

USU BASTIAN AG CENTER - ARENA

PERMIT SET - JANUARY 31, 2025

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LICENSED ARCHITECT
5610739-0301
KELLY BOYD MORGAN
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12-10-24

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REVIEWED FOR CODE COMPLIANCE
Thomas W Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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project:
USU BASTIAN AG CENTER - ARENA

2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:
COVER SHEET

sheet:
G000
PERMIT SET

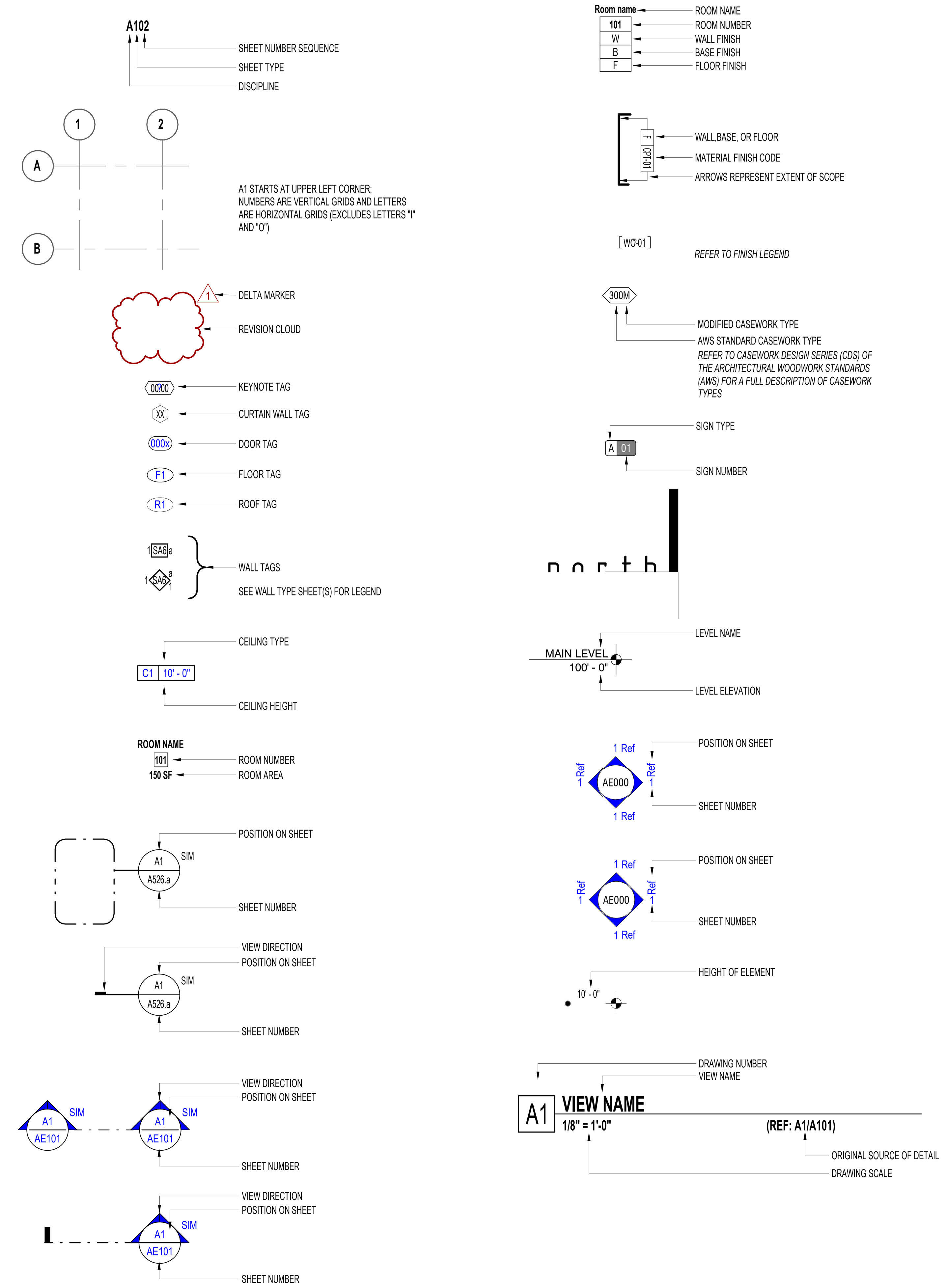
ABBREVIATION SCHEDULE

Abbrev.	Description
0	
#	NUMBER OR POUND
&	AND
2:1 SL	2 HORIZONTAL TO 1 VERTICAL SLOPE
@	AT
[	CHANNEL
±	PLUS MINUS
≤	LESS THAN OR EQUAL TO
≥	GREATER THAN OR EQUAL TO
A	
AB	ANCHOR BOLT
AC	APSHALTIC CONCRETE
ACST	ACOUSTIC
AD	AREA DRAIN
ADJ	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
ALT	ALTERNATE
ALUM	ALUMINUM
ARCH	ARCHITECTURAL, ARCHITECT, ARCHITECTURE
ASPH	ASPHALT
B	
B	BASELINE
B	BOTTOM
BEJ	BRICK EXPANSION JOINT
BLDG	BUILDING
BLK	BLOCK
BM	BEAM
BO	BOARD
BRG	BEARING
BSMT	BASEMENT
C	
C&G	CURB & GUTTER
CAP	CAPACITY
CEM	CEMENT
CG	CORNER GUARD
CIP	CAST IN PLACE, CAST IRON PIPE
CIR	CIRCULATING
CJ	CONTROL JOINT
CL	CENTERLINE
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNITS
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CPT	CARPET
CSK	COUNTERSUNK
CT	CERAMIC TILE
CTR	CENTER
D	
D	DEPTH
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DS	DOWNSPOUT
DWG	DRAWING
E	
E	EAST
E/P	EDGE OF PAVEMENT
EA	EACH
EL	ELEVATION
ELECT	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
F	
F.V.	FIELD VERIFY
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FFE	FINISHED FLOOR ELEVATION
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIN	FINISH
FLR	FLOOR
FR	FRAME
FTG	FOOTING
FXTR	FIXTURE
G	
G	GROUND
GA	GA
GALV	GALVANIZED
GL	GLASS
GR	GRADE
GRD	GROUND
GWB	GYPSUM WALL BOARD
H	
HB	HOSE BIBB
HC	HANDICAPPED
HDW	HARDWARE
HGT	HEIGHT
HORZ	HORIZONTAL
HR	HOUR
HW	HOT WATER

ABBREVIATION SCHEDULE

Abbrev.	Description
I	
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INSUL	INSULATION
INT	INTERIOR
INTX	INTERSECTION
INV	INVERT
J	
JB	JUNCTION BOX
JCT	JUNCTION
JST	JOIST
JT	JOINT
L	
L	ANGLE
L	LENGTH
LC	LENGTH OF CURVE
LDC	LEAD COVERED
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LT	LIGHT
M	
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MET	METAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTD	MOUNTED
MTG	MOUNTING
MULL	MULLION
MWP	MEMBRANE WATERPROOFING
N	
N	NORTH
NA	NOT APPLICABLE
NE	NORTHEAST
NEC	NATIONAL ELECTRIC CODE
NEUT	NEUTRAL
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NW	NIORTHWEST
O	
OA	OUTSIDE AIR
OA	OUTSIDE AIR
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OPP	OPPOSITE
OVHD	OVERHEAD
P	
PI	POINT IF INTERSECTION
PL	PLATE
PLAS	PLASTER
PLYWD	PLYWOOD
PNL	PANEL
PNT	PAINT
PRELIM	PRELIMINARY
PRESS	PRESSURE
PRIM	PRIMARY
PRTN	PARTITION
PT	POINT, POINT OF TANGENT
Q	
QT	QUARRY TILE
R	
R	RADIUS
RA	RETURN AIR
RB	RESILIENT VINYL BASE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RECP	RECEPTACLE
REINF	REINFORCEMENT
REQD	REQUIRED
REV	REVISION
RF	ROOF
RFLCP	REFLECTIVE CEILING PLAN
RM	ROOM
RVT	RESILIENT VINYL TILE
S	
S	SOUTH
SCH	SCHEDULE
SD	STORM DRAIN
SE	SOUTHEAST
SECT	SECTION
SHT	SHEET
SIM	SIMILIAR
SL	SLOPE
SPEC	SPECIFICATION
SQ	SQUARE
STL	STEEL
SUSP	SUSPENDED
T	
T	TOP
T&B	TOP AND BOTTOM
TEL	TELEPHONE
TEMP	TEMPORARY
TERM	TERMINAL
THK	THICK/THICKNESS
THRSLD	THRESHOLD
TO	TOP OF
TOS	TOP OF STEEL, TOP OF SLAB
TOW	TOP OF WALL
TYP	TYPICAL
U	
UNO	UNLESS NOTED OTHERWISE
V	
VCT	VINYL COMPOSITION TILE
VENT	VENTILIATING
VERT	VERTICAL
VEST	VESTIBULE
VWC	VINYL WALL COVERING
W	
W	WIDTH, WEST
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WIDTH
WT	WEIGHT
WWF	WELDED WIRE FABRIC
X	
X	TRANSFORMER

ARCHITECTURE SYMBOLS



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GENERAL NOTES - MISCELLANEOUS

1 THE PROJECT MANUAL, UNDER SEPARATE COVER, IS AN INTEGRAL PART OF THESE CONSTRUCTION DRAWINGS.

2 PLANS, SECTIONS, ELEVATIONS, DETAILS AND DIMENSIONS LABELED "TYPICAL" SHALL APPLY TO ALL SITUATIONS OCCURRING THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY KEYED ON THE DRAWINGS.

3 ALL WORK, MATERIALS, AND METHODS SHALL BE IN CONFORMANCE WITH THE CODES, ORDINANCES AND REGULATIONS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION AT THE PROJECT LOCATION.

4 UNLESS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS AS BEING NOT IN CONTRACT (N.I.C.) OR EXISTING, ALL ITEMS, MATERIALS AND INSTALLATION OF SAME ARE PART OF THE CONTRACT AS DEFINED BY THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL ACCESSORIES, COMPONENTS AND ASSEMBLIES REQUIRED FOR THE WORK DEPICTED OR SPECIFIED.

5 CONTRACTORS ARE RESPONSIBLE FOR ALL WORK REGARDLESS OF THE LOCATION OF THE INFORMATION ON THE DOCUMENTS.

6 KEEP SITE CLEAN AND CLEAR OF DEBRIS AND IN ORDERLY CONDITION THAT DOES NOT DETRACT FROM THE SURROUNDING SITE AND REPAIR ANY DAMAGE CAUSED BY WORK OF THE CONTRACT.

7 ALL DIMENSIONS ARE TO THE FACE OF METAL OR WOOD STUD FRAMED WALLS AND TO THE FACE OF CONCRETE AND MASONRY WALLS AS SHOWN, UNLESS NOTED OTHERWISE.

8 INSTALL SEALANT AT EXTERIOR SIDE OF ALL JOINTS, SEAMS, CONNECTIONS OR OPENINGS WHICH WOULD ALLOW WATER OR AIR INFILTRATION EXCEPT AS NOTED OTHERWISE. SEALANT COLOR TO MATCH ADJACENT SURFACE. COLOR REQUIRES ARCHITECTS APPROVAL.

9 DOOR OPENINGS IN FRAME CONSTRUCTION WHICH ARE NOT DIMENSIONED ARE EITHER CENTERED IN THE WALL, FACE OF JAMB OR LOCATED 4" FROM THE FACE OF STUD TO THE FINISHED JAMB.

10 ALL SPECIAL ACCESSIBLE FACILITIES SHALL BE IDENTIFIED WITH APPROVED SIGNAGE.

11 THE CONTRACTOR IS RESPONSIBLE FOR PRODUCING A WEATHER TIGHT BUILDING, DETAILS AND OMISSIONS TO DRAWINGS NOTWITHSTANDING. ALL DRAWING CONFLICTS WHICH MAY NOT ALLOW A WEATHERTIGHT CONDITION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.

12 DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. CONTRACTOR SHALL SUBMIT SPECIFIC DISCREPANCIES FOR ARCHITECT REVIEW.

13 PROVIDE FULL METAL BACKING PLATE (16 GAUGE X 6" HIGH SECURED TO 3 STUDS MIN.) OR WOOD BLOCKING AS REQUIRED TO SECURELY ANCHOR ALL WALL MOUNTED EQUIPMENT (CABINETS, TOILET ROOM ACCESSORIES, HARDWARE, ETC.). BLOCKING SHALL PROVIDE A RIGID CONNECTION CAPABLE OF SUPPORTING DESIGN LOADS. PROVIDE A 16 GAUGE X 6" STL. STUD/TRACK SECURED TO 2 STUDS TO SECURELY SUPPORT ALL WALL STOPS (DOOR BUMPER).

14 COORDINATE WITH ALL TRADES, SIZES AND LOCATIONS OF ALL OPENINGS FOR MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT, EQUIPMENT PADS OR BASES, AS WELL AS ELECTRIC POWER, WATER, AND DRAIN INSTALLATIONS, BEFORE PROCEEDING WITH WORK. CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS FOR PROPER PLACEMENT OF ALL TRADES' WORK. ANY CONCERNS, SPACE LIMITATIONS, OR STRUCTURAL CONFLICTS, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. A REASONABLE RESPONSE TIME SHALL BE ALLOWED AS NOTED IN THE SPECIFICATIONS.

15 ALL FLOOR OR WALL OPENINGS REQUIRED FOR PIPES, DUCTS, CONDUITS,ETC. SHALL BE SEALED IN AN APPROVED MANNER.

16 FIRE SPRINKLER DESIGN TO BE DONE BY A CERTIFIED SUB-CONTRACTOR AND WILL REQUIRE APPROVALS BY THE CITY, AND STATE FIRE MARSHALS. APPROVALS BY THE FIRE MARSHAL ARE TO BE OBTAINED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO ARCHITECT. SUBMITTAL TO THE ARCHITECT ALSO INDICATES THAT THE CONTRACTOR HAS REVIEWED AND COORDINATED FIRE-SPRINKLER PIPING LOCATIONS WITH ALL TRADES.

17 ROOMS ENCLOSED WITH RATED WALLS REQUIRE RATED DOORS. ANY DUCTS PASSING THROUGH WALLS REQUIRE FIRE DAMPERS AND OR FIRE/SMOKE DAMPERS. ANY CONDUIT OR PIPING REQUIRES RATED SEALANT AT JOINTS.

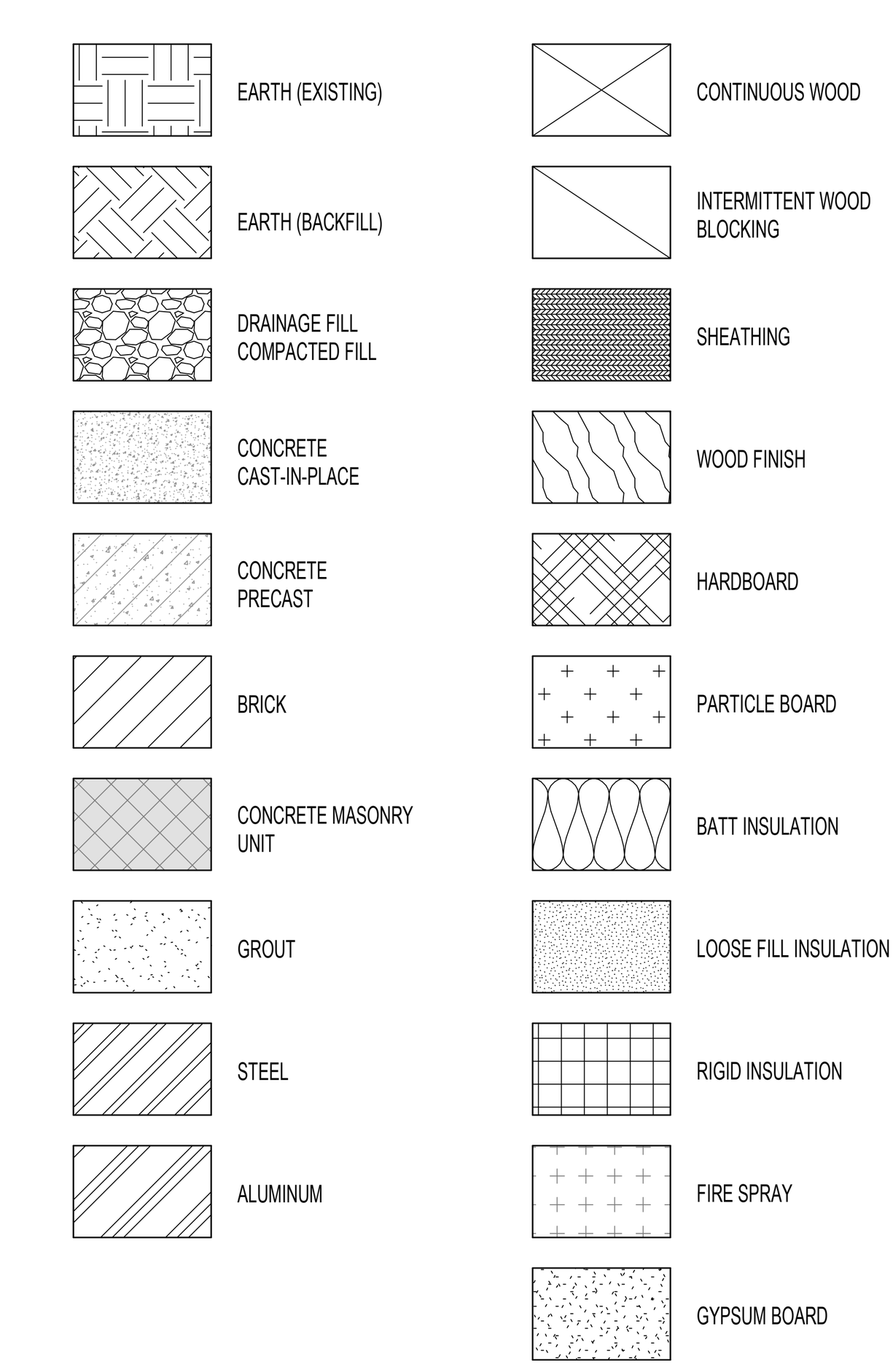
18 GENERAL STRUCTURAL NOTES GOVERN TYPICAL CONDITIONS WHETHER OR NOT SPECIFICALLY DETAILED OR NOTED.

19 IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND LOCATE ELECTRICAL, DATA, AND PHONE RECEPTACLES, SWITCHES, ETC. TO AVOID CASEWORK, DOORS, ETC.

20 THE DRAWINGS AND SPECIFICATIONS INDICATE THE GENERAL SCOPE OF THE PROJECT IN TERMS OF THE ARCHITECTURAL AND STRUCTURAL DESIGN CONCEPT. THE DIMENSIONS OF THE BUILDING, THE TYPE OF STRUCTURAL, MECHANICAL, ELECTRICAL, AND UTILITY SYSTEMS AND MAJOR ARCHITECTURAL ELEMENTS OF CONSTRUCTION AS "SCOPE" DOCUMENTS.

21 THE DRAWINGS AND SPECIFICATIONS DO NOT NECESSARILY INDICATE OR DESCRIBE ALL WORK REQUIRED FOR THE FULL PERFORMANCE AND COMPLETION OF THE WORK. CONTRACTS SHALL BE LET ON THE BASIS OF SUCH DOCUMENTS, WITH THE UNDERSTANDING THAT THE CONTRACTOR IS TO FURNISH ALL ITEMS REQUIRED FOR PROPER COMPLETION OF THE WORK WITHOUT ADJUSTMENT TO CONTRACT PRICE. IT IS INTENDED THAT THE WORK TO BE OF SOUND AND QUALITY CONSTRUCTION AND THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE INCLUSION OF ADEQUATE AMOUNTS TO COVER INSTALLATION OF ALL ITEMS INDICATED, DESCRIBED, OR REASONABLY IMPLIED.

MATERIAL LEGEND



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INDEX, GENERAL NOTES, LOCATION MAP, LEGENDS

sheet:

G001

PERMIT SET

PLUMBING FIXTURE COUNT

OCCUPANCY	OCCUPANT LOAD	WATER CLOSETS					LAVATORIES			DRINKING FOUNTAIN		SERVICE SINK
		RATIO	M	RATIO	F							
A-4	80 TOTAL 49 EA.	1/75	1	1/40	1		1/200: M 1/150: W	1 1		1/1000	1	1
PROVIDED			1		1			2			1	1

CODE ANALYSIS

APPLICABLE CODES

International Building Code: **2021**
International Mechanical Code: **2021**
International Plumbing Code: **2021**
International Fire Code: **2021**
International Energy: Conservation Code **2021**
National Electrical Code: **2020**
Uniform Code for Building: Conservation
ICC ANSI A117.1 **2009**

A. Occupancy and Group:
Change in Use: YES _____ NO **X** Mixed Occupancy: YES _____ NO **X**
Special Use and Occupancy (i.e. High Rise, Covered Mall):

B. Seismic Design Category: **?** Design Wind Speed: **?**

C. Type of Construction (circle one):

I	I	II	II	III	III	IV	IV	V	V
A	B	A	B	A	B	A	B	A	B

D. Fire Resistance Rating - Requirements for the Exterior Walls based on the fire separation distance (in hours):
North: **NONE** East: **NONE** South: **NONE** West: **NONE**

E. Mixed Occupancies: **N/A** Non-separated Uses: **A-4**

F. Sprinklers: **NOT REQUIRED PER IBC 507.4 EXCEPTION 2.1 BASED ON ADJACENT EXITS**
Required: **NO, SEE ABOVE** Provided: **NO, SEE ABOVE** Type of Sprinkler System: **N/A**

G. Number of Stories: **1 STORY** Building Height: **36' - 0"**

H. Actual Area per Floor (square feet): **49, 629 SF**

J. Tabular Area: **49,629**

K. Area Modifications -

a) Single Occupancy (multistory buildings): **N/A**
$A_a = [A_t + (NS \times I_f)] \times S_a$ $I_f = [F/P - 0.25] W/30$ SECTION 506.2.1 ALLOWABLE AREA = [38,000 + (38,000 X .75)] X 4 = 66,500 X 4 = 266,000 SF ALLOWABLE

b) Mixed Occupancy (multistory buildings): **N/A**
$A_a = [A_t + (NS \times I_f)]$ $I_f = [F/P - 0.25] W/30$

c) Sum of the Ratio Calculation for Mixed Occupancies **N/A**
Actual Area/Allowable Area ≤ 1 **0.00 SF / 0.00 SF =**

d) Total Allowable Area for:
1) One Story: 266,000 SF
2) Two Story: $A_a(2)$ **N/A**
2) Three Story: $A_a(3)$ **N/A**

e) Unlimited Area Building - Yes (No) Code Section:

L. Fire Resistance Rating Requirements for Building Elements (hours) -

ELEMENT	HOURS	ASSEMBLY LISTING
Primary Structural Frame	0	
Bearing Walls - Exterior	0	
Bearing Walls - Interior	0	
Nonbearing Walls/Partitions - Exterior	0	
Nonbearing Walls/Partitions - Interior	0	
Floor construction and associated secondary members	0	
Roof construction and associated secondary members	0	
Exterior Doors & Windows	0	
Shaft Enclosures	N/A	
Fire Barriers	N/A	
Fire Walls	N/A	
Fire Partitions	N/A	
Smoke Partitions	N/A	

M. Design Occupant Load: **80 IN AUDIENCE AREA (165 IN SOIL ARENA)**
Exit Width Required: **44" CORRIDORS, 32" DOORS**
Exit Width Provided: **>44" CORRIDORS, 32" AND 72" DOORS**

N. Minimum Number of Plumbing Fixtures (see tables within code plans for calculations and counts based on Occupancy Use Classification).

FOOTNOTES:

1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.

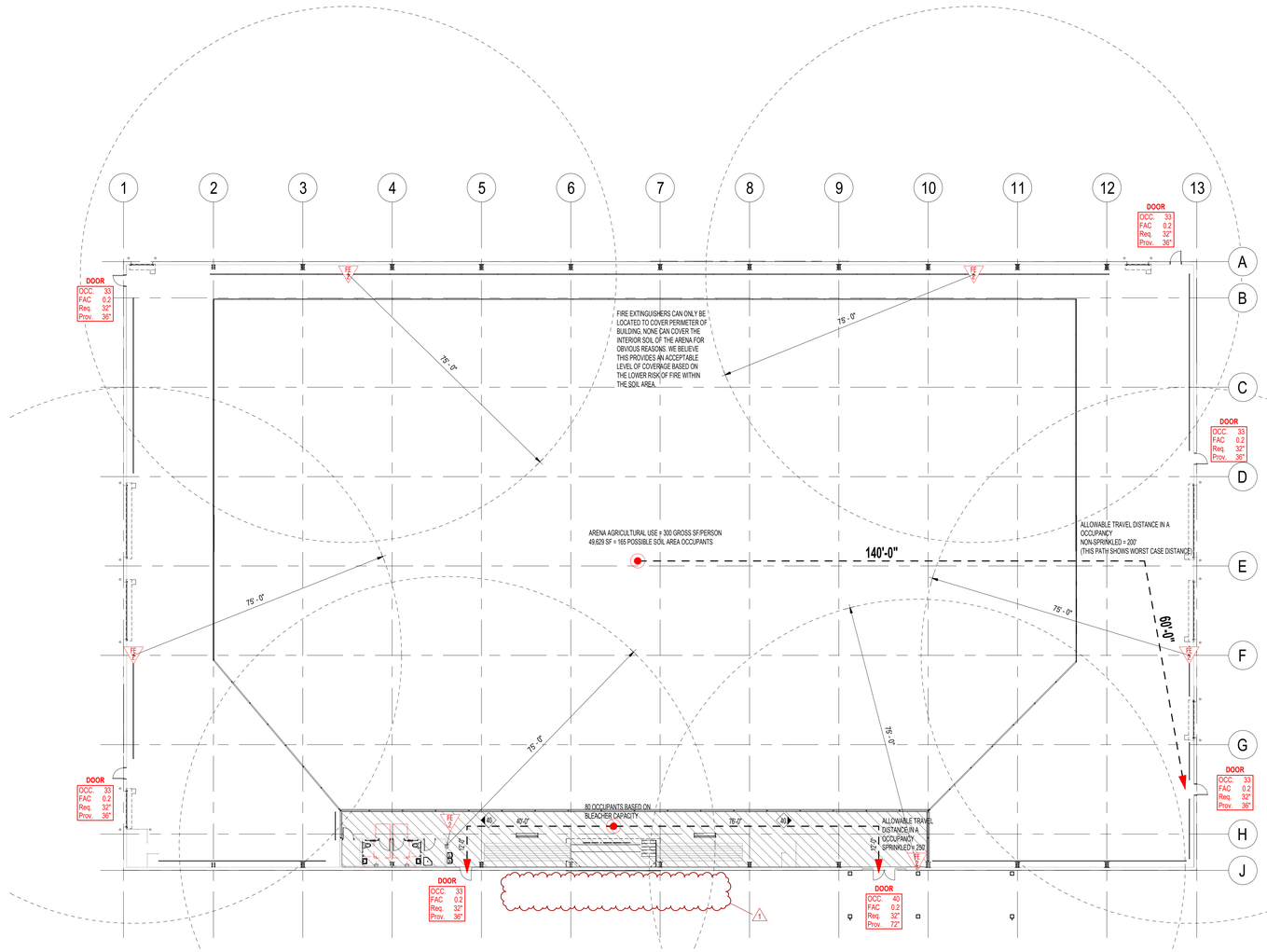
2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings, including, but not limited to -
a. High Rise Requirements
b. Atriums
c. Performance Base Criteria
d. Means or Egress Criteria
e. Fire Assembly Locator Sheet
f. Exterior and Interior Accessibility Route
g. Fire Stopping, including tested design number
h. Fire Penetration Details

3) See Code Plan sheets for Additional information.

THESE DOCUMENTS MEET ALL REQUIREMENTS OF DFCM STANDARDS FOUND AT www.dfcm.utah.gov

DEFERRED SUBMITTALS:
Below are the current deferred submittals to be provided during construction by the General Contractor. Method Studio will upload for DFCM review thru EDMS.

- Fire Alarm Submittal
- Pre-engineered Metal Building Design



GRAPHIC LEGEND

- 3 HOUR RATING
- 2 HOUR RATING
- 1 HOUR RATING
- 30 MINUTE RATING
- TRAVEL DISTANCE (TD)
- COMMON PATH OF EGRESS (CPE)
- POINT AT WHICH A CHOICE OF TWO EXITS BECOME AVAILABLE
- REMOTE POINT
- TRAVEL PATH OCCUPANTS & DIRECTION OF TRAVEL
- FIRE RATING OF OPENING (IN MINUTES) *ADDITIONAL INFORMATION PROVIDED IN A600 SERIES*
- FIRE EXTINGUISHER IN RECESSED CABINET; 75' RADIUS
- FIRE EXTINGUISHER SURFACE MOUNTED ON WALL HOOK; 75' RADIUS
- DOOR — OCC. 150 / FAC 0.2 / Req. 32" / Prov. 36" — REQUIRED AND PROVIDED DOOR OPENING SIZE (IN INCHES) BASED OFF NUMBER OF EXITING OCCUPANTS
- STAIR — OCC. 85 / FAC 0.3 / Req. 44" / Prov. 44" — REQUIRED AND PROVIDED STAIR WIDTH SIZE (IN INCHES) BASED OFF NUMBER OF EXITING OCCUPANTS

NOTES:
a. SEE SHEET SERIES A500 FOR ADDITIONAL WALL TYPE INFORMATION AND UL LISTINGS
b. SEE G000 SHEET SERIES FOR ADDITIONAL CODE INFORMATION

REVIEWED FOR CODE COMPLIANCE
Reviewed By: Chadwick W. Peterson
04/03/2025
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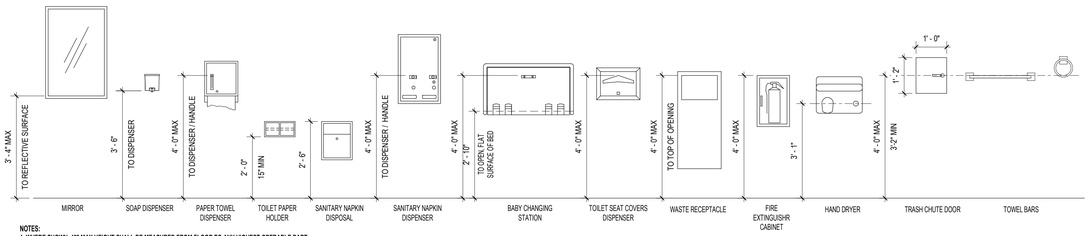
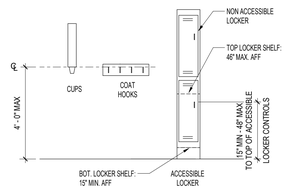


NOTES:
1. WHERE SHOWN, 48" MAX HEIGHT SHALL BE MEASURED FROM FLOOR TO ANY HIGHEST OPERABLE PART
2. PROVIDE BLOCKING FOR ALL EQUIPMENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS

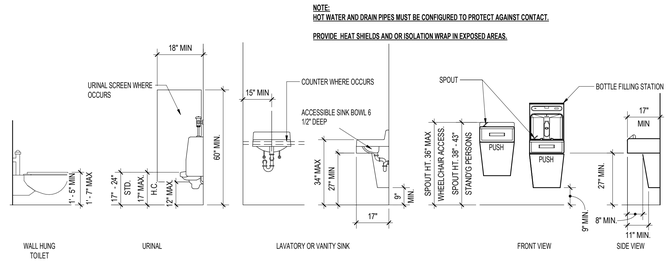
E1 TYPICAL MOUNTING HEIGHTS
1/2" = 1'-0"



E4 MISCELLANEOUS MOUNTING HEIGHTS
3/8" = 1'-0"

NOTE:
HOT WATER AND DRAIN PIPES MUST BE CONFIGURED TO PROTECT AGAINST CONTACT.

PROVIDE HEAT SHIELDS AND OR ISOLATION WRAP IN EXPOSED AREAS.



E5 PLUMBING FIXTURE
3/8" = 1'-0"



DISPENSER OUTLET LOCATION - PROTRUDING DISPENSER BELOW GRAB BAR



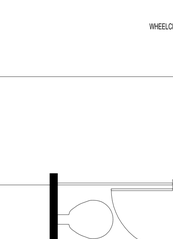
DISPENSER OUTLET LOCATION - PROTRUDING DISPENSER ABOVE GRAB BAR



DISPENSER OUTLET LOCATION - RECESSED DISPENSER

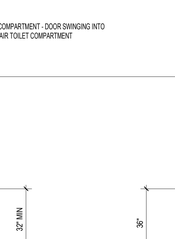


DISPENSER OUTLET - EXCEPTION



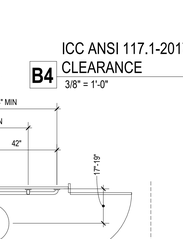
CHILDRENS DISPENSER OUTLET - EXCEPTION

D1 ICC ANSI 117.1-2017 DISPENSER LOCATION
3/8" = 1'-0"



SIDE WALL GRAB BAR FOR WATER CLOSET

NOTE:
FLUSH CONTROLS SHALL BE LOCATED ON OPEN SIDE OF WATER CLOSET

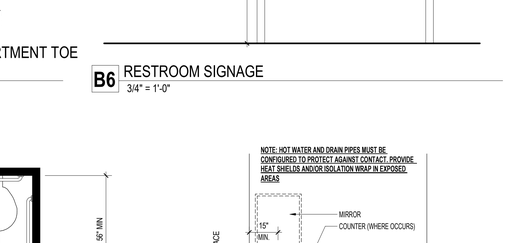


REAR WALL GRAB BAR FOR WATER CLOSET



POSITION OF CHILDRENS GRAB BARS SIDE WALL VIEW

D4 ICC ANSI 117.1-2017 GRAB BAR PLACEMENT
3/8" = 1'-0"



BLOCKING REQUIREMENTS
ALL UNITS: TOILET AREA

D5 GRAB BAR BLOCKING
1/2" = 1'-0"

CLEAR FLOOR SPACE FOR WATER CLOSETS

CLEAR FLOOR SPACE FOR BATHTUBS

NOTE: CLEAR FLOOR SPACE BESIDE TUB MAY OVERLAP WITH CLEAR FLOOR SPACE BENEATH ADJACENT FIXTURES

LAVATORY WITH KNEE SPACE

LAVATORY WITHOUT KNEE SPACE

CLEAR FLOOR SPACE FOR LAVATORIES

TRANSFER-TYPE SHOWER COMPARTMENT OPTION 1

TRANSFER-TYPE SHOWER COMPARTMENT OPTION 2

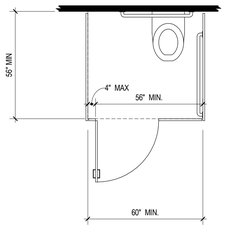
STANDARD ROLL-IN-TYPE SHOWER COMPARTMENT

CLEAR FLOOR SPACE FOR SHOWER

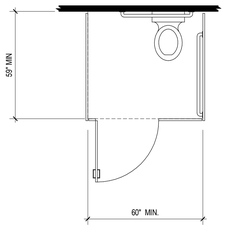
CHARACTERS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND.

THE GLARE FROM COVERINGS AND THE FINISH OF PICTOGRAMS AND THEIR FIELDS SHALL NOT EXCEED 19 GLOSS UNITS AS MEASURED ON A 60-DEGREE GLOSS METER

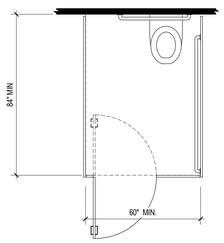
C1 ICC ANSI 117.1-2017 PLUMBING CLEAR FLOOR SPACE
1/4" = 1'-0"



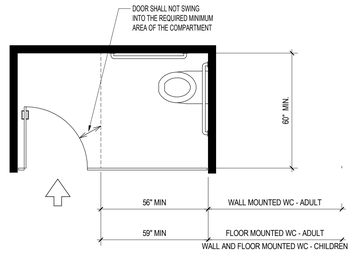
WHEELCHAIR TOILET COMPARTMENT - WALL HUNG CLOSET, ADULT



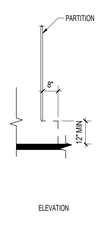
WHEELCHAIR TOILET COMPARTMENTS FLOOR MOUNTED WATER CLOSET, ADULT - WALL HUNG AND FLOOR MOUNTED WATER CLOSET, CHILDREN



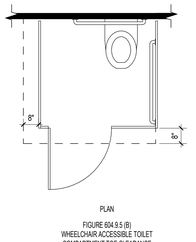
WHEELCHAIR TOILET COMPARTMENTS ALTERNATE WHEELCHAIR TOILET COMPARTMENT



WHEELCHAIR TOILET COMPARTMENT - DOOR SWINGING INTO WHEELCHAIR TOILET COMPARTMENT

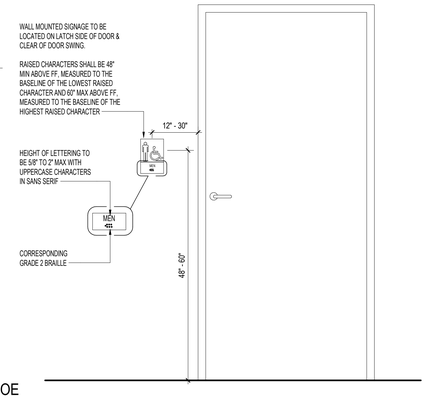


ELEVATION

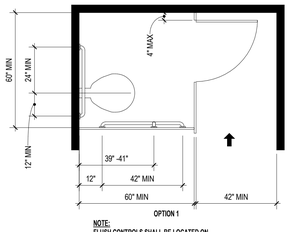


PLAN

FIGURE 604.9.5 (B)
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT TOE CLEARANCE



B1 ICC ANSI 117.1-2017 WHEELCHAIR ACCESSIBLE COMPARTMENT
3/8" = 1'-0"



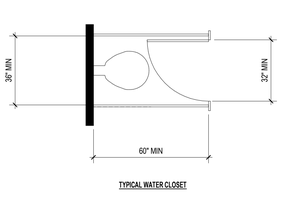
OPTION 1

NOTE:
FLUSH CONTROLS SHALL BE LOCATED ON OPEN SIDE OF WATER CLOSET

SIZE OF CLEARANCE FOR WATER CLOSET

OPTION 2

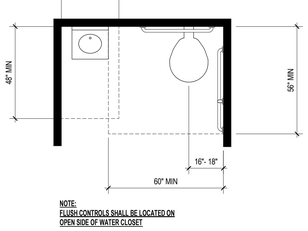
NOTE:
FLUSH CONTROLS SHALL BE LOCATED ON OPEN SIDE OF WATER CLOSET



TYPICAL WATER CLOSET

B4 ICC ANSI 117.1-2017 WHEELCHAIR ACCESSIBLE COMPARTMENT TOE CLEARANCE
3/8" = 1'-0"

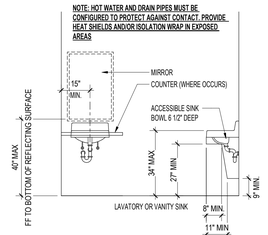
AMBULATORY ACCESSIBLE WATER CLOSET
(1) REQ'D WHEN 6 OR MORE STALLS ARE PROVIDED



NOTE:
FLUSH CONTROLS SHALL BE LOCATED ON OPEN SIDE OF WATER CLOSET

SIZE OF CLEARANCE FOR WATER CLOSET

B6 RESTROOM SIGNAGE
3/4" = 1'-0"



A1 ICC ANSI 117.1-2017 RESTROOM STALL LAYOUT
3/8" = 1'-0"

A6 ACCESSIBLE UNIT - LAVATORY
3/8" = 1'-0"

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salt lake city, utah 84101
801 532 4422

LICENSED ARCHITECT
5610739-0301
KELLY BOYD MORGAN
STATE OF UTAH

12-10-24

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2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

MOUNTING HEIGHTS & TYPICAL BLOCKING

sheet:

G011

PERMIT SET

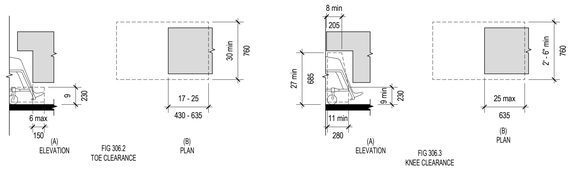
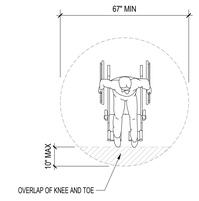


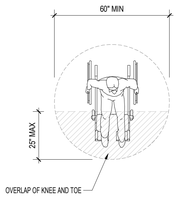
FIG 306.2
TOE CLEARANCE

FIG 306.3
KNEE CLEARANCE

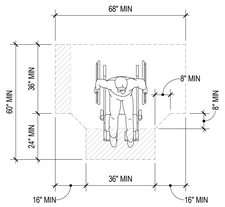
E1 ICC ANSI 117.1-2017 TOE / KNEE CLEARANCE
3/8" = 1'-0"



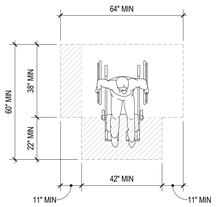
CIRCULAR TURNING SPACE - NEW BUILDINGS



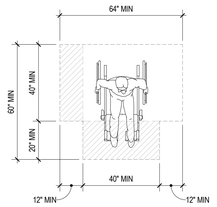
CIRCULAR TURNING SPACE - EXISTING BUILDINGS



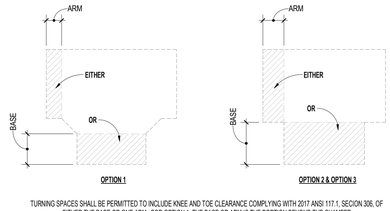
T-SHAPED TURNING SPACE - NEW BUILDINGS - OPTION 1



T-SHAPED TURNING SPACE - NEW BUILDINGS - OPTION 2



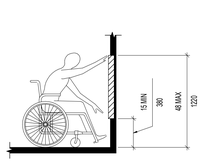
T-SHAPED TURNING SPACE - NEW BUILDINGS - OPTION 3



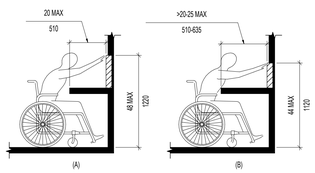
TURNING SPACES SHALL BE PERMITTED TO INCLUDE KNEE AND TOE CLEARANCE COMPLYING WITH 2017 ANSI 117.1, SECION 306, OF EITHER THE BASE OR ONE ARM. FOR OPTION 1, THE BASE OR ARM IS THE PORTION BEYOND THE CHAMFER

T-SHAPED TURNING SPACE - NEW BUILDINGS - OVERLAP OF KNEE AND TOE CLEARANCE

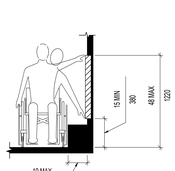
D1 ICC ANSI 117.1-2017 TURNING SPACE
3/8" = 1'-0"



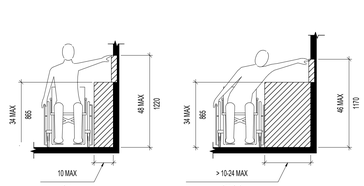
UNOBSTRUCTED FORWARD REACH



OBSTRUCTED FORWARD REACH

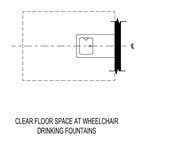


UNOBSTRUCTED SIDE REACH

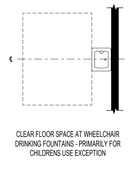


OBSTRUCTED HIGH SIDE REACH

C1 ICC ANSI 117.1-2017 REACH RANGES
3/8" = 1'-0"



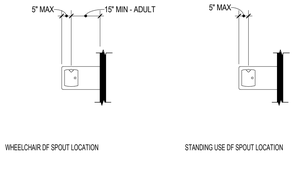
CLEAR FLOOR SPACE AT WHEELCHAIR DRINKING FOUNTAINS



CLEAR FLOOR SPACE AT WHEELCHAIR DRINKING FOUNTAINS - PRIMARILY FOR CHILDRENS USE EXCEPTION

DRINKING FOUNTAIN AND BOTTLE FILLING STATIONS PLAN VIEW

C4 ICC ANSI 117.1-2017 DF CLEAR FLOOR SPACE
3/8" = 1'-0"

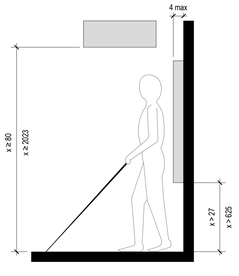


WHEELCHAIR DF SPOUT LOCATION

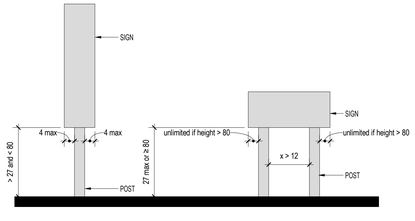
STANDING USE DF SPOUT LOCATION

DRINKING FOUNTAIN AND BOTTLE FILLING STATIONS PLAN VIEW

C5 ICC ANSI 117.1-2017 DF SPOUT LOCATION
3/8" = 1'-0"

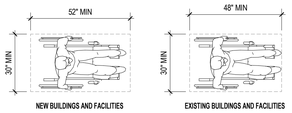


LIMITS OF PROTRUDING OBJECTS

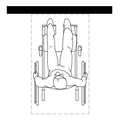


POST-MOUNTED PROTRUDING OBJECTS

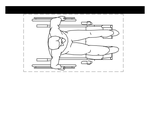
B1 ICC ANSI 117.1-2017 PROTRUDING OBJECTS
1/2" = 1'-0"



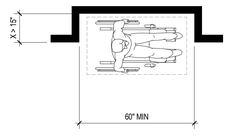
SIZE OF CLEAR FLOOR SPACE - NEW AND EXISTING BUILDINGS AND FACILITIES



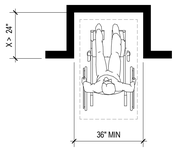
POSITION OF CLEAR FLOOR SPACE FORWARD



POSITION OF CLEAR FLOOR SPACE PARALLEL

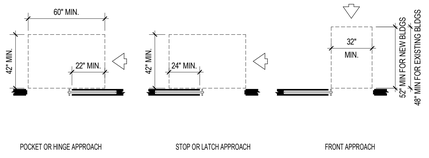


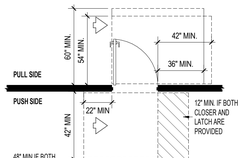
MANEUVERING CLEARANCE IN AN ALCOVE PARALLEL APPROACH

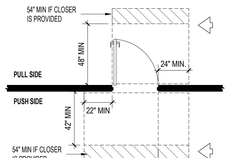


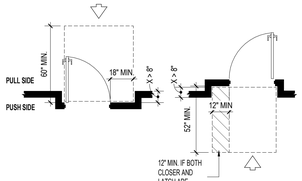
MANEUVERING CLEARANCE IN AN ALCOVE FORWARD APPROACH

B3 ICC ANSI 117.1-2017 CLEAR FLOOR SPACE
3/8" = 1'-0"

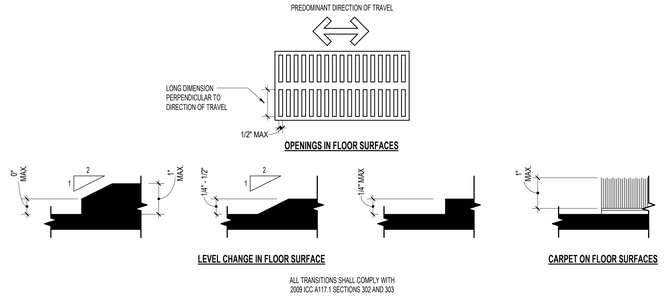








A1 ICC ANSI 117.1-2017 DOORS AND DOORWAYS
1/4" = 1'-0"



ALL TRANSITIONS SHALL COMPLY WITH 2009 ICC A117.1 SECTIONS 302 AND 303

A5 ICC ANSI 117.1-2017 ACCESSIBLE FLOOR TRANSITIONS
12" = 1'-0"

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salt lake city, utah 84101
801 532 4422

LICENSED ARCHITECT
5610739-0301
KELLY BOYD MORGAN
STATE OF UTAH

12-10-24

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REVIEWED FOR CODE COMPLIANCE
Reviewed by: Charles H. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

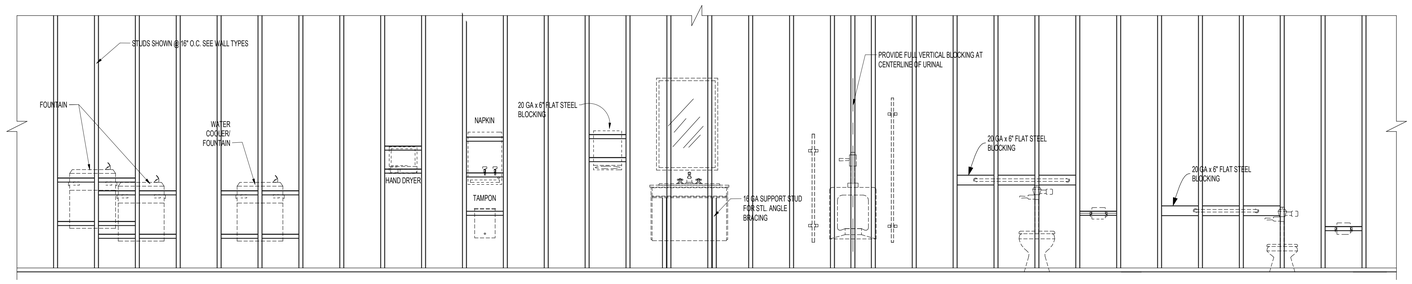
title:

ACCESSIBILITY DETAILS

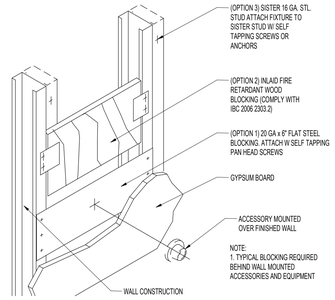
sheet:

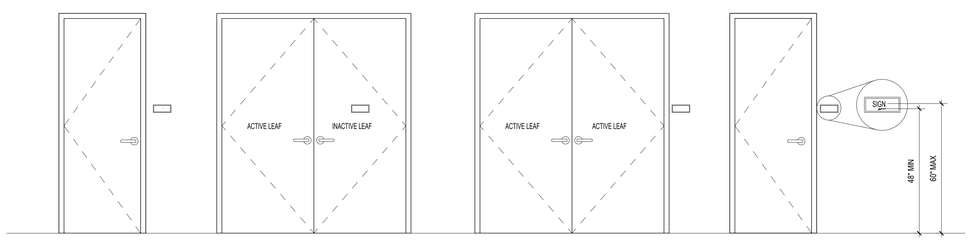
G012

PERMIT SET



TYPICAL BLOCKING DETAILS



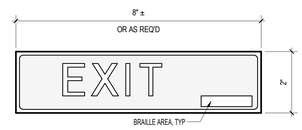


SIGNAGE LOCATIONS

SIGN HEIGHT ABOVE THE FLOOR. TACTILE CHARACTERS SHALL BE 48 INCHES MINIMUM ABOVE THE FLOOR, MEASURED TO THE BASELINE OF THE LOWEST TACTILE CHARACTER AND 60 INCHES MAXIMUM ABOVE THE FLOOR, MEASURED TO THE BASELINE OF THE HIGHEST TACTILE CHARACTER. (ICC/ANSI 703.3.10)

SIGN LOCATION. WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE ALONGSIDE THE DOOR AT THE LATCH SIDE. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAVES, THE SIGN SHALL BE TO THE RIGHT OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE OF A SINGLE DOOR, OR TO THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE ON THE NEAREST ADJACENT WALL. SIGNS SHALL BE ON THE NEAREST SHALL BE LOCATED SO THAT A CLEAR FLOOR AREA 18 INCHES MINIMUM BUY 18 INCHES MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF THE ANY DOOR SWING BETWEEN THE CLOSED POSITION AND 45 DEGREE OPEN POSITION. (ICC/ANSI 703.311)

NOTE:
-COLOR AS SELECTED BY ARCHITECT
-CHARACTER SIZE AND BRAILLE LOCATION PER ANSI A117.1, CH. 7



EXIT SIGN

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801 532 4422

LICENSED ARCHITECT
5610739-0301
KELLY BOYD MORGAN
STATE OF UTAH

12-10-24

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REVIEWED FOR CODE COMPLIANCE
Reviewer: Charles H. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

CODE REQUIRED SIGNAGE & DETAILS

sheet:

G015

PERMIT SET

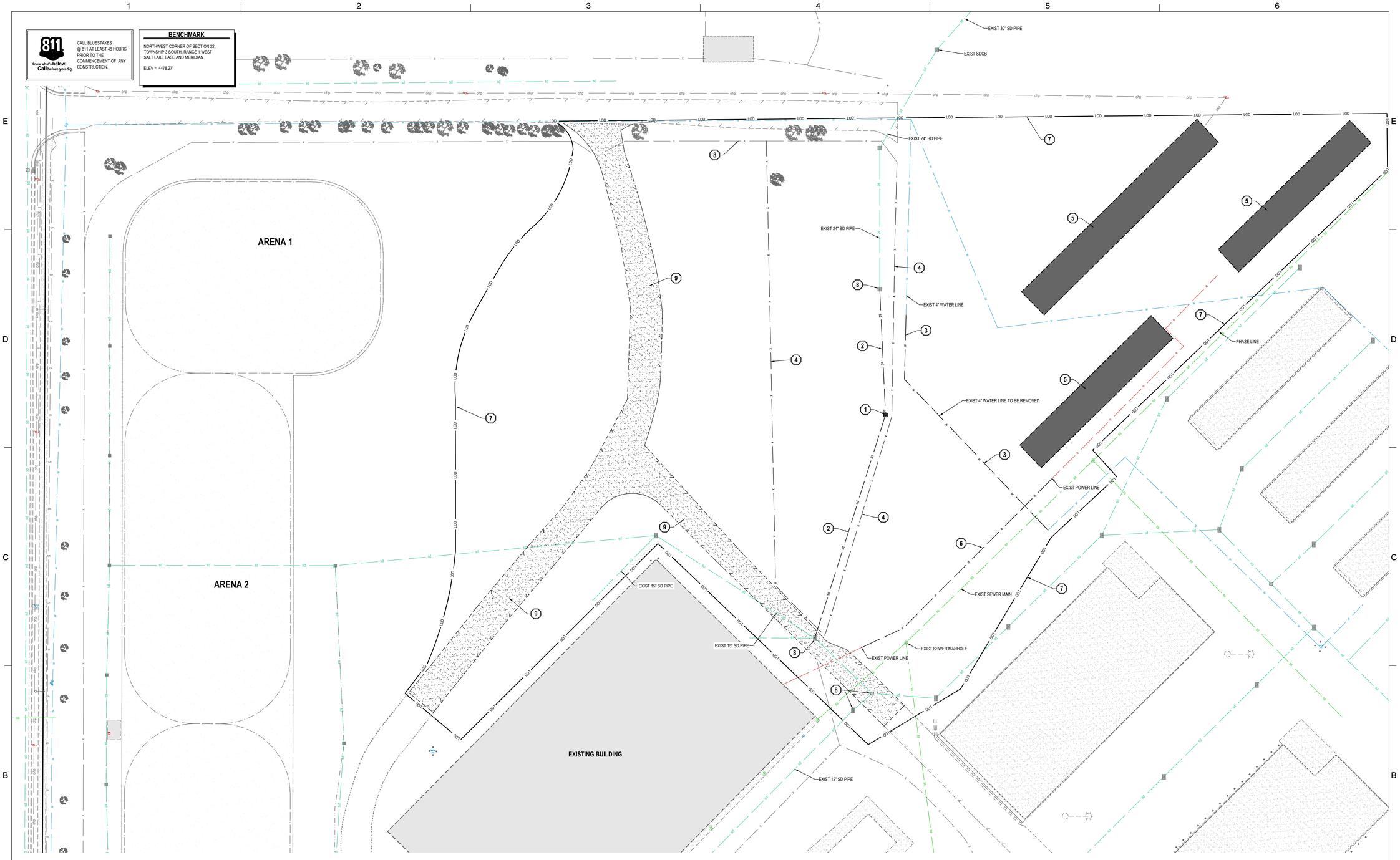
CALL BLUESTAKES @ 811 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

811 Know what's below. Call before you dig.

BENCHMARK

NORTHWEST CORNER OF SECTION 22, TOWNSHIP 3 SOUTH, RANGE 1 WEST SALT LAKE BASE AND MERIDIAN

ELEV = 4478.27'



GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
2. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF THE CONTRACTOR'S FAILURE TO VERIFY THE LOCATIONS OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT. THE CONTRACTOR IS TO VERIFY ALL CONNECTION POINTS WITH THE EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN. IF CONFLICTS WITH EXISTING UTILITIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION TO DETERMINE IF ANY FIELD ADJUSTMENTS SHOULD BE MADE.
3. ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED, INCLUDING TREES AND DECORATIVE SHRUBS, SOD, FENCES, WALLS AND STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.
4. ALL CONSTRUCTION SIGNAGE, BARRICADES, TRAFFIC CONTROL DEVICES, ETC. SHALL CONFORM TO THE LATEST EDITION OF THE M.U.T.C.D. THE CONTRACTOR WILL MAINTAIN SUCH SO THAT THEY ARE PROPERLY PLACED AND VISIBLE AT ALL TIMES.
5. SIDEWALKS AND CURBS DESIGNATED TO BE DEMOLISHED SHALL BE DEMOLISHED TO THE NEAREST EXPANSION JOINT, MATCHING THESE PLANS AS CLOSELY AS POSSIBLE.
6. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. REMOVE AND PROPERLY DISPOSE OF EXISTING STORM DRAIN CATCH BASIN.
2. REMOVE AND PROPERLY DISPOSE OF EXISTING STORM DRAIN PIPE.
3. REMOVE AND PROPERLY DISPOSE OF EXISTING WATER LINE.
4. REMOVE AND PROPERLY DISPOSE OF EXISTING FENCE.
5. REMOVE AND PROPERLY DISPOSE OF EXISTING STRUCTURES, CONCRETE SLABS, STAIRS, ETC., INCLUDING ALL ELECTRICAL APPURTENANCES, IN THIS AREA WHETHER OR NOT IDENTIFIED ON PLANS. CONTRACTOR TO FILL IN ALL HOLES CREATED DURING DEMOLITION WITH STRUCTURAL FILL TO PROPER SUBGRADE ELEVATION.
6. RELOCATE EXISTING POWER LINES. CONTRACTOR TO FIELD VERIFY LOCATION. SEE UTILITY PLAN FOR PROPOSED LOCATION. COORDINATE WITH LOCAL POWER COMPANY.
7. LIMIT OF DISTURBANCE.
8. PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, SIGNS, ETC. (TYPICAL UNLESS OTHERWISE NOTED).
9. REMOVE EXISTING ASPHALT ROAD. CONTRACTOR TO FIELD VERIFY LOCATION.

NORTH

HORIZONTAL GRAPHIC SCALE

30 0 15 30 60

(IN FEET)

HORZ: 1 inch = 30 ft.

method studio

360 west aspen avenue
salt lake city, utah 84101
801 532 4422

ENSIGN
THE STANDARD IN ENGINEERING
45 W 10000 S, Suite 500
Sandy, UT 84070
Phone: 801.255.0529

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REGISTERED PROFESSIONAL ENGINEER
DAVID A. JENKINS
STATE OF UTAH
CONSTRUCTION MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

2100 WEST 11400 SOUTH
SOUTH JORDAN, UTAH

project#: 11459B

date: 2025/02/10

revisions :

title:

DEMOLITION PLAN

sheet:

C-100

EXISTING FIRE HYDRANT
EXIST WATER MASTER METER
PROPOSED POWER LINE
PROPOSED COMMUNICATIONS LINE
PROPOSED GAS LINE
EXIST 4" WATER LINE
10' UTILITY EASEMENT
EXIST COMMUNICATIONS LINE CONTRACTOR TO FIELD VERIFY
EXIST 4" GAS LINE CONTRACTOR TO FIELD VERIFY
EXIST OVERHEAR POWER LINE
EXIST 8" WATER LINE
PROPOSED FIRE HYDRANT
EXIST 4" WATER LINE
PROPOSED 4" WATER LINE
PROPOSED ARENA
EXIST 4" WATER LINE
EXIST SEWER LINE
EXISTING FIRE HYDRANT
EXISTING FIRE HYDRANT
PROPOSED 4" WATER LINE
EXISTING FIRE HYDRANT
EXISTING BUILDING
EXISTING FIRE HYDRANT
EXISTING BUILDING
EXISTING FIRE HYDRANT
EXIST 8" WATER LINE
EXISTING FIRE HYDRANT
EXISTING FIRE HYDRANT
EXISTING FIRE HYDRANT

HORIZONTAL GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
HORZ: 1 inch = 40 ft.

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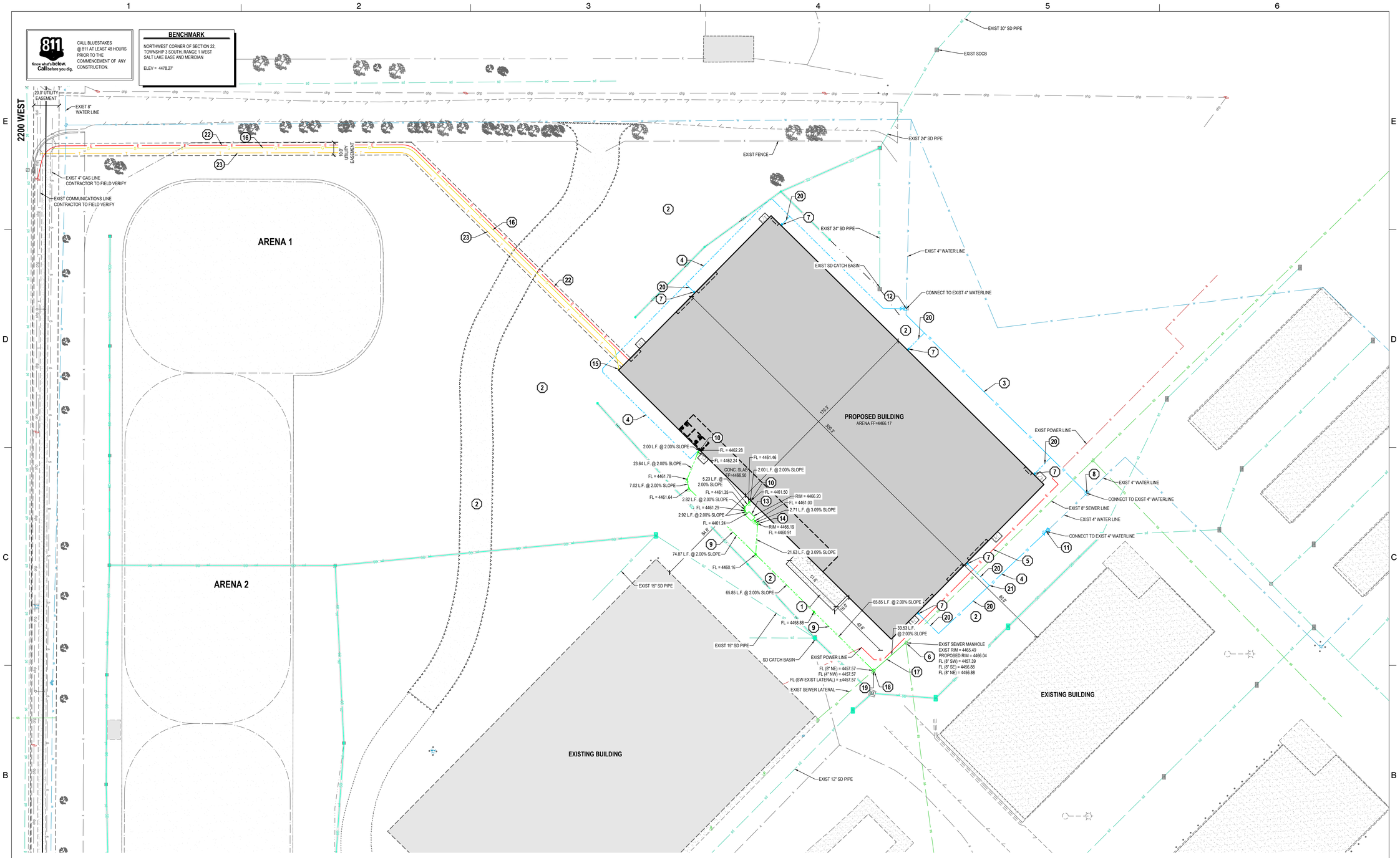
project:
USU BASTIAN AG CENTER - ARENA

2100 WEST 11400 SOUTH
SOUTH JORDAN, UTAH

project#: 11459B
date: 2025/02/10
revisions :

title:
OVERALL SITE AND UTILITY PLAN

sheet:
C-200



GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
2. ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS AND RECOMMENDATIONS.
3. SEE LANDSCAPE/ARCHITECTURAL PLANS FOR CONCRETE MATERIAL, COLOR, FINISH, AND SCORE PATTERNS THROUGHOUT SITE.
4. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE M.U.T.C.D. (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES).
5. ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED, INCLUDING TREES AND DECORATIVE SHRUBS, SOD, FENCES, WALLS AND STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.
6. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING CONCRETE OR ASPHALT.
7. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.
8. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF THE CONTRACTOR'S FAILURE TO VERIFY THE LOCATIONS OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT. THE CONTRACTOR IS TO VERIFY ALL CONNECTION POINTS WITH THE EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN. IF CONFLICTS WITH EXISTING UTILITIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION TO DETERMINE IF ANY FIELD ADJUSTMENTS SHOULD BE MADE.
9. ALL WATER INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGENCY OR APWA STANDARD PLANS AND SPECIFICATIONS.
10. ALL SEWER INFRASTRUCTURE TO BE INSTALLED PER JORDAN BASIN IMPROVEMENT DISTRICT STANDARD PLANS AND SPECIFICATIONS.
11. DEFLECT OR LOOP ALL WATERLINES TO AVOID CONFLICTS WITH OTHER UTILITIES PER GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
12. PROJECT SHALL COMPLY WITH ALL UTAH DIVISION OF DRINKING WATER RULES AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, THOSE PERTAINING TO BACKFLOW PROTECTION AND CROSS CONNECTION PREVENTION.
13. THE CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH MECHANICAL/PLUMBING PLANS.
14. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING UTILITY STRUCTURES OR PIPES.
15. THE CONTRACTOR SHALL ADJUST TO GRADE ALL EXISTING UTILITIES AS NEEDED PER LOCAL GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. 6" CONCRETE PAVEMENT PER DETAIL 1/C-400.
2. 6" THICK COMPACTED ROAD BASE. PER DETAIL 2/C-400.
3. PROPOSED 4" PVC C-900 WATER LINE.
4. PROPOSED 2" POLY WATER LINE.
5. RELOCATED UNDERGROUND POWER LINE. COORDINATED WITH SERVICE PROVIDER.
6. EXISTING SEWER MANHOLE. ADJUST RIM TO GRADE.
7. FROST PROOF YARD HYDRANT.
8. 4" TEE.
9. 4" SDR-35 PVC SANITARY SEWER LATERAL @ 2.0 MIN. SLOPE AND SEWER CLEANOUT. PER JORDAN BASIN IMPROVEMENT DISTRICT DETAIL SS-3A.
10. SEE PLUMBING PLANS FOR CONTINUATION.
11. 4" X 2" REDUCER AND 2" GATE VALVE.
12. 4" X 4" X 2" TEE AND 2" GATE VALVE.
13. SAND/OIL SEPARATOR PER JORDAN BASIN IMPROVEMENT DISTRICT DETAIL PT-2.
14. SAMPLING MANHOLE PER JORDAN BASIN IMPROVEMENT DISTRICT DETAIL PT-4.
15. GAS METER. COORDINATE WITH SERVICE PROVIDER.
16. 2" GAS LINE. COORDINATE WITH SERVICE PROVIDER.
17. 8" SDR-35 PVC SANITARY SEWER LINE 31.5 L.F. @0.4 SLOPE. REMOVE EXISTING SEWER LATERAL AND REPLACE WITH 8" MAIN SEWER LINE.
18. 4' SANITARY SEWER MANHOLE PER JORDAN BASIN IMPROVEMENT DISTRICT DETAIL SS-2A.
19. CONNECT EXISTING SEWER LATERAL TO PROPOSED SEWER MANHOLE.
20. 1" POLY WATERLINE.
21. REDUCER FROM 2" TO 1".
22. PROPOSED UNDERGROUND POWER LINE. COORDINATED WITH SERVICE PROVIDER.
23. COMMUNICATIONS LINE. COORDINATE WITH SERVICE PROVIDER.

NORTH

HORIZONTAL GRAPHIC SCALE

30 0 15 30 60

(IN FEET)

HORZ: 1 inch = 30 ft.

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360 west aspen avenue
salt lake city, utah 84101
801 532 4422

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REGISTERED PROFESSIONAL ENGINEER
DAVID A. JENKINS
STATE OF UTAH
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project:

USU BASTIAN AG CENTER - ARENA

2100 WEST 11400 SOUTH
SOUTH JORDAN, UTAH

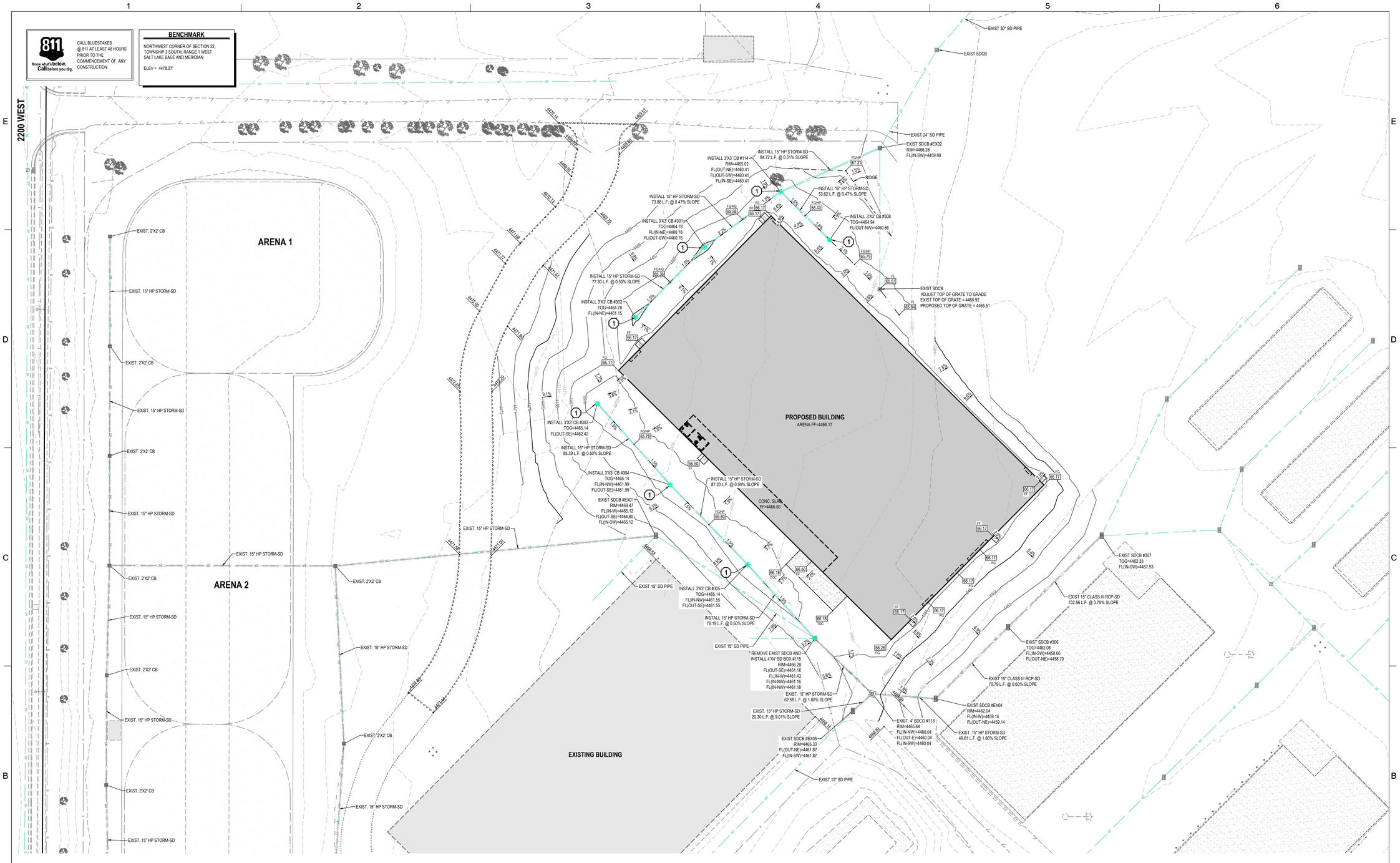
project#: 11459B
date: 2025/02/10
revisions :

title:

SITE AND UTILITY PLAN

sheet:

C-201



GENERAL NOTES

1. ALL WORK TO COMPLY WITH THE GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
2. ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS AND RECOMMENDATIONS.
3. ALL WORK SHALL COMPLY WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER POSSIBLY INCLUDING, BUT NOT LIMITED TO, REMOVAL OF UNCONSOLIDATED FILL, ORGANICS, AND DEBRIS, PLACEMENT OF SUBSURFACE DRAIN LINES AND GEOTEXTILE, AND OVEREXCAVATION OF UNSUITABLE BEARING MATERIALS AND PLACEMENT OF ACCEPTABLE FILL MATERIAL.
4. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE EXISTING SOIL CONDITIONS.
5. ELEVATIONS HAVE BEEN TRUNCATED FOR CLARITY. XX.XX REPRESENTS AN ELEVATION OF 44XX.XX ON THESE PLANS.
6. LANDSCAPED AREAS REQUIRE SUBGRADE TO BE MAINTAINED AT A SPECIFIC ELEVATION BELOW FINISHED GRADE AND REQUIRE SUBGRADE TO BE PROPERLY PREPARED AND SCARIFIED. SEE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION.
7. SLOPE ALL LANDSCAPED AREAS AWAY FROM BUILDING FOUNDATIONS TOWARD CURB AND GUTTER OR STORM DRAIN INLETS.
8. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF THE CONTRACTOR'S FAILURE TO VERIFY THE LOCATIONS OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT. THE CONTRACTOR IS TO VERIFY ALL CONNECTION POINTS WITH THE EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN. IF CONFLICTS WITH EXISTING UTILITIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION TO DETERMINE IF ANY FIELD ADJUSTMENTS SHOULD BE MADE.
9. ALL STORM DRAIN INFRASTRUCTURE TO BE INSTALLED PER GOVERNING AGENCY OR APWA STANDARD PLANS AND SPECIFICATIONS.
10. ENSURE MINIMUM COVER OVER ALL STORM DRAIN PIPES PER MANUFACTURER'S RECOMMENDATIONS. NOTIFY ENGINEER IF MINIMUM COVER CANNOT BE ATTAINED.
11. ALL FACILITIES WITH DOWNSPOUTS/ROOF DRAINS SHALL BE CONNECTED TO THE STORM DRAIN SYSTEM. SEE PLUMBING PLANS FOR DOWNSPOUT/ROOF DRAIN LOCATIONS AND SIZES. ALL ROOF DRAINS TO HAVE MINIMUM 1% SLOPE.
12. THE CONTRACTOR SHALL ADJUST TO GRADE ALL EXISTING UTILITIES AS NEEDED PER LOCAL GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
13. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING CONCRETE, ASPHALT, OR STORM DRAIN STRUCTURES OR PIPES.
14. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC. UNLESS OTHERWISE NOTED ON THESE PLANS.

SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

(1) 3'x3' CONCRETE PRECAST CATCH BASIN. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

NORTH

HORIZONTAL GRAPHIC SCALE

30 0 15 30 60

(IN FEET)

HORZ: 1 inch = 30 ft.

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project:

USU BASTIAN AG CENTER - ARENA

2100 WEST 11400 SOUTH
SOUTH JORDAN, UTAH

project#: 11459B
date: 2025/02/10
revisions :

title:

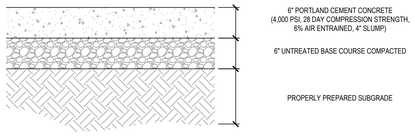
GRADING AND DRAINAGE PLAN

sheet:

C-300

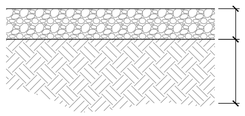
CONCRETE NOTES

1. ALL PAVING TO BE PLACED OVER PROPERLY PREPARED NATURAL SOILS AND/OR PROPERLY PREPARED EXISTING FILL SOILS AND PROPERLY COMPACTED STRUCTURAL FILL WHERE SPECIFIED.
2. ALL STRUCTURAL FILL TO BE PLACED AND COMPACTED PER THE PROJECT GEOTECHNICAL REPORT OR TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO T-180 (D-1557) METHOD OF COMPACTION. LIFTS SHOULD BE PLACED PER GEOTECHNICAL RECOMMENDATIONS BUT SHOULD NOT EXCEED 8" IN LOOSE THICKNESS.
3. REMOVE SURFACE VEGETATION AND OTHER DELETERIOUS MATERIALS OVER THE ENTIRE SITE IN PREPARATION OF PROPOSED IMPROVEMENTS.



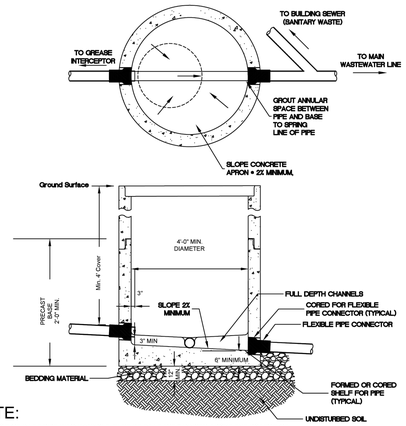
1 CONCRETE PAVEMENT SECTION

SCALE: NONE



2 COMPACTED ROAD BASE ROAD

SCALE: NONE

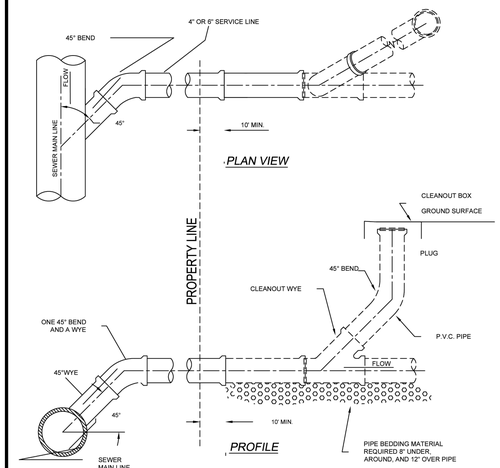


NOTE:

1. **BOTTOM OF INLET PIPE INTO MANHOLE MUST BE AT LEAST 3-INHCES ABOVE THE BOTTOM OF THE TROUGH AND EXTENDED 3-INCHES BEYOND THE INSIDE OF THE MANHOLE WALL.**
2. **WIDTH AND DIAMETER OF TROUGH MUST BE SAME AS DIAMETER OF INLET PIPE.**
3. **SANITARY WASTE LINE MUST CONNECT AT LEAST TWO FEET DOWNSTREAM OF SAMPLING MANHOLE.**
4. **MANHOLE OPENING SHALL BE CENTERED OVER INLET PIPE.**
5. **THE SAMPLING MANHOLE SHALL BE INSTALLED LEVEL AND ON A COMPACTED FOUNDATION WITH 12" BEDDING MATERIAL AS SPECIFIED IN 407.01**

NO SCALE

JORDAN BASIN IMPROVEMENT DISTRICT	SAMPLING MANHOLE DETAIL	DRAWN	DESIGNED	CHECKED	APPROVED
		DATE: AUG 2024	FILE NAME		DRAWING NAME: PT-4

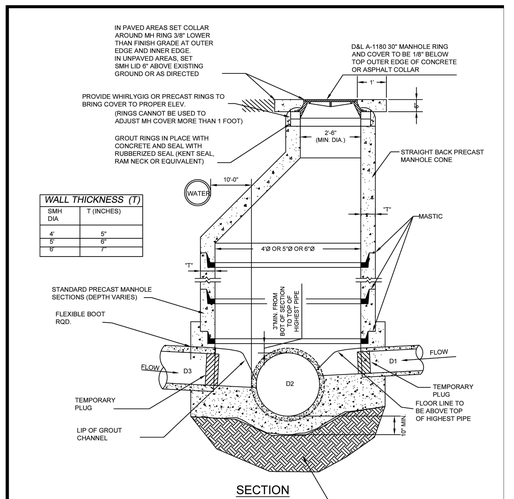


NOTES:

1. ALL SERVICES SHALL BE 4" DIAMETER MINIMUM, UNLESS DIRECTED OTHERWISE AND SHALL BE EXTENDED FROM MAIN LINES TO 10' INSIDE OF PROPERTY LINES.
2. MINIMUM SLOPE: 1/4" PER FOOT (2%) OR WHERE APPROVED BY THE DISTRICT 1/8" PER FOOT(1%).
3. CLEAN-OUTS SHALL BE NO MORE THAN 100 FEET APART MEASURED FROM THE UPSTREAM ENTRANCE OF THE CLEANOUT.
4. ALL 90° CONNECTIONS TO MAIN MUST BE CONSTRUCTED WITH ONE 45° BEND AND A WYE.
5. 90° FITTINGS ARE NOT ALLOWED. 90° SHALL BE MADE WITH TWO 45° BENDS OR A COMBO WYE AND 45° BEND.
6. DIRECT NOSE-ON CONNECTIONS ARE USED WHEN CONNECTING TO EXISTING MAIN LINE. ALL NOSE-ON WORK IS TO BE DONE BY DISTRICT PERSONNEL.

NO SCALE

JORDAN BASIN IMPROVEMENT DISTRICT	STANDARD SEWER SERVICE CONNECTION & CLEAN-OUT	DRAWN	DESIGNED	CHECKED	APPROVED
		DATE: AUG 2024	FILE NAME		DRAWING NAME: SS-3A



WALL THICKNESS (T)	
SMH DIA	T (INCHES)
4'	5"
5'	6"
6'	7"

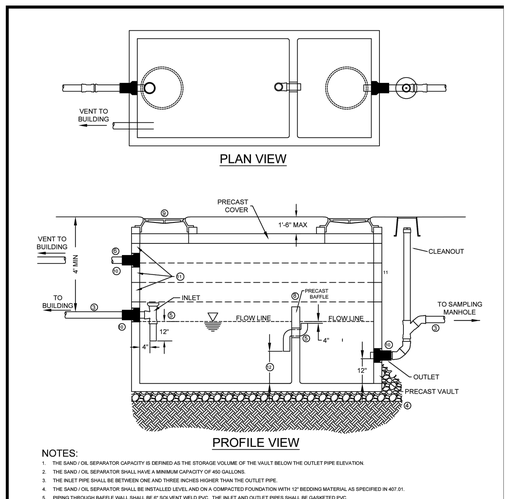
SECTION

NOTES:

1. IF GRADE ALLOWS, INVERTS OF D1 & D3 SHALL MATCH THE 0.75 DEPTH POINT OF D2. OTHERWISE AS APPROVED BY DISTRICT.
2. AFTER ALL GRADING AROUND MANHOLE HAS BEEN COMPLETED AND FINAL SURFACING IS IN PLACE, REMOVE DEBRIS AND TEMPORARY PLUGS OR PLYWOOD FROM INSIDE OF MANHOLES. SET MANHOLE FRAME AND COVER TO 1/8" BELOW FINISH GRADE AFTER FINAL STREET GRADING
3. IS COMPLETE. CONE AND WALL SECTIONS TO CONFORM TO ASTM C-478
4. PLUG OUTLET OF DOWNSTREAM MANHOLE UNTIL CONSTRUCTION IS COMPLETE.

NO SCALE

JORDAN BASIN IMPROVEMENT DISTRICT	STANDARD MANHOLE DETAIL	DRAWN	DESIGNED	CHECKED	APPROVED
		DATE: AUG 2024	FILE NAME		DRAWING NAME: SS-2A



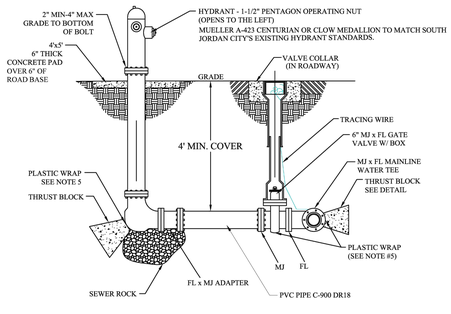
PROFILE VIEW

NOTES:

1. THE SAND / OIL SEPARATOR CAPACITY IS DEFINED AS THE STORAGE VOLUME OF THE VAULT BELOW THE OUTLET PIPE ELEVATION.
2. THE SAND / OIL SEPARATOR SHALL HAVE A MINIMUM CAPACITY OF 450 GALLONS.
3. THE INLET PIPE SHALL BE BETWEEN ONE AND THREE INCHES HIGHER THAN THE OUTLET PIPE.
4. THE SAND / OIL SEPARATOR SHALL BE INSTALLED LEVEL AND ON A COMPACTED FOUNDATION WITH 12" BEDDING MATERIAL AS SPECIFIED IN 407.01.
5. PIPING THROUGH BAFFLE WALL SHALL BE 6" SCH.VENT WELD PVC. THE INLET AND OUTLET PIPES SHALL BE GASKETED PVC.
6. THE SAND/ OIL SEPARATOR MAY BE VENTED INDEPENDENTLY THROUGH THE BUILDING, AWAY FROM AIR INTAKES, MIN SIZE 2", OR THROUGH VENTED LIDS.
7. SANITARY WASTES SHALL NOT BE PLUMBED TO SAND / OIL SEPARATOR.
8. THE DIMENSIONS AND CONFIGURATION OF THE VAULT AND BAFFLE SHALL BE ACCORDING TO THE MANUFACTURER'S REQUIREMENTS FOR THE SIZE OF INTERCEPTOR INSTALLED. THE VOLUME OF THE FIRST CHAMBER SHALL BE DOUBLE THAT OF THE SECOND CHAMBER. THE TOP OF THE BAFFLE WALL SHALL BE AT LEAST 3" ABOVE THE CROWN OF THE INLET PIPE AND SHALL MAINTAIN A 3" GAP FROM THE BOTTOM OF THE COVER.
9. SEE STD DETAIL SS-2A FOR REQUIREMENTS IN THIS AREA.
10. CORED FOR FLEXIBLE RUBBER BOOT PIPE CONNECTOR. FLEXIBLE PIPE CONNECTOR GROUTED AFTER INSTALLATION.
11. VAULT RISER SECTIONS AS REQUIRED (JOINT SEALANT AT ALL JOINTS)
12. HALFWAY BETWEEN FLOOR AND FLOW LINE (DEPTH OF FLOW MIDPOINT)

NO SCALE

JORDAN BASIN IMPROVEMENT DISTRICT	SAND / OIL SEPARATOR DETAIL	DRAWN	DESIGNED	CHECKED	APPROVED
		DATE: AUG 2024	FILE NAME		DRAWING NAME: PT-2



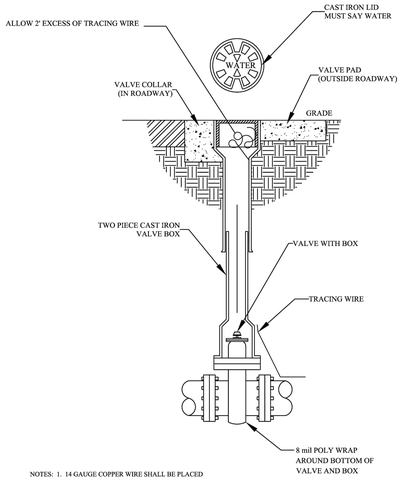
NOTES:

1. INSPECTION: PRIOR TO BACKFILLING, SECURE INSPECTION OF INSTALLATION BY ENGINEER.
2. BACKFILL: INSTALL AND COMPACT ALL BACKFILL MATERIAL PER SPECIFICATIONS.
3. HYDRANT: DRY BARREL PER AWWA C502.
   A. PROVIDE AT LEAST 1 CUBIC YARD OF SEWER ROCK AROUND DRAIN HOLE AT BASE OF HYDRANT. PLACE TAR PAPER OR PLASTIC OVER SEWER ROCK TO PREVENT SILTING.
   B. PAINT FIRE HYDRANT RED PER SOUTH JORDAN CITY'S REQUIREMENTS.
   C. APPLY POLY-FM GREASE TO ALL BURIED METAL SURFACES. WRAP WITH 8 mil THICK POLYETHYLENE SHEET AND TAPE WRAP.
   D. ALL HYDRANTS NOT IN SERVICE SHALL BE BAGGED UNTIL WATER IS AVAILABLE
4. THRUST BLOCKS: REQUIRED FOR ALL CONNECTIONS INCLUDING FLANGED OR WELDED PIPE SYSTEMS.
5. PLASTIC WRAP: PRIOR TO POURING CONCRETE, APPLY POLY-FM GREASE AND WRAP PIPE SYSTEM AND FITTINGS WITH 8 mil THICK PLASTIC SHEET TO PREVENT BONDING OF CONCRETE TO PIPE SYSTEM AND FITTINGS.
6. PLACE FOUR (4) PROTECTIVE BOLLARDS AROUND HYDRANT IF DIRECTED BY BY SOUTH JORDAN CITY.

PREPARED BY:_____

SOUTH JORDAN CITY

		DRAWN:		STANDARD DRAWING
		DATE	FIRE HYDRANT INSTALLATION WITH MAIN IN THE ROADWAY	3055
DATE	REVISIONS	BY		



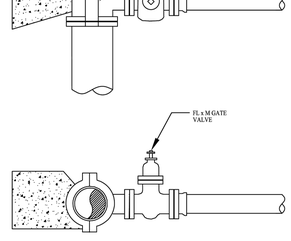
NOTES: 1. 14 GAUGE COPPER WIRE SHALL BE PLACED OUTSIDE OF BOTTOM OF BOX AND INSIDE TOP OF BOX

2. VALVE OPERATING NUTS SHALL BE WITHIN 3' TO THE FINISHED SURFACE. EXTENTIONS STEMS WITH ROCK SHIELDS SHALL BE PROVIDED WHERE DEPTHS EXCEED 4'.

PREPARED BY:_____

SOUTH JORDAN CITY

		DRAWN: KS		STANDARD DRAWING
		SCALE: 1/06	VALVE BOX INSTALLATION	3040
DATE	REVISIONS	BY		



NOTES:

1. REFER TO SECTION 3.3.8 'MAIN LINE VALVES' FOR TAPPING SLEEVE AND VALVE REQUIREMENTS, AND SECTION 3.7.9 'HOT TAPPING' FOR INSTALLATION INSTRUCTIONS
   INTERSECTIONS MAY BE OMITTED.
2. SEE SECTION 3.3.4 'MAIN LINE FITTING' AND SECTION 3.7.11 'INSTALLATION OF VALVES AND FITTINGS' FOR INSTALLATION AND WRAPPING FOR BOLTED CONNECTIONS
   THRUST BLOCK DETAILS.

RECOMMENDED MATERIALS - STAINLESS STEEL TAPPING SLEEVE WITH FLG

MANUFACTURER TO BE AWWA APPROVED.

PREPARED BY:_____

SOUTH JORDAN CITY

		DRAWN:		STANDARD DRAWING
		DATE	MECHANICAL JOINT TAPPING SLEEVE	3045
DATE	REVISIONS	BY		

method studio
360 west aspen avenue
salt lake city, utah 84101
801 532 4422

ENSIGN
THE STANDARD IN ENGINEERING
45 W 10000 S, Suite 500
Sandy, UT 84070
Phone: 801.255.0529

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REGISTERED PROFESSIONAL ENGINEER 11/29/2023 #5936 DAVID A. HAWKINS STATE OF UTAH
CODE COMPLIANCE
Reviewed by
Charles H. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

2100 WEST 11400 SOUTH
SOUTH JORDAN, UTAH

project#: 11459B
date: 2025/01/28
revisions :

title:

DETAILS

sheet:

C-400

DESIGN CRITERIA

1. GOVERNING BUILDING CODE: **2021 IBC**
   A. RISK CATEGORY = **II**

   NOTE: FINAL BUILDING REACTIONS WILL BE PROVIDED BY THE METAL BUILDING DESIGNER. THESE DRAWINGS WILL NEED TO BE CHECKED AGAINST FINAL BUILDING REACTIONS WHEN THEY BECOME AVAILABLE. ALL ELEMENTS SHOWN ON THESE DRAWINGS ARE SUBJECT TO CHANGE BASED ON FINAL METAL BUILDING SUPPLIER DRAWINGS. NO FUTURE LOADS OR LOADS FROM FUTURE ADDITIONS ARE ANTICIPATED IN THE DESIGN OF THIS STRUCTURE.

2. ROOF LOADING:
   A. ROOF LIVE LOAD = 20 PSF
   B. ROOF DEAD LOAD
      a. ***PERMANENT*** = *4.5 PSF* (ASSUMED VALUE BUILDING SUPPLIER TO CONFIRM)
      b. ***COLLATERAL*** = *6 PSF* (ASSUMED VALUE BUILDING SUPPLIER TO CONFIRM)
   C. ROOF SNOW LOAD (FLAT), p_f = 25 PSF
      a. GROUND SNOW LOAD, p_g = 32 PSF
      b. SNOW EXPOSURE FACTOR, C_e = 1.0
      c. THERMAL FACTOR, C_t = 1.1
      d. SNOW LOAD IMPORTANCE FACTOR, I_s = 1.0
      e. SLOPE FACTOR, C_s = 0.99
   D. RAIN LOADS:
      a. RAIN INTENSITY, I = 1.7 IN/HR

3. SEISMIC LOADING:
   A. S_S = 1.219g
   B. S_1 = 0.435g
   C. S_{DS} = 0.823g
   D. S_{D1} = 0.541g
   E. BASIC SEISMIC FORCE RESISTING SYSTEM = BUILDING FRAME SYSTEMS: STEEL ORDINARY MOMENT FRAMES & STEEL ORDINARY CONCENTRICALLY BRACED FRAMES
   F. ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE
   G. RESPONSE MODIFICATION FACTOR, R = 3.5 & 3.25
   H. DESIGN BASE SHEAR = 0.235W & 0.253W
   I. SEISMIC RESPONSE COEFFICIENT, C_S = 0.235 & 0.253
   J. SEISMIC DESIGN CATEGORY = D
   K. SITE CLASS = D
   L. IMPORTANCE FACTOR, I_e = 1.0

4. WIND LOADING:
   A. BASIC WIND SPEED, V = 115 MPH - 3 SEC GUST
   B. ASD WIND SPEED, V_{asd} = 90 MPH - 3 SEC GUST
   C. EXPOSURE = C
   D. INTERNAL PRESSURE COEFFICIENT, GC_{pi} = ± 0.18
   E. WIND DIRECTIONALITY FACTOR, K_d = 0.85
   F. WIND TOPOGRAPHIC FACTOR, K_{zt} = 1.0
   G. COMP. & CLADDING WIND PRESSURE:

COMPONENTS & CLADDING DESIGN WIND PRESSURE (PSF)

LOCATION		EFFECTIVE WIND AREA (FT^2)				
		< 10	20	50	100	>500
WALLS	ZONE 5: WITHIN 12-FT OF BUILDING CORNER	-19.5	-18.3	-16.5	-16.0	-16.0
	ZONE 4: ALL OTHER AREAS	-16.0	-16.0	-16.0	-16.0	-16.0
	ZONE 4 & 5: POSITIVE PRESSURES	16.0	16.0	16.0	16.0	16.0
ROOF	ZONE 3R: WITHIN 12-FT OF ROOF RIDGE AT GABLE ENDS	-51.3	-43.8	-35.0	-26.8	-26.8
	ZONE 3E, 2R & 2N: WITHIN 12-FT OF ROOF CORNERS, ROOF RIDGE & GABLE ENDS	-43.1	-37.7	-29.6	-24.1	-16.0
	ZONE 2E & 1: WITHIN 12-FT OF ROOF EDGE & IN ROOF FIELD	-29.6	-29.6	-18.7	-16.0	-16.0
	ALL ZONES: POSITIVE PRESSURES	16.0	16.0	16.0	16.0	16.0

GENERAL

1. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE GOVERNING BUILDING CODE AND SUPPLEMENTS UNLESS HIGHER STANDARD IS REQUIRED BY LOCAL BUILDING OFFICIAL.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ELEMENTS AS SHOWN ON THE CONTRACT DOCUMENTS UNLESS SPECIFICALLY NOTED OTHERWISE.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.
4. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE OSHA SAFETY REQUIREMENTS DURING CONSTRUCTION AND SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION WITHIN AND ADJACENT TO THE SITE.
5. AT ANY GIVEN TIME DURING AND AFTER CONSTRUCTION, THE CONTRACTOR AND/OR OWNER SHALL ENSURE THE LOADS ON THE STRUCTURE DO NOT EXCEED THE SPECIFIED DESIGN LOADS. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF.
6. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ENGINEER BEFORE CONTINUING WITH CONSTRUCTION.
7. THE TYPICAL DETAILS SHALL BE USED WHEREVER APPLICABLE UNLESS OTHERWISE NOTED ON THE DRAWINGS. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
8. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW MOST STRINGENT REQUIREMENT AS DETERMINED BY STRUCTURAL ENGINEER WITHOUT COST TO OWNER.
9. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SHORING, SEQUENCES, AND PROCEDURES.
10. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.
11. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS, AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.
12. **DO NOT PENETRATE ANY STRUCTURAL ELEMENTS** (BEAMS, COLUMNS, WALLS, SLABS, STEEL DECKS, ETC.) WITHOUT PRIOR WRITTEN APPROVAL OF STRUCTURAL ENGINEER THROUGH ARCHITECT.
13. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED.

PRE-CONSTRUCTION MEETINGS

1. A PRE-CONSTRUCTION MEETING IS RECOMMENDED PRIOR TO THE START OF CONSTRUCTION OF THE STRUCTURE. AT THE CONTRACTOR'S OPTION, THE PRE-CONSTRUCTION MEETING MAY TAKE PLACE PRIOR TO THE START OF SHOP DRAWING PRODUCTION.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE THE PRE-CONSTRUCTION MEETING WITH ALL APPLICABLE PARTIES INCLUDING (BUT NOT LIMITED TO) THE CONTRACTOR, SUB-CONTRACTORS, ARCHITECT, STRUCTURAL ENGINEER, AND SPECIAL INSPECTOR.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.
2. SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD THROUGH THE ARCHITECT AND GENERAL CONTRACTOR WITHIN 6 WEEKS OF AWARD OF CONTRACT TO THE GENERAL CONTRACTOR. ONCE THE SUBMITTAL DOCUMENTS HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS, THE ENGINEER OF RECORD WILL FORWARD THEM TO THE ARCHITECT WITH A NOTATION INDICATING THAT THEY ARE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE ARCHITECT WILL FORWARD THE DEFERRED SUBMITTAL DOCUMENTS TO THE GENERAL CONTRACTOR WHO WILL MAINTAIN ONE SET ON SITE FOR REFERENCE BY THE CITY INSPECTOR. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
3. ITEMS THAT ARE SUBMITTED FOR CONSIDERATION AS DEFERRED SUBMITTALS ARE AS FOLLOWS:
   A. PREFABRICATED BLEACHERS, ANNOUNCER'S BOOTH, FENCING, ETC.
   B. SEISMIC BRACING OF ALL ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL ITEMS WHERE REQUIRED PER ASCE 7 AND THE PROJECT SPECIFICATIONS
   C. PRE-ENGINEERED METAL BUILDING

SHOP DRAWINGS

1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE GENERAL CONTRACTOR PRIOR TO FABRICATION OR ERECTION FOR THE FOLLOWING ITEMS:
   A. CONCRETE MIX DESIGNS
   B. REINFORCING STEEL
   C. MISCELLANEOUS METALS (INCLUDING BUT NOT LIMITED TO PREFABRICATED STEEL STAIRS, HANDRAILS, GUARDRAILS, LADDERS, ETC.)
   D. NON-LOAD BEARING COLD-FORMED STEEL STUD FRAMING
2. THE GENERAL CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF ALL SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OR ERECTION. FIVE (5) WORKING DAYS (MINIMUM) SHALL BE ALLOWED FOR THE REVIEW OF THESE SHOP DRAWINGS BY THE STRUCTURAL ENGINEER.
3. THE GENERAL CONTRACTOR WILL REVIEW AND STAMP ALL SHOP DRAWINGS AND PRODUCT DATA FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMISSION. ANY SHOP DRAWINGS OR PRODUCT DATA NOT REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR WILL BE RETURNED WITHOUT REVIEW.
4. ANY SHOP DRAWING NOT CHECKED AND INITIALED BY THE SUPPLIER/DETAILER PRIOR TO SUBMITTING FOR ARCHITECTURAL AND ENGINEERING REVIEW, WILL BE RETURNED WITHOUT REVIEW.
5. THE CONSTRUCTION DOCUMENTS MAY NOT BE REPRODUCED AND USED TO CREATE SHOP DRAWINGS WITHOUT THE PERMISSION FROM THE ARCHITECT OR ENGINEER.

FOUNDATIONS

1. GEOTECHNICAL CONSULTANT: **GORDON GEOTECHNICAL ENGINEERING, INC.**
   REPORT NUMBER: **003-054-24**
   REPORT DATE: **DECEMBER 18, 2024**

   ANY ADDENDUMS, ALTERATIONS, OR FIELD CHANGES TO THE ABOVE REFERENCED GEOTECHNICAL REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND INCORPORATION INTO THE STRUCTURAL DESIGN. ANY CONSTRUCTION COMPLETED BEFORE THE REVIEW IS COMPLETED IS PERFORMED AT THE CONTRACTOR'S RISK.
2. SPREAD FOOTINGS SHALL BEAR ON **UNDISTURBED, UNIFORM, NATIVE SOILS OR ENTIRELY ON PROPERLY PLACED AND COMPACTED STRUCTURAL FILL** AS SPECIFIED IN THE GEOTECHNICAL REPORT. DESIGN SOIL BEARING VALUE IS **2500 PSF**. BOTTOM OF FOOTINGS SHALL BEAR AT A MINIMUM OF **30-INCHES** BELOW LOWEST ADJACENT FINAL GRADE EXCEPT THAT BOTTOM OF INTERIOR FOOTINGS NOT SUBJECT TO ANY FREEZING MAY BEAR AT A MINIMUM OF **15-INCHES** BELOW TOP OF INTERIOR SLAB.
3. A **1.5** ALLOWABLE SOIL BEARING PRESSURE INCREASE IS ALLOWED FOR WIND & SEISMIC LOADING.
4. ANY FILL TO BE PLACED UNDER THE BUILDING AND FOOTINGS SHALL MEET THE SOIL PROPERTY AND COMPACTION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT. EXTENT OF THE FILL BEYOND THE EDGE OF THE FOOTINGS SHALL BE PLACED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
5. ALL FILL AND BACK FILL SHALL BE COMPACTED AS REQUIRED BY THE GEOTECHNICAL ENGINEER OF RECORD.
6. ALL WATER SHALL BE REMOVED FROM FOUNDATION EXCAVATION PRIOR TO PLACING OF CONCRETE. DO NOT PLACE CONCRETE UNDER WATER OR ON FROZEN GROUND.
7. ANY UNUSUAL SOIL CONDITIONS (WATER, SOFT LAYERS, ROCK OUTCROPPINGS, ETC.) ENCOUNTERED DURING EXCAVATION FOR FOOTINGS SHOULD BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE STRUCTURAL AND GEOTECHNICAL ENGINEERS PRIOR TO PROCEEDING.

DRYPACK / FLOWABLE GROUT

1. THE SPACE BENEATH ALL BASE PLATES AND BEARING PLATES SHALL BE THOROUGHLY CLEANED BEFORE DRYPACKING OR GROUTING. DRYPACK / GROUT SOLID BENEATH ALL BASE PLATES AND BEARING PLATES. NO VOIDS ARE PERMISSIBLE. USE OF DRYPACK OR FLOWABLE GROUT IS AT THE CONTRACTORS OPTION UNLESS SPECIFICALLY NOTED ON THE PLANS OR DETAILS. DRYPACK / GROUT PER THE FOLLOWING:
   A. DRYPACK: PORTLAND CEMENT, ASTM C150, TYPE I AND CLEAN, NATURAL SAND, ASTM C404, SIZE NO. 2. MIX AT RATIO OF 1 PART CEMENT TO 2-1/2 PARTS SAND, BY VOLUME. WITH MINIMUM WATER REQUIRED FOR PLACEMENT AND HYDRATION. MINIMUM COMPRESSIVE STRENGTH SHALL BE 5,000 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C1107.
   B. FLOWABLE GROUT: PREMIXED, NONMETALLIC, NONCORROSIVE, NONSTAINING GROUT CONTAINING SELECTED SILICA SANDS, PORTLAND CEMENT, SHRINKAGE COMPENSATING AGENTS, PLASTICIZING AND WATER-REDUCING AGENTS, COMPLYING WITH ASTM C1107, OF CONSISTENCY SUITABLE FOR APPLICATION, AND A 30-MINUTE WORKING TIME. MINIMUM COMPRESSIVE STRENGTH SHALL BE 5000 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C1107.

STEEL REINFORCING

1. TYPICAL REINFORCING BAR STRENGTHS:
   A. REINFORCING (NON-WELDABLE) = ASTM A615, DEFORMED, Fy = 60 KSI (420 MPa)
   B. REINFORCING (WELDABLE) = ASTM A706, DEFORMED, Fy = 60 KSI (420 MPa)
2. TYPICAL CLEAR CONCRETE COVERAGES:
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"
   B. FORMED CONCRETE EXPOSED TO EARTH OR WEATHER = 2" (#6 AND LARGER)
      = 1-1/2" (#5 AND SMALLER)
   C. ALL OTHERS PER LATEST EDITION OF ACI 318.
3. ALL BARS PER CRSI SPECIFICATIONS AND HANDBOOK. LATEST ACI CODE AND DETAILING MANUAL APPLY. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE OR MASONRY. REINFORCING BAR SPACINGS GIVEN ARE MAXIMUM ON CENTERS.
4. ALL REINFORCING TO BE WELDED SHALL BE WELDED IN ACCORDANCE WITH AWS D1.4. NO TACK WELDING OF REINFORCING BARS IS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE BY STRUCTURAL ENGINEER.

ADHESIVE ANCHORING SYSTEMS

1. ACCEPTABLE MANUFACTURER'S (UNLESS NOTED OTHERWISE ON PLANS, ALL ADHESIVE SHALL BE APPROVED AND RATED FOR CRACKED CONCRETE):
   A. SIMPSON STRONG-TIE:
      a. SET-3G, SEE ESR-4057 REPORT FOR CONCRETE SPECIFICATIONS
      b. AT-XP, SEE IAPMO 263 REPORT FOR CONCRETE SPECIFICATIONS OR IAPMO 281 REPORT FOR MASONRY SPECIFICATIONS
   B. HILTI:
      a. HIT-RE 500 V3, SEE ESR-3814 REPORT FOR CONCRETE SPECIFICATIONS
      b. HIT-HY 200 V3, SEE ESR-4868 REPORT FOR CONCRETE SPECIFICATIONS
   C. DEWALT:
      a. PURE 110+, SEE ESR 3298 REPORT FOR CONCRETE SPECIFICATIONS
      b. AC 200+, SEE ESR 4027 FOR CONCRETE SPECIFICATIONS
      c. AC 100+ GOLD, SEE ESR 2582 REPORT FOR CONCRETE SPECIFICATIONS
2. ANCHOR INSTALLATION:
   A. INSTALL ANCHORS PER MANUFACTURER'S REQUIREMENTS. THESE REQUIREMENTS INCLUDE, BUT ARE NOT LIMITED TO, HOLE PREPARATION, HOLE SIZE, EPOXY PROPORTIONS AND QUANTITIES, INSTALLATION TEMPERATURE, AND CURE TIMES.
3. INSTALLATION OF ADHESIVE ANCHORS THAT ARE TO BE UNDER SUSTAINED TENSION LOADING HORIZONTAL TO VERTICALLY OVERHEAD INSTALLATION SHALL BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI AND IN ACCORDANCE WITH ACI 318-19 (SECTION 26.7.2.e). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
4. PER ACI 318-19 (SECTION 26.7.2.f) ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION. FOR INSTALLATIONS SOONER THAN 21 DAYS CONSULT ADHESIVE MANUFACTURER.
5. IF TEMPERATURE OF BASE MATERIAL AT TIME OF ADHESIVE INSTALLATION IS AT 45 DEGREES (FAHRENHEIT) OR LESS, AN ACRYLIC ADHESIVE (DEWALT AC200+, HILTI HIT-HY 200 V3, SIMPSON AT-XP) IS REQUIRED.

CONCRETE

1. CONCRETE SHALL CONFORM TO ALL REQUIREMENTS OF ACI 318-19 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", EXCEPT AS MODIFIED BY THE SUPPLEMENTAL REQUIREMENTS BELOW:

   NO WATER TO BE ADDED TO CONCRETE ON SITE EITHER BEFORE OR AFTER PLACEMENT

ELEMENT TYPE	MINIMUM COMP. STRENGTH, f'c (psi)	EXPOSURE CLASSES F	S	W	C	CEMENT TYPE	MAX. W/C RATIO	AIR CONTENT %	MAX. AGG. SIZE	MAX. FLY ASH %	APPLICABLE *SPECIFIC INSTRUCTION NOTES
FOOTINGS	3000	F0	S0	W0	C1	II OR IL	0.45	--	3/4"	25	
FOUNDATION WALLS, PEDESTALS, & GRADE BEAMS OCCURRING MORE THAN 6" ABOVE FINISHED GRADE	5000	F2	S0	W0	C1	II OR IL	0.45	6	3/4"	25	
INTERIOR SLAB ON GRADE	4000	F0	S0	W0	C0	II OR IL	0.45	--	1 1/2"	25	

***SPECIFIC INSTRUCTION NOTES:**

A. PROVIDE FIBRILLATED MICRO-REINFORCEMENT POLYPROPELENE FIBERS TO THE CONCRETE AT THE RATE OF 2-LBS/YD³ PRIOR TO PLACEMENT PER ASTM C-1116, TYPE III, SECTION 4.1.3.

2. CONCRETE SHALL ATTAIN THE LISTED MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.
3. AIR CONTENT TOLERANCE IS +/- 1-1/2% AT THE TIME OF FINAL PLACEMENT.
4. AIR ENTRAINMENT SHALL BE ADJUSTED FOR THE USE OF ADMIXTURES AND FLY ASH.
5. SUPERPLASTICIZER MAY BE ADDED TO INCREASE SLUMP AS REQUIRED FOR PLACEMENT.
6. CALCIUM CHLORIDE SHALL NOT BE ADDED TO THE CONCRETE MIX.
7. FOR EXPOSURE CLASS F3, THE MAXIMUM PERCENTAGE OF POZZOLAN IN CONCRETE MIX SHALL BE IN ACCORDANCE WITH SECTION 26.4.2.2 (B) OF ACI 318-19.
8. USE TYPE V CEMENT WHEN HIGH SULFATE RESISTANCE IS REQUIRED BY THE GEOTECHNICAL REPORT OR WHEN THE 'S' EXPOSURE CLASS IS DESIGNATED AS S2 OR S3. IF S3 IS REQUIRED, POZZOLAN OR SLAG CEMENT IN ACCORDANCE WITH ASTM C1012 IS ALSO REQUIRED.
9. MATERIAL DESIGNATIONS:
   A. CEMENT = ASTM C150 OR ASTM C595
   B. NORMAL WEIGHT AGGREGATES = ASTM C33
   C. LIGHTWEIGHT AGGREGATES = ASTM C330
   D. FLY ASH, CLASS F POZZOLAN = ASTM C618
   E. DEFORMED BAR ANCHORS (DBA) = ASTM A496
   F. HEADED STUD ANCHORS (HSA) = ASTM A108
   G. AIR ENTRAINMENT ADMIXTURES = ASTM C260
   H. WATER REDUCING ADMIXTURES = ASTM C494, TYPE 'A'
   I. RETARDING ADMIXTURES = ASTM C494, TYPE 'B'
   J. WATER REDUCING & RETARDING ADMIXTURES = ASTM C494, TYPE 'D'
   K. HIGH RANGE WATER REDUCING ADMIXTURES = ASTM C494, TYPE 'F'
   L. HIGH RANGE WATER REDUCING & RETARDING ADMIXTURES = ASTM C494, TYPE 'G'
   M. ADMIXTURES ARE TO COME FROM AN ISO9001 QUALITY CERTIFIED MANUFACTURER. ALL ADMIXTURES ARE TO COME FROM THE SAME MANUFACTURER TO ENSURE COMPATIBILITY.
   N. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER PRODUCTS THAT REACT ADVERSELY WITH THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.
10. A STATEMENT OF MIX DESIGN FOR ALL CONCRETE SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCING WORK.
11. PLACEMENT, CURING, AND PROTECTION OF CONCRETE SHALL CONFORM TO ACI 318-19. THE USE OF CHEMICALS OR ADDITIVES TO PREVENT FREEZING SHOULD NOT BE PERMITTED, REFER TO SPECIFICATIONS AND TO DIRECTIVES BY STRUCTURAL ENGINEER FOR ADDITIONAL COLD WEATHER REQUIREMENTS. ALL CONCRETE SHALL BE PROPERLY VIBRATED IN PLACE USING INTERNAL VIBRATING RODS (MECHANICAL OR ELECTRICAL).
12. ALL SLABS ON GRADE SHALL BE PLACED WITH CONTROL JOINTS OR SAW CUTS AT NO MORE THAN 30 TIMES THE SLAB THICKNESS ON CENTER (MAXIMUM) OR AS SHOWN/NOTED ON DRAWINGS. LENGTH TO WIDTH RATIO OF THE SLAB BETWEEN CONTROL JOINTS EACH WAY SHALL BE NO MORE THAN 1.25. COMPLETE CONTROL JOINTS WITHIN 12 HOURS OF CONCRETE PLACEMENT. TOOLED CONTROL JOINTS ARE TO BE AT MINIMUM 1/4 OF THE SLAB THICKNESS AND NO MORE THAN 1/3 OF THE SLAB THICKNESS. FOR SAW CUT CONTROL JOINTS, SEE THE TYPICAL SLAB ON GRADE JOINT DETAILS.
13. SLAB ON GRADE CONSTRUCTION JOINTS SHALL NOT EXCEED 125' - 0" O.C. IN ANY DIRECTION. CONSTRUCTION JOINTS MAY BE EITHER A DOWEL TYPE CONSTRUCTION JOINT OR A KEYWAY TYPE CONSTRUCTION JOINT. SEE THE SLAB JOINT TYPICAL DETAILS FOR MORE INFORMATION.
14. CONCRETE TESTS WILL BE MADE ON MAJOR POURS AND AT SUCH OTHER TIMES AS MAY BE REQUIRED BY THE ENGINEER. EACH TEST SHALL CONSIST OF (4) CYLINDERS OF WHICH ONE SHALL BE TESTED AT SEVEN DAYS, TWO TESTED AT TWENTY-EIGHT DAYS AND ONE RETAINED IN RESERVE FOR LATER TESTS, IF REQUIRED. IN GENERAL, ONE TEST SHALL BE MADE FOR EACH 150 CUBIC YARDS OF CONCRETE OR EVERY 5000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS ON EACH DAY'S POUR. SPECIMENS SHALL BE MADE AND TESTED IN ACCORDANCE WITH ASTM C31 & C39 STANDARDS. SLUMP AND AIR ENTRAINMENT TESTS SHALL ALSO BE MADE WITH EACH SET OF CYLINDERS TAKEN.
15. BEFORE CONCRETE IS POURED, CHECK WITH ALL TRADES TO INSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, BOLTS, INSERTS, ETC., RELATED TO THE WORK.
16. THE CONTRACTOR IS RESPONSIBLE FOR THE PLACEMENT, REMOVAL, AND DESIGN OF ALL FORMWORK AND SHORING.
17. SUSPENDED CONCRETE STRUCTURAL MEMBERS SHALL NOT BE STRIPPED OF FORMS UNTIL CONCRETE HAS REACHED ITS DESIGN STRENGTH.
18. FOR LAP SPLICE LENGTH, SEE CONCRETE REINFORCING LAP SPLICE LENGTH SCHEDULE.
19. SEE CIVIL DRAWINGS FOR SITE CONCRETE REQUIREMENTS.

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04/03/2025
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GENERAL STRUCTURAL NOTES

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S001

SPECIAL INSPECTION

SPECIAL INSPECTIONS:

1. SPECIAL INSPECTIONS ARE REQUIRED AS DESCRIBED IN CHAPTER 17 OF THE 2021 IBC. THE OWNER OR OWNER'S AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN SECTION 1705 AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL THAT ARE IDENTIFIED IN SECTION 110.

2. THE SPECIAL INSPECTION REQUIREMENTS OF THIS SECTION OF THE GENERAL STRUCTURAL NOTES SERVE AS THE ENGINEER OF RECORD'S STATEMENT OF SPECIAL INSPECTIONS REQUIRED BY CHAPTER 17 OF THE 2021 IBC.

SPECIAL INSPECTOR QUALIFICATIONS & RESPONSIBILITIES:

1. PRIOR TO THE START OF CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION.

2. APPROVED AGENCIES SHALL KEEP RECORDS OF ALL SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TEST TO THE BUILDING OFFICIAL AND TO THE ARCHITECT / ENGINEER OF RECORD.
   A. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
   B. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
   C. ANY DISCREPANCIES THAT ARE NOT CORRECTED SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE ARCHITECT/ENGINEER OF RECORD PRIOR TO COMPLETION OF THAT PHASE OF WORK.
   D. THE INSPECTOR SHALL KEEP A MARKED-UP SET OF DRAWINGS SHOWING THE EXTENT AND TIME OF ALL INSPECTIONS AND TESTING.
   E. A FINAL SIGNED REPORT DOCUMENTING ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND ARCHITECT/ENGINEER OF RECORD AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR OWNER'S AGENT. THE REPORT SHALL INCLUDE THE MARKED-UP SET OF DRAWINGS OUTLINED ABOVE.

CONTRACTOR RESPONSIBILITIES:

1. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND/SEISMIC FORCE RESISTING SYSTEM, DESIGNATED WIND/SEISMIC SYSTEM, OR A WIND/SEISMIC FORCE RESISTING COMPONENT SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THAT SYSTEM OR COMPONENT. THIS STATEMENT SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS.

2. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH ALL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS. THE CONTRACTOR SHALL NOT PROCEED WITH SUBSEQUENT WORK UNTIL REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS HAVE BEEN COMPLETED.

3. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS.

4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST (2) DAYS PRIOR TO ANY REQUIRED STRUCTURAL OBSERVATIONS.

SPECIAL INSPECTION OF FABRICATED ITEMS:

1. ALL FABRICATION OF STRUCTURAL, LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES PERFORMED OFFSITE SHALL BE SPECIAL INSPECTED PER SECTION 1704.2.5.

2. WHERE THE FABRICATOR IS REGISTERED AND APPROVED IN ACCORDANCE WITH SECTION 1704.2.5.1, THEY SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AT THE COMPLETION OF FABRICATION STATING THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

SUBMITTALS TO THE BUILDING OFFICIAL:

1. IN ADDITION TO THE SUBMITTAL OF REPORTS OF SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH SECTION 1704.2.4, REPORTS AND CERTIFICATES SHALL BE SUBMITTED BY THE OWNER OR OWNER'S AGENT TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING:
   A. CERTIFICATES OF COMPLIANCE FOR APPROVED FABRICATORS.
   B. CERTIFICATES OF COMPLIANCE FOR SEISMIC QUALIFICATIONS OF NON-STRUCTURAL COMPONENTS, SUPPORTS, AND ATTACHMENTS.
   C. CERTIFICATES OF COMPLIANCE FOR DESIGNATED SEISMIC SYSTEMS.
   D. REPORTS OF PRE-CONSTRUCTION TESTS FOR SHOTCRETE.
   E. CERTIFICATES OF COMPLIANCE FOR OPEN-WEB STEEL JOISTS AND JOIST GIRDERS.
   F. REPORTS OF MATERIAL COMPLIANCE FOR WELDABILITY OF REINFORCING BARS IN CONCRETE.
   G. REPORTS OF MILL TESTS FOR REINFORCING BARS USED IN SPECIAL CONCRETE MOMENT FRAMES, SPECIAL STRUCTURAL WALLS OR COUPLING BEAMS.

STRUCTURAL OBSERVATIONS:

1. STRUCTURAL OBSERVATIONS ARE NOT REQUIRED FOR THIS PROJECT. HOWEVER, STRUCTURAL OBSERVATIONS MAY BE PERFORMED BY A REPRESENTATIVE FROM ENSIGN ENGINEERING AS DEEMED NECESSARY.

REQUIRED SPECIAL INSPECTION OR TESTING:

THE FOLLOWING MATERIALS, SYSTEMS AND COMPONENTS REQUIRE SPECIAL INSPECTION OR TESTING PER CHAPTER 17 OF THE 2021 IBC:

1. SPECIAL CASES (SECTION 1705.1.1)
   A. SPECIAL INSPECTION AND TESTING SHALL BE PROVIDED FOR POST INSTALLED ANCHORS PER THE ICC OR IAPMO REPORT.

2. STRUCTURAL STEEL (SECTION 1705.2.1 ***& SECTION 1705.13***):
   A. THE FABRICATOR OR ERECTOR SHALL SUBMIT THE DOCUMENTS LISTED IN SECTION N3 OF AISC 360 ***& SECTION J2 OF AISC 341*** FOR REVIEW BY THE ENGINEER OF RECORD.
   B. QUALITY ASSURANCE (QA) SHALL BE PROVIDED BY OTHERS WHEN REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ). APPLICABLE BUILDING CODE (ABC), PURCHASER, OWNER, OR ENGINEER OF RECORD.
   C. QA INSPECTION OF FABRICATED ITEMS SHALL BE MADE AT THE FABRICATOR'S PLANT. THE QUALITY ASSURANCE INSPECTOR (QAI) SHALL SCHEDULE THIS WORK TO MINIMIZE INTERRUPTION TO THE WORK OF THE FABRICATOR.
   D. QA INSPECTION OF THE ERECTED STEEL SYSTEM SHALL BE MADE AT THE PROJECT SITE. THE QAI SHALL SCHEDULE THIS WORK TO MINIMIZE INTERRUPTION TO THE WORK OF THE ERECTOR.
   E. THE QAI SHALL REVIEW THE MATERIAL TEST REPORTS AND CERTIFICATIONS LISTED IN SECTION N3.2 OF AISC 360 FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
   F. THE QAI SHALL BE ON THE PREMISES FOR INSPECTION DURING THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. AS A MINIMUM, THE DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE, SHALL BE VERIFIED PRIOR TO PLACEMENT OF CONCRETE.
   G. THE QAI SHALL INSPECT THE FABRICATED STEEL OR ERECTED STEEL FRAME, AS APPROPRIATE, TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS, SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.
   H. QA INSPECTIONS, EXCEPT NONDESTRUCTIVE TESTING (NDT), MAY BE WAIVED WHEN THE WORK IS PERFORMED IN A FABRICATING SHOP OR BY AN ERECTOR APPROVED BY THE AHJ TO PERFORM THE WORK WITHOUT QA. NDT OF WELDS COMPLETED IN AN APPROVED FABRICATOR'S SHOP MAY BE PERFORMED BY THAT FABRICATOR WHEN APPROVED BY THE AHJ. WHEN THE FABRICATOR PERFORMS THE NDT, THE QA AGENCY SHALL REVIEW THE FABRICATOR'S NDT REPORTS.
   I. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE FABRICATOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. AT COMPLETION OF ERECTION, THE APPROVED ERECTOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIAL SUPPLIED AND WORK PERFORMED BY THE ERECTOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
   J. IDENTIFICATION AND REJECTION OF MATERIAL OR WORKMANSHIP THAT IS NOT IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS SHALL BE PERMITTED AT ANY TIME DURING THE PROGRESS OF THE WORK. HOWEVER, THIS PROVISION SHALL NOT RELIEVE THE OWNER OR THE INSPECTOR OF THE OBLIGATION FOR TIMELY, IN-SEQUENCE INSPECTIONS. NONCONFORMING MATERIAL AND WORKMANSHIP SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE FABRICATOR OR ERECTOR, AS APPLICABLE.
   K. NONCONFORMING MATERIAL OR WORKMANSHIP SHALL BE BROUGHT TO CONFORMANCE, OR MADE SUITABLE FOR ITS INTENDED PURPOSE AS DETERMINED BY THE ENGINEER OF RECORD.
   L. CONCURRENT WITH THE SUBMITTAL OF SUCH REPORTS TO THE AHJ, ENGINEER OF RECORD OR OWNER, THE QA AGENCY SHALL SUBMIT TO THE FABRICATOR AND ERECTOR:
      a. NONCONFORMANCE REPORTS.
      b. REPORTS OF REPAIR, REPLACEMENT OR ACCEPTANCE OF NONCONFORMING ITEMS.
   M. QA INSPECTION TASKS SHALL BE PERFORMED BY THE QAI IN ACCORDANCE WITH THE STRUCTURAL STEEL SPECIAL INSPECTION TABLE, AS A MINIMUM.
   N. ***THE AGENCY RESPONSIBLE FOR QUALITY ASSURANCE SHALL SUBMIT THE DOCUMENTS LISTED IN SECTION J3 OF AISC 341 TO THE AHJ, THE ENGINEER OF RECORD AND THE OWNER.***

3. CONCRETE CONSTRUCTION (SECTION 1705.3):
   A. SPECIAL INSPECTION AND TESTS FOR CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CONCRETE CONSTRUCTION SPECIAL INSPECTION TABLE AND SECTION 1705.3 OF THE 2021 IBC.
   B. SEE TABLE 1705.3 OF THE 2021 IBC FOR APPLICABLE REFERENCE STANDARDS.
   C. WELDING OF REINFORCING BARS: SPECIAL INSPECTION OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND FOR SPECIAL INSPECTOR QUALIFICATIONS.
   D. IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318, THE BUILDING OFFICIAL SHALL REQUIRE TESTING OF MATERIALS IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318.

4. SOILS (SECTION 1705.6):
   A. SPECIAL INSPECTIONS AND TESTS OF EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SOILS SPECIAL INSPECTION TABLE AND THE FOLLOWING:
      a. THE APPROVED GEOTECHNICAL REPORT AND APPROVED CONSTRUCTION DOCUMENTS SHALL BE USED TO DETERMINE COMPLIANCE.
      b. DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL DETERMINE THAT PROPER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT.
      c. WHERE A GEOTECHNICAL REPORT IS NOT PROVIDED, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL IS NOT LESS THAN 90 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D 1557.

5. SPECIAL INSPECTION FOR WIND-RESISTANCE (SECTION 1705.12):
   A. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING SYSTEMS AND COMPONENTS:
      a. ROOF COVERING, ROOF DECK, AND ROOF FRAMING CONNECTIONS.
      b. EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.

SPECIAL INSPECTION (CONTINUED)

REQUIRED SPECIAL INSPECTION OR TESTING (CONTINUED):

7. SPECIAL INSPECTION FOR SEISMIC-RESISTANCE (SECTION 1705.13):
   A. DESIGNATED SEISMIC SYSTEMS FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E,OR F, THE SPECIAL INSPECTOR SHALL EXAMINE DESIGNATED SEISMIC SYSTEMS REQUIRING SEISMIC QUALIFICATIONS IN ACCORDANCE WITH SECTION 13.2.2 OF ASCE 7 AND VERIFY THAT THE LABEL, ANCHORAGE, AND MOUNTING CONFORM TO THE CERTIFICATE OF COMPLIANCE.
   B. ARCHITECTURAL COMPONENTS: PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE ERECTION AND FASTENING OF EXTERIOR CLADDING, INTERIOR AND EXTERIOR NON-BEARING WALLS AND INTERIOR AND EXTERIOR VENEER IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F.
   C. MECHANICAL AND ELECTRICAL COMPONENTS: PERIODIC SPECIAL INSPECTION OF MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 1705.13.6 OF THE 2021 IBC.
   D. STORAGE RACKS: STEEL STORAGE RACKS & STEEL CANTILEVERED STORAGE RACKS THAT ARE 8 FEET IN HEIGHT OR GREATER AND ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F SHALL BE PROVIDED WITH PERIODIC SPECIAL INSPECTION AS REQUIRED BY TABLE 1705.13.7.

8. TESTING AND QUALIFICATION FOR SEISMIC RESISTANCE (SECTION 1705.14):
   A. TESTING FOR SEISMIC RESISTANCE SHALL BE REQUIRED AS SPECIFIED IN SECTIONS 1705.14.1 THROUGH 1705.14.4 OF THE 2021 IBC.

DEFINITIONS:

1. THE FOLLOWING DEFINITIONS APPLY TO ALL SPECIAL INSPECTION TABLES (WHERE APPLICABLE) UNLESS SPECIFICALLY NOTED OTHERWISE:
   A. CONTINUOUS – FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR.
   B. PERIODIC – AN APPROVED SPECIAL INSPECTOR MUST OBSERVE THE WORK REQUIRING SPECIAL INSPECTION PRIOR TO COMMENCEMENT OF WORK, INTERMITTENTLY DURING THE WORK, AND AT COMPLETION OF THE WORK.

FABRICATORS (IBC 1704.2.5.1 & 1705.10)

☐ Approved Fabricator Yes No

Fabricators Name:	TO BE DETERMINED
Fabricators plant location	
Required In-plant Inspections	☒ Steel Construction ☐ Concrete Construction ☐ Wood Construction ☐ Cold-formed Construction ☐ Other: _____ ☐ Other: _____

STRUCTURAL STEEL (IBC 1705.2.1, 1705.12.1 & 1705.13.1)

Item — *Detailed Instructions and Frequencies*

PRIOR TO WELDING (TABLE N5.4-1, AISC 360-16):			
Welder qualification records	☒ Observe	☐ Perform	Verify welder qualification records and continuity records.
Welding procedures (WPS) and consumable certificates	☐ Observe	☒ Perform	
Material identification	☒ Observe	☐ Perform	Verify type and grade of material.
Welder identification	☒ Observe	☐ Perform	Confirm a system is in place by which a welder who has welded a joint or member can be identified.
Fit-up groove welds	☒ Observe	☐ Perform	Verify joint preparation, dimensions, cleanliness, tacking, and backing.
Fit-up of CJP welds to HSS T-, Y- and K- joints without backing	☒ Observe	☐ Perform	Verify joint preparation, dimensions, cleanliness and tacking.
Access holes	☒ Observe	☐ Perform	Verify configuration and finish.
Fit-up of fillet welds	☒ Observe	☐ Perform	Verify dimensions, cleanliness and tacking.
DURING WELDING (TABLE N5.4-2, AISC 360-16):			
Control and handling of welding consumables	☒ Observe	☐ Perform	Verify packaging and exposure control.
Cracked tack welds	☒ Observe	☐ Perform	Verify that welding does not occur over cracked tack welds.
Environmental conditions	☒ Observe	☐ Perform	Verify wind speed is within limits as well as precipitation and temperature.
WPS followed	☒ Observe	☐ Perform	Verify items such as settings on welding equipment, travel speed, welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained, and proper position.

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Welding techniques	☒ Observe	☐ Perform	Verify interpass and final cleaning, each pass is within profile limitations, and quality of each pass.
Headed stud anchors	☐ Observe	☒ Perform	Verify placement and installation of head stud anchors.
AFTER WELDING (TABLE N5.4-3, AISC 360-16):			
Welds cleaned	☒ Observe	☐ Perform	Verify that welds have been properly cleaned.
Size, length, and location of welds	☐ Observe	☒ Perform	Verify the size, length and location of welds.
Welds meet visual acceptance criteria	☐ Observe	☒ Perform	Verify that welds meet crack prohibition, base metal fusion, profile, size, undercut, and porosity provisions.
Arc strikes	☐ Observe	☒ Perform	Verify that arc strikes do not exist outside the permanent weld areas.
k-area	☐ Observe	☒ Perform	When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks.
Backing & weld tabs removed	☐ Observe	☒ Perform	If required on the approved construction documents, verify that back and weld tabs are removed.
Repair activities	☐ Observe	☒ Perform	Verify that repair activities are performed in accordance with AISC 360 and AWS D1.1.
Documentation	☐ Observe	☒ Perform	Document the acceptance or rejection of the welded joint or member.
Prohibited welds	☒ Observe	☐ Perform	Verify that no prohibited welds have been added with the approval of the engineer of record.
NONDESTRUCTIVE TESTING (SECTION N5, AISC 360-16):			
CJP welds (Risk Cat. II)	☐ Observe	☒ Perform	UT testing shall be performed on 10% of CJP groove welds in butt, T- and corner joints subject to transversely applied tension loading in materials 5/16-inch thick or greater. (This must be performed on 100% of CJP welds in SDC 'D-F' per AISC 341.)
CJP welds (Risk Cat. III or IV)	☐ Observe	☒ Perform	UT testing shall be performed on all CJP groove welds in butt, T- and corner joints subject to transversely applied tension loading in materials 5/16-inch thick or greater.
Welded joints subject to fatigue	☐ Observe	☒ Perform	Welded joints subject to fatigue (see Table A-3.1 of AISC 360) shall have radiographic or UT testing.
PRIOR TO BOLTING (TABLE N5.6-1, AISC 360-16):			
➢ *Not required if only snug-tight joints are specified [per Section N5.6(1) of AISC 360-16].*			
Certifications of fasteners	☐ Observe	☒ Perform	Verify that manufacturer's certificates are available for fastener materials.
Fasteners marked	☒ Observe	☐ Perform	Verify that fasteners have been marked in accordance with ASTM requirements.
Proper fasteners for joint	☒ Observe	☐ Perform	Verify grade, type, and bolt length if threads are excluded from the shear plane.
Proper bolting procedure	☒ Observe	☐ Perform	Verify proper procedure is used for the joint detail.
Connecting elements	☒ Observe	☐ Perform	Verify appropriate faying surface condition and hole preparation, if specified, meet requirements.
Pre-installation verification testing	☒ Observe	☐ Perform	Observe and document verification testing by installation personnel for fastener assemblies and methods used.
Proper storage	☒ Observe	☐ Perform	Verify proper storage of bolts, nuts, washers, and other fastener components.

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DURING BOLTING (TABLE N5.6-2, AISC 360-16):			
➢ *Not required if only snug-tight joints are specified [per Section N5.6(1) of AISC 360-16].*			
➢ *Not required for pretensioned joints using turn-of-the-nut method with match-marking, direct-tension-indicators, or twist-off type tension control method [per Section N5.6(2) of AISC 360-16].*			
Fastener assemblies	☒ Observe	☐ Perform	Verify that fastener assemblies are of suitable condition, paced in all holes, and washers are positioned as required.
Snug-tight prior to pretensioning	☒ Observe	☐ Perform	Verify that joints are brought to snug-tight condition prior to pretensioning operation.
Fastener component	☒ Observe	☐ Perform	Verify that fastener component is not turned by wrench prevented from rotating.
Pretensioned fasteners	☒ Observe	☐ Perform	Verify that fasteners are Pretensioned in accordance with RCSC Specification, progressing systematically from the most rigid point toward the free edges.
AFTER BOLTING (TABLE N5.6-3, AISC 360-16):			
Documentation	☐ Observe	☒ Perform	Document the acceptance or rejection of bolted connections.
OTHER STEEL INSPECTIONS (SECTION N5.7 & N5.8, AISC 360-16; Tables J8.1 & J10.1, AISC 341-16):			
Galvanized structural steel	☒ Observe	☐ Perform	Verify that exposed cut surfaces of galvanized structural steel does not include cracks prior to galvanizing the surface.
Structural steel details	☒ Observe	☐ Perform	All fabricated steel or steel frames shall be inspected to verify compliance with the details shown in the approved construction documents, such as braces, stiffeners, member locations, and proper application of joint details at each connection.
Anchor rods and other embedments supporting structural steel	☒ Observe	☐ Perform	Shall be on the premises during the placement of anchor rods and other embedments supporting structural steel for compliance with construction documents. Verify the diameter, grade, type, and length of the anchor rod or embedded item, and the extent or depth of embedment prior to placement of concrete.
Reduced beam sections (RBS)	☐ Observe	☒ Perform	Verify contour and finish as well as dimensional tolerances *(see Table J8.1 of AISC 341-16).* ***Performed by code inspection firm.***
Protected zones	☐ Observe	☒ Perform	Verify that no holes or unapproved attachments are made within the protected zone *(see Table J8.1 of AISC 341-16).*
H-piles	☐ Observe	☒ Perform	Verify that no holes or unapproved attachments occur within the protected zones of piling *(see Table J10.1 of AISC 341-16).*
COMPOSITE CONSTRUCTION – STEEL & CONCRETE (TABLES J9.1, J9.2, J9.3 of AISC 341-16):			
Prior to concrete placement	☒ Observe	☐ Perform	Verify type and grade of reinforcing steel; carbon equivalent if other than A706 bars; proper reinforcing steel size, spacing and orientation; that bar has not been re-bent; bar is tied and supported; proper clearances are provided; and composite member has required size.
During concrete placement	☒ Observe	☐ Perform	Verify appropriate mix design; limitations on water added to truck/pump; and proper placement techniques are used to limit segregation.
After concrete placement	☒ Observe	☐ Perform	Document that minimum concrete compressive strength was achieved at specified age.

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STEEL ROOF AND FLOOR DECKS (IBC 1705.2.2 and SDI QA/QC - 2017):			
Prior to metal deck attachment	☐ Observe	☒ Perform	Verify and document compliance of materials (deck and all deck accessories) with approved construction documents, including profiles, material properties, and base metal thickness.
After metal deck placement	☐ Observe	☒ Perform	Verify and document compliance of deck, and deck accessories, installation with the approved construction documents. Verify that mill certificates comply with approved construction documents.
Prior to welding	☒ Observe	☐ Perform	Verify that welding procedures and certifications of consumables are available, material is properly identified, and welding equipment is appropriate.
During welding	☒ Observe	☐ Perform	Verify that welders are qualified, proper handling of consumables is provided, that environmental conditions are acceptable and WPS is followed.
After welding	☐ Observe	☒ Perform	Verify size, location and appearance of welds. Verify that repair activities are acceptable.
Prior to mechanical fastening	☒ Observe	☐ Perform	Verify that manufacturer's installation instructions and tools are available. Verify proper storage of fasteners.
During mechanical fastening	☒ Observe	☐ Perform	Verify that fasteners are positioned appropriately and installed per manufacturer's instructions.
After mechanical fastening	☐ Continuous	☒ Periodic	Verify spacing and type of all fasteners. Verify that repair activities are acceptable.
OPEN-WEB STEEL JOISTS AND JOIST GIRDERS (IBC TABLE 1705.2.3):			
End connections – welded or bolted	☐ Continuous	☒ Periodic	Visual inspection to confirm that end connections conform to the approved construction documents.
Bridging – horizontal or diagonal	☐ Continuous	☒ Periodic	Visual inspection to confirm that bridging is provided per the approved construction documents.
COLD-FORMED STEEL CONSTRUCTION (IBC 1705.2.4, 1705.11.2, 1705.12.3, and 1705.12.9):			
Trusses spanning > 60-feet	☐ Continuous	☒ Periodic	Verify that temporary and permanent truss bracing is installed in accordance with approved truss package. ***Performed by code inspection firm.***
Wind-force-resisting systems or seismic-force-resisting systems	☐ Continuous	☒ Periodic	Periodic inspections of welding operations. If fastener spacing is < 4"o.c.: Verify that proper screw attachment, bolting, anchoring and other fastening of shear walls, diaphragms, drag struts, braces, shear panels and holdowns has occurred. ***Performed by code inspection firm.***
Cold-formed steel special bolted moment frame	☐ Continuous	☒ Periodic	Visual inspections during installation cold-formed bolted moment frames located in Seismic Design Category 'D-F'.

SYMBOLS & MARKS LEGEND

- CONTINUOUS CONCRETE FOOTING
- SPOT / MAT CONCRETE FOOTING
- S——S FOOTING STEP
- STEP IN TOP OF CONCRETE
- BLOCK OUT AT COLUMN
- HAIRPIN TENSION BAR
- TIE ROD
- CONCRETE WALL
- CONCRETE WALL BLOCK OUT
- CONCRETE COLUMN IN WALL
- BEAM IN WALL BELOW
- MASONRY WALL
- MASONRY COLUMN IN WALL
- BEAM IN WALL BELOW
- WOOD SHEAR WALL
- WOOD POST IN WALL
- BEAM IN WALL BELOW
- WOOD WALL (NON-SHEAR WALL)
- COLD-FORMED STEEL WALL
- BEAM IN WALL BELOW
- WALL THAT STOPS AT BOTTOM OF FLOOR OR ROOF (FLOOR OR ROOF STRUCTURE BEARS ON WALL)
- BEAM IN WALL THAT STOPS AT BOTTOM OF FLOOR OR ROOF
- CONCRETE OR MASONRY BEAM (NOT WITHIN A WALL) AT OR BELOW FLOOR OR ROOF
- NON-STRUCTURAL WALL THAT STOPS BELOW BOTTOM OF FLOOR OR ROOF (AIR GAP OCCURS BETWEEN WALL AND FLOOR OR ROOF STRUCTURE)
- COLUMN THAT STOPS AT BOTTOM OF FLOOR OR ROOF
- COLUMN THAT EITHER STARTS AT OR CONTINUES THROUGH FLOOR OR ROOF STRUCTURE
- WOOD POST (SOLID OR BUILT-UP)
- HSS TUBE STEEL COLUMN
- WIDE FLANGE STEEL COLUMN
- PIPE/ROUND HSS STEEL COLUMN
- CONCRETE OR MASONRY COLUMN
- HSA QUANTITY ON BEAM
- PRE-CAMBER AT MID-SPAN OF BEAM
- SIZE (xx) C=xx" STEEL BEAM
- MOMENT CONNECTION (SFRS)
- MOMENT CONNECTION (GRAVITY)
- COLLECTOR CONNECTION IDENTIFICATION
- BEAM SPLICE
- BRACED FRAME ELEMENT
- KICKER BRACE
- MFB MOMENT FRAME BEAM
- MFC MOMENT FRAME COLUMN
- SFRS INDICATES MEMBER IS PART OF SEISMIC FORCE RESISTING SYSTEM

- OPENING
- CONCRETE SUSPENDED SLAB, SEE KEYED NOTES FOR REQUIREMENTS
- CONCRETE OVER STEEL DECK, SEE PLAN FOR ORIENTATION, AND GSN & SCHEDULE FOR REQUIREMENTS
- STEEL DECK, SEE PLAN FOR ORIENTATION, AND GSN & SCHEDULE FOR REQUIREMENTS
- HORIZONTAL BRIDGING
- CROSS BRIDGING
- WOOD SHEATHING (FLOOR OR ROOF), SEE PLAN FOR ORIENTATION & REQUIREMENTS
- STRAPPING
- SNOW DRIFT, SEE SCHEDULE
- XX'-XX" ELEVATION
- INDICATES SPAN DIRECTION OF CONCRETE ELEMENTS
- EXTENT OF CONDITION SPECIFIED
- CONTINUATION OF CONDITION SPECIFIED
- ## DETAIL # / S### SHEET #
- X KEYED NOTE

- AB# ANCHOR BOLT
- AT-# ANCHOR TIE DOWN SYSTEM
- BRGPL-# STEEL BEARING PLATE
- CB-# CONCRETE BEAM
- CC-# CONCRETE COLUMN
- CFSB-# COLD-FORMED STEEL BEAM
- CP-# CONCRETE PEDESTAL
- CTW-# CONCRETE TILT WALL
- CW-# CONCRETE WALL
- FC# CONTINUOUS FOOTING
- FS# SPOT FOOTING
- FTAO-# FORCE TRANSFER AROUND OPENING
- GB-# GRADE BEAM
- H-# HOLDOWN
- HCMC-# HOLLOW CLAY MASONRY COLUMN
- HCML-# HOLLOW CLAY MASONRY LINTEL
- HCMW-# HOLLOW CLAY MASONRY WALL
- HP-# HAIRPIN TENSION BAR
- L-# STEEL LEDGER
- MC-# MASONRY COLUMN
- ML-# MASONRY LINTEL
- MW-# MASONRY WALL
- RW-# RETAINING WALL
- SC-# STEEL COLUMN
- SD-# STEEL DECK
- SW-# WOOD SHEAR WALL
- T-# FLOOR-TO-FLOOR TIE
- WB-# WOOD BEAM
- WL-# WOOD LEDGER
- WP-# WOOD POST
- WW-# WOOD WALL

STRUCTURAL ABBREVIATIONS

AB.	ANCHOR BOLT(S)	F.D.	FLOOR DRAIN	N.T.S.	NOT TO SCALE
ABV.	ABOVE	FDTN.	FOUNDATION		
ADD.	ADDITION (AL)	F.F.	FINISH FLOOR	OPN'G.	OPENING
@	AT	FIN.	FINISH	OPP.	OPPOSITE
ALT.	ALTERNATE	FL.	FLOOR	O.C.	ON CENTER
APPROX.	APPROXIMATE	FT.	FOOT	O.F.	OUTSIDE FACE
ARCH.	ARCHITECT (URAL)	FTG.	FOOTING	OWSJ.	OPEN WEB STEEL JOIST
		FV.	FIELD VERIFY		
BM.	BEAM			PAF	POWDER ACTUATED FASTENER
BLK'G.	BLOCKING	GA.	GAUGE	PCF	POUNDS PER CUBIC FOOT
BLW.	BELOW	GALV.	GALVANIZED	PEMB	PRE-ENGINEERED METAL BUILDING
BPL.	BASE PLATE	GFRC	GLASS FIBER REINFORCED CONCRETE	PL.	PLATE
BRG.	BEARING	GLB.	GLU-LAMINATED BEAM	PNL	PANEL
BTWN.	BETWEEN	GR.	GRADE	PSF	POUNDS PER SQUARE FOOT
BLDG.	BUILDING	GSN	GENERAL STRUCTURAL NOTES	PSI	POUNDS PER SQ

CONCRETE CONSTRUCTION (IBC 1705.3 & 1705.12.1)

Item			*Detailed Instructions and Frequencies*
Reinforcing steel, including prestressing tendons	☐ Continuous	☒ Periodic	Verify prior to placing concrete that reinforcing is of specified type, grade and size; that it is free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all

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			mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Welding of reinforcing steel	☐ Continuous	☒ Periodic	Visually inspect all welds and also verify weldability of reinforcing steel based upon carbon equivalent and in accordance with AWS D1.4. Continuously inspect any welds over 5/16" thick.
Cast-in bolts & embeds	☐ Continuous	☒ Periodic	Inspection of anchors or embeds cast in concrete is required when allowable loads have been increased or where strength design is used.
Post-installed anchors or dowels	☐ Continuous	☒ Periodic	All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report. Horizontally or upwardly inclined anchors that resist sustained tension loads require continuous inspection and approved installers.
Use of required mix design	☐ Continuous	☒ Periodic	Verify that all mixes used comply with the approved construction documents; ACI 318: Ch. 19, 26.4.3, 26.4.4; and IBC 1904.1, 1904.2.
Concrete sampling for strength tests, slump, air content, and temperature	☒ Continuous	☐ Periodic	
Concrete & shotcrete placement	☒ Continuous	☐ Periodic	
Curing temperature and techniques	☐ Continuous	☒ Periodic	Verify that the ambient temperature for concrete is kept at > 50°F for at least 7 days after placement. High-early-strength concrete shall be kept at > 50°F for at least 3 days. Accelerated curing methods may be used (see ACI 318: 26.5.3-26.5.5). The ambient temperature for shotcrete shall be > 40°F for the same period of time as noted for concrete. Shotcrete shall be kept continuously moist for at least 24 hours after shotcreting. All concrete materials, reinforcement, forms, fillers, and ground shall be free from frost. In hot weather conditions ensure that appropriate measures are taken to avoid plastic shrinkage cracking and that the specified water/cement ratio is not exceeded.
Pre-stressed concrete	☒ Continuous	☐ Periodic	ACI 318 26.10
Erection of precast concrete	☐ Continuous	☒ Periodic	Verify that all precast elements are lifted, assembled and braced in accordance with the approved construction documents.
Precast concrete diaphragm connections or reinforcement classified as moderate or high deformability elements in seismic design category C-F.	☒ Continuous	☐ Periodic	Inspect connections and reinforcement in the field for: a. Installation of the embedded parts b. Completion of the continuity of reinforcement across joints. c. Completion of connections in the field.
Installation tolerances of precast concrete diaphragm connections	☐ Continuous	☒ Periodic	
Strength verification	☐ Continuous	☒ Periodic	Verify that adequate strength has been achieved prior to the removal of shores and forms or the stressing of post-tensioned tendons.
Formwork	☐ Continuous	☒ Periodic	Verify that the forms are placed plumb and conform to the shapes, lines, and dimensions of the members as required by the approved construction documents.

SOILS CONSTRUCTION (IBC 1705.6)

Item			*Detailed Instructions and Frequencies*
Verify subgrade is adequate to achieve design bearing capacity	☐ Continuous	☒ Periodic	Prior to placement of concrete.
Verify excavations extend to proper depth and material	☐ Continuous	☒ Periodic	Prior to placement of compacted fill or concrete.
Verify that subgrade has been appropriately prepared prior to placing compacted fill	☐ Continuous	☒ Periodic	Prior to placement of compacted fill.
Perform classification and testing	☐ Continuous	☒ Periodic	All materials shall be checked at each lift for proper

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of compacted fill materials			classifications and gradations not less than once for each 10,000ft² of surface area.
Verify proper materials, densities and lift thicknesses during placement and compaction.	☒ Continuous	☐ Periodic	Verify use of proper materials and procedures in accordance with the geotechnical report. Verify densities and lift thicknesses during placement and compaction of compacted fill.

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Nonstructural Component Checklist

The attached checklist must be provided near the front of the construction plans of all DFCM projects involving new construction, building additions, or the addition of new or replaced components. One box must be checked within each row. Comments should be provided noting the particular component(s) that require seismic restraint.

Please review the **"DFCM Guidelines for Seismic Restraint of Nonstructural Components"** handout for more clarification on the requirements for non-structural components and an example of how to fill out the attached checklist.

Last Revised: 10/2016

NONSTRUCTURAL COMPONENT CHECKLIST

ITEM DESCRIPTION	*NOT REQUIRED*	*ON CONST. DOCUMENTS*	*DEFERRED SUBMITTAL*	*COMMENTS*
Architectural Components:				
Interior Nonstructural Walls & Partitions	X			
Cantilever Elements *(i.e. parapets, etc.)*	X			
Exterior Nonstructural Wall Elements	X			
Veneer	X			
Penthouses	X			
Ceilings *(i.e. suspended grid or hard-lid)*	X			
Cabinets *(i.e. storage cabinets, equip, etc.)*	X			
Access Floors	X			
Storage Racks	X			
Appendages & Ornamentations			X	ROOFTOP CUPOLA
Signs & Billboards			X	
Other:				
Other:				
MEP Components:				
Fire Sprinklers	X			
Mechanical Equipment *(i.e. HVAC, fans, air handlers, boilers, furnaces, tanks, chillers, water heaters, heat exchangers, evaporators, engines, turbines, pumps, compressors, MFR equipment, etc.)*			X	
Electrical Equipment *(i.e. generators, batteries, inverters, transformers, MCC, panel boards, switch gear, cabinets, etc.)*			X	
Elevator & Escalator Components	X			
Communication Equipment, Computers, Instrumentation, and Controls			X	
Roof-mounted Chimneys, Stacks, Cooling & Electrical Towers				
Lighting Fixtures			X	
Vibration Isolated Components	X			
Piping & Conduit Systems			X	
Ductwork *(including in-line components)*			X	
Conveyors	X			
Cable Trays	X			
Other:				
Other:				

NOTES:

1. Deferred submittals for seismic restraint of nonstructural components must be submitted to the DFCM Building Official a minimum of two weeks prior to the planned installation in order to allow for plan review and forwarding to inspectors. In the event that the submittal is deficient additional time may become necessary.
2. When seismic restraint of non-structural components is installed prior to receiving DFCM approval it shall not be covered or concealed until receiving both plan review and inspection approval. Further, installers are proceeding at their own risk until plan review and inspection approval occurs.
3. The requirements for seismic restraint of nonstructural components cannot be satisfied by a general reference to Design Manuals. The design professional may utilize these manuals as a basis of their design, but must provide all supporting documentation to ensure that the design conforms to the requirements of ASCE 7-05, Chapter 13.
4. Submittals must include details of the proposed seismic restraint of nonstructural components. These details must show specific information relating to the materials, type, size, and locations of anchorages; materials used for bracing; attachment requirements of bracing to structure and component; and locations of transverse and longitudinal sway bracing and rod stiffeners. Submittals may also require structural calculations, engineering reports, test data, and/or specifications to ensure code compliance.

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PROFESSIONAL ENGINEER
04/03/2025
13079626
QUINN T. LYTHGOE
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Thomas H. Peterson
04/03/2025
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project#: 11459C
date: 2025/02/07

revisions :

1	REVIEW COMMENTS	2025-03-14
2	REVIEW COMMENTS	2025-04-03

title:

SPECIAL INSPECTIONS

sheet:

S012

FOUNDATION GENERAL NOTES

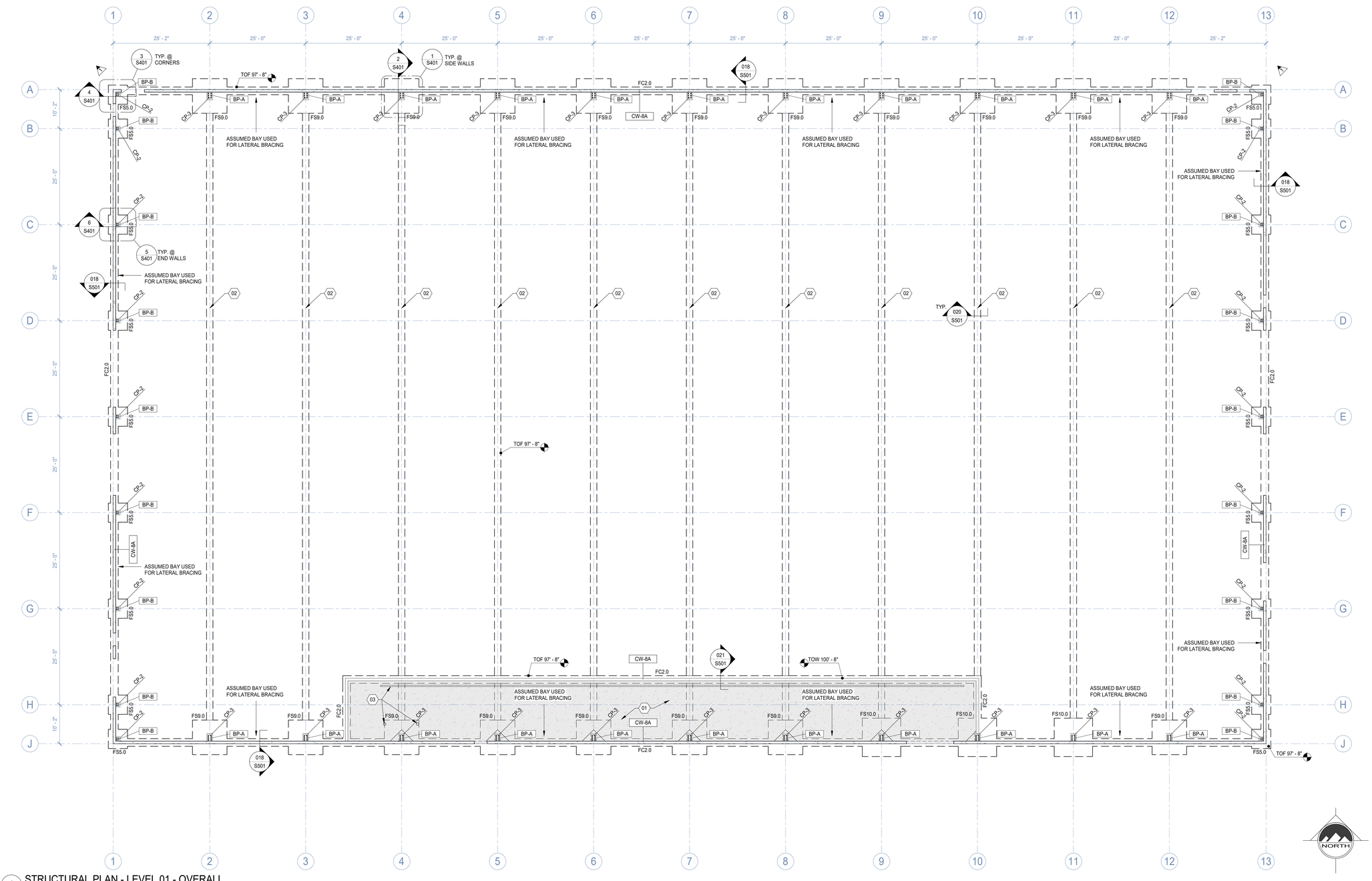
1. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE STARTING CONSTRUCTION. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. NOTIFY STRUCTURAL ENGINEER THROUGH THE ARCHITECT OF ANY VARIATIONS FROM DIMENSIONS AND CONDITIONS SHOWN BY THIS DRAWING.
2. COORDINATE STRUCTURAL REQUIREMENTS AT WALLS AND FOOTINGS WITH TYPICAL STRUCTURAL DETAILS.
3. COORDINATE LOCATIONS OF UTILITY TRENCHES (IF APPLICABLE) WITH RESPECTIVE DRAWINGS AND SUB-CONTRACTORS. SLAB REINFORCING SHALL BE CONTINUOUS OVER TRENCH.
4. ALL TOP OF FOOTING ELEVATIONS ARE BASED ON FINISH FLOOR = 100'-0". VERIFY WITH ARCHITECTURAL PLANS.
5. PROVIDE MINIMUM FROST DEPTH PER GENERAL STRUCTURAL NOTES. COORDINATE FOOTING STEPS (IF APPLICABLE) WITH CIVIL AND ARCHITECTURAL PLANS. SEE TYPICAL CONCRETE STEPPED FOOTING DETAIL IN STRUCTURAL DETAILS.
6. CONTRACTOR SHALL COORDINATE FLOOR SLAB DEPRESSIONS AND SLAB SLOPES WITH ARCHITECTURAL PLANS.
7. NOT ALL OPENINGS THROUGH FLOORS AND WALLS ARE SHOWN. COORDINATE PENETRATION REQUIREMENTS (ADDITIONAL FRAMING ELEMENTS OR REINFORCING) AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND TYPICAL STRUCTURAL DETAILS.
8. PROVIDE CONTROL JOINTS IN ALL SLABS PER THE GENERAL STRUCTURAL NOTES AND TYPICAL SLAB JOINT DETAIL.
9. CENTER ALL SPOT FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN, TYPICAL U.N.O. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO ALL STEEL COLUMNS.
10. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.

FOUNDATION KEYED NOTES

01 4" CONCRETE SLAB OVER 4" LAYER OF FREE-DRAINING STRUCTURAL FILL. SLOPE TO DRAINS PER ARCHITECTURAL AND MECHANICAL.

02 CONTINUOUS TIE ROD ENCASEMENT w/ (2) #8 CONTINUOUS TIE RODS, SEE TYPICAL TIE ROD REQUIREMENTS DETAIL FOR ADDITIONAL INFORMATION.

03 TRENCH DRAIN AND OR FLOOR DRAIN, SEE ARCHITECTURAL AND MECHANICAL.



1 STRUCTURAL PLAN - LEVEL 01 - OVERALL
SCALE: 3/32" = 1'-0"

method studio
360 west aspen avenue
salt lake city, utah 84101
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PROFESSIONAL ENGINEER
04/03/2025
13079626
QUINN T. LYTHGOE
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed By: Chadwick W. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

2100 WEST 11400 SOUTH
SOUTH JORDAN, UTAH

project#: 11459C
date: 2025/02/07

revisions :

1	REVIEW COMMENTS	2025-03-14

title:

STRUCTURAL PLAN - LEVEL 01 - OVERALL

sheet:

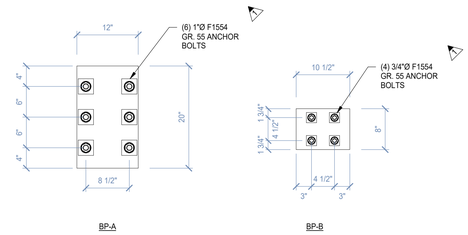
S101

CONCRETE REINFORCING LAP SPLICE LENGTH SCHEDULE

BAR SIZE	BAR DIAMETER (IN.)	f'c = 3,000 PSI				f'c = 4,000 PSI				f'c = 5,000 PSI			
		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)		TYPICAL SPLICE (IN)		TOP BAR SPLICE (IN)	
		CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B
3	0.375	17	22	22	29	15	20	20	25	13	17	17	22
4	0.500	22	29	29	38	19	25	25	33	17	23	23	30
5	0.625	28	36	36	47	24	31	31	40	22	29	29	36
6	0.750	33	43	43	56	29	38	38	48	26	34	34	44
7	0.875	48	63	63	82	42	55	55	70	38	49	49	64
8	1.000	55	72	72	94	48	62	62	81	43	56	56	73
9	1.128	62	81	81	105	54	70	70	91	48	63	63	82
10	1.270	70	91	91	118	61	79	79	103	54	71	71	92
11	1.410	78	101	101	131	67	87	87	113	60	78	78	101

NOTES:

1. ALL LAP SPLICE LENGTHS ARE CLASS B UNLESS NOTED OTHERWISE ON PLANS.
2. HORIZONTAL BARS ARE CLASSIFIED AS TOP BARS WHERE 12" OR MORE OF FRESH CONCRETE IS CAST BELOW THE LAP SPLICE.
3. FOR ALL EPOXY-COATED BARS, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY:
   - 1.5 WHEN CLEAR COVER IS LESS THAN 3 BAR DIAMETERS & CLEAR SPACING IS LESS THAN 6 BAR DIAMETERS, OR
   - 1.2 FOR ALL OTHER EPOXY-COATED BARS.
4. FOR ALL LIGHT-WEIGHT CONCRETE, LAP SPLICE LENGTHS SHALL BE MULTIPLIED BY 1.33.



BP-A BP-B

METAL BUILDING MANUFACTURER TO PROVIDE ACTUAL BASE PLATE & ANCHOR BOLT INFORMATION

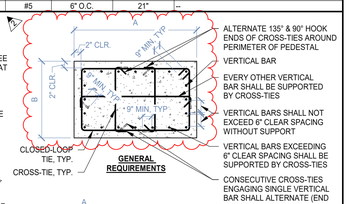
ANTICIPATED BASE PLATE & ANCHOR BOLT LAY-OUT

CONCRETE PEDESTAL SCHEDULE

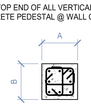
MARK	PEDESTAL SIZE				VERTICAL REINFORCING		REINFORCING TIES		ANCHOR BOLT EMBEDMENT, C	COMMENTS
	WIDTH, A	LENGTH, B	MIN. HEIGHT	MAX. HEIGHT	QUANTITY	SIZE	SIZE	SPACING		
CP-2	14"	14"	2' - 0"	3' - 0"	(8)	#5	#3	6" O.C.	21"	--
CP-3	18"	24"	2' - 0"	3' - 0"	(12)	#5	#5	6" O.C.	21"	--

NOTES:

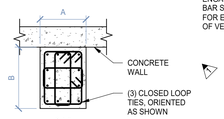
1. INSTALL CLOSED-LOOP TIES & CROSS-TIES AT INDICATED SPACING AS REQUIRED BY DETAILS & (2) SETS OF TIES IN TOP 5" OF PEDESTAL, TYPICAL U.N.O.
2. ALTERNATE CORNER WHERE CLOSED-LOOP TIE HOOKS OCCUR. PROVIDE 135-DEGREE HOOKS AT TIE CLOSURE & AT ONE END OF CROSS-TIES . PROVIDE 90-DEGREE HOOK AT OPPOSITE END OF CROSS-TIE. SEE TYPICAL CONCRETE REINFORCING BAR DETAILS.
3. DOWELS MATCHING VERTICAL REINFORCING SIZE & SPACING SHALL EXTEND INTO FOOTING & TERMINATE WITH A 90-DEGREE STANDARD HOOK. ENSURE VERTICAL DOWEL HOOKS AROUND BOTTOM MAT OF FOOTING REINFORCING.
4. EXTERIOR ANCHOR BOLTS SHALL BE HOT-DIP GALVANIZED OR PROTECTED FROM THE WEATHER WITH A CORROSION RESISTANT FINISH.
5. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.
6. INSTALL (2) #3 CLOSED LOOP TIES DIRECTLY AROUND ANCHOR BOLT HEADS.
7. INSTALL PLATE WASHERS WITH NUT TOP & BOTTOM AT ALL ANCHOR BOLTS PER THE FOLLOWING:
   - 3/8" x 2" x 2" PLATE WASHER FOR 3/4" DIA. ANCHOR BOLTS
   - 3/8" x 2-1/2" x 2-1/2" PLATE WASHER FOR 1" DIA. ANCHOR BOLTS
   - 1/2" x 3" x 3" PLATE WASHER FOR 1-1/4" & 1-1/2" DIA. ANCHOR BOLTS
8. ANCHOR BOLTS PER BUILDING MANUFACTURER.
9. PROVIDE MECHANICAL REBAR TERMINATORS AT TOP END OF ALL VERTICAL BARS. SEE "CONCRETE PEDESTAL @ MID-WALL" AND "CONCRETE PEDESTAL @ WALL CORNER" DETAILS.



GENERAL REQUIREMENTS



CP-2



CP-3

CONCRETE CONTINUOUS FOOTING SCHEDULE

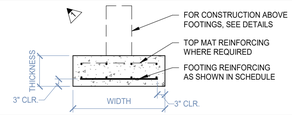
MARK	FOOTING TYPE	WIDTH	THICKNESS	LONGITUDINAL REINFORCING			TRANSVERSE REINFORCING			COMMENTS
				QUANTITY	SIZE	SPACING	QUANTITY	SIZE	SPACING	
FC2.0	CONTINUOUS	2' - 0"	12"	(2)	#5	EVENLY	--	--	--	--

CONCRETE SPOT FOOTING SCHEDULE

MARK	FOOTING TYPE	WIDTH	LENGTH	THICKNESS	LONGITUDINAL REINFORCING			TRANSVERSE REINFORCING			COMMENTS
					QUANTITY	SIZE	SPACING	QUANTITY	SIZE	SPACING	
FS5.0	SPOT	5' - 0"	5' - 0"	12"	(5)	#5	EVENLY	(5)	#5	EVENLY	TOP & BOTTOM REINF. MATS REQUIRED
FS9.0	SPOT	9' - 0"	9' - 0"	12"	(14)	#5	EVENLY	(14)	#5	EVENLY	TOP & BOTTOM REINF. MATS REQUIRED
FS10.0	SPOT	10' - 0"	10' - 0"	12"	(18)	#5	EVENLY	(18)	#5	EVENLY	TOP & BOTTOM REINF. MATS REQUIRED

NOTES:

1. CONTRACTOR TO DETERMINE REQUIRED DEPTH OF FOOTINGS TO MEET FROST PROTECTION. SEE FOUNDATION SECTION OF GSN FOR MINIMUM REQUIREMENTS.
2. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

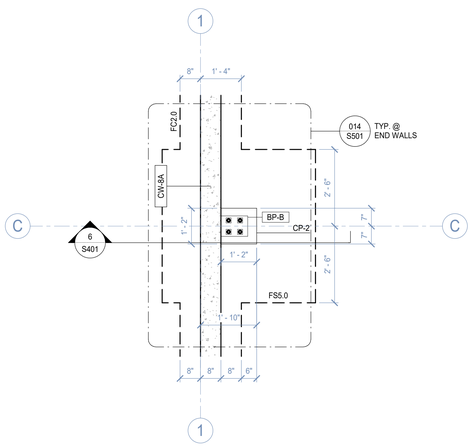


CONCRETE WALL SCHEDULE

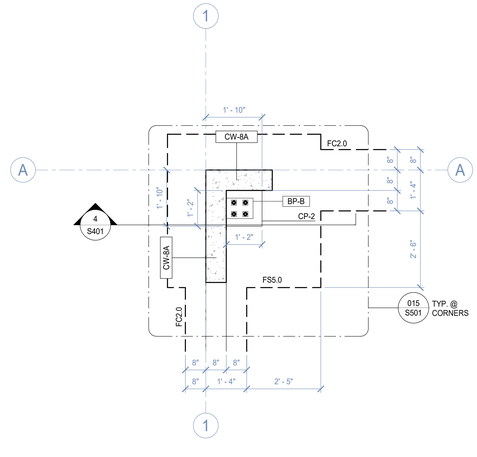
MARK	WALL THICKNESS	REINFORCING						COMMENTS
		VERTICAL			HORIZONTAL			
		SIZE	SPACING	LOCATION	SIZE	SPACING	LOCATION	
CW-8A	8"	#5	18" O.C.	CENTER	#5	18" O.C.	CENTER	TYPICAL U.N.O.

NOTES:

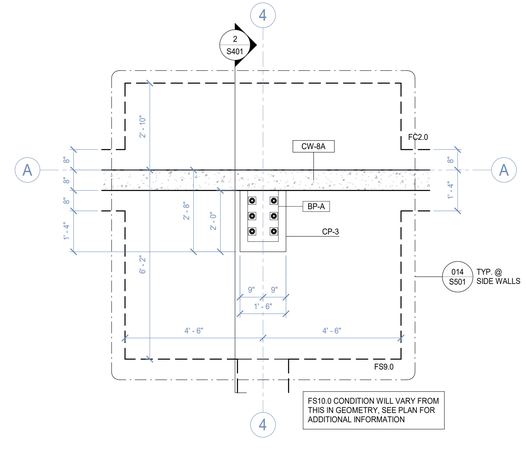
1. EXTEND VERTICAL BARS FROM THE FOOTING TO WITHIN 3" OF TOP OF WALL.
2. DOWELS MATCHING VERTICAL REINFORCING SIZE & SPACING SHALL EXTEND INTO FOOTING & TERMINATE WITH A 90-DEGREE STANDARD HOOK. ENSURE VERTICAL DOWEL HOOKS AROUND BOTTOM MAT OF FOOTING REINFORCING.
3. EXTEND VERTICAL LEG OF DOWEL MIN. LAP SPLICE LENGTH INTO WALL.
4. ALTERNATE DIRECTION OF STANDARD HOOK AT EVERY OTHER BAR.
5. INSTALL SCHEDULED HORIZONTAL REINFORCING WITHIN 4" OF TOP & BOTTOM OF WALL, U.N.O.
6. INSTALL CORNER REINFORCING SO AS TO LAP HORIZONTAL REINFORCING. SEE "TYPICAL CONCRETE WALL INTERSECTION REINFORCING" STRUCTURAL DETAIL.
7. INSTALL (2) REBAR ABOVE, (1) REBAR @ EACH SIDE, & (1) REBAR BELOW ALL OPENINGS. PLACE STEEL WITHIN 2" OF OPENINGS. VERTICAL BARS AROUND OPENINGS SHALL EXTEND FROM THE FOOTING TO WITHIN 3" OF TOP OF WALL & EXTEND HORIZONTAL BARS MIN. LAP SPLICE LENGTH BEYOND EDGE OF OPENINGS.
8. ALL CONCRETE WALL TYPES MAY NOT BE USED, SEE PLAN FOR REQUIREMENTS.
9. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.



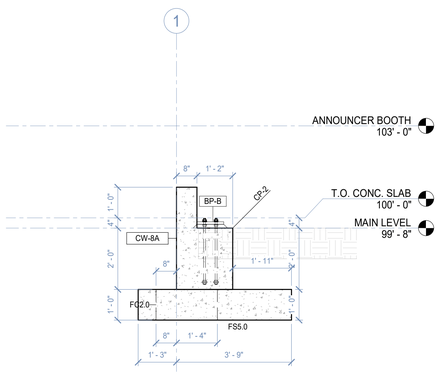
5 ENLARGED STRUCTURAL PLAN - LEVEL 01 - TYPICAL END WALL
SCALE: 1/2" = 1'-0"



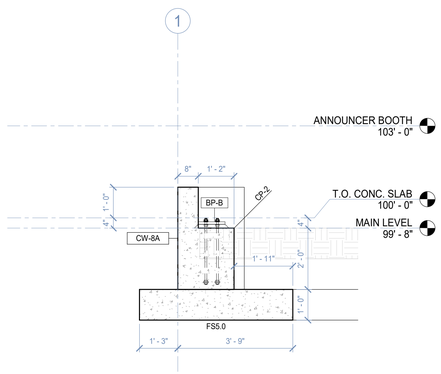
3 ENLARGED STRUCTURAL PLAN - LEVEL 01 - TYPICAL CORNER
SCALE: 1/2" = 1'-0"



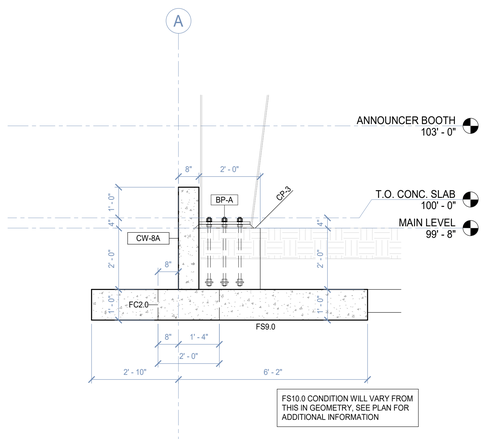
1 ENLARGED STRUCTURAL PLAN - LEVEL 01 - TYPICAL SIDE WALL
SCALE: 1/2" = 1'-0"



6 ENLARGED SECTION - LEVEL 01 - TYPICAL END WALL
SCALE: 1/2" = 1'-0"



4 ENLARGED SECTION - LEVEL 01 - TYPICAL CORNER
SCALE: 1/2" = 1'-0"



2 ENLARGED SECTION - LEVEL 01 - TYPICAL SIDE WALL
SCALE: 1/2" = 1'-0"

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04/03/2025
13079626
QUINN T. LYTHGOE
STATE OF UTAH

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CONSTRUCTION AND FACILITIES MANAGEMENT
Reviewed by: Brandon M. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

2100 WEST 11400 SOUTH
SOUTH JORDAN, UTAH

project #: 11459C
date: 2025/02/07

revisions :

1	REVIEW COMMENTS	2025-03-14
2	REVIEW COMMENTS	2025-04-03

title:

ENLARGED PLANS, SECTIONS, & SCHEDULES

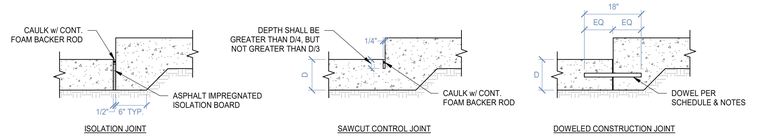
sheet:

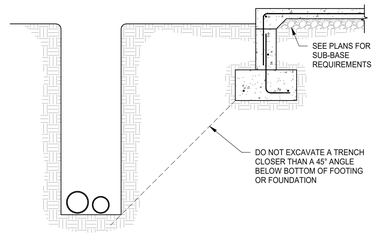
S401

DOWELED CONSTRUCTION JOINT - DOWEL REQUIREMENTS	
SLAB THICKNESS	**DOWEL DIAMETER**
UP TO 6"	3/4"
6" < D ≤ 8"	1"
8" < D ≤ 10"	1-1/4"

NOTES:

1. DOWELS SHALL BE SPACED AT 12" O.C.
2. DOWELS SHALL BE SMOOTH AND ROUND. AT CONTRACTOR'S OPTION, DIAMOND DOWELS ARE PERMITTED FOR USE IN LIEU OF ROUND DOWELS.
3. INSTALL DOWELS USING A POCKET FORMER, THIN BOND BREAKER, COAT OR GREASE AT ONE END OF EACH DOWEL TO PREVENT BOND.
4. ALIGN DOWELS STRAIGHT AND TRUE. MISALIGNED DOWELS MAY CAUSE CRACKING.
5. STAINLESS STEEL OR EPOXY COATED DOWELS SHALL BE USED IN EXTERIOR OR CORROSIVE ENVIRONMENTS.
6. WHEN DOWELS ARE USED IN EXPANSION JOINTS, EXPANSION END CAPS SHALL BE USED AT EACH DOWEL END.





005 TYPICAL TRENCH PARALLEL TO FOUNDATION

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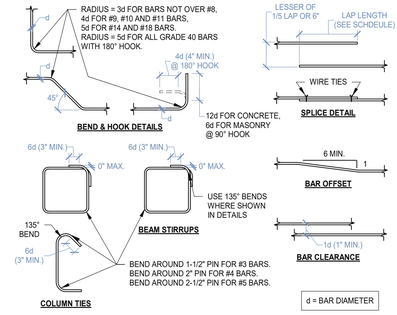
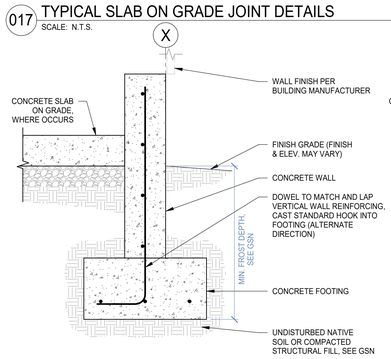


001 TYPICAL REINFORCING BAR DETAILS

SCALE: N.T.S.

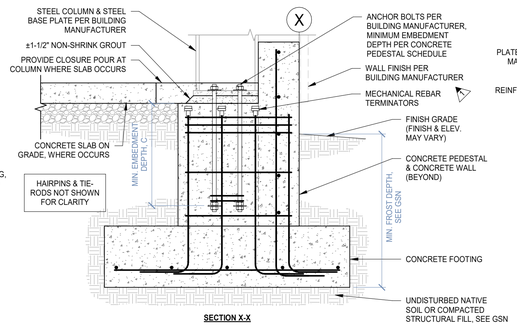
017 TYPICAL SLAB ON GRADE JOINT DETAILS

SCALE: N.T.S.



018 CONCRETE WALL BETWEEN PEDESTALS

SCALE: N.T.S.

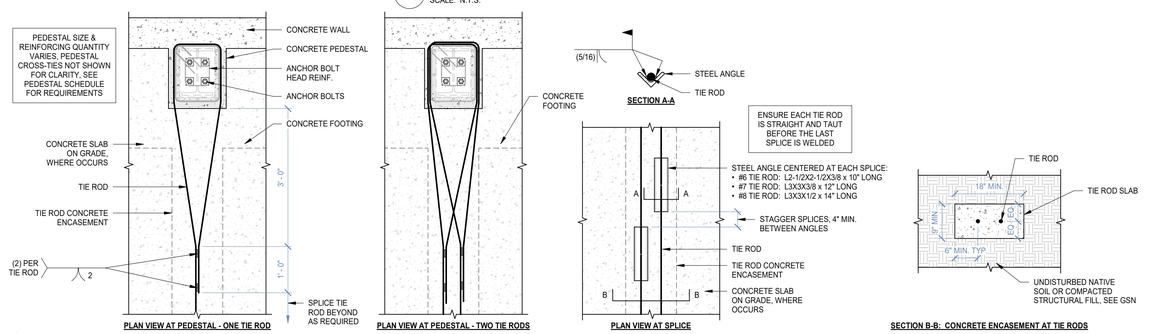


014 CONCRETE PEDESTAL @ MID-WALL

SCALE: N.T.S.

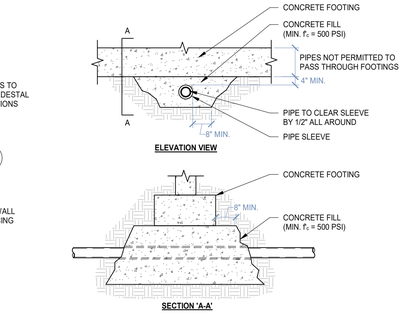
015 CONCRETE PEDESTAL @ WALL CORNER

SCALE: N.T.S.



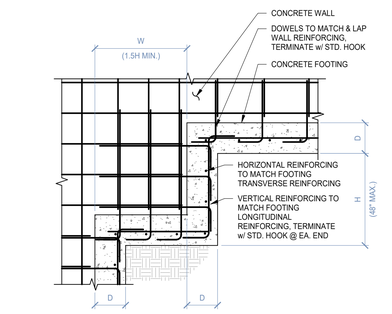
020 TYPICAL TIE ROD REQUIREMENTS

SCALE: N.T.S.



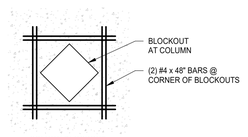
006 TYPICAL PIPE PASSING BELOW FOOTING

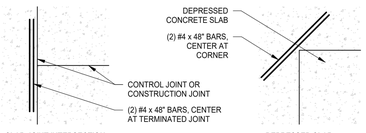
SCALE: N.T.S.



002 TYPICAL CONCRETE STEPPED FOOTING

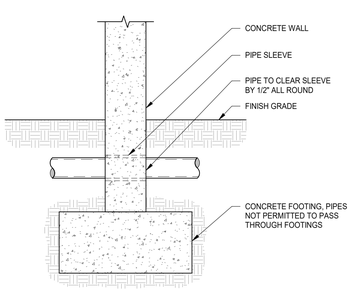
SCALE: N.T.S.





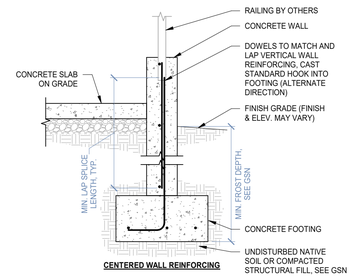
007 TYPICAL ADD'L REINF. @ OPENINGS IN S.O.G.

SCALE: N.T.S.



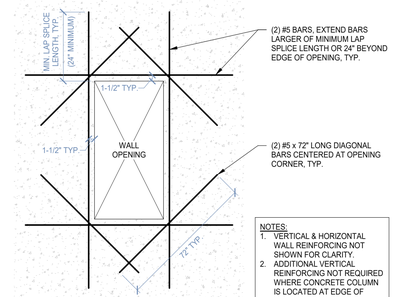
008 TYPICAL PIPE PENETRATION THRU FDTN.

SCALE: N.T.S.



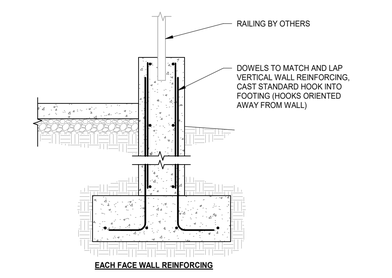
021 CONCRETE WALL @ FOOTING

SCALE: N.T.S.



004 TYP. ADD'L REINF. @ CONC. WALL OPENING

SCALE: N.T.S.



003 TYPICAL CONC. WALL INTERSECTION REINF.

SCALE: N.T.S.

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Christian M. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

2100 WEST 11400 SOUTH
SOUTH JORDAN, UTAH

project #: 11459C
date: 2025/02/07

revisions :

1	REVIEW COMMENTS	2025-03-14

title:

STRUCTURAL DETAILS - FOUNDATION

sheet:

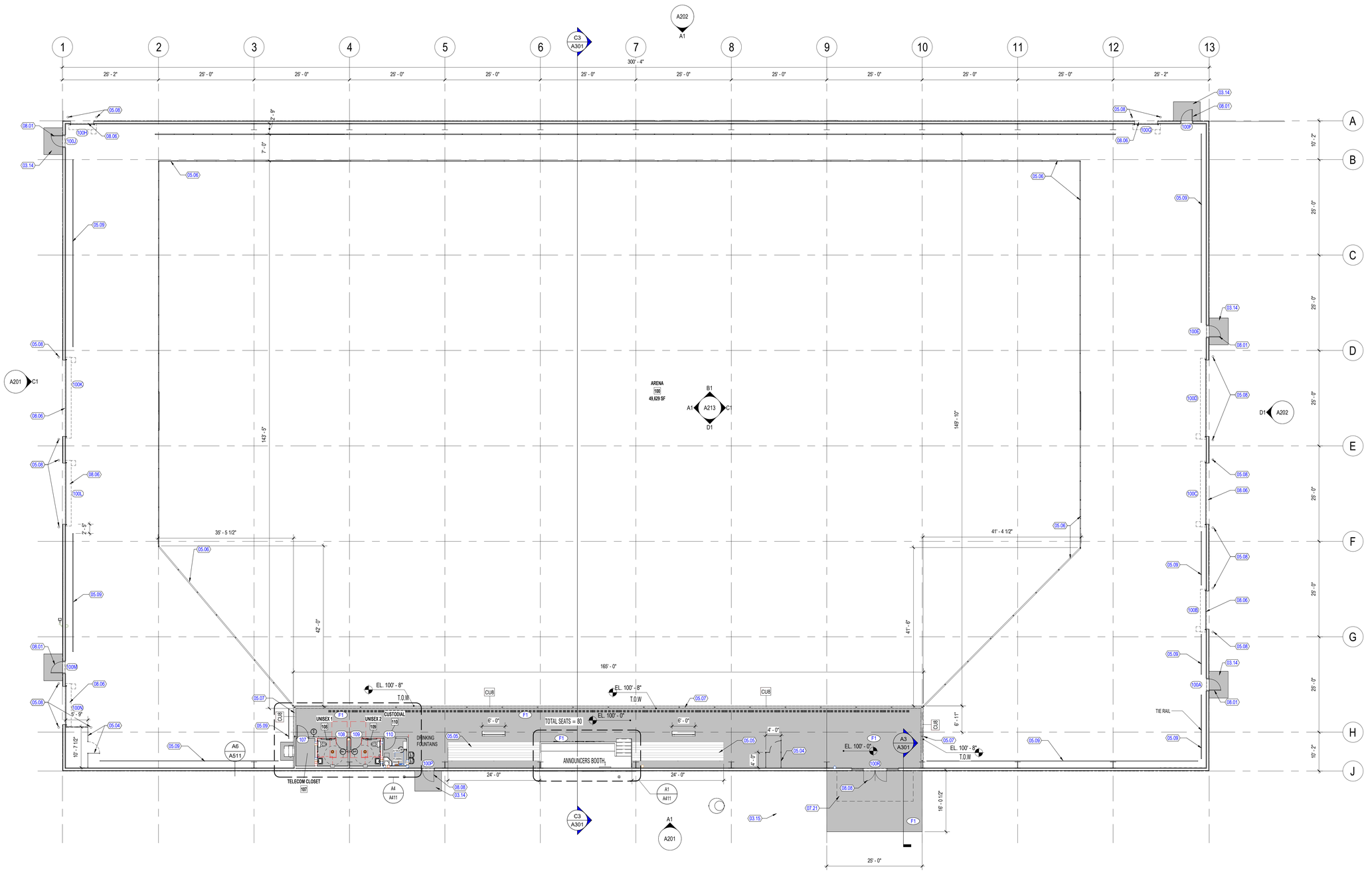
S501

KEYED NOTES

03.14	PROVIDE 5'-0" BY 7'-0" CONCRETE LANDING ON GRADE. 4" THICK OVER 4" GRAVEL, CENTERED ON DOOR, TYP.
03.15	ALIGN EDGE OF CONCRETE WITH GROLINE
05.04	6'-0" TALL GALANIZED CHAINLINK FENCE ON 2" GALVANIZED PIPE FRAME WITH 6'-0" HIGH X 3'-0" WIDE GALVANIZED CHAINLINK GATE
05.05	ALUMINUM BLEACHERS - BASIS-OF-DESIGN IS PRODUCT FROM GREAT WESTERN RECREATION (https://www.gwpark.com/bleachers/). CONTACT IS TAGGART CASTLETON, 435-245-5055. OR APPROVED EQUAL BY ARCHITECT/OWNER.
05.06	MOVEABLE ARENA RAILING PANELS, 6'-0" TALL TYP.
05.07	PERMENENT ARENA RAILING PANELS ATTACHED TO CONCRETE CURB WALL, 6'-0" TALL TYP.
05.08	9" STEEL BOLLARD - PAINTED, TYP. SEE CIVIL
05.09	TIE RAIL MOUNTED TO WALL. RE: DETAIL ON INTERIOR ELEVBATIONS
07.21	ENTRY CANOPY BY METAL BUILDING SUPPLIER ATTACHED TO BUILDING. SEE ELEVATIONS
08.01	HOLLOW METAL DOOR AND FRAME PAINTED
08.06	ROLL-UP OVERHEAD DOOR. RE: SCHEDULE
08.08	STOREFRONT DOOR AND FRAME RE: SCHEDULE

GENERAL NOTES - FLOOR PLAN

1. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND SHALL REPORT TO THE ARCHITECT ANY UNKNOWN CONDITIONS, ERRORS, OR CONFLICTS IN THE DRAWINGS BEFORE BEGINNING WORK
2. ALL EXPOSED INTERIOR COLUMNS TO BE PAINTED WITH INTUMESCENT PAINT
3. ALL EXPOSED EXTERIOR STEEL TO BE GALVANIZED, UNLESS NOTED OTHERWISE
4. SEE G000 SERIES SHEETS FOR TYPICAL MOUNTING HEIGHTS. PROVIDE SOLID BLOCKING IN WALLS FOR ALL WALL-MOUNTED ITEMS WHETHER BLOCKING IS DEPICTED IN DRAWINGS OR NOT
5. COORDINATE ALL EQUIPMENT AND ACCESSORIES, INCLUDING ITEMS THAT ARE OWNER FURNISHED, OWNER INSTALLED
6. SEE SHEET SERIES A500 FOR WALL AND ASSEMBLY TYPES
7. SEE SHEET SERIES A600 FOR DOOR AND WINDOW TYPES
8. SEE ELEVATIONS AND FINISH SCHEDULES FOR SURFACE TREATMENTS AT WALLS
9. SEE ELEVATIONS, SECTIONS, AND DETAILS FOR ADDITIONAL WALL CONSTRUCTION INFORMATION
10. BUILDING AND STEEL STRUCTURE TO BE PROVIDED BY PRE-ENGINEERED BUILDING SUPPLIER. ARCHITECT TO SELECTALL COLORS FROM STANDARD COLOR CHART.



A1 MAIN LEVEL FLOOR PLAN
3/32" = 1'-0"

north

method studio
360 west aspen avenue
salt lake city, utah 84101
801 532 4422

LICENSED ARCHITECT
5610739-0301
KELLY BOYD MORGAN
STATE OF UTAH

12-10-24

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project:

USU BASTIAN AG CENTER - ARENA

2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

OVERALL MAIN LEVEL PLAN

sheet:

A101

PERMIT SET

KEYED NOTES

05.10	PRE-FAB CUPOLA ELEMENT ATTACHED TO PRE-ENGINEERED BUILDING ROOF. SEE ELEVATIONS FOR AESTHETIC INTENT. BASIS OF-OF-DESIGN MANUFACTURER: MUNN9
07.13	STANDING SEAM ROOF BY PRE-ENGINNERED BUILDING MANUFACTURER. ARCHITECT TO SELECT COLOR FROM STANDARD COLORS AVAILABLE
07.21	ENTRY CANOPY BY METAL BUILDING SUPPLIER ATTACHED TO BUILDING, SEE ELEVATIONS

GENERAL NOTES - ROOF PLAN

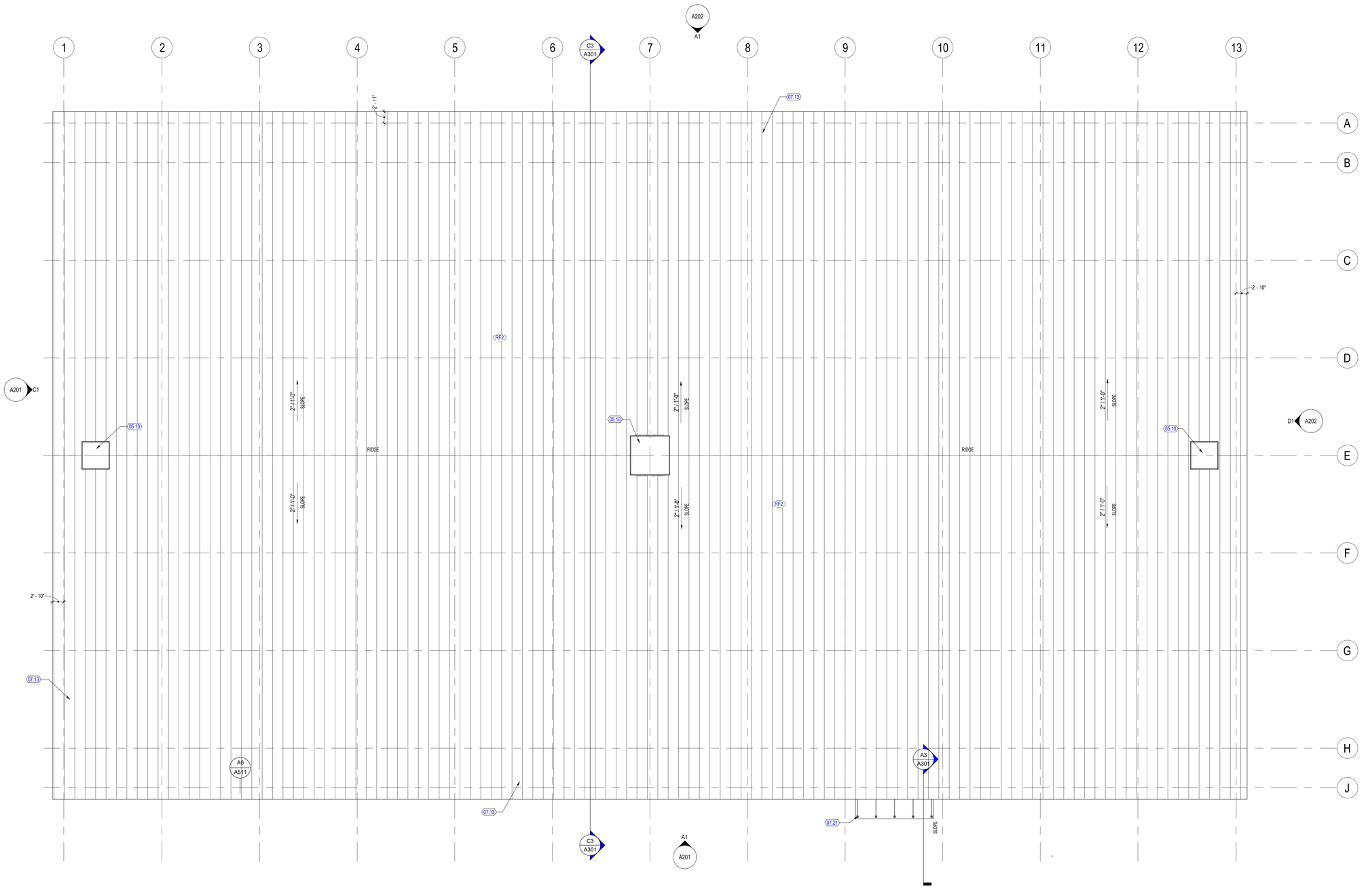
1 GENERAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND SHALL REPORT TO THE ARCHITECT ANY UNKNOWN CONDITIONS, ERRORS, OR CONFLICTS IN THE DRAWINGS BEFORE BEGINNING WORK.

2 DO NOT SCALE DRAWINGS

3 CRICKET AT ALL MECHANICAL ITEMS, SKYLIGHTS, ROOF HATCHES; 1/4" PER FOOT BACKSLOPE MINIMUM

4 SEE BUILDING AND WALL SECTIONS FOR ADDITIONAL ROOF DETAILS. SEE SHEET SERIES AE500 FOR ROOF ASSEMBLY CONSTRUCTION

5 MAIN BUILDING STANDING -SEAM ROOF TO BE PROVITED BY PRE-ENGINEERED BUILDING SUPPLIER. ARCHITECT TO SELECT COLOR FROM STANDARD COLOR CHARTS.



A1 ROOF PLAN
3/32" = 1'-0"

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project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

ROOF PLANS

sheet:

A104

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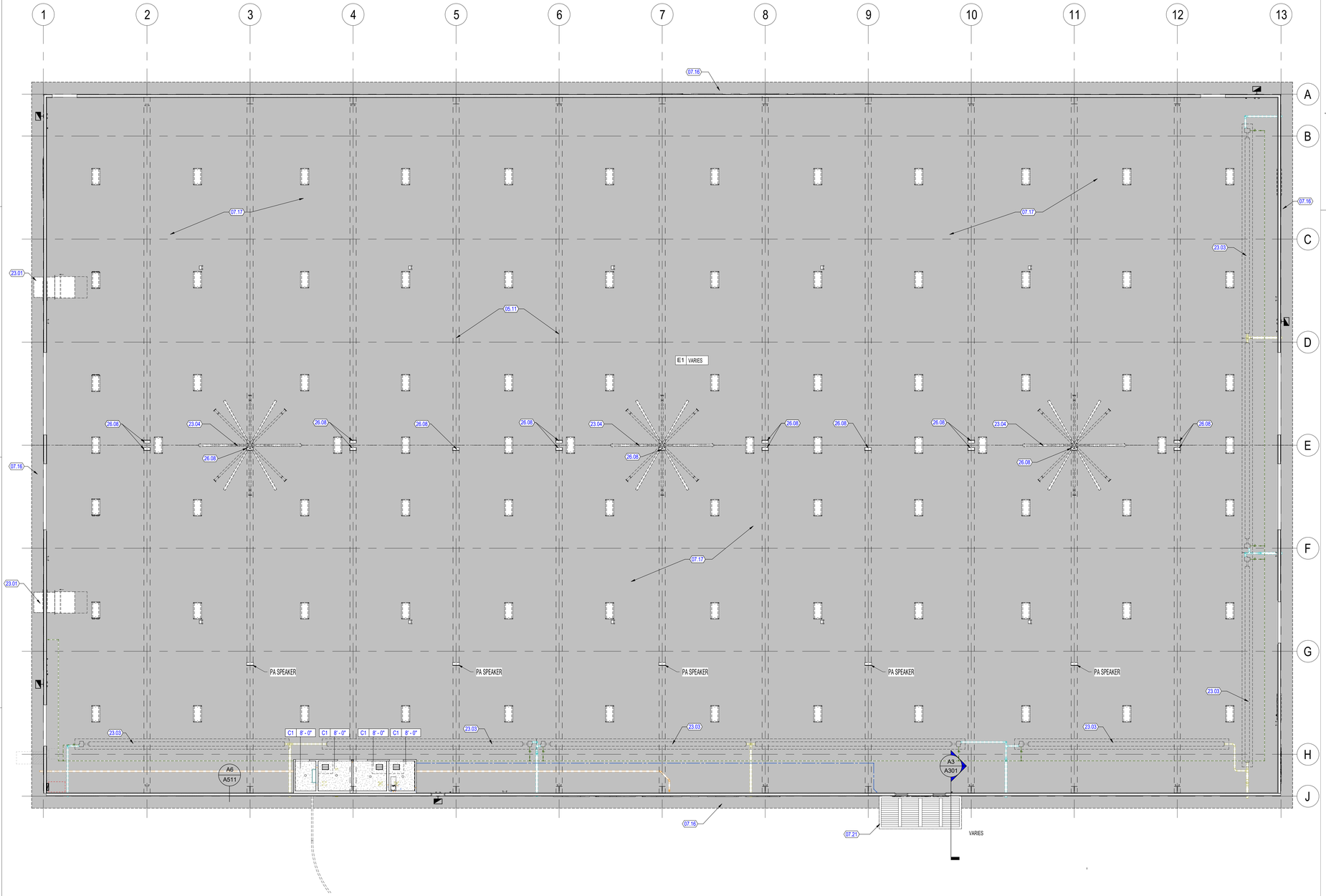

A1 REFLECTED CEILING PLAN
3/32" = 1'-0"

GENERAL NOTES - CEILING

1 VERIFY AND COORDINATE ALL MECHANICAL DUCT, GRILL DIFFUSER & LOCATIONS, VENTS, AND QUANTITY WITH MECHANICAL PLANS

3 VERIFY ALL LIGHTS, SMOKE DETECTORS, AND EXIT DEVICE LOCATIONS AND QUANTITIES WITH ELECTRICAL DRAWINGS. SEE ARCHITECTURE FOR LIGHT LAYOUT LOCATION. LIGHT FIXTURES TO BE CENTERED AND SYMMETRICALLY LOCATED UNLESS NOTED OTHERWISE

CEILING LEGEND

TYPE C1	5/8" GYPSUM BOARD (PAINTED PNT-01 UNLESS NOTED ON PLAN) ON UNDERSIDE OF FLOOR PLATE STRUCTURE. PROVIDE BRACING AS NECESSARY.
TYPE D1	METAL SOFFIT
TYPE E-1	EXPOSED STRUCTURE . PAINT STEEL STRUCTURAL MEMBER BY METAL BUILDING SUPPLIER. WHITE VINYL COVERED INSULATION BY METAL BUILDING SUPPLIER DOES NOT RECEIVE FINISH BY CONTRACTOR.
	HIGH BAY PENDENT LIGHT FIXTURES, SEE ELECTRICAL
	BIG ASS FANS (OR APPROVED EQUIVALENT BY ARCHITECT
	PA SPEAKER LOCATIONS - COORDINATE WITH STRUCTURE AND ELECTRICAL DRAWINGS
	RECESSED LIGHT FIXTURE, SEE ELECTRICAL

KEYED NOTES

05.11	EXPOSED STEEL STRUCTURE, PAINTED, TYP.
07.16	METAL SOFFIT AT EAVE / RAKE TO BE PROVIDED BY METAL BUILDING SUPPLIER, COLOR SELECTED BY ARCHITECT FROM FULL RANGE OF COLORS
07.17	VINYL COVERED INSULATION BY METAL BUILDING SUPPLIER IN BETWEEN STRUCTURAL BEAMS, TYP.
07.21	ENTRY CANOPY BY METAL BUILDING SUPPLIER ATTACHED TO BUILDING, SEE ELEVATIONS
23.01	BUILDING EXHAUST FAN SYSTEM, SEE EXTERIOR ELEVATIONS AND MECHANICAL DRAWINGS
23.03	RADIANT HEATING SYSTEM HUNG FROM STRUCTURE, SEE MECHANICAL DRAWINGS
23.04	BIG ASS FANS OR APPROVED EQUAL HUNG FROM STRUCTURE, SEE MECHANICAL
26.08	PA SPEAKER, SEE ELECTRICAL

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2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

REFLECTED CEILING PLAN

sheet:

A131

PERMIT SET

GENERAL NOTES - EXTERIOR ELEVATIONS

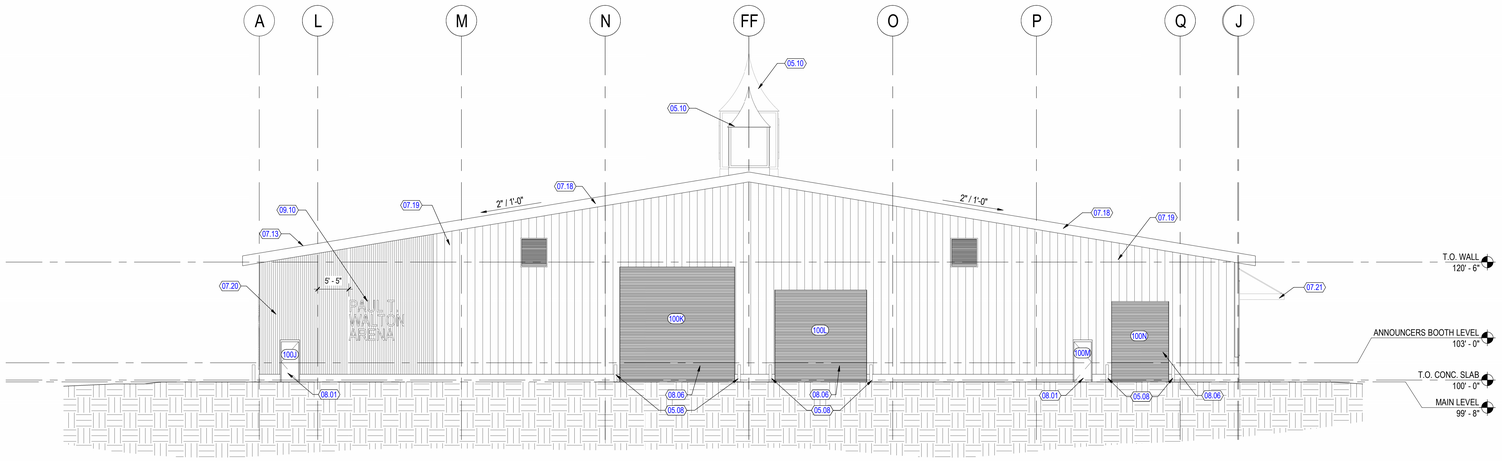
1 ALL EXPOSED STRUCTURAL EXTERIOR STEEL SHALL BE GALVANIZED WITHOUT CHROMATE COATING, SHOP PRIMED WITH HIGH PERFORMANCE COATING

2 SEE SHEET SERIES A500 FOR WALL AND ASSEMBLY TYPES

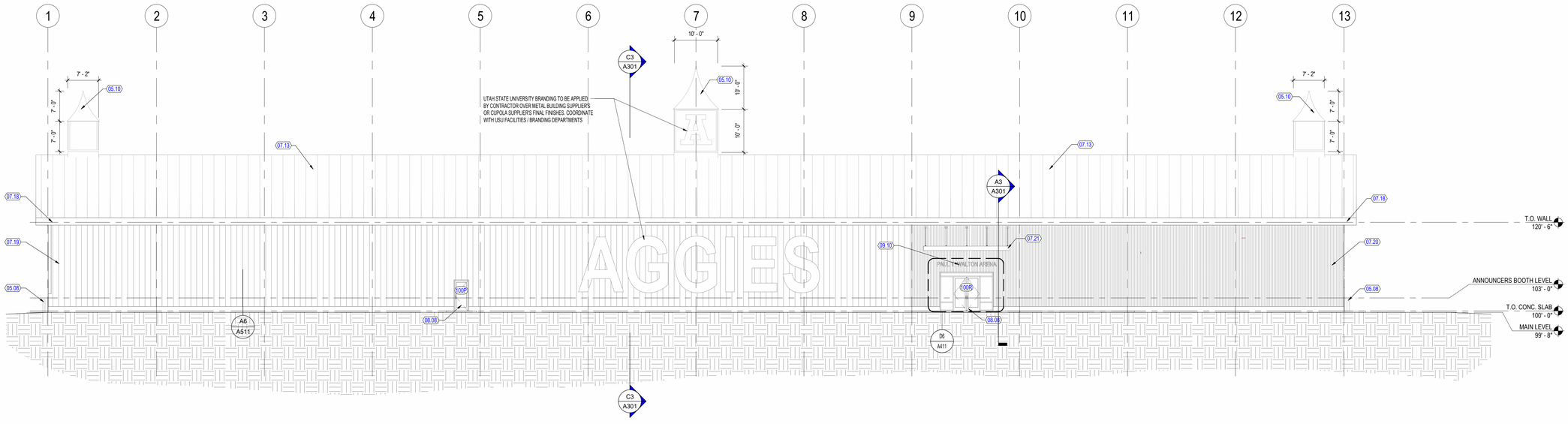
3 SEE SHEET SERIES A600 FOR DOOR AND WINDOW TYPES

KEYED NOTES

05.08	9" STEEL BOLLARD - PAINTED, TYP. SEE CIVIL
05.10	PRE-FAB CUPOLA ELEMENT ATTACHED TO PRE-ENGINEERED BUILDING ROOF. SEE ELEVATIONS FOR AESTHETIC INTENT. BASIS OF-OF-DESIGN MANUFACTURER: MUNNS
07.13	STANDING SEAM ROOF BY PRE-ENGINNERED BUILDING MANUFACTURER. ARCHITECT TO SELECT COLOR FROM STANDARD COLORS AVAILABLE
07.18	FASCIA METAL AND GUTTER / DOWNSPOUTS TO BE PROVIDED BY METAL BUILDING SUPPLIER. ACHITECT TO SELECT COLORS FROM MANUFACTURER'S FULL RANGE
07.19	LARGE RIBBED CORRUGATED METAL PANEL PROVIDED BY METAL BUILDING SUPPLIER. ARCHITECT TO SELECT COLORS FROM MANUFACTURER'S FULL RANGE
07.20	SMALLER RIBBED CORRUGATED METAL PANEL PROVIDED BY METAL BUILDING SUPPLIER. ARCHITECT TO SELECT COLORS FROM MANUFACTURER'S FULL RANGE
07.21	ENTRY CANOPY BY METAL BUILDING SUPPLIER ATTACHED TO BUILDING, SEE ELEVATIONS
08.01	HOLLOW METAL DOOR AND FRAME PAINTED
08.06	ROLL-UP OVERHEAD DOOR, RE: SCHEDULE
08.08	STOREFRONT DOOR AND FRAME RE: SCHEDULE
09.10	DONOR LETTERING TO BE PROVIDED BY GENERAL CONTRACTOR AND APPLIED OVER METAL BUILDING SUPPLIER'S FINAL FINISHES



C1 NORTH WEST ELEVATION
3/32" = 1'-0"



A1 SOUTH WEST ELEVATION
3/32" = 1'-0"

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2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

EXTERIOR ELEVATIONS

sheet:

A201

PERMIT SET

GENERAL NOTES - EXTERIOR ELEVATIONS

1 ALL EXPOSED STRUCTURAL EXTERIOR STEEL SHALL BE GALVANIZED WITHOUT CHROMATE COATING, SHOP PRIMED WITH HIGH PERFORMANCE COATING

2 SEE SHEET SERIES A500 FOR WALL AND ASSEMBLY TYPES

3 SEE SHEET SERIES A600 FOR DOOR AND WINDOW TYPES

KEYED NOTES

05.08	9" STEEL BOLLARD - PAINTED, TYP. SEE CIVIL
05.10	PRE-FAB CUPOLA ELEMENT ATTACHED TO PRE-ENGINEERED BUILDING ROOF. SEE ELEVATIONS FOR AESTHETIC INTENT. BASIS OF-OF-DESIGN MANUFACTURER: MUNNS
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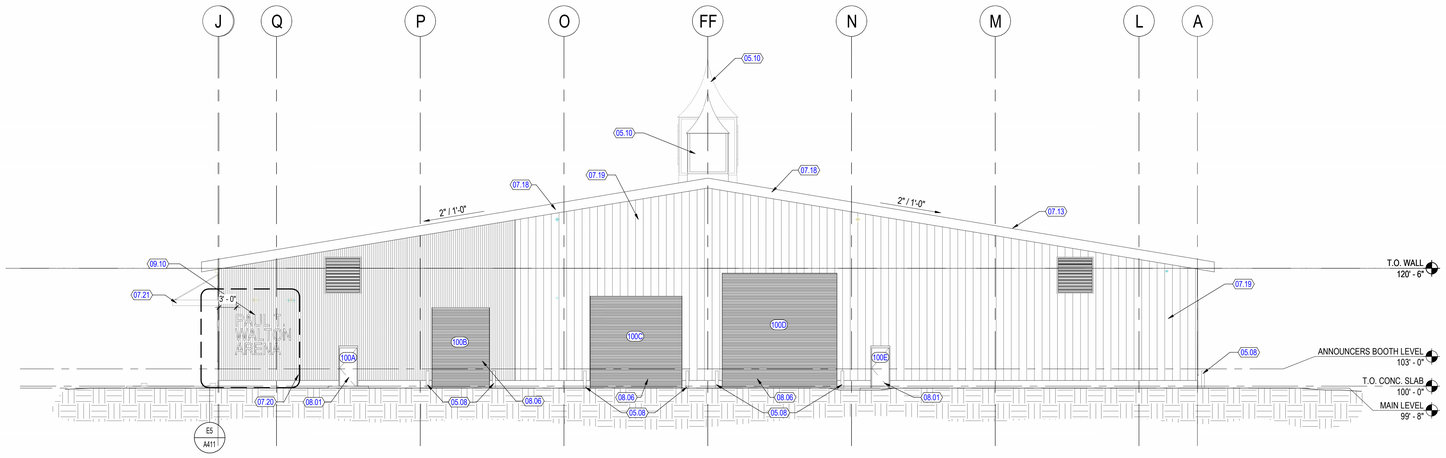
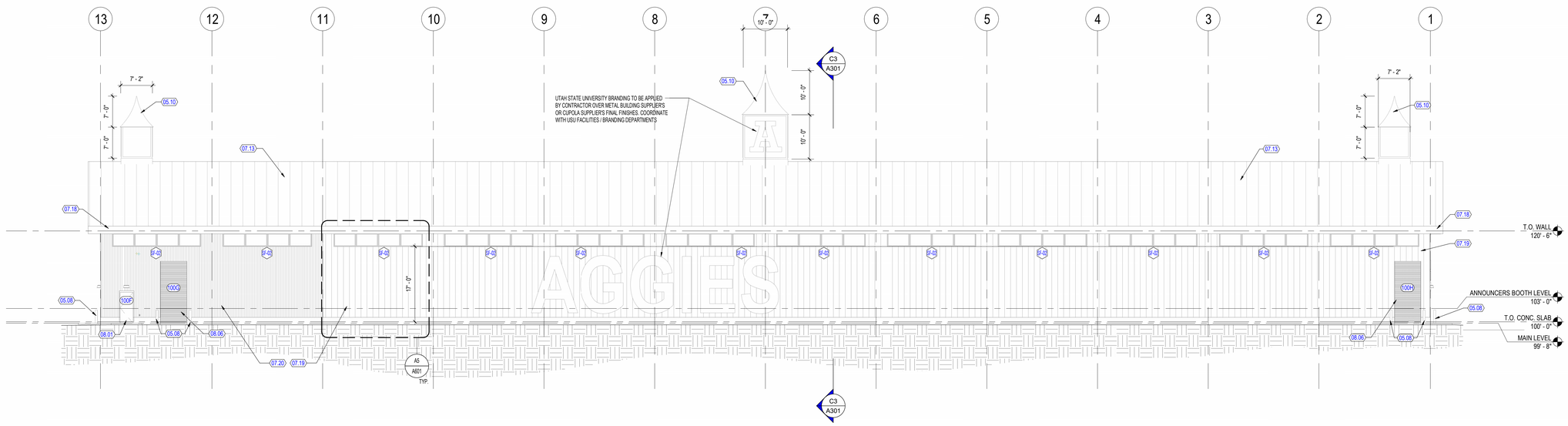
07.19	LARGE RIBBED CORRUGATED METAL PANEL PROVIDED BY METAL BUILDING SUPPLIER. ARCHITECT TO SELECT COLORS FROM MANUFACTURER'S FULL RANGE
07.20	SMALLER RIBBED CORRUGATED METAL PANEL PROVIDED BY METAL BUILDING SUPPLIER. ARCHITECT TO SELECT COLORS FROM MANUFACTURER'S FULL RANGE
07.21	ENTRY CANOPY BY METAL BUILDING SUPPLIER ATTACHED TO BUILDING, SEE ELEVATIONS
08.01	HOLLOW METAL DOOR AND FRAME PAINTED
08.06	ROLL-UP OVERHEAD DOOR, RE: SCHEDULE
09.10	DONOR LETTERING TO BE PROVIDED BY GENERAL CONTRACTOR AND APPLIED OVER METAL BUILDING SUPPLIER'S FINAL FINISHES



D1 SOUTH EAST ELEVATION
3/32" = 1'-0"



A1 NORTH EAST ELEVATION
3/32" = 1'-0"

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South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

EXTERIOR ELEVATIONS

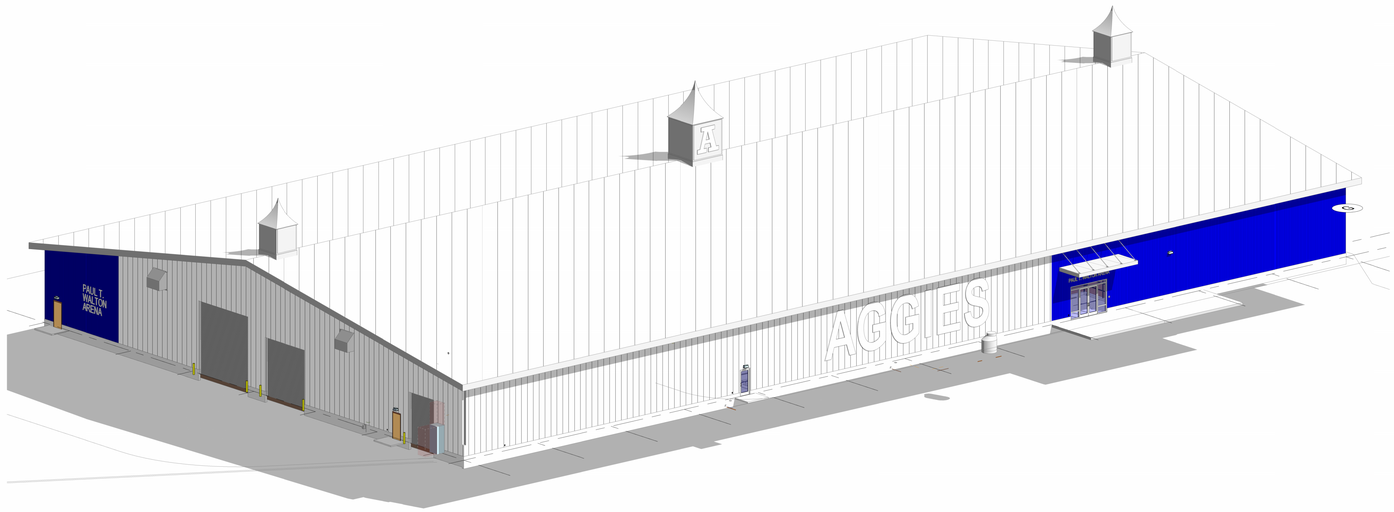
sheet:

A202

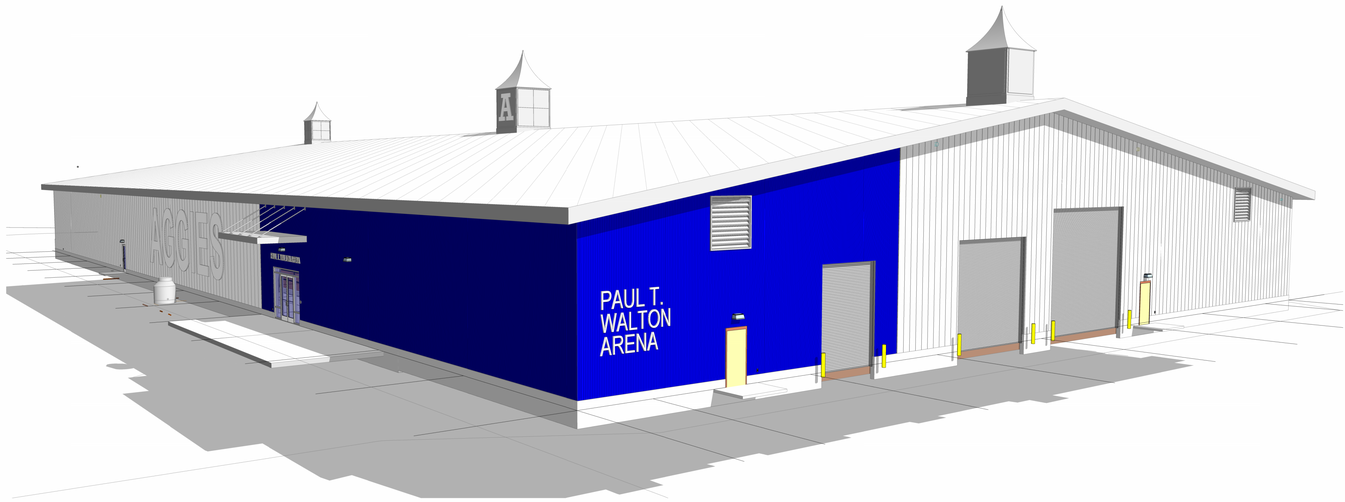
PERMIT SET

GENERAL NOTES - 3D

1. 3D PERSPECTIVES ARE SHOWN AS A COURTESY TO PROVIDE CLARITY OF OVERALL PROJECT MASSING, PROPORTIONS, AND ELEMENT RELATIONSHIPS. ALL ELEMENTS MAY NOT NECESSARILY BE REPRESENTED. REFER TO ALL 2D PLANS, SECTIONS, ELEVATIONS, DETAILS, SCHEDULES, AND SPECIFICATIONS FOR ADDITIONAL INFORMATION



C1 3D VIEW - 2



A1 3D VIEW - 1

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project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

3D AXONOMETRIC VIEWS

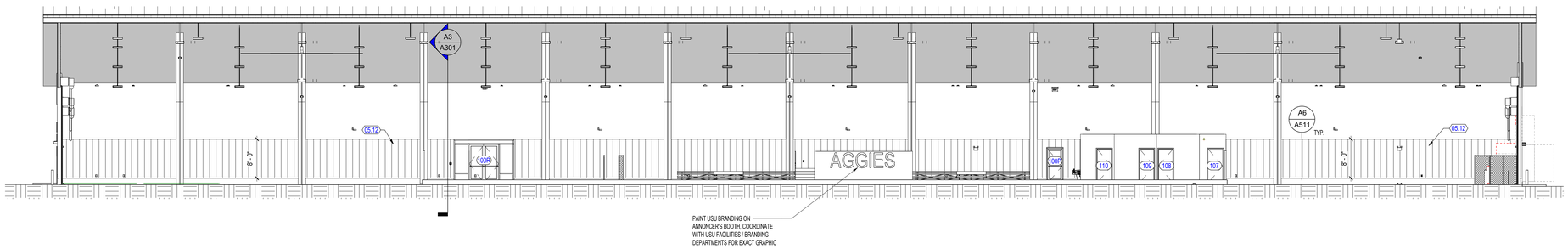
sheet:

A211

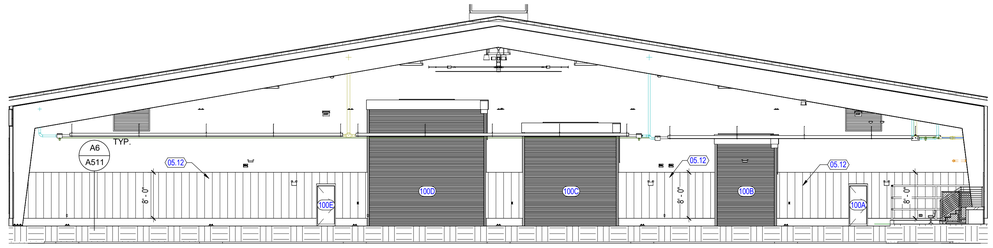
PERMIT SET

KEYED NOTES

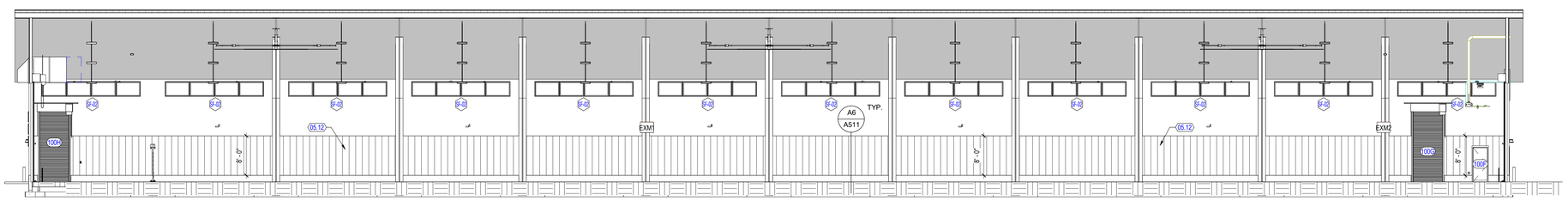
05.12	PROTECTIVE METAL PANEL TO BE INSTALLED AT PERIMETER OF ENTIRE ARENA. SEE DETAIL



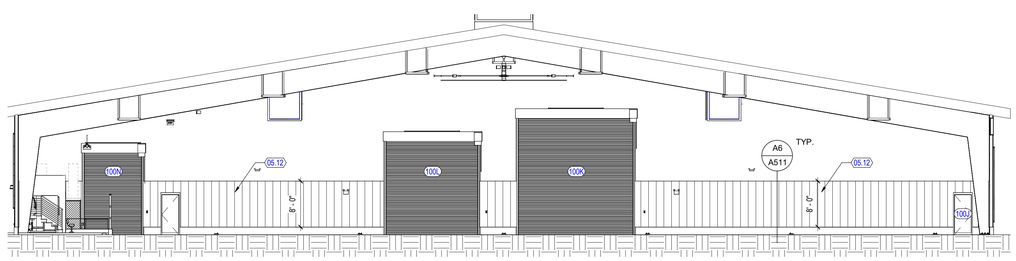
D1 Elevation 1 - d
3/32" = 1'-0"



C1 Elevation 1 - c
3/32" = 1'-0"



B1 Elevation 1 - b
3/32" = 1'-0"



A1 Elevation 1-a
3/32" = 1'-0"

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USU BASTIAN AG CENTER - ARENA

2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

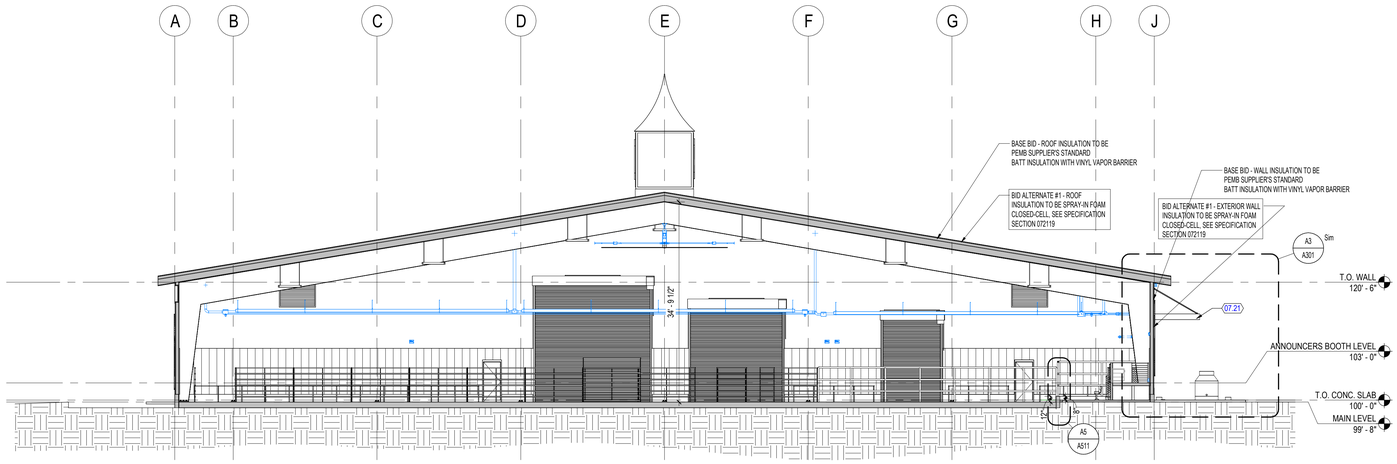
title:
INTERIOR ELEVATIONS

sheet:
A213
PERMIT SET

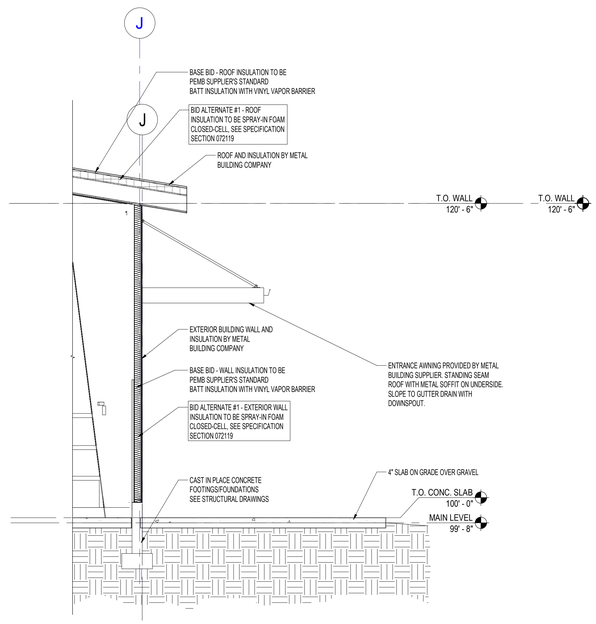
GENERAL NOTES - SECTIONS

1 SEE SHEET SERIES A500 FOR WALL AND ASSEMBLY TYPES

2 SEE SHEET SERIES A600 FOR DOOR AND WINDOW TYPES



C3 BUILDING SECTION - 2
3/32" = 1'-0"



A3 BUILDING SECTION ENTRY ENLARGED
1/4" = 1'-0"

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04/03/2025
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025

revisions :

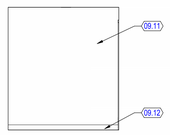
title:

BUILDING SECTIONS

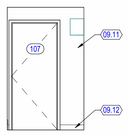
sheet:

A301

PERMIT SET



E1 TELECOM CLOSET 107 - 1
1/4" = 1'-0"



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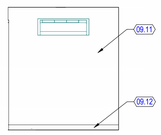
1/4" = 1'-0"



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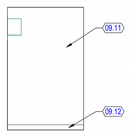
1/4" = 1'-0"



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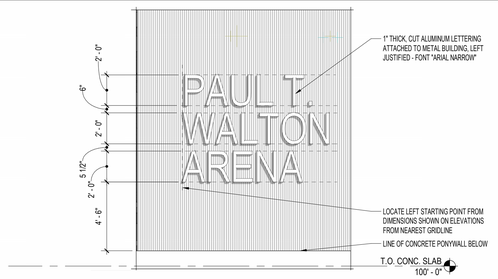
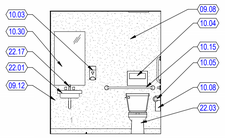
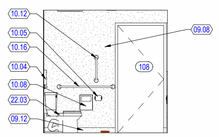
1/4" = 1'-0"



E5 DONOR LETTERING - LARGE
1/4" = 1'-0"



D1 UNISEX 1 BATHROOM 108 - 1
1/4" = 1'-0"



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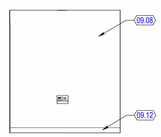
1/4" = 1'-0"



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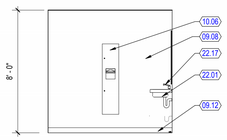
1/4" = 1'-0"



D4 UNISEX 1 BATHROOM 108 - 4
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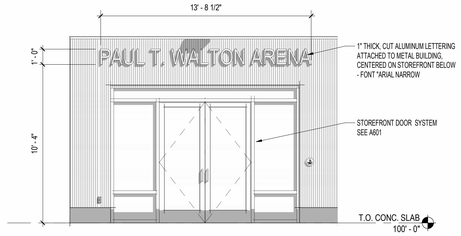

D6 DONOR LETTERING - SMALL
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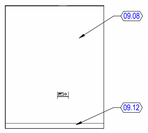

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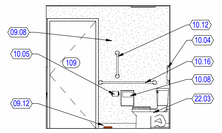

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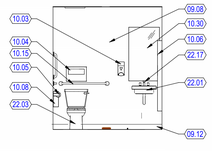

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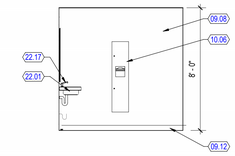

C4 UNISEX 2 BATHROOM 109 - 4
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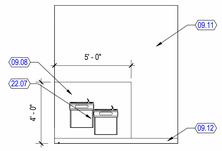
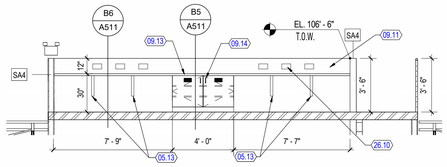
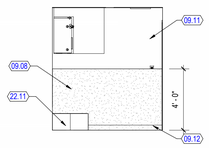


C6 DRINKING FOUNTAIN
1/4" = 1'-0"



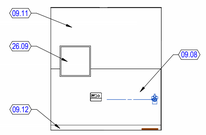
B1 ANNOUNCERS BOOTH
1/4" = 1'-0"



B3 CUSTODIAL 110 - 1
1/4" = 1'-0"



B4 CUSTODIAL 110 - 2
1/4" = 1'-0"



B5 CUSTODIAL 110 - 3
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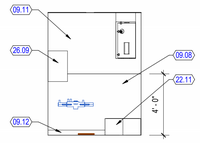

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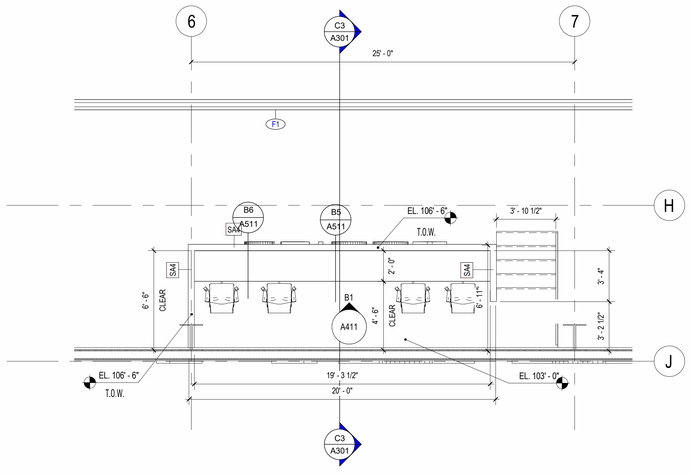
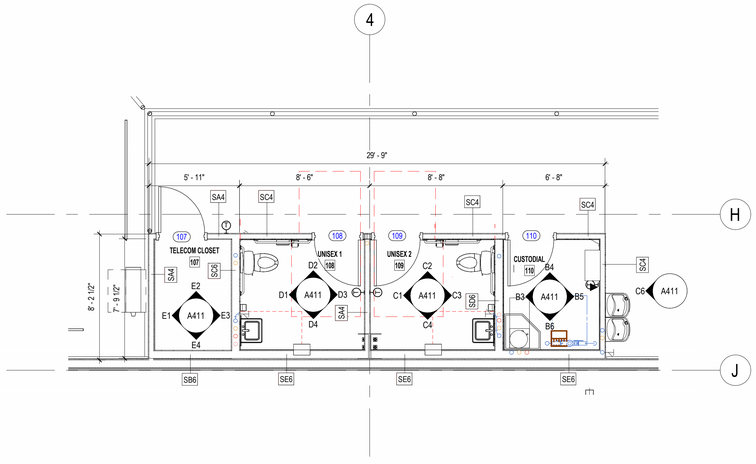
1/4" = 1'-0"



A1 LEVEL 2 ENLARGED ANNOUNCERS BOOTH
1/4" = 1'-0"



A4 BATHROOMS ENLARGED PLANS
1/4" = 1'-0"

GENERAL NOTES - INTERIOR ELEVATIONS

1. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND SHALL REPORT TO THE ARCHITECT ANY UNKNOWN CONDITIONS, ERRORS, OR CONFLICTS IN THE DRAWINGS BEFORE BEGINNING WORK
2. DO NOT SCALE DRAWINGS
3. SEE SHEET SERIES G000 FOR TYPICAL MOUNTING HEIGHTS. PROVIDE SOLID BLOCKING IN WALLS FOR ALL WALL-MOUNTED ITEMS WHETHER BLOCKING IS DEPICTED IN DRAWINGS OR NOT
4. ALL ELECTRICAL AND DATA OUTLETS ABOVE COUNTER TOPS SHOULD BE HORIZONTALLY ALIGNED AND MOUNTED HORIZONTALLY
5. PROVIDE SAFETY INSULATION ON ALL EXPOSED SUPPLY WATER LINES AND WASTE LINES
6. ALL MILLWORK INTERIOR FINISH TO BE WHITE MELAMINE, UNLESS NOTED OTHERWISE
7. CONTRACTOR TO PROVIDE RESTROOM ACCESSORIES; SEE ACCESSORY SCHEDULE
8. SEE SHEET SERIES A600 FOR WALL AND ASSEMBLY TYPES
9. SEE SHEET SERIES A600 FOR DOOR AND WINDOW TYPES
10. SEE SHEET SERIES A500 FOR CASEWORK DETAILS

KEYED NOTES

05.13	STEEL ANGLE SUPPORT BRACKETS, MAX. 3'-0" O.C.
09.08	FRP WALL PANEL W/ FACTORY TRIM, WHITE COLOR
09.11	PNT-1 TO BE USED AT ALL GYP BOARD WALLS (PNT-1 BASIS-OF-DESIGN: SW 7551 "GREEK VILLA" COLOR IN EGGSHELL FINISH)
09.12	RB-1, 4" RUBBER BASE (RB-1 BASIS-OF-DESIGN: COLOR BLACK THERMOSET RUBBER BY JOHNSONITE
09.13	PLASTIC LAMINATE COUNTER TOP
09.14	LOCKABLE PLASTIC LAMINATE BASE CABINET
10.03	WALL MOUNTED SOAP DISPENSER
10.04	WALL MOUNTED TOILET SEAT COVER DISPENSER
10.05	TOILET PAPER DISPENSER
10.06	AUTOMATIC PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
10.08	SANITARY NAPKIN DISPOSAL
10.12	18" GRAB BAR, STAINLESS STEEL
10.15	36" GRAB BAR, STAINLESS STEEL
10.16	42" GRAB BAR, STAINLESS STEEL
10.30	24"x42" MIRROR
22.01	WALL-MOUNTED ACCESSIBLE SINK - RE: PLUMBING DRAWINGS
22.03	ADA HEIGHT, FLOOR-MOUNTED TOILET. RE: PLUMBING DRAWINGS
22.07	HI LO WATER FILLING & DRINKING FOUNTAIN - ADA COMPLIANT, RE: PLUMBING
22.11	MOP SINK, RE: PLUMBING
22.17	FAUCET, RE: PLUMBING
26.09	AV CABINET, SEE AV DRAWINGS
26.10	DATA AND POWER OUTLETS ABOVE COUNTER, SEE ELECTRICAL DRAWINGS FOR POWER / DATA CALLOUTS

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STATE OF UTAH

12-10-24

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REVIEWED FOR CODE COMPLIANCE
Stephen W. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
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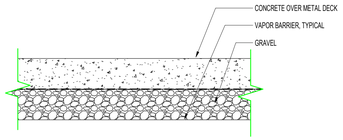
ENLARGED PLANS AND INTERIOR ELEVATIONS

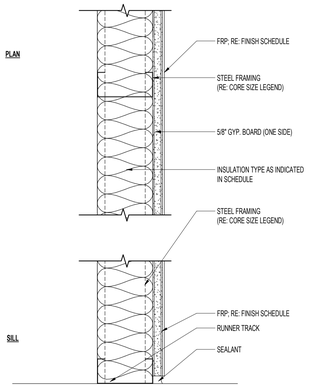
sheet:

A411

PERMIT SET



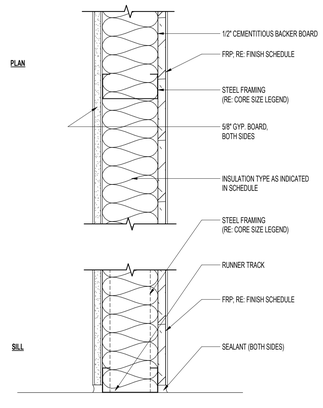
F1 SLAB ON GRADE



SE_ INTERIOR PARTITION
FIRE RATING: SEE SCHEDULE
SOUND RATING (STC): SEE SCHEDULE
UL DESIGN NUMBER: SEE SCHEDULE

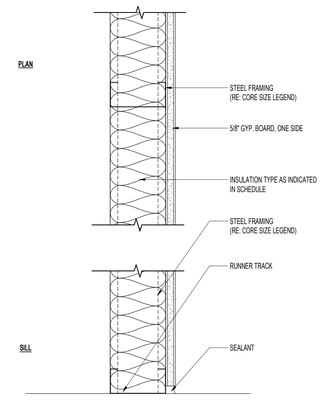
NOTE: IF FIRE RATING IS BLANK, WALL IS NOT RATED.
FOR VARYING INSULATION TYPES, SEE INSULATION PLAN.

PARTITION TAG	INSULATION TYPE	FIRE RATING	HEAD DETAIL	STUD DEPTH	CORE SIZE (NOM.)	TOTAL THICKNESS	LOAD BEARING	FIRE TEST	STC RATING
SE6	R-19			6"	6	0' - 6 5/8"			



SC_ INTERIOR PARTITION
FIRE RATING: SEE SCHEDULE
SOUND RATING (STC): SEE SCHEDULE
UL DESIGN NUMBER: SEE SCHEDULE

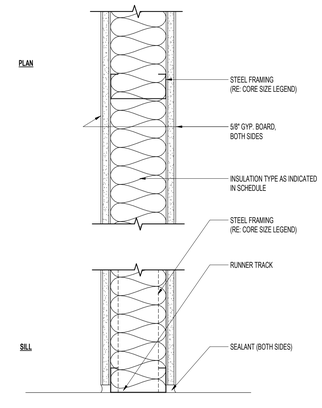
PARTITION TAG	INSULATION TYPE	FIRE RATING	HEAD DETAIL	STUD DEPTH	CORE SIZE (NOM.)	TOTAL THICKNESS	LOAD BEARING	FIRE TEST	STC RATING
SC4	R-13			3 5/8"	4	0' - 4 3/4"			
SC6	R-19			6"	6	0' - 7 1/8"			



SB_ INTERIOR PARTITION
FIRE RATING: SEE SCHEDULE
SOUND RATING (STC): SEE SCHEDULE
UL DESIGN NUMBER: SEE SCHEDULE

NOTE: IF FIRE RATING IS BLANK, WALL IS NOT RATED.
FOR VARYING INSULATION TYPES, SEE INSULATION PLAN.

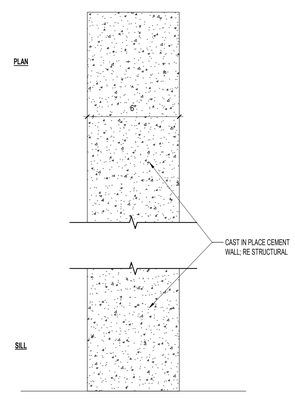
PARTITION TAG	INSULATION TYPE	FIRE RATING	HEAD DETAIL	STUD DEPTH	CORE SIZE (NOM.)	TOTAL THICKNESS	LOAD BEARING	FIRE TEST	STC RATING
SB6	R-19			6"	6	0' - 7 1/8"			



SA_ INTERIOR PARTITION
FIRE RATING: SEE SCHEDULE
SOUND RATING (STC): SEE SCHEDULE
UL DESIGN NUMBER: SEE SCHEDULE

NOTE: IF FIRE RATING IS BLANK, WALL IS NOT RATED.
FOR VARYING INSULATION TYPES, SEE INSULATION PLAN.

PARTITION TAG	INSULATION TYPE	FIRE RATING	HEAD DETAIL	STUD DEPTH	CORE SIZE (NOM.)	TOTAL THICKNESS	LOAD BEARING	FIRE TEST	STC RATING
SA4	R-13			3 5/8"	4	<varies>			



CU_ INTERIOR PARTITION
FIRE RATING: SEE SCHEDULE
SOUND RATING (STC): SEE SCHEDULE
UL DESIGN NUMBER: SEE SCHEDULE

NOTE: IF FIRE RATING IS BLANK, WALL IS NOT RATED.
FOR VARYING INSULATION TYPES, SEE INSULATION PLAN.

E	INSULATION TYPE	FIRE RATING	HEAD DETAIL	STUD DEPTH	CORE SIZE (NOM.)	TOTAL THICKNESS	LOAD BEARING	FIRE TEST	STC RATING
CU8						0' - 8"			

GENERAL NOTES - PARTITIONS

1. REFER TO DIMENSION PLANS FOR WALL TYPE LOCATIONS
2. REFER TO SCHEDULES & DETAILS FOR FINISHES. WALL TYPES REFER TO BASE WALL ONLY.
3. 'LINE OF STRUCTURE' AS SHOWN AT THE HEAD CONDITIONS OF EACH WALL TYPE IS DIAGRAMMATIC ONLY AND DOES NOT INDICATE THE EXACT CONSTRUCTION CONDITION. RATED WALLS ARE TO TERMINATE AT STRUCTURAL MEMBERS WITH A FIRE RESISTANT RATING. WHERE REQ'D APPROPRIATE FRAMING AND GYP BOARD IS TO BE INSTALLED AND OFFSET AROUND STRUCTURAL MEMBERS OR OTHER OBSTRUCTIONS SUCH AS PIPING OR DUCTWORK, TO MAINTAIN THE FIRE RESISTANCE RATING. NON-RATED WALLS THAT CONTINUE TO STRUCTURE ARE TO TERMINATE AT PROPER LOCATIONS TO MAINTAIN THE INTENT OF THE CONTINUOUS PLANE OF ONE LAYER OF GYP BOARD AS A NOISE, SMOKE OR OTHER TYPE OF BARRIER.
4. SPACING OF THE METAL STUDS HAS NOT BEEN INDICATED ON THE WALL TYPES OR DETAILS. REFER TO STRUCTURAL STUD DETAILS SHEET
5. ALL GYP BOARD SHALL BE 5/8", U.N.O.
6. REFER TO GYP BOARD SCHEDULE BELOW FOR GYP BOARD REQUIREMENTS PER LOCATION AND WALL TYPE
7. ALL WALL ASSEMBLIES TO BE FILLED W/ SOUND ATTENUATION BATTS, U.N.O.
8. VARYING INSULATION REQUIREMENTS HAVE NOT BEEN INDICATED ON THE WALL TYPES; FOR WALL TYPES WITH VARYING INSULATION TYPES, REFERENCE INSULATION PLAN
9. VARYING LOAD BEARING REQUIREMENTS HAVE NOT BEEN INDICATED ON THE WALL TYPES; FOR WALL TYPES WITH VARYING LOAD BEARING REQUIREMENTS, REFERENCE LOAD BEARING PLAN
10. SOUND ATTENUATION BLANKETS/BATTS SHALL EXTEND THE FULL HEIGHT OF THE WALLS, U.N.O.
11. THERMAL AND SOUND INSULATION AND COVERING WHICH ARE INSTALLED IN CONCEALED AND EXPOSED SPACES AND AS COVERING OVER PIPE AND TUBING SHALL BE TESTED IN ACCORDANCE WITH AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) E 84 AND HAVE A FLAME SPREAD OF 0-25 AND A SMOKE INDEX OF 0-450.
12. SUPPORT INSULATION WITH CHICKEN WIRE IN PARTITIONS WITHOUT GYP BOARD ON BOTH SIDES TO STRUCTURE.
13. ALL RATED WALLS SHALL BE CONSTRUCTED FIRST. SECONDARY WALLS TO ABUT, BUT NOT PENETRATE RATED WALLS.
14. FIRESTOPPING TO BE PROVIDED AT PENETRATIONS THROUGH RATED WALLS AS SPECIFIED.
15. UL DESIGN NUMBERS REFER TO FIRE RESISTANCE IN MOST CURRENT EDITION OF THE UL DIRECTORY.
16. PROVIDE ALL COMPONENTS REQUIRED PER THE INDICATED DESIGN NUMBER OR TEST REFERENCE LISTING NUMBER, INCLUDING BUT NOT LIMITED TO FASTENER SIZE AND SPACING.
17. APPROPRIATE SUBMITTAL INFORMATION MUST BE PROVIDED TO SUBSTANTIATE THAT THE MATERIALS AND ASSEMBLY USED BY THE CONTRACTOR HAVE BEEN TESTED BY A RECOGNIZED TESTING AGENCY TO MEET THE FIRE RESISTANCE RATING SCHEDULED ON THESE WALL TYPES.
18. MAINTAIN 1/2" SPACE BETWEEN FLOOR SLAB AND BOTTOM OF GYP BOARD ON ALL WALLS.
19. STOP STUD 1" BELOW METAL RUNNER (TOP TRACK) TO ALLOW FOR VERTICAL EXPANSION DO NOT ATTACH STUDS OR GYP BOARD TO TOP TRACK.
20. U.N.O. ALL WALLS TO BE LEVEL 4 FINISH
21. REFER TO INTERIOR DETAILS FOR ADDITIONAL INFORMATION.

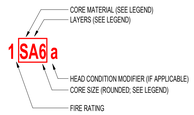
GYP BOARD SCHEDULE

5/8" GYPSUM BOARD	ALL PARTITIONS UNLESS NOTED OTHERWISE BELOW
5/8" TYPE X GYPSUM BOARD	FIRE RATED PARTITIONS
5/8" MOISTURE RESISTANCE AND MOLD-RESISTANT GYPSUM BOARD (TYPE X WHERE FIRE RATED)	WET OR HIGH HUMIDITY, HEAVY MOISTURE EXPOSURE AREAS SUCH AS TOILET ROOMS, SHOWERS, LOCKER ROOMS, AND JANITOR CLOSETS, EXCEPT WHERE WALL TILE OCCURS. USE AT KITCHEN WALLS FROM FLOOR TO 12" ABOVE COUNTERTOP, EXCEPT WHERE TILE BACKSPLASH OCCURS.
5/8" GLASS MAT MOISTURE AND MOLD-RESISTANT GYPSUM TILE BACKER (TYPE X WHERE FIRE RATED)	LIMITED WATER EXPOSURE AREAS WHERE WALL TILE OCCURS, BEHIND FIBERGLASS SHOWER ENCLOSURES, AND KITCHEN WALLS FROM FLOOR TO 12" ABOVE COUNTERTOP WHERE TILE BACKSPLASH OCCURS
5/8" CEMENT BOARD	WET OR HIGH HUMIDITY, HEAVY MOISTURE EXPOSURE AREAS WHERE WALL TILE OCCURS, EXCEPT AT BACKSPLASHES

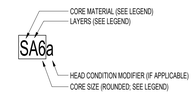
GYP BOARD NOTES

1. AT FIRE RATED PARTITIONS WHERE CEMENT BOARD IS REQUIRED, PROVIDE CEMENT BOARD ON TOP OF TYPE X GYPSUM BOARD, OR PROVIDE A TESTED FIRE-RESISTANCE DESIGN THAT ALLOWS REPLACEMENT OF THE TYPE X GYPSUM BOARD WITH CEMENT BOARD.
2. REFER TO THE ENVIRONMENTAL CLASSIFICATIONS IN THE CURRENT EDITION OF THE TILE COUNCIL OF NORTH AMERICA HANDBOOK FOR CERAMIC, GLASS AND STONE TILE INSTALLATION.

FIRE RATED WALL TAG (description)



NON-FIRE RATED WALL TAG (description)



LAYERS LEGEND

NOTE: **DO NOT USE THE FOLLOWING LETTERS: l, I, and o. a through e are Method Studio's Standard, f and above are user defined.**

SA = GYPSUM BOARD BOTH SIDE OF CORE
SB = GYPSUM BOARD ONE SIDE OF CORE
SC = GYPSUM BOARD, 2 LAYERS BOTH SIDES OF CORE
SD = GYPSUM BOARD BOTH SIDES OF CORE, DOUBLE STUD
SE = GYPSUM BOARD, 2 LAYERS BOTH SIDES OF CORE, DOUBLE STUD
SF = GYPSUM BOARD, ONE LAYER CORE SIDE, ONE LAYER RESILIENT CHANNEL SIDE
SG = GYPSUM BOARD, ONE LAYER CORE SIDE, ONE LAYER HAT CHANNEL SIDE
SS = TYPE "X" GYPSUM BOARD, ONE LAYER CORE SIDE, 1" SHAFT LINER
ST = TYPE "X" GYPSUM BOARD, 2 LAYERS CORE SIDE, 1" SHAFT LINER
SU = TYPE "X" GYPSUM BOARD, 3 LAYERS CORE SIDE, 1" SHAFT LINER

WALL TYPE HEAD CONDITION LEGEND

IF NULL = TYPICAL PARTITION FLOOR TO FLOOR/CEILING/ROOF
a = PARTITION EXTEND FROM FLOOR TO 6" ABOVE CEILING
b = ACOUSTIC PARTITION
c = 1 - HR FIRE RATED PARTITION
d = 2 - HR FIRE RATED PARTITION

CORE MATERIAL LEGEND

C = CONCRETE WALLS, MASONRY
S = STEEL STUDS
W = WOOD STUDS
G = GLAZING

CORE SIZE LEGEND

	STEEL STUDS	WOOD STUDS	MASONRY (WIDTH)	[6]CONCRETE (WIDTH)
1 =	[7]7/8"			
2 =	1 5/8"	1 1/2"		
3 =	2 1/2"	2 1/2"		
4 =	3 5/8"	3 1/2"	MASONRY SIZE 4"	
5 =				
6 =	6"	5 1/2"	MASONRY SIZE 6"	CONCRETE 6"
8 =	8"	7 1/4"	MASONRY SIZE 8"	CONCRETE 8"
10 =		9 1/4"	MASONRY SIZE 10"	CONCRETE 10"
12 =		11 1/4"	MASONRY SIZE 12"	CONCRETE 12"
14 =				CONCRETE 14"
16 =			MASONRY SIZE 16"	

SUPERSCRIPT NOTES :
A - HAT CHANNEL FURRING IN LIEU OF METAL STUD
B - IF WALL IS STRUCTURAL, DO NOT TAG WALL OR INCLUDE IN WALL TYPES

method studio
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salt lake city, utah 84101
801 532 4422

LICENSED ARCHITECT
5610739-0301
KELLY BOYD MORGAN
STATE OF UTAH

12-10-24

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Stephen M. Peterson
04/03/2025
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project:

USU BASTIAN AG CENTER - ARENA

2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

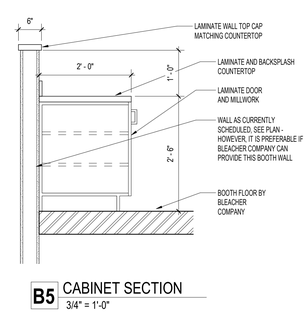
title:

WALL ASSEMBLIES - INTERIOR

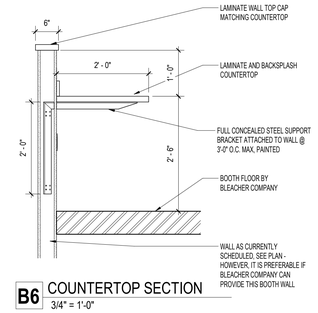
sheet:

A502

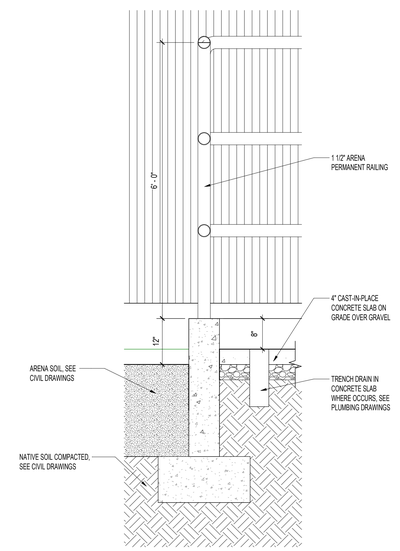
PERMIT SET



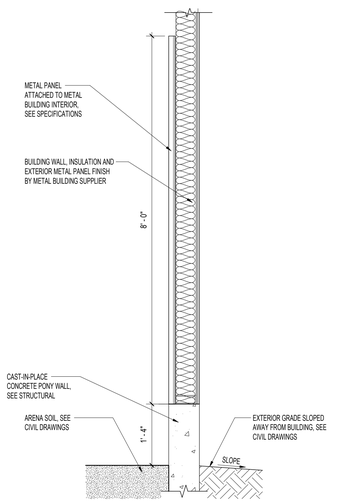
B5 CABINET SECTION
3/4" = 1'-0"



B6 COUNTERTOP SECTION
3/4" = 1'-0"



A5 ARENA PERMINENT RAILING DETAIL
3/4" = 1'-0"



A6 TYPICAL PERIMETER WALL PANEL DETAIL
3/4" = 1'-0"

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Electronically Signed
Charles H. Peterson
04/03/2025
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project:

USU BASTIAN AG CENTER - ARENA

2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

GENERAL CONST. DETAILS

sheet:

A511

PERMIT SET

ACCESSORY SCHEDULE

SCHEDULED MATERIALS AND FINISHES SHALL BE USED FOR BASIS OF DESIGN U.N.O.

CODE	PRODUCT TYPE	MANUFACTURER	MAKE/MODEL	FINISH	COMMENTS
	18" GRAB BAR	BOBRICK	B-6806 X 18"	STAINLESS STEEL | SATIN	CONTRACTOR PROVIDED/INSTALLED - INSTALL PER MANUFACTURER'S RECOMMENDATIONS, PROVIDE BACKING.
	36" GRAB BAR	BOBRICK	B-6806 X 36"	STAINLESS STEEL | SATIN	CONTRACTOR PROVIDED/INSTALLED - INSTALL PER MANUFACTURER'S RECOMMENDATIONS, PROVIDE BACKING.
	42" GRAB BAR	BOBRICK	B-6806 X 42"	STAINLESS STEEL | SATIN	CONTRACTOR PROVIDED/INSTALLED - INSTALL PER MANUFACTURER'S RECOMMENDATIONS, PROVIDE BACKING.
	PAPER TOWEL DISPENSER AND TRASH RECEPTICLE	BOBRICK	B-43944	STAINLESS STEEL | SATIN	CONTRACTOR PROVIDED/INSTALLED - INSTALL PER MANUFACTURER'S RECOMMENDATIONS
	TOILET PAPER DISPENSER	BOBRICK	SURFACE-MOUNTED MULTI-ROLL | B-2888	STAINLESS STEEL | SATIN	CONTRACTOR PROVIDED/INSTALLED - INSTALL PER MANUFACTURER'S RECOMMENDATIONS
	TOILET SEAT COVER DISPENSER	BOBRICK	SURFACE-MOUNTED | B-40	STAINLESS STEEL | SATIN	CONTRACTOR PROVIDED/INSTALLED - INSTALL PER MANUFACTURER'S RECOMMENDATIONS
	SOAP DISPENSER	BOBRICK	SURFACE-MOUNTED | B-40	TWO-TONE BLACK/GREY	CONTRACTOR PROVIDED/INSTALLED - INSTALL PER MANUFACTURER'S RECOMMENDATIONS
10.20	SANITARY NAPKIN DISPOSAL	BOBRICK	SURFACE-MOUNTED | B-35139	STAINLESS STEEL | SATIN	CONTRACTOR PROVIDED/INSTALLED - INSTALL PER MANUFACTURER'S RECOMMENDATIONS
10.37	MIRROR	GLACIER BAY	BEVELED EDGE BATH MIRROR	-	CONTRACTOR PROVIDED/INSTALLED- 24" W X 36" H - MOUNTED TO WALL PER MANUFACTURER'S RECOMMENDATIONS.

DOOR SCHEDULE - ALL

ALL DOOR HANDLES & HARDWARE USED ON THE PROJECT MUST NOT REQUIRE PINCHING, TIGHT GRASPING, OR TWISTING OF THE WRIST IN ORDER TO OPERATE, IN ACCORDANCE WITH 2018 IBC 1010.1.9.1

DOOR NUMBER	ROOMS		DOOR DIMENSIONS			DOOR			FRAME			FIRE RATING	PANIC HW	CARD ACCESS	ELEC HW	CLOSER	LOCKING	OCC INDICATOR	SMOKE SEAL	HW SET	DOOR NUMBER	COMMENTS
	TO	RM #	WIDTH	HEIGHT	THK	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH											
100A	ARENA	100	3' - 0"	7' - 0"	1 3/32"	D-01	HOLLOW METAL	PAINTED	F-01	HOLLOW METAL											100A	
100B	ARENA	100	10' - 0"	14' - 0"		OD-02	ALUMINUM	BY MANUFACTURER			PAINTED										100B	
100C			16' - 0"	16' - 0"		OD-03	ALUMINUM	BY MANUFACTURER													100C	
100D			20' - 0"	20' - 0"		OD-04	ALUMINUM	BY MANUFACTURER													100D	
100E			3' - 0"	7' - 0"	1 3/32"	D-01	HOLLOW METAL	PAINTED	F-01	HOLLOW METAL	PAINTED										100E	
100F	ARENA	100	3' - 0"	7' - 0"	1 3/4"	D-01	HOLLOW METAL	PAINTED	F-01	HOLLOW METAL	PAINTED										100F	
100G	ARENA	100	6' - 0"	14' - 0"		OD-01	ALUMINUM	BY MANUFACTURER													100G	
100H			6' - 0"	14' - 0"		OD-01	ALUMINUM	BY MANUFACTURER													100H	
100HH			3' - 0"	7' - 0"	1 3/4"	D-01	HOLLOW METAL	PAINTED	F-01	HOLLOW METAL	PAINTED										100HH	
100II			3' - 0"	7' - 0"	1 3/4"	D-01	HOLLOW METAL	PAINTED	F-01	HOLLOW METAL	PAINTED										100II	
100J			3' - 0"	7' - 0"	1 3/4"	D-01	HOLLOW METAL	PAINTED	F-01	HOLLOW METAL	PAINTED										100J	
100K			20' - 0"	20' - 0"		OD-04	ALUMINUM	BY MANUFACTURER													100K	
100L			16' - 0"	16' - 0"		OD-03	ALUMINUM	BY MANUFACTURER													100L	
100M			3' - 0"	7' - 0"	1 3/4"	D-01	HOLLOW METAL	PAINTED	F-01	HOLLOW METAL	PAINTED										100M	
100N	ARENA	100	10' - 0"	14' - 0"		OD-02	ALUMINUM	BY MANUFACTURER													100N	
100P	ARENA	100	3' - 0"	6' - 11 1/2"		D-03	ALUMINUM / TEMPERED	ANODIZED ALUMINUM	SF-01	ALUMINUM	ANODIZED ALUMINUM										100P	
100R	ARENA	100	6' - 0"	7' - 10 3/4"		D-04	ALUMINUM / TEMPERED	ANODIZED ALUMINUM	SF-02	ALUMINUM	ANODIZED ALUMINUM										100R	
107	TELECOM CLOSET	107	3' - 0"	7' - 0"	1 3/4"	D-02	HOLLOW METAL	PAINTED	F-02	HOLLOW METAL	PAINTED										107	
108	UNISEX 1	108	3' - 0"	7' - 0"	1 3/4"	D-02	HOLLOW METAL	PAINTED	F-02	HOLLOW METAL	PAINTED										108	
109	UNISEX 2	109	3' - 0"	7' - 0"	1 3/4"	D-02	HOLLOW METAL	PAINTED	F-02	HOLLOW METAL	PAINTED										109	
110	CUSTODIAL	110	3' - 0"	7' - 0"	1 3/4"	D-02	HOLLOW METAL	PAINTED	F-02	HOLLOW METAL	PAINTED										110	

GENERAL NOTES - DOORS

1. ALL HOLLOW METAL FRAMES AND DOORS ARE TO BE PAINTED TO MATCH ADJACENT WALL FINISH, UNLESS NOTED OTHERWISE
2. ALL INTERIOR HOLLOW METAL FRAME WIDTHS ARE TO MATCH WALL WIDTHS; COORDINATE WITH VERTICAL ASSEMBLY TYPES
3. WOOD GRAIN DIRECTION TO BE VERTICAL, UNLESS NOTED OTHERWISE
4. FINISH OF METAL FRAMES ADJACENT TO METAL PANEL TO MATCH METAL PANEL COLOR, UNLESS NOTED OTHERWISE
5. COLOR TRANSITIONS TO OCCUR AT INSIDE OF FRAME STOP
6. DOORS SERVING SPACES WITH AN OCCUPANT LOAD OF 50 OR MORE SHALL NOT BE PROVIDED WITH A LATCH OR LOCK OTHER THAN PANIC HARDWARE. SEE DOOR HARDWARE SPECIFICATIONS

GLAZING GENERAL NOTES

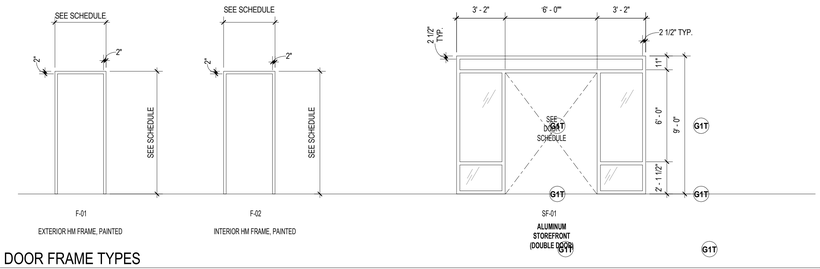
1. CONTRACTOR TO CONFIRM AND VERIFY QUANTITIES OF ALL GLAZING TYPES.
2. ALL GLAZING DIMENSIONS TO BE FIELD VERIFIED PRIOR TO BIDDING, ORDERING, AND INSTALLING.
3. ROUGH OPENING REQUIREMENTS SHALL BE COORDINATED WITH WINDOW MANUFACTURER, TYP.
4. ALL CURTAINWALL SYSTEMS REQUIRE DELEGATED DESIGN SUBMITTAL.
5. SEE DOOR SCHEDULE FOR SCHEDULED GLAZING WITHIN DOORS.
6. SEE FLOOR PLAN AND ELEVATIONS FOR WALL TYPE AND MATERIAL CONDITION IN REFERRING TO WINDOW AND STOREFRONT DETAILS

GLAZING GENERAL NOTES

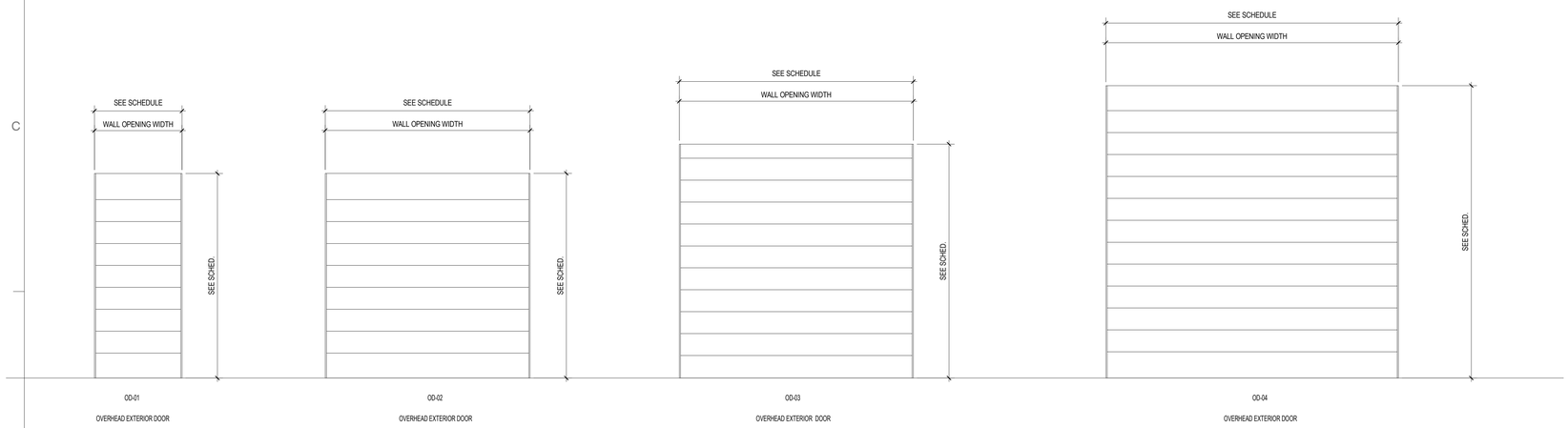
GLAZING SCHEDULE

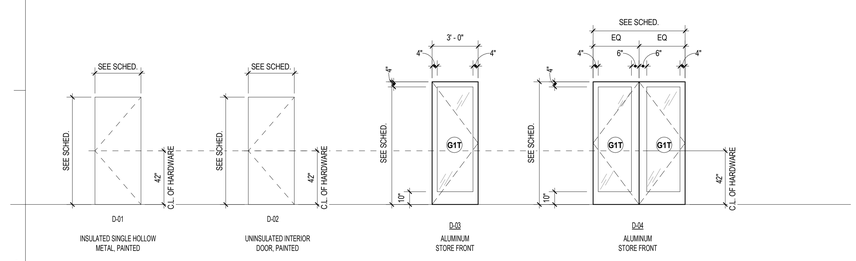
G1 1" Glazing

G1 T 1" GLAZING TEMPERED

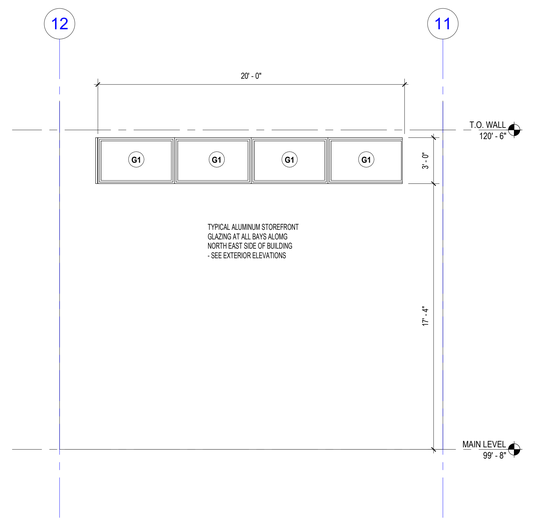


D1 DOOR FRAME TYPES
1/4" = 1'-0"





A1 DOOR TYPES
1/4" = 1'-0"



A5 GLAZING TYPE SF-02
1/4" = 1'-0"

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Reviewed By:
Chadwick W. Peterson
04/03/2025
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project:

USU BASTIAN AG CENTER - ARENA

2100 W. 11400 S.
South Jordan, Utah 84095

project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

DOOR & WINDOW TYPES & ACCESSORY SCHEDULE

sheet:

A601

PERMIT SET

SYMBOL LEGEND - PIPING

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

SYMBOL	DESCRIPTION
	SHUT OFF VALVE
	GATE VALVE
	CHECK VALVE
	BALL VALVE
	RELIEF VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
	SOLENOID VALVE
	ANGLE VALVE
	VENTURI VALVE
	BALANCING OR PLUG COCK
	FLOW SETTER
	EXPANSION VALVE
	STRAINER
	FLEXIBLE CONNECTION
	PRESSURE GAUGE
	THERMOMETER
	PIPE REDUCER
	90 DEGREE ELBOW UP
	90 DEGREE ELBOW DOWN
	90 DEGREE TEE UP
	90 DEGREE TEE DOWN

SYMBOL LEGEND - MECH

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

SYMBOL	DESCRIPTION
	SQUARE OR RECTANGULAR EXHAUST DIFFUSER
	ROUND DIFFUSER
	LINEAR SLOT GRILLE OR DIFFUSER
(T) (S) (H)	THERMOSTAT - SENSOR - HUMIDISTAT

SYMBOL LEGEND - DUCTWORK

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

SYMBOL	DESCRIPTION
	RECTANGULAR EXHAUST DUCT UP
	RECTANGULAR EXHAUST DUCT DOWN
	ROUND EXHAUST DUCT UP
	ROUND EXHAUST DUCT DOWN
	OVAL EXHAUST DUCT UP
	OVAL EXHAUST DUCT DOWN
	DUCT INSULATION
	DUCT LINING
	90° RECTANGULAR ELBOW WITH TURNING VANES
	90° ROUND RADIUS ELBOW
	GORED OVAL RADIUS ELBOW
	DUCT SIZE OR SHAPE TRANSITION

SYMBOL LEGEND - MISC

REFERENCE LINES AND SYMBOLS

SYMBOL	DESCRIPTION
	VIEW OR DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE VIEW OR DETAIL IS SHOWN.
	ELEVATION OR SECTION INDICATOR: # INDICATES VIEW NUMBER, SHEET INDICATES DRAWING SHEET WHERE VIEW IS SHOWN.
NAME	ROOM / SPACE INDICATOR
#	KEYNOTE INDICATOR
A	REVISION INDICATOR
XX-##	PLUMBING FIXTURE INDICATOR
XX-##	EQUIPMENT INDICATOR
TAG OR C.I.	BREAKLINEGRILLE, OR DIFFUSER INDICATOR

MATCH LINE / SEE XX/XXX	MATCHLINE INDICATOR
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE
	NEW CONNECTION TO EXISTING

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

(E)	EXISTING
(F)	FUTURE
AC	AIR CONDITION(-ING,-ED)
APD	AIR PRESSURE DROP
BD	BALANCING DAMPER
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
BTUH	BTU/HOUR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CV	CONTROL VALVE
DB	DRY BULB TEMPERATURE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRC
DP	DEPTH, DEEP, OR DROP IN PRESSURE
EA	EXHAUST AIR
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
ELEC	ELECTRIC
ELEV	ELEVATION
ENT	ENTERING
EVAP	EVAPORAT(-E, -ING, -ED, -OR)
EWT	ENTERING WATER TEMPERATURE
EXT	EXTERNAL
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	FIRE SMOKE DAMPER
GE	GREASE EXHAUST
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HG	MERCURY
HP	HORSEPOWER
HR	HOUR
HTG	HEATING
HZ	HERTZ (FREQUENCY)
IN	INCH
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LH	LATENT HEAT
LRA	LOCKED ROTOR AMPS
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MFR	MANUFACTUR(-ER, -ED)
NC	NORMALLY CLOSED OR NOISE CRITERIA
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
OZ	OUNCE
PD	PRESSURE DROP OR DIFFERENCE
PG	PROPOLENE GLYCOL
PH	PHASE
PPM	PARTS PER MILLION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
RA	RETURN AIR
RECIRC	RECIRCULATE (-ER, -ED, -ING)
REFR	REFRIGERATION
REQD	REQUIRED
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SCFM	STANDARD CUBIC FEET PER MINUTE
SCW	SOFT COLD WATER
SH	SENSIBLE HEAT
SP	STATIC PRESSURE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SS	SANITARY SEWER, SOIL, WASTE
STD	STANDARD
TA	TRANSFER AIR
TD	TEMP. DROP OR DIFF.
TEMP	TEMPERATURE
TOT	TOTAL
TSTAT	THERMOSTAT
TYP	TYPICAL
V	VOLT, VOLTAGE OR VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VENT	VENT, VENTILATION
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THROUGH ROOF
WB	WET BULB TEMP
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP
WTR	WATER

MECHANICAL GENERAL NOTES

1. THE MECHANICAL DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT, & EXTENT OF THE MECHANICAL SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS, OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE & OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT.
2. MAJOR DEVIATIONS SUCH AS CHANGES IN SIZES, WEIGHTS, QUANTITIES, OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
3. THE DRAWINGS & SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER & SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE & NOT THE OTHER BEING FURNISHED & INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH DOCUMENTS.
4. THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, & ALL OTHER APPLICABLE CITY, COUNTY, STATE, & FEDERAL CODES & REGULATIONS IN EFFECT.
5. THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO ALL CODES, RULES, REGULATIONS, & REQUIREMENTS OF THE BUILDING OWNER.
6. ALL MECHANICAL COMPONENTS AND EQUIPMENT SHALL BE INSTALLED TO CONFORM WITH ANY APPLICABLE LOCAL SEISMIC REQUIREMENTS.
7. PRIOR TO FABRICATION & INSTALLATION OF ANY MECHANICAL COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
8. VERIFY ALL REQUIRED SERVICE CONNECTIONS, INCLUDING ELECTRICAL CHARACTERISTICS, FOR ALL EQUIPMENT PRIOR TO ORDERING OR FABRICATING MECHANICAL EQUIPMENT AND COMPONENTS.
9. THE SPACE ABOVE CEILINGS IS LIMITED. CAREFUL COORDINATION IS REQUIRED WITH ALL TRADES BEFORE ANY PIPE, DUCT, OR EQUIPMENT IS ORDERED &/OR INSTALLED. ANY CONFLICTS &/OR CHANGES FOUND DURING INSTALLATION THAT RESULTS FROM THE LACK OF COORDINATION BY THE CONTRACTORS DURING THE SHOP DRAWING PROCESS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
10. ALL MECHANICAL INFORMATION IS NOT SHOWN ON THE MECHANICAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW & USE, WHERE APPROPRIATE, ALL THE MECHANICAL DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE MECHANICAL SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
12. ALL EQUIPMENT SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURAL MEMBERS. STRUCTURAL ELEMENTS SHOWN IN DETAILS MAY OR MAY NOT PERTAIN TO ANY PORTION OF THE BUILDING. COORDINATE ALL MOUNTING REQUIREMENTS WITH ARCHITECTURAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS.
13. ALL MECHANICAL COMPONENTS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ALL MANUFACTURER RECOMMENDATIONS.
14. ALL SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER. AIR INLETS & OUTLETS OF SIMILAR TYPES SHALL BE OF THE SAME MANUFACTURER.
15. ANY PART OF THE MECHANICAL INSTALLATION THAT FAILS, IS DEEMED UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EQUIPMENT CHECK-IN, SAFEKEEPING, & DAMAGE.
16. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING DIFFUSERS & GRILLES.
17. CONTRACTOR SHALL OPERATE INSTALLED &/OR MODIFIED SYSTEMS & DEMONSTRATE ALL ASPECTS OF THE SYSTEM TO THE ENGINEER &/OR OWNER TO PROVE ALL ASSOCIATED SYSTEMS ARE OPERATIONAL.
18. DURING CONSTRUCTION THE CONTRACTOR SHALL MAINTAIN A SET OF AS-BUILT REDLINED RECORD DRAWINGS AT THE PROJECT SITE. ALL CHANGES OR DEVIATIONS IN LAYOUT, ROUTING, EQUIPMENT, COMPONENTS, & ACCESSORIES SHALL BE RECORDED. THESE REDLINED DRAWINGS SHALL BE GIVEN TO THE ARCHITECT / ENGINEER AFTER THE FINAL INSPECTION IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
19. ALL DUCT ELBOWS SHALL BE LONG RADIUS, UNLESS NOTED OTHERWISE.

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

MECHANICAL SHEET INDEX

M001	MECHANICAL COVER SHEET
M002	MECHANICAL DETAILS
M003	MECHANICAL SCHEDULES
M004	MECHANICAL CALCULATIONS
M101	LEVEL 1 MECHANICAL PLAN
M401	MECHANICAL ELEVATIONS
M402	MECHANICAL ELEVATIONS

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REGISTERED PROFESSIONAL ENGINEER
No. 13439797
TYLER M. ANDERSON
01.31.25
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed by: Chadman W. Robinson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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project#: 24.0170

date: JANUARY 31, 2025

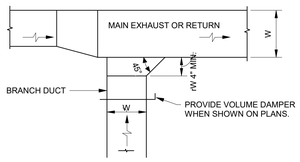
revisions :

title:

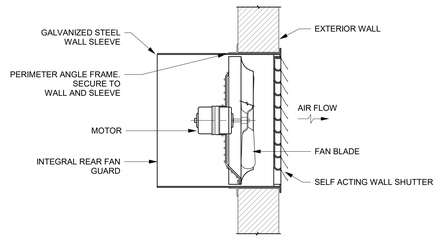
MECHANICAL COVER SHEET

sheet:

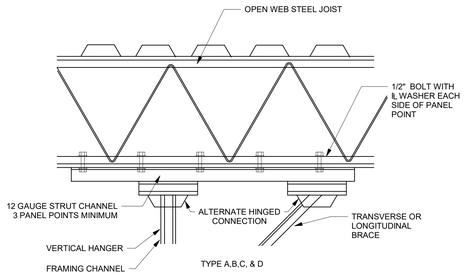
M001



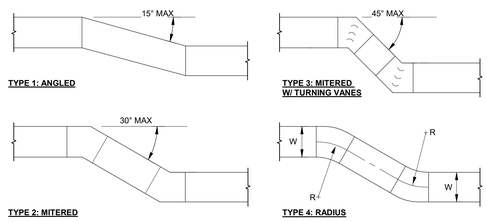
D1 EXHAUST AND/OR RETURN BRANCH DUCT
1/8" = 1'-0"



D2 WALL PROPELLER FAN
1/8" = 1'-0"

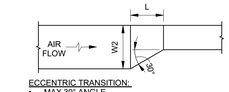


C1 CONNECTION TO OPEN WEB STEEL JOISTS
1/8" = 1'-0"

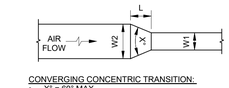


NOTES:
1. INSTALL PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS
2. NO OFFSET SHALL BE GREATER THAN 45 DEGREES
3. NO TRANSITION IN DUCT SIZE ALLOWED IN OFFSET

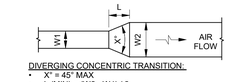
C2 DUCT OFFSETS DETAIL
1/8" = 1'-0"



ECCENTRIC TRANSITION:
- MAX 30° ANGLE
- WHEN TRANSITIONING FROM ROUND TO FLAT OVAL, A MAX ANGLE OF 45° IS PERMITTED
- L (MIN) = (W2 - W1)/ 0.58 FOR 30°
- L (MIN) = (H2 - H1)/ 0.58 FOR 30°
- L (MIN) = W2 - W1 FOR 45°
- L (MIN) = H2 - H1 FOR 45°
- FOR ROUND DUCTWORK W=Ø
- L SHALL BE GREATER OF W AND H CALCULATIONS



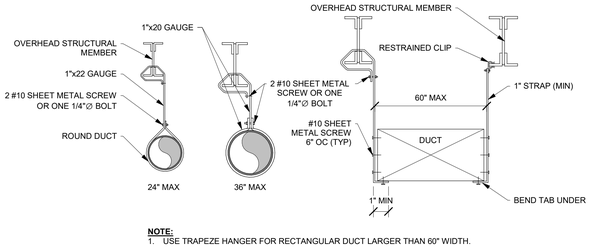
CONVERGING CONCENTRIC TRANSITION:
- X° = 60° MAX
- L (MIN) = (W2 - W1)/ 1.15
- L (MIN) = (H2 - H1)/ 1.15
- FOR ROUND DUCTWORK W=Ø
- L SHALL BE GREATER OF W AND H CALCULATIONS



DIVERGING CONCENTRIC TRANSITION:
- X° = 45° MAX
- L (MIN) = (W2 - W1) / 2
- L (MIN) = (H2 - H1) / 2
- FOR ROUND DUCTWORK W=Ø
- L SHALL BE GREATER OF W AND H CALCULATIONS

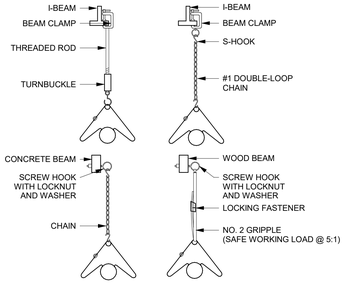
NOTES:
1. UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY
2. INSTALL PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS
3. WHEN TRANSITIONING DUCT HEIGHT AS WELL AS WIDTH, THE LONGER LENGTH SHALL APPLY.

A1 DUCT TRANSITIONS DETAIL
1/8" = 1'-0"

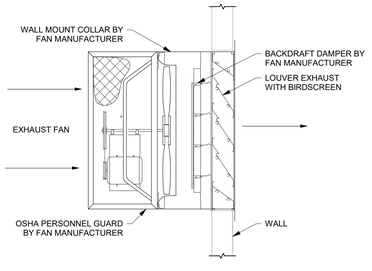


NOTE:
1. USE TRAPEZE HANGER FOR RECTANGULAR DUCT LARGER THAN 60" WIDTH.

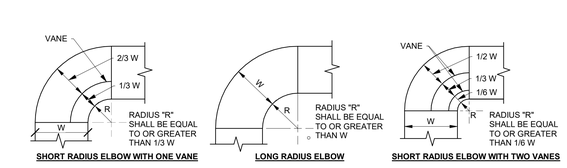
B2 DUCT HANGERS (COMBINED)
1/8" = 1'-0"



A2 RADIANT TUBE MOUNTING DETAIL
1/8" = 1'-0"

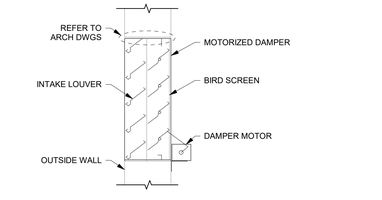


A3 PROPELLER FAN DETAIL
1/8" = 1'-0"

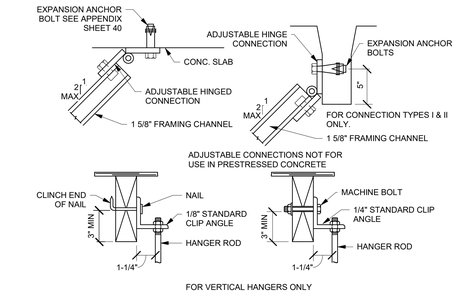


NOTES:
1. ALL ELBOWS ARE LONG RADIUS UNLESS OTHERWISE NOTED ON PLANS. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL LONG RADIUS ELBOWS SHOWN ON PLANS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS DIRECTED BY SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

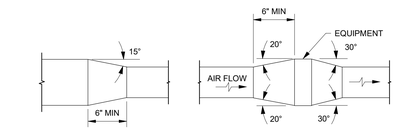
B4 DUCT ELBOW - ROUND DETAIL
1/8" = 1'-0"



A4 COMBINATION LOUVER/DAMPER
1/8" = 1'-0"



B5 STANDARD CLIP ANGLES
1/8" = 1'-0"



NOTE:
1. UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

A5 DUCT TRANSITION DETAIL
1/8" = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER
No. 13439797
TYLER M. ANDERSON
01.31.25
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed by:
Charles H. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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project #: 24.0170
date: JANUARY 31, 2025
revisions :

title:

MECHANICAL DETAILS

sheet:

M002

DAMPER SCHEDULE

SYMBOL	DESCRIPTION	OPTIONS & ACCESSORIES	MANUFACTURER & MODEL
MVD	MANUAL VOLUME DAMPER: RECTANGULAR, SINGLE BLADE, 22 GAUGE GALVANIZED STEEL BLADE, MOLDED SYNTHETIC BEARING	2" STAND OFF BRACK WITH HEAVY DUTY LOCKING QUADRANT (DURA-DYNE 8177)	RUSKIN MD25
RMVD	MANUAL VOLUME DAMPER: ROUND, SINGLE BLADE, 22 GAUGE GALVANIZED STELL BLADE, MOLDED SYNTHETIC BEARING	2" STAND OFF BRACKET WITH HEAVY DUTY LOCKING QUADRANT (DURA-DYNE 8177)	RUSKING MDRS25
MD-1	MOTORIZED OPPOSED BLADE DAMPER: RECTANGULAR, OPPOSED BLADE, 16 GAUGE GALVANIZED STEEL BLADES, STAINLESS STEEL JAMB SEALS, VINYL EDGE SEALS	2 POSTITION ACUTATOR; 120 VOLT, 1 PHASE	RUSKING CD-36
FSD	FIRE SMOKE DAMPER: RECTANGULAR, 16 GAUGE SLEEVE, PARALLEL BLADE, STAINLESS STEEL JAMB SEALS, VINYL BLADE EDGE SEALS, STAINLESS STEEL BEARINGS, 1-1/2 HOUR, CLASS 1 LEAKAGE, UL 555 AND UL 555S LISTED AND LABELED	120 VOLT, 1 PHASE ELECTRIC ACTUATOR ETL ELECTRIC RESET LINK (212 F) DUCT SMOKE DETECTOR ACCESS DOOR	RUSKIN FDS-37
HEF	HIGH EFFICIENCY FITTING: 24 FGAUGE GALVANIZED CONSTRUCTION, 18 GAUGE GALVANIZED STEEL BLADE, SOLID ROD, MOLDED SYNTHETIC BEARING, 1" FLANGE, EPDM RUBBER GASKET, INLET SIZE TO CONFORM TO SMACNA FIGURE 2-6 "BRANCH CONNECTIONS"	2" STAND OFF BRACKET WITH HEAVY DUTY LOCKING QUADRANT (DURA-DYNE 8177)	DUCTMATE SHTS15

EXHAUST FAN SCHEDULE

ACCEPTABLE MANUFACTURERS:	CONTROLS:	REMARKS:	SCHEDULE KEY
PENN BARRY LOREN COOK TWIN CITY GREENHECK BROAN PANASONIC	(A) PROVIDE HUMIDSTAT AND PLACE IN CROWS NEST. CONFIRM FINAL LOCATION WITH BUILDING OWNERSHIP. (B) INTERLOCK WITH LIGHTS AND PROVIDE 10 MINUTE RUN DELAY.	(1) PROVIDE VARIABLE SPEED CONTROLLER FOR ALL DIRECT DRIVE FANS. TEST AND BALANCE CONTRACTOR SHALL MARK BALANCED POSITION ON CONTROLLER. (2) PROVIDE EC MOTOR VARIABLE SPEED FAN. (3) PROVIDE FACTORY AUTHORIZED STARTUP OF EQUIPMENT INCLUDING STARTUP OF ANY FACTORY CONTROLS TO ENSURE PROPER SEQUENCING AND/OR COMMUNICATION TO BMS. (4) PROVIDE DIE FORMED, GALVANIZED STEEL DRIVE FRAME ASSEMBLY AND PANEL, CAST ALUMINUM AIRFOIL BLADE PROPELLER WITH CORROSION RESISTANT FASTENERS, CONTROL-DIAL FOR BALANCING, GALVANIZED 45 DEG. WEATHERHOOD WITH BIRD SCREEN, DAMPER ACTUATOR (MP-310) 24 VAC, DAMPER MOUNTED (WD-320-PB-44X44) NOT COATED, & END SWITCH. (5) INSTALL FLUSH TO EXTERIOR. (6) COORDINATE EXACT LOCATION WITH STRUCTURAL ENGINEER TO AVOID X-BRACING.	PLUMB = DIVISION 22 MECH = DIVISION 23 ELEC = DIVISION 26 MNFR = MANUFACTURER

LABEL	SERVES	TYPE	CFM	ESP (IN-WC)	FAN RPM	ELECTRICAL VOLTS	PHASE	Hz	HP	FLA	DISCONNECT PROVIDED BY (MECH/ ELEC)	CONTROL METHOD	SOUND RATING	WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
EF-1	ARENA	WALL	23000	0.15	825	480	3	60	5	6.6	ELEC	A	82	573	GREENHECK	AER-42-VG	1,2,3,4,5,6
EF-2	RESTROOM	INLINE	150	0.2	1400	120	1	60	.1	1.3	ELEC	B	44	27	GREENHECK	SQ-70-VG	1,2,3

CEILING FAN SCHEDULE

ACCEPTABLE MANUFACTURERS:	REMARKS:	SCHEDULE KEY
BIG ASS MICROAIR HUNTER INDUSTRIAL	(1) PROVIDE WITH REMOTE MOUNTED SPEED CONTROLLER. (2) COMPLY WITH AMCA 230, UL 507 SDA C22.2 NO. 113, NFPA 13, & NFPA 72. (3) COORDINATE WITH FIRE SPRINKLER CONTRACTOR TO ENSURE FAN IS APPROXIMATELY CENTERED BETWEEN FOUR ADJACENT SPRINKLERS. (4) THE VERTICAL CLEARANCE FROM THE HVLS FAN TO SPRINKLER DEFLECTOR SHALL BE A MINIMUM OF 3 FT. (5) ALL HVLS FANS SHALL BE INTERLOCKED TO SHUT DOWN IMMEDIATELY UPON RECEIVING A WATERFLOW SIGNAL FROM THE ALARM SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 72.	PLUMB = DIVISION 22 MECH = DIVISION 23 ELEC = DIVISION 26 MNFR = MANUFACTURER

LABEL	SERVES	FOIL LENGTH	NO. BLADES	FAN RPM	MOUNTING HEIGHT (AFF)	ELECTRICAL VOLTS	PHASE	Hz	HP	FLA	DISCONNECT PROVIDED BY (MECH/ ELEC)	VFD PROVIDED BY (MECH/ ELEC)	SOUND RATING	WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
CF-1	ARENA	24' - 0"	8	51	27' - 6"	480	3	60	2.0	10	ELEC			261	Big Ass Fans	Powerfoil 8	ALL

HEATER SCHEDULE (ELECTRIC)

ACCEPTABLE MANUFACTURERS:	REMARKS:	SCHEDULE KEY:
MODINE REZNOR QMARK MARLEY STERLING	(1) PROVIDE WITH BACNET CONTROLLER. (2) PROVIDE WITH FINGER PROOF FAN GUARD. (3) WALL MOUNT. (4) CEILING MOUNT. (5) PROVIDE WITH UNIT MOUNTED THERMOSTAT. (6) PROVIDE WITH SURFACE MOUNTING FRAME. (7) PROVIDE WITH MS26 CONTROLLER.	PLUMB = DIVISION 22 MECH = DIVISION 23 ELEC = DIVISION 26 MNFR = MANUFACTURER

LABEL	TYPE	DIMENSIONS	MOUNTING HEIGHT	AIRFLOW (CFM)	HEATING CAPACITY (kW)	STAGES	ELECTRICAL VOLTS	PHASE	Hz	MCA	DISCONNECT PROVIDED BY (MECH/ ELEC)	WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
H-1	CEILING	12" X 11" 4"	9' - 0"	50	0.5	1	120	1	60	4.7	ELEC	12	QMARK	QCH	1,2,4
H-2	WALL HEATER	8" X 5" X 17"	0' - 6"	50	0.75	1	120	1	60	6.3	ELEC	13	QMARK	GFR	1,2,3,5,6,7

LOUVER SCHEDULE

ACCEPTABLE MANUFACTURERS:	REMARKS:
RUSKIN GREENHECK POTTORFF UNITED ENERTECH	(1) NC VALUES ARE BASED ON OCTAVE BAND SOUND POWER LEVELS MINUS A ROOM ABSORPTION OF 10 dB, RE 10(-12) WATTS. (2) COORDINATE EXACT COLOR SELECTION WITH OWNER AND ARCHITECT. (3) PROVIDE MOTORIZED DAMPER SIMILAR TO CORRESPONDING EF. INTERLOCK WITH EF-1. (4) COORDINATE EXACT LOCATION WITH STRUCTURAL ENGINEER TO AVOID X-BRACING.

LABEL	TYPE	SERVES	AIRFLOW (CFM)	PD (IN-WC)	NOMINAL SIZE	FREE AREA (SQ FT)	SCREEN TYPE	MANUFACTURER	MODEL	REMARKS
L-1	WALL LOUVER	ARENA	23,000	0.07	108" X 84"	31.10	BUG	GREENHECK	EAC-601	1,2,3,4

REGISTER - GRILLE- DIFFUSER SCHEDULE

ACCEPTABLE MANUFACTURERS:	REMARKS:
KRUEGER TUTTLE & BAILEY TITUS PRICE	(1) PROVIDE TRANSITION AS NECESSARY. (2) COORDINATE EXACT COLOR SELECTION WITH OWNER AND ARCHITECT. (3) PROVIDE WITH LAY-IN TO HARD LID ADAPTER AS NECESSARY.

LABEL	TYPE	MAX AIRFLOW (CFM)	FACE SIZE	NECK SIZE	BLOW PATTERN	PD (IN-WC)	THROW(S) (FT)	MAX NC	MANUFACTURER	MODEL	REMARKS
E-1	45 DEGREE DEFLECTION	200	8" X 8"	6" Ø	N/A	0.020	N/A	30	PRICE INDUSTRIES	535	ALL

RADIANT TUBE HEATER SCHEDULE

ACCEPTABLE MANUFACTURERS:	REMARKS:	SCHEDULE KEY:
MODINE REZNOR DETROIT RADIANT SCHWANK	(1) PROVIDE WITH DOUBLE WALL B-VENT AND VENT CAP. (2) PROVIDE TWO-STAGE CONTROLS.	PLUMB = DIVISION 22 MECH = DIVISION 23 ELEC = DIVISION 26 MNFR = MANUFACTURER

LABEL	LENGTH	MOUNTING HEIGHT	HEATING CAPACITY (BTUH)	FLUE SIZE	FLUE TYPE	COMBUSTION AIR SIZE	COMBUSTION AIR TYPE	ELECTRICAL VOLTS	PHASE	Hz	MCA	DISCONNECT PROVIDED BY (MECH/ ELEC)	WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
RTH	50' - 0"	15' - 0"	150,000	4"	STAINLESS STEEL	4"	STAINLESS STEEL	120	1	60	5	ELEC	239	SCHWANK	SPW2-155-50	ALL

HEAT PUMP SCHEDULE

ACCEPTABLE MANUFACTURERS:	REMARKS:	SCHEDULE KEY
CARRIER YORK TRANE LENNOX DAIKIN	(1) PROVIDE WITH HAIL GUARDS. (2) PROVIDE WITH MIRO INDUSTRIES LD SUPPORT/MOUNTING FRAME. (3) PROVIDE WITH NEOPRENE PADS AT ALL MOUNTING CONNECTION POINTS. (4) PROVIDE REFRIGERANT PIPING SIZED AS PER MANUFACTURER'S RECOMMENDATIONS. "ACR" COPPER ONLY. (5) COORDINATE REFRIGERANT CHARGE AND PIPING SIZES WITH EQUIVALENT LINE LENGTH TO MINIMIZE PRESSURE DROP AND CAPACITY LOSS. (6) PROVIDE BOOT AT ANY CONDENSER LINE PENETRATIONS. (7) PROVIDE CRANKCASE HEATER. (8) INDOOR UNIT POWERED FROM OUTDOOR UNIT. (9) PROVIDE FACTORY AUTHORIZED STARTUP OF EQUIPMENT INCLUDING STARTUP OF ANY FACTORY CONTROLS TO ENSURE PROPER SEQUENCING AND/OR COMMUNICATION TO BMS.	PLUMB = DIVISION 22 MECH = DIVISION 23 ELEC = DIVISION 26 MNFR = MANUFACTURER

LABEL	SERVES	OPERATING CONDITIONS	NOMINAL COOLING (BTUH)	SEER2	HEAT PUMP CAPACITY (BTUH)	HSPF2	REFRIGERANT TYPE	MAX TOTAL REFRIGERANT PIPE LENGTH (FT)	ELECTRICAL VOLTS	PHASE	Hz	MCA (EACH)	MOCP (EACH)	DISCONNECT PROVIDED BY (MECH/ ELEC)	SOUND RATING	WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
ODU-1	IDU-1	98.3DB/62.6WB & 11.4DB	9,000	27.4	10,700	16.3	R-32	82	208	1	60	12	15	ELEC	42	97	DAIKIN	RXM09VVJU	ALL

DUCTLESS SPLIT SYSTEM INDOOR UNIT

ACCEPTABLE MANUFACTURERS:	REMARKS:	SCHEDULE KEY:
CARRIER YORK TRANE LENNOX DAIKIN	(1) INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT THROUGH FIELD SUPPLIED WIRING. (2) RUN CONDENSATE DRAIN LINE TO NEAREST LAVATORY WYE PER IMC 307.2.1.1. (3) PROVIDE REFRIGERANT PIPING SIZED AS PER MANUFACTURER'S RECOMMENDATIONS. "ACR" COPPER ONLY. (4) COORDINATE REFRIGERANT CHARGE AND PIPING SIZES WITH EQUIVALENT LINE LENGTH TO MINIMIZE PRESSURE DROP AND CAPACITY LOSS. (5) PROVIDE FACTORY AUTHORIZED STARTUP OF EQUIPMENT INCLUDING STARTUP OF ANY FACTORY CONTROLS TO ENSURE PROPER SEQUENCING AND/OR COMMUNICATION TO BMS. (6) PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT.	PLUMB = DIVISION 22 MECH = DIVISION 23 ELEC = DIVISION 26 MNFR = MANUFACTURER

LABEL	TYPE	SERVES	AIRFLOW CFM	TOTAL COOLING CAPACITY (BTUH)	TOTAL HEATING CAPACITY (BTUH)	ELECTRICAL VOLTS	PHASE	Hz	DISCONNECT PROVIDED BY (MECH/ ELEC)	SOUND LEVEL	WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
IDU-1	WALL MOUNT	ODU-1	350	9,000	10,700	208	1	60	ELEC	42	19.8	DAIKIN	FTXM09VVJU	ALL

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REGISTERED PROFESSIONAL ENGINEER
No. 13435797
TYLER M. ANDERSON
01.31.25
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed By:
Christian M. Anderson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

[SET PROJECT INFORMATION ADDRESS TEXT FIELD AND SET LOCATION UNDER ENERGY SETTINGS IF APPLICABLE]

project #: 24.0170

date: JANUARY 31, 2025

revisions :

title:

MECHANICAL SCHEDULES

sheet:

M003

System Checksums
By Spectrum Engineers

ZONE #1 — **Ventilation and Heating**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 0 / 0
Outside Air: OADB/WB/HR: 0 / 0 / 0

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	0	0	0
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	0	0	0	0
Sub Total ==>	0	0	0	0
Internal Loads				
Lights	0	0	0	0
People	0	0	0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	0	0	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	0	0	0	100.0

CLG SPACE PEAK

Mo/Hr: 0 / 0
OADB: 0

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	0	0
Partition/Door	0	0
Floor	0.00	0
Adjacent Floor	0.00	0
Infiltration	0	0
Sub Total ==>	0	0
Internal Loads		
Lights	0	0
People	0	0
Misc	0	0
Sub Total ==>	0	0
Ceiling Load	0	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Exhaust Heat		0
RA Preheat Diff.		0
Additional Reheat		0
Underflr Sup Ht Pkup		0
Supply Air Leakage		0
Grand Total ==>	0	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 7

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-52,303	17.27
Glass Solar	0	0	0.00
Glass/Door Cond	-44,665	-44,665	14.75
Wall Cond	-32,252	-40,933	13.52
Partition/Door	0	0	0.00
Floor	-164,919	-164,919	54.46
Adjacent Floor	0.00	0.00	0.00
Infiltration	0	0	0.00
Sub Total ==>	-241,835	-302,818	100.00
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-60,983	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-302,818	-302,818	100.00

TEMPERATURES

	Cooling	Heating
SADB	0.0	45.0
Ra Plenum	0.0	41.0
Return	0.0	41.0
Ret/OA	0.0	41.0
Fn MrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	0	0
Terminal	0	0
Main Fan	0	0
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	0	0
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.00	0.00
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr·ft²	0.00	0.00
No. People	478	

COOLING COIL SELECTION

	Total Capacity ton	Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB/HR °F	gr/lb	Leave DB °F	Leave WB/HR °F	gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS

	Gross Total ft²	Glass ft²	(%)
Floor	47,818		
Part	0		
Int Door	1		
ExFlr	47,818		
Roof	47,818	0	0
Wall	17,257	696	4
Ext Door	1,902	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	0.0	0	0.0	0.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			

Project Name:
Dataset Name: USU BASTIAN CENTER.trc

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System Checksums
By Spectrum Engineers

ZONE #2 — **Radiation (Heating Only)**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 0 / 0
Outside Air: OADB/WB/HR: 0 / 0 / 0

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	0	0	0
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	0	0	0	0
Sub Total ==>	0	0	0	0
Internal Loads				
Lights	0	0	0	0
People	0	0	0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	0	0	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	0	0	0	100.0

CLG SPACE PEAK

Mo/Hr: 0 / 0
OADB: 0

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	-2,064	-1.80
Wall Cond	-5,948	-7,303	6.38
Partition/Door	0	0	0.00
Floor	-7,439	-7,439	6.49
Adjacent Floor	0.00	0.00	0.00
Infiltration	0	0	0.00
Sub Total ==>	-15,452	-19,230	16.79
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-3,779	0	0.00
Ventilation Load	-95,314	-95,314	83.21
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-114,545	-114,545	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 7

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-2,424	2.12
Glass Solar	0	0	0.00
Glass/Door Cond	-2,064	-2,064	1.80
Wall Cond	-5,948	-7,303	6.38
Partition/Door	0	0	0.00
Floor	-7,439	-7,439	6.49
Adjacent Floor	0.00	0.00	0.00
Infiltration	0	0	0.00
Sub Total ==>	-15,452	-19,230	16.79
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-3,779	0	0.00
Ventilation Load	-95,314	-95,314	83.21
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-114,545	-114,545	100.00

TEMPERATURES

	Cooling	Heating
SADB	0.0	45.0
Ra Plenum	0.0	39.8
Return	0.0	39.8
Ret/OA	0.0	39.8
Fn MrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	0	0
Terminal	0	0
Main Fan	0	0
Sec Fan	0	0
Nom Vent	0	2,650
AHU Vent	0	2,650
Infil	0	0
MinStop/Rh	0	0
Return	0	0
Exhaust	0	0
Rm Exh	0	2,650
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.00	0.00
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr·ft²	0.00	0.00
No. People	345	

COOLING COIL SELECTION

	Total Capacity ton	Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB/HR °F	gr/lb	Leave DB °F	Leave WB/HR °F	gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS

	Gross Total ft²	Glass ft²	(%)
Floor	2,295		
Part	0		
Int Door	1		
ExFlr	2,157		
Roof	2,295	0	0
Wall	3,476	123	4
Ext Door	24	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	0.0	0	0.0	0.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			

Project Name:
Dataset Name: USU BASTIAN CENTER.trc

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System Checksums
By Spectrum Engineers

ZONE #3 — **Radiation (Heating Only)**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 0 / 0
Outside Air: OADB/WB/HR: 0 / 0 / 0

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	0	0	0	0
Glass Solar	0	0	0	0
Glass/Door Cond	0	0	0	0
Wall Cond	0	0	0	0
Partition/Door	0		0	0
Floor	0		0	0
Adjacent Floor	0.00	0.00	0.00	0.00
Infiltration	0	0	0	0
Sub Total ==>	0	0	0	0
Internal Loads				
Lights	0	0	0	0
People	0	0	0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	0	0	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			0	0
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Underflr Sup Ht Pkup			0	0
Supply Air Leakage		0	0	0
Grand Total ==>	0	0	0	100.0

CLG SPACE PEAK

Mo/Hr: 0 / 0
OADB: 0

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	0	0
Glass Solar	0	0
Glass/Door Cond	0	0
Wall Cond	-717	-856	57.23
Partition/Door	0	0	0.00
Floor	-500	-500	33.04
Adjacent Floor	0.00	0.00	0.00
Infiltration	0	0	0.00
Sub Total ==>	-1,218	-1,514	100.00
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-296	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-1,514	-1,514	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 7

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	0	-147	9.73
Glass Solar	0	0	0.00
Glass/Door Cond	0	0	0.00
Wall Cond	-717	-856	57.23
Partition/Door	0	0	0.00
Floor	-500	-500	33.04
Adjacent Floor	0.00	0.00	0.00
Infiltration	0	0	0.00
Sub Total ==>	-1,218	-1,514	100.00
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	-296	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Underflr Sup Ht Pkup		0	0.00
Supply Air Leakage		0	0.00
Grand Total ==>	-1,514	-1,514	100.00

TEMPERATURES

	Cooling	Heating
SADB	0.0	45.0
Ra Plenum	0.0	38.6
Return	0.0	38.6
Ret/OA	0.0	38.6
Fn MrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS

	Cooling	Heating
Diffuser	0	0
Terminal	0	0
Main Fan	0	0
Sec Fan	0	0
Nom Vent	0	0
AHU Vent	0	0
Infil	0	0
MinStop/Rh	0	0
Return	0	0
Exhaust	0	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.00	0.00
cfm/ton	0.00	
ft²/ton	0.00	
Btu/hr·ft²	0.00	0.00
No. People	2	

COOLING COIL SELECTION

	Total Capacity ton	Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB/HR °F	gr/lb	Leave DB °F	Leave WB/HR °F	gr/lb
Main Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0								

AREAS

	Gross Total ft²	Glass ft²	(%)
Floor	145		
Part	0		
Int Door	1		
ExFlr	145		
Roof	145	0	0
Wall	400	0	0
Ext Door	0	0	0

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	0.0	0	0.0	0.0
Aux Htg	0.0	0	0.0	0.0
Preheat	0.0	0	0.0	0.0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	0.0			

Project Name:
Dataset Name: USU BASTIAN CENTER.trc

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Outside Air Calculations

Room	Room Number	Room Classification	Area	Occupant Density (#/1000)	Number of People	People OA Rate (CFM/Person)	Area OA Rate (CFM/SF)	OSA Required (CFM)	OSA Provided (CFM)	EA Req'd (CFM/Sq. Ft.)	EA Req'd (CFM)	Total Air Req'd
BLEACHERS	**100**	Spectator Area (Sports and Amusement)	2157	150	324	7.5	0.06	2556.39	**2557**	-	-	-
ARENA	**100**	Pet Shops (Animal Areas)	47817	10	478	7.5	0.18	12193.44	**12194**	**0.9**	**43035.669**	**43036**
RESTROOMS	**102**	Toilet Rooms (Public)	118	-	-	-	-	-	**-**	**-**	**100**	**100**
STORAGE ROOM	**103**	Storage Room (Retail Stores)	27	-	-	-	0.12	3.20	**4**	**-**	**-**	**50**
CROWS NEST	**104**	Spectator Area (Sports and Amusement)	138	150	21	-	0.06	8.25	**9**	**-**	**-**	**51**

Calculation Based on 2021 IMC. Contractor shall be responsible for balance of each balancing damper associated with respective fan coil unit.

Total OA
45794

COMcheck Software Version COMcheckWeb

Mechanical Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: USU Bastian Center
Location: South Jordan, Utah
Climate Zone: 5b
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

Additional Efficiency Package(s)

Credits: 10.0 Required 0.0 Proposed

Mechanical Systems List

Quantity **System Type & Description**

1 HVAC System (Single Zone):
Split System Heat Pump
Heating Mode: Capacity = 9 kBtu/h,
Proposed Efficiency = 11.20 HSPF2, Required Efficiency = 7.50 HSPF2
Cooling Mode: Capacity = 10 kBtu/h,
Proposed Efficiency = 27.40 SEER2, Required Efficiency = 14.30 SEER2
Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2021 IECC requirements in *COMcheck* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Tyler Anderson — Name - Title
Signature
12/9/24 — Date

Project Title: USU Bastian Center
Data filename:
Report date: 12/09/24
Page 1 of 9

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No. 13438797
TYLER M. ANDERSON
01.31.25
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed By:
Charles M. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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project:

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project #: 24.0170
date: JANUARY 31, 2025

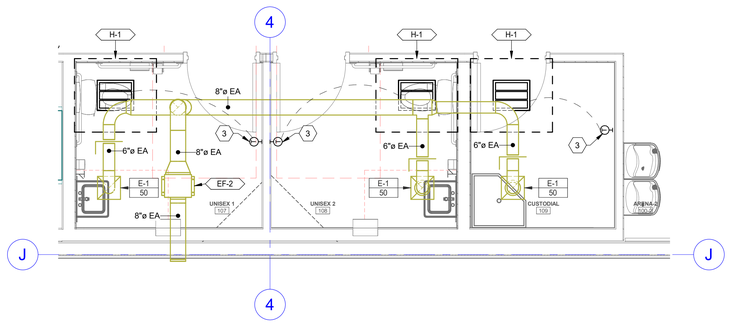
revisions :

title:

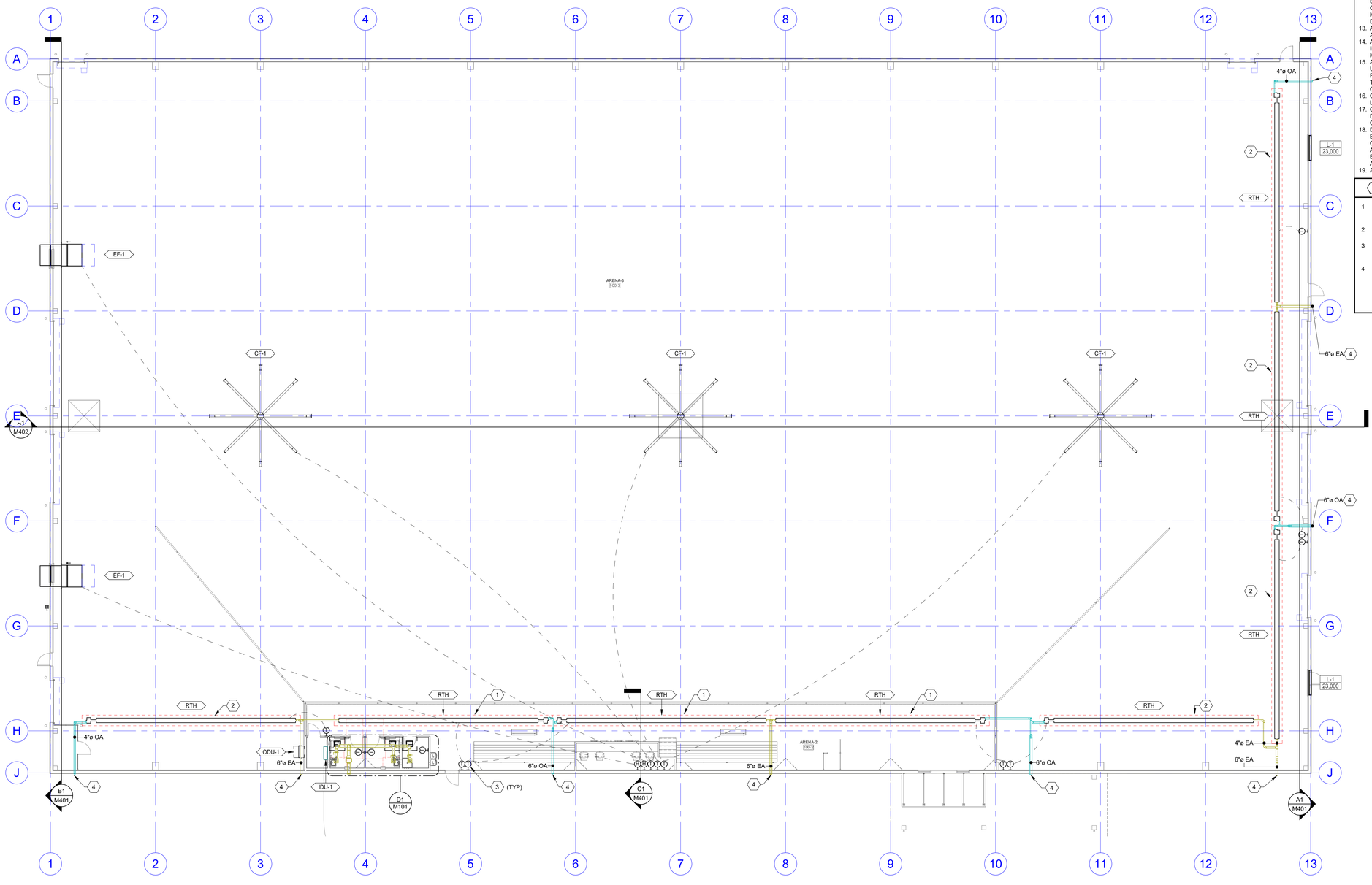
MECHANICAL CALCULATIONS

sheet:

M004



D1 RESTROOMS & JANITOR ROOM - HVAC
3/8" = 1'-0" (REF: A1/M101)



A1 LEVEL 1 MECHANICAL PLAN
3/32" = 1'-0"

MECHANICAL GENERAL NOTES

1. THE MECHANICAL DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT, & EXTENT OF THE MECHANICAL SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS, OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE & OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT.
2. MAJOR DEVIATIONS SUCH AS CHANGES IN SIZES, WEIGHTS, QUANTITIES, OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
3. THE DRAWINGS & SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER & SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE & NOT THE OTHER BEING FURNISHED & INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH DOCUMENTS.
4. THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, & ALL OTHER APPLICABLE CITY, COUNTY, STATE, & FEDERAL CODES & REGULATIONS IN EFFECT.
5. THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO ALL CODES, RULES, REGULATIONS, & REQUIREMENTS OF THE BUILDING OWNER.
6. ALL MECHANICAL COMPONENTS AND EQUIPMENT SHALL BE INSTALLED TO CONFORM WITH ANY APPLICABLE LOCAL SEISMIC REQUIREMENTS.
7. PRIOR TO FABRICATION & INSTALLATION OF ANY MECHANICAL COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
8. VERIFY ALL REQUIRED SERVICE CONNECTIONS, INCLUDING ELECTRICAL CHARACTERISTICS, FOR ALL EQUIPMENT PRIOR TO ORDERING OR FABRICATING MECHANICAL EQUIPMENT AND COMPONENTS.
9. THE SPACE ABOVE CEILINGS IS LIMITED. CAREFUL COORDINATION IS REQUIRED WITH ALL TRADES BEFORE ANY PIPE, DUCT, OR EQUIPMENT IS ORDERED &/OR INSTALLED. ANY CONFLICTS &/OR CHANGES FOUND DURING INSTALLATION THAT RESULTS FROM THE LACK OF COORDINATION BY THE CONTRACTORS DURING THE SHOP DRAWING PROCESS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
10. ALL MECHANICAL INFORMATION IS NOT SHOWN ON THE MECHANICAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW & USE, WHERE APPROPRIATE, ALL THE MECHANICAL DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE MECHANICAL SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
12. ALL EQUIPMENT SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURAL MEMBERS. STRUCTURAL ELEMENTS SHOWN IN DETAILS MAY OR MAY NOT PERTAIN TO ANY PORTION OF THE BUILDING. COORDINATE ALL MOUNTING REQUIREMENTS WITH ARCHITECTURAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS.
13. ALL MECHANICAL COMPONENTS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ALL MANUFACTURER RECOMMENDATIONS.
14. ALL SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER. AIR INLETS & OUTLETS OF SIMILAR TYPES SHALL BE OF THE SAME MANUFACTURER.
15. ANY PART OF THE MECHANICAL INSTALLATION THAT FAILS, IS DEEMED UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EQUIPMENT CHECK-IN, SAFEKEEPING, & DAMAGE.
16. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING DIFFUSERS & GRILLES.
17. CONTRACTOR SHALL OPERATE INSTALLED &/OR MODIFIED SYSTEMS & DEMONSTRATE ALL ASPECTS OF THE SYSTEM TO THE ENGINEER &/OR OWNER TO PROVE ALL ASSOCIATED SYSTEMS ARE OPERATIONAL.
18. DURING CONSTRUCTION THE CONTRACTOR SHALL MAINTAIN A SET OF AS-BUILT REDLINED RECORD DRAWINGS AT THE PROJECT SITE. ALL CHANGES OR DEVIATIONS IN LAYOUT, ROUTING, EQUIPMENT, COMPONENTS, & ACCESSORIES SHALL BE RECORDED. THESE REDLINED DRAWINGS SHALL BE GIVEN TO THE ARCHITECT / ENGINEER AFTER THE FINAL INSPECTION IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
19. ALL DUCT ELBOWS SHALL BE LONG RADIUS, UNLESS NOTED OTHERWISE.

SHEET KEYNOTES

1 SUSPEND RTH AT AN ANGLE OF 45 DEGREES TOWARDS THE BLEACHERS.

2 SUSPEND RTH HORIZONTALLY.

3 PROVIDE LOCKABLE ENCLOSURE FOR THERMOSTAT. CONFIRM LOCATION OF THERMOSTAT WITH ARCHITECT PRIOR TO INSTALLATION.

4 INSTALL 6" BELOW ROOF STRUCTURE. PROVIDE MANUFACTURER'S CAP.

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01.31.25
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Stephen W. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

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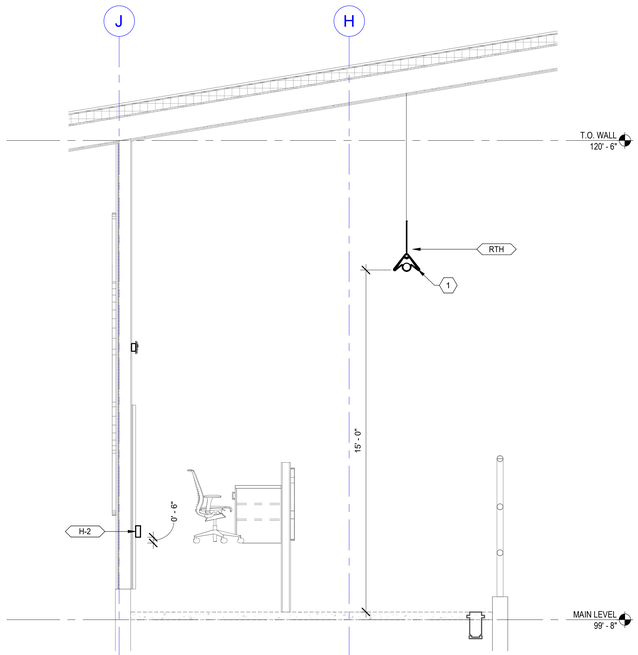
project #: 24.0170
date: JANUARY 31, 2025
revisions :

title:

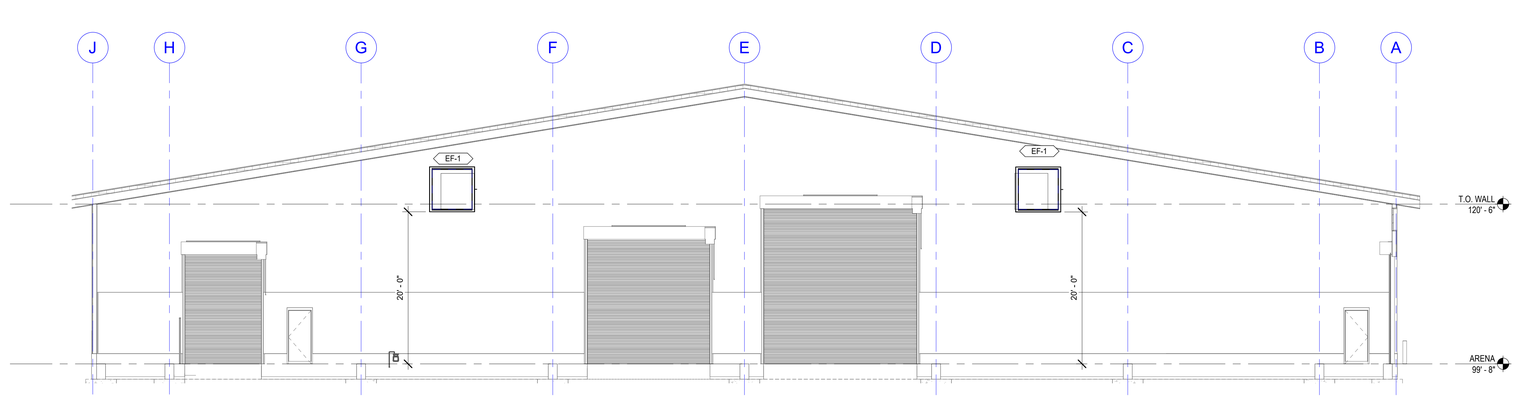
LEVEL 1 MECHANICAL PLAN

sheet:

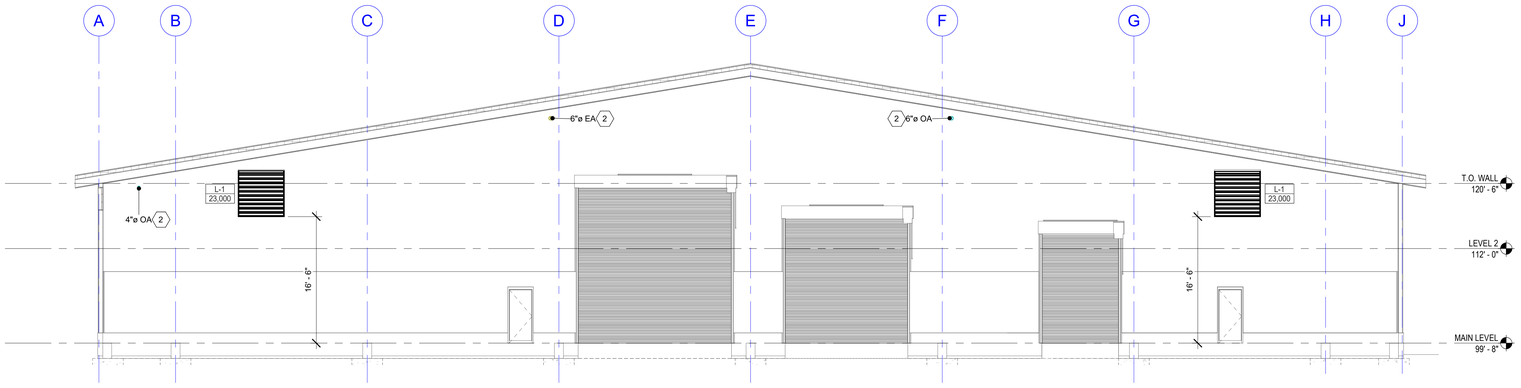
M101



C1 SECTION - RADIANT TUBE HEATER BLEACHER
3/8" = 1'-0" (REF: A1/M101)



B1 SECTION - WEST WALL
1/8" = 1'-0" (REF: A1/M101)



A1 SECTION - EAST WALL
1/8" = 1'-0" (REF: A1/M101)

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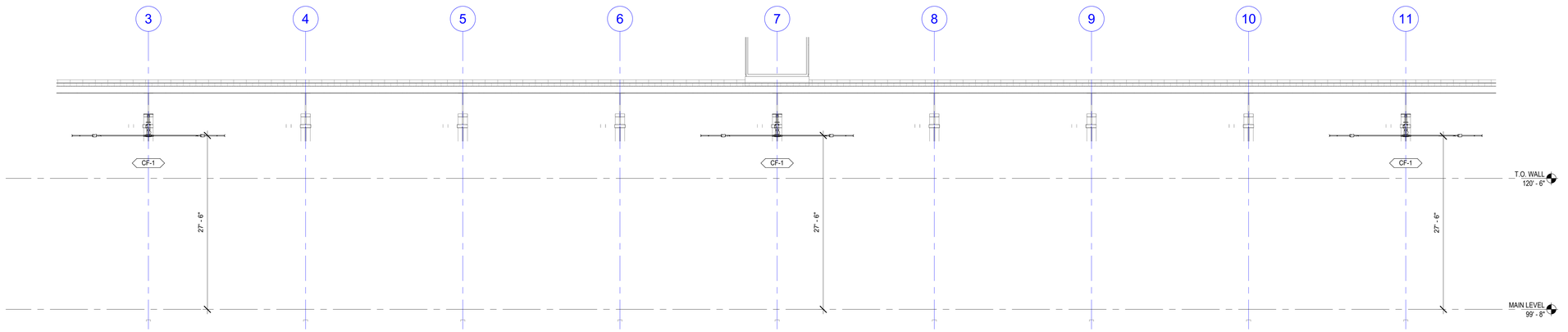
project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

MECHANICAL ELEVATIONS

sheet:

M401



A1 SECTION - CEILING FANS
1/8" = 1'-0" (REF: A1/M101)

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date: JANUARY 31, 2025
revisions :

title:

MECHANICAL ELEVATIONS

sheet:

M402

SYMBOL LEGEND - MISC

REFERENCE LINES AND SYMBOLS

SYMBOL	DESCRIPTION
	VIEW OR DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE VIEW OR DETAIL IS SHOWN.
	ELEVATION OR SECTION INDICATOR: # INDICATES VIEW NUMBER, SHEET INDICATES DRAWING SHEET WHERE VIEW IS SHOWN.
NAME ###'	ROOM / SPACE INDICATOR
#	KEYNOTE INDICATOR
#	REVISION INDICATOR
XX-##	PLUMBING FIXTURE INDICATOR
XX-##	EQUIPMENT INDICATOR
OR	BREAKLINE

SYMBOL LEGEND - PIPING

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

SYMBOL	DESCRIPTION
	HOSE BIBB / WALL HYDRANT
	CLEANOUT TO GRADE
	FLOOR CLEANOUT
	WALL CLEANOUT
	FLOOR DRAIN
	FLOOR SINK

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

SYMBOL LEGEND - PIPING

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

SYMBOL	DESCRIPTION
	SHUT OFF VALVE
	GATE VALVE
	CHECK VALVE
	BALL VALVE 2-WAY VALVE
	RELIEF VALVEWAY VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
	SOLENOID VALVE
	ANGLE VALVE
	VENTURI VALVE
	BALANCING OR PLUG COCK
	FLOW SETTER
	EXPANSION VALVE
	STRAINER
	FLEXIBLE CONNECTION
	PRESSURE GAUGE
	THERMOMETER
	PIPE REDUCERNT
	90 DEGREE ELBOW UP
	90 DEGREE ELBOW DOWN
	90 DEGREE TEE UP
	90 DEGREE TEE DOWN

PIPING LEGEND

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

ABBREVIATION	DESCRIPTION
——DCW——	DOMESTIC COLD WATER
——DHW——	DOMESTIC HOT WATER
——DHWR——	DOMESTIC HOT WATER RECIRCULATION
——NG——	NATURAL GAS
—— —SS— ——	SANITARY SEWER
— — —V— — —	VENT

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

(E)	EXISTING
(F)	FUTURE
AC	AIR CONDITION(-ING,-ED)
APD	AIR PRESSURE DROP
BD	BALANCING DAMPER
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
BTUH	BTU/HOUR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CV	CONTROL VALVE
DB	DRY BULB TEMPERATURE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRC
DP	DEPTH, DEEP, OR DROP IN PRESSURE
EA	EXHAUST AIR
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
ELEC	ELECTRIC
ELEV	ELEVATION
ENT	ENTERING
EVAP	EVAPORAT(-E, -ING, -ED, -OR)
EWT	ENTERING WATER TEMPERATURE
EXT	EXTERNAL
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	FIRE SMOKE DAMPER
GE	GREASE EXHAUST
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HG	MERCURY
HP	HORSEPOWER
HR	HOUR
HTG	HEATING
HZ	HERTZ (FREQUENCY)
IN	INCH
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LH	LATENT HEAT
LRA	LOCKED ROTOR AMPS
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MFR	MANUFACTUR(-ER, -ED)
NC	NORMALLY CLOSED OR NOISE CRITERIA
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
OZ	OUNCE
PD	PRESSURE DROP OR DIFFERENCE
PG	PROPOLENE GLYCOL
PH	PHASE
PPM	PARTS PER MILLION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
RA	RETURN AIR
RECIRC	RECIRCULATE (-ER, -ED, -ING)
REFR	REFRIGERATION
REQD	REQUIRED
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SCFM	STANDARD CUBIC FEET PER MINUTE
SCW	SOFT COLD WATER
SH	SENSIBLE HEAT
SP	STATIC PRESSURE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SS	SANITARY SEWER, SOIL, WASTE
STD	STANDARD
TA	TRANSFER AIR
TD	TEMP. DROP OR DIFF.
TEMP	TEMPERATURE
TOT	TOTAL
TSTAT	THERMOSTAT
TYP	TYPICAL
V	VOLT, VOLTAGE OR VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VENT	VENT, VENTILATION
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THROUGH ROOF
WB	WET BULB TEMP
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP
WTR	WATER

PLUMBING GENERAL NOTES

1. THE PLUMBING DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT AND EXTENT OF THE PLUMBING SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
2. THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.
3. THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT.
4. THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS OF THE BUILDING OWNER.
5. PRIOR TO FABRICATION AND INSTALLATION OF ANY PLUMBING COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL PLUMBING WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
6. ALL PLUMBING INFORMATION IS NOT SHOWN ON THE PLUMBING DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW AND USE, WHERE APPROPRIATE, ALL THE PLUMBING DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. ANY PART OF THE PLUMBING INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
9. PROVIDE PROPER PROVISIONS FOR EXPANSION, CONTRACTION, OR MOVEMENT OF ALL PIPING.
10. PROVIDE LARGE ENOUGH PIPE SLEEVES THROUGH WALL OR FLOOR TO ALLOW FOR ANTICIPATED DIFFERENTIAL MOVEMENT.
11. ALL PIPING SHALL BE SUPPORT WITH CLEVIS HANGERS (MSS TYPE 1), PERFORATED METAL STRAPS OR PLASTIC STRAPPING (PLUMBER TAPE) SHALL NOT BE USED TO SUPPORT OR BRACE ANY PIPE.
12. PROVIDE PIPE HANGERS WITHIN 18-INCHES OF ALL CHANGES OF DIRECTION.
13. PROVIDE SWAY BRACING FOR ALL PIPING 4" AND LARGER AT ALL CHANGES IN DIRECTION GREATER THAN 45-DEGREES.
14. ALL STEEL CLEVIS HANGERS USED TO SUPPORT COPPER PIPING SHALL BE COPPER OR PLASTIC COATED.
15. COPPER PIPING SHALL NOT COME IN CONTACT WITH FIRE TREATED LUMBER. PROVIDE ½" THICK SLIP-ON CLOSED CELL INSULATION WHERE COPPER PIPING IS ADJACENT TO FIRE TREATED LUMBER. CLOSED CELL INSULATION SHALL EXTEND A MINIMUM OF 1-1/2" PAST LUMBER.
16. ALL EXPOSED PIPING SHALL BE INSTALLED IN A NEATLY ARRANGED MANNER PARALLEL TO THE BUILDING STRUCTURE.
17. ALL EXPOSED DOMESTIC WATER PIPE IN OCCUPIED SPACES SHALL BE POLISHED CHROME PLATED.
18. ALL EXPOSED DRAINAGE PIPING IN OCCUPIED SPACES INCLUDING TRAPS UNDER SINKS SHALL BE POLISHED CHROME PLATED.
19. DRAWINGS SHOW GENERAL ARRANGEMENT OF THE DRAIN WASTE AND VENT SYSTEM WITH THE REQUIRED CLEANOUTS. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL CLEANOUTS AS REQUIRED BY THE PLUMBING CODE.
20. ALL SANITARY DRAINAGE SYSTEM PIPING 3" AND LARGER SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/8" PER FOOT.
21. ALL SANITARY DRAINAGE SYSTEM PIPING SMALLER THAN 3" SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/4" PER FOOT.
22. SLOPE VENT SYSTEM TOWARDS DRAINAGE SYSTEM.
23. SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER.
24. ALL EQUIPMENT SHALL PROVIDE THE SCHEDULED PERFORMANCE AT THE JOB SITE ELEVATION.
25. FIXTURE AND EQUIPMENT MODEL NUMBERS SHOWN IN PLUMBING FIXTURE SCHEDULE AND PLUMBING EQUIPMENT SCHEDULE ARE SHOWN TO ESTABLISH THE TYPE OF PRODUCT THAT SHALL BE USED. THE SELECTED PRODUCT SHALL MEET THE SCHEDULED PERFORMANCE DATA SHOWN ON THE SCHEDULE EVEN IF A DIFFERENT MODEL IS SUPPLIED THAT IS DIFFERENT THAN THAT SCHEDULED.
26. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL NECESSARY FITTINGS, TRANSITIONS, VALVES AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
27. SEE "PLUMBING FIXTURE SCHEDULE" FOR INDIVIDUAL TRAPS, WASTE, VENT, AND DOMESTIC WATER PIPING FOR INDIVIDUAL FIXTURES.
28. ALL PLUMBING EQUIPMENT SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY.
29. FIXTURES, EQUIPMENT AND PIPING INSTALLATION SHALL MEET NSF STANDARDS.

PLUMBING SHEET INDEX

P001	PLUMBING COVER SHEET
P002	PLUMBING DETAILS
P003	PLUMBING DETAILS
P004	PLUMBING SCHEDULES
P101	LEVEL 1 PLUMBING PLAN - DWV
P201	LEVEL 1 PLUMBING PLAN - WATER

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PLUMBING COVER SHEET

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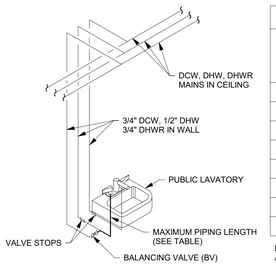
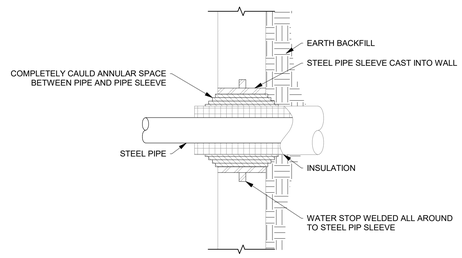
P001



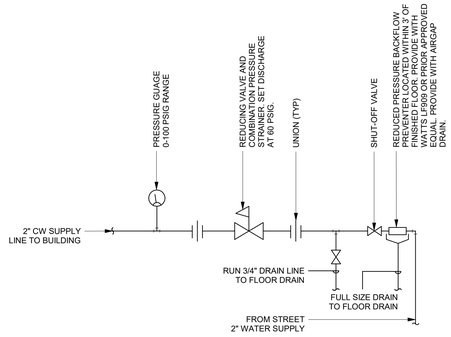
PIPING VOLUME AND MAXIMUM PIPING LENGTHS (IECC TABLE C404.5.1)			
NOMINAL PIPE SIZE (INCHES)	VOLUME (LIQUID OUNCES PER FOOT LENGTH)	MAXIMUM PIPING LENGTH (FEET)	
		PUBLIC LAVATORY FAUCETS	OTHER FIXTURES AND APPLIANCES
1/4	0.33	6	50
3/8	0.75	3	50
1/2	1.5	2	43
3/4	3	0.5	21
1	5	0.5	13
1 1/4	8	0.5	8
1 1/2	11	0.5	6
2 OR LARGER	18	0.5	4

BALANCING VALVE TO BE PROVIDED WITH TAMPER-PROOF ADJUSTMENT
ALL EXPOSED VALVES AND PIPING TO BE INSULATED

D1 PIPING VOLUME AND MAXIMUM PIPING LENGTHS
1/8" = 1'-0"



D3 TYPICAL INSULATED PIPE WALL PENETRATION
1/8" = 1'-0"



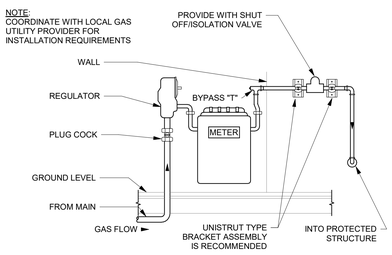
D4 PRV STATION DETAIL
1/8" = 1'-0"

MINIMUM CENTERLINE SPACING				
NOMINAL PIPE SIZE	DIM A	DIM B	DIM C	DIM D
1/2" - 3/4"	5"	6"	3"	3 1/2"
1" - 1 1/2"	6"	8"	4"	4"
2" - 2 1/2"	7"	10"	5"	4 1/2"
3"	7 1/2"	11"	6"	5"
4"	8"	12"	7"	5 1/2"
5"	8 1/2"	13"	8"	6"
6"	9"	14"	9"	6 1/2"
8"	10"	16"	11"	7 1/2"

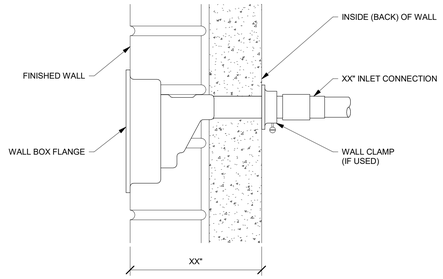
C1 PIPE CLEARANCES DETAIL
1/8" = 1'-0"

C2 PIPE HANGERS DETAIL
1/8" = 1'-0"

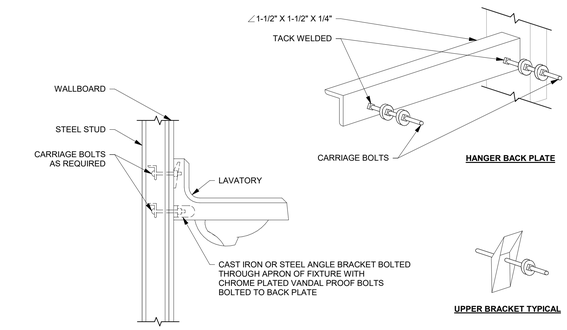
C4 PIPING IN EXTERIOR WALL DETAIL
1/8" = 1'-0"



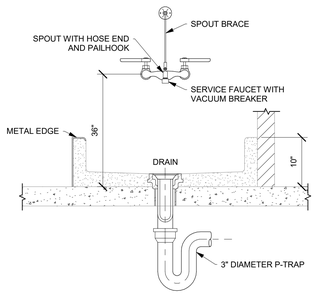
B1 GAS METER DETAIL
1/8" = 1'-0"



B2 FREEZE-PROOF WALL HYDRANT DETAIL
1/8" = 1'-0"



B3 LAVATORY MOUNTING FOR METAL STUDS
1/8" = 1'-0"



B5 MOP SINK DETAIL
1/8" = 1'-0"

A1 CLEANOUT - WALL DETAIL
1/8" = 1'-0"

A2 CLEANOUT TO GRADE DETAIL
1/8" = 1'-0"

A3 FLOOR CLEANOUT DETAIL
1/8" = 1'-0"

A4 GAS PIPING REGULATOR
1/8" = 1'-0"

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P002

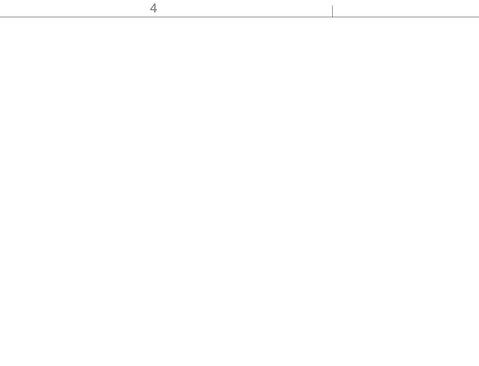
B1 THERMOSTATIC MIXING VALVE (AT SINK) DETAIL
1/8" = 1'-0"

KEY

1. WATER HAMMER ARRESTOR
2. BALL VALVE, SAME NOMINAL SIZE AS PIPE BRANCH IN CHASE OPENING IN BALL VALVE TO MATCH PIPE I.D.
3. PIPE SAME SIZE AS BRANCH IN CHASE TO WHICH IT IS ATTACHED

NOTE:
1. PROVIDE REDUCER IF REQUIRED BETWEEN VALVE AND WATER HAMMER ARRESTOR

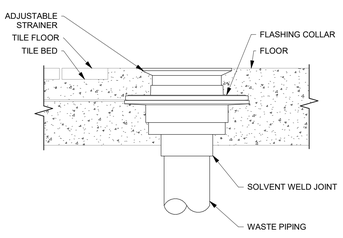
B2 WATER HAMMER PANEL
1/8" = 1'-0"



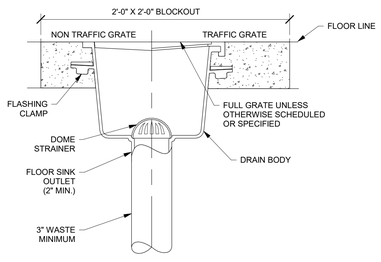
WALL MOUNT WATER HEATER W/ RECIRC

B3 WATER HEATER WALL MOUNTED WITH RECIRC
1/8" = 1'-0"

B5 CLEANOUT TO GRADE - TWO-WAY DETAIL
1/8" = 1'-0"

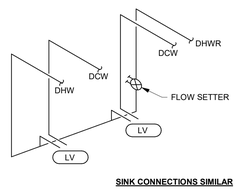


A1 FLOOR DRAIN
1/8" = 1'-0"



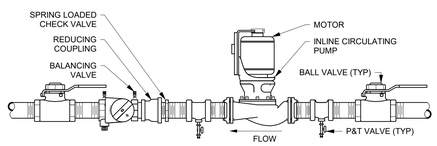
NOTE:
1. FLOOR SINKS ARE SHOWN FLUSH WITH FLOOR. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY, PRIOR TO INSTALLATION WITH THE LOCAL INSPECTOR AND THE LOCAL HEALTH DEPARTMENTIF THEY REQUIRE FLOOR SINKS TO BE RAISED. CONTRACT ARCHITECT/ ENGINEER PRIOR TO CHANGES

A2 FLOOR SINK DETAIL
1/8" = 1'-0"



SINK CONNECTIONS SIMILAR

A3 LAVATORY DOMESTIC WATER CONNECTION
1" = 1'-0"



A4 PUMP - INLINE DETAIL
1/8" = 1'-0"

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sheet:

P003

SANITARY SEWER DEMAND

BASIS FOR DESIGN			
2021 INTERNATIONAL PLUMBING CODE - MINIMUM SLOPE = 1/8" PER FOOT			4"
CHAPTER 7 - SANITARY DRAINAGE- REQUIRED PIPE SIZE =			
TABLE 710.1(1) - BUILDING DRAINS AND SEWERS - 180 DFU'S PERMITTED ON MAIN			
EQUIPMENT	QUANTITY	INDIVIDUAL DRAINGE FIXTURE UNIT	TOTAL DRAINAGE FIXTURE UNITS
DRINKING FOUNTAIN	1	0.5	0.5
FLOOR DRAINS	2	2	4
FLOOR SINKS	1	2	2
LAVATORY	2	1	2
SERVICE SINK	1	2	2
WATER CLOSET, PUBLIC (1.6 GPF)	2	4	8
TOTAL	9		18.5

WATER HAMMER ARRESTER SCHEDULE

ACCEPTABLE MANUFACTURERS:	REMARKS:
SIOUX CHIEF "HYDRA-ARRESTER" MIFAB "IWH" PPP "SC" WATTS LF02	(1) ANSI / ASSE 1010 LISTED (2) LEAD FREE CONSTRUCTION (3) COPPER TUBE BODY; POLY PISTON, EDPM O-RING (4) MIP THREADED INLET

SYMBOL	INLET SIZE (INCHES)	PDI SYMBOL	CAPACITY (DFU)	BASIS OF DESIGN MANUFACTURER & MODEL
WHA-A	1/2	A	1-11	SIOUX CHIEF 652-A
WHA-B	3/4	B	12-32	SIOUX CHIEF 653-B
WHA-C	1	C	22-60	SIOUX CHIEF 654-C
WHA-D	1	D	61-113	SIOUX CHEIF 655-D
WHA-E	1	E	114-154	SIOUX CHIEF 656-E
WHA-F	1	F	155-330	SIOUX CHIEF 657-F

NATURAL GAS REQUIREMENTS

EQUIPMENT	QUANTITY	SEA LEVEL FUEL GAS INPUT CAPACITY (BTUH)	JOB SITE FUEL GAS REQUIREMENTS (CFH)	TOTAL FUEL GAS CAPACITY (CFH)	BRANCH PIPE SIZES (INCHES)	
					2 PSIG	0.5 PSIG
RTH-1	8	150000	163	919		X
BASIS OF DESIGN			NOTES:			
2021 INTERNATIONAL FUEL GAS CODE						
Image						

PIPE INSULATION REQUIREMENTS

SERVICE	PIPE SIZE	PIPE INSULATION MATERIAL
DOMESTIC COLD WATER	ALL	1" PREFORMED FIBERGLASS WITH ALL SERVICE JACKET PREFORMED PVC FITTING COVERS
DOMESTIC HOT WATER		

DOMESTIC HOT WATER DEMAND

2021 INTERNATIONAL PLUMBING CODE - TABLE E103.3(3) ESTIMATED DEMAND (GPM):	10.0
PIPE SIZE (WATER SUPPLY TO BUILDING):	1.0
2021 INTERNATIONAL PLUMBING CODE - FIGURE E103.3(5) PIPE FRICTION (PSI / 100 FT):	6.7
PIPE VELOCITY (FEET / SECOND):	3.9

EQUIPMENT	OCCUPANCY	TYPE OF SUPPLY CONTROL	QUANTITY	COMBINED WATER SUPPLY FIXTURE UNITS (WSFU)	TOTAL WATER SUPPLY FIXTURE UNITS (WSFU)
LAVATORY	PUBLIC	FAUCET	2	1.5	3
SERVICE SINK	OFFICES, ETC.	FAUCET	1	2.25	2.25
TOTAL			3		5.25

OIL INTERCEPTOR CALCULATIONS	
SQUARE FOOTAGE	2400
FIRST 100 SQ.FT	6
REMAINING	23
TOTAL CUBIC FEET	29
CONVERSION TO GALLONS	216.92
CALCULATIONS PER IPC 1003.4.2.2	

DOMESTIC COLD WATER DEMAND

2021 INTERNATIONAL PLUMBING CODE - TABLE E103.3(3) ESTIMATED DEMAND (GPM):	42.0
PIPE SIZE (WATER SUPPLY TO BUILDING):	2.0
2021 INTERNATIONAL PLUMBING CODE - FIGURE E103.3(5) PIPE FRICTION (PSI / 100 FT):	3.75
PIPE VELOCITY (FEET / SECOND):	4.5

EQUIPMENT	OCCUPANCY	TYPE OF SUPPLY CONTROL	QUANTITY	COMBINED WATER SUPPLY FIXTURE UNITS (WSFU)	TOTAL WATER SUPPLY FIXTURE UNITS (WSFU)
DRINKING FOUNTAIN	OFFICES, ETC.	3/8" VALVE	1	1	1
LAVATORY	PUBLIC	FAUCET	2	2	4
SERVICE SINK	OFFICES, ETC.	FAUCET	1	3	3
WATER CLOSET, PUBLIC (1.6 GPF)	PUBLIC	FLUSHOMETER VALVE	2	10	20
TOTAL			6		28

PLUMBING FIXTURE SCHEDULE

REFER TO PLUMBING SPECIFICATIONS FOR COMPLETE FIXTURE COMPONENTS

LABEL	DESCRIPTION	WASTE	VENT	CW	HW	MANUFACTURER	MODEL	REMARKS
COTG	CLEANOUT TO GRADE	0"	0"	0"	0"	ZURN	Z1400 SERIES	SIZE TO MATCH PIPE BEING SERVED
EWC	BI-LEVEL ELECTRIC WATER COOLER WITH BOTTLER FILLING STATION	1 1/2"	1 1/2"	1/2"	0"	ELKAY	LZSTL8WSLP	ELECTRICAL DATA: 120/1, 4 FLA, 370 WATTS
FD	FLOOR DRAIN	2"	2"	0"	0"	FIXTURE: ZURN TRAP SEAL: RECTORSEAL	FIXTURE: Z415-BZ1 TRAP SEAL: SURESEAL	TRAP SEAL TO MATCH FD SIZE
FS	FLOOR SINK	3"	2"	0"	0"	ZURN	Z1900-2	PROVIDE HALF GRATE
HB-1	HOSE BIBB	0"	0"	3/4"	0"	WATTS	HY-420	PROVIDE NON-FREEZE KEY OPERATED WITH INTEGRAL VACUUM BREAKER, AND LOOSE KEY
HB-2	HOSE BIBB	0"	0"	3/4"	0"	WATTS	HY-440	PROVIDE WITH ANTI-SIPHON, CHROME PLATED FACE, INTEGRAL VACUUM BREAKER, AND LOOSE KEY.
LAV-A	WALL MOUNTED LAVATORY (ACCESSIBLE)	1 1/4"	1 1/2"	1/2"	1/2"	FIXTURE: KOHLER FAUCET: KOHLER INSULATION: TRUEBRO TMV: WEBSTONE	FIXTURE: K-2035-1 FAUCET: K-13461 INSULATION: LAVGUARD 2 TMV: H-77211W-TG	MOUNT AT ADA HEIGHT SET TMV AT 110 DEG. F.
MOP	SERVICE SINK	3"	2"	3/4"	3/4"	FIXTURE: MUSTEE FAUCET:KOHLER	FIXTURE: 63M FAUCET: K-8907	PROVIDE HOSE AND HOSE HOLDER, MOP HANGER, BUMPER AND WALL GUARDS
RPZ	REDUCED PRESSURE ZONE VALVE ASSEMBLY	0"	0"	2"	0"	WATTS	LF009 SERIES	
TD-1	TRENCH DRAIN	4"	0"	0"	0"	WATTS	DEAD LEVEL D: D-152-CO-RSS-FS	
WC-A	FLOOR MOUNT FLUSH VALVE WATER CLOSET (ACCESSIBLE)	3"	2"	1 1/2"	0"	FIXTURE: KOHLER FLUSH VALVE: ZURN SEAT: BEMIS	FIXTURE: K-96057-SSL FLUSH VALVE: ZER6000-CP-WS1 SEAT: 1955CTJ	
WCO	WALL CLEANOUT	0"	0"	0"	0"	ZURN	Z1446	SIZE TO MATCH PIPE BEING SERVED

RECIRCULATION PUMP SCHEDULE

ACCEPTABLE MANUFACTURERS:	REMARKS:
BELL & GOSSETT ARMSTRONG TACO GRUNDFOS	(1) PROVIDE WITH AQUASTAT AND TIE INTO BUILDING TIMER WITH RUN TIME 1 HOUR BEFORE AND AFTER OCCUPIED SCHEDULE. (2) BALANCE DOMESTIC HOT WATER RECIRCULATING LINE. PROVIDE BALANCING VALVE. PROVIDE P&T PORT ON INLET AND DISCHARGE OF PUMP. PROVIDE BALANCE REPORT TO ENGINEER. (3) PROVIDE WITH BRONZE, PLASTIC, OR STAINLESS STEEL IMPELLER AND STAINLESS STEEL BODY. (4) RUN IN CONSTANT PRESSURE MODE IN CONJUNCTION WITH CALEFFI MODEL 116 THERMAL BALANCING VALVES TO ALLOW PUMP TO RUN AT LOWER SPEED WHEN HOT WATER IS RUNNING. (5) PROVIDE CALEFFI THERMAL BALANCING VALVE SET TO 110 F AT EACH CONNECTION POINT OF RECIRC LINE TO HOT WATER LINE.

	FLUID				ELECTRICAL								
LABEL	LIQUID TYPE	GPM	HEAD (FT)	MAX. TEMP. (°F)	VOLTS	PHASE	Hz	WATTS	HP	AMPS	MANUFACTURER	MODEL	REMARKS
RCP-1	WATER	1	10.00	110	120	1	60	.125	-----	-----	BELL & GOSSETT	NBF-25	ALL

WATER HEATER (ELECTRIC)

ACCEPTABLE MANUFACTURERS:	REMARKS:
LOCHINVAR AO SMITH BRADFORD WHITE RHEEM	(1) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-12. (2) WATER HEATER ON PLATFORM ABOVE. ROUTE RELIEF VALVE PIPING TO MOP SINK BELOW. (3) PROVIDE WITH UPPER AND LOWER SEISMIC STRAPS WITH TWO 5/16" LAG SCREWS HAVING 2" OF EMBED AT EACH CONNECTION LOCATION. (4) ROUTE DRAIN TO FLOOR DRAIN.

					ELECTRICAL								
LABEL	LOCATION	TYPE	TANK SIZE (GAL)	RECOVERY GPH @ 90° ΔT	VOLTS	PHASE	Hz	kW	AMPS	OPERATING WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
WH	ABOVE MOP SINK	TANK	19	21	208	3	50	5.0	14	222	Bradford White	LE120U3-1	ALL

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REGISTERED PROFESSIONAL ENGINEER
No. 13439797
TYLER M. ANDERSON
01.31.25
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed by:
Chadwick W. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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project:

USU BASTIAN AG CENTER - ARENA

[SET PROJECT INFORMATION ADDRESS TEXT FIELD AND SET LOCATION UNDER ENERGY SETTINGS IF APPLICABLE]

project #: 24.0170

date: JANUARY 31, 2025

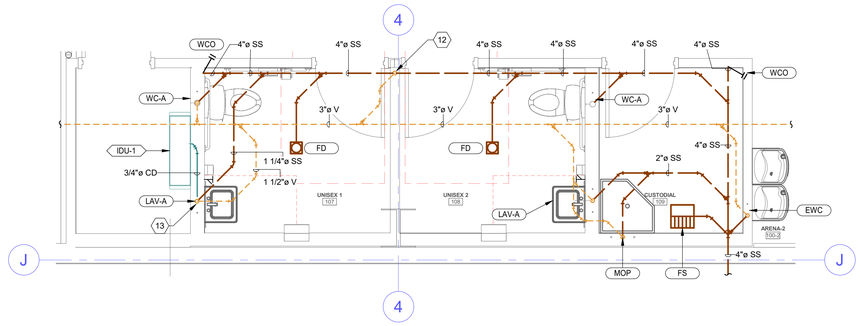
revisions :

title:

PLUMBING SCHEDULES

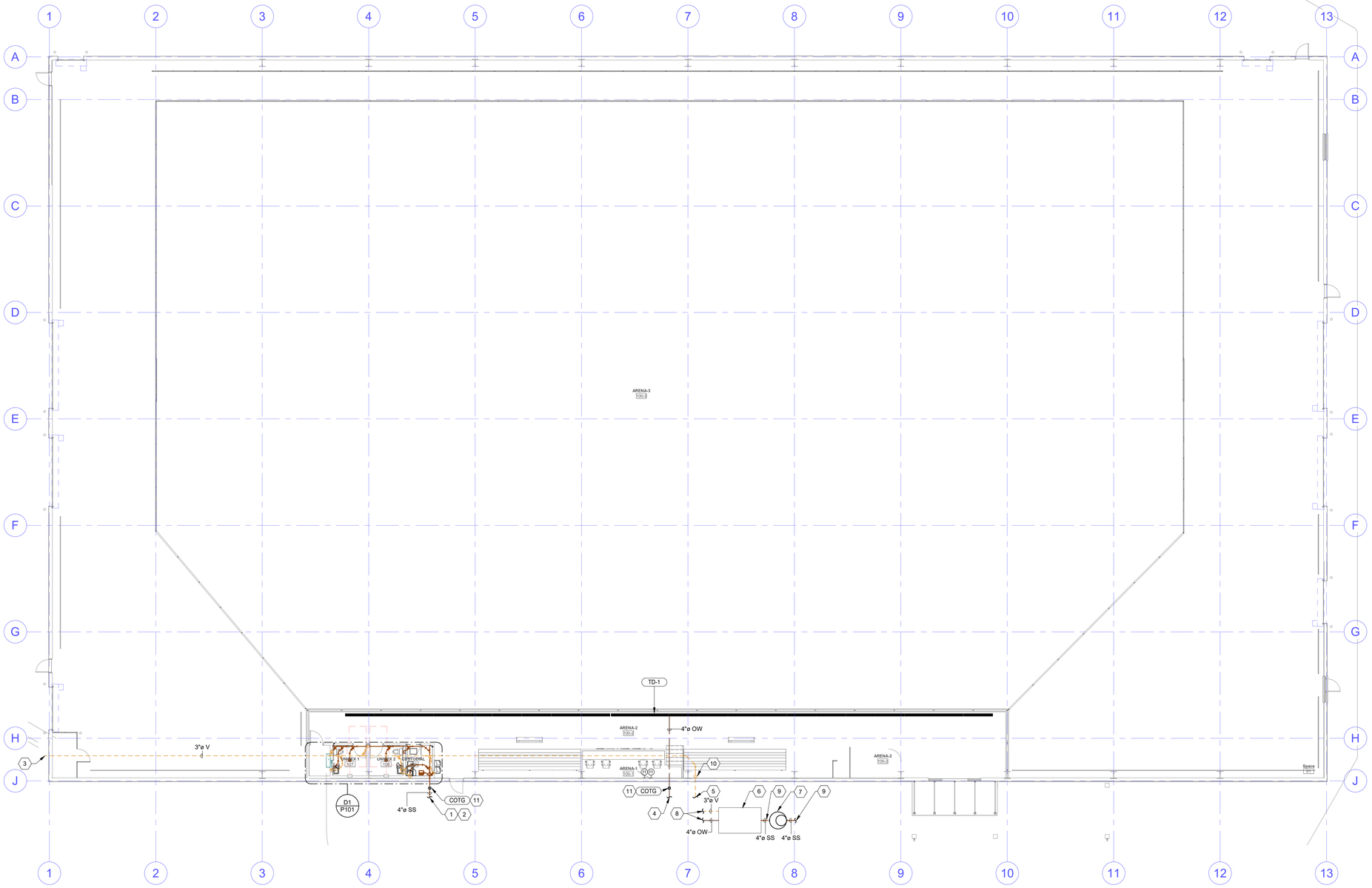
sheet:

P004



D1 RESTROOMS & JANITOR ROOM - DWV

3/8" = 1'-0" (REF: A1/P101)



A1 LEVEL 1 PLUMBING PLAN - DWV

3/32" = 1'-0"

PLUMBING GENERAL NOTES

1. THE PLUMBING DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT AND EXTENT OF THE PLUMBING SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
2. THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.
3. THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT.
4. THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS OF THE BUILDING OWNER.
5. PRIOR TO FABRICATION AND INSTALLATION OF ANY PLUMBING COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL PLUMBING WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
6. ALL PLUMBING INFORMATION IS NOT SHOWN ON THE PLUMBING DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW AND USE, WHERE APPROPRIATE, ALL THE PLUMBING DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. ANY PART OF THE PLUMBING INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
9. PROVIDE PROPER PROVISIONS FOR EXPANSION, CONTRACTION, OR MOVEMENT OF ALL PIPING.
10. PROVIDE LARGE ENOUGH PIPE SLEEVES THROUGH WALL OR FLOOR TO ALLOW FOR ANTICIPATED DIFFERENTIAL MOVEMENT.
11. ALL PIPING SHALL BE SUPPORT WITH CLEVIS HANGERS (MSS TYPE 1). PERFORATED METAL STRAPS OR PLASTIC STRAPPING (PLUMBER TAPE) SHALL NOT BE USED TO SUPPORT OR BRACE ANY PIPE.
12. PROVIDE PIPE HANGERS WITHIN 18-INCHES OF ALL CHANGES OF DIRECTION.
13. PROVIDE SWAY BRACING FOR ALL PIPING 4" AND LARGER AT ALL CHANGES IN DIRECTION GREATER THAN 45-DEGREES.
14. ALL STEEL CLEVIS HANGERS USED TO SUPPORT COPPER PIPING SHALL BE COPPER OR PLASTIC COATED.
15. COPPER PIPING SHALL NOT COME IN CONTACT WITH FIRE TREATED LUMBER. PROVIDE ½" THICK SLIP-ON CLOSED CELL INSULATION WHERE COPPER PIPING IS ADJACENT TO FIRE TREATED LUMBER. CLOSED CELL INSULATION SHALL EXTEND A MINIMUM OF 1-1/2" PAST LUMBER.
16. ALL EXPOSED PIPING SHALL BE INSTALLED IN A NEATLY ARRANGED MANNER PARALLEL TO THE BUILDING STRUCTURE.
17. ALL EXPOSED DOMESTIC WATER PIPE IN OCCUPIED SPACES SHALL BE POLISHED CHROME PLATED.
18. ALL EXPOSED DRAINAGE PIPING IN OCCUPIED SPACES INCLUDING TRAPS UNDER SINKS SHALL BE POLISHED CHROME PLATED.
19. DRAWINGS SHOW GENERAL ARRANGEMENT OF THE DRAIN WASTE AND VENT SYSTEM WITH THE REQUIRED CLEANOUTS. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL CLEANOUTS AS REQUIRED BY THE PLUMBING CODE.
20. ALL SANITARY DRAINAGE SYSTEM PIPING 3" AND LARGER SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/8" PER FOOT.
21. ALL SANITARY DRAINAGE SYSTEM PIPING SMALLER THAN 3" SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/4" PER FOOT.
22. SLOPE VENT SYSTEM TOWARDS DRAINAGE SYSTEM.
23. SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER.
24. ALL EQUIPMENT SHALL PROVIDE THE SCHEDULED PERFORMANCE AT THE JOB SITE ELEVATION.
25. FIXTURE AND EQUIPMENT MODEL NUMBERS SHOWN IN PLUMBING FIXTURE SCHEDULE AND PLUMBING EQUIPMENT SCHEDULE ARE SHOWN TO ESTABLISH THE TYPE OF PRODUCT THAT SHALL BE USED. THE SELECTED PRODUCT SHALL MEET THE SCHEDULED PERFORMANCE DATA SHOWN ON THE SCHEDULE EVEN IF A DIFFERENT MODEL IS SUPPLIED THAT IS DIFFERENT THAN THAT SCHEDULED.
26. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL NECESSARY FITTINGS, TRANSITIONS, VALVES AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
27. SEE "PLUMBING FIXTURE SCHEDULE" FOR INDIVIDUAL TRAPS, WASTE, VENT, AND DOMESTIC WATER PIPING FOR INDIVIDUAL FIXTURES.
28. ALL PLUMBING EQUIPMENT SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY.
29. FIXTURES, EQUIPMENT AND PIPING INSTALLATION SHALL MEET NSF STANDARDS.

SHEET KEYNOTES

1	4" SS. SEE CIVIL SITE PLAN FOR CONTINUATION.
2	DCW AND SS SHALL BE INSTALLED IN SAME TRENCH. BUILDING SEWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH IPC TABLE 702.2. SEE SPECIFICATIONS FOR EXACT MATERIAL REQUIREMENTS.
3	3" VENT THRU WALL. INSTALL WITHIN 1' FROM ROOF. VENT SHALL EXTEND 12 INCHES FROM THE WALL WITH AN ELBOW POINTING DOWNWARDS AS PER IPC 903.7
4	4" OW. SEE CIVIL SITE PLAN FOR CONTINUATION.
5	3" VENT. SEE CIVIL SITE PLAN FOR CONTINUATION.
6	450 GALLON OIL INTERCEPTOR. CONFIRM SIZE WITH CIVIL ENGINEER. SEE CIVIL SITE PLAN FOR EXACT LOCATION.
7	SAMPLING MANHOLE. SEE CIVIL SITE PLAN FOR CONTINUATION.
8	4" OW & 3" V. SEE CIVIL SITE PLAN FOR CONTINUATION.
9	4" SS. SEE CIVIL SITE PLAN FOR CONTINUATION.
10	ROUTE 3" VENT EXPOSED ON INTERIOR OF STRUCTURE.
11	PROVIDE TWO-WAY CLEANOUT. INVERT ELEVATION @ 30" BELOW FINISHED FLOOR.
12	2" VENT DN WALL TO 4" SS.
13	ROUTE CONDENSATE LINE TO LAVATORY WYE

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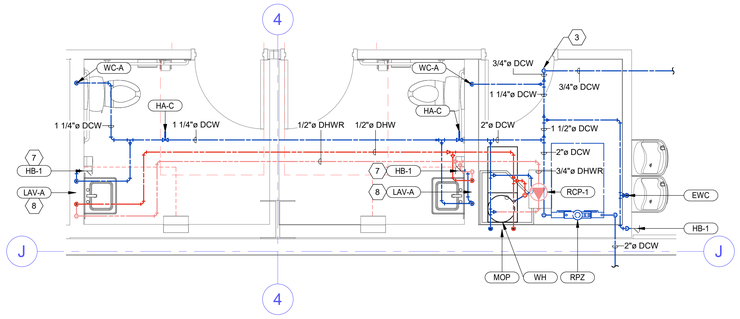
LEVEL 1 PLUMBING PLAN - DWV

sheet:

P101



D1 RESTROOMS & JANITOR ROOM

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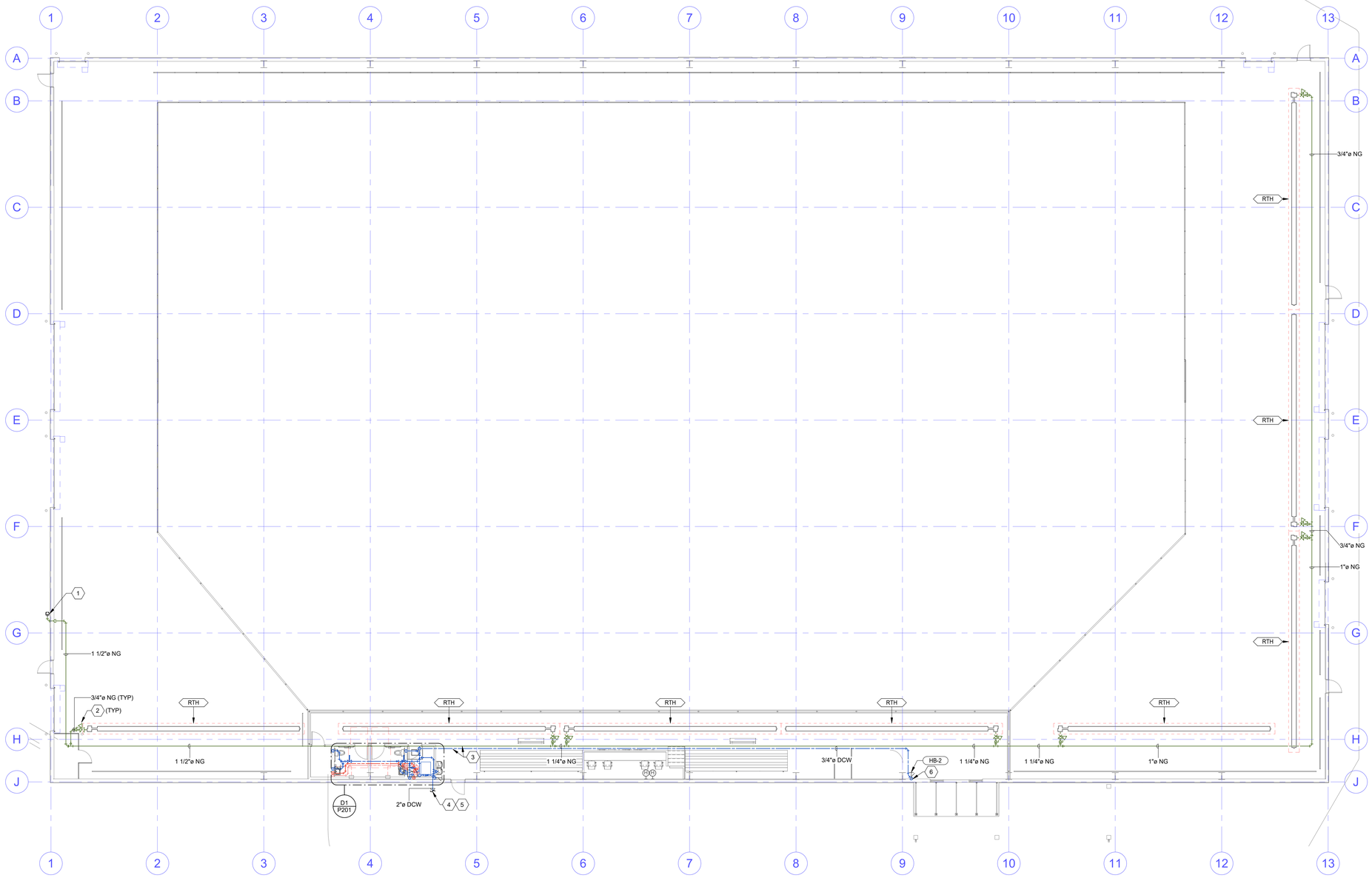

A1 LEVEL 1 PLUMBING PLAN - WATER

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SHEET KEYNOTES

1	GAS METER INFORMATION. METER TO BE SIZED AND FINAL LOCATION TO BE DETERMINED BY UTILITY COMPANY.
2	PROVIDE VENTLESS PRESSURE REGULATOR BY PIETRO FIORENTINI OR APPROVED EQUAL IN THIS APPROXIMATE LOCATION. PROVIDE SHUT OFF VALVE.
3	ROUTE DCW & NG AT SAME HEIGHT AS RTH INSTALLED HEIGHT AS SHOWN IN THE MECHANICAL SECTIONS.
4	2" DCW. SEE CIVIL SITE PLAN FOR CONTINUATION.
5	DCW AND SS SHALL BE INSTALLED IN SAME TRENCH. BUILDING SEWER SHALL BE CONSTRUCTED IN ACCORDANCE WITH IPC TABLE 702.2. SEE SPECIFICATIONS FOR EXACT MATERIAL REQUIREMENTS.
6	ROUTE DCW EXPOSED DN WALL TO HB-2.
7	LOCATE HOSE BIBB UNDER LAV. COORDINATE EXACT LOCATION AND HEIGHT WITH OWNERSHIP.
8	ROUTE 3/4" DCW DN WALL. ROUTE 3/4" LINE TO HOSE BIBB AND 1/2" LINE TO LAV.

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revisions :

title:

LEVEL 1 PLUMBING PLAN - WATER

sheet:

P201

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
REFERENCE AND LINE SYMBOLS	
A5 / E-501	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
A5 / E-201	ELEVATION OR SECTION INDICATOR, EXTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
A5 / E-201	ELEVATION OR SECTION INDICATOR, INTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
ROOM NAME / 100	ROOM IDENTIFIER WITH ROOM NAME AND NUMBER.
1	KEYNOTE INDICATOR.
1	REVISION INDICATOR.
CU-1	EQUIPMENT INDICATOR.
X-X / XMDP	MECHANICAL EQUIPMENT INDICATOR. "X-X" INDICATES EQUIPMENT MARK SHOWN ON EQUIPMENT SCHEDULE. "XMDP" IDENTIFIES PANEL EQUIPMENT IS CIRCUITED TO. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING
	BREAK, ROUND
MATCH LINE / SEE XX/X-XXX	MATCH LINE INDICATOR: CENTER, EXTRA WIDE LINE.
	NEW LINE: MEDIUM LINE.
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE
	EXISTING TO REMAIN LINE: THIN LINE.
	DEMOLITION LINE: DASHED, MEDIUM LINE
	PROPERTY LINE: DASHED, WIDE LINE.
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
XXX / EF-X	ELECTRICAL EQUIPMENT INDICATOR. "XXX" INDICATES TYPE OF EQUIPMENT OR EQUIPMENT ID. "EF-X" IDENTIFIES MECHANICAL EQUIPMENT BEING SERVED. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
X-X / 1LA-3	EQUIPMENT INDICATOR. "X-X" INDICATES EQUIPMENT MARK SHOWN ON EQUIPMENT SCHEDULE. "1LA-3" IDENTIFIES PANEL EQUIPMENT IS CIRCUITED TO. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
XXXET / #	IN-GRADE PULLBOX INDICATOR. "XXXET" INDICATES LABEL SHOWN ON SCHEDULE. "#" IDENTIFIES SEQUENCE NUMBER SHOWN ON SITE AND RISER DIAGRAM. REFER TO PLANS AND EXTERIOR PULLBOX SCHEDULE FOR ADDITIONAL INFORMATION.
WIRING METHODS	
	WIRING.
	WIRING TURNED UP OR TOWARDS OBSERVER.
	WIRING TURNED DOWN OR AWAY FROM OBSERVER.
A-1	SINGLE BRANCH CIRCUIT HOME RUN TO PANELBOARD WITH DEDICATED NEUTRAL CONDUCTOR. LETTER AND NUMBER NOTATION IDENTIFY PANEL AND CIRCUIT NUMBER.
A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS.
1 / A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE.
	LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.
	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
1	CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE-LINE DIAGRAM.
HC	ADA ACCESS PUSH PLATE
	JUNCTION BOX.
C	JUNCTION BOX, CEILING.
SC	JUNCTION BOX, SYSTEMS FURNITURE COMMUNICATION CONNECTION.
SP	JUNCTION BOX, SYSTEMS FURNITURE POWER CONNECTION.
PB	PULL BOX.
A"xB" +/-C'-D"	CABLE TRAY ABOVE ACCESSIBLE CEILING. "A" DENOTES CABLE TRAY WIDTH, "B" DENOTES CABLETRAY DEPTH. +/-C'-D" DENOTES CABLE TRAY ELEVATION ABOVE OR BELOW FINISHED SURFACE.
	LADDER RACK.
	CABLE J-HOOKS ABOVE ACCESSIBLE CEILING.
	MECHANICAL EQUIPMENT CONNECTION. REFER TO EQUIPMENT SCHEDULE FOR REQUIREMENTS.
EV	ELECTRIC VEHICLE CHARGING STATION.
	GROUND BUSBAR. REFER TO GROUNDING RISER DIAGRAM FOR ADDITIONAL INFORMATION.

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
SITE ELECTRICAL AND COMMUNICATIONS UTILITIES	
3ØUP	ELECTRIC LINE: THIN LINE. 1Ø = SINGLE PHASE, 2Ø = 2-PHASE, 3Ø = 3-PHASE, O = OVERHEAD, U = UNDERGROUND, P = PRIMARY, S = SECONDARY
	UTILITY POLE.
	UTILITY, DISTRIBUTION SWITCH OR SWITCHING STATION.
	IN-GRADE PULLBOX, HAND HOLE. OPTIONS WITH SQUARE OR ROUND CORNERS. REFER TO PLANS AND EXTERIOR PULLBOX SCHEDULE FOR ADDITIONAL INFORMATION.
S	SUBSTATION.
T	TRANSFORMER.
ELECTRICAL POWER AND DISTRIBUTION	
	FUSE WITH RATING (ONE-LINE DIAGRAM).
	DISCONNECT, FUSED (ONE-LINE DIAGRAM).
	DISCONNECT, NONFUSED (ONE-LINE DIAGRAM).
MCP	CIRCUIT BREAKER, MOTOR CIRCUIT PROTECTION (ONE-LINE DIAGRAM).
#AF / #AT	CIRCUIT BREAKER, ADJUSTABLE TRIP. "225AF" REPRESENTS THE RATING AND "150AT" REPRESENTS THE TRIP SETTING. (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, SOLID STATE (ONE-LINE DIAGRAM).
GFP	CIRCUIT BREAKER, SOLID STATE WITH GROUND FAULT PROTECTION (ONE-LINE DIAGRAM).
	TRANSFORMER (ONE-LINE DIAGRAM).
"1DPHA"	DISTRIBUTION PANELBOARD, MOTOR CONTROL CENTER, PLUG-IN BUSWAY, MEDIUM VOLTAGE SWITCHBOARD (ONE-LINE DIAGRAM).
"1H"	PANELBOARD (ONE-LINE DIAGRAM).
225/3 "1H"	PANELBOARD WITH MAIN LUGS ONLY. BUS SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
225/3 "1H"	PANELBOARD WITH MAIN CIRCUIT BREAKER. SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
225/3 "1H" 60/3	PANELBOARD WITH MAIN AND SUB FEED CIRCUIT BREAKER (ONE-LINE DIAGRAM).
LIGHTING	
(W-3)	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
(W-3E)	FIXTURE IDENTIFICATION: EMERGENCY LIGHTING FIXTURE WITH BATTERY PACK AND/ OR GENERATOR AND/ OR CENTRALIZED INVERTER AND/ OR CENTRALIZED UPS CONNECTION AS INDICATED IN PLANS. (W-3E) INDICATES FIXTURE TYPE AS SCHEDULED.
EM	EMERGENCY.
NL	NIGHT LIGHT: DO NOT SWITCH.
	EGRESS DIRECTION ARROW (EXIT SIGNS).
	EXIT SIGN: SINGLE FACE; CEILING MOUNTED
	EXIT SIGN: SINGLE FACE; WALL MOUNTED
	EXIT SIGN: DOUBLE FACE; CEILING MOUNTED
	EXIT SIGN: DOUBLE FACE; WALL MOUNTED
LIGHTING CONTROL	
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, DIRECTIONAL.
P	PHOTOCELL.
P	PHOTOCELL, WALL MOUNTED.
	VACANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	CEILING FAN.
a,b	LOW VOLTAGE DIGITAL LIGHTING CONTROL SWITCH: LETTER "a,b" INDICATES ZONING WHERE SHOWN (REFER TO PLANS, SCHEDULES, AND DETAILS FOR EXACT BUTTON CONFIGURATION AND PROGRAMMING REQUIREMENTS)
RC	DIGITAL LIGHTING ROOM CONTROLLER
DC	DIGITAL LIGHTING DIMMING CONTROLLER
ET	LIGHTING EMERGENCY TRANSFER DEVICE
X	LIGHTING SPACE CONTROL TYPE. X INDICATES TYPE. SEE SCHEDULE / DIAGRAM.

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
ELECTRICAL POWER AND DISTRIBUTION	
225/3 "1H" 225/3	PANELBOARD WITH MAIN LUGS ONLY AND SURGE PROTECTION WITH CIRCUIT BREAKER (ONE-LINE DIAGRAM).
225/3 "1H" 225/3 "1H"	PANELBOARD WITH SUB FEED LUGS (ONE-LINE DIAGRAM).
225/3 "1H" "1H"	PANELBOARD WITH CIRCUIT BREAKER AND SUB FEED LUGS (ONE-LINE DIAGRAM).
	CT CABINET PER UTILITY'S REQUIREMENTS (ONE-LINE DIAGRAM).
	CT CABINET PER UTILITY'S REQUIREMENTS (ONE-LINE DIAGRAM).
	EARTH GROUND (ONE-LINE DIAGRAM).
M	METER.
BBF	BROAD BAND FILTER (ONE-LINE DIAGRAM).
VFC VFD	VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).
	DISCONNECT SWITCH, FUSED.
	DISCONNECT SWITCH, UNFUSED.
	STARTER, COMBINATION WITH DISCONNECT SWITCH.
	STARTER OR MOTOR CONTROLLER.
	PUSHBUTTON.
	PUSHBUTTONS, MOTOR CONTROL.
	PANELBOARD CABINET, FLUSH MOUNTED.
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.
DP#__	DISTRIBUTION PANEL OR SWITCHBOARD.
LP	LIGHTING RELAY, CONTACTOR PANEL, OR DIMMING ENCLOSURE.
$ST	SWITCH, TOGGLE MOTOR STARTER WITH OVERLOAD PROTECTION.
	TRANSFORMER (SEE ONE-LINE FOR SIZE)
WIRING DEVICES	
	RECEPTACLE, DUPLEX: NEMA 5-20R.
A	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.
DF	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN: CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL/PLUMBING SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.
W	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WET LABEL, "WEATHERPROOF IN USE": NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
WP	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WEATHERPROOF: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX: NEMA 5-20R.
	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
	SWITCH, DIMMER.
X $	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X $2	SWITCH, DOUBLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X $3	SWITCH, THREE-WAY ("x" INDICATES FIXTURES CONTROLLED).
X $4	SWITCH, FOUR-WAY ("x" INDICATES FIXTURES CONTROLLED).
FIRE ALARM	
FAA	FIRE ALARM ANNUNCIATOR PANEL.
FACP	FIRE ALARM CONTROL PANEL, SEMI-RECESSED.
CM	CONTROL MODULE.
MM	MONITOR MODULE.
F	FIRE ALARM MANUAL PULL STATION.
R	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
	DETECTOR, SMOKE.
H	DETECTOR, SMOKE, WALL MOUNTED.
	DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
SD	SMOKE DAMPER. 120V POWER FROM ELECTRICAL SYSTEM.
FSD	COMBINATION FIRE/SMOKE DAMPER. 120V POWER FROM ELECTRICAL SYSTEM.
	DETECTOR, HEAT.
CO	DETECTOR, CARBON MONOXIDE.
WP	ALARM, HORN/SPEAKER, WALL MOUNTED, WEATHERPROOF.
	ALARM, HORN/STROBE, WALL MOUNTED, ONE ASSEMBLY.
75	ALARM, HORN/STROBE, WALL MOUNTED, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
75	ALARM, STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

1P	SINGLE POLE	kVAR	KILOVOLT AMPERE REACTIVE
1PH	SINGLE-PHASE	kW	KILOWATT
1WAY	ONE-WAY	kWh	KILOWATT HOUR
2/C	TWO-CONDUCTOR	LED	LIGHT EMITTING DIODE
2WAY	TWO-WAY	LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
3/C	THREE-CONDUCTOR	LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
3WAY	THREE-WAY	LPS	LOW PRESSURE SODIUM
4OUT	QUADRUPLE RECEPTACLE OUTLET	LRA	LOCKED ROTOR AMPS
4PDT	FOUR-POLE DOUBLE THROW	LTG	LIGHTING
4PST	FOUR-POLE SINGLE THROW	LV	LOW VOLTAGE
4W	FOUR-WIRE	MATV	MASTER ANTENNA TELEVISION SYSTEM
4WAY	FOUR-WAY	MAX	MAXIMUM
A	ABOVE COUNTER	MC	METAL CLAD
AC	ARMORED CABLE	MCA	MINIMUM CIRCUIT AMPS
ADA	AMERICANS WITH DISABILITIES ACT	MCB	MAIN CIRCUIT BREAKER
ADJ	ADJACENT	MCC	MOTOR CONTROL CENTER
AFF	ABOVE FINISHED FLOOR	MCP	MOTOR CIRCUIT PROTECTION
AFG	ABOVE FINISHED GRADE	MDP	MAIN DISTRIBUTION PANEL
AIC	AMPERE INTERRUPTING CAPACITY	MG	MOTOR GENERATOR
ALUM	ALUMINUM	MH	MANHOLE
AMP	AMPERE	MIN	MINIMUM
ANN	ANNUNCIATOR	MLO	MAIN LUGS ONLY
AP	ACCESS POINT (WIRELESS DATA)	MOCP	MAXIMUM OVERCURRENT PROTECTION
AR	AS REQUIRED	MTS	MANUAL TRANSFER SWITCH
ASC	AMPS SHORT CIRCUIT	NA	NOT APPLICABLE
ATS	AUTOMATIC TRANSFER SWITCH	NC	NORMALLY CLOSED
AV	AUDIO VISUAL	NEC	NATIONAL ELECTRICAL CODE
AWG	AMERICAN WIRE GAGE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
BB	BUCK-BOOST TRANSFORMER	NFC	NATIONAL FIRE CODE
XFMR		NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
BFF	BELOW FINISHED FLOOR	NIC	NOT IN CONTRACT
BFG	BELOW FINISHED GRADE	NL	NIGHT LIGHT
C	CEILING MOUNTED	NO	NORMALLY OPEN
CAT	CATEGORY	NTS	NOT TO SCALE
CATV	COMMUNITY ANTENNA TELEVISION	OC	ON CENTER
CB	CIRCUIT BREAKER	OCP	OVER CURRENT PROTECTION
CCBA	CUSTOM COLOR AS SELECTED BY ARCHITECT	OE	OWNER ELECTRONICS
CCTV	CLOSED CIRCUIT TELEVISION	OF/CI	OWNER FURNISHED/ CONTRACTOR INSTALLED
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	OF/OI	OWNER FURNISHED/ OWNER INSTALLED
CF/OI	CONTRACTOR FURNISHED/ OWNER INSTALLED	OFP	OBTAIN FROM PLANS
CFBA	CUSTOM FINISH AS SELECTED BY ARCHITECT	OH DR	OVERHEAD (COILING) DOOR
CKT	CIRCUIT	OL	OVERLOAD
CM	CONSTRUCTION MANAGER	PB	PUSHBUTTON
CND	CONDUIT	PF	POWER FACTOR
CO	CONVENIENCE OUTLET	PH	PHASE
COR	CONTRACTING OFFICER'S REPRESENTATIVE	PNL	PANEL
CP	CONTROL PANEL	PNM	PLENUM
CT	CURRENT TRANSFORMER	PR	PAIR
CTV	CABLE TELEVISION	PS	POWER SUPPLY
CU	COPPER	PT	POTENTIAL TRANSFORMER
dBA	UNIT OF SOUND LEVEL	PTZ	PAN/TILT/ZOOM
DPDT	DOUBLE POLE, DOUBLE THROW	PV	PHOTO VOLTAIC
DS	DISCONNECT SWITCH	QTY	QUANTITY
E	ENHANCED	R	REMOVE
EA	EACH	RCP	REFLECTED CEILING PLAN
EM	EMERGENCY	RMC	RIGID METAL CONDUIT
EMT	ELECTRICAL METALLIC TUBING	RNC	RIGID NONMETAL CONDUIT
ENT	ELECTRIC NONMETALLIC TUBING	RPM	REVOLUTIONS PER MINUTE
EPO	EMERGENCY POWER OFF	RPP	RISER PATCH PANEL
EQUIP	EQUIPMENT	RR	REMOVE AND RELOCATE
ER	EQUIPMENT ROOM	S/S	START/STOP
EX	EXISTING	SCA	SHORT CIRCUIT AMPS
F	FURNITURE MOUNTED	SCBA	STANDARD COLOR AS SELECTED BY ARCHITECT
FA	FIRE ALARM	SF	SQUARE FOOT (FEET)
FCP	FIRE ALARM CONTROL PANEL	SFBA	STANDARD FINISH AS SELECTED BY ARCHITECT
FLA	FULL LOAD AMPS	SPD	SURGE PROTECTIVE DEVICE
FMC	FLEXIBLE METAL CONDUIT	SPDT	SINGLE POLE, DOUBLE THROW
FOB	FREIGHT ON BOARD	SPEC	SPECIFICATION
FPP	FIBER PATCH PANEL	SPP	STATION PATCH PANEL
FVNR	FULL VOLTAGE NON-REVERSING	SPST	SINGLE POLE, SINGLE THROW
FVR	FULL VOLTAGE REVERSING	ST	SINGLE THROW
GEN	GENERATOR	SWBD	SWITCHBOARD
GFCI	GROUND FAULT INTERRUPTER	SWGR	SWITCHGEAR
GFP	GROUND FAULT PROTECTION	TL	TWIST LOCK
GIG	GIGA HERTZ	TP	TELEPHONE POLE
GND	GROUND	TP	TWISTED PAIR
HD	HEAVY DUTY	TR	TELECOMMMUNICATIONS ROOM
HID	HIGH INTENSITY DISCHARGE	TTB	TELEPHONE TERMINAL BOARD
HOA	HAND-OFF-AUTOMATIC	TV	TELEVISION
HP	HORSE POWER	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
HPF	HIGH POWER FACTOR	TYP	TYPICAL
HPS	HIGH PRESSURE SODIUM	UF	UNDERFLOOR
HV	HIGH VOLTAGE	UGND	UNDERGROUND
HWM	HORIZONTAL WIRE MANAGEMENT	UPS	UNINTERRUPTIBLE POWER SUPPLY
HZ	HERTZ	V	VOLTS
I/O	INPUT/ OUTPUT	VA	VOLT AMPERE
IG	ISOLATED GROUND	VFC/VF D	VARIABLE FREQUENCY MOTOR CONTROLLER
IMC	INTERMEDIATE METAL CONDUIT	VWM	VERTICAL WIRE MANAGEMENT
IN/IS	INSULATED/ ISOLATED	W/	WITH
IR	INFRARED	W/O	WITHOUT
J-BOX	JUNCTION BOX	WP	WEATHERPROOF
kV	KILOVOLT	WPP	WIRELESS PATCH PANEL
kVA	KILOVOLT AMPERE	XFMR	TRANSFORMER

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC...

GENERAL ELECTRICAL NOTES

1. CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC, SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.

2. OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM.
   A. THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT.
   B. THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE OWNER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER.
   C. THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE.THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGE FROM EXPOSURE TO THE ELEMENTS, AND TO REPAIR OR REPLACE ITEMS DAMAGED AS A RESULT OF HIS OPERATIONS.

3. EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN EXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONDITIONS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT.

4. SUBMITTALS: PROVIDE ORIGINAL ELECTRONIC PDF FORMAT, BOUND, BOOKMARKED (EACH SECTION AND PRODUCT), AND HIGHLIGHTED. JOB NAME AND SUBCONTRACTOR SHALL BE ON THE FRONT COVER. PREPARE INDEX OF EQUIPMENT SUBMITTED IN EACH TAB.

5. REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

6. ALL WORK SHALL BE DONE ACCORDING TO THE CURRENT NATIONAL ELECTRIC CODE (NEC), IBC, NFPA, AND IFC. COMPLIANCE AND FINAL APPROVAL IS SUBJECT TO THE ON SITE FIELD INSPECTION OF THE AHJ.

SITE COORDINATION

THE LOCATION, CAPACITY, AND VOLTAGE OF THE LINES ARE ALL IN ACCORDANCE WITH DATA GIVEN THIS OFFICE BY THE UTILITY COMPANY. COORDINATE WITH THE LOCAL UTILITY COMPANY FOR THE INSTALLATION OF THE ELECTRICAL SERVICE. COMPLY WITH UTILITY REGULATIONS. REPORT DISCREPANCIES TO THE ENGINEER.

ELECTRIC UTILITY

ROCKY MOUNTAIN POWER
ADDRESS

PERSON CONTACTED: SYDNEE MORKEL
DATE: 2024-05-24
PHONE NUMBER: (801)220-6223
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LICENSED PROFESSIONAL ENGINEER
No. 7258080
SPENCER C
LITTLE
2025-01-31
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed by Washington
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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project:

USU BASTIAN CENTER

[SET PROJECT INFORMATION ADDRESS TEXT FIELD AND SET LOCATION UNDER ENERGY SETTINGS IF APPLICABLE]

project#: 24.0170
date: JANUARY 31, 2025

revisions :

1	Revision 1	Date 1

title:

ELECTRICAL COVER SHEET

sheet:

EE001

CD SET

AV RACEWAY SYSTEMS SCHEDULE

SYMBOL	DESCRIPTION	MOUNTING (UNLESS OTHERWISE NOTED ON DRAWINGS)
2B	4-11/16" BOX, MAXIMUM DEPTH FOR STUD SPACE, W/ 2-GANG MUD RING. COVER EACH JUNCTION BOX WITH A BLANK PLATE.	RECESSED IN WALL/MILLWORK AT ELECTRICAL OUTLET HEIGHT UNLESS NOTED OTHERWISE ON DRAWINGS
14B	14.5" SQUARE JUNCTION BOX w/ COVER	RECESSED IN WALL AT 8" AFF TO THE BOTTOM OF THE BOX
TP	4-11/16" BOX, MAXIMUM DEPTH FOR STUD SPACE, W/ 2-GANG MUD RING. COVER EACH JUNCTION BOX WITH A BLANK PLATE.	RECESSED IN WALL AT ELECTRICAL SWITCH HEIGHT
PT#	POKE THRU BOX, REFER TO ELECTRICAL SCHEDULES (SHEET EP610.3) FOR REQUIREMENTS	RECESSED IN FLOOR
FB#	FLOOR BOX, REFER TO ELECTRICAL SCHEDULES (SHEET EP610.3) FOR REQUIREMENTS	RECESSED IN FLOOR
	LADDER RACK, 18" WIDE WITH ALL REQUIRED MOUNTING ACCESSORIES, SIDE DROP, END CAPS, ETC., MIDDLE ATLANTIC CLB-10-W18 / CLH-RSJ / CLB-TSB-W18 / CLH-HTS / CLH-ED11 / CLH-ARD-18 / CLH-RWC / CLH-RES / CLH-WRS-W18 / CLH-EC-18	AFFIXED TO WALL
	3/4" PLYWOOD, FIRE TREATED AND PAINTED, SEE SPECIFICATIONS	SURFACE MOUNTED TO WALL
	RACEWAY, 3/4" MINIMUM, SEE DIV. 26 FOR FULL REQUIREMENTS. REFER TO RISER DIAGRAMS FOR EXACT SIZES	CONCEALED BEHIND FINISHED SURFACES
M	CONDUIT STUB W/ NYLON BUSHING FOR CEILING MOUNTED MICROPHONE	STUB TO WITHIN 12" OF T-BAR GRID ELEVATION
	AV EQUIPMENT RACK, FURNISHED AND INSTALLED BY THE AV CONTRACTOR	FLOOR
	AV EQUIPMENT RACK, FURNISHED AND INSTALLED BY THE AV CONTRACTOR	WALL
	VOICE/DATA EQUIPMENT RACK, FURNISHED AND INSTALLED BY THE VOICE/DATA CONTRACTOR	FLOOR
	CONDUIT STUB W/ NYLON BUSHING	
M#	LARGE CAPACITY JUNCTION BOX W/ FRAME & COVER, CHIEF PAC 526 FCW (FOR MONITORS)	RECESSED IN THE WALL, CENTERED HORIZONTALLY AND VERTICALLY BEHIND MONITORS WHERE SHOWN IN ARCHITECTURAL ELEVATIONS
EP	JUNCTION BOX, 1-GANG, FOR EMITTER PANEL	RECESSED IN THE WALL AT APPROXIMATELY 12" BELOW THE FINISHED CEILING
	JUNCTION BOX, 4-11/16" BOX W/ 2-GANG MUD RING, FOR CAMERA	RECESSED IN THE WALL AT 96" AFF
	JUNCTION BOX, 4-11/16" BOX W/ 1-GANG MUD RING, FOR CAMERA	RECESSED INTO THE FINISHED CEILING
GTR	GUTTER, APPROXIMATELY 8" X 8" X LENGTH REQUIRED FOR COMPLIANCE WITH NEC TO TERMINATE THE SPECIFIED CONDUIT, WITH HINGED COVER	ABOVE THE LAY-IN CEILING AT AN EASILY ACCESSIBLE LOCATION
	GROUND BUS BAR, 4" X 12" X .25", COPPER W/ WALL MOUNT BRACKET, CHATSWORTH 10622-012	SURFACE MOUNTED TO WALL WHERE SHOWN IN DETAILS
	#6 THHN W/ GREEN INSULATION	
S1	SPEAKER ENCLOSURE FOR FULL RANGE COAXIAL SPEAKER, 6.5" DIAMETER LF AND DOME TWEETER HF, w/ MOUNTING ACCESSORIES REQUIRED FOR CEILING TYPE	RECESSED IN FINISHED CEILING
S2	JUNCTION BOX, 2-GANG, FOR FULL RANGE PENDENT MOUNTED, FULL RANGE SPEAKER	MOUNTED TO STRUCTURE ABOVE
S3	SPEAKER ENCLOSURE, FOR SUB WOOFER, 8" DRIVER w/MOUNTING ACCESSORIES REQUIRED FOR CEILING TYPE	RECESSED IN FINISHED CEILING
S4	JUNCTION BOX, 2-GANG, FOR SUB WOOFER PENDENT MOUNTED, FULL RANGE SPEAKER	MOUNTED TO STRUCTURE ABOVE
S5	SPEAKER ENCLOSURE FOR FULL RANGE COAXIAL SPEAKER, 8" DIAMETER LF AND COMPRESSION DRIVER HF, w/ MOUNTING ACCESSORIES REQUIRED FOR CEILING TYPE	RECESSED IN FINISHED CEILING
SM	CONDUIT STUB WITH NYLON BUSHING FOR MASKING SPEAKER EMITTER	RECESSED IN FINISHED CEILING
S	JUNCTION BOX, 1-GANG FOR WALL-MOUNTED, FULL RANGE STEERABLE LINE ARRAY SPEAKER	RECESSED IN THE WALL
S1	JUNCTION BOX, 1-GANG, FOR WALL-MOUNTED, FULL RANGE GENERAL MEDIA SPEAKER	RECESSED IN THE WALL
	JUNCTION BOX, 4-11/16" BOX W/ 2-GANG MUD RING, FOR PROJECTOR	FLUSH IN FINISHED CEILING INSTALLED WITHIN 6" OF THE PROJECTOR MOUNT
	PROJECTION SCREEN, FURNISHED AND INSTALLED BY THE AV CONTRACTOR	FLUSH IN FINISHED CEILING

GENERAL PROJECT AV NOTES

1. IF THE BOXES, ENCLOSURES, & CABINETS SPECIFIED ARE NOT PROVIDED FROM THE MANUFACTURER WITH THE REQUIRED KNOCK OUTS FOR THE SPECIFIED CONDUIT, FIELD CUT ALL REQUIRED KNOCK OUTS TO TERMINATE THE QUANTITY AND SIZES OF THE SPECIFIED CONDUITS.
2. MAINTAIN MAXIMUM SEPARATION BETWEEN A/V SYSTEM CONDUIT AND ALL POWER CONDUIT.
3. INSTALL NYLON PULL STRINGS IN ALL A/V SYSTEM CONDUIT.
4. INSTALL ALL CONDUIT IN A CONCEALED FASHION. SURFACE MOUNTED CONDUIT WILL NOT BE ACCEPTED UNLESS SPECIFICALLY IDENTIFIED IN DRAWINGS.
5. IDENTIFY ALL CONDUIT, BOXES, AND PULL STRINGS IN COMPLIANCE WITH THE SPECIFICATIONS.
6. ABBREVIATIONS:
   AFF - ABOVE FINISHED FLOOR
   C - CONDUIT (EMT)
   EA - EACH
   TYP - TYPICAL
7. COVER ALL INSTALLED JUNCTION BOXES, FLOOR BOX OPENINGS, AND SURFACE RACEWAY DEVICE PLATES WITH BLANK COVERS.
8. FIRE STOP ALL PENETRATIONS THROUGH FIRE RATED SURFACES.
9. FURNISH AND INSTALL ELECTRIC METALLIC TUBE (EMT) CONDUIT. DO NOT PROVIDE FLEXIBLE CONDUIT.
10. INSTALL ALL RACEWAY SYSTEM EQUIPMENT IN COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, INDUSTRY-WIDE ACCEPTED RIGGING PRACTICES AND THE SEISMIC DESIGN CODES AND STANDARDS APPLICABLE TO THE SEISMIC DESIGN CATEGORY FOR THE BUILDING GEOGRAPHICAL LOCATION. DURING THE SUBMITTAL PROCESS, PROVIDE SHOP DRAWINGS WHICH DETAIL PROPOSED MOUNTING SOLUTIONS.
11. INSTALL ALL RACEWAY SYSTEMS IN COMPLIANCE WITH ANSI/EIA/TIA 569-B WHICH INCLUDES, BUT IS NOT LIMITED TO, ANY CONDUIT HAVING NO MORE THAN TWO 90 DEGREE BENDS.
12. INSTALL ALL CONDUIT USING THE SHORTEST POSSIBLE ROUTE BETWEEN THE ORIGIN AND DESTINATION POINTS.
13. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT PLACEMENT AND COORDINATION OF ALL CEILING MOUNTED FIXTURES AND DEVICES.

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LICENSED PROFESSIONAL ENGINEER
No. 7258080
SPENCER C
LITTLE
2025-01-31
STATE OF UTAH

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Reviewed By:
Charles H. Peterson
04/03/2025
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project#: 24.0170
date: JANUARY 31, 2025
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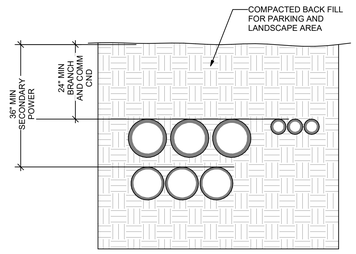
title:

AV ROUGH-IN SCHEDULE AND GENERAL NOTES

sheet:

EE005

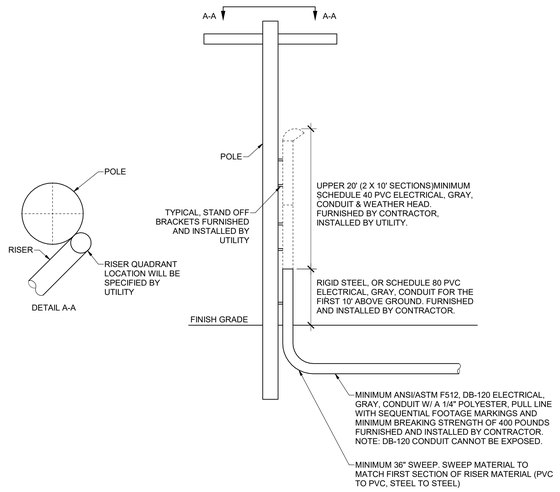
CD SET



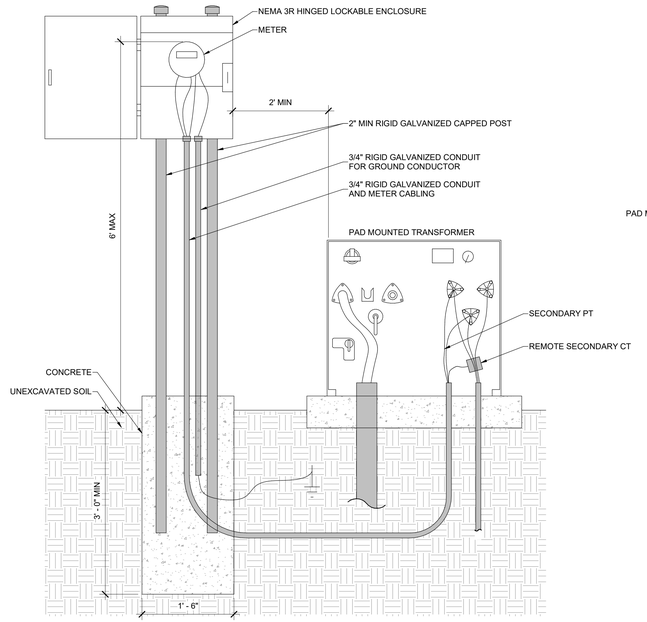
NOTES:

1. ALL BENDS SHALL BE LARGE RADIUS.
2. ALL CONDUIT ABOVE GROUND, ALL BENDS AND FIRST 10' BELOW GROUND SHALL BE PVC WRAPPED RMC. CONDUIT BELOW GROUND MAY BE PVC.
3. PROVIDE POLYPROPYLENE PULL ROPE IN EMPTY CONDUITS.

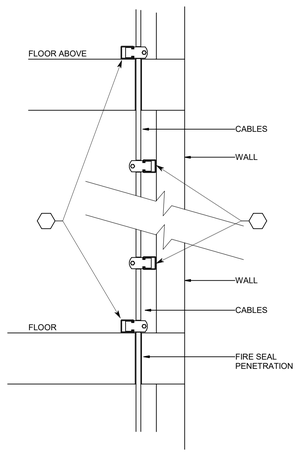
D1 TYPICAL CONDUIT DIRECT BURY DETAIL
SCALE: NTS



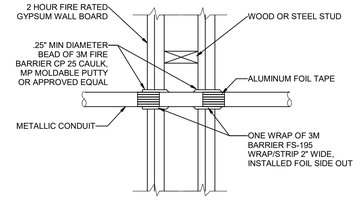
D2 POWER POLE CONDUIT RISER DETAIL
SCALE: NTS



D4 TYPICAL FREE STANDING METER BASE DETAIL
SCALE: NTS

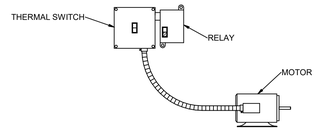


B1 CABLE SUPPORT DETAIL
SCALE: NTS

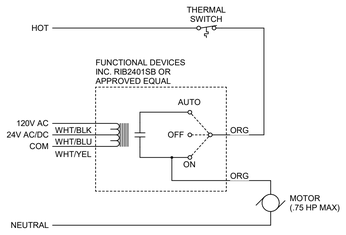


B3 FIRE STOP FOR METAL CONDUIT THROUGH GYPSUM WALL BOARD
SCALE: NTS

NOTE: THERMAL SWITCH AND RELAY MUST BE MOUNTED WITHIN SIGHT OF MOTOR BEING CONTROLLED.

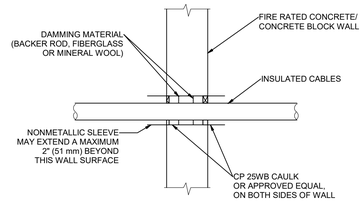


LAYOUT DIAGRAM

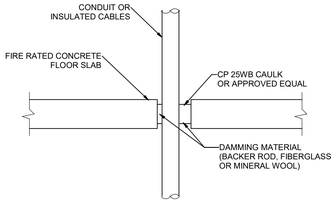


SCHEMATIC DIAGRAM

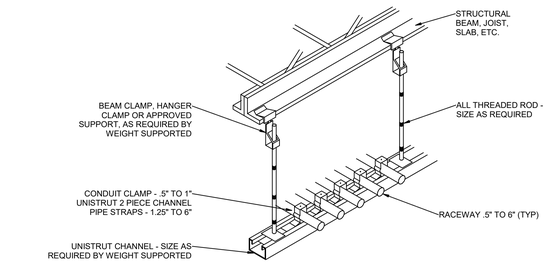
C4 120V FRACTIONAL MOTOR CONTROL
SCALE: NTS



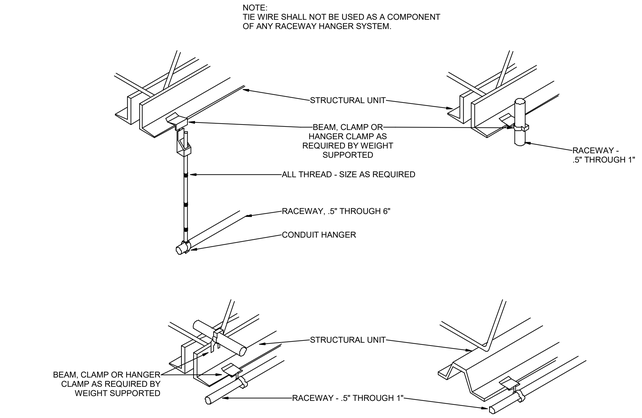
B5 TYPICAL FIRE STOP FOR CABLES/CONDUIT THROUGH CONCRETE WALLS
SCALE: NTS



A5 TYPICAL FIRE STOP FOR CABLES/CONDUIT THROUGH CONCRETE FLOORING
SCALE: NTS



A1 TYPICAL CONDUIT RACK DETAIL
SCALE: NTS



A3 TYPICAL RACEWAY SUPPORT METHODS DETAIL
SCALE: NTS

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title:

ELECTRICAL DETAILS

sheet:

EE501

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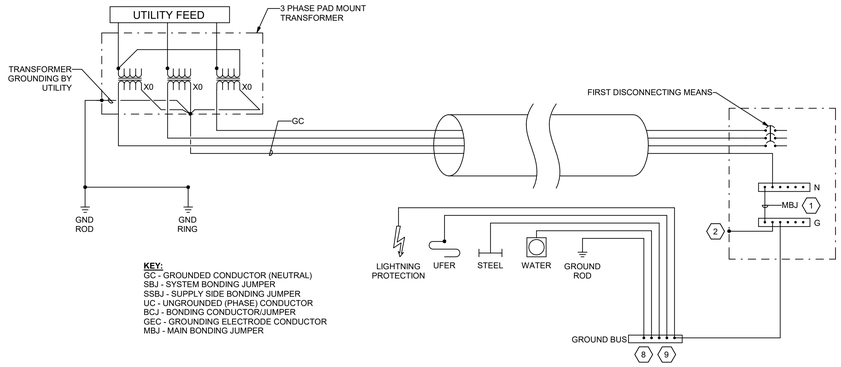
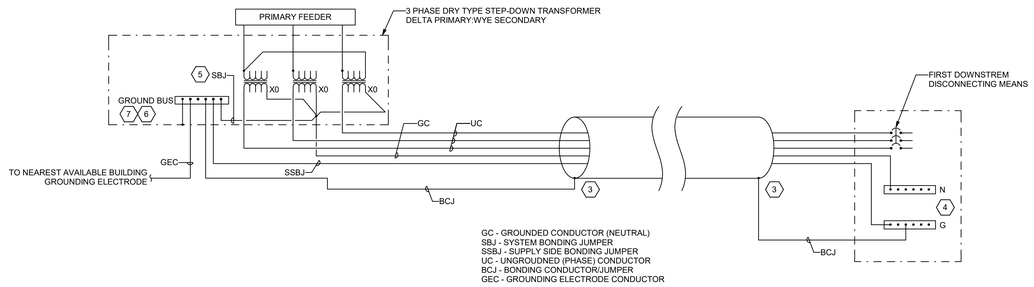


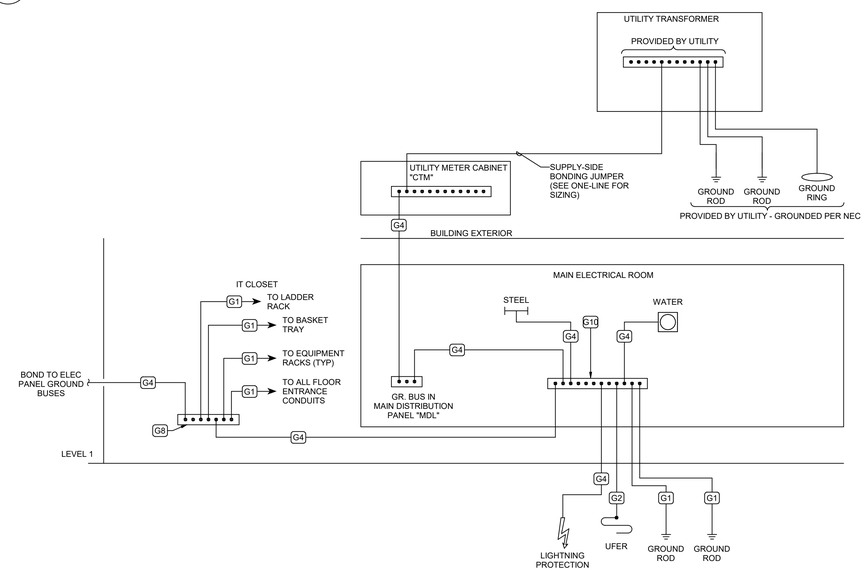
TYPICAL OUTDOOR UTILITY TRANSFORMER SEPARATELY DERIVED SYSTEM GROUNDING AND BONDING DETAIL

D1 SCALE: NTS



TYPICAL INDOOR STEP-DOWN TRANSFORMER SEPARATELY DERIVED SYSTEM GROUNDING AND BONDING DETAIL

B1 SCALE: NTS



GROUNDING RISER DIAGRAM

A1 SCALE: NTS

SHEET KEYNOTES

1. NEUTRAL TO GROUND BOND HERE.
2. BOND TO METAL ENCLOSURE.
3. BOND METAL RACEWAY.
4. NO NEUTRAL TO GROUND BOND WITHIN GEAR, REMOVE NEUTRAL TO GROUND BOND CONNECTION IF IT EXISTS.
5. SYSTEM BONDING JUMPER BONDING TRANSFORMER X0 TERMINAL TO TRANSFORMER ENCLOSURE / GROUND BUS.
6. EQUIPMENT GROUND BOND TO ENCLOSURE.
7. BOND TO TRANSFORMER ENCLOSURE WITH #4/0 CU.
8. COMMON BUILDING GROUNDING ELECTRODE BUS.
9. BOND ALL AVAILABLE GROUNDING ELECTRODES AT BUILDING.

G# GROUNDING SCHEDULE NOTES

1. ALL CONDUCTORS ARE INSULATED UNLESS INDICATED OTHERWISE.
2. REFER TO ONE LINE AND ET SHEETS FOR ADDITIONAL GROUNDING REQUIREMENTS. WHERE DISCREPANCIES ARE FOUND, CONTRACTOR SHALL PROVIDE LARGEST GROUND CABLE SIZE.

SYMBOL	SIZE / DESCRIPTION
G1	#6 CU.
G2	#4 CU.
G4	#4/0 CU.
G8	12"X2"X1/4" COPPER BUS WITH PRE-DRILLED HOLES MOUNTED ON INSULATORS IN ELECTRICAL & TELECOMM CLOSETS. PART #: TMGB/TGB TYP.
G10	16"X4"X1/4" COPPER BUS WITH PRE-DRILLED HOLES MOUNTED ON INSULATORS. PART #: TMGB

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title:

GROUNDING RISER DIAGRAM

sheet:

EE601

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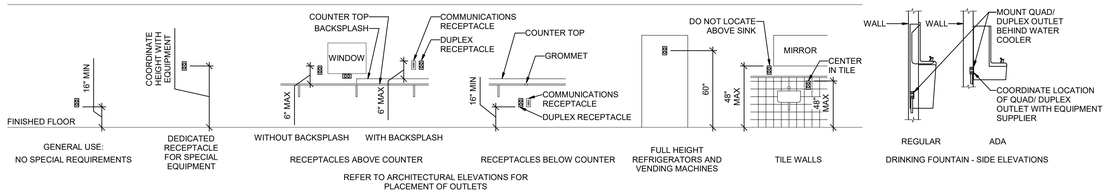
GENERAL SHEET NOTES

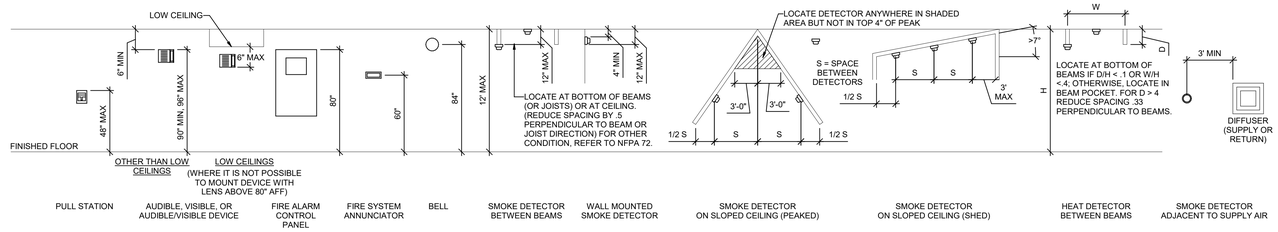
1. MOUNTING HEIGHTS OF ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE FOLLOWING ORDER OF PRIORITY:
   A - ELEVATIONS (ARCHITECTURAL, ELECTRICAL, MECHANICAL, ETC).
   B - EQUIPMENT SHOP DRAWINGS.
   C - FIELD INSTRUCTIONS.
2. LOCATE RECEPTACLES SERVING THE SAME TYPE OF USE AT A UNIFORM HEIGHT UNLESS DIRECTED OTHERWISE.
3. MECHANICAL, ELECTRICAL, AND COMMUNICATION ROOMS: COORDINATE LOCATION OF LIGHTING AND POWER RECEPTACLES WITH EQUIPMENT, PIPING, AND DUCTWORK. DO NOT INSTALL RECEPTACLES BEHIND EQUIPMENT OR WHERE OTHERWISE INACCESSIBLE. POSITION LIGHTING REGARDLESS OF WHERE SHOWN ON DRAWING TO PROVIDE PROPER ILLUMINATION.
4. MOUNT RECEPTACLE BOXES FOR SWITCHES AND RECEPTACLES WITH LONG AXIS OF THE DEVICE VERTICAL UNLESS OTHERWISE INDICATED.
5. SET BOXES WITH PLASTER RINGS FLUSH WITH FINISHED SURFACE.
6. LOCATE BOX COVERS OR DEVICE PLATES SO THEY WILL NOT SPAN DIFFERENT TYPES OF BUILDING FINISHES EITHER VERTICALLY OR HORIZONTALLY.
7. VERIFY ALL DOOR CONDITIONS ON ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING SWITCHES.
8. LOCATE WIRING DEVICES WHICH ARE ADJACENT AND ARE COMPATIBLE VOLTAGES IN ONE PLATE.
9. WHERE DEVICES ARE LOCATED IN CLOSE PROXIMITY OF THE SAME VERTICAL PLANE, ALIGN DEVICES VERTICALLY PER THE TYPICAL WALL MOUNTED DEVICES ALIGNMENT DETAIL, UNLESS OTHERWISE INDICATED.



REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS

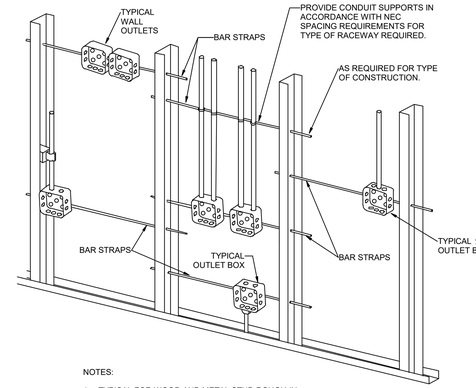
D1 RECEPTACLE MOUNTING DETAILS

SCALE: NTS



C1 FIRE ALARM MOUNTING DETAILS

SCALE: NTS

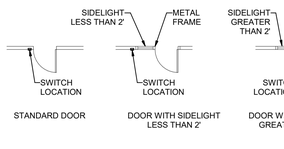


NOTES:

1. TYPICAL FOR WOOD AND METAL STUD ROUGH-IN.
2. PLASTER RINGS NOT SHOWN.
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. IN ACCORDANCE WITH IBC 714.3.2 EXCEPTION 1, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE IN A RATED FIRE SEPARATION WALL MUST BE SEPARATED BY A MINIMUM OF 24" HORIZONTAL DISTANCE OR LISTED, SOUND AND FIRE RATED PUTTY PADS SHALL BE USED ON THE OUTLET BOXES.
5. IN NON-RATED WALLS, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY 16" FOR SOUND ATTENUATION.

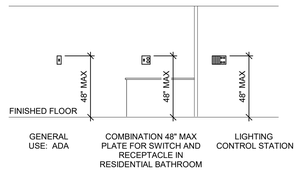
C5 TYPICAL ROUGH-IN REQUIREMENTS DETAIL

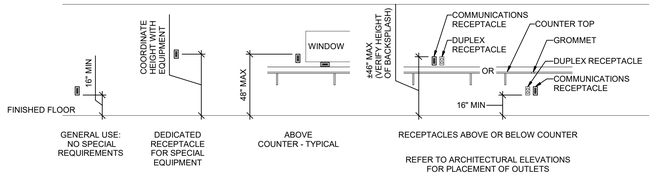
SCALE: NTS



B1 SWITCH MOUNTING DETAILS

SCALE: NTS





B4 COMMUNICATIONS MOUNTING DETAILS

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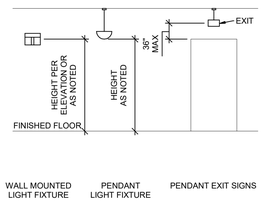
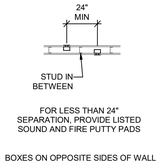


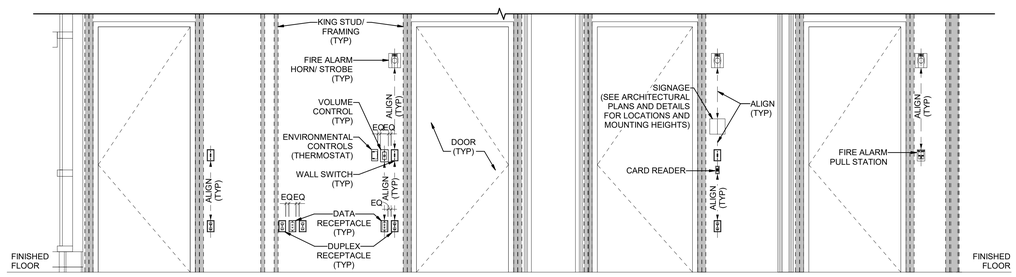


A1 LIGHTING MOUNTING DETAILS

SCALE: NTS

A2 BOX MOUNTING DETAILS

SCALE: NTS



A3 TYPICAL WALL MOUNTED DEVICES ALIGNMENT DETAIL

SCALE: NTS

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TYPICAL MOUNTING DETAILS

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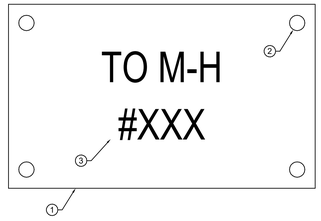
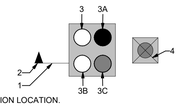
1. DUCTBANK LABEL TO BE PROVIDED AT EACH DUCTBANK START AND END LOCATIONS AS WELL AS AT EACH MANHOLE ENTRANCE AND EXIT THAT WORK IS HAPPENING AT IN PROJECT. LABEL IS TO BE 3" X 5" X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER YELLOW PLY, EXPOSING BLACK PLY BENEATH.
2. LABEL IS TO BE MOUNTED USING 1/4" PLASTIC ANCHORS. LABEL IS TO BE LOCATED DIRECTLY ADJACENT TO THE DUCTBANK IN A WAY TO CLEARLY INDICATE WHICH DUCTBANK THE LABEL IS DEFINING.
3. LETTERING IS TO BE 1/2" HIGH, CENTERED, AND FORMATTED AS SHOWN. "TO M-H #XXX" IS TO BE REPLACE WITH THE DESTINATION OF THE DUCTBANK, SUCH AS THE NEXT MANHOLE, A VAULT, OR A PAD. CONFIRM NAME WITH OWNER PRIOR TO ORDERING.



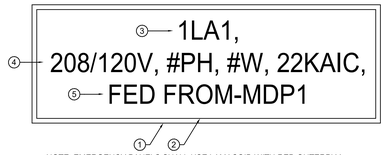
C1 DUCTBANK LABEL
SCALE: NTS



1. INDICATES SECTION LOCATION.
2. ARROW INDICATES THE DIRECTION DETAIL IS LOOKING ALONG DUCTBANK.
3. CIRCLES INDICATE NUMBER OF CONDUITS IN DUCTBANK.
   3A. DARK FILLED CONDUIT INDICATES A CONDUIT WITH NEW CABLING IN CONDUIT.
   3B. CONDUIT WITH NO FILL INDICATES AN EMPTY CONDUIT.
   3C. LIGHT FILLED CONDUIT INDICATES A CONDUIT WITH EXISTING CABLING IN CONDUIT.
4. X IN DUCTBANK INDICATES CABLING TO BE DEMOLISHED

C2 DUCTBANK SECTION LEGEND
SCALE: NTS

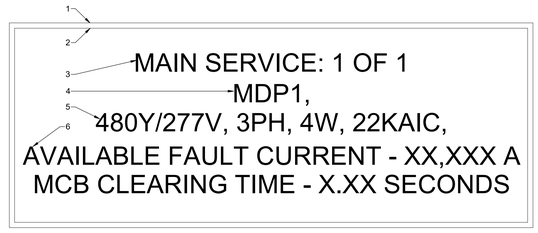
1. LABEL TO BE PROVIDED AT EACH SWITCHBOARD, PANELBOARD, DISCONNECT/STARTER. LABEL IS TO BE 3" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH.
2. LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
3. FIRST LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. REPLACE THE LETTER/NUMBER WITH THOSE FOUND ON THE ONE-LINE DIAGRAM.
4. SECOND LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED, VOLTAGE, PHASE, NUMBER OF WIRES, AND AIC RATING OF DEVICE.
5. THIRD LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. PROVIDE "FED FROM-" AND REPLACE MDP1 WITH THE DEVICES NAME THAT FEEDS THE PANELBOARD.



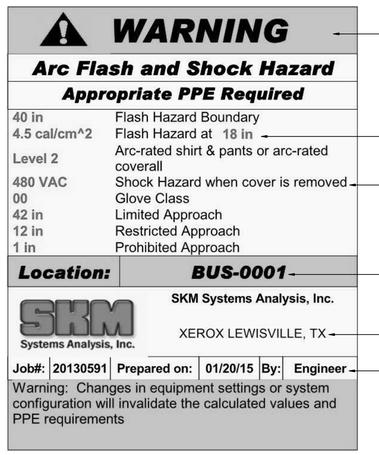
NOTE: EMERGENCY PANELS SHALL USE LAMACOID WITH RED OUTERPLY, EXPOSING WHITE LETTERING BENEATH. CONTRACTOR TO USE SAME LABEL SCHEME EXCEPT FIRST 'X' IS REPLACED WITH 'E' FOR EMERGENCY. SECOND 'X' TO BE 'L' FOR LOW OR 'H' FOR HIGH VOLTAGE (480/277V), LAST '#' TO BE REPLACED WITH LETTER INDICATING LOCATION OF PANEL.

D4 TYPICAL PANELBOARD/SWITCHBOARD LABEL
SCALE: NTS

NOTES:
1. LABEL TO BE PROVIDED THAT IS TO BE 4" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH
2. LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL
3. FIRST LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATED AS SHOWN. LABEL WITH THE NUMBER OF SERVICES AS SHOWN ON THE ONE-LINE
4. SECOND LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, WITH THE EQUIPMENT ID MATCHIGN PLANS
5. THIRD LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED, VOLTAGE, PHASE, NUMBER OF WIRES, AND AIC RATING OF GEAR
6. FOURTH & FIFTH LINES: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. LABEL WITH ACTUAL AVAILABLE FAULT CURRENT AND ASSOCIATED CLEARING TIME



C4 TYPICAL MAIN SERVICE EQUIPMENT/GEAR LABEL
SCALE: NTS



- SHADED AREAS TO BE ORANGE ALL OTHER TO BE WHITE BACKGROUND
- (TYP) DISTANCES IN INCHES
- COORDINATE VOLTAGE VALUES WITH ONE-LINE
- MATCH NAME OF EQUIPMENT WITH NAMES ON ONE-LINE
- PROVIDE ADDRESS WHERE SKM ANALYTICS IS PERFORMED
- PROVIDE JOB NUMBER "########", DATE OF ANALYSIS AND ENGINEER WHO PERFORMED STUDY

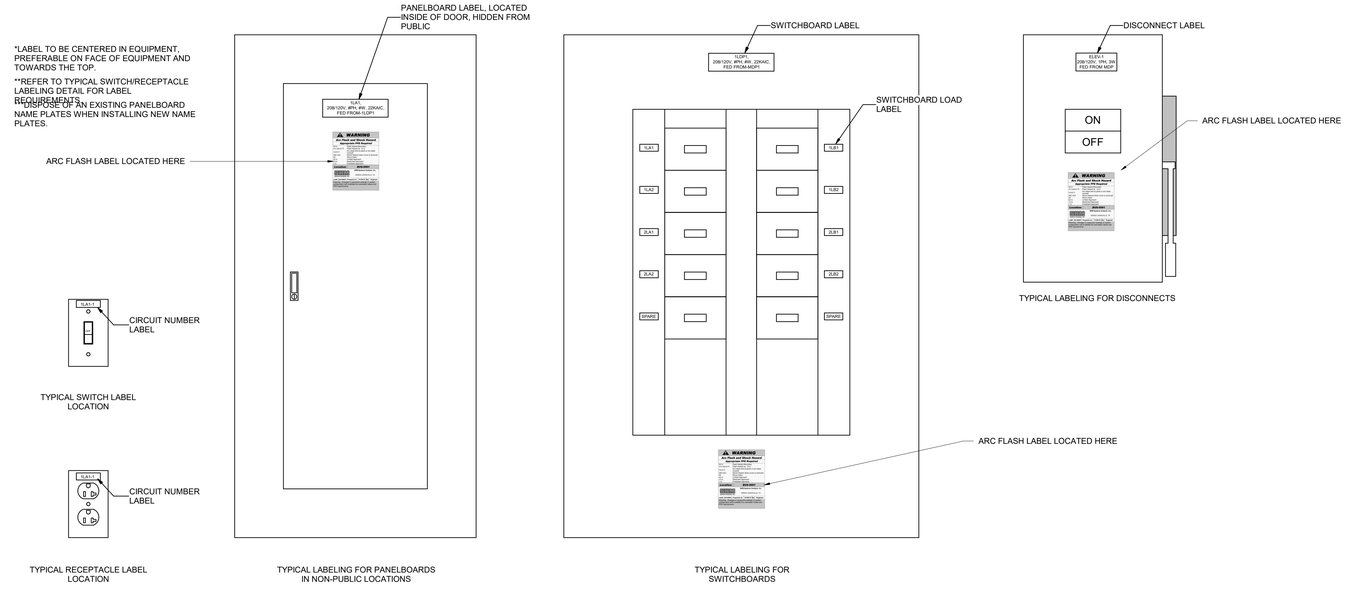
*PROVIDE ARC FLASH LABEL FOR ALL ELECTRICAL EQUIPMENT PER SPECIFICATIONS AND REQUIRED BY NEC

A1 TYPICAL ARC FLASH LABEL
SCALE: NTS

*LABEL TO BE CENTERED IN EQUIPMENT, PREFERABLE ON FACE OF EQUIPMENT AND TOWARDS THE TOP.

**REFER TO TYPICAL SWITCH/RECEPTACLE LABELING DETAIL FOR LABEL REQUIREMENTS.

DISPOSE OF AN EXISTING PANELBOARD NAME PLATES WHEN INSTALLING NEW NAME PLATES.



A3 TYPICAL SWITCH, RECEPTACLE AND PANELBOARD/SWITCHBOARD LABELING LOCATION DETAIL
SCALE: NTS

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LICENSED PROFESSIONAL ENGINEER
No. 7258080
SPENCER C. LITTLE
2025-01-31
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed by: Chadwick W. Patterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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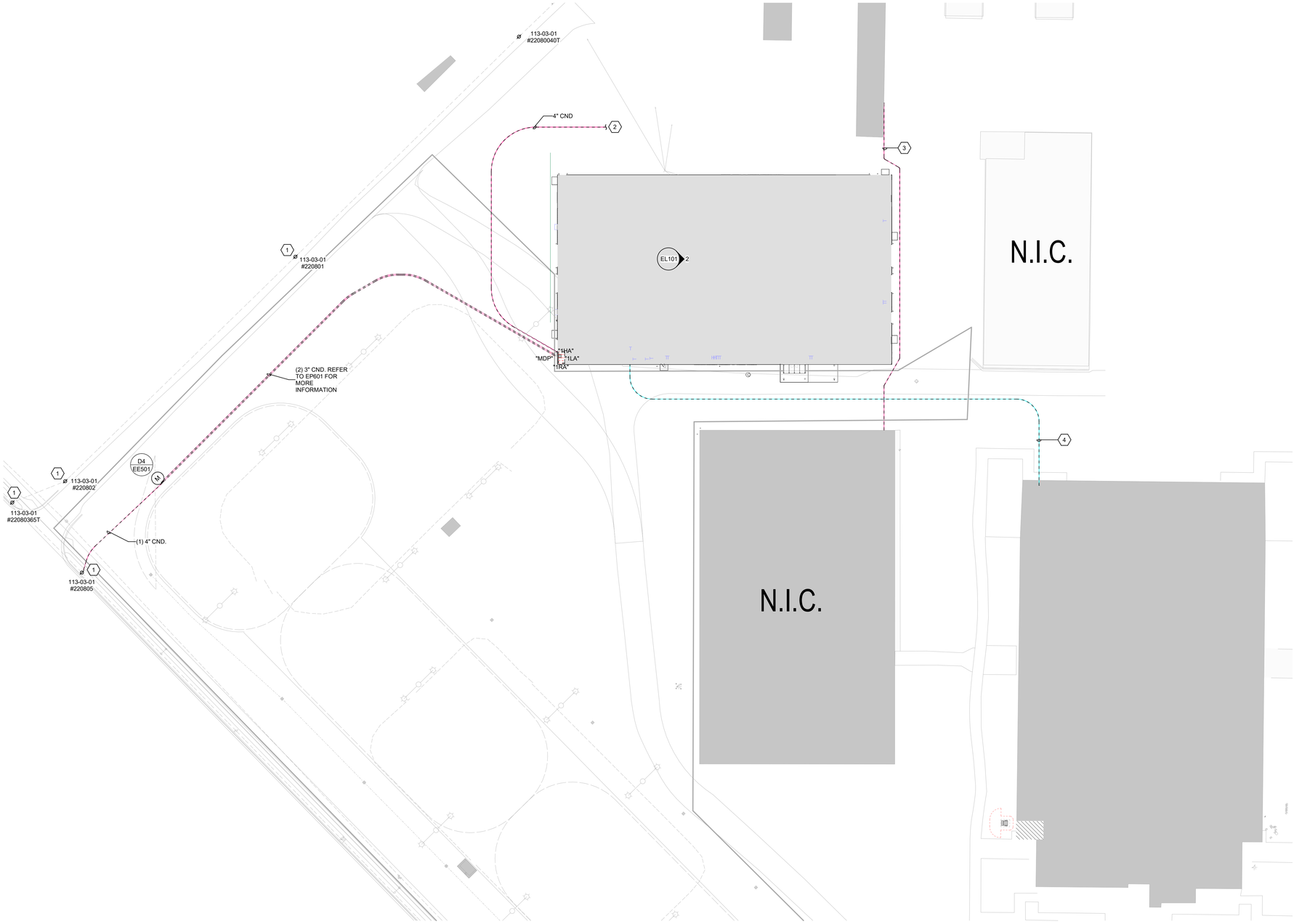
TYPICAL LABELING DETAILS

sheet:

EE701

CD SET



1 ELECTRICAL SITE PLAN
SCALE: 1" = 40'-0"

GENERAL SHEET NOTES

1 THE ELECTRICAL CONTRACTOR SHALL MEET WITH AND COORDINATE WITH ALL SERVICE PROVIDERS (POWER, COMMUNICATION, CABLE/SATELLITE, ETC.) TO THE FACILITY ON SITE PRIOR TO ANY WORK BEING PREFORMED. CONFIRM WITH EACH SERVICE PROVIDER EXACT LOCATIONS OF EQUIPMENT AND ROUTING. COMPLY WITH ALL SERVICE PROVIDER'S CURRENT STANDARDS AND REQUIREMENTS. PROVIDE THE REQUIRED EQUIPMENT, RACEWAYS, BOXES, CABLE, ETC. AS REQUIRED BY THE SERVICE PROVIDER WHETHER SHOWN ON THE DRAWINGS OR NOT.

2 FOR ALL LIGHT FIXTURES, POLE LIGHTS, AND ALL OTHER ELECTRICAL DEVICES THE CONTRACTOR SHALL COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS WITH ARCHITECT, OWNER, ENGINEER, AND ALL OF THE CONTRACT DOCUMENTS PRIOR TO ROUGH IN AND TRENCHING.

3 CONTRACTOR IS RESPONSIBLE FOR ALL TRENCHING, BACKFILL, AND COMPACTION ASSOCIATED TO ALL ELECTRICAL UNDERGROUND RACEWAYS AND CABLES. COORDINATE WITH ARCHITECTURAL AND CIVIL DRAWINGS. SEE UNDERGROUND RACEWAY DETAILS FOR REQUIREMENTS FOR EACH TRENCH.

4 CONTRACTOR SHALL INSTALL POLE MOUNTED LIGHTS IN STRAIGHT LINES, SQUARE, AND PLUMB. COORDINATE WITH ARCHITECT AND CIVIL DRAWINGS.

5 THE ELECTRICAL CONTRACTOR SHALL HAVE ANY AND ALL CONCRETE POLE BASES AND SLABS REVIEWED BY A STRUCTURAL ENGINEER AND SHALL MODIFY DESIGN PER STRUCTURAL ENGINEER'S AND OR AHJ'S RECOMMENDATIONS.

6 PROVIDE BATTERY PACKS IN ALL EXTERIOR FIXTURES ADJACENT TO EGRESS DOORS.

7 PROVIDE PHOTOCELL ON NORTH SIDE OF FACILITY TO CONTROL EXTERIOR LIGHTS.

8 ALL EXTERIOR RECEPTACLES SHOWN SHALL BE NEMA 5-20R GFCI "WEATHER RESISTANT" RECEPTACLE WITH "WEATHER PROOF IN-USE COVER."

9 THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONCRETE/ASPHALT CUTTING AND REPLACEMENT OF CONCRETE/ASPHALT TO MATCH EXISTING ASSOCIATED WITH UNDERGROUND RACEWAYS PROVIDED AS PART OF THIS PROJECT.

10 REFER TO PLANS FOR CONSTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT FALL WITHIN THE CONSTRAINTS OF EACH SPECIFIC LOCATION.

11 PROVIDE SERVICE RATED EQUIPMENT AT EACH SERVICE ENTRANCE.

12 SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT. VERIFY OR RE-CALCULATE THE AVAILABLE FAULT CURRENT AT THE SERVICE WHERE MODIFICATIONS TO THE ELECTRICAL INSTALLATION OCCUR. PLEASE INCLUDE NOTES IN THE ELECTRICAL DRAWINGS OR SUPPLY CALCULATIONS WHERE APPLICABLE. SEE NEC 110.24. (B)

SHEET KEYNOTES

1 APPROXIMATE LOCATION OF EXISTING RMP POWER POLE.

2 STUB (1) 4" CND FOR FUTURE POWER. COORDINATE EXACT LOCATION AND REQUIREMENT WITH OWNER PRIOR TO ROUGH-IN.

3 APPROXIMATE LOCATION OF EXISTING UNDERGROUND CONDUIT. CONTRACTOR IS RESPONSIBLE TO LOCATE, DISCONNECT, AND REROUTE THE EXISTING CONDUIT TO AVOID NEW BUILDING FLOOR PLAN. CONTRACTOR TO EXTEND AND RECONNECT CONDUIT TO PREVIOUS WORKING CONDITIONS.

4 CONTRACTOR TO PROVIDE 4" CND FROM NEW BUILDING TO EXISTING MAIN BUILDING FOR FUTURE TELECOM CONNECTION. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.

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No. 7258080
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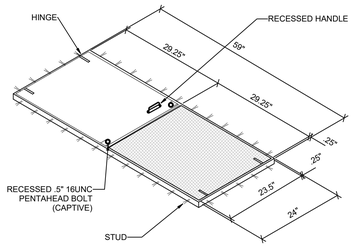
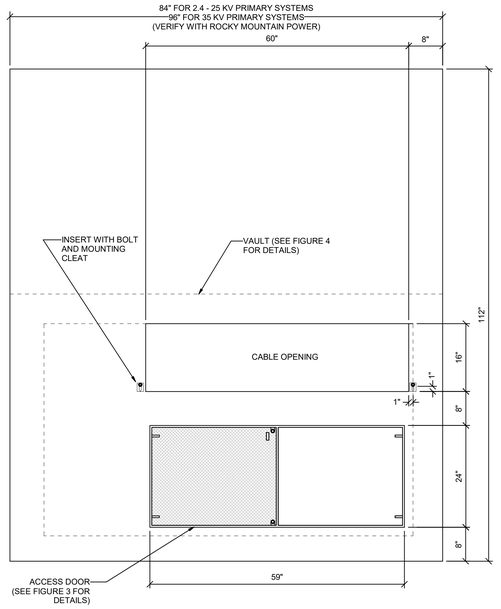


FIGURE 3 - ACCESS DOOR DETAIL



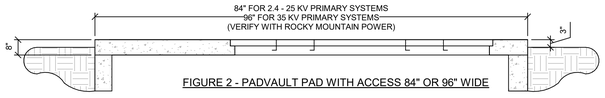
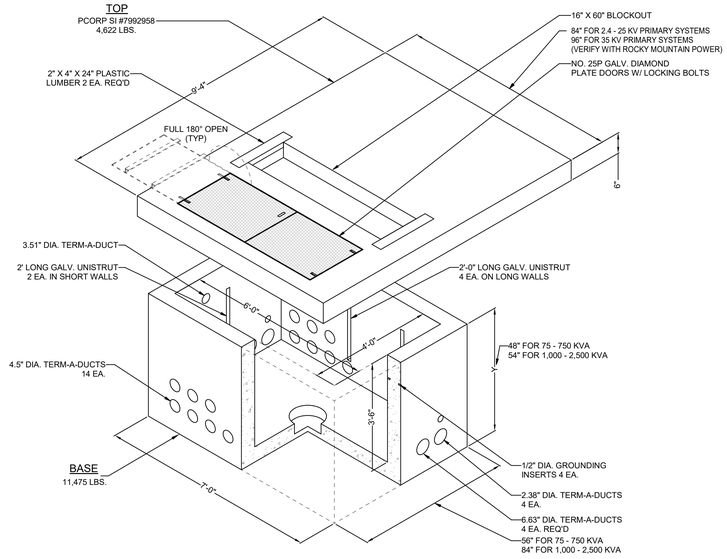


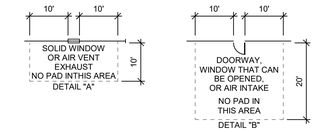
FIGURE 2 - PADVAULT PAD WITH ACCESS 84" OR 96" WIDE

2.4 - 25kV, 3-PHASE TRANSFORMER PADVAULT WITH ACCESS, STOCK ITEM 7992600-STOCK ITEM 1790023



A1 THREE-PHASE TRANSFORMER PADVAULT (ROCKY MOUNTAIN POWER STANDARD)

SCALE: NTS



CLEARANCE GENERAL NOTES:

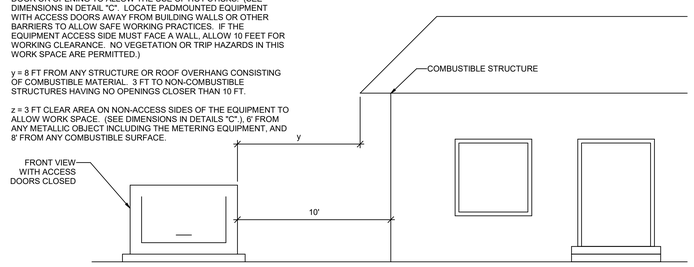
1. CLEARANCES: THE FRONT OF THE PAD SHOULD ALWAYS FACE AWAY FROM ADJACENT STRUCTURES AND BE FREE OF OBSTRUCTIONS. AT LEAST 3 FEET MUST SEPARATE THE EDGES OF THE PAD FROM ANY ADJACENT STRUCTURE. THE EDGES OF THE PAD MUST BE AT LEAST 10 FEET FROM ANY COMBUSTIBLE STRUCTURE. IF AN ADJACENT STRUCTURE HAS ANY OVERHANG OR EAVE WITHIN 27 VERTICAL FEET OF THE TOP OF THE PAD, CLEARANCES MUST BE MEASURED FROM THE OUTSIDE OF THE OVERHANG. THE PAD MUST NOT BE PLACED IN AN AREA 10 FEET IN LINE WITH OR 10 FEET TO EITHER SIDE OF ANY WINDOW IN AN ADJACENT STRUCTURE (SEE DETAIL "A"). CLEARANCE FOR A DOOR MUST BE 20 FEET IN LINE WITH IT AND 10 FEET ON THE SIDES (SEE DETAIL "B"). PADS MUST NOT BE PLACED WITHIN 15 FEET OF ANY VALVE OR WITHIN 25 FEET OF ANY PLUMBING OR STORAGE FACILITY CONTAINING FLAMMABLE MATERIAL. NO WALLS, FENCES, OR ANY OTHER OBSTRUCTIONS WILL BE PLACED WITHIN 3 FEET OF THE SIDES OR BACK OF THE PAD, OR WITHIN 10 FEET OF THE FRONT OF THE PAD (SEE DETAIL "C"). THE AREA IN FRONT OF THE PAD MUST HAVE 10 FEET OF CLEAR, LEVEL, WORKING AREA FOR MAINTENANCE OF THE TRANSFORMER. THE PAD MAY NOT BE PLACED IN LINE WITH AN AIR INTAKE WITHIN 32 VERTICAL FEET OF THE SURFACE PAD. ALSO VERTICALLY, IT MUST NOT BE PLACED WITHIN 12 FEET OF A DOOR OR WINDOW. VAULTS SHALL BE LOCATED WITHIN 15 FEET OF A GRAVELED OR PAVED SURFACE SUITABLE FOR INCIDENTAL HEAVY TRUCK ACCESS.
2. BARRIERS: IF THE TRANSFORMER PAD IS TO BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC, (PARKING LOTS, DRIVEWAYS, ETC) CONTACT ROCKY MOUNTAIN POWER FOR PROTECTIVE BARRIER REQUIREMENTS.
3. IF THE TRANSFORMER WILL NOT COVER THE CABLE OPENINGS ON THESE STANDARD PADS, SEAL THE SIDES OF THE CABLE OPENING TO FIT THE TRANSFORMER USING SACKRETE OR COMPARABLE.

MINIMUM DISTANCE REQUIRED FROM PAD:

x = 10 FT. CLEAR AREA IN FRONT OF, ANY EQUIPMENT ACCESS DOOR OR OPENING TO ALLOW THE USE OF HOT STICKS. (SEE DIMENSIONS IN DETAIL "C". LOCATE PADMOUNTED EQUIPMENT WITH ACCESS DOORS AWAY FROM BUILDING WALLS OR OTHER BARRIERS TO ALLOW SAFE WORKING PRACTICES. IF THE EQUIPMENT ACCESS SIDE MUST FACE A WALL, ALLOW 10 FEET FOR WORKING CLEARANCE. NO VEGETATION OR TRIP HAZARDS IN THIS WORK SPACE ARE PERMITTED.)

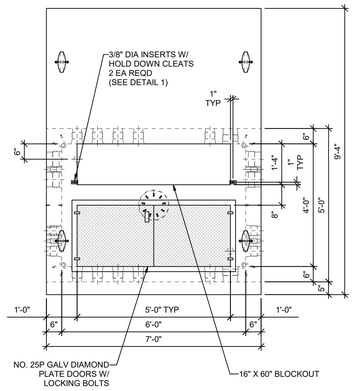
y = 8 FT FROM ANY STRUCTURE OR ROOF OVERHANG CONSISTING OF COMBUSTIBLE MATERIAL. 3 FT TO NON-COMBUSTIBLE STRUCTURES HAVING NO OPENINGS CLOSER THAN 10 FT.

z = 3 FT CLEAR AREA ON NON-ACCESS SIDES OF THE EQUIPMENT TO ALLOW WORK SPACE. (SEE DIMENSIONS IN DETAILS "C".), 6' FROM ANY METALLIC OBJECT INCLUDING THE METERING EQUIPMENT, AND 8' FROM ANY COMBUSTIBLE SURFACE.



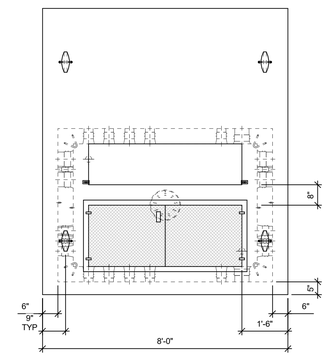
D4 TRANSFORMER CLEARANCE DETAIL

SCALE: NTS



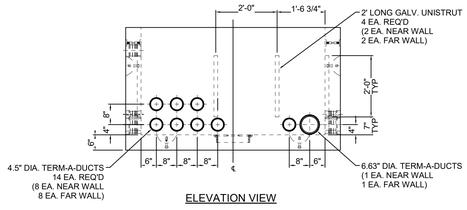
PLAN VIEW

2.4-25 kV, 3-PHASE TRANSFORMER PADVAULT WITH ACCESS
PCORP #7992600 - SI #1790023

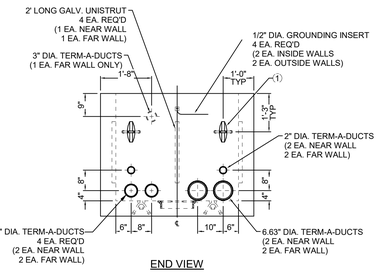


PLAN VIEW

35 kV, 3-PHASE TRANSFORMER PADVAULT WITH ACCESS
PCORP #7992602 - SI #1008977



ELEVATION VIEW



END VIEW

*LIFTING DEVICE TYPE & LOCATION MAY CHANGE WITHOUT NOTICE.

NOTE: PRIOR TO ORDERING AND INSTALLING THE PADVAULT, SUBMIT PADVAULT TO ROCKY MOUNTAIN POWER FOR APPROVAL AND VERIFICATION, AND COORDINATE EXACT SIZE AND LOCATION OF DUCT OPENINGS WITH ROCKY MOUNTAIN POWER.

GENERAL SHEET NOTES

1. SCOPE

   THIS MATERIAL SPECIFICATION OUTLINES THE MINIMUM REQUIREMENTS FOR PADVAULTS TO BE USED IN CONJUNCTION WITH PACIFICORP- OWNED THREE-PHASE TRANSFORMERS (SEE FIGURE 1). THE MATERIAL SPECIFICATION APPLIES WHETHER THE PADVAULT IS TO BE INSTALLED BY COMPANY PERSONNEL, CONTRACTOR, CUSTOMER, OR THE SUPPLIER.

2. APPLICABLE DOCUMENTS

   THE LATEST REVISIONS OF THE DOCUMENTS, STANDARDS, CODES, AND REQUIREMENTS LISTED IN 2.1, PACIFICORP, AND 2.2, CODES AND STANDARDS, IN EFFECT ON THE DATE OF INVITATION TO BID APPLY TO THE EXTENT SPECIFIED HEREIN.

   2.1 PACIFICORP

   ZG 301 GENERAL EQUIPMENT BASE AND ENCLOSURE REQUIREMENTS

   ZG 311 CONCRETE REQUIREMENTS

   2.2 CODES AND STANDARDS

   WESTERN UNDERGROUND COMMITTEE GUIDE 2.13, SECURITY FOR PADMOUNTED EQUIPMENT ENCLOSURES

   APPLICABLE CODES

   ANSI STANDARDS

   IEEE STANDARDS

   NEMA STANDARDS

3. GENERAL

   3.1 APPLICATION INFORMATION

   THIS MATERIAL SPECIFICATION STATES MATERIAL AND CONSTRUCTION REQUIREMENTS THAT ARE APPLICABLE TO ALL THREE-PHASE TRANSFORMER PADVAULTS.

   3.2 AUTHORIZED MATERIAL SPECIFICATION

   THIS MATERIAL SPECIFICATION IS NOT CONSIDERED VALID UNTIL EACH PAGE CONTAINS THE APPROVAL SIGNATURE OR INITIALS OF THE PERSONS NAMED IN THE TITLE BLOCKS.

4. APPLICABLE STOCK ITEM NUMBERS

   MATERIALS BEING SUBMITTED FOR THE FOLLOWING PACIFICORP STOCK ITEM NUMBERS ARE SUBJECT TO EVALUATION IN ACCORDANCE WITH REQUIREMENTS IN THIS MATERIAL SPECIFICATION.

   7992600, PADVAULT, TRANSFORMER, 3-PHASE, 75-750 KVA

   7992958, PADVAULT, TRANSFORMER, 3-PHASE, 1000-2500 KVA

5. PRODUCT AND INSTALLATION REQUIREMENTS

   THE PURPOSE OF A THREE-PHASE TRANSFORMER PADVAULT IS TO SUPPORT A THREE-PHASE TRANSFORMER.

   5.1 PADVAULT LAYOUT

   THE THREE-PHASE TRANSFORMER PADVAULT IS COMPOSED OF TWO PIECES: (1) THE PAD, AND (2) THE ENCLOSURE. UNLESS OTHERWISE APPROVED BY PACIFICORP ENGINEERING, ALL DIMENSIONS AND PLACEMENT OF HARDWARE SHALL CONFORM TO THOSE SHOWN ON THIS SHEET. THE ENCLOSURE IS COMMON TO ALL PADVAULTS COVERED BY THIS MATERIAL SPECIFICATION, ZG 531, PADVAULT-THREE-PHASE SECTIONALIZING CABINET, AND ZG 551, PADVAULT-THREE-PHASE FUSING CABINET.

   5.2 INSERTS

   TWO .375" 16UNC STAINLESS STEEL OR NYLON THREADED INSERTS AND STAINLESS STEEL BOLTS WITH CLEATS FOR MOUNTING THE TRANSFORMER SHALL BE PLACED IN THE PAD AS SHOWN IN FIGURE 2.

   5.3 PULLING ATTACHMENTS

   CABLE PULLING ATTACHMENTS SHALL BE INSTALLED OPPOSITE OF EACH SET OF CONDUIT BREAKOUTS SUCH THAT BLOCKS MAY BE ATTACHED FOR A STRAIGHT CABLE PULL. PULLING ATTACHMENTS SHALL HAVE A MINIMUM PULLOUT STRENGTH OF 6000 POUNDS. ATTACHMENTS SHALL ALLOW THE ATTACHMENT OF A CLEVIS WITH A ONE-INCH DIAMETER THROUGH BOLT. PULLING ATTACHMENTS MAY BE DESIGNED BY THE MANUFACTURER TO MEET THESE REQUIREMENTS.

   5.4 CONDUIT ENTRANCES

   BANKS OF NINE (9) SIX-INCH SQUARE BREAKOUTS SHALL BE USED FOR CONDUIT ENTRANCES. TWO BANKS OF KNOCKOUTS SHALL BE PLACED IN EACH SIDE AND IN EACH END OF THE ENCLOSURE.

   5.5 LIFTING ATTACHMENTS

   ENOUGH LIFTING ATTACHMENTS SHALL BE PROVIDED TO ENSURE SAFE INSTALLATION OF ALL PIECES AT THE SITE.
   ENOUGH LIFTING ATTACHMENTS SHALL BE PROVIDED TO ENSURE SAFE INSTALLATION OF ALL PIECES AT THE SITE.

   5.6 INSTALLATION

   THIS UNIT SHALL BE INSTALLED AT THE SITE BY THE SUPPLIER OR CONTRACTOR. ALL EARTH UNDER THE PADVAULT SHALL BE COMPACTED AND LEVEL PRIOR TO SETTING THE PADVAULT. PROVIDE 6" OF 3/4-INCH-MINUS GRAVEL BACKFILL BASE. THE JOINT BETWEEN THE PAD AND ENCLOSURE SHALL BE SEALED USING TAR OR MASTIC. THE TOP OF THE PAD SHOULD BE TWO TO FOUR INCHES ABOVE FINAL GRADE, WHEN INSTALLED.

6. TESTING

   6.1 TEST COMPLIANCE

   PADVAULTS SUBMITTED UNDER THIS MATERIAL SPECIFICATION SHALL MEET ALL TESTS AND REQUIREMENTS CONTAINED IN ZG 301, GENERAL EQUIPMENT BASE AND ENCLOSURE REQUIREMENTS, ZG 311, CONCRETE REQUIREMENTS, AND THIS MATERIAL SPECIFICATION. PADVAULTS WILL ALSO COMPLY WITH REQUIREMENTS IN APPLICABLE NATIONAL STANDARDS.

   6.2 SECURITY TEST

   TRANSFORMER PADVAULTS MUST BE ABLE TO PASS THE FOLLOWING SECURITY TEST. THE SECURITY TEST IS DESIGNED TO ENSURE THAT PADMOUNT EQUIPMENT, WHICH COMPLIES WITH WESTERN UNDERGROUND COMMITTEE GUIDE 2.13, SECURITY FOR PADMOUNTED EQUIPMENT ENCLOSURES, IS NOT COMPROMISED BY UNEVEN PAD SETTING.

   WITH THE APPROPRIATE TRANSFORMER MOUNTED, ATTEMPT TO PASS A #14 AWG SOFT-DRAWN COPPER WIRE THROUGH THE INTERFACE BETWEEN THE CABINET AND PAD. IF THE WIRE CAN BE PASSED THROUGH, THE PADVAULT HAS FAILED THE TEST AND IS NOT ACCEPTABLE.

7. PROVIDE AMCOR TYPE GV151 PADVAULT OR AS APPROVED OR DIRECTED BY ROCKY MOUNTAIN POWER.

8. REQUIREMENTS ARE SUBJECT TO CHANGE. SUBMIT PADVAULT TO ROCKY MOUNTAIN POWER FOR APPROVAL PRIOR TO THE PURCHASE AND INSTALLATION OF THE PADVAULT, AND INCLUDE ALL COSTS IN BID.

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ELECTRICAL SITE DETAILS

sheet:

ES501

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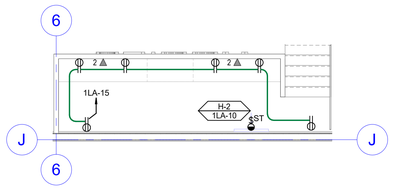
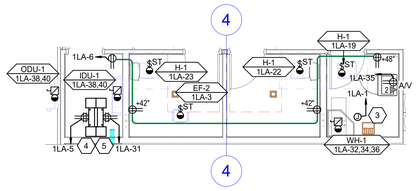
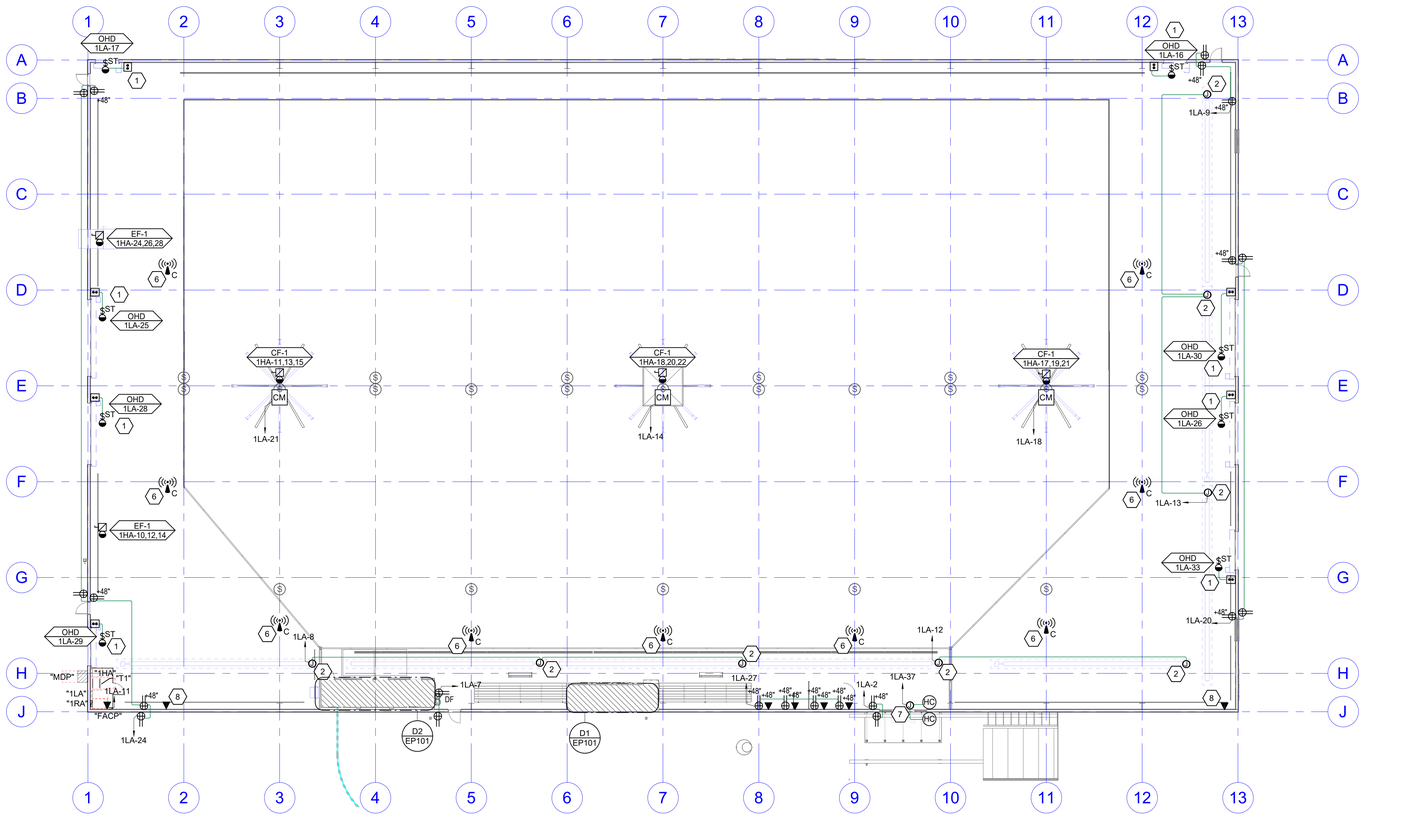


D1 ANNOUNCER BOX POWER PLAN
SCALE: 3/16" = 1'-0"



D2 ENLARGED RESTROOM/JANITOR POWER PLAN
SCALE: 3/16" = 1'-0"



A1 MAIN LEVEL POWER PLAN
SCALE: 1/16" = 1'-0"

GENERAL SHEET NOTES

1 CONTRACTOR IS RESPONSIBLE FOR ALL LINE VOLTAGE AS PART OF THIS PROJECT. PROVIDE LINE VOLTAGE REQURIED TO ALL SYSTEMS PROVIDED AS PART OF THIS PROJECT. COORDINATE WITH ALL OTHER DISPILINES AND DRAWINGS

2 CONTRACTOR IS RESPONSIBLE FOR ALL DEVICES, GEAR, CABLE, CONDUCTORS, TERMINATIONS, OVERCURRENT PROTECTION DEVICES, AND HEAD END EQUIPMENT AS PART OF THIS PROJECT.

3 COORDINATE EXACT LOCATION OF ELECTRICAL CONNECTION POINT TO ROOF TOP UNITS AND OTHER MECHANICAL EQUIPMENT TO ENSURE APPROPRIATE ROOF PENETRATION LOCATIONS.

4 ELECTRICAL CONDUIT CONNECTIONS MADE TO EXPOSED JUNCTION BOXES ON UNITS SHOULD BE MADE ON THE BOTTOM OF THE BOX. INSTALLTION SHOULD COMPLY WITH LOCAL CODE REQUIREMENTS. THE INSTALLATION SHOULD BE MADE WATERTIGHT.

5 WHERE ARE EXTERNAL ELECTRICAL JUNCTION BOX IS NOT USED, WATERTIGHT BOXES ON UNITS SHOULD BE MADE ON THE BOTTOM OF THE BOX. INSTALLATION SHOULD COMPLY WITH LOCAL CODE REQUIREMENTS. THE INSTALLATION SHOULD BE MADE WATERTIGHT.

6 INSTALLATION SHALLY BE IN ACCORDANCE WITH THE 2021 NEC "NATIONAL ELECTRICAL CODE."

7 PROVIDE GFCI, HEAVY-DUTY, WEATHER RESISTANT OUTLET WITHIN 25' OF ALL EQUIPMENT. FIELD VERIFY EXISTING CONDITIONS AND PROVIDE ADDITIONAL DEVICE(S) AND CIRCUITING AS REQUIRED.

SHEET KEYNOTES

1 PROVIDE ELECTRICAL CONNECTIONS FOR OVERHEAD DOOR. PROVIDE CONDUIT, CONDUCTOR AND CONTROL WIRING PER MANUFACTURERS WRITTEN SPECIFICATION. COORDINATE EXACT LOCATION OF ELECTRICAL CONNECTIONS WITH EQUIPMENT PROVIDER PRIOR TO ROUGH-IN.

2 PROVIDE 120V POWER FOR RADIANT HEATERS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH RADIANT HEATER PROVIDER PRIOR TO ROUGH-IN.

3 PROVIDE 120V POWER FOR RECIRCULATION PUMP. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL INSTALLER PRIOR TO ROUGH-IN.

4 COORDINATE EXACT TERMINATION LOCATIONS WITH OWNER PRIOR TO ROUGH-IN.

5 COORDINATE EXACT LOCATION OF DATA EQUIPMENT RACK WITH OWNER AND DATA INSTALLER PRIOR TO ROUGH-IN.

6 MOUNT WIRELESS ACCESS DATA DEVICE IN OPEN CEILING ACCORDING TO DETAIL XX/ET502.

7 PROVIDE 120V POWER FOR ADA DOOR OPERATOR. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH INSTALLER PRIOR TO ROUGH-IN.

8 PROVIDE DATA DROP FOR FUTURE STREAMING PURPOSES. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.

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project#: 24.0170
date: JANUARY 31, 2025
revisions :

title:

MAIN LEVEL POWER PLAN

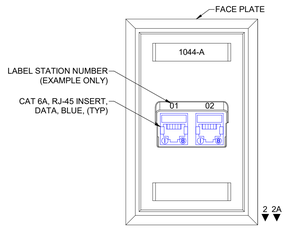
sheet:

EP101

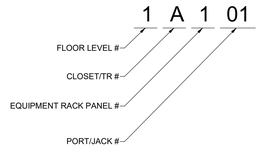
CD SET

GENERAL SHEET NOTES

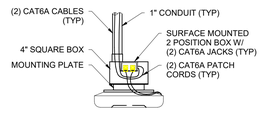
1. GROUNDING DETAIL SHOWN IS FOR DIAGRAMMATIC PURPOSES ONLY. ALL WIRE SIZES SHOWN IN COMMUNICATIONS ROOMS ARE TO BE USED. ANY WIRE SIZING TO GROUNDING BUS BAR AND BUILDING GROUND ARE SHOWN IN THE DIV. 26 SPECIFICATIONS.
2. ALL LOW VOLTAGE COMMUNICATIONS CONDUIT IN COMMUNICATIONS ROOM SHALL BE GROUNDED TO TELECOMMUNICATIONS GROUNDING BUS BAR
3. "TGB" SHOULD BE 1/4"x2"x24".
4. "TMGB" SHOULD BE 1/4"x4"x24".
5. EMT CONDUIT GROUNDING CLAMP SHOULD BE ELECTROLYTIC CAST BRONZE (PANDUIT PART NUMBER GPL-"X"-"X", OR EQUAL).
6. RIGID CONDUIT GROUND CLAMP SHOULD BE PART NUMBER O-Z/GEDNEY BLG-XXXX, OR HBLG-XXXX, OR EQUAL.
7. GROUNDING LUGS SHOULD BE TWO-HOLE LONG BARREL LUGS (PANDUIT PART NUMBER LCC6, OR EQUAL).



B2 TYPICAL 2-DROP WALL DATA DETAIL, ANGLED
SCALE: NTS

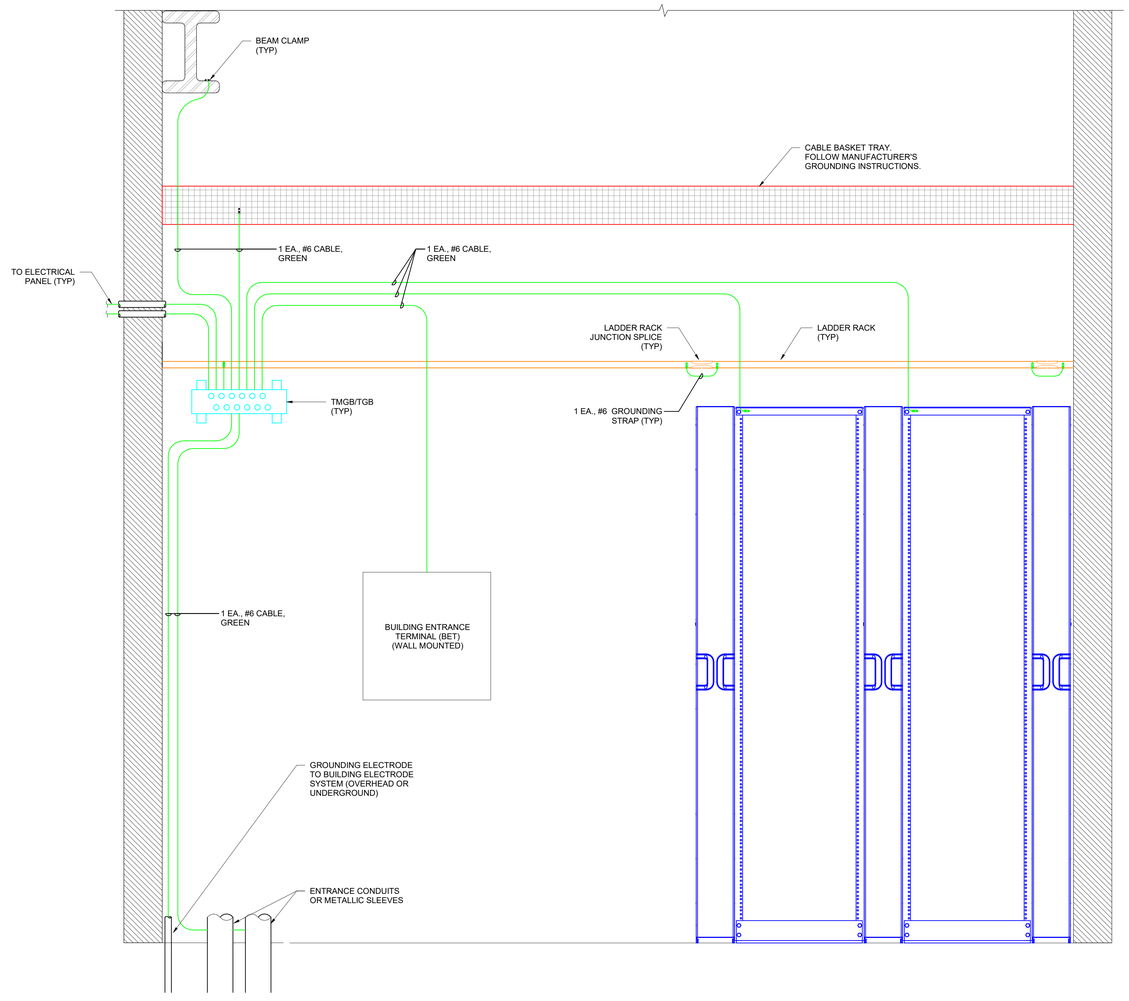


A1 TYPICAL CABLE IDENTIFICATION DETAIL (EXAMPLE)
SCALE: NTS



OPEN CEILING MOUNT

A2 WIRELESS ACCESS POINT MOUNTING DETAIL (OPEN CEILING)
SCALE: NTS



A3 TYPICAL TELECOM EQUIPMENT RACK GROUNDING DETAIL
SCALE: NTS

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LICENSED PROFESSIONAL ENGINEER
No. 7258080
SPENCER C. LITTLE
2025-01-31
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Thomas W. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

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revisions :

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TELECOM EQUIPMENT RACK GROUNDING & DETAIL

sheet:

EP554

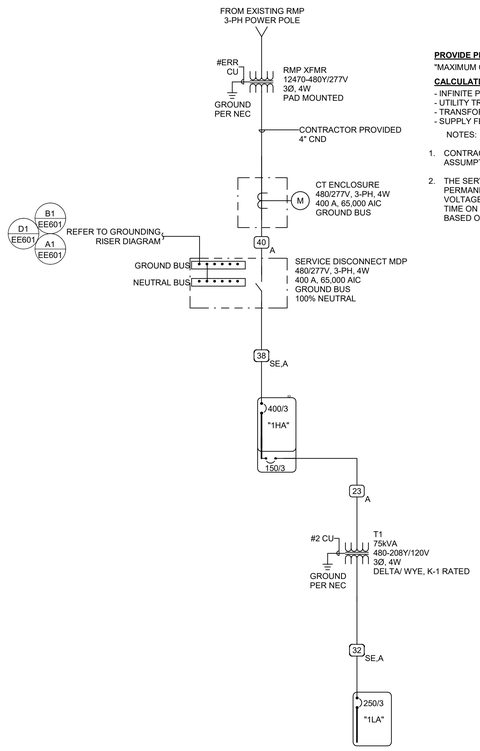
CD SET

BRANCH CIRCUIT CONDUCTOR AND CONDUIT SIZING TABLE

CIRCUIT AMPACITY/VOLTAGE	CIRCUIT LENGTH	CONDUCTOR SIZE (PHASE, NEUTRAL AND GR)	CONDUIT SIZE
20A/120V	0' - 60'	#12 AWG	0.75" Ø
20A/120V	60' - 95'	#10 AWG	0.75" Ø
20A/120V	95' - 150'	#8 AWG	1" Ø
20A/120V	150' - 240'	#6 AWG	1.25" Ø
20A/277V	0' - 140'	#12 AWG	0.75" Ø
20A/277V	140' - 220'	#10 AWG	0.75" Ø
20A/277V	220' - 350'	#8 AWG	1" Ø
20A/277V	350' - 550'	#6 AWG	1.25" Ø

NOTES:

1. WIRE SIZING IS BASED ON COPPER CONDUCTORS SUPPLYING A 20A, 120V CIRCUIT AT THE INDICATED VOLTAGE, ASSUMED TO BE 80% LOADED (16A), WITH MAXIMUM VOLTAGE DROP OF 3% AT THE LOAD.
2. DOWN-SIZED WIRE AT DEVICE/LOAD AS REQUIRED AND TERMINATE CONDUCTORS IN A SAFE AND CODE COMPLIANT MANNER.
3. CONDUIT SIZE IS BASED ON A MAXIMUM OF 3 CIRCUITS PER CONDUIT, EACH WITH A SEPARATE NEUTRAL CONDUCTOR.



PROVIDE PERMANENT LABEL ON "MAIN SWITCHBOARD" STATING:

"MAXIMUM CALCULATED AIC - 7225A, 2024-05-21"

CALCULATIONS ARE BASED ON THE FOLLOWING ASSUMPTIONS:

- INFINITE PRIMARY
- UTILITY TRANSFORMER SIZE 300kVA
- TRANSFORMER IMPEDANCE OF 5%
- SUPPLY FEEDER LENGTH OF 30'

NOTES:

1. CONTRACTOR SHALL SUBMIT VARIATIONS FROM ASSUMPTIONS PRIOR TO ORDERING EQUIPMENT.
2. THE SERVICE EQUIPMENT SHALL BE PROVIDED WITH A PERMANENT LABEL INCLUDING: NOMINAL SYSTEM VOLTAGE, AVAILABLE FAULT CURRENT, AND CLEARING TIME ON MAIN OVERCURRENT PROTECTIVE DEVICE BASED ON THE AVAILABLE FAULT CURRENT.

A1 ONE-LINE DIAGRAM

SCALE: NTS

ALUMINUM CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER
SUBSCRIPT (NOTE 5)
(E.G.) 5 IG

SYM	AMP	CONDUIT SIZE	CONDUCTOR (NOTE 1) QTY	SIZE	G	IG	SE	NOTES
1A								
2A								
3A								
4A								
5A								
6A								
7A								
8A								
9A								
10A								
11A								
12A								
13A								
14A								
15A								
16A								
17A								
18A								
19A								
20A								
21A	130	2	3	2/0	4	1/0	4	2,7
22A	130	2	4	2/0	4	1/0	4	2,7
23A	150	2	3	3/0	4	1/0	4	2,7
24A	150	2	4	3/0	4	1/0	4	2,7
25A	175	2	3	4/0	4	1/0	2	2,7
26A	175	2.50	4	4/0	4	1/0	2	2,7
27A	200	2.50	3	250	4	1/0	2	2,7
28A	200	3	4	250	4	1/0	2	2,7
29A	230	2.50	3	300	2	1/0	1/0	2,7
30A	230	3	4	300	2	1/0	1/0	2,7
31A	250	3	3	350	2	2/0	1/0	2,7
32A	250	3	4	350	2	2/0	1/0	2,7
33A	310	3	3	500	1	3/0	1/0	2,7
34A	310	4	4	500	1	3/0	1/0	2,7
35A	380	2 EA 2.50	3	250	1	4/0	3/0	2,7
36A	380	2 EA 3	4	250	1	4/0	3/0	2,7
37A	400	2 EA 2.50	3	250	1/0	4/0	3/0	2,7
38A	400	2 EA 2.50	4	250	1/0	4/0	3/0	2,7
39A	500	2 EA 3	3	350	1/0	300	3/0	2,4,7
40A	500	2 EA 3	4	350	1/0	300	3/0	2,4,7
41A	620	2 EA 3	3	500	3/0	300	3/0	2,4,7
42A	620	2 EA 4	4	500	3/0	300	3/0	2,4,7
43A	750	3 EA 3	3	350	3/0	300	4/0	2,4,7
44A	750	3 EA 3	4	350	3/0	300	4/0	2,4,7
45A	810	3 EA 3	3	400	4/0	300	250	2,4,7
46A	810	3 EA 4	4	400	4/0	300	250	2,4,7
47A	1000	4 EA 3	3	350	4/0	300	250	4,7
48A	1000	4 EA 3	4	350	4/0	300	250	4,7
49A	-	-	-	-	-	-	-	-
50A	1140	4 EA 4	4	500	250	300	250	4,7
51A	1240	4 EA 4	3	500	350	300	250	4,7
52A	1240	4 EA 4	4	500	350	300	250	4,7
53A	1620	6 EA 4	4	400	400	350	250	4,7
54A	2170	7 EA 4	4	500	400	400	500	4,7
55A	2695	7 EA 4	4	750	600	750	750	4,7
56A	3080	8 EA 4	4	750	600	750	750	4,7
57A	4235	11 EA 4	4	750	800	750	750	4,7
58A	1200	5 EA 4	-	-	-	-	-	6
59A	3000	10 EA 6	-	-	-	-	-	6
60A	-	10 EA 4	-	-	-	-	-	6

CONDUCTOR AND CONDUIT SCHEDULE NOTES

1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. SYMBOL SUBSCRIPTS:
   - "2N": INCLUDE TWO NEUTRAL CONDUCTORS SIZED AS SCHEDULED FOR PHASE AND NEUTRAL CONDUCTORS WHERE THE CONDUCTOR IS #1/0 OR LARGER. INCLUDE A SINGLE 200% RATED CONDUCTOR THAT IS TWICE THE AMPACITY OF THE SCHEDULED PHASE AND NEUTRAL CONDUCTOR WHERE THE CONDUCTOR IS BELOW #1/0 IN SIZE.
   - "CI": PROVIDE CIRCUIT INTEGRITY CABLE; TYPE TWO-HOUR FIRE RESISTIVE CABLES IN CONDUIT OR PROVIDE FEEDER ENCASED IN CONCRETE.
   - "FG" FULL SIZE GROUND, SIZE EQUIPMENT GROUNDING CONDUCTOR TO BE SAME SIZE AS THE PHASE CONDUCTORS.
   - "HH": NEUTRAL CURRENTS EXIST DUE TO HIGH HARMONIC "NONLINEAR" LOADS. CURRENT CARRYING CONDUCTORS DERATED ACCORDINGLY. PROVIDE THE IG/HH SIZE FOR THE EQUIPMENT GROUNDING CONDUCTOR.
   - "IG": INCLUDE IG (INSULATED/ISOLATED GROUND CONDUCTOR) SCHEDULED ALONG WITH THE GROUND OF EQUIPMENT GROUND CONDUCTOR.
   - "MC": PROVIDE FEEDER IN METAL-CLAD CABLE; TYPE MC IN PLACE OF SINGLE CONDUCTORS IN CONDUIT.
   - "SE": SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN, WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEM.
   - "SER": PROVIDE SERVICE-ENTRANCE CABLE; TYPE SE OR SER IN PLACE OF SINGLE CONDUCTORS IN CONDUIT.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.
7. ALUMINUM CONDUCTORS NOT TO BE USED FOR CONNECTION TO MOTORS OR MOTOR DRIVEN EQUIPMENT.

FAULT CURRENT TABLE

PROVIDE FULLY RATED CIRCUIT BREAKERS IN PANELBOARDS FOR THE FAULT CURRENT SHOWN. SERIES RATINGS WITH NEXT LEVEL UPSTREAM OVERCURRENT PROTECTIVE DEVICES ARE PERMITTED SUBJECT TO FACTORY UL DOCUMENTATION OF SERIES RATING SUBMITTED TO ENGINEER. IF DEVICE OR EQUIPMENT FAULT CURRENT RATING IS NOT SHOWN, ASSUME 100,000 AIC.

BUS	FAULT CURRENT
1HA	10000
1LA	10000
MDP	10000

GENERAL SHEET NOTES

1. PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT LOCATED OUTDOORS. REFER TO PLANS FOR EQUIPMENT LOCATIONS.
2. REFER TO PLANS FOR CONSTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT FALL WITHIN THE CONSTRAINTS OF EACH SPECIFIC LOCATION.
3. ALL EQUIPMENT SHALL BE CONSTRUCTED AND BRACED FOR THE SEISMIC CONDITIONS OF THE PROJECT. REFER TO ELECTRICAL SPECIFICATIONS FOR REQUIREMENTS.
4. PROVIDE PERFORMANCE TESTING FOR GROUND-FAULT PROTECTION SYSTEMS ON SITE WITH A WRITTEN RECORD OF THIS TEST SUBMITTED TO THE AUTHORITY HAVING JURISDICTION PER NEC 230.95(C).

SHEET KEYNOTES

COPPER CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER
SUBSCRIPT (NOTE 5)
(E.G.) 5 IG

SYM	AMP	HH AMPS	CONDUIT SIZE	CONDUCTOR (NOTE 1) QTY	SIZE	G	IG/HH	SE	NOTES
1	20	-	.75	2	12	12	12	8	2
2	20	-	.75	3	12	12	12	8	2,3
3	20	24	.75	4	12	12	12	8	2,3
4	30	-	.75	2	10	10	10	8	2
5	30	-	.75	3	10	10	10	8	2
6	30	32	.75	4	10	10	10	8	2
7	40	-	1	2	8	10	8	6	2
8	40	-	1	3	8	10	8	6	2
9	40	44	1	4	8	10	8	6	2
10	55	-	1	2	6	10	8	4	2
11	55	-	1	3	6	10	8	4	2
12	55	60	1.25	4	6	10	8	4	2
13	70	-	1	2	4	8	4	2	2
14	70	-	1.25	3	4	8	4	2	2
15	70	76	1.25	4	4	8	4	2	2
16	85	-	1.25	2	3	8	3	2	2
17	85	-	1.25	3	3	8	3	2	2
18	85	92	1.25	4	3	8	3	2	2
19	95	-	1.25	3	2	8	2	2	2
20	95	104	1.50	4	2	8	2	2	2
21	130	-	1.50	3	1	6	2	2	2
22	130	116	1.50	4	1	6	2	2	2
23	150	-	2	3	1/0	6	2	1/0	2
24	150	136	2	4	1/0	6	2	1/0	2
25	175	-	2	3	2/0	6	2	2/0	2
26	175	156	2	4	2/0	6	2	2/0	2
27	200	-	2	3	3/0	6	2	2/0	2
28	200	180	2.50	4	3/0	6	2	2/0	2
29	230	-	2.50	3	4/0	4	2	2/0	2
30	230	208	2.50	4	4/0	4	2	2/0	2
31	255	-	2.50	3	250	4	1	2/0	2
32	255	232	2.50	4	250	4	1	2/0	2
33	310	-	3	3	350	3	1/0	3/0	2
34	310	280	3	4	350	3	1/0	3/0	2
35	380	-	3.50	3	500	3	3/0	3/0	2
36	380	344	4	4	500	3	3/0	3/0	2
37	400	-	2 EA 2	3	3/0	3	3/0	3/0	2
38	400	360	2 EA 2.50	4	3/0	3	3/0	3/0	2
39	510	-	2 EA 2.50	3	250	1	4/0	3/0	2
40	510	464	2 EA 3	4	250	1	4/0	3/0	2
41	620	-	2 EA 3	3	350	1/0	4/0	3/0	2,4
42	620	560	2 EA 3	4	350	1/0	4/0	3/0	2,4
43	760	-	2 EA 3.50	3	500	1/0	4/0	3/0	2,4
44	760	688	2 EA 4	4	500	1/0	4/0	3/0	2,4
45	855	-	3 EA 3	3	300	2/0	4/0	3/0	2,4
46	855	768	3 EA 3	4	300	2/0	4/0	3/0	2,4
47	1000	-	3 EA 3.50	3	400	2/0	4/0	3/0	4
48	1000	912	3 EA 3.50	4	400	2/0	4/0	3/0	4
49	1140	-	3 EA 4	3	500	3/0	4/0	3/0	4
50	1140	1032	3 EA 4	4	500	3/0	4/0	3/0	4
51	1240	-	4 EA 3	3	350	3/0	4/0	3/0	4
52	1240	1120	4 EA 3	4	350	3/0	4/0	3/0	4
53	1675	1520	5 EA 4	4	400	4/0	4/0	4/0	4
54	2010	1824	6 EA 4	4	400	250	250	250	4
55	2660	2408	7 EA 4	4	500	350	350	350	4
56	3040	2752	8 EA 4	4	500	500	500	500	4
57	4180	3784	11 EA 4	4	500	500	500	500	4
58	1200	-	5 EA 4	-	-	-	-	-	6
59	3000	-	10 EA 6	-	-	-	-	-	6
60	-	-	10 EA 4	-	-	-	-	-	6

CONDUCTOR AND CONDUIT SCHEDULE NOTES

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3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. SYMBOL SUBSCRIPTS:
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   - "CI": PROVIDE CIRCUIT INTEGRITY CABLE; TYPE TWO-HOUR FIRE RESISTIVE CABLES IN CONDUIT OR PROVIDE FEEDER ENCASED IN CONCRETE.
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   - "IG": INCLUDE IG (INSULATED/ISOLATED GROUND CONDUCTOR) SCHEDULED ALONG WITH THE GROUND OF EQUIPMENT GROUND CONDUCTOR.
   - "MC": PROVIDE FEEDER IN METAL-CLAD CABLE; TYPE MC IN PLACE OF SINGLE CONDUCTORS IN CONDUIT.
   - "SE": SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN, WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEM.
   - "SER": PROVIDE SERVICE-ENTRANCE CABLE; TYPE SE OR SER IN PLACE OF SINGLE CONDUCTORS IN CONDUIT.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.

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LICENSED PROFESSIONAL ENGINEER
No. 7258080
SPENCER C. LITTLE
2025-01-31
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed by: Chadwick W. Robinson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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ONE-LINE DIAGRAM

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EP601

CD SET

EQUIPMENT SCHEDULE

EQUIPMENT SCHEDULE KEY	NOTES:	GENERAL NOTES:
E - DIVISION 26 Q - FURNISHED WITH EQUIPMENT, INSTALLED BY DIV.26	1. PROVIDE MANUAL STARTER WITH THERMAL OVERLOAD AND RELAY FOR ATC/BAS CONTROL. 2. PROVIDE FUSED DISCONNECT ELEVATOR POWER MODULE WITH SHUNT TRIP. 3. INDOOR UNITS FED FROM OUTDOOR UNIT. PROVIDE DISCONNECTS FOR BOTH.	1. LOCATE ELECTRICAL EQUIPMENT IN ACCESSIBLE LOCATION, SUCH THAT IT IS WITHIN SIGHT OF THE EQUIPMENT IT IS SERVING, AND COMPLIES WITH N.E.C. REQUIRED CLEARANCES. 2. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE AND SIZE FEEDER, STARTER, DISCONNECT AND OVERCURRENT PROTECTION IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OF ACTUAL EQUIPMENT SUPPLIED. 3. ELECTRICAL CONTRACTOR SHALL REVIEW OTHER DIVISION DRAWINGS FOR ANY ADDITIONAL REQUIREMENTS PRIOR TO BID. 4. ELECTRICAL CONTRACTOR SHALL REVIEW OTHER DIVISION SUBMITTALS FOR ANY EQUIPMENT REQUIRING CONNECTION BY ELECTRICAL CONTRACTOR AND COORDINATE ALL REQUIREMENTS PRIOR TO ROUGH-IN.

			LOAD DATA							OCPD		DISCONNECT		MOTOR CONTROLLER				
LABEL	QTY	DESCRIPTION	HP	kW	MCA	FLA	V	PH	WIRE AND CONDUIT SIZE	DEVICE	FED FROM	PROVIDED BY	DEVICE	PROVIDED BY	DEVICE	SIZES	NEMA ENCLOSURE RATING	NOTES
CF-1	3	CEILING FAN	2	-	-	3.4	480	3	3 #12, #12 GR 0.75" CND	20/3 CB	1HA	E	30A/3P FRS-10	E	-	-	-	
EF-1	2	EXHUAST FAN	5	-	-	7.6	480	3	3 #12, #12 GR 0.75" CND	20/3 CB	1HA	E	30A/3P FRS-15	Q	VFD	5 HP	-	
EF-2	1	EXHUAST FAN	1/10	-	-	1.3	120	1	2 #12, #12 GR 0.75" CND	20/1 CB	1LA	E	TOGGLE SWITCH	Q	-	-	-	
H-1	3	HEATER	-	-	-	4.7	120	1	2 #12, #12 GR 0.75" CND	20/1 CB	1LA	E	TOGGLE SWITCH	E	-	-	-	
H-2	1	HEATER	-	-	-	6.3	120	1	2 #12, #12 GR 0.75" CND	20/1 CB	1LA	E	TOGGLE SWITCH	E	-	-	-	
IDU-1	1	INDOOR SPLIT SYSTEM UNIT	-	-	-	1	208	1	2 #12, #12 GR 0.75" CND	15/2 CB	1LA	E	30A/2P FRS-15	E	-	-	-	3
ODU-1	1	OUTDOOR SPLIT SYSTEM UNIT	-	-	-	12	208	1	2 #12, #12 GR 0.75" CND	15/2 CB	1LA	E	30A/2P FRS-15	E	-	-	-	3
OHD	8	OVER HEAD DOORS	1	-	-	16	120	1	2 #10, #10 GR 0.75" CND	30/1 CB	1LA	E	TOGGLE SWITCH	E	-	-	-	
WH-1	1	WATER HEATER	-	-	-	14	208	3	3 #10, #10 GR 0.75" CND	20/3 CB	1LA	E	30A/3P FRS-20	E	-	-	-	

PANEL: "1HA"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE AND TYPE:	FED FROM:	CABINET:	LOCATION:	NOTES:
480/277 V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	400 AMPERE MAIN CB	MDP	SURFACE	ARENA-3 100-3	NEMA 4

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR **AIC RATING:** 10,000

CKT	OCP			LOAD (kVA)				PHASE LOAD				LOAD (kVA)			OCP		CKT
NO	AMP	POLE	BKR	LTG	PWR	CO	DESCRIPTION	A	B	C	DESCRIPTION	CO	PWR	LTG	BKR	POLE	AMP	NO
1																		2
3	20	1		0.5	0.0	0.0	LTG: EXTERIOR LIGHTING (1RA-1)		0.5	2.8	LTG: WEST HIGH-BAY (1RA-2)	0.0	0.0	2.8		1	20	4
5	20	1	--	0.0	0.0	0.0	SPARE			0.0	LTG: WEST CENTRAL HIGH-BAY...	0.0	0.0	2.8		1	20	6
7	20	1		0.1	0.0	0.0	LIGHTING	0.1	2.8		LTG: EAST CENTRAL HIGH-BAY...	0.0	0.0	2.8		1	20	8
9	20	1		2.8	0.0	0.0	LTG: EAST HIGH-BAY (1RA-5)		2.8	2.1	MTR: SOUTH EXHAUST FAN	0.0	6.3	0.0		3	20	10
11	20	3		0.0	2.8	0.0	MTR: BAF WEST			0.9	2.1	--	--	--	--	--	--	12
13	--	--	--	--	--	--	--	0.9	2.1		--	--	--	--	--	--	--	14
15	--	--	--	--	--	--	--		0.9	0.0	SPARE	0.0	0.0	0.0	--	1	20	16
17	20	3		0.0	2.8	0.0	MTR: BAF EAST			0.9	0.9	MTR: BAF CENTER	0.0	2.8	0.0		3	20	18
19	--	--	--	--	--	--	--	0.9	0.9		--	--	--	--	--	--	--	20
21	--	--	--	--	--	--	--		0.9	0.9	--	--	--	--	--	--	--	22
23	20	1	--	0.0	0.0	0.0	SPARE			0.0	2.1	MTR: NORTH EXHAUST FAN	0.0	6.3	0.0		3	20	24
25	20	1	--	0.0	0.0	0.0	SPARE	0.0	2.1		--	--	--	--	--	--	--	26
27	20	1	--	0.0	0.0	0.0	SPARE		0.0	2.1	--	--	--	--	--	--	--	28
29	20	1	--	0.0	0.0	0.0	SPARE			0.0	0.0	SPARE	0.0	0.0	0.0	--	1	20	30
31	20	1	--	0.0	0.0	0.0	SPARE	0.0	0.0			SPARE	0.0	0.0	0.0	--	1	20	32
33	20	1	--	0.0	0.0	0.0	SPARE		0.0	0.0		SPARE	0.0	0.0	0.0	--	1	20	34
35	20	1	--	0.0	0.0	0.0	SPARE			0.0	0.0	SPARE	0.0	0.0	0.0	--	1	20	36
37	20	1	--	0.0	0.0	0.0	SPARE	0.0	13.7			T1	6.3	32.6	0.0		3	150	38
39	20	1	--	0.0	0.0	0.0	SPARE			0.0	13.0	--	--	--	--	--	--	--	40
41	20	1	--	0.0	0.0	0.0	SPARE			0.0	12.2	--	--	--	--	--	--	--	42
TOTALS:							CONNECTED kVA PER PHASE	**24**	**26**	**22**	CONNECTED TOTAL kVA =					**71**		
							CONNECTED AMPS PER PHASE	**86**	**95**	**79**	AVERAGE CONNECTED AMPS PER PHASE =					**85**		

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS: **11.7 kVA @ 125% = 14.7 kVA** - 100% CONNECTED LOAD PLUS 25%
RECEPTACLES: **6.3 kVA @ 100% = 6.3 kVA** - FIRST 10kVA @ 100%, REMAINDER @ 50%
ALL OTHER LOADS @ 100% : **54.2 kVA** - MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC

DIVERSIFIED TOTAL kVA = **75**
AVERAGE AMPS PER PHASE = **90**

BKR: GF=GFCI, GF3=30mA GFCI CAPABLE OF BEING LOCKED OUT IN OPEN POSITION, IG=ISOLATED GROUND, AF=AFCI, ST=SHUNT TRIP, RED=PROVIDE RED COLORED BREAKER, AF=ARC FAULT CURRENT INTERRUPTER, GA=COMBINATION OF GROUND FAULT AND ARC FAULT CIRCUIT INTERRUPTER, GS=COMBINATION OF SHUNT TRIP WITH GFCI

PANEL: "1LA"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE AND TYPE:	FED FROM:	CABINET:	LOCATION:	NOTES:
120/208V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	250 AMPERE MAIN CB	T1	SURFACE	ARENA-3 100-3	NEMA 4

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR **AIC RATING:** 10,000

CKT	OCP			LOAD (kVA)				PHASE LOAD				LOAD (kVA)			OCP		CKT
NO	AMP	POLE	BKR	LTG	PWR	CO	DESCRIPTION	A	B	C	DESCRIPTION	CO	PWR	LTG	BKR	POLE	AMP	NO
1	20	1		0.0	0.1	0.0	PWR: RECIRC PUMP	0.1	0.4		CO: ENTRANCE OUTLETS	0.4	0.0	0.0		1	20	2
3	20	1		0.0	0.2	0.0	MTR: EXHAUST FAN 2		0.2	0.4	CO: NW OUTLETS	0.4	0.0	0.0		1	20	4
5	20	1		0.0	0.0	0.4	CO: DATA RACK			0.4	0.7	CO: BATHROOM OUTLETS	0.7	0.0	0.0		1	20	6
7	20	1		0.0	0.7	0.2	PWR: DRINKING FOUNTAIN...	0.9	1.8			PWR: LINEAR HEATER	0.0	1.8	0.0		1	20	8
9	20	1		0.0	0.0	0.5	CO: NE OUTLETS		0.5	0.8		MTR: CROWS NEST HEATER	0.0	0.8	0.0		1	20	10
11	20	1		0.0	1.0	0.0	FACP			1.0	1.2	PWR: LINEAR HEATER	0.0	1.2	0.0		1	20	12
13	20	1		0.0	1.8	0.0	PWR: LINEAR HEATER	1.8	0.0			PWR: FAN CONTROL MODULE	0.0	0.0	0.0		1	20	14
15	20	1		0.0	0.0	1.1	CO: ANNOUNCER BOOTH		1.1	1.9		MTR: NE OVERHEAD DOORS	0.0	1.9	0.0		1	30	16
17	30	1		0.0	1.9	0.0	MTR: NW OVERHEAD DOORS			1.9	0.0	PWR: FAN CONTROL MODULE	0.0	0.0	0.0		1	20	18
19	20	1		0.0	0.6	0.0	MTR: JANITOR HEATER	0.6	0.7			CO: EAST OUTLETS	0.7	0.0	0.0		1	20	20
21	20	1		0.0	0.0	0.0	PWR: FAN CONTROL MODULE			0.0	0.6	MTR: RESTROOM HEATER	0.0	0.6	0.0		1	20	22
23	20	1		0.0	0.6	0.0	MTR: RESTROOM HEATER				0.6	0.7	CO: SW OUTLETS	0.7	0.0	0.0		1	20	24
25	30	1		0.0	1.9	0.0	PWR: W OVERHEAD DOOR	1.9	1.9			PWR: OVERHEAD DOORS	0.0	1.9	0.0		1	30	26
27	20	1		0.0	0.0	0.7	CO: SELLERS BOOTH OUTLETS		0.7	1.9		PWR: WEST OVERHEAD DOOR	0.0	1.9	0.0		1	30	28
29	30	1		0.0	1.9	0.0	SW OVERHEAD DOOR			1.9	1.9	PWR: OVERHEAD DOORS	0.0	1.9	0.0		1	30	30
31	20	1		0.0	0.0	0.4	CO: DATA RACK	0.4	1.7			MTR: WATER HEATER	0.0	5.0	0.0		3	20	32
33	30	1		0.0	1.9	0.0	PWR: OVERHEAD DOORS		1.9	1.7		--	--	--	--	--	--	--	34
35	20	1		0.0	0.0	0.2	CO: AV RACK			0.2	1.7	--	--	--	--	--	--	--	36
37	20	1		0.0	0.2	0.0	PWR: ADA DOOR OPERATOR	0.2	1.4			MTR: DATA ROOM ODU/IDU	0.0	2.7	0.0		2	15	38
39	20	1	--	0.0	0.0	0.0	SPARE		0.0	1.4		--	--	--	--	--	--	--	40
41	--	1	--	0.0	0.0	0.0	SPACE			--	--	SPACE	0.0	0.0	0.0	--	1	--	42
TOTALS:							CONNECTED kVA PER PHASE	**14**	**13**	**12**	CONNECTED TOTAL kVA =					**38**		
							CONNECTED AMPS PER PHASE	**115**	**109**	**102**	AVERAGE CONNECTED AMPS PER PHASE =					**105**		

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING & CONTINUOUS LOADS: - 100% CONNECTED LOAD PLUS 25%
RECEPTACLES: **6.3 kVA @ 100% = 6.3 kVA** - FIRST 10kVA @ 100%, REMAINDER @ 50%
ALL OTHER LOADS @ 100% : **32.8 kVA** - MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC

DIVERSIFIED TOTAL kVA = **39**
AVERAGE AMPS PER PHASE = **109**

BKR: GF=GFCI, GF3=30mA GFCI CAPABLE OF BEING LOCKED OUT IN OPEN POSITION, IG=ISOLATED GROUND, AF=AFCI, ST=SHUNT TRIP, RED=PROVIDE RED COLORED BREAKER, AF=ARC FAULT CURRENT INTERRUPTER, GA=COMBINATION OF GROUND FAULT AND ARC FAULT CIRCUIT INTERRUPTER, GS=COMBINATION OF SHUNT TRIP WITH GFCI

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LICENSED PROFESSIONAL ENGINEER
No. 7258080
SPENCER C
LITTLE
2025-01-31
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed By:
Charles H. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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project #: 24.0170
date: JANUARY 31, 2025
revisions :

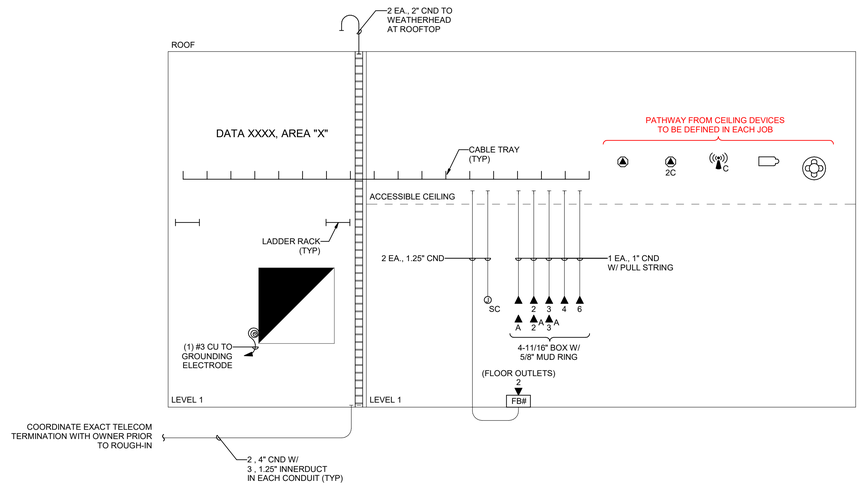
title:

PANEL & EQUIPMENT SCHEDULES

sheet:

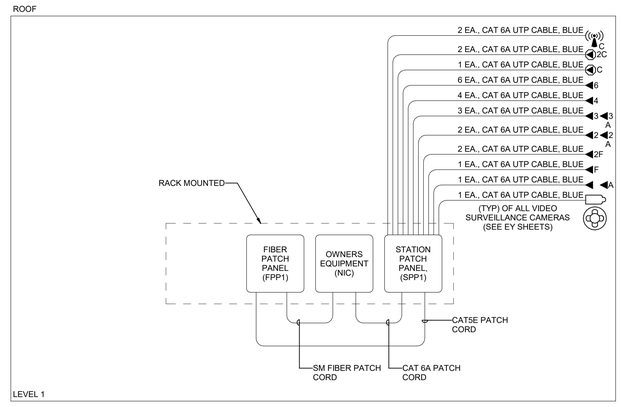
EP615

CD SET



B4 TELECOM CONDUIT RISER DIAGRAM

SCALE: NTS



A4 TELECOM CABLE RISER DIAGRAM

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revisions :

title:

TELECOM RISER DIAGRAMS

sheet:

EP651

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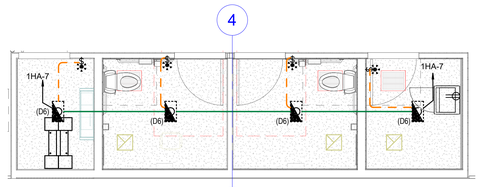
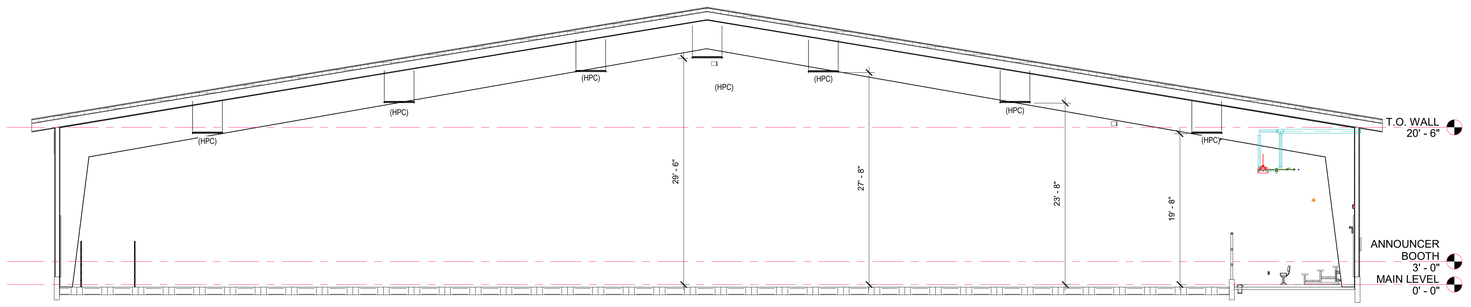


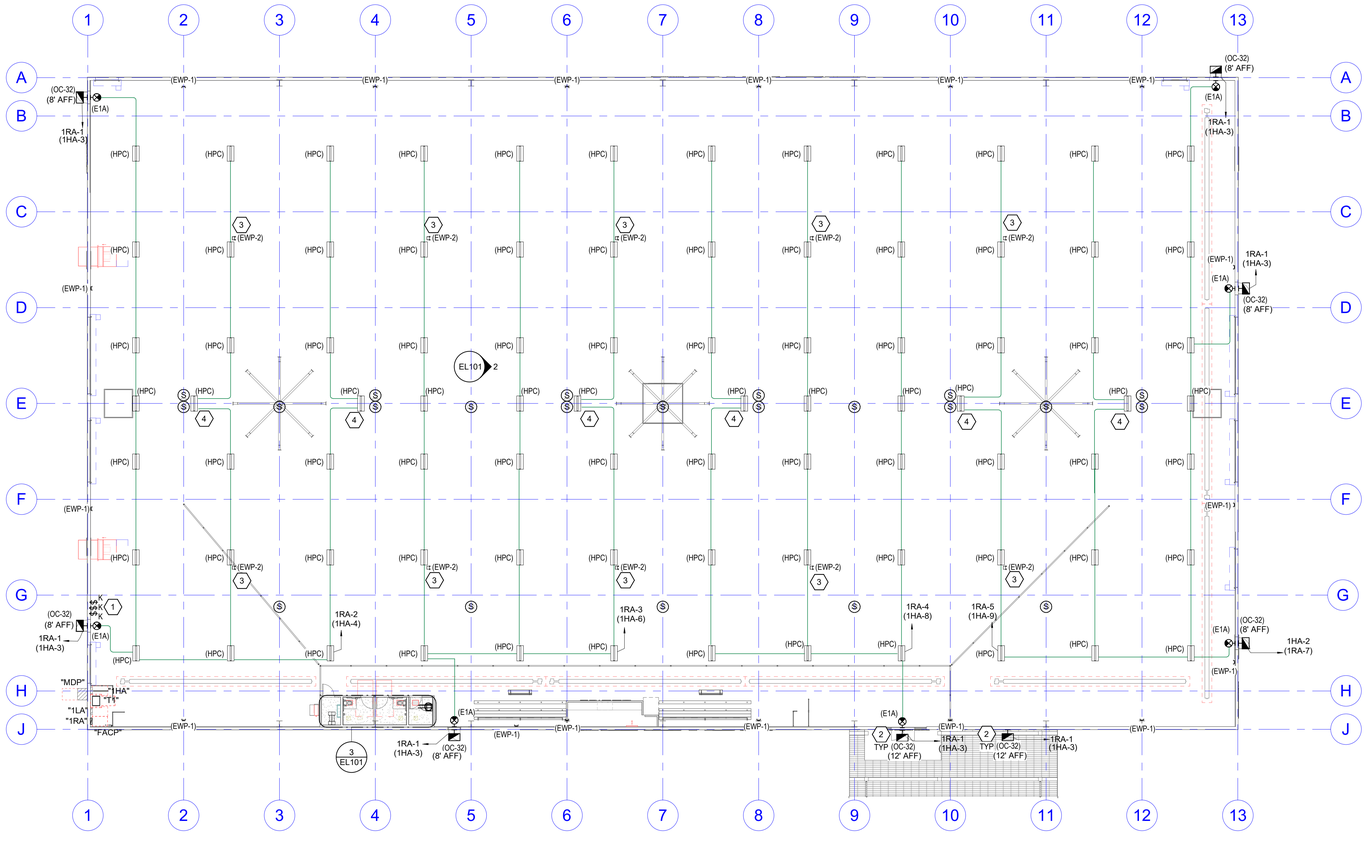
3 ENLARGED RESTROOM LIGHTING PLAN

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



2 HIGHBAY LIGHT FIXTURE ELEVATIONS

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



1 LEVEL 1 LIGHTING PLAN

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

GENERAL SHEET NOTES

1. CIRCUIT ALL EXIT SIGNS TO THE NEAREST UNSWITCHED LEG OF LIGHT CIRCUIT.
2. INSTALL LIGHT FIXTURES INLINE AND CENTERED.
3. COORDINATE ALL LIGHT FIXTURE MOUNTING HEIGHTS WITH ARCHITECT.
4. ARCHITECT TO SELECT ALL LIGHT FIXTURE FINISHES.
5. LOCATE ALL VACANCY/OCCUPANCY SENSORS MINIUM OF 6 FEET FROM SUPPLY AIR DIFFUSERS AND 3 FEET FROM RETURN AIR DIFFUSERS.
6. ALL CEILING AND WALL MOUNTED SENSORS SHALL BE DUAL TECHNOLOGY WITH BUILT-IN LIGHT LEVEL SENSOR.
7. CIRCUIT ALL EMERGENCY WALL PACKS TO THE NEAREST UNSWITCHED LEG OF LIGHT CIRCUIT.

SHEET KEYNOTES

1. PROVIDE KEYED SWITCH TO MANUALLY CONTROL ARENA LIGHT FIXTURES THROUGH THE RELAY PANEL.
2. EXTERIOR DOOR FIXTURES ARE TO BE CIRCUITED AND CONTROLLED TOGETHER.
3. PENDANT MOUNT EMERGENCY WALL PACK FIXTURE (EMP-2) AT SIMILAR HEIGHT TO SUSPENDED FIXTURES IN SIMILAR AREA.
4. COORDINATE LOCATIONS AND BOTTOM HEIGHT OF SUSPENDED LIGHT FIXTURES WITH CEILING FANS IN THIS AREA PRIOR TO ROUGH-IN.

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SPENCER C. LITTLE
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Reviewed By:
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title:

LEVEL 1 LIGHTING PLAN

sheet:

EL101

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LIGHTING RELAY PANEL SCHEDULE

PANEL NAME: 1RA
LOCATION: ARENA-3 100-3
SUPPLY VOLTAGE:
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

ACCESSORIES: INTEGRAL PROCESSOR
ASTRONOMICAL TIMECLOCK
LAN CONNECTIVIITY AND CONTROL

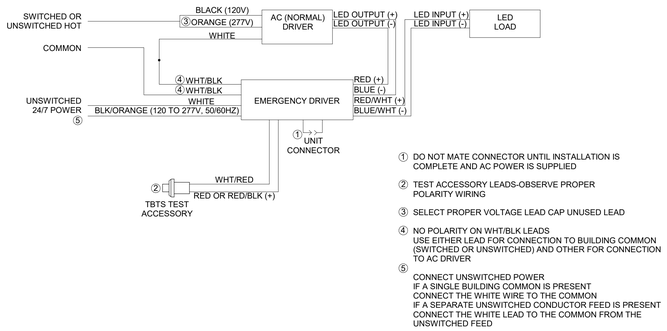
RELAY	DIMMING	PANEL...	DESCRIPTION	CHANNEL CONTROL A	B	C	D	E	F	LOAD (WATTS)	CHANNEL CONTROL F	E	D	C	B	A	DESCRIPTION	PANEL...	DIMMING	RELAY
1		1HA-3	LTG: EXTERIOR LIGHTING					X		520 2782						X	LTG: WEST HIGH-BAY	1HA-4		2
3		1HA-6	LTG: WEST CENTRAL HIGH-BAY	X						2772 2772						X	LTG: EAST CENTRAL HIGH-BAY	1HA-8		4
5		1HA-9	LTG: EAST HIGH-BAY	X						2787 0							SPARE	--		6
7		--	SPARE							0 0							SPARE	--		8
9		--	SPARE							0 0							SPARE	--		10
11		--	SPARE							0 0							SPARE	--		12
13		--	SPARE							0 0							SPARE	--		14
15		--	SPARE							0 0							SPARE	--		16

CHANNEL	DIMMING	CHANNEL DESCRIPTION	CHANNEL PROGRAMMING REQUIREMENTS
A	NO	MANUAL ON, AUTO SWEEP OFF	SWEEP OFF AT (10PM), MANUAL ON/OFF VIA LOW VOLTAGE SWITCH**
B	NO	CORRIDOR & COMMON SPACE	TIME OFF (10PM)/TIME ON (6AM)**
C	NO	NIGHT LIGHTS	ALWAYS ON - NIGHT LIGHTING, MANUAL OFF VIA LOW VOLTAGE SWITCH
D	NO	EXTERIOR LIGHTS OUT AT MIDNIGHT	EXTERIOR PHOTOCELL ON/TIME OFF (12AM)
E	NO	EXTERIOR LIGHTING ALL NIGHT	EXTERIOR PHOTOCELL ON/OFF
F	NO	SPARE	PROGRAM AS DIRECTED BY OWNER

GENERAL NOTES:

1. PROGRAMMING OF SYSTEM SHALL COMPLY WITH CURRENT IECC REQUIREMENTS.
2. COORDINATE INITIAL PROGRAMMING WITH OWNER AND MODIFY CONTROL TIMES AND OPERATION AS REQUESTED BY OWNER.
3. PROVIDE FINE TUNING PROGRAMMING AND ADJUSTMENTS UPON REQUEST BY OWNER WITHIN FIRST 6 MONTHS AFTER SUBSTANTIAL COMPLETION.
4. ALL SPARE RELAYS AND CHANNELS SHALL BE INCLUDED WITH ORIGINAL SYSTEM INSTALLATION.
5. UPON LOSS OF NORMAL POWER, ALL EMERGENCY LIGHTING RELAYS SHALL TURN ON TO 100% UNTIL NORMAL POWER IS RESTORED, THEN GO BACK TO STANDARD MODE.

** CHANNEL SHALL BE PROGRAMMED WITH 10 MINUTE WARNING PRIOR TO TURNING LIGHTS OFF BY BLINKING THE LIGHTS OFF/ON/OFF/ON.



① DO NOT MATE CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED

② TEST ACCESSORY LEADS-OBSERVE PROPER POLARITY WIRING

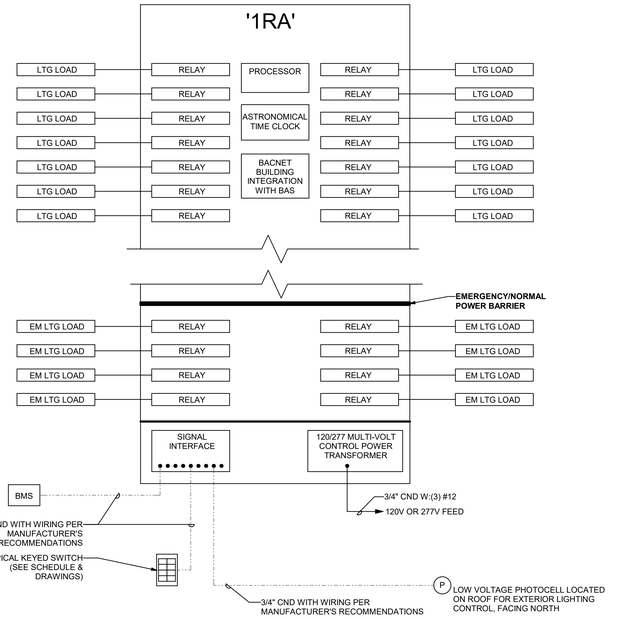
③ SELECT PROPER VOLTAGE LEAD CAP UNUSED LEAD

④ NO POLARITY ON WHT/BLK LEADS
USE EITHER LEAD FOR CONNECTION TO BUILDING COMMON (SWITCHED OR UNSWITCHED) AND OTHER FOR CONNECTION TO AC DRIVER

⑤ CONNECT UNSWITCHED POWER
IF A SINGLE BUILDING COMMON IS PRESENT
CONNECT THE WHITE WIRE TO THE COMMON
IF A SEPARATE UNSWITCHED CONDUCTOR FEED IS PRESENT
CONNECT THE WHITE LEAD TO THE COMMON FROM THE UNSWITCHED FEED

2 TYPICAL EMERGENCY BATTERY WIRING

SCALE: NTS



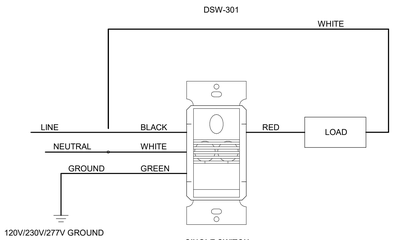
1 TYPICAL MASTER LIGHTING RELAY PANEL

SCALE: NTS

WALL SWITCH OCCUPANCY SENSOR NON-DIM
FOR USE IN SMALL RESTROOMS, OFFICES, STORAGE, AND SIMILAR SPACES OR AREAS

BILL OF MATERIALS
DSW_301 (1), DUAL TECHNOLOGY (DT) WALL SWITCH SENSOR

SEQUENCE OF OPERATION
LIGHTS TO AUTOMATICALLY TURN ON/OFF WITH OCCUPANCY STATUS
USING SWITCH FOR MANUAL CONTROL



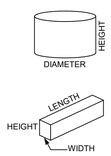
SINGLE SWITCH

3 WALL SWITCH OCCUPANCY SENSOR NON-DIM

SCALE: NTS

INTERIOR LIGHTING FIXTURE SCHEDULE

GENERAL NOTES

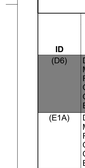


1. SUBSTITUTIONS AND/OR EQUAL FIXTURES MUST RECEIVE APPROVAL PRIOR TO BIDDING, THEY MUST BE SUBMITTED TO THE ENGINEER NO LESS THAN 2 WEEKS PRIOR TO BID OPENING.
2. SAMPLES MUST BE PROVIDED FOR ANY AND ALL FIXTURES UPON A/E REQUEST PRIOR TO RELEASING FIXTURES.
3. ALL FIXTURES SHALL BE LISTED AND APPROVED FOR THEIR INTENDED USE AND LOCATION.
4. VERIFY THE PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS.
5. COMPLY WITH THE "INTERIOR LIGHTING" SECTION OF THE SPECIFICATIONS.
6. ALL LIGHT FIXTURES TO BE EITHER "DLC" OR "LIGHTING FACTS" LISTED OR TO BE APPROVED BY ARCHITECT/ENGINEER AND OWNER.
7. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES.

ID	DESCRIPTION	SIZE (NOMINAL)	LUMINAIRE DELIVERED DIRECT LUMENS	LUMINAIRE DELIVERED INDIRECT LUMENS	LUMINAIRE COLOR TEMP	LUMINAIRE CRI	DRIVER TYPE	DRIVER VOLTAGE	DRIVER WATTS	MANUFACTURER (CATALOG SERIES)
(D6)	DESCRIPTION: 6" DOWNLIGHT MOUNTING: RECESSED, CEILING FINISH: SCBA OPTICS: 35° BEAM, CLEAR REFLECTOR, MATTE DIFFUSE OPTIONS: EM: BATTERY BACKUP	LENGTH: 16" WIDTH: 11" HEIGHT: 9" DIAMETER: 6"	2,000		3000K	80	LED (0-10V DIMMING) 1%	120/277V	27	GOTHAM (ICO6) PORTFOLIO (LDXIB) LIGHTOLIER (6RNC6L)
(E1A)	DESCRIPTION: EXIT SIGN, EDGE LIT, SINGLE SIDED MOUNTING: CEILING, WALL FINISH: SCBA OPTICS: OPTIONS: EM: BATTERY	LENGTH: 11" WIDTH: 3" HEIGHT: 10"			GREEN		LED	120/277V	5	ISOLITE (UEL) EVENLITE (SOV) EMERGENSEE (SEEXLRN)
(EWP-1)	DESCRIPTION: EMERGENCY BUG-EYE WALL PACK MOUNTING: WALL MOUNTED FINISH: SCBA OPTICS: OPTIONS: EM: BATTERY BACKUP	LENGTH: WIDTH: DEPTH: DIAMETER:	90				LED	120/277V	3	LITHONIA (263X65) LIT-PaTH APPROVED EQUAL
(EWP-2)	DESCRIPTION: HIGH OUTPUT EMERGENCY BUG-EYE WALL PACK MOUNTING: WALL MOUNTED FINISH: SCBA OPTICS: OPTIONS: EM: BATTERY BACKUP	LENGTH: WIDTH: DEPTH: DIAMETER:	90				LED	120/277V	12	SUPERIOR (DXR-12-10) LIT-PaTH APPROVED EQUAL
(HPC)	DESCRIPTION: LED HIGH BAY, DAMP LISTED MOUNTING: CEILING PENDANT FINISH: WHITE OPTICS: MEDIUM DISTRIBUTION, FROSTED LENS OPTIONS: EM: BATTERY BACKUP	LENGTH: 24" WIDTH: 21" HEIGHT: 3"	24,000		4000K	80	LED (0-10V DIMMING)	120/277V	132	METALUX (OHB) LITHONIA (IBG) CURRENT BY GE (ABC)

EXTERIOR LIGHTING FIXTURE SCHEDULE

GENERAL NOTES



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ID	DESCRIPTION	SIZE (NOMINAL)	LUMINAIRE BUG RATING BACK	UP	GLARE	LUMENS	COLOR TEMP	CRI	DRIVER TYPE	VOLTAGE	WATTS	MANUFACTURER
(OC-32)	DESCRIPTION: EGRESS LIGHT FIXTURE, WET RATED MOUNTING: WALL FINISH: SCBA OPTICS: OPTIONS: EM: BATTERY BACKUP	LENGTH: 10" WIDTH: 6" DEPTH: 3" DIAMETER:				1,200	4000K		LED	120/277V	12	EMERGENSEE (SEELEDEMDBEL) LITHONIA (AFF) LSI (AWL)

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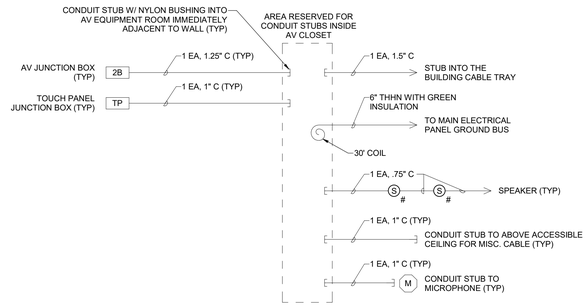
LIGHTING SCHEDULES AND DETAILS

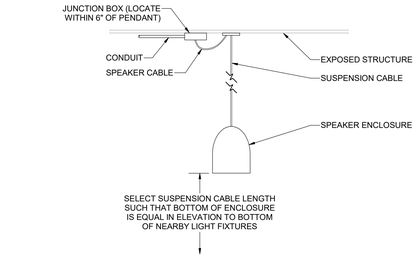
sheet:

EL601

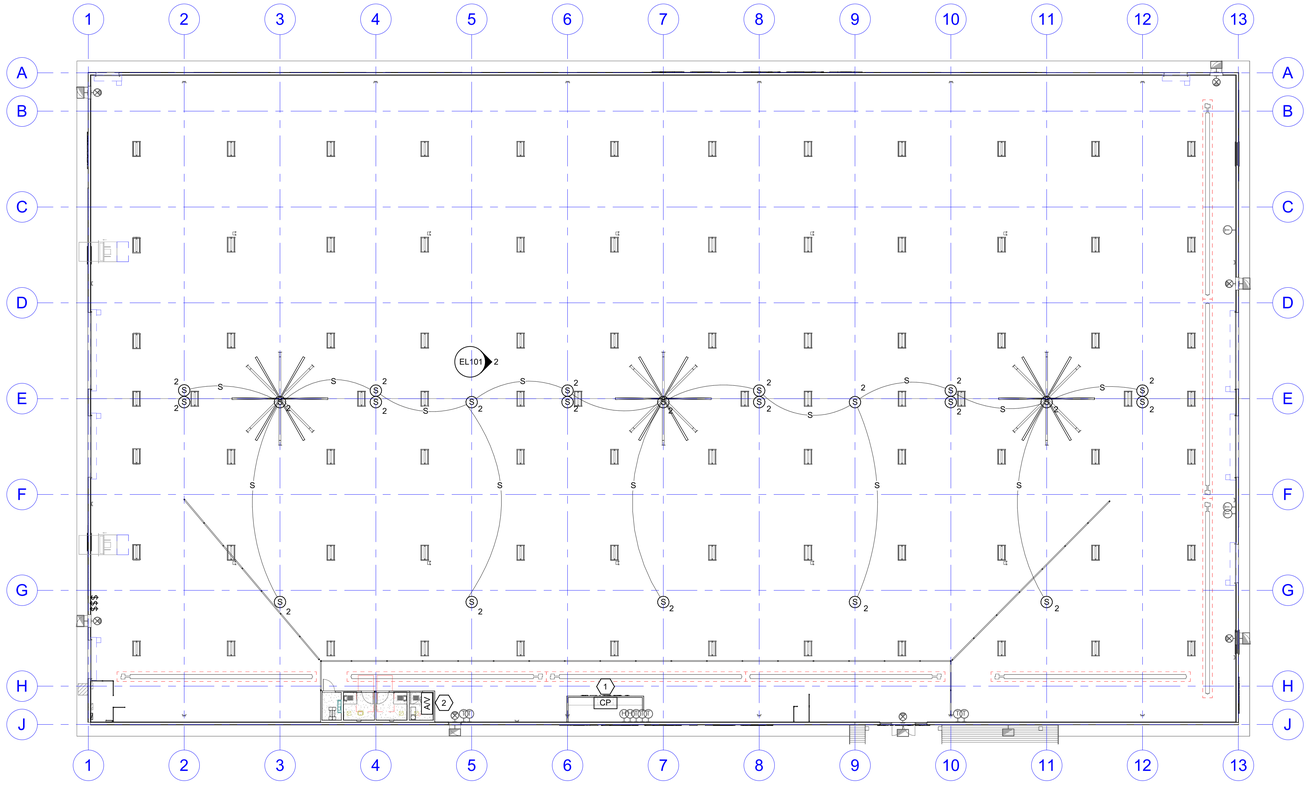
CD SET



D1 AV RACEWAY RISER DIAGRAM - CONDUIT STUB TEMPLATE
SCALE: NTS



D3 PENDANT SPEAKER MOUNTING DETAIL (ROUGH-IN)
SCALE: NTS



A1 LEVEL 1 AV ROUGH-IN RCP
SCALE: 1/16" = 1'-0"

GENERAL PROJECT AV NOTES

1. IF THE BOXES, ENCLOSURES, & CABINETS SPECIFIED ARE NOT PROVIDED FROM THE MANUFACTURER WITH THE REQUIRED KNOCK OUTS FOR THE SPECIFIED CONDUIT, FIELD CUT ALL REQUIRED KNOCK OUTS TO TERMINATE THE QUANTITY AND SIZES OF THE SPECIFIED CONDUITS.
2. MAINTAIN MAXIMUM SEPARATION BETWEEN A/V SYSTEM CONDUIT AND ALL POWER CONDUIT.
3. INSTALL NYLON PULL STRINGS IN ALL A/V SYSTEM CONDUIT.
4. INSTALL ALL CONDUIT IN A CONCEALED FASHION. SURFACE MOUNTED CONDUIT WILL NOT BE ACCEPTED UNLESS SPECIFICALLY IDENTIFIED IN DRAWINGS.
5. IDENTIFY ALL CONDUIT, BOXES, AND PULL STRINGS IN COMPLIANCE WITH THE SPECIFICATIONS.
6. ABBREVIATIONS:
   AFF - ABOVE FINISHED FLOOR
   C - CONDUIT (EMT)
   EA - EACH
   TYP - TYPICAL
7. COVER ALL INSTALLED JUNCTION BOXES, FLOOR BOX OPENINGS, AND SURFACE RACEWAY DEVICE PLATES WITH BLANK COVERS.
8. FIRE STOP ALL PENETRATIONS THROUGH FIRE RATED SURFACES.
9. FURNISH AND INSTALL ELECTRIC METALLIC TUBE (EMT) CONDUIT. DO NOT PROVIDE FLEXIBLE CONDUIT.
10. INSTALL ALL RACEWAY SYSTEM EQUIPMENT IN COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, INDUSTRY-WIDE ACCEPTED RIGGING PRACTICES AND THE SEISMIC DESIGN CODES AND STANDARDS APPLICABLE TO THE SEISMIC DESIGN CATEGORY FOR THE BUILDING GEOGRAPHICAL LOCATION. DURING THE SUBMITTAL PROCESS, PROVIDE SHOP DRAWINGS WHICH DETAIL PROPOSED MOUNTING SOLUTIONS.
11. INSTALL ALL RACEWAY SYSTEMS IN COMPLIANCE WITH ANSI/EIA/TIA 569-B WHICH INCLUDES, BUT IS NOT LIMITED TO, ANY CONDUIT HAVING NO MORE THAN TWO 90 DEGREE BENDS.
12. INSTALL ALL CONDUIT USING THE SHORTEST POSSIBLE ROUTE BETWEEN THE ORIGIN AND DESTINATION POINTS.
13. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT PLACEMENT AND COORDINATION OF ALL CEILING MOUNTED FIXTURES AND DEVICES.

SHEET KEYNOTES

1 COORDINATE EXACT LOCATION, QUANTITY, AND REQUIREMENTS FOR A/V CONTROLS AT ANNOUNCERS BOOTH WITH A/V INSTALLER AND OWNER PRIOR TO ROUGH-IN.

2 COORDINATE EXACT LOCATION AND REQUIREMENTS FOR A/V EQUIPMENT RACK WITH A/V EQUIPMENT INSTALLER AND OWNER PRIOR TO ROUGH-IN.

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LICENSED PROFESSIONAL ENGINEER
No. 7258080
SPENCER C
LITTLE
2025-01-31
STATE OF UTAH

REVIEWED FOR CODE COMPLIANCE
Reviewed By:
Charles H. Peterson
04/03/2025
DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT

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LEVEL 1 AV ROUGH-IN PLAN

sheet:

EJ101

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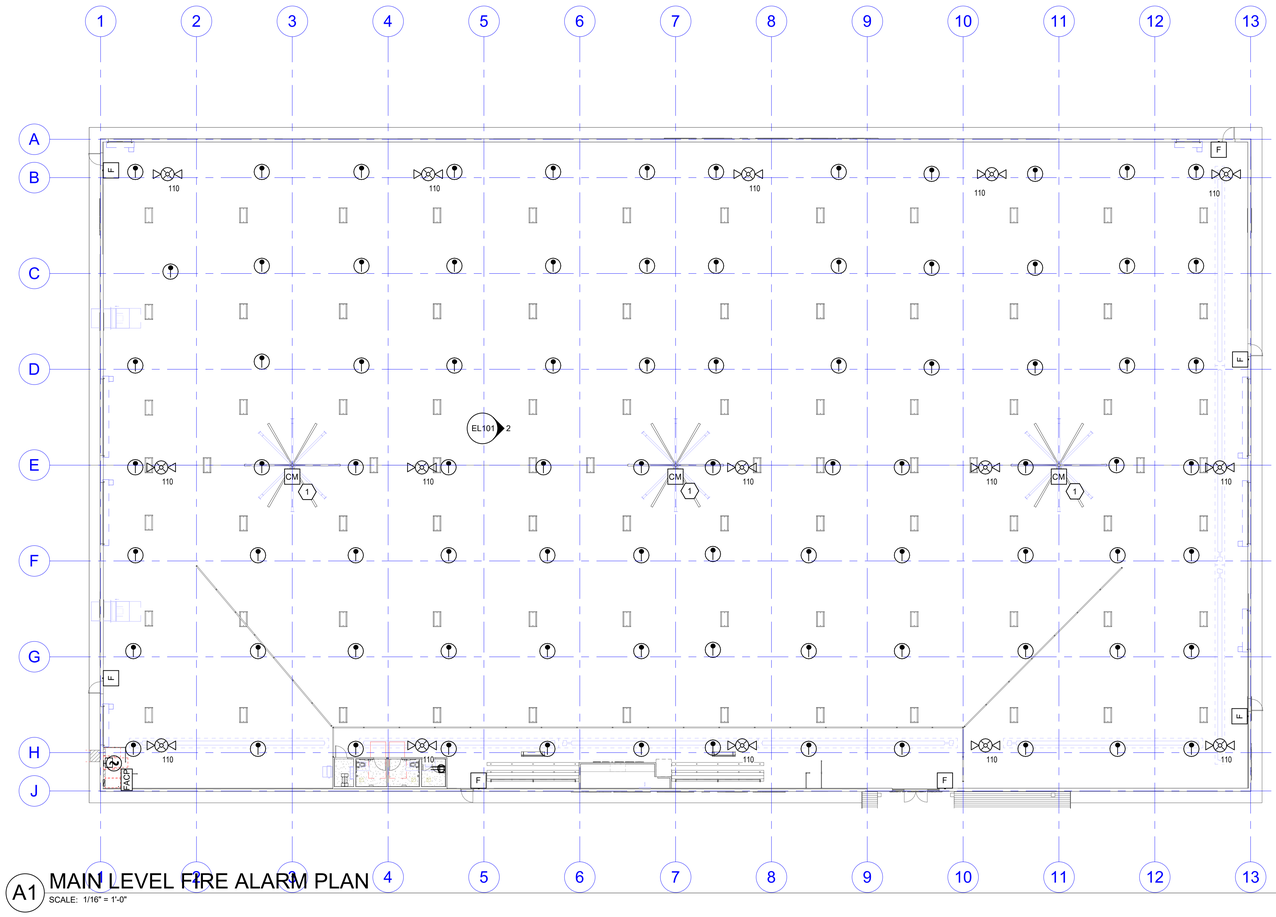

A1 MAIN LEVEL FIRE ALARM PLAN
SCALE: 1/16" = 1'-0"

GENERAL SHEET NOTES

1 PROVIDE ADRESSABLE FIRE ALARM SYSTEMS AS REQUIRED BY STATE FIRE MARSHALS' RULES R710. THE INSTALLATION SHALL COMPLY WITH STATE FIRE MARSHALS' RULES R710 AND NFPA 72. PROVIDE CLASS "A" LOOPED SYSTEMS OR AS APPROVED BY FIRE MARSHAL. THE FOLLOWING COMPONENTS SHALL NOT BE USED, UNLESS APPROVED BY THE DIRECTOR, OTHER FIRE ALARM COMPONENTS: ZONED FIRE ALARM PANELS, IONIZATION SMOLE DETECTORS.

2 FIRE ALARM PLANS ARE BASED UPON 99 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP. OTHER CONFIGURATIONS ARE ACCESABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REUIREMENTS AND SUBMITTAL DRAWING SHOWING NEW WIRING CONFIGURAITON. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75 PERCENT MAXIMUM ALLOWABLE.

3 COORDINATE SPEAKER/STROBE PLACEMENT WITH FURNISHINGS, CABINETS, AND EQUIPMENT SO THAT THE HORN STROBES ARE NOT COVERED OR OBSTRUCTED FROM VIEW.

4 REFER TO FIRE SPRINKLER SHOP DRAWINGS FOR FLOW AND TAMPER SWITCH LOCATIONS AND PROVIDE FIRE ALARM CONNECTIONS TO EACH.

5 REFER TO MECHANICAL PLANS FOR QUANTITY AND LOCATIONS OF SMOKE SAMPERS AND PROVIDE POWER AND FIRE ALARM CONNECTION TO EACH.

6 PROVIDE SMOKE DETECTORS THROUGHOUT THE CORRIDORS. PROVIDE ADDITIONAL DEVICES AS REQURIED BY THE AHJ.

7 PROVIDE MONITORING MODULE FOR EACH WATER FLOW SWITCH. COORDINATE ALL LOCATIONS WITH FIRE SUPPRESSION INSTALLER AND DRAWINGS.

8 PROVIDE MONITORING MODULE FOR EACH TAMPER SWITCH. COORDINATE ALL LOCATIONS WITH FIRE SUPRESSION INSTALLER AND DRAWINGS.

9 PROVIDE DUCT DETECTORS FOR RETURN AIR SYSTEMS OVER 2000 CFM. INTSALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS UPON FINAL DUCT ARRANGEMENT. PROVIDE ADDITIONAL DUCT DETECTORS DEPENDING UPON FINAL DUCT LAYOUT. CONNECT DUCT SMOKE DETECTORS TO VISIBLE AND AUDIBLE DEVICE.

SHEET KEYNOTES

1 CONTROL MODULE FOR FAN SHUT DOWN. COORDINATE EXACT REQUIREMENTS WITH FAN INSTALLER PRIOR TO ROUGH-IN.

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No. 7258080
SPENCER C. LITTLE
2025-01-31
STATE OF UTAH

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title:

FIRE ALARM PLAN

sheet:

FA101

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WIRING SCHEDULE

FUNCTION	< 500'	< 1000'	1000'-3000'	> 3000'
ADDRESSABLE LOOP	#18 TSP	#18 TSP	#16 TSP	#14 TSP
POWER LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
SPARE LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
STROBE HORNS	#14 THWN	#14 THWN	#12 THWN	#10 THWN
MAGNETIC DOOR HOLDER	#12 THWN	#10 THWN		
SPEAKERS	#16 TSP	#16 TSP	#14 TSP	#14 TSP

NOTIFICATION SCHEDULE

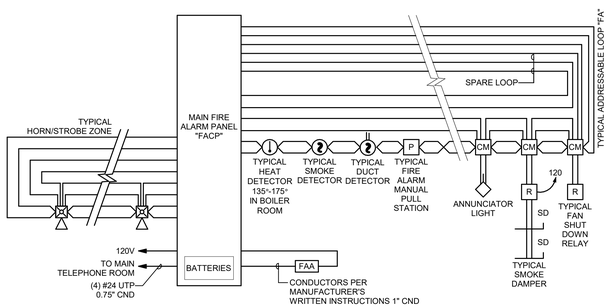
SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT	MAXIMUM PER CIRCUIT ALONE
15	15 CD	20'x20'	.085A	17
30	30 CD	30'x30'	.135A	11
75	75 CD	40'x40'	.200A	7
110	110 CD	50'x50'	.225A	6

NOTIFICATION SCHEDULE

SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT	MAXIMUM PER CIRCUIT ALONE
15	15 CD	20'x20'	.060A	25
30	30 CD	30'x30'	.083A	18
75	75 CD	40'x40'	.136A	11
110	110 CD	50'x50'	.179A	8
135	135 CD	60'x60'	.225A	4

FIRE ALARM INPUT/OUTPUT MATRIX

INITIATING DEVICES ZONE		OUTPUT DEVICES: GENERAL ALARM	DOOR HOLDER/CLOSERS	ELEVATOR RECALL MAIN LEVEL	ELEVATOR RECALL ALTERNATE LEVEL	FAN SHUTDOWN	FIRE DAMPER	MAIN LEVEL ELEVATOR DOORS HOLD OPENS	2ND LEVEL ELEVATOR DOORS HOLD OPENS	3RD LEVEL ELEVATOR DOORS HOLD OPENS	4TH LEVEL ELEVATOR DOORS HOLD OPENS	5TH LEVEL ELEVATOR DOORS HOLD OPENS	ELEVATOR SHUNT TRIP					NOTES
1	MAIN FLOW	o																
2	MAIN TAMPER																	
3	MAIN LEVEL FLOW																	
4	MAIN LEVEL TAMPER																	
5	MAIN LEVEL DUCT DETECTOR																	
6	FIRE PUMP RUNNING																	
7	FIRE PUMP LOSS OF POWER																	
8	FIRE PUMP PHASE REVERSAL																	



A1 FIRE ALARM RISER
SCALE: NTS

GENERAL SHEET NOTES

1 PLANS ARE BASED UPON 99 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP. OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.

2 PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.

3 PLANS ARE BASED UPON 2 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.50 AMPS AVAILABLE), POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.

4 FLOW AND TAMPER CONFIGURATION BASED UPON FIRE SPRINKLER DESIGN CONCEPT. FIELD VERIFY ACTUAL REQUIREMENTS. INCLUDE ANY ADDITIONAL MONITOR MODULES REQUIRED BY ACTUAL DESIGN REQUIREMENTS.

5 HEAT DETECTORS WHEN INSTALLED IN ELEVATOR SHAFTS OR MECHANICAL ROOMS FOR ELEVATOR SHUT DOWN SHALL HAVE HEAT DETECTOR WITH LOWER RESPONSE TIME INDEX THAN SPRINKLER HEAD.

6 PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.

7 BATTERY CAPACITY TO BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.

8 VFD REQUIRES TWO RELAYS, ONE FOR SMOKE CONTROL, ONE SPARE.

9 RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 40% AREA FILL OF CONDUITS.

10 PROVIDE DUCT DETECTORS FOR SUPPLY AND RETURN AIR SYSTEMS OVER 2000 CFM. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS AND PROVIDE ADDITIONAL DUCT DETECTORS DEPENDING UPON FINAL DUCT ARRANGEMENT.

11 PROVIDE DUCT DETECTOR AT EACH FLOOR, PRIOR TO CONNECTION TO A COMMON RETURN AND PRIOR TO RECIRCULATING OR FRESH AIR INLET IN AIR RETURN SYSTEMS OVER 15,000 CFM CAPACITY AND SERVING MORE THAN ONE STORY.

12 PROVIDE MANUAL PULL STATIONS IN BOILER ROOMS AND KITCHENS.

13 PROVIDE ONE YEAR OFF SITE MONITORING INCLUDING ALL INTERFACE DEVICES AND MONITORING CHARGES. COORDINATE WITH BUILDING OWNER'S OFF SITE MONITORING COMPANY.

14 LOCATE SMOKE DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS.

15 PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.

16 INITIATING AND INDICATING LOOPS SHALL NOT SERVE AN AREA OF GREATER THAN 22,500 SQUARE FEET. PROVIDE ADDITIONAL LOOPS FOR AREAS LARGER THAN THIS.

17 ALL OUTPUT DEVICES ARE DESIGNED ON SYSTEMS WITH 2 AMP POWER SUPPLY.

18 HORN/STROBE BASED ON 120 MILLIAMPS, DOOR HOLDERS BASED ON 70 MILLIAMPS.

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04/03/2025
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FIRE ALARM RISER DIAGRAMS

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