POINT	
WORKSTATION	4	LARGE	116	MDF 113	
WORKSTATION	4	LARGE	116	MDF 113	
WORKSTATION	4	LARGE	116	MDF 113	
WORKSTATION	0	OPEN OFFICE	121	CONSOLIDATION POINT	
WORKSTATION	6	OPEN OFFICE	121	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	121	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	121	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	121	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	121	CONSOLIDATION POINT	
WORKSTATION	6	OPEN OFFICE	121	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	121	CONSOLIDATION POINT	
WORKSTATION	4	OPEN OFFICE	121	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	121	CONSOLIDATION POINT	
WORKSTATION	1	OFFICE	127	MDF 113	
WORKSTATION	1	OFFICE	127	MDF 113	
WORKSTATION	2	OFFICE	127	MDF 113	
WORKSTATION	1	OFFICE	207	CONSOLIDATION POINT	
WORKSTATION	6	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	6	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	6	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	2	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	210	CONSOLIDATION POINT	
WORKSTATION	1	2P OFFICE	211	MDF 113	
WORKSTATION	1	2P OFFICE	211	MDF 113	
WORKSTATION	1	EMT	214	MDF 113	
WORKSTATION	6	OPEN OFFICE	310	CONSOLIDATION POINT	
WORKSTATION	6	OPEN OFFICE	310	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	310	CONSOLIDATION POINT	
WORKSTATION	6	OPEN OFFICE	310	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	310	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	310	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	310	CONSOLIDATION POINT	
WORKSTATION	0	OPEN OFFICE	310	CONSOLIDATION POINT	
WORKSTATION	2	OPEN OFFICE	310	CONSOLIDATION POINT	



1 / T6.1 CONSOLIDATION POINT DETAIL - WALL
NO SCALE

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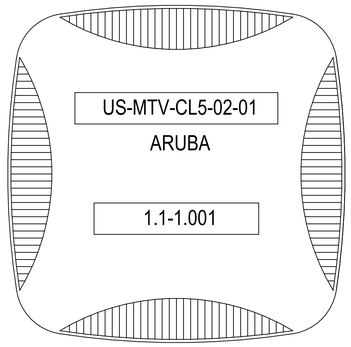
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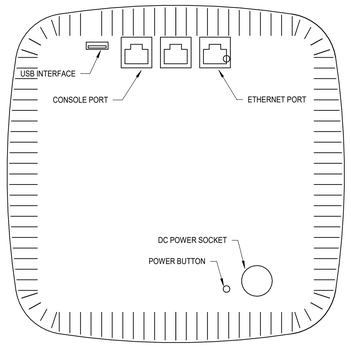
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1 / T6.2 WIRELESS ACCESS POINT LABELLING GUIDE
NO SCALE

1

CODES FOR SBP HUB1

DCPMG Project Code	:	SBP HUB 1
Metro Code	:	IAD
POP Code: POP##	:	IAD-SBPHUB1
REWS CODE	:	US-IAD-SBPHUB1

NOTE:
DCPMG PROJECT CODE IS USED FOR DRAWING SETS.
ALL INFRASTRUCTURE LABELS SHOULD USE NETOPS CODES.
CODES SHOULD BE CONFIRMED WITH OWNER REPRESENTATIVE AT START OF PROJECT

2

CABLE VAULT

First field is the METRO code;
Second field is the cable vault number.

IAD-CV120

Label Type: Surface Marker or Post.
See Spec 27 05 53 For More Info

Example: IAD, Cable Vault # 120

IAD-CV120

3

VAULT MANHOLE COVER

Top field is Cable Vault Label

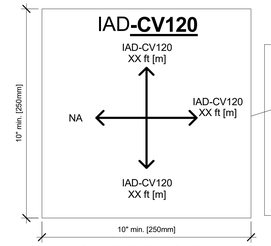
Below Vault Label is a Directional Arrow.

Adjacent to Arrow list Connecting Cable Vault and Approximate Distance To Vault in Feet Or Meters.

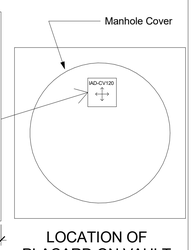
Placard shall Be Oriented So Connecting Vaults Are Aligned.

When There Are No Vaults Connecting On a Side, Use Label N/A.

Label Type: Engraved Metal Placard . Mechanically fastened or Adhered To Manhole.
See Spec 27 05 53 For More Info



SAMPLE PLACARD



LOCATION OF PLACARD ON VAULT

2.5

EXTERIOR PULLBOX CONNECTING TO CABLE VAULT

First field is the METRO code;
Second field is the cable vault number pullbox connects to .

IAD-JB120

Label Type: Engraved or embossed metal.
See Spec 27 05 53 For More Info.

IAD-JB120

Example: IAD, Pullbox connecting to Cable Vault #120

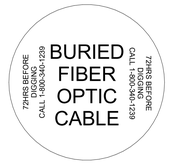
4

UNDERGROUND CONDUIT PATH MARKERS

Place within five feet [1.52m] of each cable route.

Label Type: Surface Marker or Post.
See Spec 27 05 53 For More Info

72HRS BEFORE DIGGING
US CALL: 1-800-340-1239
EU CALL: ###-###-#####



5

CABLE VAULT TO CABLE VAULT (HDPE CONDUIT)

Both lines: First field is the METRO code ; second field is the cable vault number; third field is the conduit sequence number.

Example: The first conduit between cable vaults 120 and 370.

Label Type: See Spec 27 05 53 For More Info

IAD-CV120-01
IAD-CV370-01

AT CV120 END

IAD-CV370-01
IAD-CV120-01

AT CV370 END

6

CABLE VAULT PLACARDS

Mount Placards At Interior Vault Walls Labeling each Incoming HDPE Conduit.

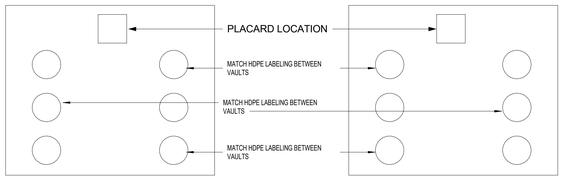
Placards Shall List Any Connecting Vaults At Specific Wall With Each Connecting Conduit Label.

Each Conduit Number Shall Be Labeled Per Label #5 Or Label #13 Depending On Where Vault Routes To.

Start HDPE Labeling From Bottom Corner Of Cable Vault.
Conduit Labeling Should Match Labeling At Connecting Cable Vaults.

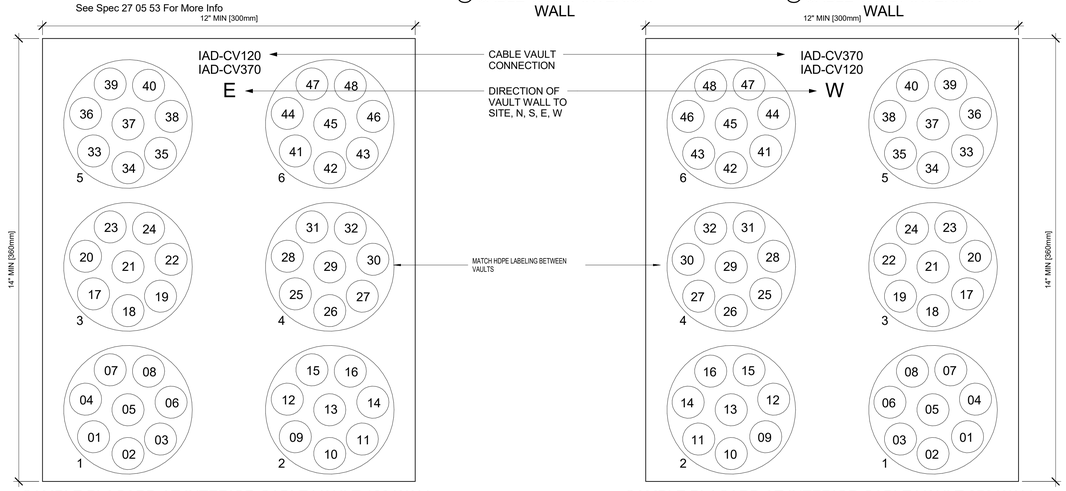
NOTE: PLACARD FORMAT AND CONFIGURATION VARIES DEPENDING ON INCOMING CONDUIT CONFIGURATION. SAMPLE SHOWN ONLY FOR REFERENCE
Label Type: Engraved Metal Placard .
Mechanically fastened or Adhered Interior Of Cable Vault.

See Spec 27 05 53 For More Info



SAMPLE PLACARD LOCATION @ CABLE VAULT INTERIOR WALL

SAMPLE PLACARD LOCATION @ CABLE VAULT INTERIOR WALL



SAMPLE PLACARD AT INTERIOR CABLE VAULT 120 WALL

SAMPLE PLACARD AT INTERIOR CABLE VAULT 370 WALL

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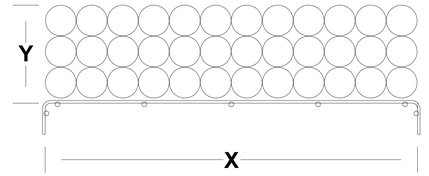
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CATEGORY CABLE CONDUIT FILL CHART

No. of cable at 40% conduit fill based on trade size of the conduit (inches)

Cable Manufacturer	Type O.D.		Conduit Size 3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
Non-Plenum	Category 6										
Panduit	4 pr UTP	0.225	4	8	12	18	32	49	71	97	126
General Cable	4 pr UTP	0.200	6	10	16	23	40	63	90	123	160
	Category 6A										
Panduit	4 pr UTP	0.310	2	4	7	9	17	26	37	51	67
General Cable	4 pr UTP	0.330	2	4	6	8	15	23	33	45	59
Plenum	Category 6										
Panduit	4 pr UTP	0.205	5	10	15	21	38	59	86	117	152
General Cable	4 pr UTP	0.200	6	10	16	23	40	63	90	123	160
	Category 6A										
Panduit	4 pr UTP	0.300	3	4	7	10	18	28	40	54	71
General Cable	4 pr UTP	0.320	2	4	6	9	16	24	35	48	63

WYR-GRID CABLE TRAY FILL CHART (PANDUIT)



X (in.)	Y (in.)	Cable Fill (50% Fill) ** # of CAT 6 plenum cables ** dia. 0.22" (5.6 mm)	X (in.)	Y (in.)	Cable Fill (50% Fill) ** # of CAT 6 plenum cables ** dia. 0.22" (5.6 mm)
12.2	2	321	24.2	2	637
	4	642		4	1273
	6	963		6	1910
18.2	2	479	30.2	2	794
	4	958		4	1589
	6	1436		6	2383

** Published Load & Fill chart is based on Panduit Wyr-Grid Overhead Cable Tray product
The above cable diameters represent the nominal Panduit cable diameter per performance level.

** Cable tray fill capacity is based on NEC allowable fill of 50%. The NEC rule requires that the cable cross-sectional areas together may not exceed 50% of the tray area (width x depth = fill). TIA standards recommend up to 40% fill ratio. Loads shown in the chart will not be exceeded at 50% fill.

DUAL SIDED VERTICAL WIRE MANAGEMENT (PANDUIT)

60% Capacity Channel			40% Capacity Channel		RU Capacity	
Part Number	Channel Area (in^2)	Cable Capacity Cat 6e (0.240)	Channel Area (in^2)	Cable Capacity Cat 6e (0.240)		Total
PEV6	64.8	531	46.2	357	3 rows of 2 RU	6
PEV8	83.4	733	65	501	3 rows of 3 RU	9
PEV12	147	1147	102	789	3 rows of 6 RU (6 with limited depth)	12/18

DUAL SIDED DEEP VERTICAL WIRE MANAGEMENT (PANDUIT)

Front Channel with Spool			Front Channel without Spool		Rear Channel	
Part Number	Channel Area (in^2)	Cable Capacity Cat 6 (0.240)	Channel Area (in^2)	Cable Capacity Cat 6 (0.240)	Channel Area (in^2)	Cable Capacity Cat 6 (0.240)
PRV6*	28.22	-	37.8	292	27.6	213
PRV8*	44.68	345	54.3	419	39	301
PRV12*	77.6	600	87.2	674	61.7	543

Dual sided vertical cable managers.
Capacities are based on a fill rate of 35% to accommodate proper cable routing techniques.
For comparison, multiply by 1.5 for a fill rate of 50%.
The above cable diameters represents the nominal Panduit cable diameter per performance level.

HORIZONTAL WIRE MANAGEMENT (PANDUIT)

Part Number	Category 6A-SD (.240")	Category 6A (.300")	Category 6 (.240")	Fiber (3mm)	Rack Space
PEHF2	143	92	143	592	2U
PEHF3	259	166	259	1072	3U
PEHF4	357	240	375	1551	4U

Maximum cable count (40% fill).
The above cable diameters represents the nominal Panduit cable diameter per performance level.

REFERENCE:
FILL RATIO STANDARD TDMM 10TH EDITION
CHAPTER 4 (4-7) TIA/EIA 569-A 6.3.3.2

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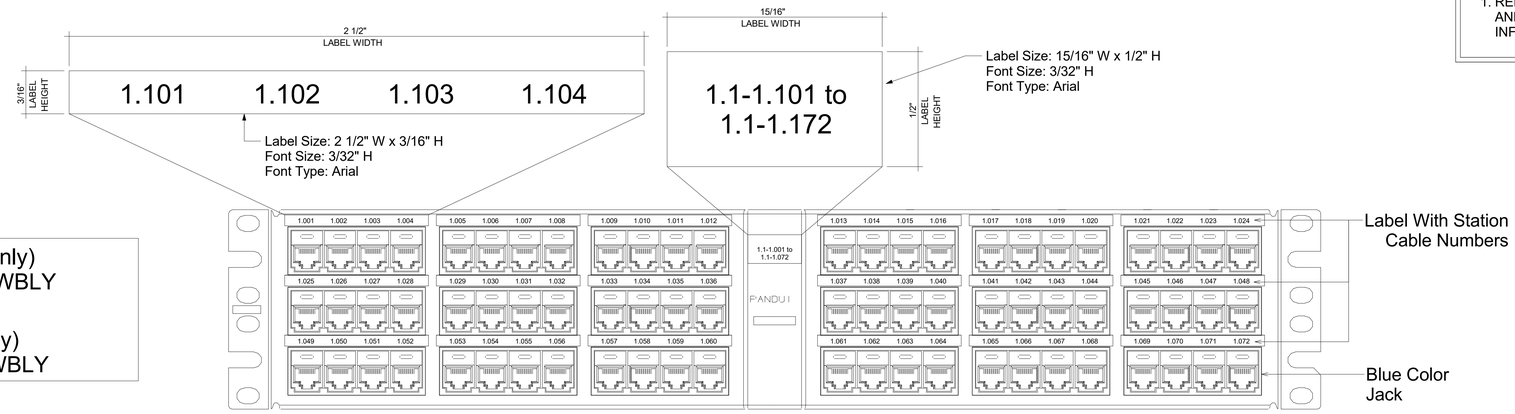
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GENERAL NOTES:

1. RED COLOR IS RESERVED FOR FIRE ALARM CABLING AND SHALL NOT BE USED WITHIN THE CORP DATA INFRASTRUCTURE.

(2RU, Angled, 72 Data Only)
Panduit part # CPPA72FMWBLY

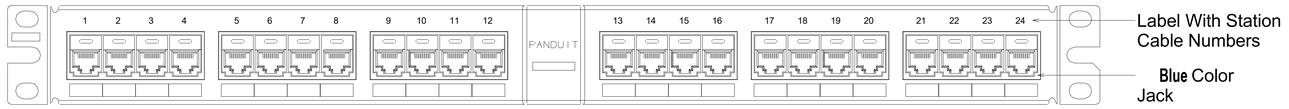
Alternate:
(2RU, Flat, 72 Data Only)
Panduit part # CPP72FMWBLY



1 CATREDUCE DATA STATION CABLING PATCH PANEL (USED FOR DESKS AND VOIP PHONES)

SCALE: Not To Scale

(1RU, Angled, 24 Data Only)
Panduit part # CPPA24FMWBLY
Alternate:
(1RU, Flat, 24 Data Only)
Panduit part # CPP24FMWBLY
Alternate:
(2RU, Angled, 72 Data Only)
Panduit part # CPPA72FMWBLY
Alternate:
(2RU, Flat, 72 Data Only)
Panduit part # CPP72FMWBLY



2 INFRASTRUCTURE (4 PAIRS PER PORT) PATCH PANEL (USED FOR AP, GVC AND PRINTERS)

SCALE: Not To Scale

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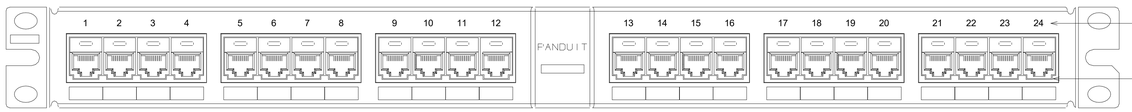
GENERAL NOTES:

1. RED COLOR IS RESERVED FOR FIRE ALARM CABLING AND SHALL NOT BE USED WITHIN THE CORP DATA INFRASTRUCTURE.

(1RU Or 2RU, 1RU Shown)
Panduit part # CPPA24FMWBLY
(or CPPA48HDWBLY)
or part # CCP24FMWBLY (or CPP48HDWBLY)

Security Cable Legend:
SEC = IP Camera

Example:
SEC-x.x-x.xxx
For security camera, ceiling mounted.

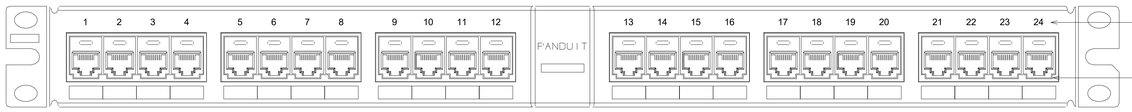


*NOTE:
Stand-alone racks require flat mounted patch panels. If panel is used with other angled patch panels, angled patch panel is required.

1 IP CAMERA, SECURITY ONLY PATCH PANEL

SCALE: Not To Scale

(1RU Or 2RU, 1RU Shown)
Panduit part # CPPA24FMWBLY
(or CPPA48HDWBLY)



2 BUILDING MANAGEMENT SYSTEM (BMS) PATCH PANEL

SCALE: Not To Scale

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DATA CENTER OFFICE HUB
CYL-HUB1
TULSA COUNTY, OK

BUILDING PERMIT DOCUMENTS
08/29/2025
REVISIONS

43-25105-00

TELECOM DETAILS

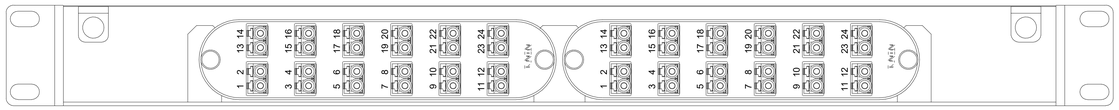
T6.5

Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_MEP_2025.rvt
9/19/2025 1:52:45 PM

"Campus Fiber"
LC Fiber Connectors, Single mode
CORNING part # PCH-01U or CCH-01U
CORNING part # PCH-02U or CCH-02U
CORNING part # PCH-04U or CCH-04U
CORNING part # CCH-CP24-A9

*NOTES:

1. Same fiber panel shall be used for either MM or SM fiber.



1 FIBER PATCH PANEL

SCALE: Not To Scale

GENERAL NOTES:

1. RED COLOR IS RESERVED FOR FIRE ALARM CABLING AND SHALL NOT BE USED WITHIN THE CORP DATA INFRASTRUCTURE.

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DATA CENTER OFFICE HUB
CYL-HUB1
TULSA COUNTY, OK

BUILDING PERMIT DOCUMENTS
08/29/2025
REVISIONS

43-25105-00

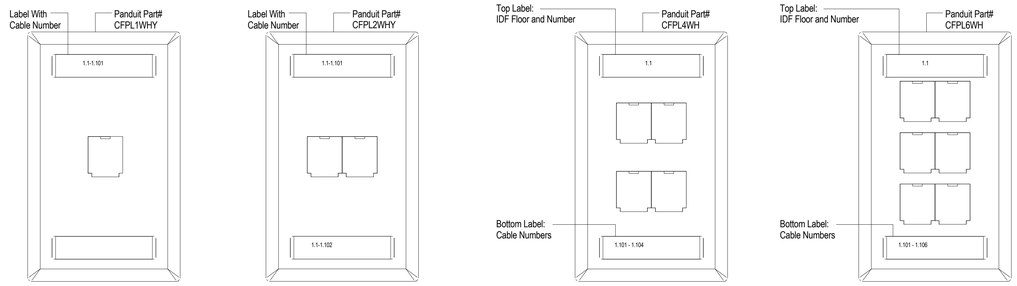
TELECOM DETAILS

T6.6

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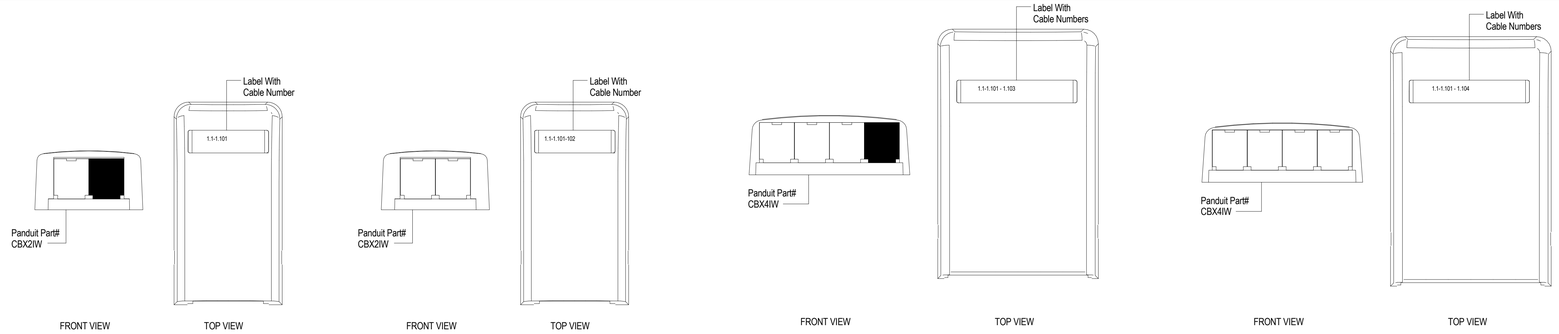
CABLE TERMINATIONS

COMMENTS	BACK BOX	CONDUIT	JACK TYPE	CABLE TYPE	
			1		
	4-11/16"	1-1/4"	CAT 6 RJ45	CAT 6 UTP	
			BAS		
			CAT 6 RJ45	CAT 6 UTP	COORDINATE EXACT LOCATION AND FINAL EQUIPMENT LAYOUT WITH CONTRACTOR PRIOR TO ROUGH-IN.
			2		
			CAT 6 RJ45	CAT 6 UTP	
			CAT 6 RJ45	CAT 6 UTP	
			4		
			CAT 6 RJ45	CAT 6 UTP	
			CAT 6 RJ45	CAT 6 UTP	
			CAT 6 RJ45	CAT 6 UTP	
			CAT 6 RJ45	CAT 6 UTP	
			AP		
	N/A	N/A	CAT 6A RJ45	CAT 6A UTP	
			CAT 6A RJ45	CAT 6A UTP	
	4-11/16"	1-1/2"	R		
			-	-	PROVIDE PULL CORD WITHIN CONDUIT BACK TO CONSOLIDATION POINT. PROVIDE BLANK FACEPLATE.
	4-11/16"	1"	DISP		
			CAT 6 RJ45	CAT 6 UTP	MOUNT AT 20" AFF. UON.



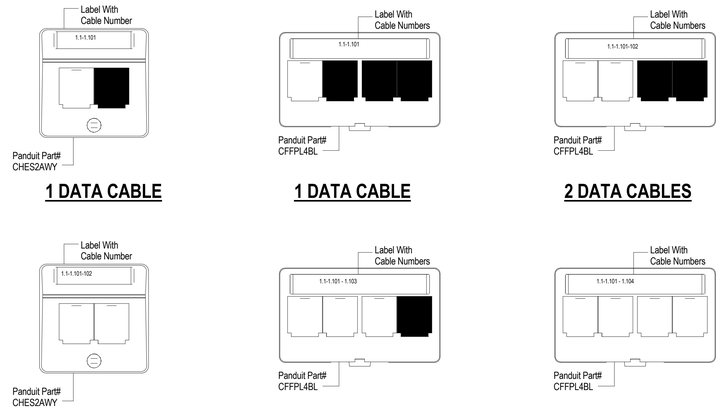
1 DATA CABLE | 2 DATA CABLES | 4 DATA CABLES | 6 DATA CABLES

WALL MOUNT CORPNET DATA OUTLET (1, 2, 4 OR 6 CABLES)



1 DATA CABLE | 2 DATA CABLES | 3 DATA CABLES | 4 DATA CABLES

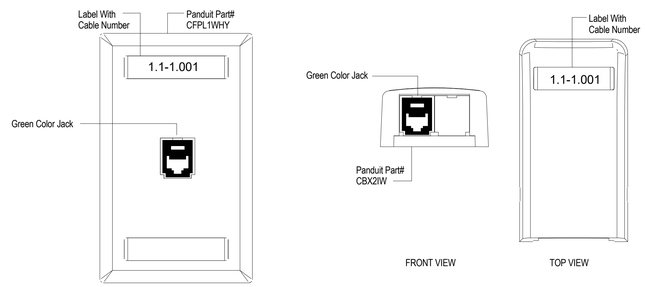
SURFACE MOUNT CORPNET DATA OUTLET (1, 2, 3 OR 4 CABLES)



1 DATA CABLE | 1 DATA CABLE | 2 DATA CABLES

2 DATA CABLES | 3 DATA CABLES | 4 DATA CABLES

FURNITURE MOUNT CORPNET DATA OUTLET (1, 2, 3 OR 4 CABLES)



1 DATA CABLE (WALL MOUNT)

1 DATA CABLE (SURFACE MOUNT)

WIRELESS ACCESS POINT DATA OUTLET

LABEL NUMBERING LEGEND:

A. 1 & 2 CABLE LABEL FORMAT:

1 . 1 - 1 . 101

- 1 . 1 — IDF Floor Server/IDF room number termination
- 1 . 101 — Sequential station cable number; Type prefix (Refer to the cable labelling legend on T-000); Floor number where the outlet is located

B. 4 - 6 CABLES LABEL FORMAT:

1 . 1

- 1 . 1 — IDF Floor Server/IDF room number termination

1 . 101 - 1.106

- 1 . 101 - 1.106 — Range of cable numbers; Type prefix (Refer to the cable labelling legend on T-000); Floor number where the outlet is located

SHEET NOTES:

1. THIS DRAWING PERTAINS TO THE CORPNET DATA OUTLET LABELING.

C. OUTLET NUMBERS ON FACEPLATES ARE TO BE READ AS FOLLOWS:

ex.

1	2
3	4
5	6

D. REPLACE BLANK PANEL WITH WHITE DATA JACK, WHEN APPLICABLE.

DLR GROUP
© DLR Group

DATA CENTER OFFICE HUB
CYL-HUB1
TULSA COUNTY, OK

BUILDING PERMIT DOCUMENTS
08/29/2025
REVISIONS

43-25105-00

TELECOM DETAILS

T6.7

Autodesk Docs://E3-CYL1-A-Core&Shell/43-25105-00_CYL1_MEP_2025.rvt
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THE CLIENT

HUB AHEAD 4.0A (CLIENT OCCUPIED)

ISSUED FOR BID

SUBMITTAL DATE:

MAY-20-2025

PREPARED BY:

CUSTOMER:

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- A - Approved
- B - Approved with comments
- C - Revise and resubmit
- D - Reviewed
- E - Rejected

Reviewer:

Date:

Drawing Issue Status: ISSUE FOR BID

Job Number

Project:

Client: THE CLIENT

Project: HUB AHEAD 4.0A (CLIENT OCCUPIED)

Location: MULTIPLE LOCATIONS

Title: Security Cover Page

Scale @ ArchB: NTS

Revision: 2

External Reference:

Drawing Number: T0-001

Client	The Client
Project	HUB AHEAD 4.0A (CLIENT OCCUPIED)
Location	Multiple Locations

File Name	Title	Revision	Page #
T0-001	Security Cover Page	2	1
T0-002	Security Document Register	2	2
T0-003	Security Equipment Legend	2	3
T1-001	Security Equipment Level 1 - All Areas	2	4
T1-002	Security Equipment Level 1 - Area A	2	5
T1-003	Security Equipment Level 1 - Area B	2	6
T1-004	Security Equipment Level 1 - Area C	2	7
T2-001	Point-to-Point Diagram CCTV MDF 113	2	8
T2-002	Rack Layout MDF 113	2	9
T2-003	ACS & CCTV One-Line Riser Diagram	2	10
T3-001	Typical Details ACS Typical Detail 01	2	11
T3-002	Typical Details ACS Typical Detail 02	2	12
T3-003	Typical Details ACS Typical Detail 03	2	13
T3-004	Typical Details ACS Typical Detail 04	2	14
T3-005	Typical Details ACS Typical Detail 05	2	15
T3-006	Typical Details ACS Typical Detail 06	2	16
T3-007	Typical Details ACS Typical Detail 07	2	17
T3-008	Typical Details ACS Typical Detail 08	2	18
T3-009	Typical Details ACS Typical Detail 09	2	19
T3-010	Typical Details ACS Typical Life Safety Power w/ ACM ("A")	2	20
T3-011	Typical Details CCTV Mounting Typical Details	2	21
T3-012	Typical Details CCTV Pole A & Rough-in Boxes Typical Details	2	22
T3-013	Typical Details CCTV SFE Enclosure Layout & Wiring	2	23
T3-014	Typical Detail Exterior Camera Pole Cabling	2	24
T3-015	Typical Details Network Diagram	2	25
T3-016	Enrollment Reader Wall Elevation and Wiring Typical	2	26
T4-001	Device Schedule ACS	2	27
T4-002	Device Schedule CCTV	2	28

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Job Number

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THE CLIENT
Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)
Location
MULTIPLE LOCATIONS

Title:
Security Document Register

Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T0-002

Access Control

- CR — Card Reader
- KP — Keypad & Card Reader Combination
- BR — Biometric Reader
- ADA — ADA Door Opener
- DB — Duress Button
- AVA — Siren / Strobe
- KEY — Traka Keybox
- Recessed Door Contact
- SM — Surface Mount Door Contact
- TMP — Cabinet Tamper Switch
- ELX — Electric Panic Exit w/ REX
- EL — Electric Panic Exit
- EMX — Electric Mortise Lock w/ REX
- EM — Electric Mortise Lock
- NEMA-1 — Screw Cover Pull Box
- 103 — Door Number
- SO — 12V Single-Gang Piezo Sounder
- KNOX — KNOX BOX

Access Control Panels

Intruder Detection

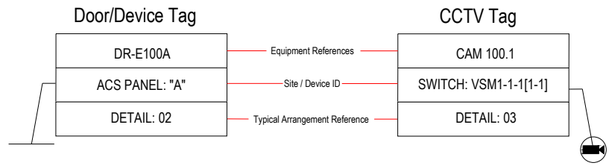
CCTV

- Internal Static Dome
- External Static Dome
- External 180 Dome
- Internal 180 Dome

Command & Control

Video Intercom

Equipment Tag



Notes

1) ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

2) INFORMATION PENDING UPDATED DRAWING ISSUANCE/RFI.

3) SSFR RACKS ARE PRE-KITTED WITH SECURITY AND OTHER DEVICES UNDER NEGOTIATION WITH THE OWNER, AND ARE SHIPPED TO THE SITE TO BE INSTALLED BY THE TELECOM CONTRACTOR.

4) LV CONTRACTOR TO PROCURE AND INSTALL FIBER PATCH CABLES BETWEEN SWITCHES AND FIBER PATCH PANEL PER SPECIFIC DIRECTION FROM OWNER. FIBER PATCH CABLES SHALL CONSIST OF (11) 3M SINGLE MODE WITH LC/LC CONNECTORS; AND (5) 5M SINGLE MODE WITH LC/LC CONNECTORS.

5) CAMERA POLES AND SWITCHES:

PHASE 1	
ALL SECURITY CAMERA POLE AND SWITCH DETAILS PER CIVIL, SITE ELECTRIC, TELECOM, AND SECURITY DRAWINGS AND SPECS AND AS DIRECTED BY OWNER.	
PHASE 2	
NO CAMERA POLES OR POLE ENCLOSURES	DRAWING T3-012 DETAIL 1 & 2: NOT REQUIRED
NO SFE ENCLOSURES FOR CAMERA POLES	DRAWING T3-013: NOT REQUIRED
NO ROUTING FOR CAMERA POLES	DRAWING T3-014: NOT REQUIRED
NO IE3200 SWITCH	DRAWING T3-015 DETAIL 1: NOT REQUIRED
PHASE 3	
MOVE	DRAWING T3-012 DETAIL 1 & 2: NOT REQUIRED
NO SFE ENCLOSURES FOR CAMERA POLES	DRAWING T3-013: NOT REQUIRED
NO ROUTING FOR CAMERA POLES	DRAWING T3-014: NOT REQUIRED
NO IE3200 SWITCH	DRAWING T3-015 DETAIL 1: NOT REQUIRED

Revision Control

Cables

	DESCRIPTION	USE	SPECIFIC TYPE
A	#14/2 UNSHIELDED, 19 STRAND, ORANGE JACKET*, PLENUM	LOCK 24VDC POWER AND AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 7679640
B	#22 2-PAIR, LOW-CAPACITANCE RS-485, SHIELDED, 7 STRAND, ORANGE JACKET*, PLENUM	RS-485 DATA, KEYPAD OSDP; CAPACITANCE SHALL BE LESS THAN 16PF PER FOOT. INTERIOR.	WCW-415110-40OSDP
C	#22/2 UNSHIELDED, 7 STRAND, PLENUM	DPS CONTACTS, LOCK REX SIGNAL. INTERIOR.	BELDEN 6500UE OR WCW 4443640
D	#18/2, UNSHIELDED, 7 STRAND, PLENUM	LOCK POWER, AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 4423640
E	#20, 3-PAIR, SHIELDED, 7 STRAND, PLENUM	CARD READER: POWER, WIEGAND, SIGNALS. INTERIOR.	WCW 4443514-40
F	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, ORANGE JACKET* FOR SECURITY ACCESS CONTROL SYSTEM APPLICATION	BIO READERS, TRAKA. INTERIOR.	WCW 5566040
Q	#18/4 SHIELDED, 7 STRAND, GEL-F ILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR CARD READER, DIRECT-BURIAL AUDIO 70V PUBLIC ADDRESS LOUDSPEAKER	BELDEN 5302F1
R	1-PAIR #20 to #24 SHIELDED 7 STRAND LOW CAP TINNED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR ENCLOSURE TAMPER SWITCH	BELDEN 9815 OR WCW 042007DB
S	#23 4-PAIR, UNSHIELDED, SOLID, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL CAMERA VIDEO, DIRECT-BURIAL INTERCOM, DIRECT-BURIAL PoE APPLICATIONS	BELDEN 2143A
T	COMPOSITE CABLE, (ELEM1) 4/C #18, (ELEM2) 3 PR. #22, (ELEM3) 2/C # 22 AND (ELEM4) 4/C #22	DOOR CONNECTIONS TO MDF MOUNTED ACMS	WCW 4461030
Z	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, YELLOW JACKET** FOR SECURITY VIDEO SYSTEM APPLICATION	CAMERA VIDEO AND PoE	WCW 5566030

* ALL CABLES PROVIDED AND INSTALLED FOR ACCESS CONTROL SYSTEM USE ARE TO HAVE A COLOR ORANGE OUTER JACKET; SPECIAL ORDER
** ALL CABLES PROVIDED AND INSTALLED FOR VIDEO SYSTEM USE ARE TO HAVE A COLOR YELLOW OUTER JACKET

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Keyplan:

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REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By: KD
Project Manager: AK
Project Engineer: KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- A - Approved
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- C - Revise and resubmit
- D - Reviewed
- E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUE FOR BID

Job Number

Project:
Client
THE CLIENT
Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)
Location
MULTIPLE LOCATIONS

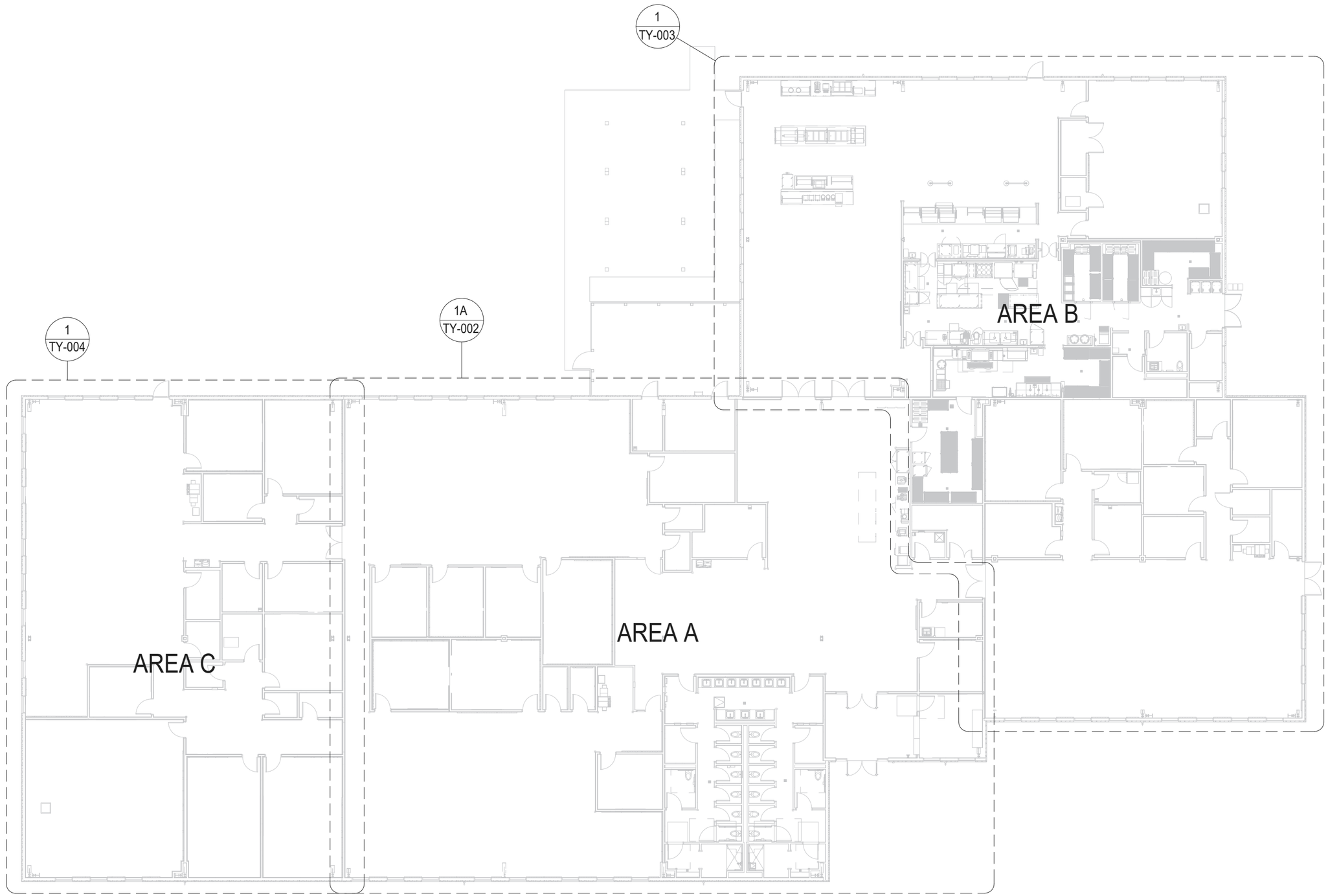
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Security Equipment Legend

Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T0-003



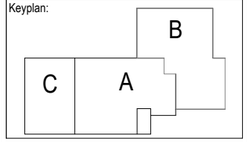
1 Security Equipment Level 1 - All Areas
NTS

CUSTOMER:

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Keyplan:



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REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

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Date:

Drawing Issue Status
ISSUE FOR BID

Job Number

Project:

Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

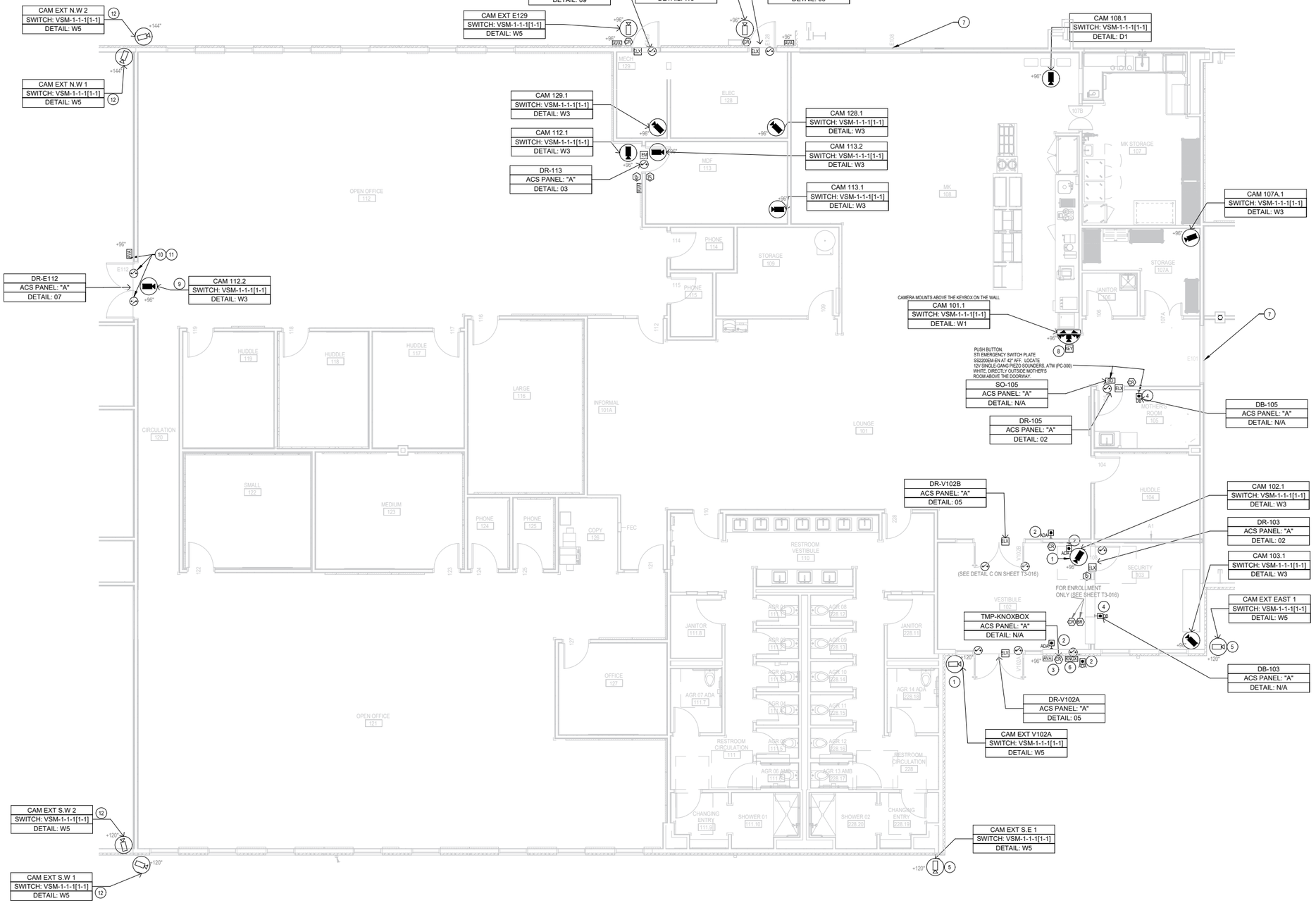
Title:
Security Equipment Level 1
All Areas

Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T1-001



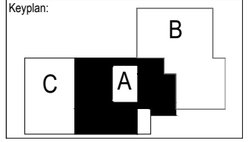
1 Security Equipment Level 1 - Area A
NTS

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Keyplan:



Notes:

1. PROVIDE SINGLE GANG JUNCTION BOX FOR WALL MOUNTED SECURITY CAMERA ABOVE ASSOCIATED CARD READER ACCESS. MOUNT 8'-0" AFF. CAMERA TO PROVIDE RECOGNITION LEVEL COVERAGE FOR THE TWO INTERIOR CARD READERS AND GENERAL COVERAGE OF VESTIBULE AREA.
2. ELECTRIFIED ADA POWER OPERATORS. IN ADDITION TO 120V CONNECTION TO POWER SUPPLY, PROVIDE LOW VOLTAGE CONNECTION (CONX5, CONDUIT, AND CONDUCTORS) TO WALL, JAMB, OR PEDESTAL-MOUN ACTUATORS PER MANUFACTURER'S RECOMMENDATIONS. REFER TO SPECIFICATION SECTION 087100 FOR INDIVIDUAL REQUIREMENTS.
3. CARD READER TO ONLY BE OPERATIONAL AFTER BUSINESS HOURS.
4. PROVIDE SINGLE GANG JUNCTION BOX FOR DISTRESS BUTTON & PIEZO SOUNDER. TIE INTO SECURITY ALARM SYSTEM AT ISTAR PANEL. COORDINATE EXACT REQUIREMENTS WITH SECURITY INSTALLER PRIOR TO ROUGH-IN.
5. PROVIDE SINGLE GANG JUNCTION BOX FOR EXTERIOR WALL MOUNTED CAMERA. VERIFY EXACT REQUIREMENTS WITH SECURITY INSTALLER PRIOR TO ROUGH-IN.
6. THE KNOXBOX HAS A TAMPER SWITCH.
7. NO SECURITY. WALL OFF TO MAINTAIN OPERATIONAL BOUNDARY UNTIL THE ADJACENT AREA B IS TURNED OVER TO CLIENT COMPLETELY.
8. THIS IS THE TRAKA KEYBOX. CARD READER TO BE INSTALLED, BUT IT IS NOT INTEGRATED WITH THE CCURE CONTROL SYSTEM. SEE DETAIL ON SHEET T3-001.
9. CAMERA TO BE REMOVED WHEN AREA C IS OCCUPIED BY CLIENT.
10. IF AREA C IS BEING BUILT AND OCCUPIED BY GC, AVA TO BE ON SECURE SIDE. IF NO AREA C BUILT, KEEP OUTSIDE.
11. ONCE AREA C OCCUPIED BY CLIENT, REMOVE ACCESS CONTROL.
12. INSTALL CAMERAS HERE IF AREA C IS NOT CONSTRUCTED UNTIL LATER, AND RELOCATE THEM ONCE AREA C IS CONSTRUCTED.

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
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Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

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Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

Title:
Security Equipment Level 1
Area A

Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T1-002



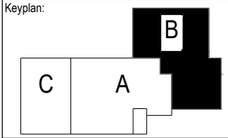
1 Security Equipment Level 1 - Area B
NTS

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Keyplan:



Notes:

1. DISCONNECT AVA DEVICE AND DOOR HARDWARE AS DIRECTED BY DIV 08.
2. DISCONNECT DOOR CONTACTS AND DOOR HARDWARE AS DIRECTED BY DIV 08.
3. PROVIDE SINGLE GANG JUNCTION BOX FOR EXTERIOR WALL MOUNTED CAMERA. VERIFY EXACT REQUIREMENTS WITH SECURITY INSTALLER PRIOR TO ROUGH-IN.
4. NO SECURITY NEEDED. DOOR IS NOT INSTALLED UNTIL CLIENT OCCUPIES.
5. "NO" ROUGH IN FOR SECURITY YET. AV ROOM WALLS WILL BE CONSTRUCTED TO ACCEPT SECURITY ONCE SPACE IS RENOVATED BY CLIENT. SECURITY CABLE CAN BE ROUTED AND SPOOLED IN CEILING UNTIL THE EQUIPMENT IS REQUIRED.

REV	DESCRIPTION	DATE	BY
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THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

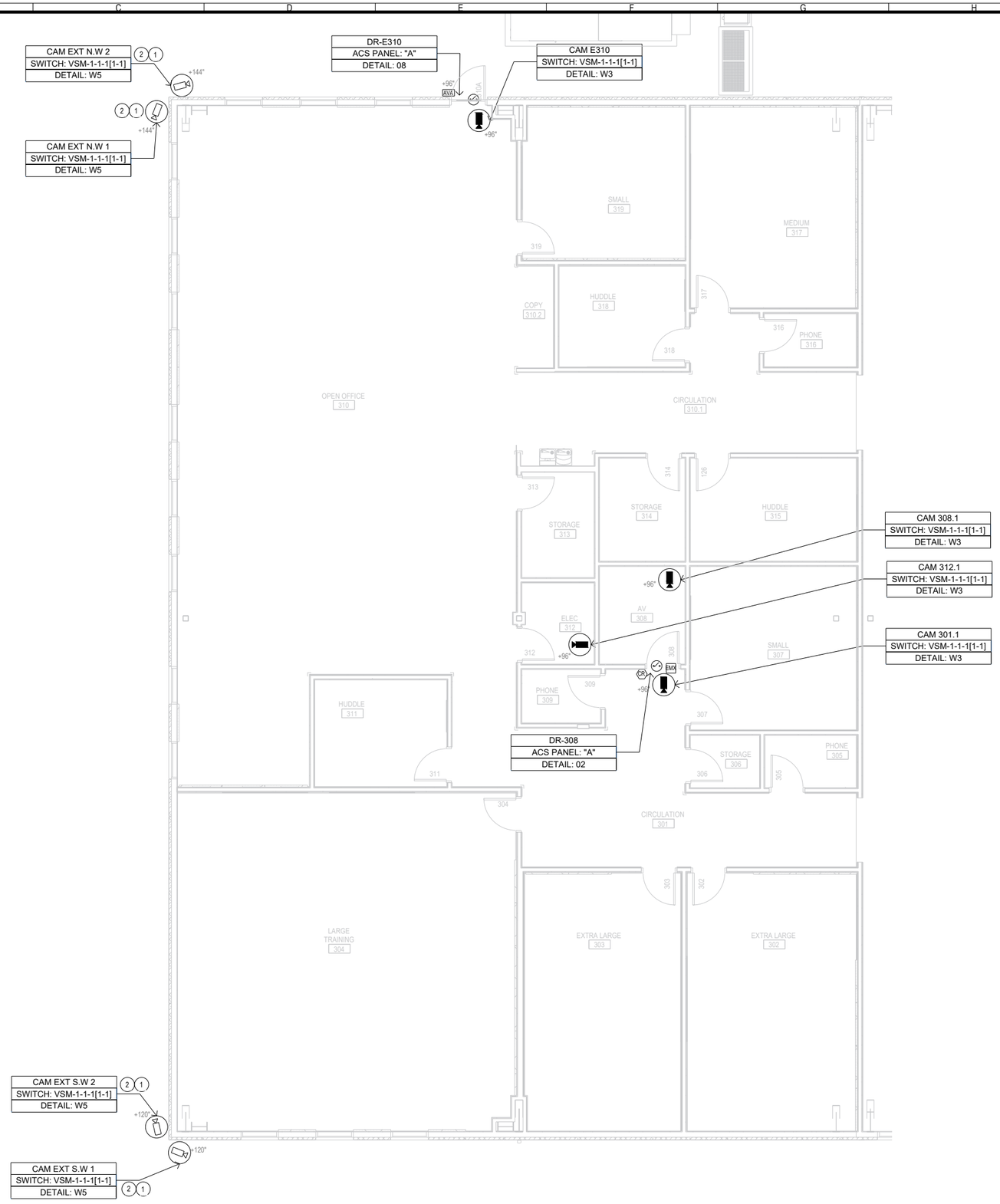
Title:
Security Equipment Level 1
Area B

Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T1-003



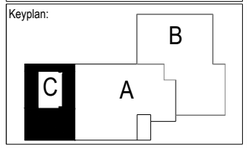
1 Security Equipment Level 1 - Area C
NTS

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Keyplan:



Notes:

1. SECURITY DEVICE(S) HAVE BEEN RELOCATED FROM ADJACENT PHASE. CABLE AND PATHWAYS ARE STILL REQUIRED TO BE PROVIDED.
2. PROVIDE SINGLE GANG JUNCTION BOX FOR EXTERIOR WALL MOUNTED CAMERA. VERIFY EXACT REQUIREMENTS WITH SECURITY INSTALLER PRIOR TO ROUGH-IN.
3. N/A. NOT USED IN CLIENT OCCUPIED.

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- A - Approved
- B - Approved with comments
- C - Revise and resubmit
- D - Reviewed
- E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

Title:
Security Equipment Level 1
Area C

Scale @ ArchB:
NTS

Revision:
2

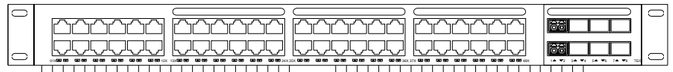
External Reference:

Drawing Number:
T1-004

MDF 113

HUB AHEAD 4.0A MDF 113 POE SWITCH 1
CISCO C9300-48P

US-XXX-XXX-VSM-1-1-1[1-1]



SECURITY VIDEO PATCH PANEL (48P)

NETWORK CABLE

CAM 128.1 [PORT 01]
CAM 101.1 [PORT 02]
CAM 113.1 [PORT 03]
CAM 113.2 [PORT 04]
CAM 112.1 [PORT 05]
CAM 129.1 [PORT 06]
CAM 108.1 [PORT 07]
CAM 112.2 [PORT 08]
CAM 103.1 [PORT 09]
CAM 102.1 [PORT 10]
CAM EXT EAST 1 [PORT 11]
CAM EXT S.E 1 [PORT 12]

CAM EXT V102A [PORT 13]
CAM EXT E129 [PORT 14]
CAM EXT E128 [PORT 15]
CAM 107A.1 [PORT 16]
CAM 209.2 [PORT 17]
CAM 208.1 [PORT 18]
CAM E201A [PORT 19]
CAM 224.1 [PORT 20]
CAM 213.1 [PORT 21]
CAM 210.1 [PORT 22]
CAM EXT EAST 2 [PORT 23]
CAM EXT EAST 3 [PORT 24]

RESERVE FOR ACS [PORT 48]
RESERVE FOR ACS [PORT 47]
RESERVE FOR ACS [PORT 46]
RESERVE FOR ACS [PORT 45]
RESERVE FOR CCTV [PORT 44]
RESERVE FOR CCTV [PORT 43]
RESERVE FOR CCTV [PORT 42]
RESERVE FOR CCTV [PORT 41]
CAM EXT S.W 2 [PORT 40]
CAM EXT S.W 1 [PORT 39]
CAM EXT N.W 2 [PORT 38]
CAM EXT N.W 1 [PORT 37]

CAM E310 [PORT 36]
CAM 312.1 [PORT 35]
CAM 308.1 [PORT 34]
CAM 301.1 [PORT 33]
CAM EXT S.E 3 [PORT 32]
CAM EXT S.E 2 [PORT 31]
CAM EXT N.W 5 [PORT 30]
CAM EXT N.W 4 [PORT 29]
CAM EXT N.W 3 [PORT 28]
CAM EXT N.E 4 [PORT 27]
CAM EXT N.E 3 [PORT 26]
CAM EXT E203 [PORT 25]

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Keyplan:

Notes:
1. SEE EQUIPMENT ROUGH IN NOTES ON THE FLOOR PLANS AND DEVICE SCHEDULES.

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1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By: KD
Project Manager: AK
Project Engineer: KD

ENG. STAMP

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Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

Title:
Point-to-Point Diagram CCTV MDF 113

Scale @ ArchB:
NTS

Revision:
2

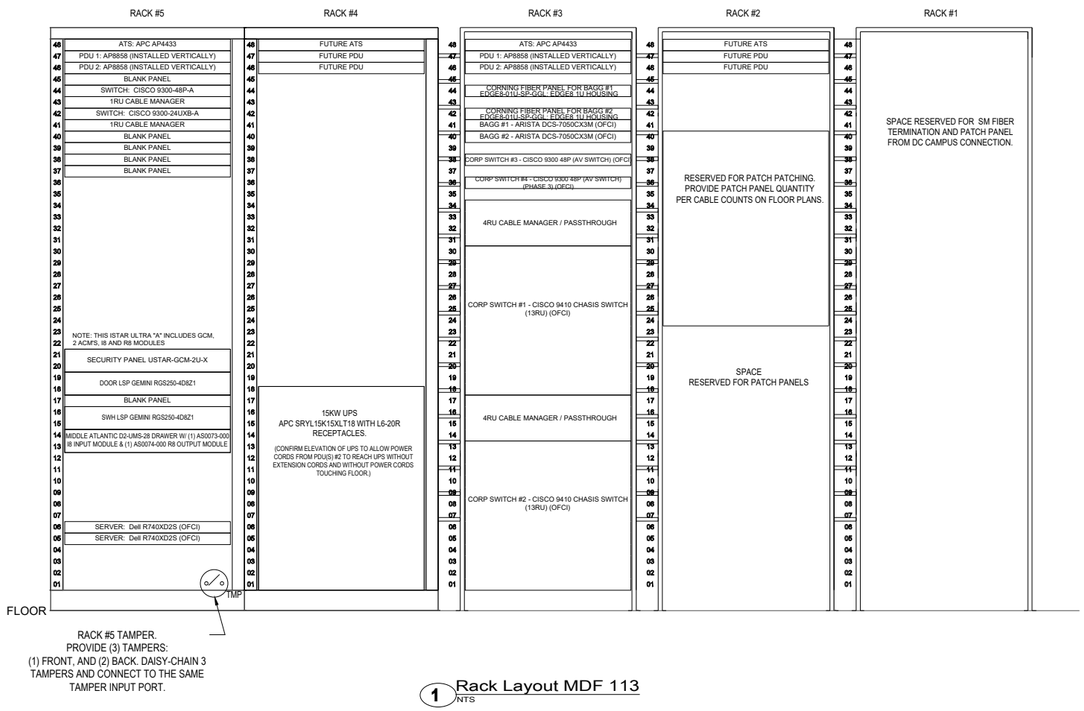
External Reference:

Drawing Number:
T2-001

NOTE: THIS IS A TYPICAL RACK LAYOUTS FOR REFERENCE ONLY.
COORDINATE AND FIELD VERIFY ON SITE WITH THE CUSTOMER
FOR APPROVAL.

18" X 1" OVERHEAD LADDER TRAY AT 9', SEE ENLARGED POWER PLANS ON E4.1 FOR OUTLET LOCATIONS.

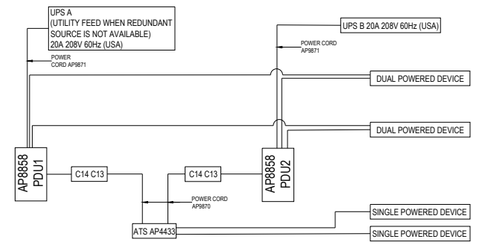
6" X 4" OVERHEAD FIBER TROUGH AT 7' 4", SEE ENLARGED PLANS ON E4.1



1 Rack Layout MDF 113
NTS

SECURITY AND TELECOM RACK ELEVATION PER HUB PHASE				
PHASE 1				
RACK 5	RACK 4	RACK 3	RACK 2	RACK 1
ATS: APC AP4433	FUTURE ATS	ATS: APC AP4433	PATCH PANELS AS NEEDED	DCS FIBER TERMINATION
PDU 1: AP8858 (INSTALLED VERTICALLY)	FUTURE PDU	PDU 1: AP8858 (INSTALLED VERTICALLY)		PATCH PANELS AS NEEDED
PDU 2: AP8858 (INSTALLED VERTICALLY)	FUTURE PDU	PDU 2: AP8858 (INSTALLED VERTICALLY)		
SWITCH: CISCO 9300-48P-A	APC SRYL15K15XLT18 W/ L6-20R	CORNING FIBER PANEL BAGG #1 EDGE8-01U-SP-GGL		
1RU CABLE MANAGER/PASS THROUGH		CORNING FIBER PANEL BAGG #2 EDGE8-01U-SP-GGL		
SWITCH: CISCO C9300-24UXB-A		BAGG #1 - ARISTA DCS-7050CX3M (OFCI)		
1RU CABLE MANAGER/PASS THROUGH		BAGG #2 - ARISTA DCS-7050CX3M (OFCI)		
SECURITY PANEL USTAR-GCM-2U-X		CORP SWITCH #3 CISCO 9300 48P (AV SWITCH) (OFCI)		
DOOR LSP GEMINI RGS250-4D8Z1		4RU CABLE MANAGER/PASS THROUGH		
SWH LSP GEMINI RGS250-4D8Z1		CORP SWITCH #1 - CISCO 9410 CHASIS SWITCH (OFCI)		
MIDDLE ATLANTIC D2-UMS-28 DRAWER W/ (1) AS0073-000 & AS0074-000		4RU CABLE MANAGER/PASS THROUGH		
SERVER: DELL R740XD2S (OFCI)		CORP SWITCH #2 - CISCO 9410 CHASIS SWITCH (OFCI)		
SERVER: DELL R740XD2S (OFCI)				
PHASE 2				
RACK 5	RACK 4	RACK 3	RACK 2	RACK 1
N/A	N/A	N/A	PATCH PANELS AS NEEDED	PATCH PANELS AS NEEDED
PHASE 3				
RACK 5	RACK 4	RACK 3	RACK 2	RACK 1
N/A	N/A	CORP SWITCH #4 CISCO 9300 48P (AV SWITCH) (PHASE 3) (OFCI)	PATCH PANELS AS NEEDED	PATCH PANELS AS NEEDED

2 Rack Equipment Per HUB Phase
NTS



3 ATS AP4433 GENERAL ARRANGEMENT FOR SSFR, FC, FCS, FN RACKS
NTS

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Keyplan:

Notes:
1. OFCI. GC TO INSTALL SWITCHES, PROVIDED BY THE OWNER, INTO THE ASSIGNED LOCATION AND CONNECT POWER PER DIAGRAM. OWNER TO PROGRAM SWITCHES. POWER CABLES SHALL NOT TOUCH THE GROUND AND BE ROUTED OVERHEAD TO OUTLETS ABOVE THE RACK OR OVERHEAD INTO UPS OUTLETS. PDU #1 SHALL HAVE ONE POWER CORD CONNECTED TO THE OVERHEAD L6-20R RECEPTACLE OVERHEAD, AND PDU #2 SHALL CONNECT ONE POWER CORD TO THE SYMMETRA UPS. PDUS SHALL USE POWER CORD AP9871. ATS SHALL HAVE ONE LEG CONNECTED TO EACH PDU USING POWER CORD AP9870 WITH A C13/C14 TYPE CONFIGURATION.
2. DUAL POWERED DEVICES SHALL HAVE ONE LEG CONNECTED TO PDU #1 AND THE OTHER LEG TO PDU #2. SINGLE LEG POWERED DEVICES SHALL CONNECT DIRECTLY TO THE ATS.
3. LV CONTRACTOR TO PROCURE AND INSTALL FIBER PATCH CABLES BETWEEN SWITCHES AND FIBER PATCH PANEL PER SPECIFIC DIRECTION FROM OWNER. FIBER PATCH CABLES SHALL CONSIST OF (11) 3 METER SINGLE MODE WITH LC/LC CONNECTORS; AND (5) 5 METER SINGLE MODE WITH LC/LC CONNECTORS.

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By: KD
Project Manager: AK
Project Engineer: KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- A - Approved
- B - Approved with comments
- C - Revise and resubmit
- D - Reviewed
- E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT
Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)
Location
MULTIPLE LOCATIONS

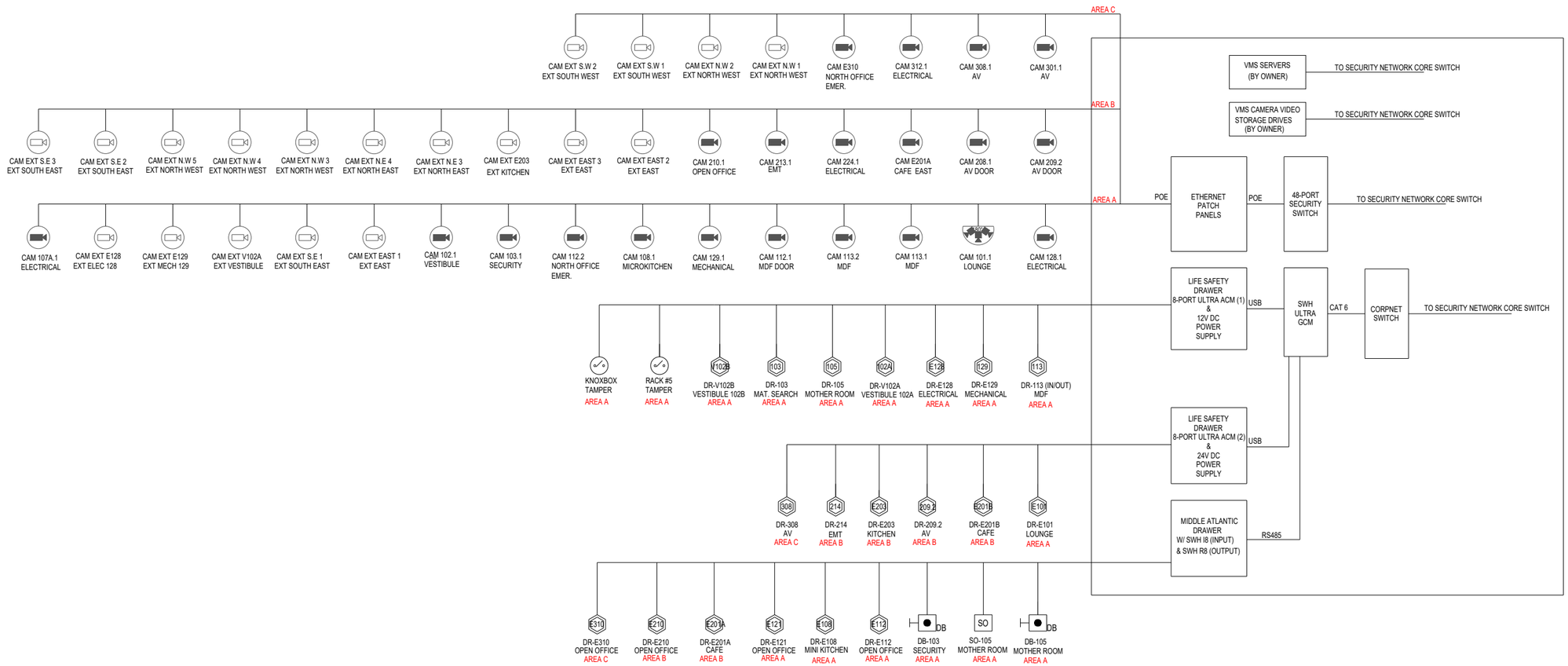
Title:
Rack Layout MDF 113

Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T2-002



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Keyplan:

Notes:

1. SEE EQUIPMENT ROUGH IN NOTES ON THE FLOOR PLANS AND DEVICE SCHEDULES.

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	2

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
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- B - Approved with comments
- C - Revise and resubmit
- D - Reviewed
- E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

Title:
ACS One-Line Riser Diagram

Scale @ ArchB:
NTS

Revision:
2

External Reference:

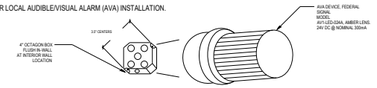
Drawing Number:
T2-003

CABLE TYPES:

	DESCRIPTION	USE	SPECIFIC TYPE
A	#14/2 UNSHIELDED, 19 STRAND, ORANGE JACKET*, PLENUM	LOCK 24VDC POWER AND AVA POWER. INTERIOR.	BELDEN 6100UE OR WCW 7679640
B	#22 2-PAIR, LOW-CAPACITANCE RS-485, SHIELDED, 7 STRAND, ORANGE JACKET*, PLENUM	RS-485 DATA, KEYPAD OSDP; CAPACITANCE SHALL BE LESS THAN 16PF PER FOOT. INTERIOR.	WCW-415110-40OSDP
C	#22/2 UNSHIELDED, 7 STRAND, PLENUM	DPS CONTACTS, LOCK REX SIGNAL. INTERIOR.	BELDEN 6500UE OR WCW 4443640
D	#18/2, UNSHIELDED, 7 STRAND, PLENUM	LOCK POWER, AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 4423640
E	#20, 3-PAIR, SHIELDED, 7 STRAND, PLENUM	CARD READER: POWER, WIEGAND, SIGNALS. INTERIOR.	WCW 4443514-40
F	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, ORANGE JACKET* FOR SECURITY ACCESS CONTROL SYSTEM APPLICATION	BIO READERS, TRAKA. INTERIOR.	WCW 5566040
Q	#18/4 SHIELDED, 7 STRAND, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR CARD READER, DIRECT-BURIAL AUDIO 70V PUBLIC ADDRESS LOUDSPEAKER	BELDEN 5302F1
R	1-PAIR #20 to #24 SHIELDED 7 STRAND LOW CAP TINNED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR ENCLOSURE TAMPER SWITCH	BELDEN 9815 OR WCW 042007DB
S	#23 4-PAIR, UNSHIELDED, SOLID, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL CAMERA VIDEO, DIRECT-BURIAL INTERCOM, DIRECT-BURIAL PoE APPLICATIONS	BELDEN 2143A
T	COMPOSITE CABLE, (ELEM1) 4/C #18, (ELEM2) 3 PR. #22, (ELEM3) 2/C # 22 AND (ELEM4) 4/C #22	DOOR CONNECTIONS TO MDF MOUNTED ACMS	WCW 4461030
Z	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, YELLOW JACKET** FOR SECURITY VIDEO SYSTEM APPLICATION	CAMERA VIDEO AND PoE	WCW 5566030

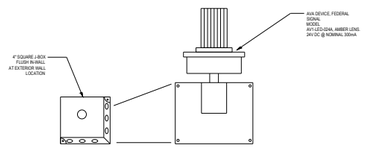
* ALL CABLES PROVIDED AND INSTALLED FOR ACCESS CONTROL SYSTEM USE ARE TO HAVE A COLOR ORANGE OUTER JACKET; SPECIAL ORDER
** ALL CABLES PROVIDED AND INSTALLED FOR VIDEO SYSTEM USE ARE TO HAVE A COLOR YELLOW OUTER JACKET

01A INTERIOR AND EXTERIOR LOCAL AUDIBLE/VISUAL ALARM (AVA) INSTALLATION.



NOTES:
1. AT INTERIOR WALL LOCATIONS THE AVA SHALL BE MOUNTED A STEEL 4" OCTAGON BOX, FLUSH IN WALL.
2. THE FEDERAL SIGNAL AVA DEVICES SHALL BE MODEL AV1-LED-024.
3. AT THE INTERIOR LOCATION, THE AVA SHALL BE MOUNTED WITH THE TOP OF THE LENS SIDEWARDS HORIZONTALLY.
4. MOUNT PER MANUFACTURERS INSTRUCTIONS.

A AVA (AUDIO/VISUAL ANNUNCIATOR) MOUNTING REQUIREMENTS AT INTERIOR WALL LOCATIONS



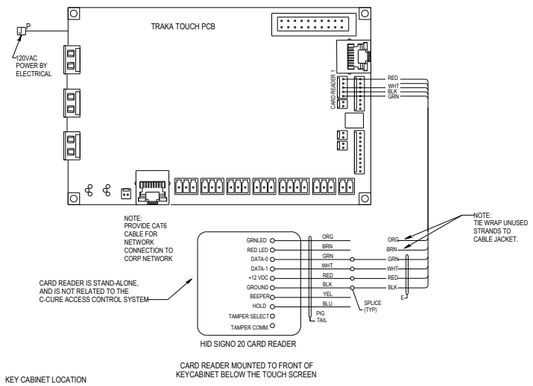
NOTES:
1. AT EXTERIOR WALL LOCATIONS, THE AVA SHALL BE MOUNTED TO A 4" SQUARE STEEL J-BOX, FLUSH IN WALL IN LIEU OF THE 4" OCTAGON BOX SHOWN FOR INTERIOR LOCATIONS.
2. THE FEDERAL SIGNAL AVA DEVICE SHALL BE MODEL AV1-LED-024A, AND AT EXTERIOR LOCATIONS PROVIDE A 90-DEGREE WALL BRACKET, FEDERAL SIGNAL MODEL LWMB1.
3. AT EXTERIOR LOCATION, THE AVA SHALL BE MOUNTED WITH THE TOP OF LENS UP VERTICALLY.
4. MOUNT PER MANUFACTURERS INSTRUCTIONS FOR WEATHERPROOF INSTALLATION.

B AVA (AUDIO/VISUAL ANNUNCIATOR) MOUNTING REQUIREMENTS AT EXTERIOR WALL LOCATIONS

1 Typical Details ACS Typical: Detail 01A

SET No. 1B			
SET DESCRIPTION: Electronic Key Box, with 20 Captive Positions and selective electronic release. Card reader wired to key box is dedicated to the key box, and is independent of the Software House C-Cure facility access control system (ACS)			
ITEMS			QUANTITY
20-Position Electronic Captive Key Box	Traka	Model Pro M Part No. KD-9-00006	1
Card Reader (Mullion)	HID	20NKS-03-0086UQ w/Elite Keys (ICE0052)	1

01B CARD READER INTERFACES WITH TRAKA CONTROL INSTALLATION.



2 Typical Details ACS Typical: Detail 01B

ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

PERMIT TO PRACTICE

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Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

Title:
Typical Details ACS Typical
Detail 01

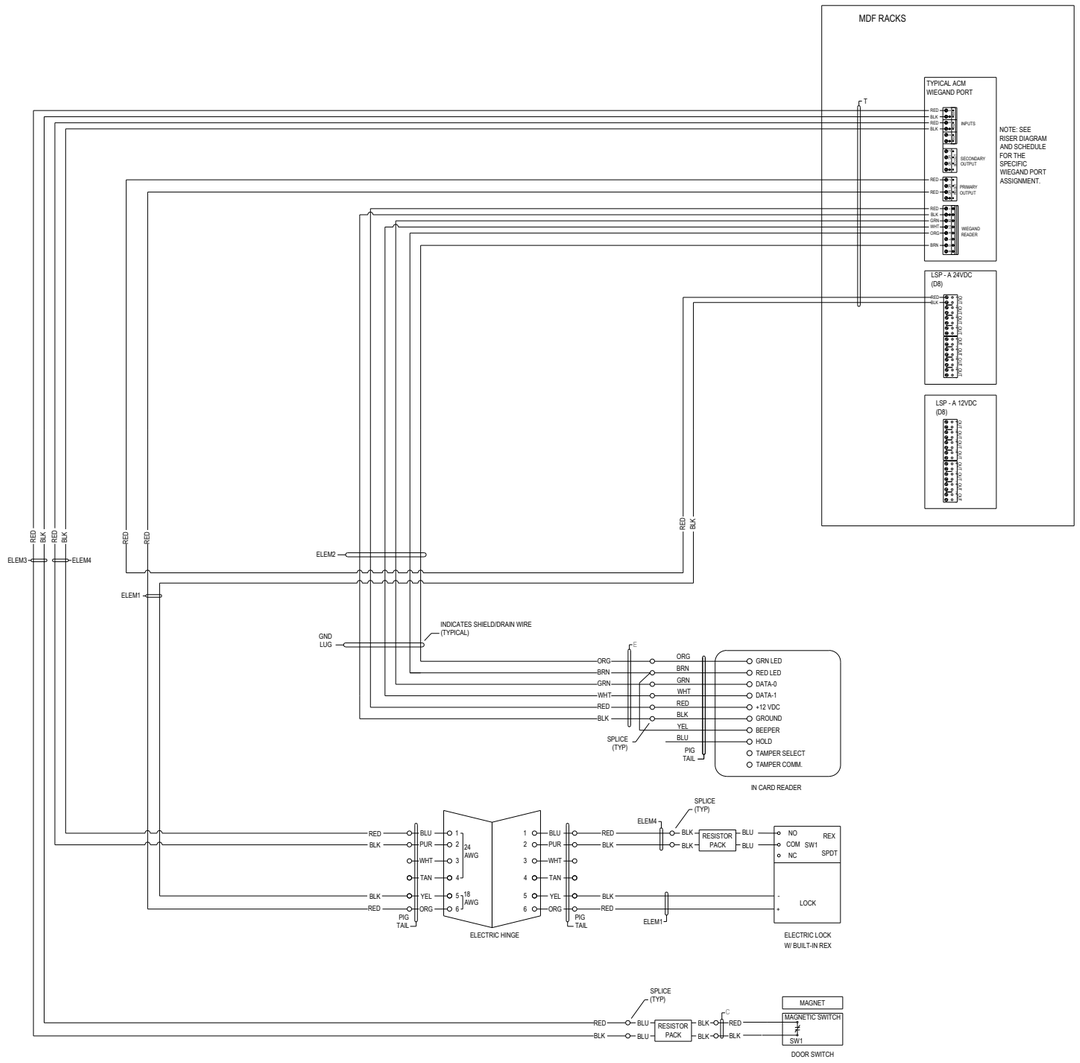
Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T3-001

SET No. 02			
SET DESCRIPTION: Single Door, Card Reader on non-secure (pull) side unlocks Fail-Secure Electric Mortise Leverset with internal REX.			
ENCLOSURE ITEMS			QUANTITY
12" X 12" X 4" Screw Cover Pull Box	generic	generic NEMA-1	1
NON_ENCLOSURE ITEMS			
Card Reader	HID	40NKS-03-0086UQ w/Elite Keys (ICE3052)	1
Door Position Contact Switch	Magnasphere	MSS-301C-WG-GO	1
Power Transfer	Roton	TBD	1
End-of-line Resistor Pack	QRI	6644-1	2
Electric Mortise Leverset, 24V DC Fail-Secure, with Internal REX Switch	Sargent / Schlarge, TBD	TBD	1
There is an AVA located on the Non-Secure Side			☐
There is an AVA located on the Secure Side			☐
There is a Camera dedicated to the credential reader on the Non-Secure Side			■
There is a Camera dedicated to the credential reader on the Secure Side			☐



CABLE TYPES:

	DESCRIPTION	USE	SPECIFIC TYPE
A	#14/2 UNSHIELDED, 19 STRAND, ORANGE JACKET*, PLENUM	LOCK 24VDC POWER AND AVA POWER. INTERIOR.	BELDEN 6100UE OR WCW 7679640
B	#22 2-PAIR, LOW-CAPACITANCE RS-485, SHIELDED, 7 STRAND, ORANGE JACKET*, PLENUM	RS-485 DATA, KEYPAD OSDP. CAPACITANCE SHALL BE LESS THAN 16PF PER FOOT. INTERIOR.	WCW-4151110-40OSDP
C	#22/2 UNSHIELDED, 7 STRAND, PLENUM	DPS CONTACTS, LOCK REX SIGNAL. INTERIOR.	BELDEN 6500UE OR WCW 4443640
D	#18/2, UNSHIELDED, 7 STRAND, PLENUM	LOCK POWER, AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 4423640
E	#20, 3-PAIR, SHIELDED, 7 STRAND, PLENUM	CARD READER: POWER, WIEGAND, SIGNALS. INTERIOR.	WCW 4443514-40
F	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, ORANGE JACKET* FOR SECURITY ACCESS CONTROL SYSTEM APPLICATION	BIO READERS, TRAKA INTERIOR.	WCW 5566040
Q	#18/4 SHIELDED, 7 STRAND, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR CARD READER, DIRECT-BURIAL AUDIO 70V PUBLIC ADDRESS LOUDSPEAKER	BELDEN 5302F1
R	1-PAIR #20 to #24 SHIELDED 7 STRAND LOW CAP TINNED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR ENCLOSURE TAMPER SWITCH	BELDEN 9815 OR WCW 042007DB
S	#23 4-PAIR, UNSHIELDED, SOLID, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL CAMERA VIDEO, DIRECT-BURIAL INTERCOM, DIRECT-BURIAL PoE APPLICATIONS	BELDEN 2143A
T	COMPOSITE CABLE, (ELEM1) 4/C #18, (ELEM2) 3 PR. #22, (ELEM3) 2/C # 22 AND (ELEM4) 4/C #22	DOOR CONNECTIONS TO MDF MOUNTED ACMS	WCW 4461030
Z	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, YELLOW JACKET** FOR SECURITY VIDEO SYSTEM APPLICATION	CAMERA VIDEO AND PoE	WCW 5566030

* ALL CABLES PROVIDED AND INSTALLED FOR ACCESS CONTROL SYSTEM USE ARE TO HAVE A COLOR ORANGE OUTER JACKET; SPECIAL ORDER
** ALL CABLES PROVIDED AND INSTALLED FOR VIDEO SYSTEM USE ARE TO HAVE A COLOR YELLOW OUTER JACKET

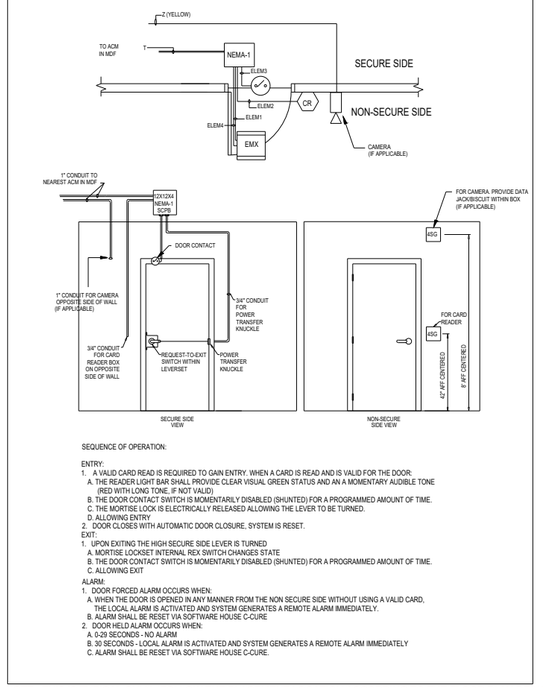
LOCAL AUDIBLE/VISUAL ALARMS (AVA's) PROGRAMMING REQUIREMENTS:

1. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "DOOR FORCED" CONDITIONS AS FOLLOWS:
   A. LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.
2. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "PERSON DOOR HELD" CONDITIONS AS FOLLOWS:
   A. 0-29 SECONDS - NO ALARM
   B. 30 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   C. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

SECURITY NOTES:

1. FOR CAMERAS LOCATED AT DOORS, PLACE CAMERA AT 8' AFF ABOVE CARD READER.
2. CAMERAS SHOWN ON DOOR DETAILS ARE TO BE AIMED TO VIEW PERSON TAPPING CARD READER.
3. COORDINATE ROUGH-IN WITH DOOR HARDWARE CONTRACTOR.

02 CARD READER ON NON SECURE SIDE. ELECTRIC MORTISE LEVERSET, FAIL SECURE, AND INTERNAL REX SWITCH OPTION. DOOR POSITION CONTACT SWITCH IN DOOR FRAME. SECURE SIDE LEVER FREE FOR EGRESS.



SEQUENCE OF OPERATION:

ENTRY:
1. A VALID CARD READ IS REQUIRED TO GAIN ENTRY. WHEN A CARD IS READ AND IS VALID FOR THE DOOR:
   A. THE READER LIGHT BAR SHALL PROVIDE CLEAR VISUAL GREEN STATUS AND AN A MOMENTARY AUDIBLE TONE (RED WITH LONG TONE, IF NOT VALID)
   B. THE DOOR CONTACT SWITCH IS MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
   C. THE MORTISE LOCK IS ELECTRICALLY RELEASED ALLOWING THE LEVER TO BE TURNED.
   D. ALLOWING ENTRY
2. DOOR CLOSES WITH AUTOMATIC DOOR CLOSURE, SYSTEM IS RESET.

EXIT:
1. UPON EXITING THE HIGH SECURE SIDE LEVER IS TURNED
   A. MORTISE LOCKSET INTERNAL REX SWITCH CHANGES STATE
   B. THE DOOR CONTACT SWITCH IS MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
   C. ALLOWING EXIT

ALARM:
1. DOOR FORCED ALARM OCCURS WHEN:
   A. WHEN THE DOOR IS OPENED IN ANY MANNER FROM THE NON SECURE SIDE WITHOUT USING A VALID CARD, THE LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY.
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE
2. DOOR HELD ALARM OCCURS WHEN:
   A. 0-29 SECONDS - NO ALARM
   B. 30 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   C. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

NOTE: THIS IS TYPICAL ONLY. FOLLOW THE PLACEMENT LOCATION ACCORDING TO THE FLOOR PLAN DRAWING.

ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

1 Typical Details ACS Typical: Detail 02

CUSTOMER:

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP | PERMIT TO PRACTICE

Drawing Review Status:
- ☐ A - Approved
- ☐ B - Approved with comments
- ☐ C - Revise and resubmit
- ☐ D - Reviewed
- ☐ E - Rejected

Reviewer: | Date:

Drawing Issue Status: ISSUED FOR BID

Job Number

Project:
Client: THE CLIENT
Project: HUB AHEAD 4.0A (CLIENT OCCUPIED)
Location: MULTIPLE LOCATIONS

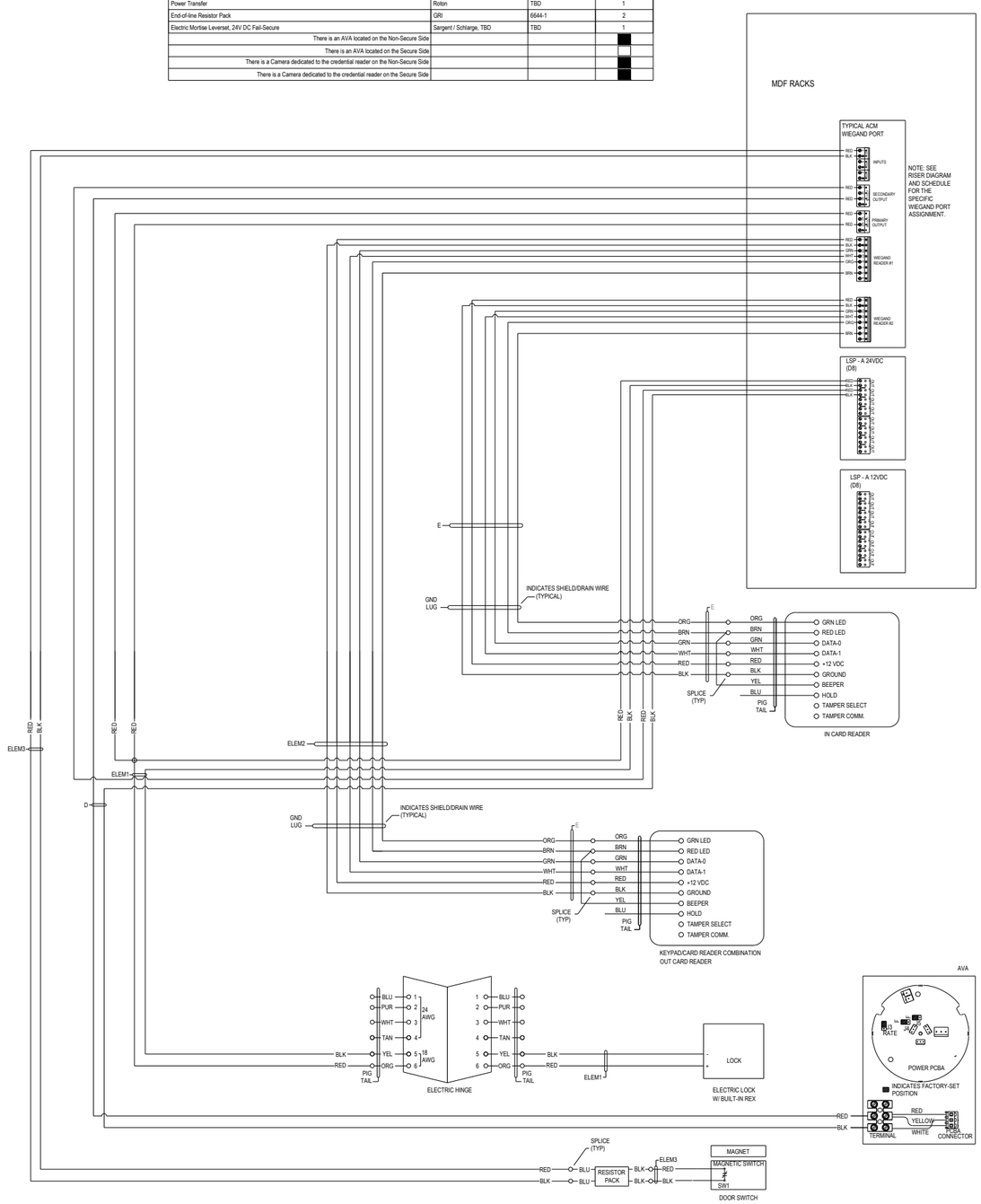
Title: Typical Details ACS Typical Detail 02

Scale @ ArchB: NTS | Revision: 2

External Reference:

Drawing Number: T3-002

SET No. 03			
SET DESCRIPTION: Single Door, Keypad/Card Reader on non-secure (pull) side unlocks, Card Reader on the secure side, AVA, Fail-Secure Electric Mortise Leverset.			
ENCLOSURE ITEMS			QUANTITY
12" X 12" X 4" Screw Cover Pull Box	generic	generic NEMA-1	1
NON_ENCLOSURE ITEMS			
Keypad / Card Reader Combination	HID	40KNKS-03-0086UQ w/Elite Keys (ICE0052)	1
Card Reader	HID	40NKS-03-0086UQ w/Elite Keys (ICE0052)	1
Audio-Visual Annunciator (AVA)	Federal Signal	AV1-LED-024A	1
Door Position Contact Switch	Magnasphere	HSS-L2C-101-GO	1
Power Transfer	Roton	TBD	1
End-of-line Resistor Pack	GRI	6644-1	2
Electric Mortise Leverset, 24V DC Fail-Secure	Sargent / Schlarge, TBD	TBD	1
There is an AVA located on the Non-Secure Side			
There is an AVA located on the Secure Side			
There is a Camera dedicated to the credential reader on the Non-Secure Side			
There is a Camera dedicated to the credential reader on the Secure Side			



1 Typical Details ACS Typical: Detail 03

CABLE TYPES:

	DESCRIPTION	USE	SPECIFIC TYPE
A	#14/2 UNSHIELDED, 19 STRAND, ORANGE JACKET*, PLENUM	LOCK 24VDC POWER AND AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 7679640
B	#22 2-PAIR, LOW-CAPACITANCE RS-485, SHIELDED, 7 STRAND, ORANGE JACKET*, PLENUM	RS-485 DATA, KEYPAD OSDP. CAPACITANCE SHALL BE LESS THAN 16PF PER FOOT. INTERIOR.	WCW-415110-40OSDP
C	#22/2 UNSHIELDED, 7 STRAND, PLENUM	DPS CONTACTS, LOCK REX SIGNAL. INTERIOR.	BELDEN 6500UE OR WCW 4443640
D	#18/2, UNSHIELDED, 7 STRAND, PLENUM	LOCK POWER, AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 4423640
E	#20, 3-PAIR, SHIELDED, 7 STRAND, PLENUM	CARD READER: POWER, WIEGAND, SIGNALS. INTERIOR.	WCW 444351-40
F	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, ORANGE JACKET* FOR SECURITY ACCESS CONTROL SYSTEM APPLICATION	BIO READERS, TRAKA. INTERIOR.	WCW 5566040
Q	#18/4 SHIELDED, 7 STRAND, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR CARD READER, DIRECT-BURIAL AUDIO 70V PUBLIC ADDRESS LOUDSPEAKER	BELDEN 5302F1
R	1-PAIR #20 to #24 SHIELDED 7 STRAND LOW CAP TINNED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR ENCLOSURE TAMPER SWITCH	BELDEN 9815 OR WCW 042007DB
S	#23 4-PAIR, UNSHIELDED, SOLID, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL CAMERA VIDEO, DIRECT-BURIAL INTERCOM. DIRECT-BURIAL PoE APPLICATIONS	BELDEN 2143A
T	COMPOSITE CABLE, (ELEM1) 4/C #18, (ELEM2) 3 PR. #22, (ELEM3) 2/C # 22 AND (ELEM4) 4/C #22	DOOR CONNECTIONS TO MDF MOUNTED ACMS	WCW 4461030
Z	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, YELLOW JACKET** FOR SECURITY VIDEO SYSTEM APPLICATION	CAMERA VIDEO AND PoE	WCW 5566030

* ALL CABLES PROVIDED AND INSTALLED FOR ACCESS CONTROL SYSTEM USE ARE TO HAVE A COLOR ORANGE OUTER JACKET; SPECIAL ORDER
** ALL CABLES PROVIDED AND INSTALLED FOR VIDEO SYSTEM USE ARE TO HAVE A COLOR YELLOW OUTER JACKET

LOCAL AUDIBLE/VISUAL ALARMS (AVA's) PROGRAMMING REQUIREMENTS:

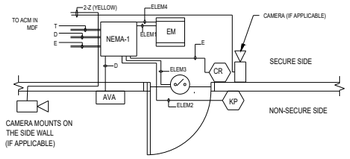
1. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "DOOR FORCED" CONDITIONS AS FOLLOWS:
   A. LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

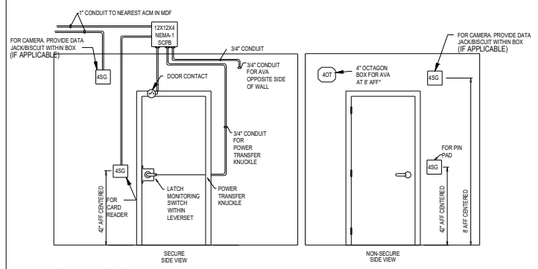
2. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "PERSON DOOR HELD" CONDITIONS AS FOLLOWS:
   A. 0-29 SECONDS - NO ALARM
   B. 30 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   C. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

SECURITY NOTES:

1. FOR CAMERAS LOCATED AT DOORS, PLACE CAMERA AT 8' AFF ABOVE CARD READER.
2. CAMERAS SHOWN ON DOOR DETAILS ARE TO BE AIMED TO VIEW PERSON TAPPING CARD READER.
3. COORDINATE ROUGH-IN WITH DOOR HARDWARE CONTRACTOR.

03 PIN PAD WITH INTEGRATED CARD READER ON NON-SECURE SIDE AND CARD READER ON SECURE SIDE OF DOORWAY. MORTISE LEVERSET, FAIL-SECURE AND LATCH-BOLT MONITORING SWITCH OPTION. DOOR POSITION CONTACT SWITCH IN DOOR FRAME. LOCAL AUDIBLE/VISUAL ALARM (AVA), WITH RIM HDW AND CYLINDER.





SEQUENCE OF OPERATION:

ENTRY:
1. A VALID CARD READ AND A PIN CODE IS REQUIRED TO GAIN ENTRY. WHEN A CARD IS READ AND PIN CODE IS VALID FOR THE DOOR:
 A. THE READER LIGHT BAR SHALL PROVIDE CLEAR VISUAL GREEN STATUS AND AN A MOMENTARY AUDIBLE TONE (RED WITH LONG TONE, IF NOT VALID)
 B. THE DOOR CONTACT SWITCH AND LATCH-BOLT MONITORING SWITCH ARE MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
 C. THE MORTISE LOCK IS ELECTRICALLY RELEASED ALLOWING THE LEVER TO BE TURNED.
 D. ALLOWING ENTRY
2. DOOR CLOSES WITH AUTOMATIC DOOR CLOSURE, SYSTEM IS RESET.

EXIT:
1. A VALID CARD READ IS REQUIRED TO EXIT. WHEN A CARD IS READ AND IS VALID FOR THE DOOR:
 A. THE READER LIGHT BAR SHALL PROVIDE CLEAR VISUAL GREEN STATUS AND AN A MOMENTARY AUDIBLE TONE (RED WITH LONG TONE, IF NOT VALID)
 B. THE DOOR CONTACT SWITCH AND LATCH-BOLT MONITORING SWITCH ARE MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
 C. THE MORTISE LOCK IS ELECTRICALLY RELEASED ALLOWING THE LEVER TO BE TURNED.
2. USING THE EXIT CARD READER ALSO LOGS THE PERSON OUT.
3. TURNING THE SECURE SIDE LEVER WILL ALLOW IMMEDIATE EXIT, BUT WILL TRIGGER AN ALARM EVENT.

ALARM:
1. DOOR FORCED ALARM OCCURS WHEN:
 A. WHEN THE DOOR IS OPENED IN ANY MANNER FROM THE NON SECURE SIDE WITHOUT USING A VALID CARD, THE LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY.
 B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE
2. DOOR HELD ALARM OCCURS WHEN:
 A. 0-29 SECONDS - NO ALARM
 B. 30 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
 C. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

NOTE: "REFER TO 1A-SC-510 DETAIL 1 FOR AVA MOUNTING. REQUIREMENTS AT EXTERIOR AND INTERIOR WALL LOCATIONS.

NOTE: THIS IS TYPICAL ONLY. FOLLOW THE PLACEMENT LOCATION ACCORDING TO THE FLOOR PLAN DRAWING.

ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

CUSTOMER:

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- A - Approved
- B - Approved with comments
- C - Revise and resubmit
- D - Reviewed
- E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

Title:
Typical Details ACS Typical
Detail 03

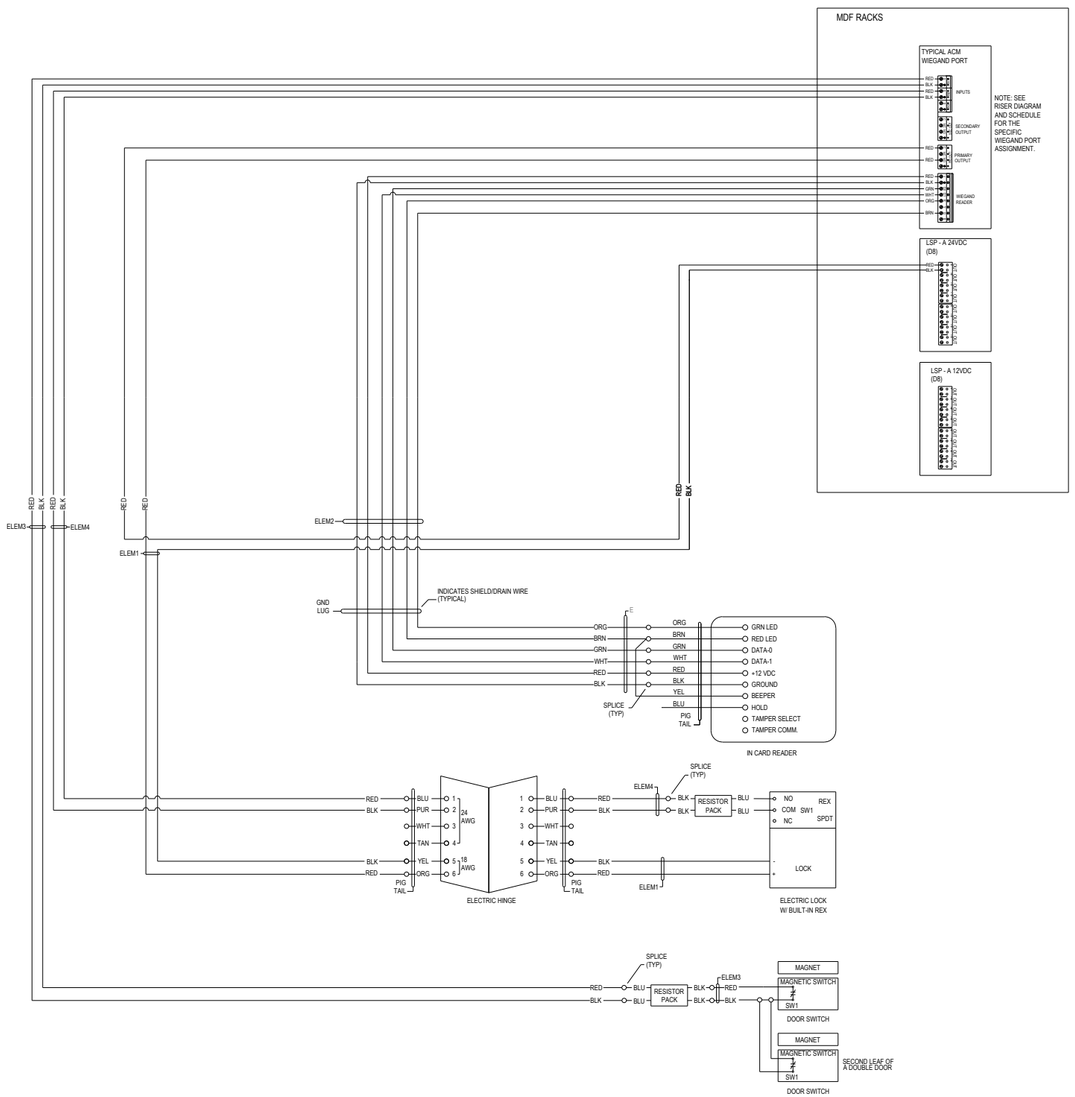
Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T3-003

SET No. 04			
SET DESCRIPTION: Single Door, Card Reader on non-secure (pull) side unlocks Electric Trim. Panic Exit Device with internal REX on secure side.			
ENCLOSURE ITEMS			QUANTITY
12" X 12" X 4" Screw Cover Pull Box	generic	generic NEMA-1	1
NON_ENCLOSURE ITEMS			
Card Reader	HID	40NKS-03-0086UQ w/Elite Keys (ICE0052)	1
Door Position Contact Switch	Magnasphere	MSS-301C-WG-GO	1
Power Transfer	Roton	TBD	1
End-of-line Resistor Pack	GRI	6644-1	2
Panic Exit Device, with exterior 24VDC Electric Trim, with Internal REX switch	Sargent / Von Duprin, TBD	TBD	1
There is an AVA located on the Non-Secure Side			☐
There is an AVA located on the Secure Side			☐
There is a Camera dedicated to the credential reader on the Non-Secure Side			■
There is a Camera dedicated to the credential reader on the Secure Side			☐



CABLE TYPES:

	DESCRIPTION	USE	SPECIFIC TYPE
A	#14/2 UNSHIELDED, 19 STRAND, ORANGE JACKET*, PLENUM	LOCK 24VDC POWER AND AVA POWER. INTERIOR.	BELDEN 5100UE OR WCW 7679640
B	#22 2-PAIR, LOW-CAPACITANCE RS-485, SHIELDED, 7 STRAND, ORANGE JACKET*, PLENUM	RS-485 DATA, KEYPAD OSDP; CAPACITANCE SHALL BE LESS THAN 16PI PER FOOT. INTERIOR.	WCW-415110-40OSDP
C	#22/2 UNSHIELDED, 7 STRAND, PLENUM	DPS CONTACTS, LOCK REX SIGNAL. INTERIOR.	BELDEN 6500UE OR WCW 4443640
D	#18/2, UNSHIELDED, 7 STRAND, PLENUM	LOCK POWER, AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 4423640
E	#20, 3-PAIR, SHIELDED, 7 STRAND, PLENUM	CARD READER: POWER, WIEGAND, SIGNALS. INTERIOR.	WCW 4443514-40
F	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, ORANGE JACKET* FOR SECURITY ACCESS CONTROL SYSTEM APPLICATION	BIO READERS, TRAKA INTERIOR.	WCW 5566040
Q	#18/4 SHIELDED, 7 STRAND, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR CARD READER, DIRECT-BURIAL AUDIO 70V PUBLIC ADDRESS LOUDSPEAKER	BELDEN 5302F1
R	1-PAIR #20 to #24 SHIELDED 7 STRAND LOW CAP TINNED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR ENCLOSURE TAMPER SWITCH	BELDEN 9815 OR WCW 042007DB
S	#23 4-PAIR, UNSHIELDED, SOLID, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL CAMERA VIDEO, DIRECT-BURIAL INTERCOM, DIRECT-BURIAL PoE APPLICATIONS	BELDEN 2143A
T	COMPOSITE CABLE, (ELEM1) 4/C #18, (ELEM2) 3 PR. #22, (ELEM3) 2/C # 22 AND (ELEM4) 4/C #22	DOOR CONNECTIONS TO MDF MOUNTED ACMS	WCW 4461030
Z	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, YELLOW JACKET** FOR SECURITY VIDEO SYSTEM APPLICATION	CAMERA VIDEO AND PoE	WCW 5566030

* ALL CABLES PROVIDED AND INSTALLED FOR ACCESS CONTROL SYSTEM USE ARE TO HAVE A COLOR ORANGE OUTER JACKET; SPECIAL ORDER
** ALL CABLES PROVIDED AND INSTALLED FOR VIDEO SYSTEM USE ARE TO HAVE A COLOR YELLOW OUTER JACKET

LOCAL AUDIBLE/VISUAL ALARMS (AVA's) PROGRAMMING REQUIREMENTS:

1. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "DOOR FORCED" CONDITIONS AS FOLLOWS:
   A. LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

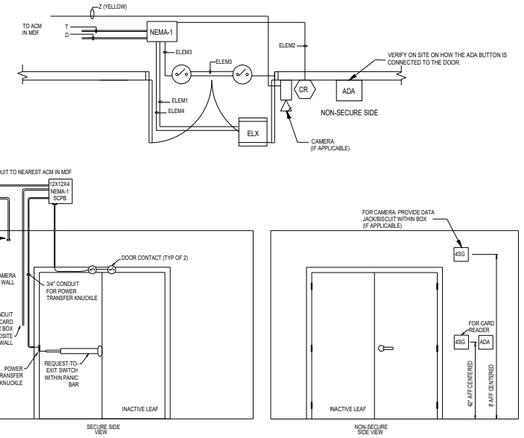
2. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "PERSON DOOR HELD" CONDITIONS AS FOLLOWS:
   A. 0-29 SECONDS - NO ALARM
   B. 30 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   C. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

SECURITY NOTES:

1. FOR CAMERAS LOCATED AT DOORS, PLACE CAMERA AT 8' AFF ABOVE CARD READER.
2. CAMERAS SHOWN ON DOOR DETAILS ARE TO BE AIMED TO VIEW PERSON TAPPING CARD READER.
3. COORDINATE ROUGH-IN WITH DOOR HARDWARE CONTRACTOR.

04

CARD READER ON NON SECURE SIDE. PANIC HARDWARE EXIT DEVICE WITH FAIL-SECURE ELECTRIC TRIM AND REX SWITCH OPTION ON ONE LEAF ONLY (ACTIVE LEAF ON 2-LEAF DOORWAYS). AUTOMATIC FLUSH BOLTS ON THE INACTIVE LEAF OF 2-LEAF DOORWAYS. PROVIDE A DOOR CONTACT POSITION SWITCH IN THE DOOR FRAME FOR EACH DOOR LEAF.



SEQUENCE OF OPERATION:

ENTRY:
1. A VALID CARD READ IS REQUIRED TO GAIN ENTRY. WHEN A CARD IS READ AND IS VALID FOR THE DOOR:
   A. THE READER LIGHT BAR SHALL PROVIDE CLEAR VISUAL GREEN STATUS AND AN A MOMENTARY AUDIBLE TONE (RED WITH LONG TONE. IF NOT VALID)
   B. THE DOOR CONTACT SWITCH IS MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
   C. THE PANIC LATCH IS ELECTRICALLY OPENED ALLOWING THE DOOR TO BE PULLED OPEN ALLOWING ENTRY.
2. DOOR CLOSES WITH AUTOMATIC DOOR CLOSURE, SYSTEM IS RESET.

EXIT :
1. UPON EXITING THE HIGH SECURE SIDE THE PUSH BAR IS PRESSED
   A. PANIC HARDWARE INTERNAL REX SWITCH CHANGES STATE
   B. THE DOOR CONTACT SWITCH IS MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
   C. ALLOWING EXIT

ALARM:
1. DOOR FORCED ALARM OCCURS WHEN:
   A. WHEN THE DOOR IS OPENED IN ANY MANNER FROM THE NON SECURE SIDE WITHOUT USING A VALID CARD, THE LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY.
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE
2. DOOR HELD ALARM OCCURS WHEN:
   A. 0-29 SECONDS - NO ALARM
   B. 30 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   C. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE

NOTE: THIS IS TYPICAL ONLY. FOLLOW THE PLACEMENT LOCATION ACCORDING TO THE FLOOR PLAN DRAWING.

1 Typical Details ACS Typical: Detail 04

ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

CUSTOMER:

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP | PERMIT TO PRACTICE

Drawing Review Status:
- ☐ A - Approved
- ☐ B - Approved with comments
- ☐ C - Revise and resubmit
- ☐ D - Reviewed
- ☐ E - Rejected

Reviewer: | Date:

Drawing Issue Status: ISSUED FOR BID

Job Number

Project:
Client: THE CLIENT
Project: HUB AHEAD 4.0A (CLIENT OCCUPIED)
Location: MULTIPLE LOCATIONS

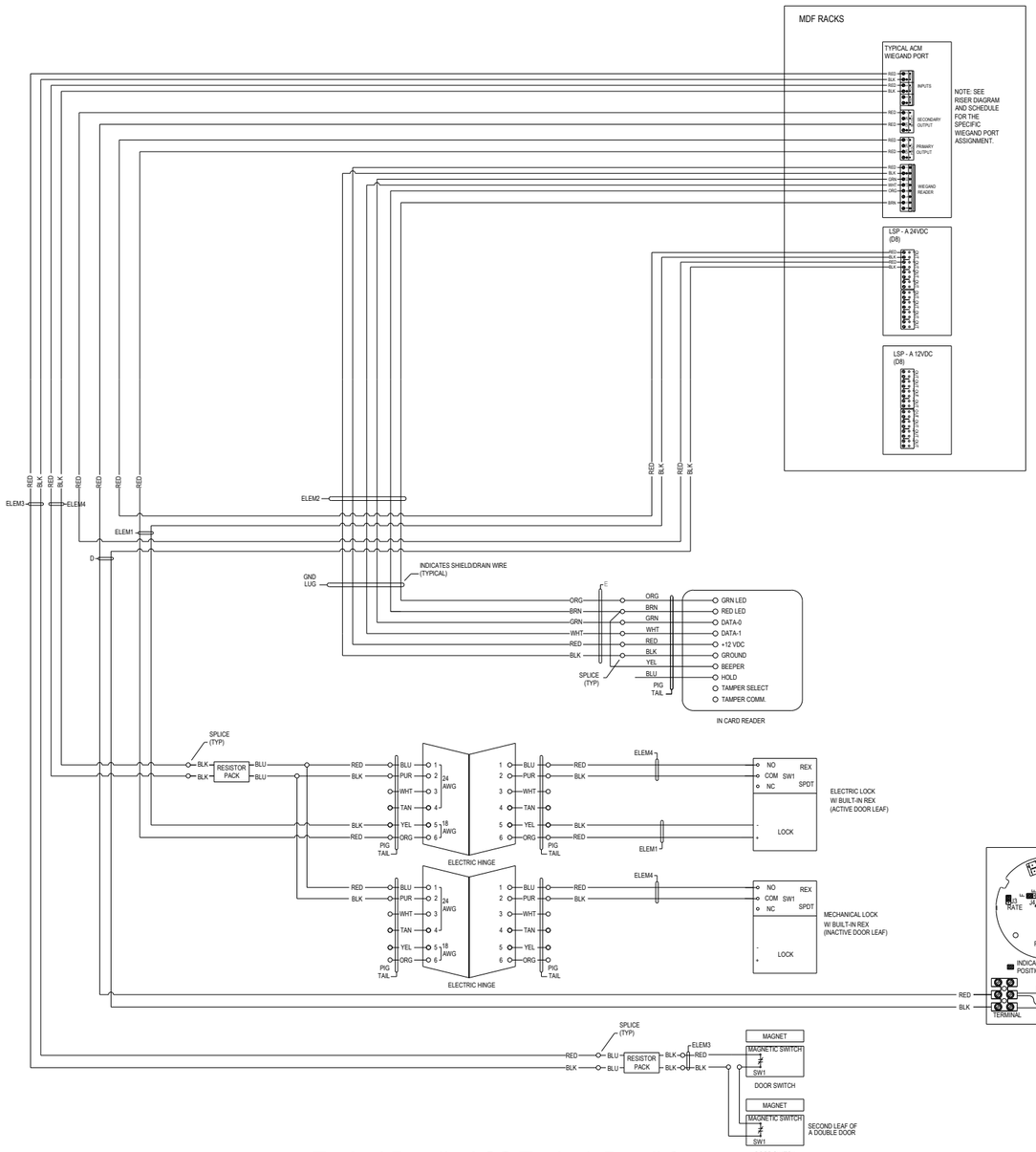
Title: Typical Details ACS Typical Detail 04

Scale @ ArchB: NTS | Revision: 2

External Reference:

Drawing Number: T3-004

SET No. 05			
SET DESCRIPTION: Single Door, Card Reader on non-secure (pull) side unlocks AVA, Panic Exit Device with internal REX.			
ENCLOSURE ITEMS			QUANTITY
12" X 12" X 4" Screw Cover Pull Box	generic	generic NEMA-1	1
NON_ENCLOSURE ITEMS			
Card Reader	HID	40NKS-03-0086UQ w/Elite Keys (ICE0052)	1
Door Position Contact Switch	Magnasphere	MSS-301C-WG-GO	2
Audio-Visual Annunciator (AVA)	Federal Signal	AV1-LED-024A	1
Power Transfer	Roton	TBD	1
End-of-line Resistor Pack	GRI	6644-1	2
Panic Exit Device, with exterior 24VDC Electric Trim, with Internal REX switch	Sargent / Von Duprin, TBD	TBD	1
There is an AVA located on the Non-Secure Side			■
There is an AVA located on the Secure Side			□
There is a Camera dedicated to the credential reader on the Non-Secure Side			■
There is a Camera dedicated to the credential reader on the Secure Side			□



1 Typical Details ACS Typical: Detail 05

CABLE TYPES:

	DESCRIPTION	USE	SPECIFIC TYPE
A	#14/2 UNSHIELDED, 19 STRAND, ORANGE JACKET*, PLENUM	LOCK 24VDC POWER AND AVA POWER. INTERIOR.	BELDEN 6100UE OR WCW 7679640
B	#22 2-PAIR, LOW-CAPACITANCE RS-485, SHIELDED, 7 STRAND, ORANGE JACKET*, PLENUM	RS-485 DATA, KEYPAD OSDP. CAPACITANCE SHALL BE LESS THAN 16PF PER FOOT. INTERIOR.	WCW-415110-40OSDP
C	#22/2UNSHIELDED, 7 STRAND, PLENUM	DPS CONTACTS, LOCK REX SIGNAL. INTERIOR.	BELDEN 6500UE OR WCW 4443640
D	#18/2, UNSHIELDED, 7 STRAND, PLENUM	LOCK POWER, AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 4423640
E	#20, 3-PAIR, SHIELDED, 7 STRAND, PLENUM	CARD READER: POWER, WIEGAND, SIGNALS. INTERIOR.	WCW 443351-40
F	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, ORANGE JACKET* FOR SECURITY ACCESS CONTROL SYSTEM APPLICATION	BIO READERS, TRAKA INTERIOR.	WCW 5566040
Q	#18/4 SHIELDED, 7 STRAND, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR CARD READER, DIRECT-BURIAL AUDIO 70V PUBLIC ADDRESS LOUDSPEAKER	BELDEN 5302F1
R	1-PAIR #20 to #24 SHIELDED 7 STRAND LOW CAP TINNED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR ENCLOSURE TAMPER SWITCH	BELDEN 9815 OR WCW 042007DB
S	#23 4-PAIR, UNSHIELDED, SOLID, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL CAMERA VIDEO, DIRECT-BURIAL INTERCOM. DIRECT-BURIAL PoE APPLICATIONS	BELDEN 2143A
T	COMPOSITE CABLE. (ELEM1) 4/C #18, (ELEM2) 3 PR. #22, (ELEM3) 2/C # 22 AND (ELEM4) 4/C #22	DOOR CONNECTIONS TO MDF MOUNTED ACMS	WCW 4461030
Z	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, YELLOW JACKET** FOR SECURITY VIDEO SYSTEM APPLICATION	CAMERA VIDEO AND PoE	WCW 5566030

* ALL CABLES PROVIDED AND INSTALLED FOR ACCESS CONTROL SYSTEM USE ARE TO HAVE A COLOR ORANGE OUTER JACKET; SPECIAL ORDER
** ALL CABLES PROVIDED AND INSTALLED FOR VIDEO SYSTEM USE ARE TO HAVE A COLOR YELLOW OUTER JACKET

LOCAL AUDIBLE/VISUAL ALARMS (AVA's) PROGRAMMING REQUIREMENTS:

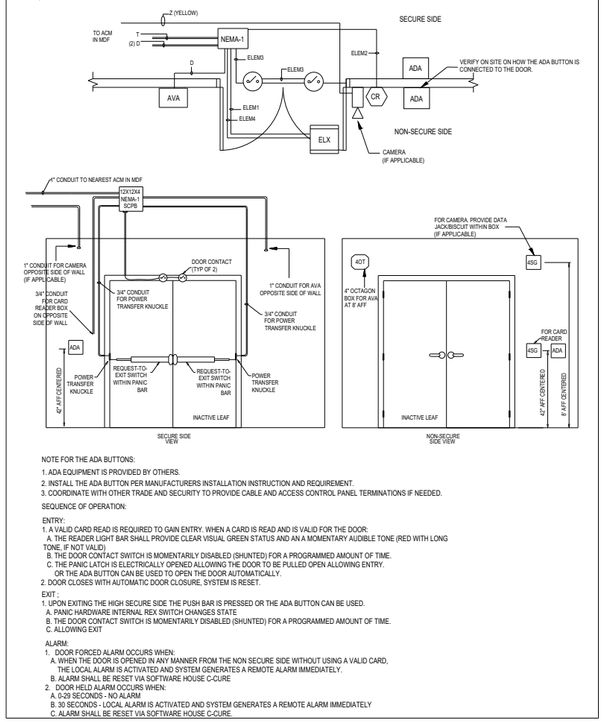
1. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "DOOR FORCED" CONDITIONS AS FOLLOWS:
   A. LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.
2. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "PERSON DOOR HELD" CONDITIONS AS FOLLOWS:
   A. 0-29 SECONDS - NO ALARM
   B. 30 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   C. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

SECURITY NOTES:

1. FOR CAMERAS LOCATED AT DOORS, PLACE CAMERA AT 8' AFF ABOVE CARD READER.
2. CAMERAS SHOWN ON DOOR DETAILS ARE TO BE AIMED TO VIEW PERSON TAPPING CARD READER.
3. COORDINATE ROUGH-IN WITH DOOR HARDWARE CONTRACTOR.

05

CARD READER ON NON SECURE SIDE. PANIC HARDWARE EXIT DEVICE WITH FAIL-SECURE ELECTRIC TRIM AND REX SWITCH OPTION ON ONE LEAF ONLY (ACTIVE LEAF ON 2-LEAF DOORWAYS). AUTOMATIC FLUSH BOLTS ON THE INACTIVE LEAF OF 2-LEAF DOORWAYS. PROVIDE A DOOR CONTACT POSITION SWITCH IN THE DOOR FRAME FOR EACH DOOR LEAF.



NOTE FOR THE ADA BUTTONS:

1. ADA EQUIPMENT IS PROVIDED BY OTHERS.
2. INSTALL THE ADA BUTTON PER MANUFACTURERS INSTALLATION INSTRUCTION AND REQUIREMENT.
3. COORDINATE WITH OTHER TRADE AND SECURITY TO PROVIDE CABLE AND ACCESS CONTROL PANEL TERMINATIONS IF NEEDED.

SEQUENCE OF OPERATION:

ENTRY:
1. A VALID CARD READ IS REQUIRED TO GAIN ENTRY. WHEN A CARD IS READ AND IS VALID FOR THE DOOR:
   A. THE READER LIGHT BAR SHALL PROVIDE CLEAR VISUAL GREEN STATUS AND AN A MOMENTARY AUDIBLE TONE (RED WITH LONG TONE, IF NOT VALID)
   B. THE DOOR CONTACT SWITCH IS MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
   C. THE PANIC LATCH IS ELECTRICALLY OPENED ALLOWING THE DOOR TO BE PULLED OPEN ALLOWING ENTRY. OR THE ADA BUTTON CAN BE USED TO OPEN THE DOOR AUTOMATICALLY.
2. DOOR CLOSES WITH AUTOMATIC DOOR CLOSURE, SYSTEM IS RESET.

EXIT :
1. UPON EXITING THE HIGH SECURE SIDE THE PUSH BAR IS PRESSED OR THE ADA BUTTON CAN BE USED.
   A. PANIC HARDWARE INTERNAL REX SWITCH CHANGES STATE
   B. THE DOOR CONTACT SWITCH IS MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
   C. ALLOWING EXIT

ALARM:
1. DOOR FORCED ALARM OCCURS WHEN:
   A. WHEN THE DOOR IS OPENED IN ANY MANNER FROM THE NON SECURE SIDE WITHOUT USING A VALID CARD, THE LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY.
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE
2. DOOR HELD ALARM OCCURS WHEN:
   A. 0-29 SECONDS - NO ALARM
   B. 30 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   C. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

NOTE: THIS IS TYPICAL ONLY. FOLLOW THE PLACEMENT LOCATION ACCORDING TO THE FLOOR PLAN DRAWING.

ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By: KD
Project Manager: AK
Project Engineer: KD

ENG. STAMP | PERMIT TO PRACTICE

Drawing Review Status:
- ☐ A - Approved
- ☐ B - Approved with comments
- ☐ C - Revise and resubmit
- ☐ D - Reviewed
- ☐ E - Rejected

Reviewer: | Date:

Drawing Issue Status: ISSUED FOR BID

Job Number

Project:
Client: THE CLIENT
Project: HUB AHEAD 4.0A (CLIENT OCCUPIED)
Location: MULTIPLE LOCATIONS

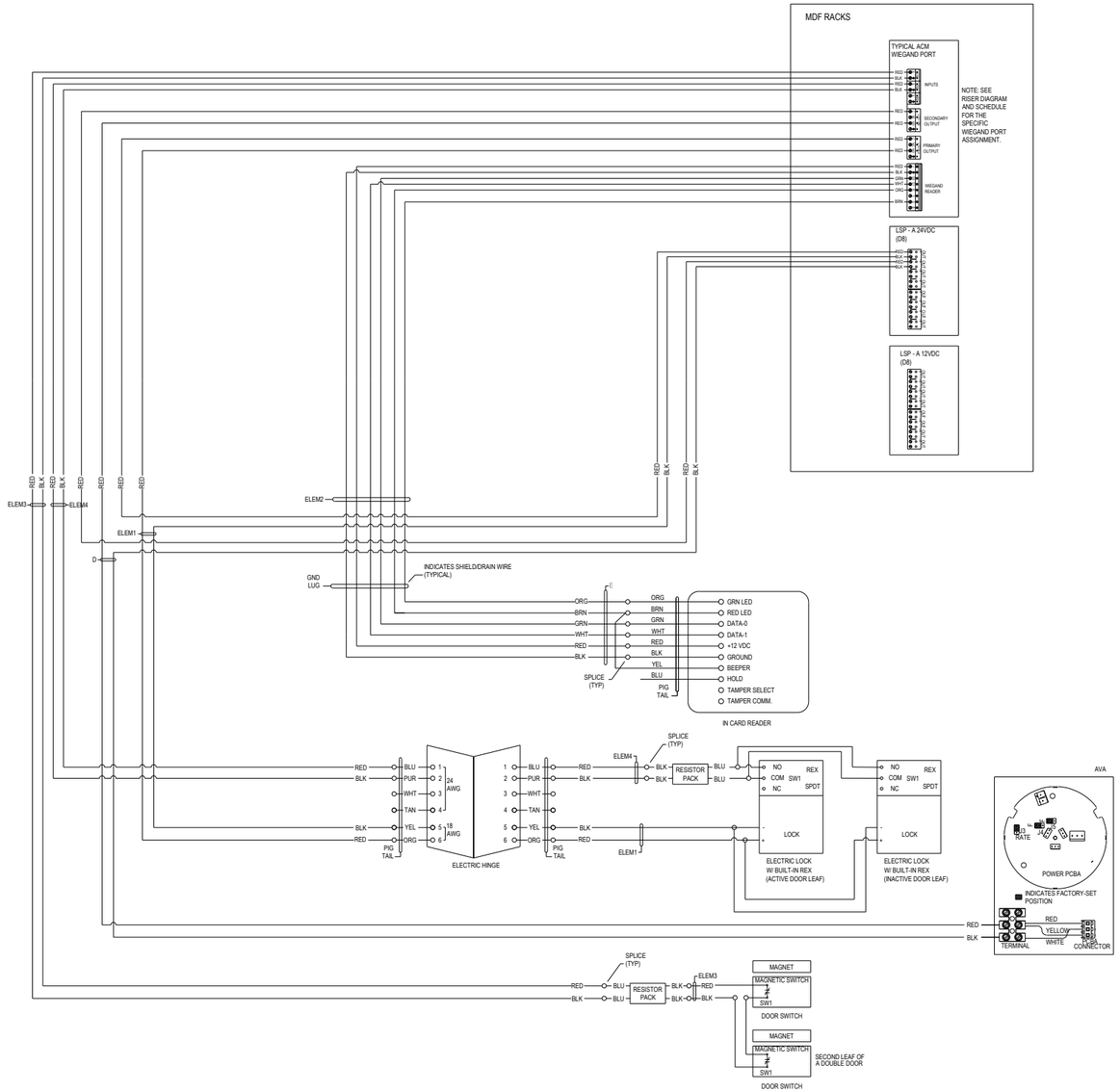
Title: Typical Details ACS Typical Detail 05

Scale @ ArchB: NTS | Revision: 2

External Reference:

Drawing Number: T3-005

SET No. 06			
SET DESCRIPTION: Single Door, Card Reader on non-secure (pull) side unlocks AVA, Panic Ext Device with internal REX.			
ENCLOSURE ITEMS			QUANTITY
12" X 12" X 4" Screw Cover Pull Box	generic	generic NEMA-1	1
NON_ENCLOSURE ITEMS			
Card Reader	HID	40NKS-03-0086UQ w/Elite Keys (ICE0052)	1
Door Position Contact Switch	Magnasphere	MSS-301C-WG-GO	2
Audio-Visual Annunciator (AVA)	Federal Signal	AV1-LED-024A	1
Power Transfer	Roton	TBD	1
End-of-line Resistor Pack	GRI	6644-1	2
Panic Exit Device, with exterior 24VDC Electric Trim, with Internal REX switch	Sargent / Von Duprin, TBD	TBD	1
There is an AVA located on the Non-Secure Side			■
There is an AVA located on the Secure Side			□
There is a Camera dedicated to the credential reader on the Non-Secure Side			■
There is a Camera dedicated to the credential reader on the Secure Side			□



1 Typical Details ACS Typical: Detail 06

CABLE TYPES:

	DESCRIPTION	USE	SPECIFIC TYPE
A	#14/2 UNSHIELDED, 19 STRAND, ORANGE JACKET*, PLENUM	LOCK 24VDC POWER AND AVA POWER. INTERIOR.	BELDEN 6100UE OR WCW 7679640
B	#22 2-PAIR, LOW-CAPACITANCE RS-485, SHIELDED, 7 STRAND, ORANGE JACKET*, PLENUM	RS-485 DATA, KEYPAD OSDP; CAPACITANCE SHALL BE LESS THAN 16PF PER FOOT. INTERIOR.	WCW-415110-40OSDP
C	#22/2 UNSHIELDED, 7 STRAND, PLENUM	DPS CONTACTS, LOCK REX SIGNAL. INTERIOR.	BELDEN 6500UE OR WCW 4443640
D	#18/2, UNSHIELDED, 7 STRAND, PLENUM	LOCK POWER; AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 4423640
E	#20, 3-PAIR, SHIELDED, 7 STRAND, PLENUM	CARD READER: POWER, WIEGAND, SIGNALS. INTERIOR.	WCW 444351-40
F	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, ORANGE JACKET* FOR SECURITY ACCESS CONTROL SYSTEM APPLICATION	BIO READERS, TRAKA. INTERIOR.	WCW 5566040
Q	#18/4 SHIELDED, 7 STRAND, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR CARD READER, DIRECT-BURIAL AUDIO 70V PUBLIC ADDRESS LOUDSPEAKER	BELDEN 5302F1
R	1-PAIR #20 to #24 SHIELDED 7 STRAND LOW CAP TINNED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR ENCLOSURE TAMPER SWITCH	BELDEN 9815 OR WCW 042007DB
S	#23 4-PAIR, UNSHIELDED, SOLID, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL CAMERA VIDEO, DIRECT-BURIAL INTERCOM. DIRECT-BURIAL PoE APPLICATIONS	BELDEN 2143A
T	COMPOSITE CABLE, (ELEM1) 4/C #18, (ELEM2) 3 PR. #22, (ELEM3) 2/C # 22 AND (ELEM4) 4/C #22	DOOR CONNECTIONS TO MDF MOUNTED ACMS	WCW 4461030
Z	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, YELLOW JACKET** FOR SECURITY VIDEO SYSTEM APPLICATION	CAMERA VIDEO AND PoE	WCW 5566030

* ALL CABLES PROVIDED AND INSTALLED FOR ACCESS CONTROL SYSTEM USE ARE TO HAVE A COLOR ORANGE OUTER JACKET; SPECIAL ORDER
** ALL CABLES PROVIDED AND INSTALLED FOR VIDEO SYSTEM USE ARE TO HAVE A COLOR YELLOW OUTER JACKET

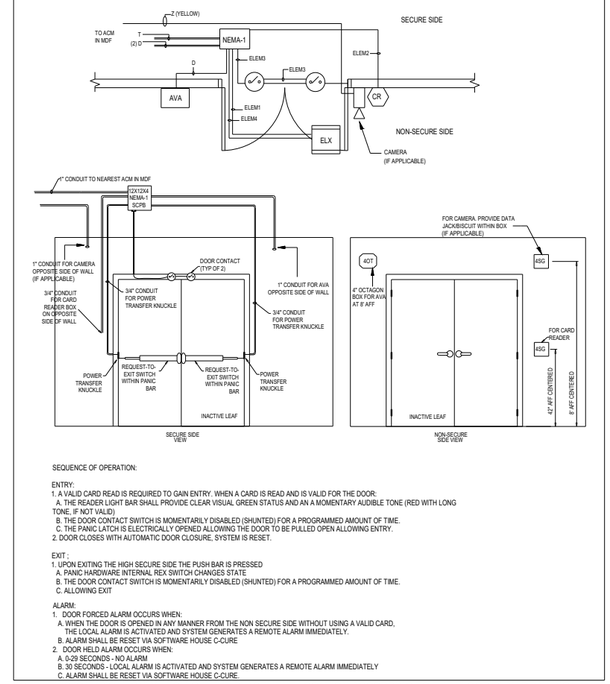
LOCAL AUDIBLE/VISUAL ALARMS (AVA's) PROGRAMMING REQUIREMENTS:

1. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "DOOR FORCED" CONDITIONS AS FOLLOWS:
   A. LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.
2. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "PERSON DOOR HELD" CONDITIONS AS FOLLOWS:
   A. 0-29 SECONDS - NO ALARM
   B. 30 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   C. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

SECURITY NOTES:

1. FOR CAMERAS LOCATED AT DOORS, PLACE CAMERA AT 8' AFF ABOVE CARD READER.
2. CAMERAS SHOWN ON DOOR DETAILS ARE TO BE AIMED TO VIEW PERSON TAPPING CARD READER.
3. COORDINATE ROUGH-IN WITH DOOR HARDWARE CONTRACTOR.

06 CARD READER ON NON SECURE SIDE. PANIC HARDWARE EXIT DEVICE WITH FAIL-SECURE ELECTRIC TRIM AND REX SWITCH OPTION ON ONE LEAF ONLY (ACTIVE LEAF ON 2-LEAF DOORWAYS). AUTOMATIC FLUSH BOLTS ON THE INACTIVE LEAF OF 2-LEAF DOORWAYS. PROVIDE A DOOR CONTACT POSITION SWITCH IN THE DOOR FRAME FOR EACH DOOR LEAF.



SEQUENCE OF OPERATION:

ENTRY:
1. A VALID CARD READ IS REQUIRED TO GAIN ENTRY. WHEN A CARD IS READ AND IS VALID FOR THE DOOR:
   A. THE READER LIGHT BAR SHALL PROVIDE CLEAR VISUAL GREEN STATUS AND AN A MOMENTARY AUDIBLE TONE (RED WITH LONG TONE, IF NOT VALID)
   B. THE DOOR CONTACT SWITCH IS MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
   C. THE PANIC LATCH IS ELECTRICALLY OPENED ALLOWING THE DOOR TO BE PULLED OPEN ALLOWING ENTRY.
2. DOOR CLOSES WITH AUTOMATIC DOOR CLOSURE. SYSTEM IS RESET.

EXIT :
1. UPON EXITING THE HIGH SECURE SIDE THE PUSH BAR IS PRESSED
   A. PANIC HARDWARE INTERNAL REX SWITCH CHANGES STATE
   B. THE DOOR CONTACT SWITCH IS MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
   C. ALLOWING EXIT

ALARM:
1. DOOR FORCED ALARM OCCURS WHEN:
   A. WHEN THE DOOR IS OPENED IN ANY MANNER FROM THE NON SECURE SIDE WITHOUT USING A VALID CARD, THE LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY.
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE
2. DOOR HELD ALARM OCCURS WHEN:
   A. 0-29 SECONDS - NO ALARM
   B. 30 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   C. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

NOTE: THIS IS TYPICAL ONLY. FOLLOW THE PLACEMENT LOCATION ACCORDING TO THE FLOOR PLAN DRAWING.

ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- ☐ A - Approved
- ☐ B - Approved with comments
- ☐ C - Revise and resubmit
- ☐ D - Reviewed
- ☐ E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

Title:
Typical Details ACS Typical
Detail 06

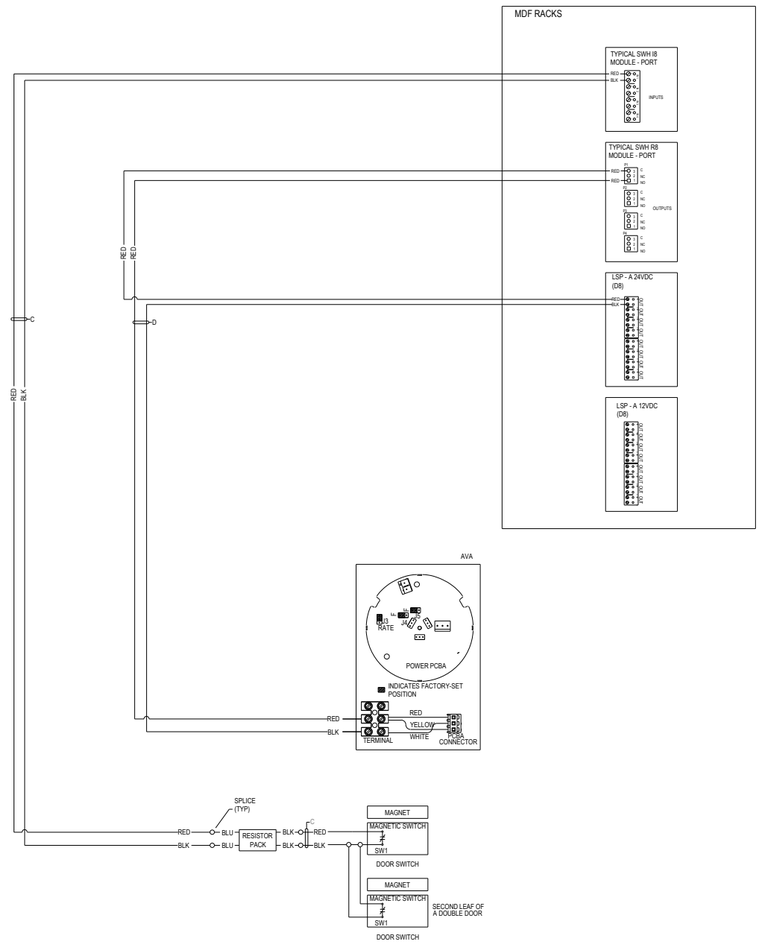
Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T3-006

SET No. 07			
SET DESCRIPTION: Double Door with Audio-Visual Alarm. Door position switch trips latching local audible and visual alarm, and reports event via C-Cure. Remote restoral of local alarm via C-Cure. Non-secure side AVA.			
ENCLOSURE ITEMS			QUANTITY
12" X 12" X 4" Screw Cover Pull Box	generic	generic NEMA-1	1
NON_ENCLOSURE ITEMS			
Door Position Contact Switch	Magnasphere	MSS-301C-WG-GO	2
Audio-Visual Annunciator (AVA)	Federal Signal	AV1-LED-024A	1
End-of-line Resistor Pack	QRI	5644-1	1
There is an AVA located on the Non-Secure Side			■
There is an AVA located on the Secure Side			□
There is a Camera dedicated to the credential reader on the Non-Secure Side			□
There is a Camera dedicated to the credential reader on the Secure Side			■



1 Typical Details ACS Typical: Detail 07

CABLE TYPES:

	DESCRIPTION	USE	SPECIFIC TYPE
A	#14/2 UNSHIELDED, 19 STRAND, ORANGE JACKET*, PLENUM	LOCK 24VDC POWER AND AVA POWER. INTERIOR.	BELDEN 6100UE OR WCW 7679640
B	#22 2-PAIR, LOW-CAPACITANCE RS-485, SHIELDED, 7 STRAND, ORANGE JACKET*, PLENUM	RS-485 DATA, KEYPAD OSDP; CAPACITANCE SHALL BE LESS THAN 16PI PER FOOT. INTERIOR.	WCW-415110-40OSDP
C	#22/2 UNSHIELDED, 7 STRAND, PLENUM	DPS CONTACTS, LOCK REX SIGNAL. INTERIOR.	BELDEN 8500UE OR WCW 4443640
D	#18/2, UNSHIELDED, 7 STRAND, PLENUM	LOCK POWER, AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 4423640
E	#20, 3-PAIR, SHIELDED, 7 STRAND, PLENUM	CARD READER: POWER, WIEGAND, SIGNALS. INTERIOR.	WCW 444351-40
F	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, ORANGE JACKET* FOR SECURITY ACCESS CONTROL SYSTEM APPLICATION	BIO READERS, TRAKA. INTERIOR.	WCW 5566040
Q	#18/4 SHIELDED, 7 STRAND, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR CARD READER, DIRECT-BURIAL AUDIO 70V PUBLIC ADDRESS LOUDSPEAKER	BELDEN 5302F1
R	1-PAIR #20 to #24 SHIELDED 7 STRAND LOW CAP TINNED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR ENCLOSURE TAMPER SWITCH	BELDEN 9815 OR WCW 042007DB
S	#23 4-PAIR, UNSHIELDED, SOLID, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL CAMERA VIDEO, DIRECT-BURIAL INTERCOM, DIRECT-BURIAL PoE APPLICATIONS	BELDEN 2143A
T	COMPOSITE CABLE, (ELEM1) 4/C #18, (ELEM2) 3 PR. #22, (ELEM3) 2/C # 22 AND (ELEM4) 4/C #22	DOOR CONNECTIONS TO MDF MOUNTED ACMS	WCW 4461030
Z	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, YELLOW JACKET** FOR SECURITY VIDEO SYSTEM APPLICATION	CAMERA VIDEO AND PoE	WCW 5566030

* ALL CABLES PROVIDED AND INSTALLED FOR ACCESS CONTROL SYSTEM USE ARE TO HAVE A COLOR ORANGE OUTER JACKET; SPECIAL ORDER
** ALL CABLES PROVIDED AND INSTALLED FOR VIDEO SYSTEM USE ARE TO HAVE A COLOR YELLOW OUTER JACKET

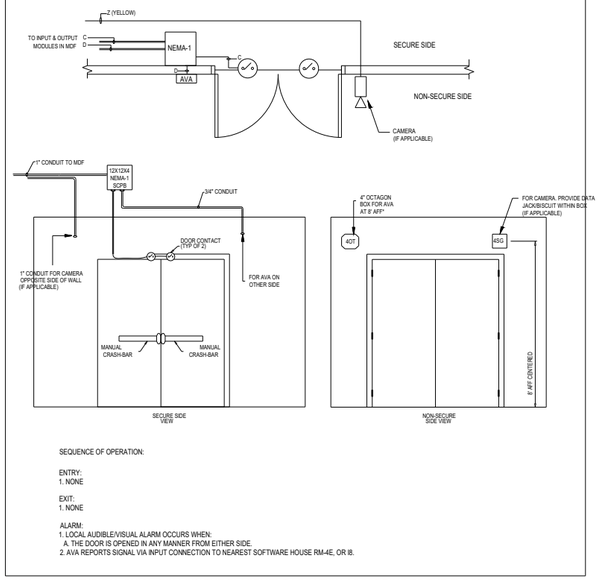
LOCAL AUDIBLE/VISUAL ALARMS (AVA's) PROGRAMMING REQUIREMENTS:

1. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "DOOR FORCED" CONDITIONS AS FOLLOWS:
   A. LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

SECURITY NOTES:

1. FOR CAMERAS LOCATED AT DOORS, PLACE CAMERA AT 8' AFF ABOVE CARD READER.
2. CAMERAS SHOWN ON DOOR DETAILS ARE TO BE AIMED TO VIEW PERSON TAPPING CARD READER.
3. COORDINATE ROUGH-IN WITH DOOR HARDWARE CONTRACTOR.

07 DOOR POSITION CONTACT SWITCH IN DOOR FRAME.
LOCAL AUDIBLE/VISUAL ALARM (AVA), WITH RIM HDW AND CYLINDER.



SEQUENCE OF OPERATION:

ENTRY:
1. NONE

EXIT:
1. NONE

ALARM:
1. LOCAL AUDIBLE/VISUAL ALARM OCCURS WHEN:
   A. THE DOOR IS OPENED IN ANY MANNER FROM EITHER SIDE.
2. AVA REPORTS SIGNAL VIA INPUT CONNECTION TO NEAREST SOFTWARE HOUSE RM-4E, OR I8.

NOTE: THIS IS TYPICAL ONLY. FOLLOW THE PLACEMENT LOCATION ACCORDING TO THE FLOOR PLAN DRAWING.

ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- ☐ A - Approved
- ☐ B - Approved with comments
- ☐ C - Revise and resubmit
- ☐ D - Reviewed
- ☐ E - Rejected

Reviewer: Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

Title:
Typical Details ACS Typical
Detail 07

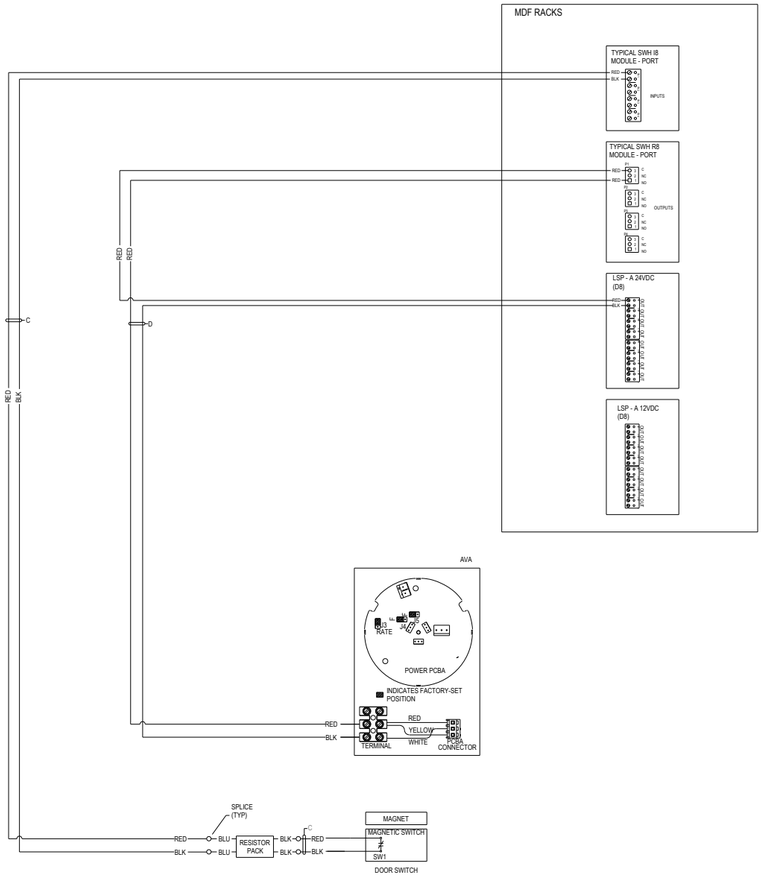
Scale @ ArchB: NTS

Revision: 2

External Reference:

Drawing Number:
T3-007

SET No. 08			
SET DESCRIPTION: Single Door with Audio-Visual Alarm. Door position switch trips latching local audible and visual alarm, and reports event via C-Cure. Remote restoral of local alarm via C-Cure. Non-secure side AVA.			
ENCLOSURE ITEMS			QUANTITY
12" X 12" X 4" Screw Cover Pull Box	generic	generic NEMA-1	1
NON_ENCLOSURE ITEMS			
Door Position Contact Switch	Magnasphere	MSS-301C-WG-GO	2
Audio-Visual Annunciator (AVA)	Federal Signal	AV1-LED-024A	1
End-of-line Resistor Pack	QRI	6644-1	1
There is an AVA located on the Non-Secure Side			■
There is an AVA located on the Secure Side			□
There is a Camera dedicated to the credential reader on the Non-Secure Side			□
There is a Camera dedicated to the credential reader on the Secure Side			■



1 Typical Details ACS Typical: Detail 08

CABLE TYPES:

	DESCRIPTION	USE	SPECIFIC TYPE
A	#14/2 UNSHIELDED, 19 STRAND, ORANGE JACKET*, PLENUM	LOCK 24VDC POWER AND AVA POWER. INTERIOR.	BELDEN 6100UE OR WCW 7679640
B	#22 2-PAIR, LOW-CAPACITANCE RS-485, SHIELDED, 7 STRAND, ORANGE JACKET*, PLENUM	RS-485 DATA, KEYPAD OSDP; CAPACITANCE SHALL BE LESS THAN 16PF PER FOOT. INTERIOR.	WCW-415110-40OSDP
C	#22/2 UNSHIELDED, 7 STRAND, PLENUM	DPS CONTACTS, LOCK REX SIGNAL. INTERIOR.	BELDEN 6500UE OR WCW 4443640
D	#18/2, UNSHIELDED, 7 STRAND, PLENUM	LOCK POWER, AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 4423640
E	#20, 3-PAIR, SHIELDED, 7 STRAND, PLENUM	CARD READER: POWER, WIEGAND, SIGNALS. INTERIOR.	WCW 4443S1-40
F	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, ORANGE JACKET* FOR SECURITY ACCESS CONTROL SYSTEM APPLICATION	BIO READERS, TRAKA. INTERIOR.	WCW 5566040
Q	#18/4 SHIELDED, 7 STRAND, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR CARD READER, DIRECT-BURIAL AUDIO 70V PUBLIC ADDRESS LOUDSPEAKER	BELDEN 5302F1
R	1-PAIR #20 to #24 SHIELDED 7 STRAND LOW CAP TINNED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR ENCLOSURE TAMPER SWITCH	BELDEN 9815 OR WCW 042007DB
S	#23 4-PAIR, UNSHIELDED, SOLID, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL CAMERA VIDEO, DIRECT-BURIAL INTERCOM, DIRECT-BURIAL PoE APPLICATIONS	BELDEN 2143A
T	COMPOSITE CABLE, (ELEM1) 4/C #18, (ELEM2) 3 PR. #22, (ELEM3) 2/C # 22 AND (ELEM4) 4/C #22	DOOR CONNECTIONS TO MDF MOUNTED ACMS	WCW 4461030
Z	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, YELLOW JACKET** FOR SECURITY VIDEO SYSTEM APPLICATION	CAMERA VIDEO AND PoE	WCW 5566030

* ALL CABLES PROVIDED AND INSTALLED FOR ACCESS CONTROL SYSTEM USE ARE TO HAVE A COLOR ORANGE OUTER JACKET; SPECIAL ORDER
** ALL CABLES PROVIDED AND INSTALLED FOR VIDEO SYSTEM USE ARE TO HAVE A COLOR YELLOW OUTER JACKET

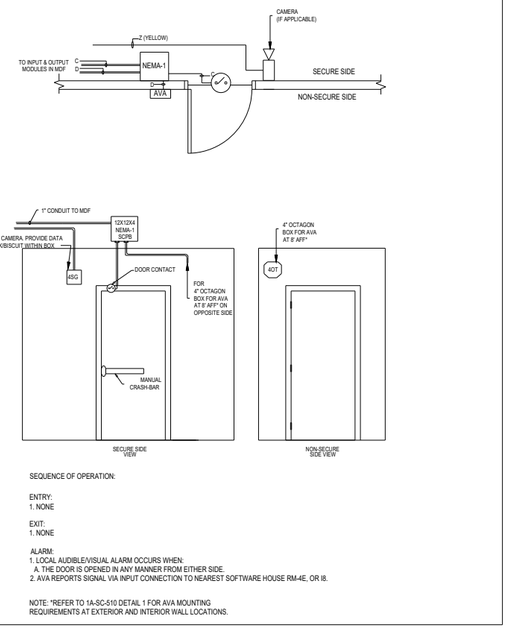
LOCAL AUDIBLE/VISUAL ALARMS (AVA's) PROGRAMMING REQUIREMENTS:

1. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "DOOR FORCED" CONDITIONS AS FOLLOWS:
   A. LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.

SECURITY NOTES:

1. FOR CAMERAS LOCATED AT DOORS, PLACE CAMERA AT 8' AFF ABOVE CARD READER.
2. CAMERAS SHOWN ON DOOR DETAILS ARE TO BE AIMED TO VIEW PERSON TAPPING CARD READER.
3. COORDINATE ROUGH-IN WITH DOOR HARDWARE CONTRACTOR.

08 DOOR POSITION CONTACT SWITCH IN DOOR FRAME.
LOCAL AUDIBLE/VISUAL ALARM (AVA), WITH RIM HDW AND CYLINDER.



SEQUENCE OF OPERATION:

ENTRY:
1. NONE

EXIT:
1. NONE

ALARM:
1. LOCAL AUDIBLE/VISUAL ALARM OCCURS WHEN:
   A. THE DOOR IS OPENED IN ANY MANNER FROM EITHER SIDE.
2. AVA REPORTS SIGNAL VIA INPUT CONNECTION TO NEAREST SOFTWARE HOUSE RM-4E, OR I8.

NOTE: *REFER TO 1A-SC-510 DETAIL 1 FOR AVA MOUNTING REQUIREMENTS AT EXTERIOR AND INTERIOR WALL LOCATIONS.

NOTE: THIS IS TYPICAL ONLY. FOLLOW THE PLACEMENT LOCATION ACCORDING TO THE FLOOR PLAN DRAWING.

ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

CUSTOMER:

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By: KD
Project Manager: AK
Project Engineer: KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- ☐ A - Approved
- ☐ B - Approved with comments
- ☐ C - Revise and resubmit
- ☐ D - Reviewed
- ☐ E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT
Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)
Location
MULTIPLE LOCATIONS

Title:
Typical Details ACS Typical
Detail 08

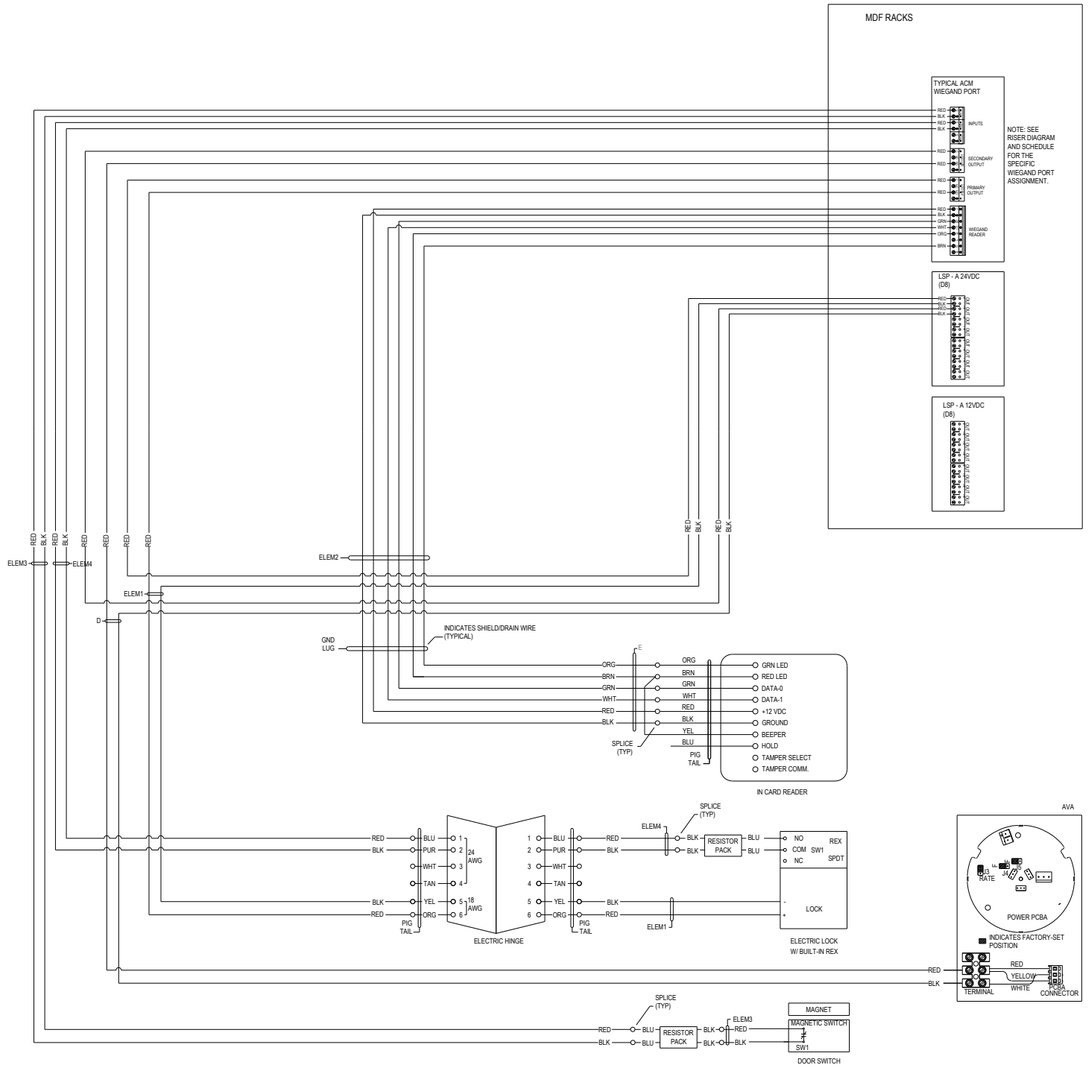
Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T3-008

SET No. 09			
SET DESCRIPTION: Single Door, Card Reader on non-secure (pull) side unlocks AVA, Electric Mortise Leverset with internal REX.			
ENCLOSURE ITEMS			QUANTITY
12" X 12" X 4" Screw Cover Pull Box	generic	generic NEMA-1	1
NON_ENCLOSURE ITEMS			
Card Reader	HID	40NKS-03-0086UQ w/Elite Keys (ICE0052)	1
Door Position Contact Switch	Magnasphere	MSS-301C-WG-GO	2
Audio-Visual Annunciator (AVA)	Federal Signal	AV1-LED-024A	1
Power Transfer	Roton	TBD	1
End-of-line Resistor Pack	GRI	6644-1	2
Panic Exit Device, with exterior 24VDC Electric Trim, with Internal REX switch	Sargent / Von Duprin, TBD	TBD	1
There is an AVA located on the Non-Secure Side			■
There is an AVA located on the Secure Side			□
There is a Camera dedicated to the credential reader on the Non-Secure Side			■
There is a Camera dedicated to the credential reader on the Secure Side			□



1 Typical Details ACS Typical: Detail 09

CABLE TYPES:

	DESCRIPTION	USE	SPECIFIC TYPE
A	#14/2 UNSHIELDED, 19 STRAND, ORANGE JACKET*, PLENUM	LOCK 24VDC POWER AND AVA POWER. INTERIOR.	BELDEN 6100UE OR WCW 7679640
B	#22 2-PAIR, LOW-CAPACITANCE RS-485, SHIELDED, 7 STRAND, ORANGE JACKET*, PLENUM	RS-485 DATA, KEYPAD OSDP; CAPACITANCE SHALL BE LESS THAN 16PI PER FOOT. INTERIOR.	WCW-415110-40OSDP
C	#22/2 UNSHIELDED, 7 STRAND, PLENUM	DPS CONTACTS, LOCK REX SIGNAL. INTERIOR.	BELDEN 6500UE OR WCW 4443640
D	#18/2, UNSHIELDED, 7 STRAND, PLENUM	LOCK POWER, AVA POWER. INTERIOR.	BELDEN 6300UE OR WCW 4423640
E	#20, 3-PAIR, SHIELDED, 7 STRAND, PLENUM	CARD READER: POWER, WIEGAND, SIGNALS. INTERIOR.	WCW 444351-40
F	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, ORANGE JACKET* FOR SECURITY ACCESS CONTROL SYSTEM APPLICATION	BIO READERS, TRAKA. INTERIOR.	WCW 5566040
Q	#18/4 SHIELDED, 7 STRAND, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR CARD READER, DIRECT-BURIAL AUDIO 70V PUBLIC ADDRESS LOUDSPEAKER	BELDEN 5302F1
R	1-PAIR #20 to #24 SHIELDED 7 STRAND LOW CAP TINNED, DIRECT BURIAL JACKET	DIRECT-BURIAL EXTERIOR ENCLOSURE TAMPER SWITCH	BELDEN 9815 OR WCW 042007DB
S	#23 4-PAIR, UNSHIELDED, SOLID, GEL-FILLED, DIRECT BURIAL JACKET	DIRECT-BURIAL CAMERA VIDEO, DIRECT-BURIAL INTERCOM, DIRECT-BURIAL PoE APPLICATIONS	BELDEN 2143A
T	COMPOSITE CABLE, (ELEM1) 4/C #18, (ELEM2) 3 PR. #22, (ELEM3) 2/C # 22 AND (ELEM4) 4/C #22	DOOR CONNECTIONS TO MDF MOUNTED ACMS	WCW 4461030
Z	#23 4-PAIR, UNSHIELDED, SOLID, PLENUM, YELLOW JACKET** FOR SECURITY VIDEO SYSTEM APPLICATION	CAMERA VIDEO AND PoE	WCW 5566030

* ALL CABLES PROVIDED AND INSTALLED FOR ACCESS CONTROL SYSTEM USE ARE TO HAVE A COLOR ORANGE OUTER JACKET; SPECIAL ORDER
** ALL CABLES PROVIDED AND INSTALLED FOR VIDEO SYSTEM USE ARE TO HAVE A COLOR YELLOW OUTER JACKET

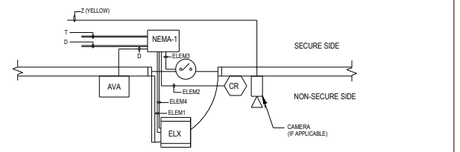
LOCAL AUDIBLE/VISUAL ALARMS (AVA's) PROGRAMMING REQUIREMENTS:

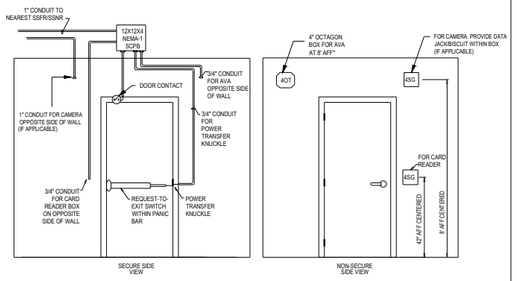
1. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES FOR "DOOR FORCED" CONDITIONS AS FOLLOWS:
   A. LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
   B. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE.
2. PROGRAM LOCAL AUDIBLE/VISUAL ALARM (AVA) DEVICES CONDITIONS AS FOLLOWS:
   A. PERSON DOOR HELD
      a. 0-29 SECONDS - NO ALARM
      b. 30 SECONDS - LOCAL ALARM IS ACTIVIATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
      c. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE
   B. MATERIAL DOOR HELD
      a. 0-119 SECONDS - NO ALARM
      b. 120 SECONDS - LOCAL ALARM IS ACTIVATED AND SYSTEM GENERATES A REMOTE ALARM IMMEDIATELY
      c. ALARM SHALL BE RESET VIA SOFTWARE HOUSE C-CURE

SECURITY NOTES:

1. COORDINATE ROUGH-IN WITH DOOR HARDWARE CONTRACTOR.

09 CARD READER ON NON SECURE SIDE. PANIC HARDWARE EXIT DEVICE WITH FAIL-SECURE ELECTRIC TRIM AND INTERNAL REX SWITCH OPTION. DOOR POSITION CONTACT SWITCH IN DOOR FRAME. SECURE SIDE LEVER FREE FOR EGRESS.





SEQUENCE OF OPERATION:

ENTRY:
1. A VALID CARD READ IS REQUIRED TO GAIN ENTRY. WHEN A CARD IS READ AND IS VALID FOR THE DOOR:
   A. THE READER LIGHT BAR SHALL PROVIDE CLEAR VISUAL GREEN STATUS AND AN A MOMENTARY AUDIBLE TONE (RED WITH LONG TONE, IF NOT VALID)
   B. THE DOOR CONTACT SWITCH IS MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
   C. THE PANIC LATCH IS ELECTRICALLY OPENED ALLOWING THE LEVER TO BE TURNED.
   D. ALLOWING ENTRY
2. DOOR CLOSES WITH AUTOMATIC DOOR CLOSURE, SYSTEM IS RESET.

EXIT :
1. UPON EXITING THE HIGH SECURE SIDE THE PUSH BAR IS PRESSED
   A. PANIC HARDWARE INTERNAL REX SWITCH CHANGES STATE
   B. THE DOOR CONTACT SWITCH IS MOMENTARILY DISABLED (SHUNTED) FOR A PROGRAMMED AMOUNT OF TIME.
   C. ALLOWING EXIT

ALARM:
1. DOOR FORCED ALARM OCCURS WHEN:
   A. WHEN THE DOOR IS OPENED IN ANY MANNER FROM THE NON SECURE SIDE WITHOUT USING A VALID CARD.
2. DOOR HELD ALARM OCCURS WHEN:
   A. WHEN THE DOOR IS HELD OPEN FOR A TIME PERIOD GREATER THAN THE PROGRAMMED AMOUNT OF TIME.

NOTE: *REFER TO 4A-SC-804, DETAILS 1 AND 2 FOR AVA MOUNTING REQUIREMENTS AT EXTERIOR AND INTERIOR WALL LOCATIONS.

NOTE: THIS IS TYPICAL ONLY. FOLLOW THE PLACEMENT LOCATION ACCORDING TO THE FLOOR PLAN DRAWING.

ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

CUSTOMER:

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By: KD
Project Manager: AK
Project Engineer: KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- ☐ A - Approved
- ☐ B - Approved with comments
- ☐ C - Revise and resubmit
- ☐ D - Reviewed
- ☐ E - Rejected

Reviewer: Date:

Drawing Issue Status: ISSUED FOR BID

Job Number

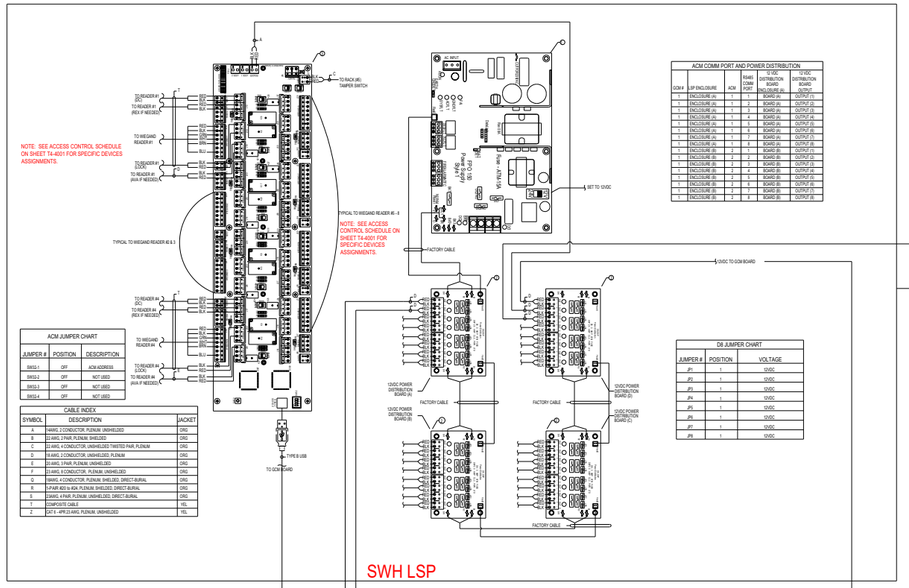
Project:
Client: THE CLIENT
Project: HUB AHEAD 4.0A (CLIENT OCCUPIED)
Location: MULTIPLE LOCATIONS

Title: Typical Details ACS Typical Detail 09

Scale @ ArchB: NTS
Revision: 2

External Reference:

Drawing Number: T3-009



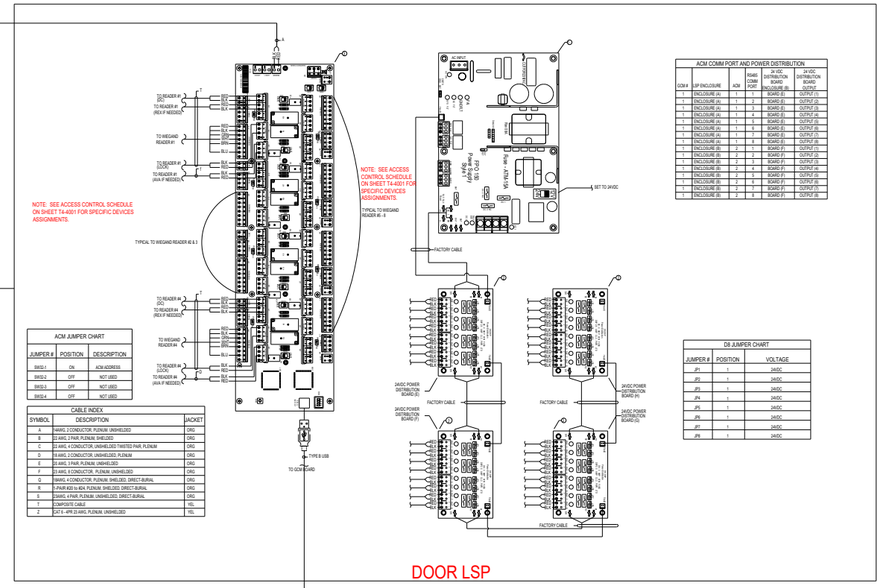
SWH LSP

ACM JUMPER CHART		
JUMPER #	POSITION	DESCRIPTION
SW2-1	OFF	ACM ADDRESS
SW2-2	OFF	NOT USED
SW2-3	OFF	NOT USED
SW2-4	OFF	NOT USED

CABLE INDEX		
SYMBOL	DESCRIPTION	JACKET
A	14AWG, 2 CONDUCTOR, PLENUM, UNSHIELDED	ORG
B	22 AWG, 2 PAIR, PLENUM, SHIELDED	ORG
C	22 AWG, 4 CONDUCTOR, UNSHIELDED TWISTED PAIR, PLENUM	ORG
D	18 AWG, 2 CONDUCTOR, UNSHIELDED, PLENUM	ORG
E	22 AWG, 3 PAIR, PLENUM, UNSHIELDED	ORG
F	22 AWG, 8 CONDUCTOR, PLENUM, UNSHIELDED	ORG
G	18AWG, 4 CONDUCTOR, PLENUM, SHIELDED, DIRECT-BURIAL	ORG
R	1-PAIR #22 to #24, PLENUM, SHIELDED, DIRECT-BURIAL	ORG
S	22AWG, 4 PAIR, PLENUM, UNSHIELDED, DIRECT-BURIAL	ORG
T	COMPOSITE CABLE	YEL
Z	CAT 6 - 4PR 23 AWG, PLENUM, UNSHIELDED	YEL

ACM COMM PORT AND POWER DISTRIBUTION					
GCM #	LSP ENCLOSURE	ACM	RS485 COMM PORT	12 VDC DISTRIBUTION BOARD ENCLOSURE (#)	24 VDC DISTRIBUTION BOARD OUTPUT
1	ENCLOSURE (A)	1	1	BOARD (A)	OUTPUT (1)
1	ENCLOSURE (A)	1	2	BOARD (A)	OUTPUT (2)
1	ENCLOSURE (A)	1	3	BOARD (A)	OUTPUT (3)
1	ENCLOSURE (A)	1	4	BOARD (A)	OUTPUT (4)
1	ENCLOSURE (A)	1	5	BOARD (A)	OUTPUT (5)
1	ENCLOSURE (A)	1	6	BOARD (A)	OUTPUT (6)
1	ENCLOSURE (A)	1	7	BOARD (A)	OUTPUT (7)
1	ENCLOSURE (A)	1	8	BOARD (A)	OUTPUT (8)
1	ENCLOSURE (B)	2	1	BOARD (B)	OUTPUT (1)
1	ENCLOSURE (B)	2	2	BOARD (B)	OUTPUT (2)
1	ENCLOSURE (B)	2	3	BOARD (B)	OUTPUT (3)
1	ENCLOSURE (B)	2	4	BOARD (B)	OUTPUT (4)
1	ENCLOSURE (B)	2	5	BOARD (B)	OUTPUT (5)
1	ENCLOSURE (B)	2	6	BOARD (B)	OUTPUT (6)
1	ENCLOSURE (B)	2	7	BOARD (B)	OUTPUT (7)
1	ENCLOSURE (B)	2	8	BOARD (B)	OUTPUT (8)

D8 JUMPER CHART		
JUMPER #	POSITION	VOLTAGE
JP1	1	12VDC
JP2	1	12VDC
JP3	1	12VDC
JP4	1	12VDC
JP5	1	12VDC
JP6	1	12VDC
JP7	1	12VDC
JP8	1	12VDC



DOOR LSP

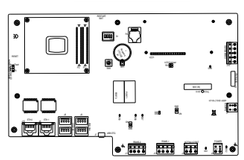
ACM JUMPER CHART		
JUMPER #	POSITION	DESCRIPTION
SW2-1	ON	ACM ADDRESS
SW2-2	OFF	NOT USED
SW2-3	OFF	NOT USED
SW2-4	OFF	NOT USED

CABLE INDEX		
SYMBOL	DESCRIPTION	JACKET
A	14AWG, 2 CONDUCTOR, PLENUM, UNSHIELDED	ORG
B	22 AWG, 2 PAIR, PLENUM, SHIELDED	ORG
C	22 AWG, 4 CONDUCTOR, UNSHIELDED TWISTED PAIR, PLENUM	ORG
D	18 AWG, 2 CONDUCTOR, UNSHIELDED, PLENUM	ORG
E	22 AWG, 3 PAIR, PLENUM, UNSHIELDED	ORG
F	22 AWG, 8 CONDUCTOR, PLENUM, UNSHIELDED	ORG
G	18AWG, 4 CONDUCTOR, PLENUM, SHIELDED, DIRECT-BURIAL	ORG
R	1-PAIR #22 to #24, PLENUM, SHIELDED, DIRECT-BURIAL	ORG
S	22AWG, 4 PAIR, PLENUM, UNSHIELDED, DIRECT-BURIAL	ORG
T	COMPOSITE CABLE	YEL
Z	CAT 6 - 4PR 23 AWG, PLENUM, UNSHIELDED	YEL

ACM COMM PORT AND POWER DISTRIBUTION					
GCM #	LSP ENCLOSURE	ACM	RS485 COMM PORT	24 VDC DISTRIBUTION BOARD ENCLOSURE (#)	24 VDC DISTRIBUTION BOARD OUTPUT
1	ENCLOSURE (A)	1	1	BOARD (E)	OUTPUT (1)
1	ENCLOSURE (A)	1	2	BOARD (E)	OUTPUT (2)
1	ENCLOSURE (A)	1	3	BOARD (E)	OUTPUT (3)
1	ENCLOSURE (A)	1	4	BOARD (E)	OUTPUT (4)
1	ENCLOSURE (A)	1	5	BOARD (E)	OUTPUT (5)
1	ENCLOSURE (A)	1	6	BOARD (E)	OUTPUT (6)
1	ENCLOSURE (A)	1	7	BOARD (E)	OUTPUT (7)
1	ENCLOSURE (A)	1	8	BOARD (E)	OUTPUT (8)
1	ENCLOSURE (B)	2	1	BOARD (F)	OUTPUT (1)
1	ENCLOSURE (B)	2	2	BOARD (F)	OUTPUT (2)
1	ENCLOSURE (B)	2	3	BOARD (F)	OUTPUT (3)
1	ENCLOSURE (B)	2	4	BOARD (F)	OUTPUT (4)
1	ENCLOSURE (B)	2	5	BOARD (F)	OUTPUT (5)
1	ENCLOSURE (B)	2	6	BOARD (F)	OUTPUT (6)
1	ENCLOSURE (B)	2	7	BOARD (F)	OUTPUT (7)
1	ENCLOSURE (B)	2	8	BOARD (F)	OUTPUT (8)

D8 JUMPER CHART		
JUMPER #	POSITION	VOLTAGE
JP1	1	24VDC
JP2	1	24VDC
JP3	1	24VDC
JP4	1	24VDC
JP5	1	24VDC
JP6	1	24VDC
JP7	1	24VDC
JP8	1	24VDC

GCM JUMPER CHART		
JUMPER #	POSITION	DESCRIPTION
S1-1	ON	AES ENCRYPTION
S1-2	OFF	DATA BASE STORED
S1-3	OFF	RESERVED
S1-4	OFF	ULTRA SE MODE



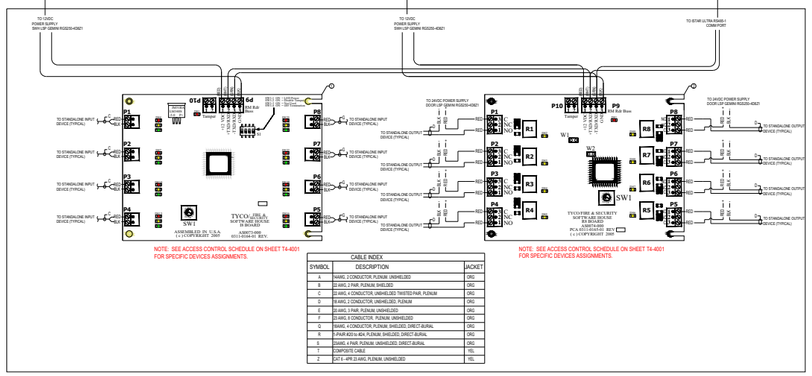
Google GEN

SOFTWARE HOUSE

IP Address 10.1.1.3

ISTAP, Ultra

ETH-1 ETH-2

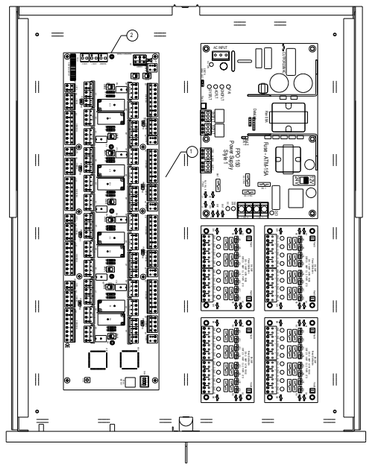


CABLE INDEX		
SYMBOL	DESCRIPTION	JACKET
A	14AWG, 2 CONDUCTOR, PLENUM, UNSHIELDED	ORG
B	22 AWG, 2 PAIR, PLENUM, SHIELDED	ORG
C	22 AWG, 4 CONDUCTOR, UNSHIELDED TWISTED PAIR, PLENUM	ORG
D	18 AWG, 2 CONDUCTOR, UNSHIELDED, PLENUM	ORG
E	22 AWG, 3 PAIR, PLENUM, UNSHIELDED	ORG
F	22 AWG, 8 CONDUCTOR, PLENUM, UNSHIELDED	ORG
G	18AWG, 4 CONDUCTOR, PLENUM, SHIELDED, DIRECT-BURIAL	ORG
R	1-PAIR #22 to #24, PLENUM, SHIELDED, DIRECT-BURIAL	ORG
S	22AWG, 4 PAIR, PLENUM, UNSHIELDED, DIRECT-BURIAL	ORG
T	COMPOSITE CABLE	YEL
Z	CAT 6 - 4PR 23 AWG, PLENUM, UNSHIELDED	YEL

1 RACK MOUNTED LIFE SAFETY POWER ENCLOSURE "A" WITH ACM BOARD TYPICAL WIRING DETAILS WITH 12VDC POWER SUPPLY

SCALE: NTS

1. LIFE SAFETY POWER RS150 POWER SUPPLY
2. LIFE SAFETY POWER DX DISTRIBUTION BOARD
3. SOFTWARE HOUSE USTAR ACM ACM



2 RACK MOUNTED LIFE SAFETY POWER ENCLOSURE "A" WITH ACM BOARD TYPICAL LAYOUT

SCALE: NTS

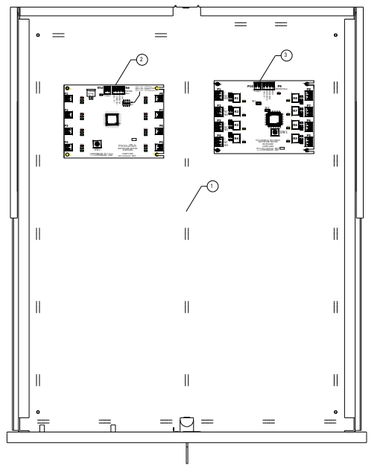
1. LIFE SAFETY POWER RGS150-4DBZ RACK MOUNT POWER SUPPLY
2. SOFTWARE HOUSE USTAR ACM ACM

CABLE INDEX		
SYMBOL	DESCRIPTION	JACKET
A	14AWG, 2 CONDUCTOR, PLENUM, UNSHIELDED	ORG
B	22 AWG, 2 PAIR, PLENUM, SHIELDED	ORG
C	22 AWG, 4 CONDUCTOR, UNSHIELDED TWISTED PAIR, PLENUM	ORG
D	18 AWG, 2 CONDUCTOR, UNSHIELDED, PLENUM	ORG
E	22 AWG, 3 PAIR, PLENUM, UNSHIELDED	ORG
F	22 AWG, 8 CONDUCTOR, PLENUM, UNSHIELDED	ORG
G	18AWG, 4 CONDUCTOR, PLENUM, SHIELDED, DIRECT-BURIAL	ORG
R	1-PAIR #22 to #24, PLENUM, SHIELDED, DIRECT-BURIAL	ORG
S	22AWG, 4 PAIR, PLENUM, UNSHIELDED, DIRECT-BURIAL	ORG
T	COMPOSITE CABLE	YEL
Z	CAT 6 - 4PR 23 AWG, PLENUM, UNSHIELDED	YEL

3 RACK MOUNTED MIDDLE ATLANTIC ENCLOSURE "A" WITH SWH I8 & R8 BOARDS TYPICAL LAYOUTS

SCALE: NTS

1. SOFTWARE HOUSE I8 (INPUT MODULE)
2. SOFTWARE HOUSE R8 (OUTPUT MODULE)



4 RACK MOUNTED MIDDLE ATLANTIC ENCLOSURE "A" WITH SWH I8 & R8 BOARDS TYPICAL LAYOUTS

SCALE: NTS

1. MIDDLE ATLANTIC D3-UMS-2R (NO POWER SUPPLY)
2. SOFTWARE HOUSE I8 (INPUT MODULE)
3. SOFTWARE HOUSE R8 (OUTPUT MODULE)

ELECTRICAL CONTRACTOR TO FIELD VERIFY ROUGH-IN REQUIREMENTS.

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP	PERMIT TO PRACTICE

Drawing Review Status:
- A - Approved
- B - Approved with comments
- C - Revise and resubmit
- D - Reviewed
- E - Rejected

Reviewer: | Date:

Drawing Issue Status: ISSUED FOR BID

Job Number

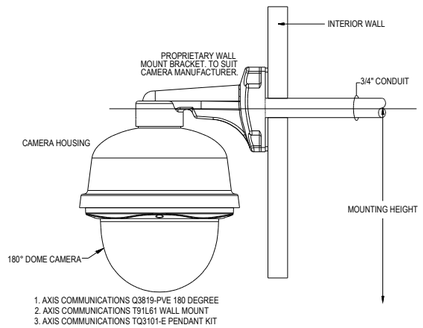
Project:
Client: THE CLIENT
Project: HUB AHEAD 4.0A (CLIENT OCCUPIED)
Location: MULTIPLE LOCATIONS

Title: Typical Details ACS Typical Life Safety Power w/ ACM ("A")

Scale @ ArchB: NTS | Revision: 2

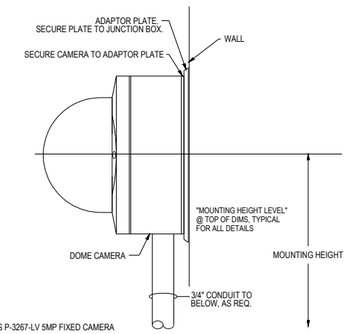
External Reference:

Drawing Number: T3-010



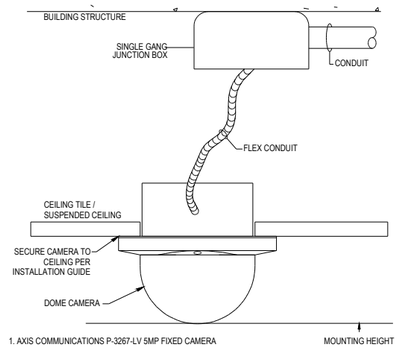
W1 WALL MOUNT 1 - INTERIOR WALL 180° CAMERA MOUNT

SCALE : 1" = 1' - 0"



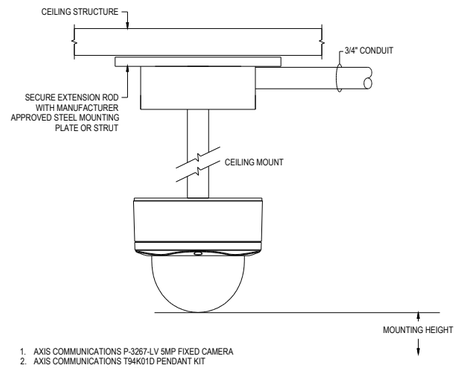
W4 WALL MOUNT 4 - INTERIOR WALL FIXED CAMERA MOUNT w/ EXPOSED CONDUIT

SCALE : 1" = 1' - 0"



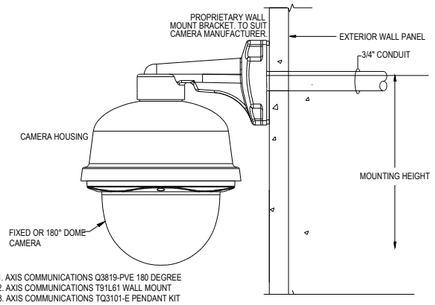
C1 CEILING MOUNT 1 - INTERIOR CEILING MOUNT, FIXED CAMERA,ACOUSTICAL CEILING

SCALE : 1" = 1' - 0"



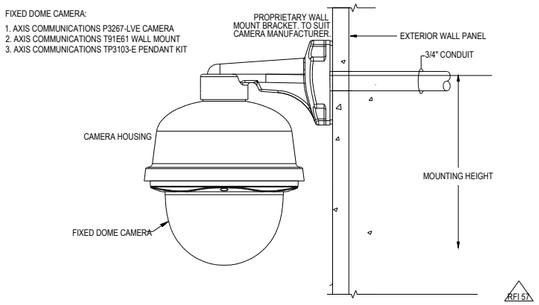
D1 DROP MOUNT 1 - INTERIOR FIXED DROP/PENDANT CAMERA MOUNT

SCALE : 1" = 1' - 0"



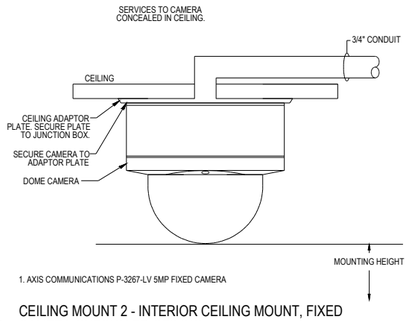
W2 WALL MOUNT 2 - EXTERIOR WALL 180° CAMERA MOUNT

SCALE : 1" = 1' - 0"



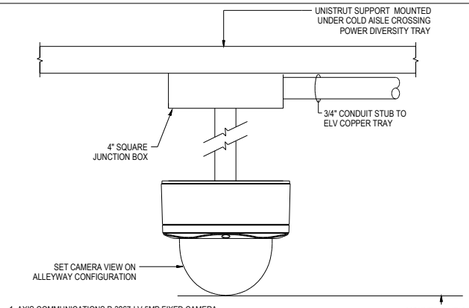
W5 WALL MOUNT 5 - EXTERIOR WALL FIXED

SCALE : 1" = 1' - 0"



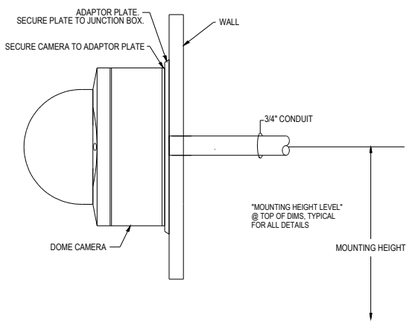
C2 CEILING MOUNT 2 - INTERIOR CEILING MOUNT, FIXED CAMERA,GYPSUM BD CEILING

SCALE : 1" = 1' - 0"



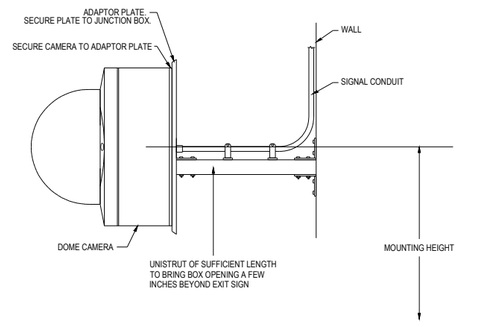
U1 UNISTRUT MOUNT 1 - INTERIOR UNI-STRUT FIXED CAMERA MOUNT

SCALE : 1" = 1' - 0"



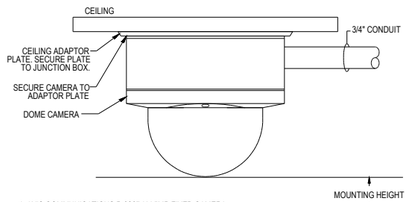
W3 WALL MOUNT 3 - INTERIOR WALL FIXED CAMERA SURFACE MOUNT

SCALE : 1" = 1' - 0"



W6 WALL MOUNT 6 - INTERIOR WALL FIXED CAMERA MOUNT WITH BRACKET

SCALE : 1" = 1' - 0"



C3 CEILING MOUNT 3 - INTERIOR CEILING/SURFACE MOUNT, FIXED CAMERA

SCALE : 1" = 1' - 0"

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- ☐ A - Approved
- ☐ B - Approved with comments
- ☐ C - Revise and resubmit
- ☐ D - Reviewed
- ☐ E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

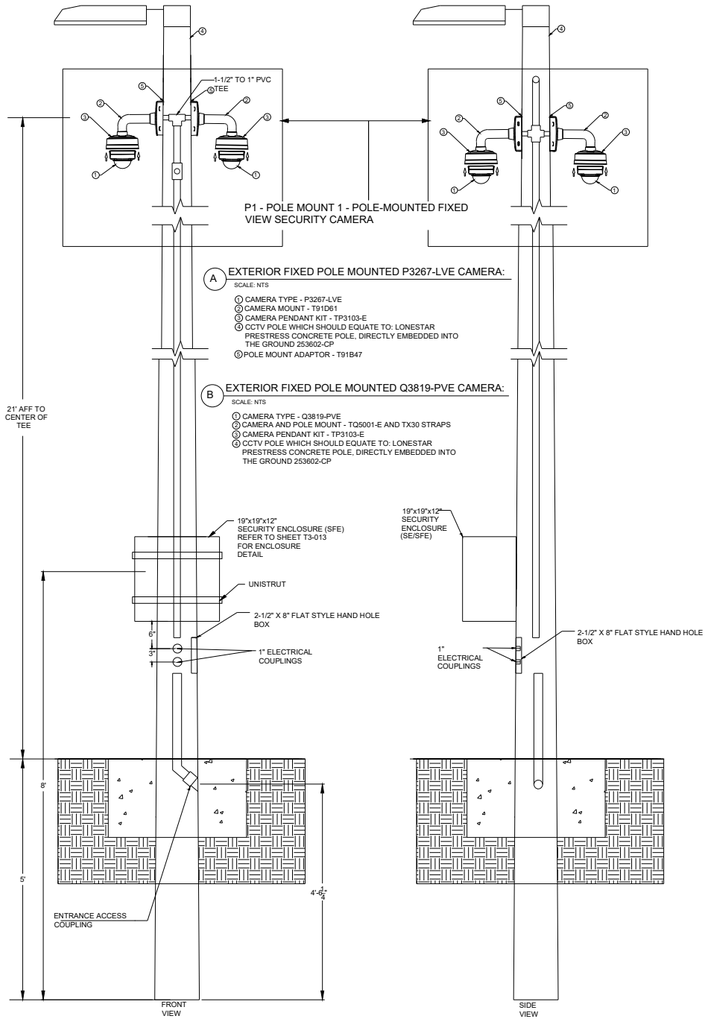
Title:
Typical Details CCTV Mounting Typical Details

Scale @ ArchB:
NTS

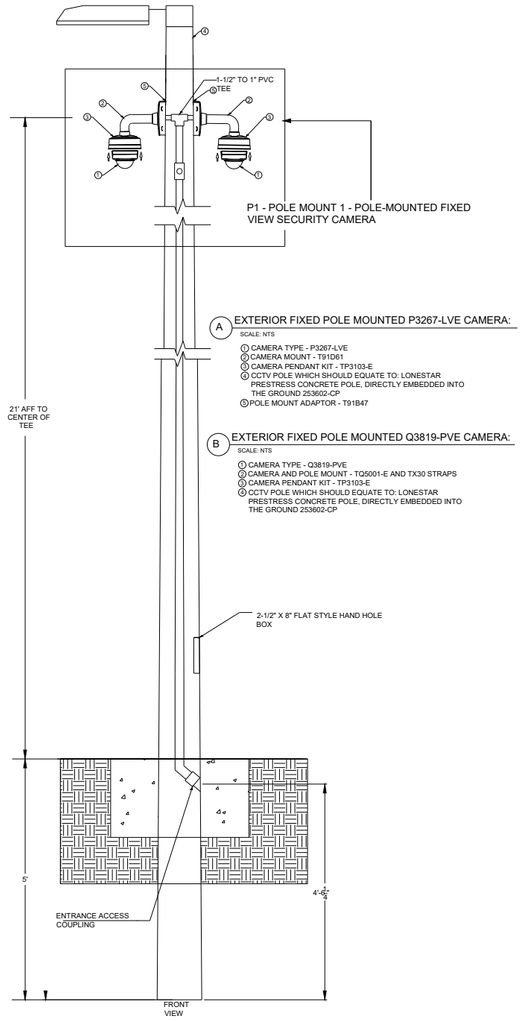
Revision:
2

External Reference:

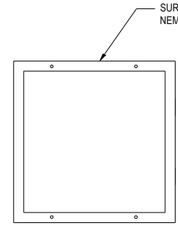
Drawing Number:
T3-011



1 POLE TYPE A - SECURITY POLE MOUNTED CAMERA WITH SFE DETAILS
SCALE : NTS



2 POLE TYPE A - SECURITY POLE MOUNTED CAMERA (ONLY) DETAILS
SCALE : NTS



3 CONSOLIDATION ROUGH-IN (NEMA-1) PULL BOX ABOVE DOORWAYS
SCALE : NTS

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Keyplan:

Notes:

1. DETAIL 1 & 2 ARE NOT REQUIRED FOR PHASE 2 AND 3.
2. DETAIL 1 & 2 ARE THE COMBINATION CAMERA AND LIGHT POLE ON ALL POLES RECEIVING CAMERAS.
3. DETAIL 1 WITH THE POLE-MOUNTED SECURITY ENCLOSURE AT EACH FIXED CAMERA POLE SHALL RECEIVE 12-STRANDS OF SINGLE-MODE OUTDOOR FIBER (FROM THE SPLICE ENCLOSURE) AND 120V SINGLE PHASE POWER.
4. DETAIL 2 WITH THE SECURITY CAMERAS ONLY SHALL CONNECT TO THE NETWORK SWITCH VIA CAT6 CABLES IN THE SFE OF DETAIL 1, IF THE POLES ARE WITHIN 250' APART.

REV	DESCRIPTION	DATE	BY
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Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
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- D - Reviewed
- E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUED FOR APPROVAL

Job Number

Project:

Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

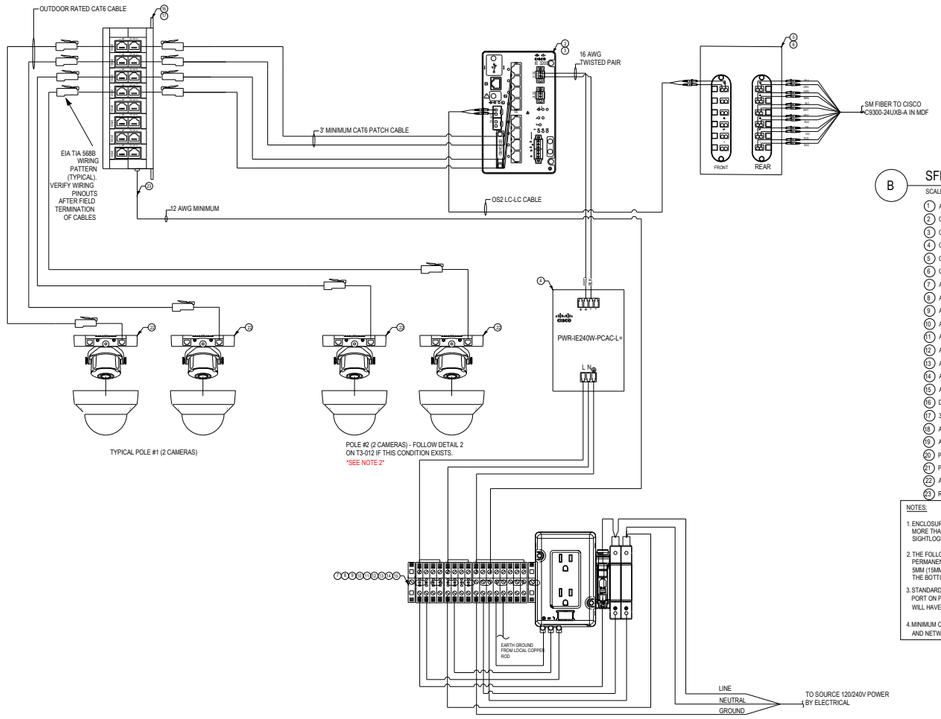
Title:
Typical Details CCTV Pole A
& Rough-in Boxes Typical Details

Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T3-012



1 SFE ENCLOSURE WIRING DIAGRAM 4 CAMERAS DETAIL

SCALE: NTS

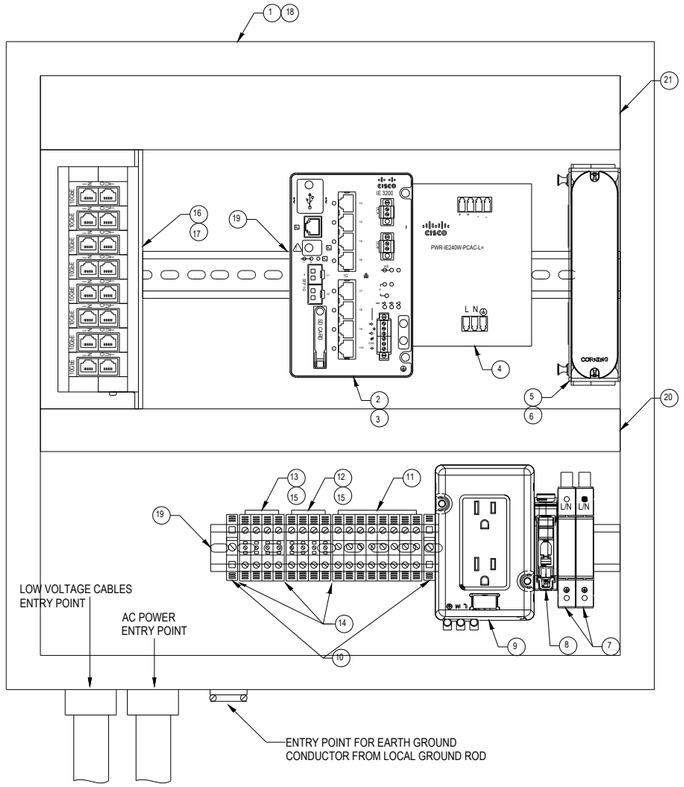
B SFE ENCLOSURE LAYOUT 2 CAMERAS

SCALE: NTS

1. ARMORLOGIX AL191912N 19" x 19" x 12" NEMA 3R ALUMINUM WEATHERPROOF ENCLOSURE
2. CISCO IE-3200-8P2S-E INDUSTRIAL ETHERNET 3200 SERIES SWITCH 10 PORTS MANAGED
3. CISCO GLC-LX-SM-RGD RUGGED SFP MODULE
4. CISCO PWR-IE240W-PCAC-L= 240W AC POWER SUPPLY
5. CORNING SPH-01P PATCH PANEL WITH CCH-CP12-A9 PATCH PANEL INSERT
6. CORNING SPH-DIN-KIT DIN RAIL BRACKET
7. ALLEN-BRADLEY 4983-DS120-B01 DIN RAIL SURGE
8. ALLEN BRADLEY 1489-M1D150 15A CIRCUIT BREAKER
9. ALLEN BRADLEY 1492-REC15G DIN-RAIL DUPLEX GFCI
10. ALLEN-BRADLEY 1492-EAJ35 TERMINAL BLOCK ANCHOR
11. ALLEN BRADLEY 1492-JG6 TERMINAL BLOCK GROUNDING
12. ALLEN BRADLEY 1492-J4-W TERMINAL BLOCK WHITE
13. ALLEN BRADLEY 1492-J4-BL TERMINAL BLOCK BLACK
14. ALLEN BRADLEY 1492-EBJ3 TERMINAL BLOCK END BARRIOR
15. ALLEN BRADLEY 1492-CJJ6-4 SCREW CENTER JUMPER –4-POLE
16. DITEK DTK-WMBNETS POE SURGE SUPPRESSOR
17. 3" X 3" X 1/8" ALUMINUM ANGLE
18. ARMORLOGIX ALHANDLE-P PADLOCKABLE HANDLE
19. ALLEN BRADLEY 199-DR1 DIN RAIL
20. PANDUIT F1X4LG6 1"X4" PLASTIC WIRE TROUGH WITH
21. PANDUIT F2X4LG6 2"X4" PLASTIC WIRE TROUGH WITH C2LG6 COVER
22. AXIS P3267-LVE 5MP FIXED DOME CAMERA, WDR (OUTDOOR)
23. RING TERMINAL LUG (example is Hollingsworth R3456B) FOR GROUNDING CISCO

NOTES:

1. ENCLOSURE WILL SUPPORT A MAX OF (8) EIGHT NETWORK DEVICES THAT DO NOT REQUIRE MORE THAN 30W OF POE POWER. THIS ENCLOSURE WILL NOT SUPPORT PTZ OR SIGHTLOGIX CAMERAS.
2. THE FOLLOWING INSTALLATION CLEARANCES MUST BE KEPT WHEN POWER SUPPLIES ARE PERMANENTLY LOADED WITH MORE THAN 50% OF THE NOMINAL CURRENT.: LEFT / RIGHT: 5MM (15MM IN CASE THE ADJACENT DEVICE IS A HEAT SOURCE) 40MM ON TOP, 20MM ON THE BOTTOM OF THE UNIT.
3. STANDARD CONFIGURATION WILL SUPPORT UP TO 30W OF POE POWER PER PORT ON PORTS 5 THROUGH 8 FOR NETWORK DEVICES. PORTS 1 THROUGH 4 WILL HAVE POE DISABLED FOR PTZ AND SIGHTLOGIX CAMERAS
4. MINIMUM OF A 1 METER CAT6 CABLE REQUIRED BETWEEN DITEK SURGE DEVICE AND NETWORK DEVICES BEING PROTECTED.



2 SFE ENCLOSURE LAYOUT DETAIL

SCALE : NTS

CUSTOMER:

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Keyplan:

Notes:

1. THIS SHEET IS NOT REQUIRED FOR PHASE 2 AND 3.
2. COPPER CONNECTION OF CAMERAS BETWEEN CAMERA POLES ONLY OCCURS IF CAMERA POLES ARE LESS THAN 250 FEET APART AND UNDERGROUND RACEWAYS BETWEEN POLES ARE IN A STRAIGHT LINE.

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
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Drawn By:	KD
Project Manager:	AK
Project Engineer:	KD

ENG. STAMP	PERMIT TO PRACTICE

Drawing Review Status:

- A - Approved
- B - Approved with comments
- C - Revise and resubmit
- D - Reviewed
- E - Rejected

Reviewer: | Date:

Drawing Issue Status: ISSUED FOR BID

Job Number

Project:

Client: THE CLIENT

Project: HUB AHEAD 4.0A (CLIENT OCCUPIED)

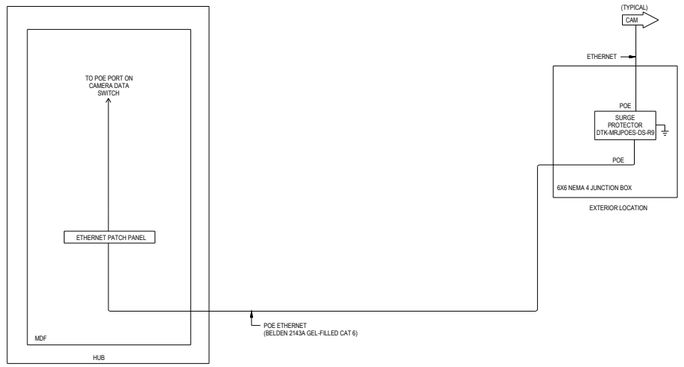
Location: MULTIPLE LOCATIONS

Title: Typical Details CCTV SFE Enclosure Layout & Wiring

Scale @ ArchB: NTS | Revision: 2

External Reference:

Drawing Number: T3-013



1 SECURITY CABLING DETAIL FOR CAMERA POLES WITH DISTANCE UP TO 250' FROM NEAREST MDF LOCATION

NOT TO SCALE

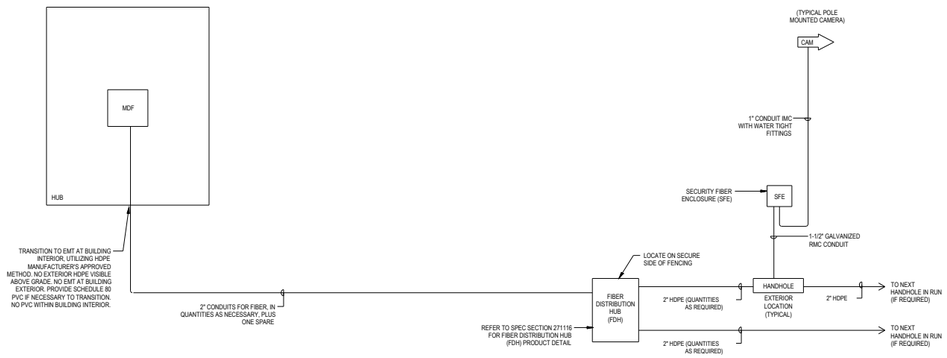


NOTE:

1. PROVIDE 12 STRAND INDOOR/OUTDOOR FIBER, PANDUIT FSCP912Y SINGLE MODE, FROM MDF PATCH PANEL TO EACH SECURITY FIBER ENCLOSURE (SFE), WITHOUT SPLICES, IN QUANTITIES AS REQUIRED.
2. REFER TO DOOR DETAILS SHEETS FOR CABLE SCHEDULE.

2 SECURITY ENCLOSURE (SFE) LOW-VOLTAGE CABLING ONE-LINE DIAGRAM (FOR POLE WITH DISTANCE MORE THAN 250' FROM MDF)

NOT TO SCALE



3 SECURITY ENCLOSURE (SFE) LOW-VOLTAGE CONDUIT ROUGH-IN (FOR POLE WITH DISTANCE MORE THAN 250' FROM MDF)

NOT TO SCALE

REQUIREMENTS FOR LOW-VOLTAGE COPPER CABLING RUNS BETWEEN BUILDINGS:

1. LOW-VOLTAGE COPPER CABLE MAY BE RUN OUTSIDE OF BUILDINGS ADHERING TO THE FOLLOWING CRITERIA.
   A. AT TRESTLE/AERIAL LOCATIONS, COPPER CABLES MUST BE PLACED WITHIN CONTINUOUS RIGID STEEL CONDUIT OR IMC, WHICH IS TO BE BONDED TO THE BUILDINGS GROUNDING ELECTRODE SYSTEM AT BOTH ENDS. PROVIDE PROTECTORS FOR EACH CONDUCTOR AT EACH END.
   B. AT UNDERGROUND BURIED LOCATIONS, COPPER CABLES MUST BE PLACED WITHIN HDPE CONDUIT. PROVIDE PROTECTORS FOR EACH CONDUCTOR AT EACH END.
   C. LIGHTNING PROTECTORS SHALL BE BONDED TO THE GROUND SYSTEM.
2. THESE REQUIREMENTS FOLLOW NFPA 70, 800.90(A)2, AND, ALSO FOLLOW BICSI TDMM, LIGHTNING EXPOSURE SECTION.
3. COPPER SECURITY CABLES MAY BE PLACED WITHIN THE SAME CONDUIT WITH CORPNET CABLES; SHARED CONDUIT.
4. FOR DISTANCES BETWEEN BUILDINGS GREATER THAN 250, COPPER CABLE SHALL NOT BE UTILIZED, AND OPTICAL FIBER CABLE ONLY SHALL BE UTILIZED.
5. REMARKS:
   A. IT IS NOTED THAT ALL EXTERIOR CAMERAS (BUILDING-MOUNTED ON EXTERIOR AND CAMERA-POLE MOUNTED AND TRESTLE OR OTHER STRUCTURE MOUNTED) SHALL EACH BE PROVIDED WITH AN INTERIOR LIGHTNING PROTECTOR, AS SHOWN ON DIAGRAM BELOW AND AS SHOWN ELSEWHERE WITHIN THE DRAWINGS.
   B. SECURITY SIGNALS TYPICALLY CARRIED OVER COPPER CABLING TO WHICH THESE REQUIREMENTS PERTAIN TO INCLUDE:
      I. POE CAMERA SIGNALS

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Keyplan:

Notes:
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Drawn By: KD
Project Manager: AK
Project Engineer: KD

ENG. STAMP

PERMIT TO PRACTICE

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Reviewer: Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

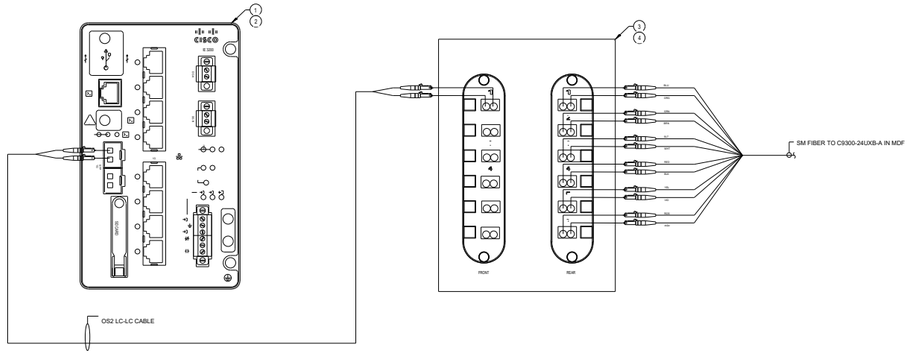
Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)
Location
MULTIPLE LOCATIONS

Title:
Typical Detail Exterior Camera Pole Cabling

Scale @ ArchB: NTS
Revision: 2

External Reference:

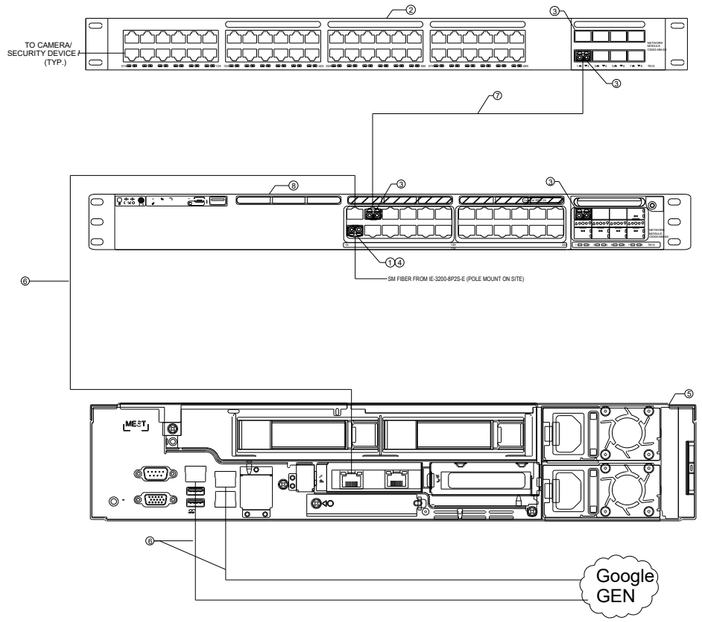
Drawing Number:
T3-014



1. CISCO IE-3200-8P2S-E INDUSTRIAL ETHERNET 3200 SERIES SWITCH 10 PORTS MANAGED
2. CISCO GLC-LX-SM-RGD RUGGED SFP MODULE
3. CORNING SPH-01P PATCH PANEL WITH CCH-CP12-A9 PATCH PANEL INSERT
4. CORNING SPH-DIN-KIT DIN RAIL BRACKET

1 SECURITY NETWORK 8 PORT ACCESS SWITCH WIRING (SFE LOCATION)

SCALE: NTS



2 SECURITY NETWORK TYPICAL CORE SWITCH WIRING DETAIL (MDF)

NOT TO SCALE

CABLE KEY

- SECURITY INTEGRATOR FURNISHED AND INSTALLED
- OWNER FURNISHED AND INSTALLED

NOTES:

1. UPLINK TYPES SHOULD BE CONTIGUOUS WHENEVER POSSIBLE. FOR EXAMPLE, IF THERE ARE TWELVE 10GBPS UPLINKS AND TWELVE 1GBPS UPLINKS, THEN PORTS 1-12 SHOULD BE 10GBPS AND 13-24 SHOULD BE 1GBPS.
2. CAT-6 MUST BE USED FOR SERVER CONNECTIONS TO SUPPORT 10GBPS.

1. CISCO IE 3200 (UTILIZE CISCO IE 3200-8P2S-E FOR POLE MOUNTED CAMERAS ON SITE)
2. CISCO C9300-48P-A
3. FINISAR 10GE LR SFP FTLX1471D3BCL
4. PROVIDE ADDITIONAL FIBER CONNECTIONS AS REQUIRED FOR ADDITIONAL IE 3200 SWITCHES
5. DELL POWEREDGE R740-XD2 (OWNER FURNISHED CONTRACTOR INSTALLED)
6. CAT-6 CABLE
7. LC TO LC FIBER JUMPER CABLE (SECURITY INTEGRATOR FURNISHED SECURITY INTEGRATOR INSTALLED)
8. CISCO C9300-24UXB-A

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Keyplan:

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Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

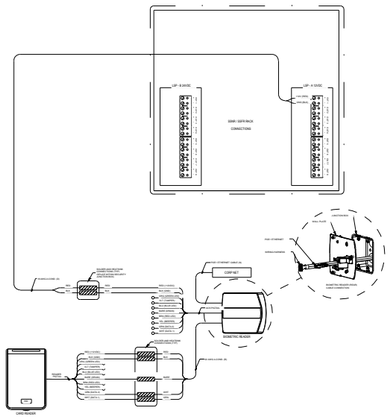
Title:
Typical Details Network Diagram

Scale @ ArchB:
NTS

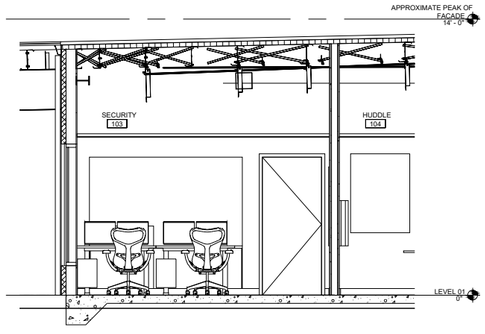
Revision:
2

External Reference:

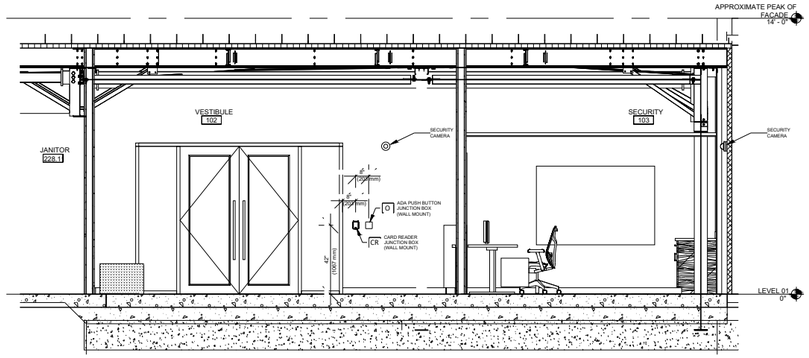
Drawing Number:
T3-015



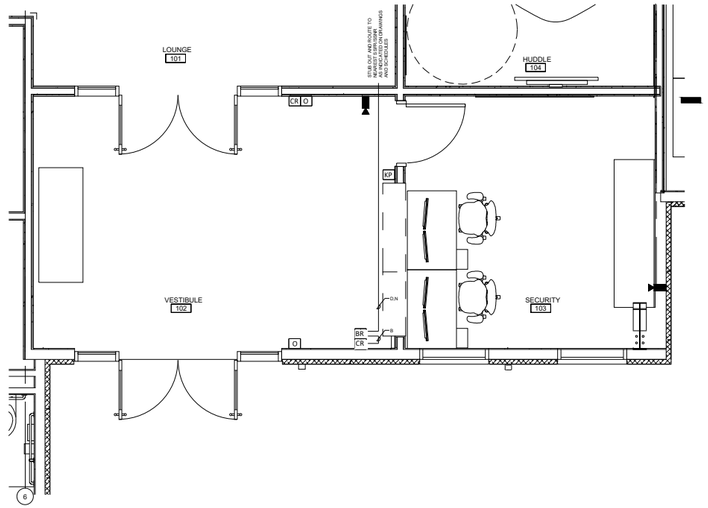
2 SECURITY - DOOR WIRING DIAGRAM (OSDP) - ENROLLMENT READER



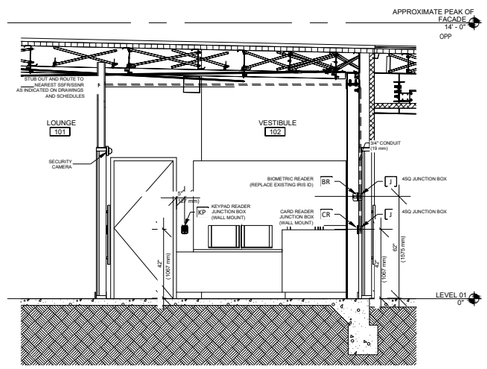
A SECURITY - (HUB BLDG) SECURITY 103 - EAST ELEVATION



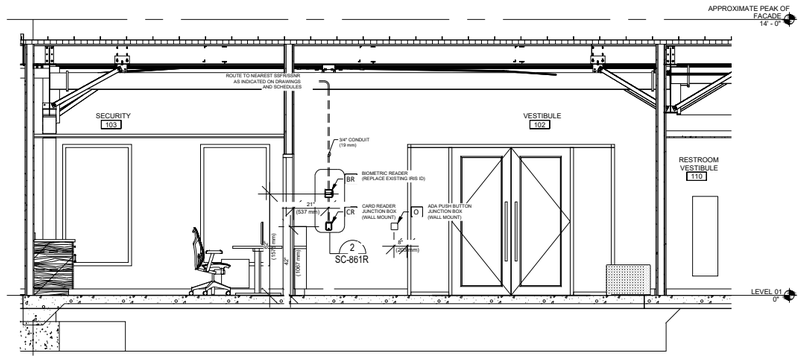
C SECURITY - (HUB BLDG) VESTIBULE 102 & SECURITY 103 - NORTH ELEVATION



1 SECURITY - (HUB BLDG) VESTIBULE 102 & SECURITY 103 - PLAN VIEW



B SECURITY - (HUB BLDG) VESTIBULE 102 - WEST ELEVATION



D SECURITY - (HUB BLDG) VESTIBULE 102 & SECURITY 103 - SOUTH ELEVATION

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Project Engineer:	KD

ENG. STAMP

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Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

Title:
Enrollment Reader Wall Elevation and Wiring Typical

Scale @ ArchB: NTS

Revision: 2

External Reference:

Drawing Number:
T3-016

ACCESS CONTROL SYSTEM SCHEDULE

LOCATION	DOOR NAME	PHASE	DETAIL	DOOR COMPONENTS					"ADA BUTTON"	DURESS BUTTON	TAMPER SWITCH	ACCESS CONTROL PANEL							NOTES
				READER IN	READER OUT	DOOR CONTACT	"ELECTRIC LOCK W/ REX"	SIREN/STROBE				ISTAR #	ACM #	READER PORT #	INPUT PORT #	OUTPUT PORT #	EXT I8 MODULE / PORT #	EXT R8 MODULE / PORT #	
MDF 113	DR-113	AREA A	3	40KNKS-03-0086UQ	40NKS-03-0086 UQ	HSS-L2C-101-GO	OTHERS	AV1-LED-024A	N/A	N/A	N/A	"A"	1	1 & 2	1-DC	PRI 1-LCK & SEC 1-AVA	N/A	N/A	
RACK #5 TAMPER SWITCH	TMP-RACK5	AREA A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(3) TSC-20	"A"	1	N/A	N/A	N/A	N/A	N/A	CONNECT TO THE TAMPER TERMINAL IN THE PANEL.
VESTIBULE 102A	TMP-KNOXBOX	AREA A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	TSC-20	"A"	1		3-TMP	N/A	N/A	N/A	
MECHANICAL 129	DR-E129	AREA A	9	40NKS-03-0086UQ	N/A	MSS-301C-WG-GO	OTHERS	AV1-LED-024A	N/A	N/A	N/A	"A"	1	3	7-DC & 8-REX	PRI 3-LCK & SEC 3-AVA	N/A	N/A	
ELECTRICAL 128	DR-E128	AREA A	9	40NKS-03-0086UQ	N/A	MSS-301C-WG-GO	OTHERS	AV1-LED-024A	N/A	N/A	N/A	"A"	1	4	10-DC & 11-REX	PRI 4-LCK & SEC 4-AVA	N/A	N/A	
VESTIBULE 102A	DR-V102A	AREA A	5	40NKS-03-0086UQ	N/A	(2) MSS-301C-WG-GO	OTHERS	N/A	N/A	N/A	N/A	"A"	1	5	13-DC & 14-REX	PRI 5-LCK	N/A	N/A	
MOTHER'S ROOM 105	DR-105	AREA A	2	40NKS-03-0086UQ	N/A	MSS-301C-WG-GO	OTHERS	N/A	N/A	N/A	N/A	"A"	1	6	16-DC & 17-REX	PRI 6-LCK	N/A	N/A	
SECURITY 103	DR-103	AREA A	2	40NKS-03-0086UQ	N/A	MSS-301C-WG-GO	OTHERS	N/A	N/A	N/A	N/A	"A"	1	7	19-DC & 20-REX	PRI 7-LCK	N/A	N/A	
VESTIBULE 102B	DR-V102B	AREA A	5	40NKS-03-0086UQ	N/A	(2) MSS-301C-WG-GO	OTHERS	N/A	N/A	N/A	N/A	"A"	1	8	22-DC & 23-REX	PRI 8-LCK	N/A	N/A	
LOUNGE 101	DR-E101	AREA A	6	40NKS-03-0086UQ	N/A	(2) MSS-301C-WG-GO	OTHERS	AV1-LED-024A	N/A	N/A	N/A	"A"	2	1	1-DC & 2-REX	PRI 1-LCK & SEC 1-AVA	N/A	N/A	NO SECURITY, WALLED OFF TO MAINTAIN OPERATIONAL BOUNDARY UNTIL AREA B IS TURNED OVER TO CLIENT COMPLETELY
CAFÉ E201B	DR-E201B	AREA B	9	40NKS-03-0086UQ	N/A	MSS-301C-WG-GO	OTHERS	AV1-LED-024A	N/A	N/A	N/A	"A"	2	2	4-DC & 5-REX	PRI 2-LCK & SEC 2-AVA	N/A	N/A	ROUGH IN ONLY FOR SECURITY, SPOOL SECURITY CABLE IN CEILING UNTIL ACCESS CONTROL READY TO BE INSTALLED
AV 209.2	DR-209.2	AREA B	2	40NKS-03-0086UQ	N/A	MSS-301C-WG-GO	OTHERS	N/A	N/A	N/A	N/A	"A"	2	3	7-DC & 8-REX	PRI 3-LCK	N/A	N/A	NO ROUGH IN OR SECURITY, AV ROOM WALLS WILL BE CONSTRUCTED TO ACCEPT SECURITY ONCE SPACE IS RENOVATED TO RECEIVE CLIENT. SECURITY CABLE CAN BE ROUTED AND SPOOLED IN CEILING UNTIL ACCESS CONTROL IS REQUIRED
KITCHEN 203	DR-E203	AREA B	6	40NKS-03-0086UQ	N/A	(2) MSS-301C-WG-GO	OTHERS	AV1-LED-024A	N/A	N/A	N/A	"A"	2	4	10-DC & 11-REX	PRI 4-LCK & SEC 4-AVA	N/A	N/A	ROUGH IN ONLY FOR SECURITY, SPOOL SECURITY CABLE IN CEILING UNTIL ACCESS CONTROL READY TO BE INSTALLED
EMT 214	DR-214	AREA B	2	40NKS-03-0086UQ	N/A	MSS-301C-WG-GO	OTHERS	N/A	N/A	N/A	N/A	"A"	2	5	13-DC & 14-REX	PRI 5-LCK	N/A	N/A	ROUGH IN ONLY FOR SECURITY, SPOOL SECURITY CABLE IN CEILING UNTIL ACCESS CONTROL READY TO BE INSTALLED
AV 308	DR-308	AREA C	2	40NKS-03-0086UQ	N/A	MSS-301C-WG-GO	OTHERS	N/A	N/A	N/A	N/A	"A"	2	6	16-DC & 17-REX	PRI 6-LCK	N/A	N/A	ROUGH IN ONLY FOR SECURITY, SPOOL SECURITY CABLE IN CEILING UNTIL ACCESS CONTROL READY TO BE INSTALLED
MOTHER'S ROOM DURESS	DB-105	AREA A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	SS2200EM-EN	N/A	"A"	N/A	N/A	N/A	N/A	I8 #1 / PORT 1	N/A	
MOTHER'S ROOM PIEZO SOUNDER	SO-105	AREA A	N/A	N/A	N/A	N/A	N/A	ATW (PC-300)	N/A	N/A	N/A	"A"	N/A	N/A	N/A	N/A	N/A	R8 #1 / PORT 1	
SECURITY'S DURESS	DB-103	AREA A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	SS2200EM-EN	N/A	"A"	N/A	N/A	N/A	N/A	I8 #1 / PORT 2	N/A	
OPEN OFFICE 112	DR-E112	AREA A	7	N/A	N/A	(2) MSS-301C-WG-GO	N/A	AV1-LED-024A	N/A	N/A	N/A	"A"	N/A	N/A	N/A	N/A	I8 #1 / PORT 3	R8 #1 / PORT 2	
MICRO KITCHEN 109	DR-E108	AREA A	7	N/A	N/A	(2) MSS-301C-WG-GO	N/A	AV1-LED-024A	N/A	N/A	N/A	"A"	N/A	N/A	N/A	N/A	I8 #1 / PORT 4	R8 #1 / PORT 3	NO SECURITY, WALLED OFF TO MAINTAIN OPERATIONAL BOUNDARY UNTIL AREA B IS TURNED OVER TO CLIENT COMPLETELY
OPEN OFFICE 121	DR-E121	AREA A	7	N/A	N/A	(2) MSS-301C-WG-GO	N/A	AV1-LED-024A	N/A	N/A	N/A	"A"	N/A	N/A	N/A	N/A	I8 #1 / PORT 5	R8 #1 / PORT 4	NO SECURITY, DOOR OPENING TO BE WALLED OFF UNTIL AREA C IS OCCUPIED BY CLIENT, THEN INSTALL DOOR WITH NO SECURITY
CAFÉ E201A	DR-E201A	AREA B	8	N/A	N/A	MSS-301C-WG-GO	N/A	AV1-LED-024A	N/A	N/A	N/A	"A"	N/A	N/A	N/A	N/A	I8 #1 / PORT 6	R8 #1 / PORT 5	ROUGH IN ONLY FOR SECURITY, SPOOL SECURITY CABLE IN CEILING UNTIL ACCESS CONTROL READY TO BE INSTALLED
OPEN OFFICE 210	DR-E210	AREA B	7	N/A	N/A	(2) MSS-301C-WG-GO	N/A	AV1-LED-024A	N/A	N/A	N/A	"A"	N/A	N/A	N/A	N/A	I8 #1 / PORT 7	R8 #1 / PORT 6	ROUGH IN ONLY FOR SECURITY, SPOOL SECURITY CABLE IN CEILING UNTIL ACCESS CONTROL READY TO BE INSTALLED
OPEN OFFICE 310	DR-E310	AREA C	8	N/A	N/A	MSS-301C-WG-GO	N/A	AV1-LED-024A	N/A	N/A	N/A	"A"	N/A	N/A	N/A	N/A	I8 #1 / PORT 8	R8 #1 / PORT 7	ROUGH IN ONLY FOR SECURITY, SPOOL SECURITY CABLE IN CEILING UNTIL ACCESS CONTROL READY TO BE INSTALLED

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	HUB POR3.0R4.0A	05/20/25	KD

Drawn By: KD
Project Manager: AK
Project Engineer: KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- A - Approved
- B - Approved with comments
- C - Revise and resubmit
- D - Reviewed
- E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT
Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)
Location
MULTIPLE LOCATIONS

Title:
Device Schedule ACS

Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T4-001

SECURITY CAMERA SCHEDULE AREA A

LOCATION	CAMERA NAME	MANUFACTURER	MODEL	SPACE: NUMBER	ELEV FROM LEVEL	DETAIL	MOUNTING	MOUNT MODEL	PENDANT KIT	MOUNT ACCESSORY	TELECOMM ROOM	SWITCH ID	NETWORK PORT	PHASE
ELECTRICAL	CAM 128.1	AXIS	P3267-LV	128	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	1	AREA A
LOUNGE	CAM 101.1	AXIS	Q3819-LVE	101	8' - 0"	W1	WALL MOUNT	T91L61	TQ3101-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	2	AREA A
MDF	CAM 113.1	AXIS	P3267-LV	113	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	3	AREA A
MDF	CAM 113.2	AXIS	P3267-LV	113	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	4	AREA A
MDF DOOR 113	CAM 112.1	AXIS	P3267-LV	112	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	5	AREA A
MECHANICAL	CAM 129.1	AXIS	P3267-LV	129	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	6	AREA A
MICRO KITCHEN	CAM 108.1	AXIS	P3267-LV	108	8' - 0"	D1	DROP MOUNT	N/A	T94K01D	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	7	AREA A
NORTH OFFICE EMER. EXIT E112	CAM 112.2	AXIS	P3267-LV	112	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	8	AREA A
SECURITY OFFICE	CAM 103.1	AXIS	P3267-LV	103	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	9	AREA A
VESTIBULE INTERIOR DOOR	CAM 102.1	AXIS	P3267-LV	102	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	10	AREA A
EXT EAST	CAM EXT EAST 1	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	11	AREA A
EXT SOUTH EAST	CAM EXT S.E 1	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	12	AREA A
EXT VESTIBULE DOOR V102A	CAM EXT V102A	AXIS	P3267-LVE	EXT	8' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	13	AREA A
EXT MECH 129	CAM EXT E129	AXIS	P3267-LVE	EXT	8' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	14	AREA A
EXT ELEC 128	CAM EXT E128	AXIS	P3267-LVE	EXT	8' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	15	AREA A
ELECTRICAL	CAM 107A.1	AXIS	P3267-LV	107A	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	16	AREA A

SECURITY CAMERA SCHEDULE AREA B

LOCATION	CAMERA NAME	MANUFACTURER	MODEL	SPACE: NUMBER	ELEV FROM LEVEL	DETAIL	MOUNT DETAIL	MOUNT MODEL		MOUNT ACCESSORY	TELECOMM ROOM	SWITCH ID	NETWORK PORT	PHASE
AV DOOR 209.2	CAM 209.2	AXIS	P3267-LV	209.2	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	17	AREA B
AV DOOR 209.2	CAM 208.1	AXIS	P3267-LV	208	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	18	AREA B
CAFE EXIT EAST E201A	CAM E201A	AXIS	P3267-LV	201-2	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	19	AREA B
ELECTRICAL	CAM 224.1	AXIS	P3267-LV	224	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	20	AREA B
EMT DOOR 214	CAM 213.1	AXIS	P3267-LV	213	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	21	AREA B
OPEN OFFICE EXIT E210	CAM 210.1	AXIS	P3267-LV	210	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	22	AREA B
EXT EAST	CAM EXT EAST 2	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	23	AREA B
EXT EAST	CAM EXT EAST 3	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	24	AREA B
EXT KITCHEN DOOR E203	CAM EXT E203	AXIS	P3267-LVE	EXT	8' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	25	AREA B
EXT NORTH EAST	CAM EXT N.E 3	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	26	AREA B
EXT NORTH EAST	CAM EXT N.E 4	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	27	AREA B
EXT NORTH WEST	CAM EXT N.W 3	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	28	AREA B
EXT NORTH WEST	CAM EXT N.W 4	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	29	AREA B
EXT NORTH WEST	CAM EXT N.W 5	AXIS	P3267-LVE	EXT	8' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	30	AREA B
EXT SOUTH EAST	CAM EXT S.E 2	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	31	AREA B
EXT SOUTH EAST	CAM EXT S.E 3	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	32	AREA B

SECURITY CAMERA SCHEDULE AREA C

LOCATION	CAMERA NAME	MANUFACTURER	MODEL	SPACE: NUMBER	ELEV FROM LEVEL	DETAIL	MOUNT DETAIL	MOUNT MODEL		MOUNT ACCESSORY	TELECOMM ROOM	SWITCH ID	NETWORK PORT	PHASE
AV DOOR 308	CAM 301.1	AXIS	P3267-LV	301	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	33	AREA C
AV DOOR 308	CAM 308.1	AXIS	P3267-LV	308	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	34	AREA C
ELECTRICAL	CAM 312.1	AXIS	P3267-LV	312	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	35	AREA C
NORTH OFFICE EMER. EXIT E310	CAM E310	AXIS	P3267-LV	310	8' - 0"	W3	WALL MOUNT	N/A	N/A	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	36	AREA C
EXT NORTH WEST	CAM EXT N.W 1	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	37	AREA C
EXT NORTH WEST	CAM EXT N.W 2	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	38	AREA C
EXT SOUTH WEST	CAM EXT S.W 1	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	39	AREA C
EXT SOUTH WEST	CAM EXT S.W 2	AXIS	P3267-LVE	EXT	12' - 0"	W5	WALL MOUNT	T91D61	TP3103-E	N/A	MDF 113	US-XXX-XXX-VSW-1-1-1 [1-1]	40	AREA C

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Keyplan:

Notes:

REV	DESCRIPTION	DATE	BY
1	ISSUE FOR APPROVAL	05/12/25	KD
2	ISSUE FOR BID	05/20/25	KD

Drawn By: KD
Project Manager: AK
Project Engineer: KD

ENG. STAMP

PERMIT TO PRACTICE

Drawing Review Status:
- A - Approved
- B - Approved with comments
- C - Revise and resubmit
- D - Reviewed
- E - Rejected

Reviewer:

Date:

Drawing Issue Status
ISSUED FOR BID

Job Number

Project:
Client
THE CLIENT

Project
HUB AHEAD 4.0A
(CLIENT OCCUPIED)

Location
MULTIPLE LOCATIONS

Title:
Device Schedule CCTV

Scale @ ArchB:
NTS

Revision:
2

External Reference:

Drawing Number:
T4-002